

## Input: Colorimetric Reflective System ORS18

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

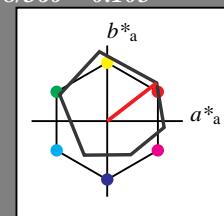
$lab^*tch$  and  $lab^*nch$

D65: hue O

LCH\*Ma: 48 83 38

olv\*Ma: 1.0 0.0 0.0

triangle lightness  $t^*$



### ORS18; adapted (a) CIELAB data

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

$olv^3*$  1.0 1.0 1.0 (1.0)

$cmy^3*$  0.0 0.0 0.0 (0.0)

$olv^4*$  1.0 1.0 1.0 1.0

$cmy^4*$  0.0 0.0 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  95.41 -0.97 4.75

$LAB^*LABa$  95.41 0.0 0.0

$LAB^*TCh$  99.99 0.01 -

relative CIELAB lab\*

$lab^*lab$  1.0 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  1.0 0.0 0.0

$lab^*ice$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  71.67 32.15 28.41

$LAB^*LABa$  71.67 32.68 25.25

$LAB^*TCh$  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

$lab^*ice$  0.75 0.2 0.048

$lab^*ncE$  0.0 0.5 r19j

relative Inform. Technology (IT)

$olv^3*$  0.5 0.5 0.5 (1.0)

$cmy^3*$  0.5 0.5 0.5 (0.0)

$olv^4*$  1.0 1.0 1.0 0.5

$cmy^4*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  56.71 -0.23 2.14

$LAB^*LABa$  56.71 0.0 0.0

$LAB^*TCh$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  0.5 0.0 0.0

$lab^*ice$  0.5 0.0 0.0

$lab^*ncE$  0.5 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.5 -0.46

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TCh$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  0.0 0.0 0.0

$lab^*ice$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

### relative Inform. Technology (IT)

$olv^3*$  1.0 0.5 0.5 (1.0)

$cmy^3*$  0.0 0.5 0.5 (0.0)

$olv^4*$  1.0 0.5 0.5 1.0

$cmy^4*$  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

$LAB^*TCh$  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

$lab^*ice$  0.75 0.2 0.048

$lab^*ncE$  0.0 0.5 r19j

### relative Inform. Technology (IT)

$olv^3*$  0.5 0.0 0.0 (1.0)

$cmy^3*$  0.5 0.0 0.0 (0.0)

$olv^4*$  1.0 0.0 0.0 0.5

$cmy^4*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  47.95 65.29 52.06

$LAB^*LABa$  47.95 65.36 50.51

$LAB^*TCh$  50.0 82.6 37.7

relative CIELAB lab\*

$lab^*lab$  0.387 0.791 0.611

$lab^*tch$  0.5 1.0 0.105

$lab^*nch$  0.0 1.0 0.105

relative Natural Colour (NC)

$lab^*lrj$  0.387 0.954 0.299

$lab^*ice$  0.5 1.0 0.048

$lab^*ncE$  0.0 1.0 r19j

### relative Inform. Technology (IT)

$olv^3*$  0.0 0.0 0.0 (1.0)

$cmy^3*$  1.0 1.0 1.0 (0.0)

$olv^4*$  1.0 1.0 1.0 0.0

$cmy^4*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.5 -0.46

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TCh$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.193 0.396 0.306

$lab^*tch$  0.25 0.5 0.105

$lab^*nch$  0.5 0.5 0.105

relative Natural Colour (NC)

$lab^*lrj$  0.193 0.477 0.15

$lab^*ice$  0.25 0.5 0.048

$lab^*ncE$  0.5 0.5 r19j

### relative Inform. Technology (IT)

$olv^3*$  0.0 0.0 0.0 (1.0)

$cmy^3*$  1.0 1.0 1.0 (0.0)

$olv^4*$  1.0 1.0 1.0 0.0

$cmy^4*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.5 -0.46

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TCh$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.193 0.396 0.306

$lab^*tch$  0.25 0.5 0.105

$lab^*nch$  0.5 0.5 0.105

relative Natural Colour (NC)

$lab^*lrj$  0.193 0.477 0.15

$lab^*ice$  0.25 0.5 0.048

$lab^*ncE$  0.5 0.5 r19j

### relative Inform. Technology (IT)

$olv^3*$  0.0 0.0 0.0 (1.0)

$cmy^3*$  1.0 1.0 1.0 (0.0)

$olv^4*$  1.0 1.0 1.0 0.0

$cmy^4*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.5 -0.46

$LAB^*LABa$  18.02 0.0 0.0

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relative CIELAB lab\*

$lab^*lab$  0.193 0.396 0.306

$lab^*tch$  0.25 0.5 0.105

$lab^*nch$  0.5 0.5 0.105

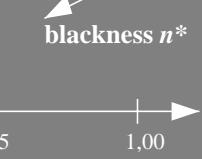
relative Natural Colour (NC)

$lab^*lrj$  0.193 0.477 0.15

$lab^*ice$  0.25 0.5 0.048

$lab^*ncE$  0.5 0.5 r19j

$n^* = 1,0$



$n^* = 0,00$

$n^* = 0,50$

$n^* = 1,00$

$n^* = 0,00$

$n^* = 0,50$

$n^* = 1,00$

$n^* = 0,00$

$n^* = 0,50$

$n^* = 1,00$

$n^* = 0,00$

$n^* = 0,50$

$n^* = 1,00$

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$n^* = 1,00$

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$n^* = 0,50$

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$n^* = 1,00$

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$n^* = 1,00$

$n^* = 0,00$

$n^* = 0,50$

$n^* = 1,00$

$n^* = 0,00$

$n^* = 0,50$

$n^* = 1,00$

$n$

## Input: Colorimetric Reflective System ORS18

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

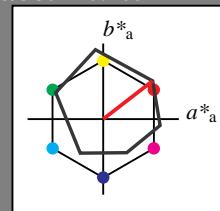
$lab^*tch$  and  $lab^*nch$

D65: hue O

LCH\*Ma: 48 83 38

olv\*Ma: 1.0 0.0 0.0

triangle lightness  $t^*$



### ORS18; adapted (a) CIELAB data

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

$olv_i3^*$  1.0 1.0 1.0 (1.0)

$cmy_n3^*$  0.0 0.0 0.0 (0.0)

$olv_i4^*$  1.0 1.0 1.0 1.0

$cmy_n4^*$  0.0 0.0 0.0 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 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  1.0 0.0 0.0

$lab^*ice$  1.0 0.0 0.0

$lab^*ncE$  0.0 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 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

$lab^*ice$  0.75 0.2 0.048

$lab^*ncE$  0.0 0.5 r19j

relative Inform. Technology (IT)

$olv_i3^*$  0.5 0.5 0.5 (1.0)

$cmy_n3^*$  0.5 0.5 0.5 (0.0)

$olv_i4^*$  1.0 1.0 1.0 0.5

$cmy_n4^*$  0.0 0.0 0.0 0.5

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 CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  0.5 0.0 0.0

$lab^*ice$  0.5 0.0 0.0

$lab^*ncE$  0.5 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.5 -0.46

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  0.0 0.0 0.0

$lab^*ice$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

$n^* = 0,00$

$n^* = 0,50$

$1,00$

chromaticness  $c^*$

$0,25$

$n^* = 0,00$

blackness  $n^*$

$1,00$

chromaticness  $c^*$

## Output: Colorimetric Reflective System MRS18

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

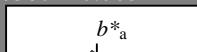
$lab^*tch$  and  $lab^*nch$

D65: hue R

LCH\*Ma: 50 77 30

olv\*Ma: 1.0 0.0 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
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)

$olv_i3^*$  1.0 1.0 1.0 (1.0)

$cmy_n3^*$  0.0 0.0 0.0 (0.0)

$olv_i4^*$  1.0 1.0 1.0 1.0

$cmy_n4^*$  0.0 0.0 0.0 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 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  1.0 0.0 0.0

$lab^*ice$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  72.52 32.93 22.4

$LAB^*LABa$  72.52 33.47 19.18

$LAB^*TChA$  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

$lab^*ice$  0.75 0.5 0.019

$lab^*ncE$  0.0 0.5 r07j

relative Inform. Technology (IT)

$olv_i3^*$  1.0 0.0 0.0 (1.0)

$cmy_n3^*$  0.0 1.0 1.0 (0.0)

$olv_i4^*$  1.0 0.5 0.5 0.5

$cmy_n4^*$  0.0 0.5 0.5 0.5

standard and adapted CIELAB

$LAB^*LAB$  49.63 66.84 40.03

$LAB^*LABa$  49.63 66.95 38.36

$LAB^*TChA$  50.0 77.16 29.82

relative CIELAB lab\*

$lab^*lab$  0.409 0.867 0.497

$lab^*tch$  0.5 1.0 0.083

$lab^*nch$  0.0 1.0 0.083

relative Natural Colour (NC)

$lab^*lrj$  0.409 0.993 0.119

$lab^*ice$  0.5 1.0 0.019

$lab^*ncE$  0.0 1.0 r07j

$n^* = 1,0$

$n^* = 0,50$

$1,00$

chromaticness  $c^*$

$0,25$

$n^* = 0,00$

blackness  $n^*$

$1,00$

chromaticness  $c^*$

$0,25$

UE100-7, 3 step scales for constant CIELAB hue 38/360 = 0.105 (left)

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

## Input: Colorimetric Reflective System ORS18

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

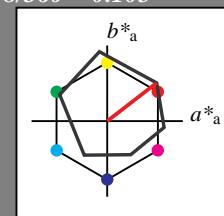
$lab^*tch$  and  $lab^*nch$

D65: hue O

LCH\*Ma: 48 83 38

olv\*Ma: 1.0 0.0 0.0

triangle lightness  $t^*$



## ORS18; adapted (a) CIELAB data

	$L^*=L_a^*$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
O Ma	47.94	65.37	50.52	82.62	38
Y Ma	90.37	-10.27	91.77	92.34	96
L Ma	50.9	-62.79	34.95	71.87	151
C Ma	58.62	-30.35	-45.01	54.3	236
V Ma	25.71	31.11	-44.42	54.24	305
M Ma	48.13	75.27	-8.35	75.73	354
N Ma	18.01	0.0	0.0	0.0	0
W Ma	95.41	0.0	0.0	0.0	0
R CIE	39.92	58.66	26.98	64.56	25
J CIE	81.26	-2.17	67.76	67.79	92
G CIE	52.23	-42.26	11.75	43.87	164
B CIE	30.57	1.15	-46.84	46.87	271

relative Inform. Technology (IT)

$olv^3*$  1.0 1.0 1.0 (1.0)

$cmy^3*$  0.0 0.0 0.0 (0.0)

$olv^4*$  1.0 1.0 1.0 1.0

$cmy^4*$  0.0 0.0 0.0 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 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  1.0 0.0 0.0

$lab^*ice$  1.0 0.0 0.0

$lab^*ncE$  0.0 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 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

$lab^*ice$  0.75 0.2 0.048

$lab^*ncE$  0.0 0.5 r19j

relative Inform. Technology (IT)

$olv^3*$  0.5 0.5 0.5 (1.0)

$cmy^3*$  0.5 0.5 0.5 (0.0)

$olv^4*$  1.0 1.0 1.0 0.5

$cmy^4*$  0.0 0.0 0.0 0.5

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 CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  0.5 0.0 0.0

$lab^*ice$  0.5 0.0 0.0

$lab^*ncE$  0.5 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.5 -0.46

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  0.0 0.0 0.0

$lab^*ice$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

## relative Inform. Technology (IT)

$olv^3*$  1.0 0.5 0.5 (1.0)

$cmy^3*$  0.0 0.5 0.5 (0.0)

$olv^4*$  1.0 0.5 0.5 1.0

$cmy^4*$  0.0 0.5 0.5 0.0

standard and adapted CIELAB

$LAB^*LAB$  71.67 32.15 28.41

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$olv^3*$  0.5 0.5 0.5 (1.0)

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$olv^4*$  1.0 0.5 0.5 1.0

$cmy^4*$  0.0 0.5 0.5 0.5

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 CIELAB lab\*

$lab^*lab$  0.387 0.791 0.611

$lab^*tch$  0.5 1.0 0.105

$lab^*nch$  0.0 1.0 0.105

relative Natural Colour (NC)

$lab^*lrj$  0.387 0.954 0.299

$lab^*ice$  0.5 1.0 0.048

$lab^*ncE$  0.0 1.0 r19j

## relative Inform. Technology (IT)

$olv^3*$  0.0 0.0 0.0 (1.0)

$cmy^3*$  1.0 1.0 1.0 (0.0)

$olv^4*$  1.0 1.0 1.0 0.0

$cmy^4*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.5 -0.46

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.193 0.396 0.306

$lab^*tch$  0.25 0.5 0.105

$lab^*nch$  0.5 0.5 0.105

relative Natural Colour (NC)

$lab^*lrj$  0.193 0.477 0.15

$lab^*ice$  0.25 0.5 0.048

$lab^*ncE$  0.5 0.5 r19j

## relative Inform. Technology (IT)

$olv^3*$  0.0 0.0 0.0 (1.0)

$cmy^3*$  1.0 1.0 1.0 (0.0)

$olv^4*$  1.0 1.0 1.0 0.0

$cmy^4*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.5 -0.46

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.193 0.396 0.306

$lab^*tch$  0.25 0.5 0.105

$lab^*nch$  0.5 0.5 0.105

relative Natural Colour (NC)

$lab^*lrj$  0.193 0.477 0.15

$lab^*ice$  0.25 0.5 0.048

$lab^*ncE$  0.5 0.5 r19j

## relative Inform. Technology (IT)

$olv^3*$  0.0 0.0 0.0 (1.0)

$cmy^3*$  1.0 1.0 1.0 (0.0)

$olv^4*$  1.0 1.0 1.0 0.0

$cmy^4*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.5 -0.46

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.193 0.396 0.306

$lab^*tch$  0.25 0.5 0.105

$lab^*nch$  0.5 0.5 0.105

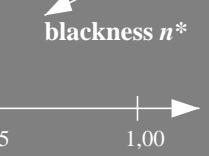
relative Natural Colour (NC)

$lab^*lrj$  0.193 0.477 0.15

$lab^*ice$  0.25 0.5 0.048

$lab^*ncE$  0.5 0.5 r19j

$n^* = 1,0$



$n^* = 0,00$

$n^* = 0,50$

$n^* = 1,00$

$n^* = 0,00$

$n^* = 1,0$

## Output: Colorimetric Reflective System TRS18

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

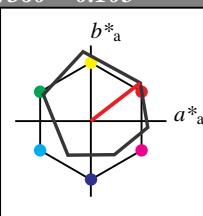
$lab^*tch$  and  $lab^*nch$

D65: hue O

LCH\*Ma: 48 83 38

olv\*Ma: 1.0 0.0 0.0

triangle lightness  $t^*$



	$L^*=L_a^*$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
O Ma	47.94	65.37	50.52	82.62	38
Y Ma	90.37	-10.27	91.77	92.34	96
L Ma	50.9	-62.79	34.95	71.87	151
C Ma	58.62	-30.35	-45.01	54.3	236
V Ma	25.71	31.11	-44.42	54.24	305
M Ma	48.13	75.27	-8.35	75.73	354
N Ma	18.01	0.0	0.0	0.0	0
W Ma	95.41	0.0	0.0	0.0	0
R CIE	39.92	58.66	26.98	64.56	25
J CIE	81.26	-2.17	67.76	67.79	92
G CIE	52.23	-42.26	11.75	43.87	164
B CIE	30.57	1.15	-46.84	46.87	271

relative

### Input: Colorimetric Reflective System ORS18

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

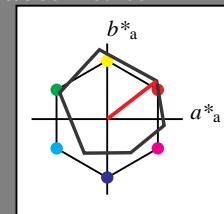
$lab^*tch$  and  $lab^*nch$

D65: hue O

LCH\*Ma: 48 83 38

olv\*Ma: 1.0 0.0 0.0

triangle lightness  $t^*$



### ORS18; adapted (a) CIELAB data

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

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

%Gamut

$u^*_{rel} = 93$

%Regularity

$g^*_{H,rel} = 57$

$g^*_{C,rel} = 59$

relative Inform. Technology (IT)

$olv^3*$  1.0 1.0 1.0 (1.0)

$cmy^3*$  0.0 0.0 0.0 (0.0)

$olv^4*$  1.0 1.0 1.0 1.0

$cmy^4*$  0.0 0.0 0.0 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 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 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)

$olv^3*$  0.5 0.5 0.5 (1.0)

$cmy^3*$  0.5 0.5 0.5 (0.0)

$olv^4*$  1.0 1.0 1.0 0.5

$cmy^4*$  0.0 0.0 0.0 0.5

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 CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  0.5 0.0 0.0

$lab^*tce$  0.5 0.0 0.0

$lab^*ncE$  0.5 0.0 -

n\* = 1,0

relative Inform. Technology (IT)

$olv^3*$  1.0 0.5 0.5 (1.0)

$cmy^3*$  0.0 0.5 0.5 (0.0)

$olv^4*$  1.0 0.5 0.5 1.0

$cmy^4*$  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 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

$lab^*tce$  0.75 0.2 0.048

$lab^*ncE$  0.0 0.5 r19]

relative Inform. Technology (IT)

$olv^3*$  1.0 0.0 0.0 (1.0)

$cmy^3*$  0.5 1.0 1.0 (0.0)

$olv^4*$  1.0 0.5 0.5 0.5

$cmy^4*$  0.0 0.5 0.5 0.5

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 CIELAB lab\*

$lab^*lab$  0.193 0.396 0.306

$lab^*tch$  0.25 0.5 0.105

$lab^*nch$  0.5 0.5 0.105

relative Natural Colour (NC)

$lab^*lrj$  0.193 0.477 0.15

$lab^*tce$  0.25 0.5 0.048

$lab^*ncE$  0.5 0.5 r19]

n\* = 0,00

blackness n\*

chromaticness c\*

### Output: Colorimetric Reflective System MRS18a

for hue  $h^* = lab^*h = 31/360 = 0.086$

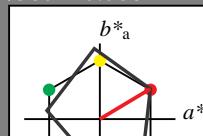
$lab^*tch$  and  $lab^*nch$

D65: hue R

LCH\*Ma: 50 78 31

olv\*Ma: 1.0 0.0 0.0

triangle lightness  $t^*$



### MRS18a; adapted (a) CIELAB data

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

RMa	49.63	66.8	40.02	77.87	31
JMa	90.7	-7.27	93.19	93.48	94
GMa	52.11	-69.93	11.26	70.85	171
G50BMa	45.03	-36.65	-27.13	45.61	217
BMa	36.65	23.26	-62.27	66.49	290
B50RMa	34.94	57.27	-43.6	71.99	323
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	272

%Gamut

$u^*_{rel} = 92$

%Regularity

$g^*_{H,rel} = 42$

$g^*_{C,rel} = 49$

relative Inform. Technology (IT)

$olv^3*$  1.0 1.0 1.0 (1.0)

$cmy^3*$  0.0 0.0 0.0 (0.0)

$olv^4*$  1.0 1.0 1.0 1.0

$cmy^4*$  0.0 0.0 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  95.41 0.01 0.0

$LAB^*LABa$  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 -

$lab^*nch$  0.0 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)

$olv^3*$  0.5 0.5 0.5 (1.0)

$cmy^3*$  0.5 0.5 0.5 (0.0)

$olv^4*$  1.0 0.5 0.5 0.5

$cmy^4*$  0.0 0.5 0.5 0.5

standard and adapted CIELAB

$LAB^*LAB$  72.52 33.43 20.01

$LAB^*LABa$  72.52 33.39 20.01

$LAB^*TChA$  75.0 38.93 30.93

relative CIELAB lab\*

$lab^*lab$  0.704 0.429 0.257

$lab^*tch$  0.75 0.5 0.086

$lab^*nch$  0.0 0.5 0.086

relative Natural Colour (NC)

$lab^*lrj$  0.704 0.496 0.064

$lab^*tce$  0.75 0.5 0.02

$lab^*ncE$  0.0 0.5 r08j

relative Inform. Technology (IT)

$olv^3*$  0.0 0.0 0.0 (1.0)

$cmy^3*$  1.0 1.0 1.0 (0.0)

$olv^4*$  1.0 1.0 1.0 0.0

$cmy^4*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.1 0.02

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.204 0.429 0.257

$lab^*tch$  0.25 0.5 0.086

$lab^*nch$  0.5 0.5 0.086

relative Natural Colour (NC)

$lab^*lrj$  0.204 0.496 0.064

$lab^*tce$  0.25 0.5 0.02

$lab^*ncE$  0.5 0.5 r08j

n\* = 0,00

relative Inform. Technology (IT)

$olv^3*$  1.0 0.0 0.0 (0.0)

$cmy^3*$  0.0 1.0 1.0 (0.0)

$olv^4*$  1.0 0.5 0.5 0.5

$cmy^4*$  0.0 0.5 0.5 0.5

standard and adapted CIELAB

$LAB^*LAB$  33.82 33.47 20.03

$LAB^*LABa$  33.82 33.39 20.01

$LAB^*TChA$  25.01 38.93 30.93

relative CIELAB lab\*

$lab^*lab$  0.204 0.429 0.257

$lab^*tch$  0.25 0.5 0.086

$lab^*nch$  0.5 0.5 0.086

relative Natural Colour (NC)

$lab^*lrj$  0.204 0.496 0.064

$lab^*tce$  0.25 0.5 0.02

$lab^*ncE$  0.5 0.5 r08j

n\* = 1,0

UE100-7, 3 step scales for constant CIELAB hue 38/360 = 0.105 (left)

3 step scales for constant CIELAB hue 31/360 = 0.086 (right)



## Input: Colorimetric Reflective System ORS18

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

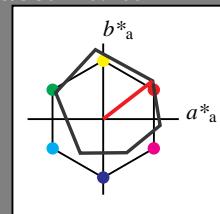
$lab^*tch$  and  $lab^*nch$

D65: hue O

LCH\*Ma: 48 83 38

olv\*Ma: 1.0 0.0 0.0

triangle lightness  $t^*$



### ORS18; adapted (a) CIELAB data

	$L^*=L_a^*$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
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)  
 $olv_i3^*$  1.0 1.0 1.0 (1.0)  
 $cmy3^*$  0.0 0.0 0.0 (0.0)  
 $olv_i4^*$  1.0 1.0 1.0 1.0  
 $cmy4^*$  0.0 0.0 0.0 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 0.0 0.0  
 $lab^*tch$  1.0 0.0 -  
 $lab^*nch$  0.0 0.0 -  
**relative Natural Colour (NC)**  
 $lab^*lrj$  1.0 0.0 0.0  
 $lab^*ice$  1.0 0.0 0.0  
 $lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)  
 $olv_i3^*$  0.5 0.5 0.5 (1.0)  
 $cmy3^*$  0.5 0.5 0.5 (0.0)  
 $olv_i4^*$  1.0 1.0 1.0 0.5  
 $cmy4^*$  0.0 0.0 0.0 0.5  
**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 CIELAB lab\***  
 $lab^*lab$  0.5 0.0 0.0  
 $lab^*tch$  0.5 0.0 -  
 $lab^*nch$  0.5 0.0 -  
**relative Natural Colour (NC)**  
 $lab^*lrj$  0.5 0.0 0.0  
 $lab^*ice$  0.5 0.0 0.0  
 $lab^*ncE$  0.5 0.0 -

relative Inform. Technology (IT)  
 $olv_i3^*$  0.0 0.0 0.0 (1.0)  
 $cmy3^*$  1.0 1.0 1.0 (0.0)  
 $olv_i4^*$  1.0 1.0 1.0 0.0  
 $cmy4^*$  0.0 0.0 0.0 1.0  
**standard and adapted CIELAB**  
 $LAB^*LAB$  18.02 0.5 -0.46  
 $LAB^*LABa$  18.02 0.0 0.0  
 $LAB^*TChA$  0.01 0.01 -

**relative CIELAB lab\***  
 $lab^*lab$  0.0 0.0 0.0  
 $lab^*tch$  0.0 0.0 -  
 $lab^*nch$  1.0 0.0 -  
**relative Natural Colour (NC)**  
 $lab^*lrj$  0.0 0.0 0.0  
 $lab^*ice$  0.0 0.0 -  
 $lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

relative Inform. Technology (IT)  
 $olv_i3^*$  1.0 0.5 0.5 (1.0)  
 $cmy3^*$  0.0 0.5 0.5 (0.0)  
 $olv_i4^*$  1.0 0.5 0.5 1.0  
 $cmy4^*$  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)  
 $olv_i3^*$  0.5 0.5 0.5 (1.0)  
 $cmy3^*$  0.5 0.5 0.5 (0.0)  
 $olv_i4^*$  1.0 0.5 0.5 0.5  
 $cmy4^*$  0.0 0.5 0.5 0.5  
**standard and adapted CIELAB**  
 $lab^*lrj$  0.693 0.477 0.15  
 $lab^*ice$  0.75 0.2 0.048  
 $lab^*ncE$  0.0 0.5 r19]

relative Inform. Technology (IT)  
 $olv_i3^*$  1.0 0.0 0.0 (1.0)  
 $cmy3^*$  0.0 1.0 1.0 (0.0)  
 $olv_i4^*$  1.0 0.0 0.0 1.0  
 $cmy4^*$  0.0 0.0 0.0 0.5  
**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)  
 $olv_i3^*$  0.5 0.0 0.0 (1.0)  
 $cmy3^*$  0.5 1.0 1.0 (0.0)  
 $olv_i4^*$  1.0 0.5 0.5 0.5  
 $cmy4^*$  0.0 0.5 0.5 0.5  
**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)  
 $olv_i3^*$  0.0 0.0 0.0 (1.0)  
 $cmy3^*$  1.0 1.0 1.0 (0.0)  
 $olv_i4^*$  1.0 1.0 1.0 0.0  
 $cmy4^*$  0.0 0.0 0.0 1.0  
**standard and adapted CIELAB**  
 $LAB^*LAB$  18.02 0.5 -0.46  
 $LAB^*LABa$  18.02 0.0 0.0  
 $LAB^*TChA$  0.01 0.01 -

**relative CIELAB lab\***  
 $lab^*lab$  0.0 0.0 0.0  
 $lab^*tch$  0.0 0.0 -  
 $lab^*nch$  1.0 0.0 -  
**relative Natural Colour (NC)**  
 $lab^*lrj$  0.0 0.0 0.0  
 $lab^*ice$  0.0 0.0 -  
 $lab^*ncE$  1.0 0.0 -

$n^* = 0,00$

relative Inform. Technology (IT)  
 $olv_i3^*$  1.0 0.0 0.0 (1.0)  
 $cmy3^*$  0.0 1.0 1.0 (0.0)  
 $olv_i4^*$  1.0 0.0 0.0 1.0  
 $cmy4^*$  0.0 0.0 0.0 0.5  
**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)  
 $olv_i3^*$  0.5 0.0 0.0 (1.0)  
 $cmy3^*$  0.5 1.0 1.0 (0.0)  
 $olv_i4^*$  1.0 0.5 0.5 0.5  
 $cmy4^*$  0.0 0.5 0.5 0.5  
**standard and adapted CIELAB**  
 $lab^*lrj$  0.387 0.954 0.299  
 $lab^*ice$  0.5 1.0 0.048  
 $lab^*ncE$  0.0 1.0 r19]

relative Inform. Technology (IT)  
 $olv_i3^*$  0.0 0.0 0.0 (1.0)  
 $cmy3^*$  1.0 1.0 1.0 (0.0)  
 $olv_i4^*$  1.0 1.0 1.0 0.0  
 $cmy4^*$  0.0 0.0 0.0 1.0  
**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

$n^* = 0,00$

$n^* = 0,50$

$n^* = 1,00$

chromaticness  $c^*$

$n^* = 0,25$

blackness  $n^*$

$n^* = 1,00$

## Output: Colorimetric Reflective System NCS18

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

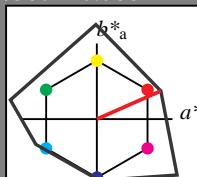
$lab^*tch$  and  $lab^*nch$

D65: hue R

LCH\*Ma: 47 92 24

olv\*Ma: 1.0 0.0 0.0

triangle lightness  $t^*$



### NCS18; adapted (a) CIELAB data

	$L^*=L_a^*$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	47.15	84.63	37.24	92.46	24
JMa	91.37	-1.27	125.03	125.03	91
GMa	63.07	-114.29	25.34	117.07	167
G50BMa	59.47	-80.61	-33.45	87.29	203
BMa	49.01	3.63	-81.2	81.29	273
B50RMa	44.06	106.07	-73.94	129.31	325
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	272

relative Inform. Technology (IT)  
 $olv_i3^*$  1.0 0.5 0.5 (1.0)  
 $cmy3^*$  0.0 0.5 0.5 (0.0)  
 $olv_i4^*$  1.0 0.5 0.5 1.0  
 $cmy4^*$  0.0 0.5 0.5 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 -  
 $lab^*nch$  0.0 0.0 -  
**relative Natural Colour (NC)**  
 $lab^*lrj$  1.0 0.0 0.0  
 $lab^*ice$  1.0 0.0 0.0  
 $lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)  
 $olv_i3^*$  0.5 0.5 0.5 (1.0)  
 $cmy3^*$  0.5 0.5 0.5 (0.0)  
 $olv_i4^*$  1.0 0.5 0.5 0.5  
 $cmy4^*$  0.0 0.5 0.5 0.5  
**standard and adapted CIELAB**  
 $LAB^*LAB$  71.27 42.34 18.63  
 $LAB^*LABa$  71.27 42.31 18.62  
 $LAB^*TChA$  75.0 46.22 23.75

**relative CIELAB lab\***  
 $lab^*lab$  0.688 0.458 0.201  
 $lab^*tch$  0.75 0.5 0.066  
 $lab^*nch$  0.0 0.5 0.066  
**relative Natural Colour (NC)**  
 $lab^*lrj$  0.688 0.5 -0.011  
 $lab^*ice$  0.75 0.5 0.996  
 $lab^*ncE$  0.0 0.5 b98r

$n^* = 0,00$

$n^* = 0,50$

$n^* = 1,00$

blackness  $n^*$

$n^* = 0,25$

chromaticness  $c^*$

relative Inform. Technology (IT)  
 $olv_i3^*$  1.0 0.0 0.0 (1.0)  
 $cmy3^*$  0.0 1.0 1.0 (0.0)  
 $olv_i4^*$  1.0 0.5 0.5 0.5  
 $cmy4^*$  0.0 0.5 0.5 0.5  
**standard and adapted CIELAB**  
 $LAB^*LAB$  47.15 84.68 37.26  
 $LAB^*LABa$  47.15 84.61 37.24  
 $LAB^*TChA$  50.0 92.44 23.75

**relative CIELAB lab\***  
 $lab^*lab$  0.376 0.915 0.403  
 $lab^*tch$  0.5 1.0 0.066  
 $lab^*nch$  0.0 1.0 0.066  
**relative Natural Colour (NC)**  
 $lab^*lrj$  0.376 1.0 -0.023  
 $lab^*ice$  0.5 1.0 0.996  
 $lab^*ncE$  0.0 1.0 b98r

**relative CIELAB lab\***  
 $lab^*lab$  0.188 0.458 0.201  
 $lab^*tch$  0.25 0.5 0.066  
 $lab^*nch$  0.5 0.5 0.066  
**relative Natural Colour (NC)**  
 $lab^*lrj$  0.188 0.5 -0.011  
 $lab^*ice$  0.25 0.5 0.996  
 $lab^*ncE$  0.5 0.5 b98r

$n^* = 0,00$

$n^* = 0,50$

$n^* = 1,00$

blackness  $n^*$

$n^* = 0,25$

chromaticness  $c^*$

UE100-7, 3 step scales for constant CIELAB hue 38/360 = 0.105 (left)

3 step scales for constant CIELAB hue 24/360 = 0.066 (right)

## Input: Colorimetric Reflective System ORS18

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

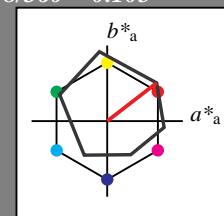
$lab^*tch$  and  $lab^*nch$

D65: hue O

LCH\*Ma: 48 83 38

olv\*Ma: 1.0 0.0 0.0

triangle lightness  $t^*$



### ORS18; adapted (a) CIELAB data

	$L^*=L^*_a$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
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)

$olv^3*$  1.0 1.0 1.0 (1.0)

$cmy^3*$  0.0 0.0 0.0 (0.0)

$olv^4*$  1.0 1.0 1.0 1.0

$cmy^4*$  0.0 0.0 0.0 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 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  1.0 0.0 0.0

$lab^*ice$  1.0 0.0 0.0

$lab^*ncE$  0.0 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 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

$lab^*ice$  0.75 0.2 0.048

$lab^*ncE$  0.0 0.5 r19j

relative Inform. Technology (IT)

$olv^3*$  0.5 0.5 0.5 (1.0)

$cmy^3*$  0.5 0.5 0.5 (0.0)

$olv^4*$  1.0 1.0 1.0 0.5

$cmy^4*$  0.0 0.0 0.0 0.5

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 CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  0.5 0.0 0.0

$lab^*ice$  0.5 0.0 0.0

$lab^*ncE$  0.5 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.5 -0.46

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  0.0 0.0 0.0

$lab^*ice$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

$n^* = 0,00$

chromaticness  $c^*$

$n^* = 0,50$

$n^* = 1,00$

$n^* = 0,00$   
blackness  $n^*$

$n^* = 0,50$   
 $n^* = 1,00$

$n^* = 0,00$   
chromaticness  $c^*$

## Output: Colorimetric Reflective System NRS11

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

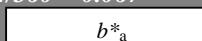
$lab^*tch$  and  $lab^*nch$

D65: hue R

LCH\*Ma: 53 84 24

olv\*Ma: 1.0 0.0 0.0

triangle lightness  $t^*$



### NRS11; adapted (a) CIELAB data

	$L^*=L^*_a$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	53.2	77.06	34.32	84.36	24
JMa	53.2	-1.51	84.38	84.39	91
GMa	53.2	-82.27	18.98	84.44	167
G50BMa	53.2	-77.72	-32.98	84.44	203
BMa	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

%Gamut

$u^*_{rel} = 93$

%Regularity

$g^*_{H,rel} = 57$

$g^*_{C,rel} = 59$

relative Inform. Technology (IT)

$olv^3*$  1.0 1.0 1.0 (1.0)

$cmy^3*$  0.0 0.0 0.0 (0.0)

$olv^4*$  1.0 1.0 1.0 1.0

$cmy^4*$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  1.0 0.0 0.0

$lab^*ice$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)

$olv^3*$  0.5 0.5 0.5 (1.0)

$cmy^3*$  0.5 0.5 0.5 (0.0)

$olv^4*$  1.0 0.5 0.5 0.5

$cmy^4*$  0.0 0.5 0.5 0.5

standard and adapted CIELAB

$LAB^*LAB$  74.3 38.55 17.16

$LAB^*LABa$  74.3 38.52 17.16

$LAB^*TChA$  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

$lab^*ice$  0.75 0.5 0.997

$lab^*ncE$  0.0 0.5 0.997

$n^* = 1,0$

blackness  $n^*$

$n^* = 0,50$

$n^* = 1,00$

chromaticness  $c^*$

### NRS11; adapted (a) CIELAB data

	$L^*=L^*_a$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	53.2	77.06	34.32	84.36	24
JMa	53.2	-1.51	84.38	84.39	91
GMa	53.2	-82.27	18.98	84.44	167
G50BMa	53.2	-77.72	-32.98	84.44	203
BMa	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)

$olv^3*$  1.0 0.0 0.0 (1.0)

$cmy^3*$  0.0 1.0 1.0 (0.0)

$olv^4*$  1.0 0.0 0.0 1.0

$cmy^4*$  0.0 1.0 1.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  53.2 77.09 34.32

$LAB^*LABa$  53.2 77.04 34.31

$LAB^*TChA$  50.0 84.34 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 1.0 0.067

relative Natural Colour (NC)

$lab^*lrj$  0.5 1.0 -0.019

$lab^*ice$  0.5 1.0 0.997

$lab^*ncE$  0.0 1.0 0.997

$n^* = 1,00$

blackness  $n^*$

$n^* = 0,50$

$n^* = 1,00$

chromaticness  $c^*$

UE100-7, 3 step scales for constant CIELAB hue 38/360 = 0.105 (left)

3 step scales for constant CIELAB hue 24/360 = 0.067 (right)

### Input: Colorimetric Reflective System ORS18

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

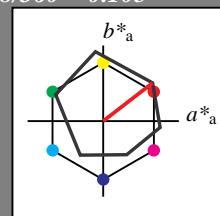
$lab^*tch$  and  $lab^*nch$

D65: hue O

LCH\*Ma: 48 83 38

olv\*Ma: 1.0 0.0 0.0

triangle lightness  $t^*$



### ORS18; adapted (a) CIELAB data

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

%Gamut

$u^*_{rel} = 93$

%Regularity

$g^*_{H,rel} = 57$

$g^*_{C,rel} = 59$

relative Inform. Technology (IT)  
 $olv^3*$  1.0 1.0 1.0 (1.0)  
 $cmy^3*$  0.0 0.0 0.0 (0.0)  
 $olv^4*$  1.0 1.0 1.0 1.0  
 $cmy^4*$  0.0 0.0 0.0 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 0.0 0.0  
 $lab^*tch$  1.0 0.0 -  
 $lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)  
 $lab^*lrij$  1.0 0.0 0.0  
 $lab^*tce$  1.0 0.0 0.0  
 $lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)  
 $olv^3*$  0.5 0.5 0.5 (1.0)  
 $cmy^3*$  0.5 0.5 0.5 (0.0)  
 $olv^4*$  1.0 1.0 1.0 0.5  
 $cmy^4*$  0.0 0.0 0.0 0.5

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 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)  
 $lab^*lrij$  0.693 0.477 0.15  
 $lab^*tce$  0.75 0.2 0.048  
 $lab^*ncE$  0.0 0.5 r19j

relative Inform. Technology (IT)  
 $olv^3*$  0.0 0.0 0.0 (1.0)  
 $cmy^3*$  1.0 1.0 1.0 (0.0)  
 $olv^4*$  1.0 1.0 1.0 0.0  
 $cmy^4*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB  
 $LAB^*LAB$  18.02 0.5 -0.46  
 $LAB^*LABa$  18.02 0.0 0.0  
 $LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*  
 $lab^*lab$  0.0 0.0 0.0  
 $lab^*tch$  0.0 0.0 -  
 $lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)  
 $lab^*lrij$  0.0 0.0 0.0  
 $lab^*tce$  0.0 0.0 -  
 $lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

relative Inform. Technology (IT)  
 $olv^3*$  1.0 0.5 0.5 (1.0)  
 $cmy^3*$  0.0 0.5 0.5 (0.0)  
 $olv^4*$  1.0 0.5 0.5 1.0  
 $cmy^4*$  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 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)  
 $lab^*lrij$  0.693 0.477 0.15  
 $lab^*tce$  0.75 0.2 0.048  
 $lab^*ncE$  0.0 0.5 r19j

relative Inform. Technology (IT)  
 $olv^3*$  1.0 0.0 0.0 (1.0)  
 $cmy^3*$  0.5 0.5 0.5 (0.0)  
 $olv^4*$  1.0 1.0 1.0 0.5  
 $cmy^4*$  0.0 0.0 0.0 0.5

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 CIELAB lab\*  
 $lab^*lab$  0.387 0.791 0.611  
 $lab^*tch$  0.5 1.0 0.105  
 $lab^*nch$  0.0 1.0 0.105

relative Natural Colour (NC)  
 $lab^*lrij$  0.387 0.954 0.299  
 $lab^*tce$  0.5 1.0 0.048  
 $lab^*ncE$  0.0 1.0 r19j

relative Inform. Technology (IT)  
 $olv^3*$  0.0 0.0 0.0 (1.0)  
 $cmy^3*$  1.0 1.0 1.0 (0.0)  
 $olv^4*$  1.0 1.0 1.0 0.0  
 $cmy^4*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB  
 $LAB^*LAB$  11.01 0.07 0.01  
 $LAB^*LABa$  11.01 0.0 0.0  
 $LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*  
 $lab^*lab$  0.0 0.0 0.0  
 $lab^*tch$  0.0 0.0 -  
 $lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)  
 $lab^*lrij$  0.0 0.0 0.0  
 $lab^*tce$  0.0 0.0 -  
 $lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

relative Inform. Technology (IT)  
 $olv^3*$  1.0 0.0 0.0 (1.0)  
 $cmy^3*$  0.0 1.0 1.0 (0.0)  
 $olv^4*$  1.0 0.5 0.5 0.5  
 $cmy^4*$  0.0 0.5 0.5 0.5

standard and adapted CIELAB  
 $LAB^*LAB$  53.21 0.04 0.0  
 $LAB^*LABa$  53.21 0.0 0.0  
 $LAB^*TChA$  50.0 0.01 -

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 0.0

relative Natural Colour (NC)  
 $lab^*lrij$  0.5 0.0 0.0  
 $lab^*tce$  0.5 0.0 0.0  
 $lab^*ncE$  0.5 0.0 0.0

relative Inform. Technology (IT)  
 $olv^3*$  0.5 0.0 0.0 (1.0)  
 $cmy^3*$  0.5 1.0 1.0 (0.0)  
 $olv^4*$  1.0 0.5 0.5 0.5  
 $cmy^4*$  0.0 0.5 0.5 0.5

standard and adapted CIELAB  
 $LAB^*LAB$  29.07 42.38 18.64  
 $LAB^*LABa$  29.07 42.31 18.62  
 $LAB^*TChA$  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  
 $lab^*nch$  0.5 0.5 0.066

relative Natural Colour (NC)  
 $lab^*lrij$  0.214 0.5 -0.011  
 $lab^*tce$  0.25 0.5 0.996  
 $lab^*ncE$  0.5 0.5 b98r

relative Inform. Technology (IT)  
 $olv^3*$  0.0 0.0 0.0 (1.0)  
 $cmy^3*$  1.0 1.0 1.0 (0.0)  
 $olv^4*$  1.0 1.0 1.0 0.0  
 $cmy^4*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB  
 $LAB^*LAB$  0.01 0.01 0.01  
 $LAB^*LABa$  0.01 0.0 0.0  
 $LAB^*TChA$  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)  
 $lab^*lrij$  0.0 0.0 0.0  
 $lab^*tce$  0.0 0.0 0.0  
 $lab^*ncE$  1.0 0.0 0.0

### Output: Colorimetric Reflective System NCS11

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

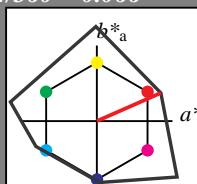
$lab^*tch$  and  $lab^*nch$

D65: hue R

LCH\*Ma: 47 92 24

olv\*Ma: 1.0 0.0 0.0

triangle lightness  $t^*$



### 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

%Gamut

$u^*_{rel} = 149$

%Regularity

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

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

relative Inform. Technology (IT)

$olv^3*$  1.0 0.5 0.5 (1.0)

$cmy^3*$  0.0 0.5 0.5 (0.0)

$olv^4*$  1.0 0.5 0.5 1.0

$cmy^4*$  0.0 0.5 0.5 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 0.0

$lab^*nch$  0.0 0.0 0.0

relative Natural Colour (NC)

$lab^*lrij$  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)

$olv^3*$  0.0 1.0 1.0 (0.0)

$cmy^3*$  0.0 0.0 0.0 (0.0)

$olv^4*$  1.0 0.0 0.0 1.0

$cmy^4*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  47.15 84.68 37.26

$LAB^*LABa$  47.15 84.63 37.24

$LAB^*TChA$  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)

$lab^*lrij$  0.428 1.0 -0.023

$lab^*tce$  0.5 1.0 0.996

$lab^*ncE$  0.0 1.0 b98r

$n^* = 0,00$

blackness  $n^*$

$n^* = 1,0$

chromaticness  $c^*$

UE100-7, 3 step scales for constant CIELAB hue 38/360 = 0.105 (left)

3 step scales for constant CIELAB hue 24/360 = 0.066 (right)

## Input: Colorimetric Reflective System MRS18

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

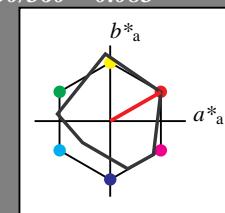
$lab^*tch$  and  $lab^*nch$

D65: hue R

LCH\*Ma: 50 77 30

olv\*Ma: 1.0 0.0 0.0

triangle lightness  $t^*$



relative Inform. Technology (IT)

olv13\* 1.0 1.0 1.0 (1.0)

cmyn3\* 0.0 0.0 0.0 (0.0)

olv14\* 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\*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 0.0 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 -

standard and adapted CIELAB

LAB\*LAB 72.52 32.93 22.4

LAB\*LABa 72.52 33.47 19.18

LAB\*TChA 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 0.2 0.019

lab\*ncE 0.0 0.5 r07j

relative Inform. Technology (IT)

olv13\* 0.5 0.5 0.5 (1.0)

cmyn3\* 0.5 0.5 0.5 (0.0)

olv14\* 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\*LABa 56.71 0.0 0.0

LAB\*TChA 50.0 0.01 -

relative CIELAB lab\*

lab\*lab 0.5 0.0 0.0

lab\*tch 0.5 0.0 -

lab\*nch 0.5 0.0 -

relative Natural Colour (NC)

lab\*lrj 0.5 0.0 0.0

lab\*tce 0.5 0.0 0.0

lab\*ncE 0.5 0.0 -

standard and adapted CIELAB

LAB\*LAB 18.02 0.5 -0.46

LAB\*LABa 18.02 0.0 0.0

LAB\*TChA 0.01 0.01 -

relative CIELAB lab\*

lab\*lab 0.0 0.0 0.0

lab\*tch 0.0 0.0 -

lab\*nch 1.0 0.0 -

relative Natural Colour (NC)

lab\*lrj 0.0 0.0 0.0

lab\*tce 0.0 0.0 -

lab\*ncE 1.0 0.0 -

$n^* = 1,0$

## 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

%Gamut

$u^*_{rel} = 91$

%Regularity

$g^*_{H,rel} = 41$

$g^*_{C,rel} = 52$

relative Inform. Technology (IT)

olv13\* 1.0 0.5 0.5 (1.0)

cmyn3\* 0.0 0.5 0.5 (0.0)

olv14\* 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\*LABa 72.52 33.47 19.18

LAB\*TChA 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 0.2 0.019

lab\*ncE 0.0 0.5 r07j

standard and adapted CIELAB

LAB\*LAB 49.63 66.84 40.03

LAB\*LABa 49.63 66.95 38.36

LAB\*TChA 50.0 77.16 29.82

relative CIELAB lab\*

lab\*lab 0.409 0.867 0.497

lab\*tch 0.5 1.0 0.083

lab\*nch 0.0 1.0 0.083

relative Natural Colour (NC)

lab\*lrj 0.409 0.993 0.119

lab\*tce 0.5 1.0 0.019

lab\*ncE 0.0 1.0 r07j

standard and adapted CIELAB

LAB\*LAB 33.82 33.67 19.79

LAB\*LABa 33.82 33.47 19.18

LAB\*TChA 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 0.5 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 r07j

standard and adapted CIELAB

LAB\*LAB 18.02 0.5 -0.46

LAB\*LABa 18.02 0.0 0.0

LAB\*TChA 0.01 0.01 -

relative CIELAB lab\*

lab\*lab 0.0 0.0 0.0

lab\*tch 0.0 0.0 -

lab\*nch 1.0 0.0 -

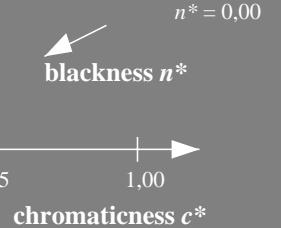
relative Natural Colour (NC)

lab\*lrj 0.0 0.0 0.0

lab\*tce 0.0 0.0 -

lab\*ncE 1.0 0.0 -

$n^* = 0,00$



blackness  $n^*$

chromaticness  $c^*$

$n^* = 0,00$

$n^* = 0,50$

$n^* = 1,00$

## Output: Colorimetric Reflective System ORS18

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

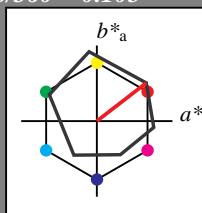
$lab^*tch$  and  $lab^*nch$

D65: hue O

LCH\*Ma: 48 83 38

olv\*Ma: 1.0 0.0 0.0

triangle lightness  $t^*$



%Gamut

$u^*_{rel} = 93$

%Regularity

$g^*_{H,rel} = 57$

$g^*_{C,rel} = 59$

relative Inform. Technology (IT)

olv13\* 1.0 0.5 0.5 (1.0)

cmyn3\* 0.0 0.5 0.5 (0.0)

olv14\* 1.0 0.5 0.5 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 0.0 0.0

lab\*tch 1.0 0.0 -

lab\*nch 0.0 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 -

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 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\*tce 0.75 0.5 0.048

lab\*ncE 0.0 0.5 r19j

relative Inform. Technology (IT)

olv13\* 0.5 0.5 0.5 (1.0)

cmyn3\* 0.0 1.0 1.0 (0.0)

olv14\* 1.0 0.5 0.5 0.5

cmyn4\* 0.0 0.5 0.5 0.5

standard and adapted CIELAB

LAB\*LAB 49.63 66.84 40.03

LAB\*LABa 49.63 66.95 38.36

LAB\*TChA 50.0 77.16 29.82

relative CIELAB lab\*

lab\*lab 0.409 0.867 0.497

lab\*tch 0.5 1.0 0.083

lab\*nch 0.0 1.0 0.083

relative Natural Colour (NC)

lab\*lrj 0.409 0.993 0.119

lab\*tce 0.5 1.0 0.019

lab\*ncE 0.0 1.0 r07j

standard and adapted CIELAB

LAB\*LAB 18.02 0.5 -0.46

LAB\*LABa 18.02 0.0 0.0

LAB\*TChA 0.01 0.01 -

relative CIELAB lab\*

lab\*lab 0.0 0.0 0.0

lab\*tch 0.0 0.0 -

lab\*nch 1.0 0.0 -

relative Natural Colour (NC)

lab\*lrj 0.0 0.0 0.0

lab\*tce 0.0 0.0 -

lab\*ncE 1.0 0.0 -

$n^* = 1,0$

$n^* = 0,50$

$n^* = 0,00$

## Input: Colorimetric Reflective System MRS18

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

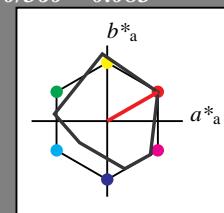
$lab^*tch$  and  $lab^*nch$

D65: hue R

LCH\*Ma: 50 77 30

olv\*Ma: 1.0 0.0 0.0

triangle lightness  $t^*$



%Gamut

$u^*_{rel} = 91$

%Regularity

$g^*_{H,rel} = 41$

$g^*_{C,rel} = 52$

relative Inform. Technology (IT)

$olv^3*$  1.0 1.0 1.0 (1.0)

$cmy^3*$  0.0 0.0 0.0 (0.0)

$olv^4*$  1.0 1.0 1.0 1.0

$cmy^4*$  0.0 0.0 0.0 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 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 -

$lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)

$olv^3*$  0.5 0.5 0.5 (1.0)

$cmy^3*$  0.5 0.5 0.5 (0.0)

$olv^4*$  1.0 1.0 1.0 0.5

$cmy^4*$  0.0 0.0 0.0 0.5

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 CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.5 0.0 0.0

$lab^*tce$  0.5 0.0 -

$lab^*ncE$  0.5 0.0 -

relative Inform. Technology (IT)

$olv^3*$  0.0 0.0 0.0 (1.0)

$cmy^3*$  1.0 1.0 1.0 (0.0)

$olv^4*$  1.0 1.0 1.0 0.0

$cmy^4*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.5 -0.46

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*tce$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

## 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

## Output: Colorimetric Reflective System MRS18

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

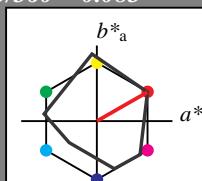
$lab^*tch$  and  $lab^*nch$

D65: hue R

LCH\*Ma: 50 77 30

olv\*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)

$olv^3*$  1.0 1.0 1.0 (1.0)

$cmy^3*$  0.0 0.0 0.0 (0.0)

$olv^4*$  1.0 1.0 1.0 1.0

$cmy^4*$  0.0 0.0 0.0 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 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 -

$lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)

$olv^3*$  0.5 0.5 0.5 (1.0)

$cmy^3*$  0.5 0.5 0.5 (0.0)

$olv^4*$  1.0 1.0 1.0 0.5

$cmy^4*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  72.52 32.93 22.4

$LAB^*LABa$  72.52 33.47 19.18

$LAB^*TChA$  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)

$lab^*lrij$  0.704 0.496 0.06

$lab^*tce$  0.75 0.5 0.019

$lab^*ncE$  0.0 0.5 r07j

$n^* = 0,00$

blackness  $n^*$

$n^* = 0,00$

blackness  $n^*$

$n^* = 0,50$

chromaticness  $c^*$

$n^* = 1,0$

blackness  $n^*$

$n^* = 0,50$

chromaticness  $c^*$

UE100-7, 3 step scales for constant CIELAB hue 30/360 = 0.083 (left)

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

## Input: Colorimetric Reflective System MRS18

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

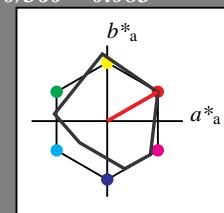
$lab^*tch$  and  $lab^*nch$

D65: hue R

LCH\*Ma: 50 77 30

olv\*Ma: 1.0 0.0 0.0

triangle lightness  $t^*$



### 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)

$olv^3*$  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

$LAB^*LABa$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  72.52 32.93 22.4

$LAB^*LABa$  72.52 33.47 19.18

$LAB^*TChA$  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)

$lab^*lrij$  0.704 0.496 0.06

$lab^*tce$  0.75 0.2 0.019

$lab^*ncE$  0.0 0.5 r07j

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 0.5

$cmyn^4*$  0.0 0.0 0.0 0.5

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 CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.5 0.0 0.0

$lab^*tce$  0.5 0.0 0.0

$lab^*ncE$  0.5 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  33.82 33.67 19.79

$LAB^*LABa$  33.82 33.47 19.18

$LAB^*TChA$  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

$lab^*nch$  0.5 0.5 0.083

relative Natural Colour (NC)

$lab^*lrij$  0.204 0.496 0.06

$lab^*tce$  0.25 0.5 0.019

$lab^*ncE$  0.5 0.5 r07j

$n^* = 1,0$

$n^* = 0,00$

$n^* = 0,50$

$1,00$

$chromaticness c^*$

## Output: Colorimetric Reflective System TRS18

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

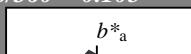
$lab^*tch$  and  $lab^*nch$

D65: hue O

LCH\*Ma: 48 83 38

olv\*Ma: 1.0 0.0 0.0

triangle lightness  $t^*$



### TRS18; adapted (a) CIELAB data

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

$olv^3*$  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

$LAB^*LABa$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 0.0

$lab^*ncE$  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 0.5 0.5 0.5

$cmyn^4*$  0.0 0.5 0.5 0.5

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 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)

$lab^*lrij$  0.693 0.477 0.15

$lab^*tce$  0.75 0.5 0.048

$lab^*ncE$  0.0 0.5 r19j

relative Inform. Technology (IT)

$olv^3*$  1.0 0.0 0.0 (1.0)

$cmyn^3*$  0.0 1.0 1.0 (0.0)

$olv^4*$  1.0 1.0 1.0 1.0

$cmyn^4*$  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 CIELAB lab\*

$lab^*lab$  0.387 0.791 0.611

$lab^*tch$  0.5 1.0 0.105

$lab^*nch$  0.0 1.0 0.105

relative Natural Colour (NC)

$lab^*lrij$  0.387 0.954 0.299

$lab^*tce$  0.5 1.0 0.048

$lab^*ncE$  0.0 1.0 r19j

$n^* = 0,00$

$n^* = 0,50$

$1,00$

$chromaticness c^*$

UE100-7, 3 step scales for constant CIELAB hue 30/360 = 0.083 (left)

3 step scales for constant CIELAB hue 38/360 = 0.105 (right)

### Input: Colorimetric Reflective System MRS18

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

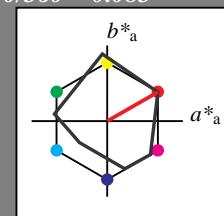
$lab^*tch$  and  $lab^*nch$

D65: hue R

LCH\*Ma: 50 77 30

olv\*Ma: 1.0 0.0 0.0

triangle lightness  $t^*$



### 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)

$olv^3*$  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

$LAB^*LABa$  95.41 0.0 0.0

$LAB^*TCh$  99.99 0.01 -

relative CIELAB lab\*

$lab^*lab$  1.0 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  1.0 0.0 0.0

$lab^*ice$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  72.52 32.93 22.4

$LAB^*LABa$  72.52 33.47 19.18

$LAB^*TCh$  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

$lab^*ice$  0.75 0.2 0.019

$lab^*ncE$  0.0 0.5 r07j

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 0.5

$cmyn^4*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  56.71 -0.23 2.14

$LAB^*LABa$  56.71 0.0 0.0

$LAB^*TCh$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  0.5 0.0 0.0

$lab^*ice$  0.5 0.0 0.0

$lab^*ncE$  0.5 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  33.82 33.67 19.79

$LAB^*LABa$  33.82 33.47 19.18

$LAB^*TCh$  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

$lab^*nch$  0.5 0.5 0.083

relative Natural Colour (NC)

$lab^*lrj$  0.204 0.496 0.06

$lab^*ice$  0.25 0.5 0.019

$lab^*ncE$  0.5 0.5 r07j

$n^* = 1,0$

relative Inform. Technology (IT)

$olv^3*$  1.0 0.0 0.0 (1.0)

$cmyn^3*$  0.0 1.0 1.0 (0.0)

$olv^4*$  1.0 0.5 0.5 0.5

$cmyn^4*$  0.0 0.5 0.5 0.5

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.1 -0.46

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TCh$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  0.0 0.0 0.0

$lab^*ice$  0.0 0.0 0.0

$lab^*ncE$  1.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.1 0.02

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TCh$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

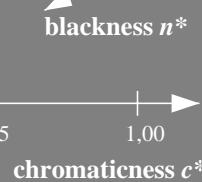
relative Natural Colour (NC)

$lab^*lrj$  0.0 0.0 0.0

$lab^*ice$  0.0 0.0 0.0

$lab^*ncE$  1.0 0.0 -

$n^* = 0,00$



### Output: Colorimetric Reflective System MRS18a

for hue  $h^* = lab^*h = 31/360 = 0.086$

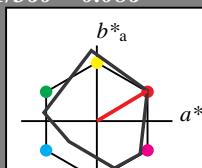
$lab^*tch$  and  $lab^*nch$

D65: hue R

LCH\*Ma: 50 78 31

olv\*Ma: 1.0 0.0 0.0

triangle lightness  $t^*$



### MRS18a; adapted (a) CIELAB data

	$L^*=L^*_a$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	49.63	66.8	40.02	77.87	31
JMa	90.7	-7.27	93.19	93.48	94
GMa	52.11	-69.93	11.26	70.85	171
G50BMa	45.03	-36.65	-27.13	45.61	217
BMa	36.65	23.26	-62.27	66.49	290
B50RMa	34.94	57.27	-43.6	71.99	323
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	272

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 0.01 0.0

$LAB^*LABa$  95.41 0.0 0.0

$LAB^*TCh$  99.99 0.01 -

relative CIELAB lab\*

$lab^*lab$  1.0 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  1.0 0.0 0.0

$lab^*ice$  1.0 0.0 0.0

$lab^*ncE$  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 0.5 0.5 0.5

$cmyn^4*$  0.0 0.5 0.5 0.5

standard and adapted CIELAB

$LAB^*LAB$  72.52 33.43 20.01

$LAB^*LABa$  72.52 33.39 20.01

$LAB^*TCh$  75.0 38.93 30.93

relative CIELAB lab\*

$lab^*lab$  0.704 0.429 0.257

$lab^*tch$  0.75 0.5 0.086

$lab^*nch$  0.0 0.5 0.086

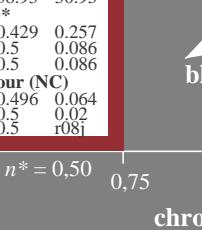
relative Natural Colour (NC)

$lab^*lrj$  0.704 0.496 0.064

$lab^*ice$  0.75 0.5 0.02

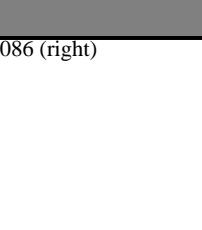
$lab^*ncE$  0.0 0.5 r08j

$n^* = 0,00$



	$L^*=L^*_a$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	49.63	66.8	40.02	77.87	31
JMa	90.7	-7.27	93.19	93.48	94
GMa	52.11	-69.93	11.26	70.85	171
G50BMa	45.03	-36.65	-27.13	45.61	217
BMa	36.65	23.26	-62.27	66.49	290
B50RMa	34.94	57.27	-43.6	71.99	323
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	272

$n^* = 1,0$



3 step scales for constant CIELAB hue 31/360 = 0.086 (right)

UE100-7, 3 step scales for constant CIELAB hue 30/360 = 0.083 (left)

### Input: Colorimetric Reflective System MRS18

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

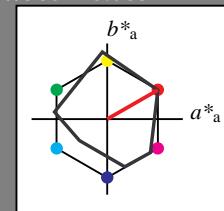
$lab^*tch$  and  $lab^*nch$

D65: hue R

LCH\*Ma: 50 77 30

olv\*Ma: 1.0 0.0 0.0

triangle lightness  $t^*$



relative Inform. Technology (IT)

olv*i*3\* 1.0 1.0 1.0 (1.0)

cmy*n*3\* 0.0 0.0 0.0 (0.0)

olv*i*4\* 1.0 1.0 1.0 1.0

cmy*n*4\* 0.0 0.0 0.0 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 0.0 0.0

lab\*tch 1.0 0.0 -

lab\*nch 0.0 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)

olv*i*3\* 0.5 0.5 0.5 (1.0)

cmy*n*3\* 0.5 0.5 0.5 (0.0)

olv*i*4\* 1.0 1.0 1.0 0.5

cmy*n*4\* 0.0 0.0 0.0 0.5

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 CIELAB lab\*

lab\*lab 0.5 0.0 0.0

lab\*tch 0.5 0.0 -

lab\*nch 0.5 0.0 -

relative Natural Colour (NC)

lab\*lrj 0.5 0.0 0.0

lab\*tce 0.5 0.0 0.0

lab\*ncE 0.5 0.0 -

relative Inform. Technology (IT)

olv*i*3\* 0.0 0.0 0.0 (1.0)

cmy*n*3\* 1.0 1.0 1.0 (0.0)

olv*i*4\* 1.0 1.0 1.0 0.0

cmy*n*4\* 0.0 0.0 0.0 1.0

standard and adapted CIELAB

LAB\*LAB 18.02 0.5 -0.46

LAB\*LABa 18.02 0.0 0.0

LAB\*TChA 0.01 0.01 -

relative CIELAB lab\*

lab\*lab 0.0 0.0 0.0

lab\*tch 0.0 0.0 -

lab\*nch 1.0 0.0 -

relative Natural Colour (NC)

lab\*lrj 0.0 0.0 0.0

lab\*tce 0.0 0.0 0.0

lab\*ncE 1.0 0.0 -

$n^* = 1,0$

### MRS18; adapted (a) CIELAB data

$L^*=L^*_a \quad a^*_a \quad b^*_a \quad C^*_{ab,a} \quad h^*_{ab,a}$

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

%Gamut

$u^*_{rel} = 91$

%Regularity

$g^*_{H,rel} = 41$

$g^*_{C,rel} = 52$

relative Inform. Technology (IT)

olv*i*3\* 1.0 0.5 0.5 (1.0)

cmy*n*3\* 0.0 0.5 0.5 (0.0)

olv*i*4\* 1.0 0.5 0.5 1.0

cmy*n*4\* 0.0 0.5 0.5 0.0

standard and adapted CIELAB

LAB\*LAB 72.52 32.93 22.4

LAB\*LABa 72.52 33.47 19.18

LAB\*TChA 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 0.2 0.019

lab\*ncE 0.0 0.5 r071

relative Inform. Technology (IT)

olv*i*3\* 1.0 0.0 0.0 (1.0)

cmy*n*3\* 0.5 1.0 1.0 (0.0)

olv*i*4\* 1.0 0.5 0.5 0.5

cmy*n*4\* 0.0 0.5 0.5 0.5

standard and adapted CIELAB

LAB\*LAB 49.63 66.84 40.03

LAB\*LABa 49.63 66.95 38.36

LAB\*TChA 50.0 77.16 29.82

relative CIELAB lab\*

lab\*lab 0.409 0.867 0.497

lab\*tch 0.5 1.0 0.083

lab\*nch 0.0 1.0 0.083

relative Natural Colour (NC)

lab\*lrj 0.409 0.993 0.119

lab\*tce 0.5 1.0 0.019

lab\*ncE 0.0 1.0 r071

relative Inform. Technology (IT)

olv*i*3\* 0.5 0.0 0.0 (1.0)

cmy*n*3\* 1.0 1.0 1.0 (0.0)

olv*i*4\* 1.0 1.0 1.0 0.0

cmy*n*4\* 0.0 0.0 0.0 1.0

standard and adapted CIELAB

LAB\*LAB 18.02 0.2 0.02

LAB\*LABa 18.02 0.0 0.0

LAB\*TChA 0.01 0.01 -

relative CIELAB lab\*

lab\*lab 0.204 0.434 0.249

lab\*tch 0.25 0.5 0.083

lab\*nch 0.5 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 r071

$n^* = 0,00$

blackness  $n^*$

chromaticness  $c^*$

### Output: Colorimetric Reflective System NRS18

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

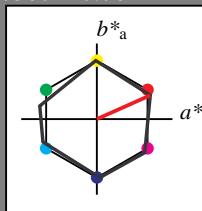
$lab^*tch$  and  $lab^*nch$

D65: hue R

LCH\*Ma: 57 77 24

olv\*Ma: 1.0 0.0 0.0

triangle lightness  $t^*$



%Gamut  
 $u^*_{rel} = 91$   
%Regularity  
 $g^*_{H,rel} = 41$   
 $g^*_{C,rel} = 100$

relative Inform. Technology (IT)

olv*i*3\* 1.0 1.0 1.0 (1.0)

cmy*n*3\* 0.0 0.0 0.0 (0.0)

olv*i*4\* 1.0 1.0 1.0 1.0

cmy*n*4\* 0.0 0.0 0.0 0.0

standard and adapted CIELAB

LAB\*LAB 95.41 0.0 0.0

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 0.0 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)

olv*i*3\* 0.5 0.5 0.5 (1.0)

cmy*n*3\* 0.5 1.0 1.0 (0.0)

olv*i*4\* 1.0 0.5 0.5 0.5

cmy*n*4\* 0.0 0.5 0.5 0.5

standard and adapted CIELAB

LAB\*LAB 76.05 35.35 15.74

LAB\*LABa 76.05 35.32 15.73

LAB\*TChA 75.0 38.67 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\*tce 0.75 0.5 0.997

lab\*ncE 0.0 0.5 0.997

$n^* = 1,0$

blackness  $n^*$

chromaticness  $c^*$

### NRS18; adapted (a) CIELAB data

$L^*=L^*_a \quad a^*_a \quad b^*_a \quad C^*_{ab,a} \quad h^*_{ab,a}$

RMa	56.7	70.66	31.47	77.35	24
JMa	56.7	-1.39	77.37	77.39	91
GMa	56.7	-75.46	17.4	77.45	167
G50BMa	56.7	-71.29	-30.25	77.45	203
BMa	56.7	4.0	-77.3	77.41	273
B50RMa	56.7	63.35	-44.4	77.36	325
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	272

%Gamut

$u^*_{rel} = 100$

%Regularity

$g^*_{H,rel} = 47$

$g^*_{C,rel} = 100$

relative Inform. Technology (IT)

olv*i*3\* 1.0 0.5 0.5 (1.0)

cmy*n*3\* 0.0 0.5 0.5 (0.0)

olv*i*4\* 1.0 0.5 0.5 1.0

cmy*n*4\* 0.0 0.5 0.5 0.0

standard and adapted CIELAB

LAB\*LAB 76.05 35.35 15.74

LAB\*LABa 76.05 35.32 15.73

LAB\*TChA 75.0 38.67 24.01

relative CIELAB lab\*

lab\*lab 0.75 0.457 0.203

lab\*tch 0.75 0.5 0.067

## Input: Colorimetric Reflective System MRS18

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

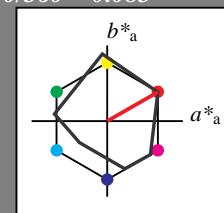
$lab^*tch$  and  $lab^*nch$

D65: hue R

LCH\*Ma: 50 77 30

olv\*Ma: 1.0 0.0 0.0

triangle lightness  $t^*$



### 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)

$olv^3*$  1.0 1.0 1.0 (1.0)

$cmy^3*$  0.0 0.0 0.0 (0.0)

$olv^4*$  1.0 1.0 1.0 1.0

$cmy^4*$  0.0 0.0 0.0 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 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  1.0 0.0 0.0

$lab^*ice$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  72.52 32.93 22.4

$LAB^*LABa$  72.52 33.47 19.18

$LAB^*TChA$  75.00 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

$lab^*ice$  0.75 0.2 0.019

$lab^*ncE$  0.0 0.5 r071

relative Inform. Technology (IT)

$olv^3*$  0.5 0.5 0.5 (1.0)

$cmy^3*$  0.5 0.5 0.5 (0.0)

$olv^4*$  1.0 1.0 1.0 0.5

$cmy^4*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  56.71 -0.23 2.14

$LAB^*LABa$  56.71 0.0 0.0

$LAB^*TChA$  50.00 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  0.5 0.0 0.0

$lab^*ice$  0.5 0.0 0.0

$lab^*ncE$  0.5 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  33.82 33.67 19.79

$LAB^*LABa$  33.82 33.47 19.18

$LAB^*TChA$  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

$lab^*nch$  0.5 0.5 0.083

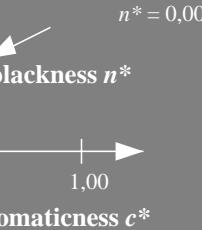
relative Natural Colour (NC)

$lab^*lrj$  0.204 0.496 0.06

$lab^*ice$  0.25 0.5 0.019

$lab^*ncE$  0.5 0.5 r071

$n^* = 1,0$



$n^* = 0,00$

blackness  $n^*$

$n^* = 0,50$

$n^* = 1,00$

chromaticness  $c^*$

## Output: Colorimetric Reflective System NCS18

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

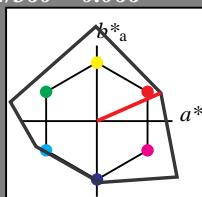
$lab^*tch$  and  $lab^*nch$

D65: hue R

LCH\*Ma: 47 92 24

olv\*Ma: 1.0 0.0 0.0

triangle lightness  $t^*$



### NCS18; adapted (a) CIELAB data

	$L^*=L_a^*$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	47.15	84.63	37.24	92.46	24
JMa	91.37	-1.27	125.03	125.03	91
GMa	63.07	-114.29	25.34	117.07	167
G50BMa	59.47	-80.61	-33.45	87.29	203
BMa	49.01	3.63	-81.2	81.29	273
B50RMa	44.06	106.07	-73.94	129.31	325
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	272

relative Inform. Technology (IT)

$olv^3*$  1.0 1.0 1.0 (1.0)

$cmy^3*$  0.0 0.0 0.0 (0.0)

$olv^4*$  1.0 1.0 1.0 1.0

$cmy^4*$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  1.0 0.0 0.0

$lab^*ice$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)

$olv^3*$  0.5 0.5 0.5 (1.0)

$cmy^3*$  0.5 0.5 0.5 (0.0)

$olv^4*$  1.0 0.5 0.5 1.0

$cmy^4*$  0.0 0.5 0.5 0.0

standard and adapted CIELAB

$LAB^*LAB$  71.27 42.34 18.63

$LAB^*LABa$  71.27 42.31 18.62

$LAB^*TChA$  75.00 46.22 23.75

relative CIELAB lab\*

$lab^*lab$  0.688 0.458 0.201

$lab^*tch$  0.75 0.5 0.066

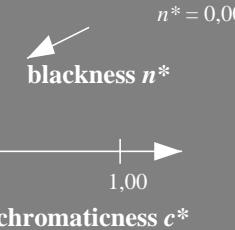
$lab^*nch$  0.0 0.5 0.066

relative Natural Colour (NC)

$lab^*lrj$  0.688 0.5 -0.011

$lab^*ice$  0.75 0.5 0.996

$lab^*ncE$  0.0 0.5 b98r



$n^* = 0,00$

blackness  $n^*$

$n^* = 0,50$

$n^* = 1,00$

chromaticness  $c^*$

$n^* = 1,0$

3 step scales for constant CIELAB hue 24/360 = 0.066 (right)

UE100-7, 3 step scales for constant CIELAB hue 30/360 = 0.083 (left)

## Input: Colorimetric Reflective System MRS18

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

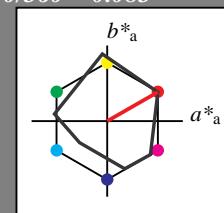
$lab^*tch$  and  $lab^*nch$

D65: hue R

LCH\*Ma: 50 77 30

olv\*Ma: 1.0 0.0 0.0

triangle lightness  $t^*$



relative Inform. Technology (IT)

olv*i3*\* 1.0 1.0 1.0 (1.0)

cmy*n3*\* 0.0 0.0 0.0 (0.0)

olv*i4*\* 1.0 1.0 1.0 1.0

cmy*n4*\* 0.0 0.0 0.0 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 0.0 0.0

lab\*tch 1.0 0.0 -

lab\*nch 0.0 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)

olv*i3*\* 0.5 0.5 0.5 (1.0)

cmy*n3*\* 0.5 0.5 0.5 (0.0)

olv*i4*\* 1.0 1.0 1.0 0.5

cmy*n4*\* 0.0 0.0 0.0 0.5

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 CIELAB lab\*

lab\*lab 0.5 0.0 0.0

lab\*tch 0.5 0.0 -

lab\*nch 0.5 0.0 -

relative Natural Colour (NC)

lab\*lrj 0.5 0.0 0.0

lab\*tce 0.5 0.0 0.0

lab\*ncE 0.5 0.0 -

relative Inform. Technology (IT)

olv*i3*\* 0.0 0.0 0.0 (1.0)

cmy*n3*\* 1.0 1.0 1.0 (0.0)

olv*i4*\* 1.0 1.0 1.0 0.0

cmy*n4*\* 0.0 0.0 0.0 1.0

standard and adapted CIELAB

LAB\*LAB 18.02 0.5 -0.46

LAB\*LABa 18.02 0.0 0.0

LAB\*TChA 0.01 0.01 -

relative CIELAB lab\*

lab\*lab 0.0 0.0 0.0

lab\*tch 0.0 0.0 -

lab\*nch 1.0 0.0 -

relative Natural Colour (NC)

lab\*lrj 0.0 0.0 0.0

lab\*tce 0.0 0.0 0.0

lab\*ncE 1.0 0.0 -

$n^* = 1,0$

## 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

%Gamut

$u^*_{rel} = 91$

%Regularity

$g^*_{H,rel} = 41$

$g^*_{C,rel} = 52$

relative Inform. Technology (IT)

olv*i3*\* 1.0 0.5 0.5 (1.0)

cmy*n3*\* 0.0 0.5 0.5 (0.0)

olv*i4*\* 1.0 0.5 0.5 1.0

cmy*n4*\* 0.0 0.5 0.5 0.0

standard and adapted CIELAB

LAB\*LAB 72.52 32.93 22.4

LAB\*LABa 72.52 33.47 19.18

LAB\*TChA 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 0.2 0.019

lab\*ncE 0.0 0.5 r07]

relative Inform. Technology (IT)

olv*i3*\* 1.0 0.0 0.0 (1.0)

cmy*n3*\* 0.5 1.0 1.0 (0.0)

olv*i4*\* 1.0 0.5 0.5 0.5

cmy*n4*\* 0.0 0.5 0.5 0.5

standard and adapted CIELAB

LAB\*LAB 49.63 66.84 40.03

LAB\*LABa 49.63 66.95 38.36

LAB\*TChA 50.0 77.16 29.82

relative CIELAB lab\*

lab\*lab 0.409 0.867 0.497

lab\*tch 0.5 1.0 0.083

lab\*nch 0.0 1.0 0.083

relative Natural Colour (NC)

lab\*lrj 0.409 0.993 0.119

lab\*tce 0.5 1.0 0.019

lab\*ncE 0.0 1.0 r07]

relative Inform. Technology (IT)

olv*i3*\* 0.0 0.0 0.0 (1.0)

cmy*n3*\* 1.0 1.0 1.0 (0.0)

olv*i4*\* 1.0 1.0 1.0 0.0

cmy*n4*\* 0.0 0.0 0.0 1.0

standard and adapted CIELAB

LAB\*LAB 11.01 0.07 0.01

LAB\*LABa 11.01 0.0 0.0

LAB\*TChA 0.01 0.01 -

relative CIELAB lab\*

lab\*lab 0.0 0.0 0.0

lab\*tch 0.0 0.0 -

lab\*nch 1.0 0.0 -

relative Natural Colour (NC)

lab\*lrj 0.0 0.0 0.0

lab\*tce 0.0 0.0 -

lab\*ncE 1.0 0.0 -

$n^* = 0,00$

blackness  $n^*$

chromaticness  $c^*$

## Output: Colorimetric Reflective System NRS11

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

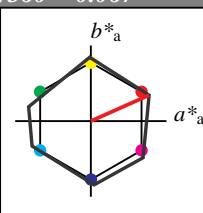
$lab^*tch$  and  $lab^*nch$

D65: hue R

LCH\*Ma: 53 84 24

olv\*Ma: 1.0 0.0 0.0

triangle lightness  $t^*$



%Gamut  
 $u^*_{rel} = 119$   
%Regularity  
 $g^*_{H,rel} = 47$   
 $g^*_{C,rel} = 100$

relative Inform. Technology (IT)  
olv*i3*\* 1.0 0.5 0.5 (1.0)  
cmy*n3*\* 0.0 0.5 0.5 (0.0)  
olv*i4*\* 1.0 0.5 0.5 1.0  
cmy*n4*\* 0.0 0.5 0.5 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 0.0 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)  
olv*i3*\* 0.5 0.5 0.5 (1.0)  
cmy*n3*\* 0.5 0.5 0.5 (0.0)  
olv*i4*\* 0.5 0.5 0.5 0.5  
cmy*n4*\* 0.0 0.5 0.5 0.5  
standard and adapted CIELAB  
LAB\*LAB 74.3 38.55 17.16  
LAB\*LABa 74.3 38.52 17.16  
LAB\*TChA 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\*tce 0.75 0.5 0.997  
lab\*ncE 0.0 0.5 b98r  
relative Inform. Technology (IT)  
olv*i3*\* 0.5 0.0 0.0 (1.0)  
cmy*n3*\* 0.1 1.0 1.0 (0.0)  
olv*i4*\* 1.0 0.5 0.5 0.5  
cmy*n4*\* 0.0 0.5 0.5 0.5  
standard and adapted CIELAB  
LAB\*LAB 53.21 0.04 0.0  
LAB\*LABa 53.21 0.0 0.0  
LAB\*TChA 50.0 0.01 -  
relative CIELAB lab\*  
lab\*lab 0.5 0.0 0.0  
lab\*tch 0.5 0.0 -  
lab\*nch 0.5 0.0 -  
relative Natural Colour (NC)  
lab\*lrj 0.5 0.0 0.0  
lab\*tce 0.5 0.0 0.0  
lab\*ncE 0.5 0.0 -  
relative Inform. Technology (IT)  
olv*i3*\* 0.0 0.0 0.0 (1.0)  
cmy*n3*\* 1.0 1.0 1.0 (0.0)  
olv*i4*\* 1.0 1.0 1.0 0.0  
cmy*n4*\* 0.0 1.0 1.0 1.0  
standard and adapted CIELAB  
LAB\*LAB 32.1 38.58 17.17  
LAB\*LABa 32.1 38.52 17.16  
LAB\*TChA 25.01 42.17 24.01  
relative CIELAB lab\*  
lab\*lab 0.25 0.457 0.203  
lab\*tch 0.25 0.5 0.067  
lab\*nch 0.5 0.5 0.067  
relative Natural Colour (NC)  
lab\*lrj 0.25 0.5 -0.009  
lab\*tce 0.25 0.5 0.997  
lab\*ncE 0.5 0.5 b98r

$n^* = 1,00$

blackness  $n^*$

chromaticness  $c^*$

$n^* = 1,0$

3 step scales for constant CIELAB hue 24/360 = 0.067 (right)

UE100-7, 3 step scales for constant CIELAB hue 30/360 = 0.083 (left)

### Input: Colorimetric Reflective System MRS18

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

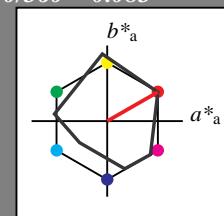
$lab^*tch$  and  $lab^*nch$

D65: hue R

LCH\*Ma: 50 77 30

olv\*Ma: 1.0 0.0 0.0

triangle lightness  $t^*$



### 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

%Gamut

$u^*_{rel} = 91$

%Regularity

$g^*_{H,rel} = 41$

$g^*_{C,rel} = 52$

relative Inform. Technology (IT)

$olv^3*$  1.0 1.0 1.0 (1.0)

$cmy^3*$  0.0 0.0 0.0 (0.0)

$olv^4*$  1.0 1.0 1.0 1.0

$cmy^4*$  0.0 0.0 0.0 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 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 -

$lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)

$olv^3*$  0.5 0.5 0.5 (1.0)

$cmy^3*$  0.5 0.5 0.5 (0.0)

$olv^4*$  1.0 1.0 1.0 0.5

$cmy^4*$  0.0 0.0 0.0 0.5

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 CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.5 0.0 0.0

$lab^*tce$  0.5 0.0 -

$lab^*ncE$  0.5 0.0 -

relative Inform. Technology (IT)

$olv^3*$  0.0 0.0 0.0 (1.0)

$cmy^3*$  1.0 1.0 1.0 (0.0)

$olv^4*$  1.0 1.0 1.0 0.0

$cmy^4*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.5 -0.46

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*tce$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

relative Inform. Technology (IT)

$olv^3*$  1.0 0.5 0.5 (1.0)

$cmy^3*$  0.0 0.5 0.5 (0.0)

$olv^4*$  1.0 0.5 0.5 1.0

$cmy^4*$  0.0 0.5 0.5 0.0

standard and adapted CIELAB

$LAB^*LAB$  72.52 32.93 22.4

$LAB^*LABa$  72.52 33.47 19.18

$LAB^*TChA$  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)

$lab^*lrij$  0.704 0.496 0.06

$lab^*tce$  0.75 0.2 0.019

$lab^*ncE$  0.0 0.5 r071

relative Inform. Technology (IT)

$olv^3*$  1.0 0.0 0.0 (1.0)

$cmy^3*$  0.0 1.0 1.0 (0.0)

$olv^4*$  1.0 1.0 1.0 0.5

$cmy^4*$  0.0 0.5 0.5 0.5

standard and adapted CIELAB

$LAB^*LAB$  49.63 66.84 40.03

$LAB^*LABa$  49.63 66.95 38.36

$LAB^*TChA$  50.0 77.16 29.82

relative CIELAB lab\*

$lab^*lab$  0.409 0.867 0.497

$lab^*tch$  0.5 1.0 0.083

$lab^*nch$  0.0 1.0 0.083

relative Natural Colour (NC)

$lab^*lrij$  0.409 0.993 0.119

$lab^*tce$  0.5 1.0 0.019

$lab^*ncE$  0.0 1.0 r071

relative Inform. Technology (IT)

$olv^3*$  0.5 0.0 0.0 (1.0)

$cmy^3*$  0.5 1.0 1.0 (0.0)

$olv^4*$  1.0 1.0 1.0 0.5

$cmy^4*$  0.0 0.5 0.5 0.5

standard and adapted CIELAB

$LAB^*LAB$  11.01 0.07 0.01

$LAB^*LABa$  11.01 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*tce$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 0,00$

$n^* = 0,50$

$n^* = 1,00$

chromaticness  $c^*$

### Output: Colorimetric Reflective System NCS11

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

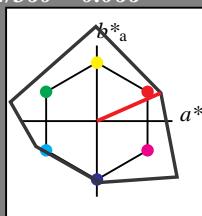
$lab^*tch$  and  $lab^*nch$

D65: hue R

LCH\*Ma: 47 92 24

olv\*Ma: 1.0 0.0 0.0

triangle lightness  $t^*$



### 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

%Gamut

$u^*_{rel} = 149$

%Regularity

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

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

relative Inform. Technology (IT)

$olv^3*$  1.0 0.5 0.5 (1.0)

$cmy^3*$  0.0 0.5 0.5 (0.0)

$olv^4*$  1.0 0.5 0.5 1.0

$cmy^4*$  0.0 0.5 0.5 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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 -

$lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)

$olv^3*$  0.5 0.0 0.0 (1.0)

$cmy^3*$  0.5 1.0 1.0 (0.0)

$olv^4*$  1.0 1.0 1.0 0.5

$cmy^4*$  0.0 0.5 0.5 0.5

standard and adapted CIELAB

$LAB^*LAB$  53.21 0.04 0.0

$LAB^*LABa$  53.21 0.0 0.0

$LAB^*TChA$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*tce$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 0,00$

$n^* = 0,50$

$n^* = 1,00$

chromaticness  $c^*$

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

3 step scales for constant CIELAB hue 24/360 = 0.066 (right)

### Input: Colorimetric Reflective System TRS18

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

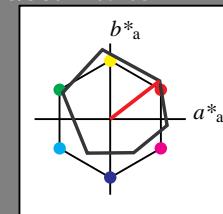
$lab^*tch$  and  $lab^*nch$

D65: hue O

LCH\*Ma: 48 83 38

olv\*Ma: 1.0 0.0 0.0

triangle lightness  $t^*$



### TRS18; adapted (a) CIELAB data

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

$olv^3*$  1.0 1.0 1.0 (1.0)

$cmy^3*$  0.0 0.0 0.0 (0.0)

$olv^4*$  1.0 1.0 1.0 1.0

$cmy^4*$  0.0 0.0 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  95.41 -0.97 4.75

$LAB^*LABa$  95.41 0.0 0.0

$LAB^*TCh$  99.99 0.01 -

relative CIELAB lab\*

$lab^*lab$  1.0 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  1.0 0.0 0.0

$lab^*ice$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  71.67 32.15 28.41

$LAB^*LABa$  71.67 32.68 25.25

$LAB^*TCh$  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

$lab^*ice$  0.75 0.2 0.048

$lab^*ncE$  0.0 0.5 r19j

relative Inform. Technology (IT)

$olv^3*$  0.5 0.5 0.5 (1.0)

$cmy^3*$  0.5 0.5 0.5 (0.0)

$olv^4*$  1.0 1.0 1.0 0.5

$cmy^4*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  56.71 -0.23 2.14

$LAB^*LABa$  56.71 0.0 0.0

$LAB^*TCh$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  0.5 0.0 0.0

$lab^*ice$  0.5 0.0 0.0

$lab^*ncE$  0.5 0.0 -

relative Inform. Technology (IT)

$olv^3*$  0.0 0.0 0.0 (1.0)

$cmy^3*$  1.0 1.0 1.0 (0.0)

$olv^4*$  1.0 1.0 1.0 0.0

$cmy^4*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.5 -0.46

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TCh$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  0.0 0.0 0.0

$lab^*ice$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

%Gamut

$u^*_{rel} = 93$

%Regularity

$g^*_{H,rel} = 57$

$g^*_{C,rel} = 59$

$n^* = 0,00$



chromaticness  $c^*$

### Output: Colorimetric Reflective System ORS18

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

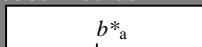
$lab^*tch$  and  $lab^*nch$

D65: hue O

LCH\*Ma: 48 83 38

olv\*Ma: 1.0 0.0 0.0

triangle lightness  $t^*$



### ORS18; adapted (a) CIELAB data

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

$olv^3*$  1.0 1.0 1.0 (1.0)

$cmy^3*$  0.0 0.0 0.0 (0.0)

$olv^4*$  1.0 1.0 1.0 1.0

$cmy^4*$  0.0 0.0 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  95.41 -0.97 4.75

$LAB^*LABa$  95.41 0.0 0.0

$LAB^*TCh$  99.99 0.01 -

relative CIELAB lab\*

$lab^*lab$  1.0 0.5 0.5 (1.0)

$lab^*tch$  0.5 0.5 0.5 (0.0)

$lab^*nch$  0.0 0.5 0.5 0.0

relative Natural Colour (NC)

$lab^*lrj$  1.0 0.0 0.0

$lab^*ice$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  71.67 32.15 28.41

$LAB^*LABa$  71.67 32.68 25.25

$LAB^*TCh$  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

$lab^*ice$  0.75 0.2 0.048

$lab^*ncE$  0.0 0.5 r19j

relative Inform. Technology (IT)

$olv^3*$  0.5 0.5 0.5 (1.0)

$cmy^3*$  0.5 1.0 1.0 (0.0)

$olv^4*$  1.0 1.0 1.0 0.0

$cmy^4*$  0.0 0.5 0.5 0.0

standard and adapted CIELAB

$LAB^*LAB$  47.95 65.29 52.06

$LAB^*LABa$  47.95 65.36 50.51

$LAB^*TCh$  50.0 82.6 37.7

relative CIELAB lab\*

$lab^*lab$  0.387 0.791 0.611

$lab^*tch$  0.5 1.0 0.105

$lab^*nch$  0.0 1.0 0.105

relative Natural Colour (NC)

$lab^*lrj$  0.387 0.954 0.299

$lab^*ice$  0.5 1.0 0.048

$lab^*ncE$  0.0 1.0 r19j

$n^* = 1,0$

$n^* = 0,50$



$n^* = 0,50$



$n^* = 1,0$

UE100-7, 3 step scales for constant CIELAB hue 38/360 = 0.105 (left)

3 step scales for constant CIELAB hue 38/360 = 0.105 (right)

### Input: Colorimetric Reflective System TRS18

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

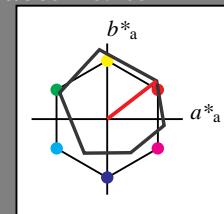
$lab^*tch$  and  $lab^*nch$

D65: hue O

LCH\*Ma: 48 83 38

olv\*Ma: 1.0 0.0 0.0

triangle lightness  $t^*$



### TRS18; adapted (a) CIELAB data

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

$olv_i3^*$  1.0 1.0 1.0 (1.0)

$cmy_n3^*$  0.0 0.0 0.0 (0.0)

$olv_i4^*$  1.0 1.0 1.0 1.0

$cmy_n4^*$  0.0 0.0 0.0 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 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  1.0 0.0 0.0

$lab^*ice$  1.0 0.0 0.0

$lab^*ncE$  0.0 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 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

$lab^*ice$  0.75 0.2 0.048

$lab^*ncE$  0.0 0.5 r19j

relative Inform. Technology (IT)

$olv_i3^*$  0.5 0.5 0.5 (1.0)

$cmy_n3^*$  0.5 0.5 0.5 (0.0)

$olv_i4^*$  1.0 1.0 1.0 0.5

$cmy_n4^*$  0.0 0.0 0.0 0.5

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 CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  0.5 0.0 0.0

$lab^*ice$  0.5 0.0 0.0

$lab^*ncE$  0.5 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.5 -0.46

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  0.0 0.0 0.0

$lab^*ice$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

relative Inform. Technology (IT)

$olv_i3^*$  0.5 0.5 0.5 (1.0)

$cmy_n3^*$  0.5 0.5 0.5 (0.0)

$olv_i4^*$  1.0 0.5 0.5 0.5

$cmy_n4^*$  0.0 0.5 0.5 0.5

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 CIELAB lab\*

$lab^*lab$  0.193 0.396 0.306

$lab^*tch$  0.25 0.5 0.105

$lab^*nch$  0.5 0.5 0.105

relative Natural Colour (NC)

$lab^*lrj$  0.193 0.477 0.15

$lab^*ice$  0.25 0.5 0.048

$lab^*ncE$  0.5 0.5 r19j

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.5 -0.46

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  0.0 0.0 0.0

$lab^*ice$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

relative Inform. Technology (IT)

$olv_i3^*$  1.0 1.0 1.0 (1.0)

$cmy_n3^*$  0.0 0.0 0.0 (0.0)

$olv_i4^*$  1.0 1.0 1.0 1.0

$cmy_n4^*$  0.0 0.0 0.0 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 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

$lab^*ice$  0.75 0.2 0.048

$lab^*ncE$  0.0 0.5 r19j

relative Inform. Technology (IT)

$olv_i3^*$  1.0 1.0 1.0 (1.0)

$cmy_n3^*$  0.0 0.0 0.0 (0.0)

$olv_i4^*$  1.0 1.0 1.0 1.0

$cmy_n4^*$  0.0 0.0 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  47.94 65.37 50.52

$LAB^*LABa$  47.94 58.66 26.98

$LAB^*TChA$  49.62 38.37 77.18

relative CIELAB lab\*

$lab^*lab$  0.193 0.396 0.306

$lab^*tch$  0.25 0.5 0.105

$lab^*nch$  0.5 0.5 0.105

relative Natural Colour (NC)

$lab^*lrj$  0.193 0.477 0.15

$lab^*ice$  0.25 0.5 0.048

$lab^*ncE$  0.5 0.5 r19j

relative Inform. Technology (IT)

$olv_i3^*$  1.0 1.0 1.0 (1.0)

$cmy_n3^*$  0.0 0.0 0.0 (0.0)

$olv_i4^*$  1.0 1.0 1.0 1.0

$cmy_n4^*$  0.0 0.0 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  49.62 38.37 77.18

$LAB^*LABa$  49.62 58.66 26.98

$LAB^*TChA$  49.62 38.37 77.18

relative CIELAB lab\*

$lab^*lab$  0.193 0.396 0.306

$lab^*tch$  0.25 0.5 0.105

$lab^*nch$  0.5 0.5 0.105

relative Natural Colour (NC)

$lab^*lrj$  0.193 0.477 0.15

$lab^*ice$  0.25 0.5 0.048

$lab^*ncE$  0.5 0.5 r19j

relative Inform. Technology (IT)

$olv_i3^*$  1.0 1.0 1.0 (1.0)

$cmy_n3^*$  0.0 0.0 0.0 (0.0)

$olv_i4^*$  1.0 1.0 1.0 1.0

$cmy_n4^*$  0.0 0.0 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  47.94 65.37 50.52

$LAB^*LABa$  47.94 58.66 26.98

$LAB^*TChA$  49.62 38.37 77.18

relative CIELAB lab\*

$lab^*lab$  0.193 0.396 0.306

$lab^*tch$  0.25 0.5 0.105

$lab^*nch$  0.5 0.5 0.105

relative Natural Colour (NC)

$lab^*lrj$  0.193 0.477 0.15

$lab^*ice$  0.25 0.5 0.048

$lab^*ncE$  0.5 0.5 r19j

relative Inform. Technology (IT)

$olv_i3^*$  1.0 1.0 1.0 (1.0)

$cmy_n3^*$  0.0 0.0 0.0 (0.0)

$olv_i4^*$  1.0 1.0 1.0 1.0

$cmy_n4^*$  0.0 0.0 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  49.62 38.37 77.18

$LAB^*LABa$  49.62 58.66 26.98

$LAB^*TChA$  49.62 38.37 77.18

relative CIELAB lab\*

$lab^*lab$  0.193 0.396 0.306

$lab^*tch$  0.25 0.5 0.105

$lab^*nch$  0.5 0.5 0.105

relative Natural Colour (NC)

$lab^*lrj$  0.193 0.477 0.15

$lab^*ice$  0.25 0.5 0.048

$lab^*ncE$  0.5 0.5 r19j

relative Inform. Technology (IT)

$olv_i3^*$  1.0 1.0 1.0 (1.0)

$cmy_n3^*$  0.0 0.0 0.0 (0.0)

$olv_i4^*$  1.0 1.0 1.0 1.0

$cmy_n4^*$  0.0 0.0 0.0 0.0

standard and adapted CIELAB

<

### Input: Colorimetric Reflective System TRS18

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

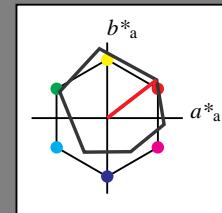
$lab^*tch$  and  $lab^*nch$

D65: hue O

LCH\*Ma: 48 83 38

olv\*Ma: 1.0 0.0 0.0

triangle lightness  $t^*$



### TRS18; adapted (a) CIELAB data

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

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)

olv*i*3\* 1.0 1.0 1.0 (1.0)

cmy*n*3\* 0.0 0.0 0.0 (0.0)

olv*i*4\* 1.0 1.0 1.0 1.0

cmy*n*4\* 0.0 0.0 0.0 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 0.0 0.0

lab\*tch 1.0 0.0 -

lab\*nch 0.0 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 -

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 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\*tce 0.75 0.2 0.048

lab\*ncE 0.0 0.5 r19j

relative Inform. Technology (IT)

olv*i*3\* 0.5 0.5 0.5 (1.0)

cmy*n*3\* 0.5 0.5 0.5 (0.0)

olv*i*4\* 1.0 1.0 1.0 0.5

cmy*n*4\* 0.0 0.0 0.5

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 CIELAB lab\*

lab\*lab 0.5 0.0 0.0

lab\*tch 0.5 0.0 -

lab\*nch 0.5 0.0 -

relative Natural Colour (NC)

lab\*lrj 0.5 0.0 0.0

lab\*tce 0.5 0.0 0.0

lab\*ncE 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 CIELAB lab\*

lab\*lab 0.193 0.396 0.306

lab\*tch 0.25 0.5 0.105

lab\*nch 0.5 0.5 0.105

relative Natural Colour (NC)

lab\*lrj 0.193 0.477 0.15

lab\*tce 0.25 0.5 0.048

lab\*ncE 0.5 0.5 r19j

$n^* = 1,0$

relative Inform. Technology (IT)

olv*i*3\* 1.0 1.0 1.0 (0.0)

cmy*n*3\* 0.5 1.0 1.0 (0.0)

olv*i*4\* 1.0 0.5 0.5 0.5

cmy*n*4\* 0.0 0.5 0.5

standard and adapted CIELAB

LAB\*LAB 18.02 0.5 -0.46

LAB\*LABa 18.02 0.0 0.0

LAB\*TChA 0.01 0.01 -

relative CIELAB lab\*

lab\*lab 0.0 0.0 0.0

lab\*tch 0.0 0.0 -

lab\*nch 1.0 0.0 -

relative Natural Colour (NC)

lab\*lrj 0.0 0.0 0.0

lab\*tce 0.0 0.0 -

lab\*ncE 1.0 0.0 -

standard and adapted CIELAB

LAB\*LAB 25.71 31.11 -44.42

LAB\*LABa 25.71 31.11 54.24

LAB\*TChA 25.71 31.11 305

relative CIELAB lab\*

lab\*lab 39.92 58.66 26.98

lab\*tch 81.26 -2.17 67.76

lab\*nch 52.23 -42.26 11.75

relative Natural Colour (NC)

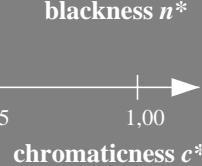
lab\*lrj 30.57 1.15 -46.84

lab\*tce 1.15 46.87 271

$n^* = 1,0$

$n^* = 0,00$

blackness  $n^*$



### Output: Colorimetric Reflective System TRS18

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

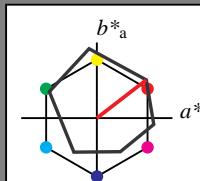
$lab^*tch$  and  $lab^*nch$

D65: hue O

LCH\*Ma: 48 83 38

olv\*Ma: 1.0 0.0 0.0

triangle lightness  $t^*$



### TRS18; adapted (a) CIELAB data

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

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)

olv*i*3\* 1.0 1.0 1.0 (1.0)

cmy*n*3\* 0.0 0.0 0.0 (0.0)

olv*i*4\* 1.0 1.0 1.0 1.0

cmy*n*4\* 0.0 0.0 0.0 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 0.0 0.0

lab\*tch 1.0 0.0 -

lab\*nch 0.0 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 -

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 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\*tce 0.75 0.2 0.048

lab\*ncE 0.0 0.5 r19j

relative Inform. Technology (IT)

olv*i*3\* 0.5 0.5 0.5 (1.0)

cmy*n*3\* 0.5 0.5 0.5 (0.0)

olv*i*4\* 1.0 0.5 0.5 0.5

cmy*n*4\* 0.0 0.5 0.5 0.5

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 CIELAB lab\*

lab\*lab 0.387 0.791 0.611

lab\*tch 0.5 1.0 0.105

lab\*nch 0.0 1.0 0.105

relative Natural Colour (NC)

lab\*lrj 0.387 0.954 0.299

lab\*tce 0.5 1.0 0.048

lab\*ncE 0.0 1.0 r19j

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 CIELAB lab\*

lab\*lab 0.193 0.396 0.306

lab\*tch 0.25 0.5 0.105

lab\*nch 0.5 0.5 0.105

relative Natural Colour (NC)

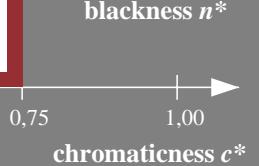
lab\*lrj 0.193 0.477 0.15

lab\*tce 0.25 0.5 0.048

lab\*ncE 0.5 0.5 r19j

$n^* = 0,00$

blackness  $n^*$



$n^* = 1,0$

chromaticness  $c^*$

UE100-7, 3 step scales for constant CIELAB hue 38/360 = 0.105 (left)

3 step scales for constant CIELAB hue 38/360 = 0.105 (right)

### Input: Colorimetric Reflective System TRS18

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

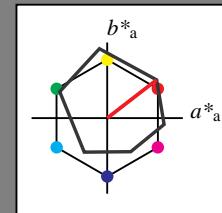
$lab^*tch$  and  $lab^*nch$

D65: hue O

LCH\*Ma: 48 83 38

olv\*Ma: 1.0 0.0 0.0

triangle lightness  $t^*$



### TRS18; adapted (a) CIELAB data

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

$olv_i3^*$  1.0 1.0 1.0 (1.0)

$cmy_n3^*$  0.0 0.0 0.0 (0.0)

$olv_i4^*$  1.0 1.0 1.0 1.0

$cmy_n4^*$  0.0 0.0 0.0 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 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  1.0 0.0 0.0

$lab^*ice$  1.0 0.0 0.0

$lab^*ncE$  0.0 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 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

$lab^*ice$  0.75 0.2 0.048

$lab^*ncE$  0.0 0.5 r19]

relative Inform. Technology (IT)

$olv_i3^*$  0.5 0.5 0.5 (1.0)

$cmy_n3^*$  0.5 0.5 0.5 (0.0)

$olv_i4^*$  1.0 1.0 1.0 0.5

$cmy_n4^*$  0.0 0.0 0.0 0.5

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 CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  0.5 0.0 0.0

$lab^*ice$  0.5 0.0 0.0

$lab^*ncE$  0.5 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.5 -0.46

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

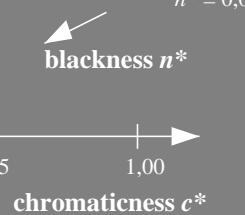
$lab^*lrj$  0.0 0.0 0.0

$lab^*ice$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

$n^* = 0,00$



$n^* = 0,50$

$n^* = 0,00$

$n^* = 1,00$

$chromaticness c^*$

### Output: Colorimetric Reflective System MRS18a

for hue  $h^* = lab^*h = 31/360 = 0.086$

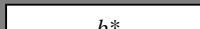
$lab^*tch$  and  $lab^*nch$

D65: hue R

LCH\*Ma: 50 78 31

olv\*Ma: 1.0 0.0 0.0

triangle lightness  $t^*$



### MRS18a; adapted (a) CIELAB data

	$L^*=L_a^*$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	49.63	66.8	40.02	77.87	31
JMa	90.7	-7.27	93.19	93.48	94
GMa	52.11	-69.93	11.26	70.85	171
G50BMa	45.03	-36.65	-27.13	45.61	217
BMa	36.65	23.26	-62.27	66.49	290
B50RMa	34.94	57.27	-43.6	71.99	323
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	272

relative Inform. Technology (IT)

$olv_i3^*$  1.0 1.0 1.0 (1.0)

$cmy_n3^*$  0.0 0.0 0.0 (0.0)

$olv_i4^*$  1.0 1.0 1.0 1.0

$cmy_n4^*$  0.0 0.0 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  95.41 0.01 0.0

$LAB^*LABa$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  1.0 0.0 0.0

$lab^*ice$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)

$olv_i3^*$  0.5 0.5 0.5 (1.0)

$cmy_n3^*$  0.5 0.5 0.5 (0.0)

$olv_i4^*$  1.0 0.5 0.5 1.0

$cmy_n4^*$  0.0 0.5 0.5 0.5

standard and adapted CIELAB

$LAB^*LAB$  72.52 33.43 20.01

$LAB^*LABa$  72.52 33.39 20.01

$LAB^*TChA$  75.0 38.93 30.93

relative CIELAB lab\*

$lab^*lab$  0.704 0.429 0.257

$lab^*tch$  0.75 0.5 0.086

$lab^*nch$  0.0 0.5 0.086

relative Natural Colour (NC)

$lab^*lrj$  0.704 0.496 0.064

$lab^*ice$  0.75 0.5 0.02

$lab^*ncE$  0.0 0.5 r08j

relative Inform. Technology (IT)

$olv_i3^*$  0.0 0.0 0.0 (1.0)

$cmy_n3^*$  0.1 1.0 1.0 (0.0)

$olv_i4^*$  1.0 1.0 1.0 0.0

$cmy_n4^*$  0.0 0.5 0.5 0.5

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.1 0.02

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.204 0.429 0.257

$lab^*tch$  0.25 0.5 0.086

$lab^*nch$  0.5 0.5 0.086

relative Natural Colour (NC)

$lab^*lrj$  0.204 0.496 0.064

$lab^*ice$  0.25 0.5 0.02

$lab^*ncE$  0.5 0.5 r08j

$n^* = 1,0$

$n^* = 0,50$

$n^* = 0,00$

$n^* = 0,50$

$n^* = 0,00$

$n^* = 0,00$

$n^* = 1,00$

$n^* = 1,00$

$n^* = 1,00$

$chromaticness c^*$

$chromaticness c^*$

UE100-7, 3 step scales for constant CIELAB hue 38/360 = 0.105 (left)

3 step scales for constant CIELAB hue 31/360 = 0.086 (right)

### Input: Colorimetric Reflective System TRS18

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

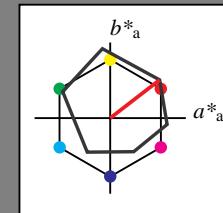
$lab^*tch$  and  $lab^*nch$

D65: hue O

LCH\*Ma: 48 83 38

olv\*Ma: 1.0 0.0 0.0

triangle lightness  $t^*$



### TRS18; adapted (a) CIELAB data

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

$olv_i3^*$  1.0 1.0 1.0 (1.0)

$cmy_n3^*$  0.0 0.0 0.0 (0.0)

$olv_i4^*$  1.0 1.0 1.0 1.0

$cmy_n4^*$  0.0 0.0 0.0 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 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  1.0 0.0 0.0

$lab^*ice$  1.0 0.0 0.0

$lab^*ncE$  0.0 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 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

$lab^*ice$  0.75 0.2 0.048

$lab^*ncE$  0.0 0.5 r19

relative Inform. Technology (IT)

$olv_i3^*$  0.5 0.5 0.5 (1.0)

$cmy_n3^*$  0.5 0.5 0.5 (0.0)

$olv_i4^*$  1.0 1.0 1.0 0.5

$cmy_n4^*$  0.0 0.0 0.0 0.5

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 CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  0.5 0.0 0.0

$lab^*ice$  0.5 0.0 0.0

$lab^*ncE$  0.5 0.0 -

$n^* = 1,0$

%Gamut

$u^*_{rel} = 93$

%Regularity

$g^*_{H,rel} = 57$

$g^*_{C,rel} = 59$

relative Inform. Technology (IT)

$olv_i3^*$  1.0 0.5 0.5 (1.0)

$cmy_n3^*$  0.0 0.5 0.5 (0.0)

$olv_i4^*$  1.0 0.5 0.5 1.0

$cmy_n4^*$  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 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

$lab^*ice$  0.75 0.2 0.048

$lab^*ncE$  0.0 0.5 r19

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 CIELAB lab\*

$lab^*lab$  0.387 0.791 0.611

$lab^*tch$  0.5 1.0 0.105

$lab^*nch$  0.0 1.0 0.105

relative Natural Colour (NC)

$lab^*lrj$  0.387 0.954 0.299

$lab^*ice$  0.5 1.0 0.048

$lab^*ncE$  0.0 1.0 r19

$n^* = 0,00$

$n^* = 0,50$

chromaticness  $c^*$

$n^* = 0,00$

blackness  $n^*$

$n^* = 1,00$

### Output: Colorimetric Reflective System NRS18

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

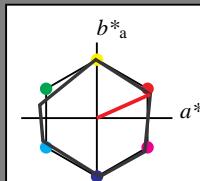
$lab^*tch$  and  $lab^*nch$

D65: hue R

LCH\*Ma: 57 77 24

olv\*Ma: 1.0 0.0 0.0

triangle lightness  $t^*$



### NRS18; adapted (a) CIELAB data

	$L^*=L_a^*$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	56.7	70.66	31.47	77.35	24
JMa	56.7	-1.39	77.37	77.39	91
GMa	56.7	-75.46	17.4	77.45	167
G50BMa	56.7	-71.29	-30.25	77.45	203
BMa	56.7	4.0	-77.3	77.41	273
B50RMa	56.7	63.35	-44.4	77.36	325
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	272

	$L^*=L_a^*$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
olv_i3^*	1.0	1.0	1.0	(1.0)	
cmy_n3^*	0.0	0.0	0.0	(0.0)	
olv_i4^*	1.0	1.0	1.0	1.0	
cmy_n4^*	0.0	0.0	0.0	0.0	
standard and adapted CIELAB					
$LAB^*LAB$	95.41	0.0	0.0		
$LAB^*LABa$	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	-		
$lab^*nch$	0.0	0.0	-		
relative Natural Colour (NC)					
$lab^*lrj$	1.0	0.0	0.0		
$lab^*ice$	1.0	0.0	-		
$lab^*ncE$	0.0	0.0	-		

	$L^*=L_a^*$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
olv_i3^*	1.0	0.5	0.5	(1.0)	
cmy_n3^*	0.0	0.5	0.5	(0.0)	
olv_i4^*	1.0	0.5	0.5	1.0	
cmy_n4^*	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 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		
$lab^*ice$	0.75	0.2	0.048		
$lab^*ncE$	0.0	0.5	r19		

$n^* = 0,00$

$n^* = 0,50$

chromaticness  $c^*$

### NRS18; adapted (a) CIELAB data

	$L^*=L_a^*$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
olv_i3^*	1.0	1.0	1.0	(1.0)	
cmy_n3^*	0.0	1.0	1.0	(0.0)	
olv_i4^*	1.0	1.0	1.0	1.0	
cmy_n4^*	0.0	1.0	1.0	0.0	
standard and adapted CIELAB					
$LAB^*LAB$	76.05	35.35	15.74		
$LAB^*LABa$	76.05	35.32	15.73		
$LAB^*TChA$	75.0	38.67	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		
$lab^*ice$	0.75	0.5	0.997		
$lab^*ncE$	0.0	0.5	b98r		

### Input: Colorimetric Reflective System TRS18

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

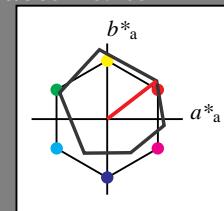
$lab^*tch$  and  $lab^*nch$

D65: hue O

LCH\*Ma: 48 83 38

olv\*Ma: 1.0 0.0 0.0

triangle lightness  $t^*$



### TRS18; adapted (a) CIELAB data

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

$olv_i3^*$  1.0 1.0 1.0 (1.0)

$cmy_n3^*$  0.0 0.0 0.0 (0.0)

$olv_i4^*$  1.0 1.0 1.0 1.0

$cmy_n4^*$  0.0 0.0 0.0 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 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  1.0 0.0 0.0

$lab^*ice$  1.0 0.0 0.0

$lab^*ncE$  0.0 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 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

$lab^*ice$  0.75 0.2 0.048

$lab^*ncE$  0.0 0.5 r19j

relative Inform. Technology (IT)

$olv_i3^*$  0.5 0.5 0.5 (1.0)

$cmy_n3^*$  0.5 0.5 0.5 (0.0)

$olv_i4^*$  1.0 1.0 1.0 0.5

$cmy_n4^*$  0.0 0.0 0.0 0.5

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 CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  0.5 0.0 0.0

$lab^*ice$  0.5 0.0 0.0

$lab^*ncE$  0.5 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.5 -0.46

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  0.0 0.0 0.0

$lab^*ice$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

$n^* = 0,00$

chromaticness  $c^*$

$n^* = 0,00$

blackness  $n^*$

$n^* = 0,50$

$n^* = 1,00$

### Output: Colorimetric Reflective System NCS18

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

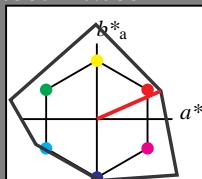
$lab^*tch$  and  $lab^*nch$

D65: hue R

LCH\*Ma: 47 92 24

olv\*Ma: 1.0 0.0 0.0

triangle lightness  $t^*$



### NCS18; adapted (a) CIELAB data

	$L^*=L_a^*$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	47.15	84.63	37.24	92.46	24
JMa	91.37	-1.27	125.03	125.03	91
GMa	63.07	-114.29	25.34	117.07	167
G50BMa	59.47	-80.61	-33.45	87.29	203
BMa	49.01	3.63	-81.2	81.29	273
B50RMa	44.06	106.07	-73.94	129.31	325
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	272

relative Inform. Technology (IT)

$olv_i3^*$  1.0 1.0 1.0 (1.0)

$cmy_n3^*$  0.0 0.0 0.0 (0.0)

$olv_i4^*$  1.0 1.0 1.0 1.0

$cmy_n4^*$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  1.0 0.0 0.0

$lab^*ice$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  71.27 42.34 18.63

$LAB^*LABa$  71.27 42.31 18.62

$LAB^*TChA$  75.0 46.22 23.75

relative CIELAB lab\*

$lab^*lab$  0.688 0.458 0.201

$lab^*tch$  0.75 0.5 0.066

$lab^*nch$  0.0 0.5 0.066

relative Natural Colour (NC)

$lab^*lrj$  0.688 0.5 -0.011

$lab^*ice$  0.75 0.5 0.996

$lab^*ncE$  0.0 0.5 b98r

relative Inform. Technology (IT)

$olv_i3^*$  1.0 0.5 0.5 (1.0)

$cmy_n3^*$  0.0 0.5 0.5 (0.0)

$olv_i4^*$  1.0 0.5 0.5 1.0

$cmy_n4^*$  0.0 0.5 0.5 0.0

standard and adapted CIELAB

$LAB^*LAB$  47.15 84.68 37.26

$LAB^*LABa$  47.15 84.61 37.24

$LAB^*TChA$  50.0 92.44 23.75

relative CIELAB lab\*

$lab^*lab$  0.376 0.915 0.403

$lab^*tch$  0.5 1.0 0.066

$lab^*nch$  0.0 1.0 0.066

relative Natural Colour (NC)

$lab^*lrj$  0.376 1.0 -0.023

$lab^*ice$  0.5 1.0 0.996

$lab^*ncE$  0.0 1.0 b98r

$n^* = 0,00$

$n^* = 0,50$

$n^* = 1,00$

chromaticness  $c^*$

UE100-7, 3 step scales for constant CIELAB hue 38/360 = 0.105 (left)

3 step scales for constant CIELAB hue 24/360 = 0.066 (right)

### Input: Colorimetric Reflective System TRS18

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

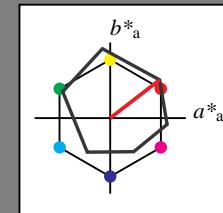
$lab^*tch$  and  $lab^*nch$

D65: hue O

LCH\*Ma: 48 83 38

olv\*Ma: 1.0 0.0 0.0

triangle lightness  $t^*$



### TRS18; adapted (a) CIELAB data

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

%Gamut

$u^*_{rel} = 93$

%Regularity

$g^*_{H,rel} = 57$

$g^*_{C,rel} = 59$

relative Inform. Technology (IT)  
 $olv^3*$  1.0 1.0 1.0 (1.0)  
 $cmy^3*$  0.0 0.0 0.0 (0.0)  
 $olv^4*$  1.0 1.0 1.0 1.0  
 $cmy^4*$  0.0 0.0 0.0 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 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  1.0 0.0 0.0

$lab^*ice$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)  
 $olv^3*$  1.0 0.5 0.5 (1.0)  
 $cmy^3*$  0.5 0.5 0.5 (0.0)  
 $olv^4*$  1.0 0.5 0.5 1.0  
 $cmy^4*$  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 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

$lab^*ice$  0.75 0.2 0.048

$lab^*ncE$  0.0 0.5 r19j

relative Inform. Technology (IT)  
 $olv^3*$  0.5 0.5 0.5 (1.0)  
 $cmy^3*$  0.5 0.5 0.5 (0.0)  
 $olv^4*$  1.0 1.0 1.0 0.5  
 $cmy^4*$  0.0 0.0 0.5 0.5

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 CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  0.5 0.0 0.0

$lab^*ice$  0.5 0.0 0.0

$lab^*ncE$  0.5 0.0 -

relative Inform. Technology (IT)  
 $olv^3*$  0.0 0.0 0.0 (1.0)  
 $cmy^3*$  1.0 1.0 1.0 (0.0)  
 $olv^4*$  1.0 1.0 1.0 0.0  
 $cmy^4*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB  
 $LAB^*LAB$  18.02 0.5 -0.46

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  0.0 0.0 0.0

$lab^*ice$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

$n^* = 0,306$

$n^* = 0,25$

$n^* = 0,50$

$n^* = 0,75$

$n^* = 1,00$

chromaticness  $c^*$

$n^* = 0,00$

blackness  $n^*$

### Output: Colorimetric Reflective System NRS11

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

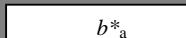
$lab^*tch$  and  $lab^*nch$

D65: hue R

LCH\*Ma: 53 84 24

olv\*Ma: 1.0 0.0 0.0

triangle lightness  $t^*$



### NRS11; adapted (a) CIELAB data

	$L^*=L_a^*$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	53.2	77.06	34.32	84.36	24
JMa	53.2	-1.51	84.38	84.39	91
GMa	53.2	-82.27	18.98	84.44	167
G50BMa	53.2	-77.72	-32.98	84.44	203
BMa	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

%Gamut

$u^*_{rel} = 119$

%Regularity

$g^*_{H,rel} = 47$

$g^*_{C,rel} = 100$

relative Inform. Technology (IT)

$olv^3*$  1.0 0.5 0.5 (1.0)

$cmy^3*$  0.0 0.5 0.5 (0.0)

$olv^4*$  1.0 0.5 0.5 1.0

$cmy^4*$  0.0 0.5 0.5 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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  1.0 0.0 0.0

$lab^*ice$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)

$olv^3*$  0.5 0.5 0.5 (1.0)

$cmy^3*$  0.5 1.0 1.0 (0.0)

$olv^4*$  1.0 0.5 0.5 0.5

$cmy^4*$  0.0 0.5 0.5 0.5

standard and adapted CIELAB

$LAB^*LAB$  53.21 0.04 0.0

$LAB^*LABa$  53.21 0.0 0.0

$LAB^*TChA$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  0.5 0.0 0.0

$lab^*ice$  0.5 0.0 0.0

$lab^*ncE$  0.5 0.0 -

$n^* = 1,0$

$n^* = 0,00$

blackness  $n^*$

$n^* = 0,25$

$n^* = 0,50$

$n^* = 0,75$

$n^* = 1,00$

chromaticness  $c^*$

$n^* = 1,0$

3 step scales for constant CIELAB hue 38/360 = 0.105 (left)

3 step scales for constant CIELAB hue 24/360 = 0.067 (right)

### Input: Colorimetric Reflective System TRS18

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

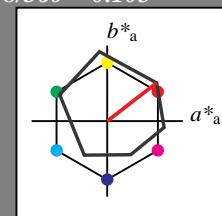
$lab^*tch$  and  $lab^*nch$

D65: hue O

LCH\*Ma: 48 83 38

olv\*Ma: 1.0 0.0 0.0

triangle lightness  $t^*$



### TRS18; adapted (a) CIELAB data

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

%Gamut

$u^*_{rel} = 93$

%Regularity

$g^*_{H,rel} = 57$

$g^*_{C,rel} = 59$

### relative Inform. Technology (IT)

$olv^3*$  1.0 1.0 1.0 (1.0)

$cmy^3*$  0.0 0.0 0.0 (0.0)

$olv^4*$  1.0 1.0 1.0 1.0

$cmy^4*$  0.0 0.0 0.0 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 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

### relative Natural Colour (NC)

$lab^*lrj$  1.0 0.0 0.0

$lab^*ice$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

### relative Inform. Technology (IT)

$olv^3*$  0.5 0.5 0.5 (1.0)

$cmy^3*$  0.5 0.5 0.5 (0.0)

$olv^4*$  1.0 1.0 1.0 0.5

$cmy^4*$  0.0 0.0 0.0 0.5

### 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 CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

### relative Natural Colour (NC)

$lab^*lrj$  0.5 0.0 0.0

$lab^*ice$  0.5 0.0 0.0

$lab^*ncE$  0.5 0.0 -

### relative Inform. Technology (IT)

$olv^3*$  0.0 0.0 0.0 (1.0)

$cmy^3*$  1.0 1.0 1.0 (0.0)

$olv^4*$  1.0 1.0 1.0 0.0

$cmy^4*$  0.0 0.0 0.0 1.0

### standard and adapted CIELAB

$LAB^*LAB$  18.02 0.5 -0.46

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

### relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

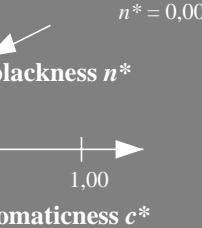
### relative Natural Colour (NC)

$lab^*lrj$  0.0 0.0 0.0

$lab^*ice$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$



### Output: Colorimetric Reflective System NCS11

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

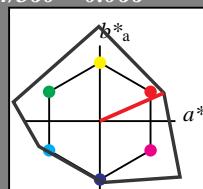
$lab^*tch$  and  $lab^*nch$

D65: hue R

LCH\*Ma: 47 92 24

olv\*Ma: 1.0 0.0 0.0

triangle lightness  $t^*$



### 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

%Gamut

$u^*_{rel} = 149$

%Regularity

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

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

### relative Inform. Technology (IT)

$olv^3*$  1.0 1.0 1.0 (1.0)

$cmy^3*$  0.0 0.0 0.0 (0.0)

$olv^4*$  1.0 1.0 1.0 1.0

$cmy^4*$  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 -

$lab^*nch$  0.0 0.0 -

### relative Natural Colour (NC)

$lab^*lrj$  1.0 0.0 0.0

$lab^*ice$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

### relative Inform. Technology (IT)

$olv^3*$  0.5 0.5 0.5 (1.0)

$cmy^3*$  0.5 0.5 0.5 (0.0)

$olv^4*$  1.0 1.0 1.0 0.5

$cmy^4*$  0.0 0.0 0.0 0.5

### standard and adapted CIELAB

$LAB^*LAB$  47.95 0.04 0.0

$LAB^*LABa$  53.21 0.04 0.0

$LAB^*TChA$  50.0 0.01 -

### relative CIELAB lab\*

$lab^*lab$  0.387 0.791 0.611

$lab^*tch$  0.5 1.0 0.105

$lab^*nch$  0.0 1.0 0.105

### relative Natural Colour (NC)

$lab^*lrj$  0.387 0.954 0.299

$lab^*ice$  0.5 1.0 0.048

$lab^*ncE$  0.0 1.0 r19

### relative Inform. Technology (IT)

$olv^3*$  0.0 0.0 0.0 (1.0)

$cmy^3*$  1.0 1.0 1.0 (0.0)

$olv^4*$  1.0 1.0 1.0 0.0

$cmy^4*$  0.0 0.0 0.0 1.0

### standard and adapted CIELAB

$LAB^*LAB$  11.01 0.07 0.01

$LAB^*LABa$  11.01 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

### relative CIELAB lab\*

$lab^*lab$  0.214 0.458 0.201

$lab^*tch$  0.25 0.5 0.066

$lab^*nch$  0.5 0.5 0.066

### relative Natural Colour (NC)

$lab^*lrj$  0.214 0.5 -0.011

$lab^*ice$  0.25 0.5 0.996

$lab^*ncE$  0.5 0.5 b98r



$n^* = 1,0$



$n^* = 0,00$

UE100-7, 3 step scales for constant CIELAB hue 38/360 = 0.105 (left)

3 step scales for constant CIELAB hue 24/360 = 0.066 (right)

### Input: Colorimetric Reflective System MRS18a

for hue  $h^* = lab^*h = 31/360 = 0.086$

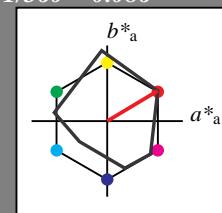
$lab^*tch$  and  $lab^*nch$

D65: hue R

LCH\*Ma: 50 78 31

olv\*Ma: 1.0 0.0 0.0

triangle lightness  $t^*$



### MRS18a; adapted (a) CIELAB data

	$L^*=L^*_a$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	49.63	66.8	40.02	77.87	31
JMa	90.7	-7.27	93.19	93.48	94
GMa	52.11	-69.93	11.26	70.85	171
G50BMa	45.03	-36.65	-27.13	45.61	217
BMa	36.65	23.26	-62.27	66.49	290
B50RMa	34.94	57.27	-43.6	71.99	323
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	272

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 0.01 0.0  
 $LAB^*LABa$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0  
 $lab^*tce$  1.0 0.0 0.0  
 $lab^*ncE$  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 0.5  
 $cmyn^4*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  56.71 0.05 0.0  
 $LAB^*LABa$  56.71 0.0 0.0  
 $LAB^*TChA$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.704 0.429 0.257  
 $lab^*tch$  0.75 0.5 0.086  
 $lab^*nch$  0.0 0.5 0.086

relative Natural Colour (NC)

$lab^*lrij$  0.704 0.496 0.064  
 $lab^*tce$  0.75 0.2 0.02  
 $lab^*ncE$  0.0 0.5 r08j

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 0.5  
 $cmyn^4*$  0.0 0.5 0.5

standard and adapted CIELAB

$LAB^*LAB$  33.82 33.47 20.03  
 $LAB^*LABa$  33.82 33.39 20.01  
 $LAB^*TChA$  25.01 38.93 30.93

relative CIELAB lab\*

$lab^*lab$  0.204 0.429 0.257  
 $lab^*tch$  0.25 0.5 0.086  
 $lab^*nch$  0.5 0.5 0.086

relative Natural Colour (NC)

$lab^*lrij$  0.204 0.496 0.064  
 $lab^*tce$  0.25 0.5 0.02  
 $lab^*ncE$  0.5 0.5 r08j

$n^* = 1,0$

%Gamut

$u^*_{rel} = 92$

%Regularity

$g^*_{H,rel} = 42$

$g^*_{C,rel} = 49$

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 33.43 20.01  
 $LAB^*LABa$  72.52 33.39 20.01  
 $LAB^*TChA$  75.0 38.93 30.93

relative CIELAB lab\*

$lab^*lab$  0.704 0.429 0.257  
 $lab^*tch$  0.75 0.5 0.086  
 $lab^*nch$  0.0 0.5 0.086

relative Natural Colour (NC)

$lab^*lrij$  0.704 0.496 0.064  
 $lab^*tce$  0.75 0.2 0.02  
 $lab^*ncE$  0.0 0.5 r08j

relative Inform. Technology (IT)

$olv^3*$  1.0 0.0 0.0 (1.0)

$cmyn^3*$  0.0 1.0 1.0 (0.0)

$olv^4*$  1.0 1.0 1.0 0.5

$cmyn^4*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  49.63 66.8 40.02  
 $LAB^*LABa$  49.63 66.84 40.03  
 $LAB^*TChA$  50.0 77.85 30.93

relative CIELAB lab\*

$lab^*lab$  0.409 0.858 0.514  
 $lab^*tch$  0.5 1.0 0.086  
 $lab^*nch$  0.0 1.0 0.086

relative Natural Colour (NC)

$lab^*lrij$  0.409 0.992 0.128  
 $lab^*tce$  0.5 1.0 0.02  
 $lab^*ncE$  0.0 1.0 r08j

$n^* = 0,00$

relative Inform. Technology (IT)

$olv^3*$  1.0 0.0 0.0 (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

$LAB^*LAB$  49.63 66.84 40.03  
 $LAB^*LABa$  49.63 66.78 40.02  
 $LAB^*TChA$  50.0 77.85 30.93

relative CIELAB lab\*

$lab^*lab$  0.409 0.858 0.514  
 $lab^*tch$  0.5 1.0 0.086  
 $lab^*nch$  0.0 1.0 0.086

relative Natural Colour (NC)

$lab^*lrij$  0.409 0.992 0.128  
 $lab^*tce$  0.5 1.0 0.02  
 $lab^*ncE$  0.0 1.0 r08j

$n^* = 0,00$

blackness  $n^*$

chromaticness  $c^*$

### Output: Colorimetric Reflective System ORS18

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

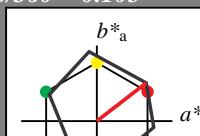
$lab^*tch$  and  $lab^*nch$

D65: hue O

LCH\*Ma: 48 83 38

olv\*Ma: 1.0 0.0 0.0

triangle lightness  $t^*$



### ORS18; adapted (a) CIELAB data

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

%Gamut

$u^*_{rel} = 93$

%Regularity

$g^*_{H,rel} = 57$

$g^*_{C,rel} = 59$

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

$LAB^*LAB$  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 0.0 0.0  
 $lab^*tch$  1.0 0.0 -  
 $lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0  
 $lab^*tce$  1.0 0.0 0.0  
 $lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)

$olv^3*$  0.5 0.5 0.5 (1.0)

$cmyn^3*$  0.5 1.0 1.0 (0.0)

$olv^4*$  1.0 0.5 0.5 0.5

$cmyn^4*$  0.0 0.5 0.5 0.5

standard and adapted CIELAB

$LAB^*LAB$  49.63 66.84 40.03  
 $LAB^*LABa$  49.63 66.78 40.02  
 $LAB^*TChA$  50.0 77.85 30.93

relative CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0  
 $lab^*tch$  0.5 0.0 -  
 $lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.5 0.0 0.0  
 $lab^*tce$  0.5 0.0 0.0  
 $lab^*ncE$  0.5 0.0 -

$n^* = 1,0$

relative Inform. Technology (IT)

$olv^3*$  1.0 0.0 0.0 (1.0)

$cmyn^3*$  0.0 1.0 1.0 (0.0)

$olv^4*$  1.0 1.0 1.0 0.0

$cmyn^4*$  0.0 1.0 1.0 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 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)

$lab^*lrij$  0.693 0.477 0.15  
 $lab^*tce$  0.75 0.5 0.048  
 $lab^*ncE$  0.0 0.5 r19j

relative Inform. Technology (IT)

$olv^3*$  1.0 0.0 0.0 (1.0)

$cmyn^3*$  0.5 1.0 1.0 (0.0)

$olv^4*$  1.0 0.5 0.5 0.5

$cmyn^4*$  0.0 0.5 0.5 0.5

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 CIELAB lab\*

$lab^*lab$  0.387 0.791 0.611  
 $lab^*tch$  0.5 1.0 0.105  
 $lab^*nch$  0.0 1.0 0.105

relative Natural Colour (NC)

$lab^*lrij$  0.387 0.954 0.299  
 $lab^*tce$  0.5 1.0 0.048  
 $lab^*ncE$  0.0 1.0 r19j

$n^* = 0,00$

blackness  $n^*$

chromaticness  $c^*$

UE100-7, 3 step scales for constant CIELAB hue 31/360 = 0.086 (left)

3 step scales for constant CIELAB hue 38/360 = 0.105 (right)

### Input: Colorimetric Reflective System MRS18a

for hue  $h^* = lab^*h = 31/360 = 0.086$

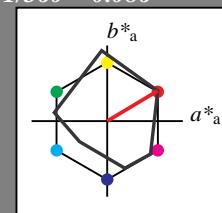
$lab^*tch$  and  $lab^*nch$

D65: hue R

LCH\*Ma: 50 78 31

olv\*Ma: 1.0 0.0 0.0

triangle lightness  $t^*$



relative Inform. Technology (IT)  
 $olv_i3^*$  1.0 1.0 1.0 (1.0)  
 $cmy_n3^*$  0.0 0.0 0.0 (0.0)  
 $olv_i4^*$  1.0 1.0 1.0 1.0  
 $cmy_n4^*$  0.0 0.0 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  95.41 0.01 0.0  
 $LAB^*LABa$  95.41 0.0 0.0  
 $LAB^*TCh_a$  99.99 0.01 -

relative CIELAB lab\*

$lab^*lab$  1.0 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 -

$lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)  
 $olv_i3^*$  0.5 0.5 0.5 (1.0)  
 $cmy_n3^*$  0.5 0.5 0.5 (0.0)  
 $olv_i4^*$  1.0 1.0 1.0 0.5  
 $cmy_n4^*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  56.71 0.05 0.0  
 $LAB^*LABa$  56.71 0.0 0.0  
 $LAB^*TCh_a$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.5 0.0 0.0

$lab^*tce$  0.5 0.0 -

$lab^*ncE$  0.5 0.0 -

relative Inform. Technology (IT)  
 $olv_i3^*$  0.0 0.0 0.0 (1.0)  
 $cmy_n3^*$  1.0 1.0 1.0 (0.0)

$olv_i4^*$  1.0 1.0 1.0 0.0

$cmy_n4^*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.1 0.02  
 $LAB^*LABa$  18.02 0.0 0.0  
 $LAB^*TCh_a$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*tce$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

### MRS18a; adapted (a) CIELAB data

	$L^*=L^*_a$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	49.63	66.8	40.02	77.87	31
JMa	90.7	-7.27	93.19	93.48	94
GMa	52.11	-69.93	11.26	70.85	171
G50BMa	45.03	-36.65	-27.13	45.61	217
BMa	36.65	23.26	-62.27	66.49	290
B50RMa	34.94	57.27	-43.6	71.99	323
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	272

%Gamut

$u^*_{rel} = 92$

%Regularity

$g^*_{H,rel} = 42$

$g^*_{C,rel} = 49$

relative Inform. Technology (IT)

$olv_i3^*$  1.0 0.5 0.5 (1.0)

$cmy_n3^*$  0.0 0.5 0.5 (0.0)

$olv_i4^*$  1.0 0.5 0.5 1.0

$cmy_n4^*$  0.0 0.5 0.5 0.0

standard and adapted CIELAB

$LAB^*LAB$  72.52 33.43 20.01

$LAB^*LABa$  72.52 33.39 20.01

$LAB^*TCh_a$  75.0 38.93 30.93

relative CIELAB lab\*

$lab^*lab$  0.704 0.429 0.257

$lab^*tch$  0.75 0.5 0.086

$lab^*nch$  0.0 0.5 0.086

relative Natural Colour (NC)

$lab^*lrij$  0.704 0.496 0.064

$lab^*tce$  0.75 0.2 0.02

$lab^*ncE$  0.0 0.5 r08j

relative Inform. Technology (IT)

$olv_i3^*$  1.0 0.0 0.0 (1.0)

$cmy_n3^*$  0.0 1.0 1.0 (0.0)

$olv_i4^*$  1.0 1.0 1.0 0.5

$cmy_n4^*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  49.63 66.84 40.03

$LAB^*LABa$  49.63 66.78 40.02

$LAB^*TCh_a$  50.0 77.85 30.93

relative CIELAB lab\*

$lab^*lab$  0.409 0.858 0.514

$lab^*tch$  0.5 1.0 0.086

$lab^*nch$  0.0 1.0 0.086

relative Natural Colour (NC)

$lab^*lrij$  0.409 0.992 0.128

$lab^*tce$  0.5 1.0 0.02

$lab^*ncE$  0.0 1.0 r08j

relative Inform. Technology (IT)

$olv_i3^*$  0.5 0.0 0.0 (1.0)

$cmy_n3^*$  0.5 1.0 1.0 (0.0)

$olv_i4^*$  1.0 0.5 0.5 0.5

$cmy_n4^*$  0.0 0.5 0.5 0.5

standard and adapted CIELAB

$LAB^*LAB$  33.82 33.47 20.03

$LAB^*LABa$  33.82 33.39 20.01

$LAB^*TCh_a$  25.01 38.93 30.93

relative CIELAB lab\*

$lab^*lab$  0.204 0.429 0.257

$lab^*tch$  0.25 0.5 0.086

$lab^*nch$  0.5 0.5 0.086

relative Natural Colour (NC)

$lab^*lrij$  0.204 0.496 0.064

$lab^*tce$  0.25 0.5 0.02

$lab^*ncE$  0.5 0.5 r08j

$n^* = 0,00$

blackness  $n^*$

chromaticness  $c^*$

### Output: Colorimetric Reflective System MRS18

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

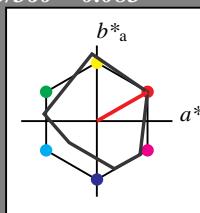
$lab^*tch$  and  $lab^*nch$

D65: hue R

LCH\*Ma: 50 77 30

olv\*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)

$olv_i3^*$  1.0 0.5 0.5 (1.0)

$cmy_n3^*$  0.0 0.5 0.5 (0.0)

$olv_i4^*$  1.0 0.5 0.5 1.0

$cmy_n4^*$  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

$LAB^*TCh_a$  99.99 0.01 -

relative CIELAB lab\*

$lab^*lab$  1.0 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 -

$lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)

$olv_i3^*$  1.0 0.5 0.5 (1.0)

$cmy_n3^*$  0.0 0.5 0.5 (0.0)

$olv_i4^*$  1.0 0.5 0.5 0.5

$cmy_n4^*$  0.0 0.5 0.5 0.5

standard and adapted CIELAB

$LAB^*LAB$  72.52 32.93 22.4

$LAB^*LABa$  72.52 33.47 19.18

$LAB^*TCh_a$  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

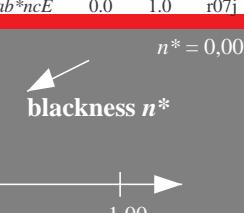
relative Natural Colour (NC)

$lab^*lrij$  0.704 0.496 0.06

$lab^*tce$  0.75 0.5 0.019

$lab^*ncE$  0.0 0.5 r07j

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



%Gamut

$u^*_{rel} = 91$

%Regularity

$g^*_{H,rel} = 41$

$g^*_{C,rel} = 52$

relative Inform. Technology (IT)

$olv_i3^*$  1.0 0.5 0.5 (1.0)

$cmy_n3^*$  0.0 0.5 0.5 (0.0)

$olv_i4^*$  1.0 0.5 0.5 1.0

$cmy_n4^*$  0.0 0.5 0.5 0.0

standard and adapted CIELAB

$LAB^*LAB$  95.41 0.0 0.0

$LAB^*LABa$  95.41 0.0 0.0

$LAB^*TCh_a</math$

### Input: Colorimetric Reflective System MRS18a

for hue  $h^* = lab^*h = 31/360 = 0.086$

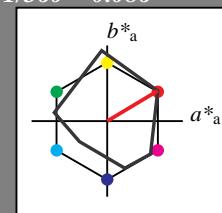
$lab^*tch$  and  $lab^*nch$

D65: hue R

LCH\*Ma: 50 78 31

olv\*Ma: 1.0 0.0 0.0

triangle lightness  $t^*$



### MRS18a; adapted (a) CIELAB data

	$L^*=L^*_a$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	49.63	66.8	40.02	77.87	31
JMa	90.7	-7.27	93.19	93.48	94
GMa	52.11	-69.93	11.26	70.85	171
G50BMa	45.03	-36.65	-27.13	45.61	217
BMa	36.65	23.26	-62.27	66.49	290
B50RMa	34.94	57.27	-43.6	71.99	323
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	272

relative Inform. Technology (IT)  
 $olv^3*$  1.0 1.0 1.0 (1.0)  
 $cmy^3*$  0.0 0.0 0.0 (0.0)  
 $olv^4*$  1.0 1.0 1.0 1.0  
 $cmy^4*$  0.0 0.0 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  95.41 0.01 0.0  
 $LAB^*LABa$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  1.0 0.0 0.0  
 $lab^*ice$  1.0 0.0 0.0  
 $lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)  
 $olv^3*$  0.5 0.5 0.5 (1.0)  
 $cmy^3*$  0.5 0.5 0.5 (0.0)  
 $olv^4*$  1.0 1.0 1.0 0.5  
 $cmy^4*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  56.71 0.05 0.0  
 $LAB^*LABa$  56.71 0.0 0.0  
 $LAB^*TChA$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0  
 $lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  0.5 0.0 0.0  
 $lab^*ice$  0.5 0.0 0.0  
 $lab^*ncE$  0.5 0.0 -

relative Inform. Technology (IT)  
 $olv^3*$  0.0 0.0 0.0 (1.0)  
 $cmy^3*$  1.0 1.0 1.0 (0.0)  
 $olv^4*$  1.0 1.0 1.0 0.0  
 $cmy^4*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.1 0.02  
 $LAB^*LABa$  18.02 0.0 0.0  
 $LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0  
 $lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  0.0 0.0 0.0  
 $lab^*ice$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

relative Inform. Technology (IT)  
 $olv^3*$  1.0 0.5 0.5 (1.0)  
 $cmy^3*$  0.0 0.5 0.5 (0.0)  
 $olv^4*$  1.0 0.5 0.5 1.0  
 $cmy^4*$  0.0 0.5 0.5 0.0

standard and adapted CIELAB

$LAB^*LAB$  72.52 33.43 20.01  
 $LAB^*LABa$  72.52 33.39 20.01  
 $LAB^*TChA$  75.0 38.93 30.93

relative CIELAB lab\*

$lab^*lab$  0.704 0.429 0.257  
 $lab^*tch$  0.75 0.5 0.086  
 $lab^*nch$  0.0 0.5 0.086

relative Natural Colour (NC)

$lab^*lrj$  0.704 0.496 0.064  
 $lab^*ice$  0.75 0.2 0.02  
 $lab^*ncE$  0.0 0.5 r08j

relative Inform. Technology (IT)  
 $olv^3*$  1.0 0.0 0.0 (1.0)  
 $cmy^3*$  0.0 1.0 1.0 (0.0)  
 $olv^4*$  1.0 0.0 0.0 1.0  
 $cmy^4*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  49.63 66.84 40.03  
 $LAB^*LABa$  49.63 66.78 40.02  
 $LAB^*TChA$  50.0 77.85 30.93

relative CIELAB lab\*

$lab^*lab$  0.409 0.858 0.514  
 $lab^*tch$  0.5 1.0 0.086  
 $lab^*nch$  0.0 1.0 0.086

relative Natural Colour (NC)

$lab^*lrj$  0.409 0.992 0.128  
 $lab^*ice$  0.5 1.0 0.02  
 $lab^*ncE$  0.0 1.0 r08j

relative Inform. Technology (IT)  
 $olv^3*$  0.0 0.0 0.0 (1.0)  
 $cmy^3*$  0.5 1.0 1.0 (0.0)  
 $olv^4*$  1.0 0.5 0.5 0.5  
 $cmy^4*$  0.0 0.5 0.5 0.5

standard and adapted CIELAB

$LAB^*LAB$  33.82 33.47 20.03  
 $LAB^*LABa$  33.82 33.39 20.01  
 $LAB^*TChA$  25.01 38.93 30.93

relative CIELAB lab\*

$lab^*lab$  0.204 0.429 0.257  
 $lab^*tch$  0.25 0.5 0.086  
 $lab^*nch$  0.5 0.5 0.086

relative Natural Colour (NC)

$lab^*lrj$  0.204 0.496 0.064  
 $lab^*ice$  0.25 0.5 0.02  
 $lab^*ncE$  0.5 0.5 r08j

relative Inform. Technology (IT)  
 $olv^3*$  0.0 0.0 0.0 (1.0)  
 $cmy^3*$  1.0 1.0 1.0 (0.0)  
 $olv^4*$  1.0 1.0 1.0 0.0  
 $cmy^4*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.5 -0.46  
 $LAB^*LABa$  18.02 0.0 0.0  
 $LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0  
 $lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  0.0 0.0 0.0  
 $lab^*ice$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 0,00$

$n^* = 0,00$   
blackness  $n^*$   
chromaticness  $c^*$

### Output: Colorimetric Reflective System TRS18

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

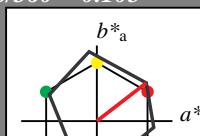
$lab^*tch$  and  $lab^*nch$

D65: hue O

LCH\*Ma: 48 83 38

olv\*Ma: 1.0 0.0 0.0

triangle lightness  $t^*$



### TRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
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)  
 $olv^3*$  1.0 1.0 1.0 (1.0)  
 $cmy^3*$  0.0 0.0 0.0 (0.0)  
 $olv^4*$  1.0 1.0 1.0 1.0  
 $cmy^4*$  0.0 0.0 0.0 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 0.0 0.0  
 $lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  1.0 0.0 0.0  
 $lab^*ice$  1.0 0.0 0.0  
 $lab^*ncE$  0.0 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 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  
 $lab^*ice$  0.75 0.5 0.048  
 $lab^*ncE$  0.0 0.5 r19j

relative Inform. Technology (IT)  
 $olv^3*$  0.5 0.5 0.5 (1.0)  
 $cmy^3*$  0.5 0.5 0.5 (0.0)  
 $olv^4*$  1.0 0.5 0.5 0.5  
 $cmy^4*$  0.0 0.5 0.5 0.5

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 CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0  
 $lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  0.5 0.0 0.0  
 $lab^*ice$  0.5 0.0 -

$lab^*ncE$  0.5 0.5 r19j

relative Inform. Technology (IT)  
 $olv^3*$  0.0 0.0 0.0 (1.0)  
 $cmy^3*$  1.0 1.0 1.0 (0.0)  
 $olv^4*$  1.0 1.0 1.0 0.0  
 $cmy^4*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.5 -0.46  
 $LAB^*LABa$  18.02 0.0 0.0  
 $LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0  
 $lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  0.0 0.0 0.0  
 $lab^*ice$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 0,00$

$n^* = 0,50$   
blackness  $n^*$   
chromaticness  $c^*$

$n^* = 1,0$

3 step scales for constant CIELAB hue 38/360 = 0.105 (right)

UE100-7, 3 step scales for constant CIELAB hue 31/360 = 0.086 (left)

### Input: Colorimetric Reflective System MRS18a

for hue  $h^* = lab^*h = 31/360 = 0.086$

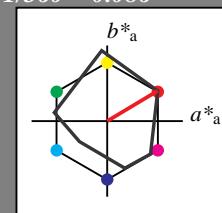
$lab^*tch$  and  $lab^*nch$

D65: hue R

LCH\*Ma: 50 78 31

olv\*Ma: 1.0 0.0 0.0

triangle lightness  $t^*$



### MRS18a; adapted (a) CIELAB data

	$L^* = L^*_{ab}$	$a^*_{ab}$	$b^*_{ab}$	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	49.63	66.8	40.02	77.87	31
JMa	90.7	-7.27	93.19	93.48	94
GMa	52.11	-69.93	11.26	70.85	171
G50BMa	45.03	-36.65	-27.13	45.61	217
BMa	36.65	23.26	-62.27	66.49	290
B50RMa	34.94	57.27	-43.6	71.99	323
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	272

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 0.01 0.0  
 $LAB^*LABa$  95.41 0.0 0.0  
 $LAB^*TCh$  99.99 0.01 -

relative CIELAB lab\*

$lab^*lab$  1.0 0.0 0.0  
 $lab^*tch$  1.0 0.0 -  
 $lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0  
 $lab^*tce$  1.0 0.0 0.0  
 $lab^*ncE$  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 0.5  
 $cmyn^4*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  56.71 0.05 0.0  
 $LAB^*LABa$  56.71 0.0 0.0  
 $LAB^*TCh$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0  
 $lab^*tch$  0.5 0.0 -  
 $lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.5 0.0 0.0  
 $lab^*tce$  0.5 0.0 0.0  
 $lab^*ncE$  0.5 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)  
 $olv^4*$  1.0 1.0 1.0 0.0  
 $cmyn^4*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.1 0.02  
 $LAB^*LABa$  18.02 0.0 0.0  
 $LAB^*TCh$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0  
 $lab^*tch$  0.0 0.0 -  
 $lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0  
 $lab^*tce$  0.0 0.0 -  
 $lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

%Gamut

$u^*_{rel} = 92$

%Regularity

$g^*_{H,rel} = 42$

$g^*_{C,rel} = 49$

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 33.43 20.01  
 $LAB^*LABa$  72.52 33.39 20.01  
 $LAB^*TCh$  75.0 38.93 30.93

relative CIELAB lab\*

$lab^*lab$  0.704 0.429 0.257  
 $lab^*tch$  0.75 0.5 0.086  
 $lab^*nch$  0.0 0.5 0.086

relative Natural Colour (NC)

$lab^*lrij$  0.704 0.496 0.064  
 $lab^*tce$  0.75 0.2 0.02  
 $lab^*ncE$  0.0 0.5 r08j

relative Inform. Technology (IT)  
 $olv^3*$  1.0 0.0 0.0 (1.0)  
 $cmyn^3*$  0.0 1.0 1.0 (0.0)  
 $olv^4*$  1.0 0.0 0.0 1.0  
 $cmyn^4*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  49.63 66.84 40.03  
 $LAB^*LABa$  49.63 66.78 40.02  
 $LAB^*TCh$  50.0 77.85 30.93

relative CIELAB lab\*

$lab^*lab$  0.409 0.858 0.514  
 $lab^*tch$  0.5 1.0 0.086  
 $lab^*nch$  0.0 1.0 0.086

relative Natural Colour (NC)

$lab^*lrij$  0.409 0.992 0.128  
 $lab^*tce$  0.5 1.0 0.02  
 $lab^*ncE$  0.0 1.0 r08j

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 0.5 0.5 0.5  
 $cmyn^4*$  0.0 0.5 0.5 0.5

standard and adapted CIELAB

$LAB^*LAB$  33.82 33.47 20.03  
 $LAB^*LABa$  33.82 33.39 20.01  
 $LAB^*TCh$  25.01 38.93 30.93

relative CIELAB lab\*

$lab^*lab$  0.204 0.429 0.257  
 $lab^*tch$  0.25 0.5 0.086  
 $lab^*nch$  0.5 0.5 0.086

relative Natural Colour (NC)

$lab^*lrij$  0.204 0.496 0.064  
 $lab^*tce$  0.25 0.5 0.02  
 $lab^*ncE$  0.5 0.5 r08j

$n^* = 0,00$

relative Inform. Technology (IT)  
 $olv^3*$  1.0 0.0 0.0 (1.0)  
 $cmyn^3*$  0.0 1.0 1.0 (0.0)  
 $olv^4*$  1.0 0.0 0.0 1.0  
 $cmyn^4*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  56.71 0.05 0.0  
 $LAB^*LABa$  56.71 0.0 0.0  
 $LAB^*TCh$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0  
 $lab^*tch$  0.5 0.0 -  
 $lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.409 0.992 0.128  
 $lab^*tce$  0.5 0.0 0.02  
 $lab^*ncE$  0.5 0.0 r08j

relative Inform. Technology (IT)  
 $olv^3*$  0.5 0.5 0.5 (1.0)  
 $cmyn^3*$  0.5 1.0 1.0 (0.0)  
 $olv^4*$  1.0 1.0 1.0 0.0  
 $cmyn^4*$  0.0 0.5 0.5 0.5

standard and adapted CIELAB

$LAB^*LAB$  33.82 33.47 20.03  
 $LAB^*LABa$  33.82 33.39 20.01  
 $LAB^*TCh$  25.01 38.93 30.93

relative CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0  
 $lab^*tch$  0.5 0.0 -  
 $lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0  
 $lab^*tce$  0.0 0.0 -  
 $lab^*ncE$  1.0 0.0 -

$n^* = 0,50$

blackness  $n^*$

chromaticness  $c^*$

### Output: Colorimetric Reflective System MRS18a

for hue  $h^* = lab^*h = 31/360 = 0.086$

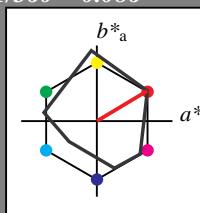
$lab^*tch$  and  $lab^*nch$

D65: hue R

LCH\*Ma: 50 78 31

olv\*Ma: 1.0 0.0 0.0

triangle lightness  $t^*$



	$L^* = L^*_{ab}$	$a^*_{ab}$	$b^*_{ab}$	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	49.63	66.8	40.02	77.87	31
JMa	90.7	-7.27	93.19	93.48	94
GMa	52.11	-69.93	11.26	70.85	171
G50BMa	45.03	-36.65	-27.13	45.61	217
BMa	36.65	23.26	-62.27	66.49	290
B50RMa	34.94	57.27	-43.6	71.99	323
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	272

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 0.01 0.0  
 $LAB^*LABa$  95.41 0.0 0.0  
 $LAB^*TCh$  99.99 0.01 -

relative CIELAB lab\*

$lab^*lab$  1.0 0.0 0.0  
 $lab^*tch$  1.0 0.0 -  
 $lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0  
 $lab^*tce$  1.0 0.0 0.0  
 $lab^*ncE$  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 0.5 0.5 0.5  
 $cmyn^4*$  0.0 0.5 0.5 0.5

standard and adapted CIELAB

$LAB^*LAB$  72.52 33.43 20.01  
 $LAB^*LABa$  72.52 33.39 20.01  
 $LAB^*TCh$  75.0 38.93 30.93

relative CIELAB lab\*

$lab^*lab$  0.704 0.429 0.257  
 $lab^*tch$  0.75 0.5 0.086  
 $lab^*nch$  0.0 0.5 0.086

relative Natural Colour (NC)

$lab^*lrij$  0.704 0.496 0.064  
 $lab^*tce$  0.75 0.5 0.02  
 $lab^*ncE$  0.0 0.5 r08j

relative Inform. Technology (IT)  
 $olv^3*$  0.0 0.0 0.0 (1.0)  
 $cmyn^3*$  1.0 1.0 1.0 (0.0)  
 $olv^4*$  1.0 1.0 1.0 0.0  
 $cmyn^4*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  56.71 0.05 0.0  
 $LAB^*LABa$  56.71 0.0 0.0  
 $LAB^*TCh$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0  
 $lab^*tch$  0.5 0.0 -  
 $lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0  
 $lab^*tce$  0.0 0.0 -  
 $lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

blackness  $n^*$

chromaticness  $c^*$

$n^* = 0,50$

blackness  $n^*$

chromaticness  $c^*$

$n^* = 1,0$

3 step scales for constant CIELAB hue 31/360 = 0.086 (right)

UE100-7, 3 step scales for constant CIELAB hue 31/360 = 0.086 (left)

### Input: Colorimetric Reflective System MRS18a

for hue  $h^* = lab^*h = 31/360 = 0.086$

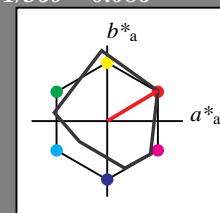
$lab^*tch$  and  $lab^*nch$

D65: hue R

LCH\*Ma: 50 78 31

olv\*Ma: 1.0 0.0 0.0

triangle lightness  $t^*$



### MRS18a; adapted (a) CIELAB data

	$L^* = L^*_{ab}$	$a^*_{ab}$	$b^*_{ab}$	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	49.63	66.8	40.02	77.87	31
JMa	90.7	-7.27	93.19	93.48	94
GMa	52.11	-69.93	11.26	70.85	171
G50BMa	45.03	-36.65	-27.13	45.61	217
BMa	36.65	23.26	-62.27	66.49	290
B50RMa	34.94	57.27	-43.6	71.99	323
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	272

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 0.01 0.0  
 $LAB^*LABa$  95.41 0.0 0.0  
 $LAB^*TCh$  99.99 0.01 -

relative CIELAB lab\*  
 $lab^*lab$  1.0 0.0 0.0  
 $lab^*tch$  1.0 0.0 -  
 $lab^*nch$  0.0 0.0 -  
relative Natural Colour (NC)  
 $lab^*lrij$  1.0 0.0 0.0  
 $lab^*tce$  1.0 0.0 0.0  
 $lab^*ncE$  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 0.5  
 $cmyn^4*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB  
 $LAB^*LAB$  56.71 0.05 0.0  
 $LAB^*LABa$  56.71 0.0 0.0  
 $LAB^*TCh$  50.0 0.01 -

relative CIELAB lab\*  
 $lab^*lab$  0.5 0.0 0.0  
 $lab^*tch$  0.5 0.0 -  
 $lab^*nch$  0.5 0.0 -  
relative Natural Colour (NC)  
 $lab^*lrij$  0.5 0.0 0.0  
 $lab^*tce$  0.5 0.0 0.0  
 $lab^*ncE$  0.5 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)  
 $olv^4*$  1.0 1.0 1.0 0.0  
 $cmyn^4*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB  
 $LAB^*LAB$  18.02 0.1 0.02  
 $LAB^*LABa$  18.02 0.0 0.0  
 $LAB^*TCh$  0.01 0.01 -

relative CIELAB lab\*  
 $lab^*lab$  0.0 0.0 0.0  
 $lab^*tch$  0.0 0.0 -  
 $lab^*nch$  1.0 0.0 -  
relative Natural Colour (NC)  
 $lab^*lrij$  0.0 0.0 0.0  
 $lab^*tce$  0.0 0.0 0.0  
 $lab^*ncE$  1.0 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 33.43 20.01  
 $LAB^*LABa$  72.52 33.39 20.01  
 $LAB^*TCh$  75.0 38.93 30.93

relative CIELAB lab\*  
 $lab^*lab$  0.704 0.429 0.257  
 $lab^*tch$  0.75 0.5 0.086  
 $lab^*nch$  0.0 0.5 0.086

relative Inform. Technology (IT)  
 $olv^3*$  1.0 0.0 0.0 (1.0)  
 $cmyn^3*$  0.0 1.0 1.0 (0.0)  
 $olv^4*$  1.0 0.0 0.0 1.0  
 $cmyn^4*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB  
 $LAB^*LAB$  49.63 66.84 40.03  
 $LAB^*LABa$  49.63 66.78 40.02  
 $LAB^*TCh$  50.0 77.85 30.93

relative CIELAB lab\*  
 $lab^*lab$  0.409 0.858 0.514  
 $lab^*tch$  0.5 1.0 0.086  
 $lab^*nch$  0.0 1.0 0.086

$n^* = 0,00$

relative Inform. Technology (IT)  
 $olv^3*$  1.0 0.0 0.0 (1.0)  
 $cmyn^3*$  0.0 1.0 1.0 (0.0)  
 $olv^4*$  1.0 0.0 0.0 1.0  
 $cmyn^4*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB  
 $LAB^*LAB$  56.72 0.05 0.0  
 $LAB^*LABa$  56.72 0.0 0.0  
 $LAB^*TCh$  50.0 0.01 -

relative CIELAB lab\*  
 $lab^*lab$  0.409 0.992 0.128  
 $lab^*tch$  0.5 1.0 0.02  
 $lab^*nch$  0.0 1.0 0.02

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 0.5  
 $cmyn^4*$  0.0 0.5 0.5 0.5

standard and adapted CIELAB  
 $LAB^*LAB$  33.82 33.47 20.03  
 $LAB^*LABa$  33.82 33.39 20.01  
 $LAB^*TCh$  25.01 38.93 30.93

relative CIELAB lab\*  
 $lab^*lab$  0.204 0.496 0.064  
 $lab^*tch$  0.25 0.5 0.02  
 $lab^*nch$  0.5 0.5 r08j

$n^* = 0,50$

relative Inform. Technology (IT)  
 $olv^3*$  0.0 0.0 0.0 (1.0)  
 $cmyn^3*$  1.0 1.0 1.0 (0.0)  
 $olv^4*$  1.0 1.0 1.0 0.0  
 $cmyn^4*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB  
 $LAB^*LAB$  18.02 0.09 0.02  
 $LAB^*LABa$  18.02 0.0 0.0  
 $LAB^*TCh$  0.01 0.01 -

relative CIELAB lab\*  
 $lab^*lab$  0.0 0.0 0.0  
 $lab^*tch$  0.0 0.0 -  
 $lab^*nch$  1.0 0.0 -  
relative Natural Colour (NC)  
 $lab^*lrij$  0.0 0.0 0.0  
 $lab^*tce$  0.0 0.0 0.0  
 $lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

### Output: Colorimetric Reflective System NRS18

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

$lab^*tch$  and  $lab^*nch$

D65: hue R

LCH\*Ma: 57 77 24

olv\*Ma: 1.0 0.0 0.0

triangle lightness  $t^*$

### NRS18; adapted (a) CIELAB data

	$L^* = L^*_{ab}$	$a^*_{ab}$	$b^*_{ab}$	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	56.7	70.66	31.47	77.35	24
JMa	56.7	-1.39	77.37	77.39	91
GMa	56.7	-75.46	17.4	77.45	167
G50BMa	56.7	-71.29	-30.25	77.45	203
BMa	56.7	4.0	-77.3	77.41	273
B50RMa	56.7	63.35	-44.4	77.36	325
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	272

%Gamut

$u^*_{rel} = 92$

%Regularity

$g^*_{H,rel} = 42$

$g^*_{C,rel} = 49$

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 0.0

$LAB^*LABa$  95.41 0.0 0.0

$LAB^*TCh$  99.99 0.01 -

relative CIELAB lab\*

$lab^*lab$  1.0 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 0.0

$lab^*ncE$  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 0.5 0.5 0.5

$cmyn^4*$  0.0 0.5 0.5 0.5

standard and adapted CIELAB

$LAB^*LAB$  76.05 35.35 15.74

$LAB^*LABa$  76.05 35.32 15.73

$LAB^*TCh$  75.0 38.67 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)

$lab^*lrij$  0.75 0.5 -0.009

$lab^*tce$  0.75 0.5 0.997

$lab^*ncE$  0.0 0.5 0.997

%Gamut

$u^*_{rel} = 100$

%Regularity

$g^*_{H,rel} = 47$

$g^*_{C,rel} = 100$

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

$LAB^*LAB$  76.05 35.35 15.74

$LAB^*LABa$  76.05 35.32 15.73

$LAB^*TCh$  75.0 38.67 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)

$lab^*lrij$  0.75 0.5 -0.019

$lab^*tce$  0.75 0.5 1.0

$lab^*ncE$  0.0 0.5 1.0

$n^* = 0,00$

blackness  $n^*$

$n^* = 1,0$

chromaticness  $c^*$

UE100-7, 3 step scales for constant CIELAB hue 31/360 = 0.086 (left)

3 step scales for constant CIELAB hue 24/360 = 0.067 (right)

### Input: Colorimetric Reflective System MRS18a

for hue  $h^* = lab^*h = 31/360 = 0.086$

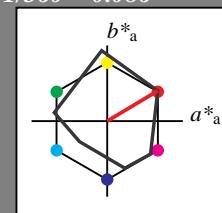
$lab^*tch$  and  $lab^*nch$

D65: hue R

LCH\*Ma: 50 78 31

olv\*Ma: 1.0 0.0 0.0

triangle lightness  $t^*$



### MRS18a; adapted (a) CIELAB data

	$L^*=L^*_a$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	49.63	66.8	40.02	77.87	31
JMa	90.7	-7.27	93.19	93.48	94
GMa	52.11	-69.93	11.26	70.85	171
G50BMa	45.03	-36.65	-27.13	45.61	217
BMa	36.65	23.26	-62.27	66.49	290
B50RMa	34.94	57.27	-43.6	71.99	323
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	272

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 0.01 0.0  
 $LAB^*LABa$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  1.0 0.0 0.0  
 $lab^*ice$  1.0 0.0 0.0  
 $lab^*ncE$  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 0.5  
 $cmyn^4*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  72.52 33.43 20.01  
 $LAB^*LABa$  72.52 33.39 20.01  
 $LAB^*TChA$  75.0 38.93 30.93

relative CIELAB lab\*

$lab^*lab$  0.704 0.429 0.257  
 $lab^*tch$  0.75 0.5 0.086  
 $lab^*nch$  0.0 0.5 0.086

relative Natural Colour (NC)

$lab^*lrj$  0.704 0.496 0.064  
 $lab^*ice$  0.75 0.2 0.02  
 $lab^*ncE$  0.0 0.5 r08j

relative Inform. Technology (IT)  
 $olv^3*$  0.0 0.0 0.0 (1.0)  
 $cmyn^3*$  1.0 1.0 1.0 (0.0)  
 $olv^4*$  1.0 1.0 1.0 0.0  
 $cmyn^4*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  33.82 33.47 20.03  
 $LAB^*LABa$  33.82 33.39 20.01  
 $LAB^*TChA$  25.01 38.93 30.93

relative CIELAB lab\*

$lab^*lab$  0.204 0.429 0.257  
 $lab^*tch$  0.25 0.5 0.086  
 $lab^*nch$  0.5 0.5 0.086

relative Natural Colour (NC)

$lab^*lrj$  0.204 0.496 0.064  
 $lab^*ice$  0.25 0.5 0.02  
 $lab^*ncE$  0.5 0.5 r08j

$n^* = 1,0$

%Gamut

$u^*_{rel} = 92$

%Regularity

$g^*_{H,rel} = 42$

$g^*_{C,rel} = 49$

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 33.43 20.01  
 $LAB^*LABa$  72.52 33.39 20.01  
 $LAB^*TChA$  75.0 38.93 30.93

relative CIELAB lab\*

$lab^*lab$  0.704 0.429 0.257  
 $lab^*tch$  0.75 0.5 0.086  
 $lab^*nch$  0.0 0.5 0.086

relative Natural Colour (NC)

$lab^*lrj$  0.704 0.496 0.064  
 $lab^*ice$  0.75 0.2 0.02  
 $lab^*ncE$  0.0 0.5 r08j

relative Inform. Technology (IT)

$olv^3*$  0.5 0.0 0.0 (1.0)

$cmyn^3*$  0.5 0.0 0.0 (0.0)

$olv^4*$  1.0 0.0 0.0 0.5

$cmyn^4*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  49.63 66.8 40.02  
 $LAB^*LABa$  49.63 66.84 40.03  
 $LAB^*TChA$  50.0 77.85 30.93

relative CIELAB lab\*

$lab^*lab$  0.409 0.858 0.514  
 $lab^*tch$  0.5 1.0 0.086  
 $lab^*nch$  0.0 1.0 0.086

relative Natural Colour (NC)

$lab^*lrj$  0.409 0.992 0.128  
 $lab^*ice$  0.5 1.0 0.02  
 $lab^*ncE$  0.0 1.0 r08j

relative Inform. Technology (IT)

$olv^3*$  0.0 0.0 0.0 (1.0)

$cmyn^3*$  1.0 1.0 1.0 (0.0)

$olv^4*$  1.0 1.0 1.0 0.0

$cmyn^4*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.1 0.02  
 $LAB^*LABa$  18.02 0.0 0.0  
 $LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0  
 $lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  0.0 0.0 0.0  
 $lab^*ice$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 0,00$

blackness  $n^*$

$n^* = 0,50$

$n^* = 1,00$

chromaticness  $c^*$

### Output: Colorimetric Reflective System NCS18

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

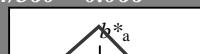
$lab^*tch$  and  $lab^*nch$

D65: hue R

LCH\*Ma: 47 92 24

olv\*Ma: 1.0 0.0 0.0

triangle lightness  $t^*$



### NCS18; adapted (a) CIELAB data

	$L^*=L^*_a$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	47.15	84.63	37.24	92.46	24
JMa	91.37	-1.27	125.03	125.03	91
GMa	63.07	-114.29	25.34	117.07	167
G50BMa	59.47	-80.61	-33.45	87.29	203
BMa	49.01	3.63	-81.2	81.29	273
B50RMa	44.06	106.07	-73.94	129.31	325
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	272

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

$LAB^*LABa$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  1.0 0.0 0.0

$lab^*ice$  1.0 0.0 0.0

$lab^*ncE$  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 0.5 0.5 0.5

$cmyn^4*$  0.0 0.5 0.5 0.5

standard and adapted CIELAB

$LAB^*LAB$  71.27 42.34 18.63

$LAB^*LABa$  71.27 42.31 18.62

$LAB^*TChA$  75.0 46.22 23.75

relative CIELAB lab\*

$lab^*lab$  0.688 0.458 0.201

$lab^*tch$  0.75 0.5 0.066

$lab^*nch$  0.0 0.5 0.066

relative Natural Colour (NC)

$lab^*lrj$  0.688 0.5 -0.011

$lab^*ice$  0.75 0.5 0.996

$lab^*ncE$  0.0 0.5 b98r

$n^* = 0,00$

blackness  $n^*$

$n^* = 0,50$

$n^* = 1,0$

$n^* = 0,00$

blackness  $n^*$

$n^* = 0,50$

$n^* = 1,00$

chromaticness  $c^*$

UE100-7, 3 step scales for constant CIELAB hue 31/360 = 0.086 (left)

3 step scales for constant CIELAB hue 24/360 = 0.066 (right)

### Input: Colorimetric Reflective System MRS18a

for hue  $h^* = lab^*h = 31/360 = 0.086$

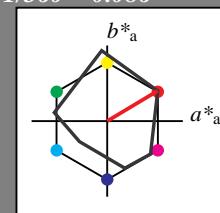
$lab^*tch$  and  $lab^*nch$

D65: hue R

LCH\*Ma: 50 78 31

olv\*Ma: 1.0 0.0 0.0

triangle lightness  $t^*$



### MRS18a; adapted (a) CIELAB data

	$L^* = L^*_{ab}$	$a^*_{ab}$	$b^*_{ab}$	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	49.63	66.8	40.02	77.87	31
JMa	90.7	-7.27	93.19	93.48	94
GMa	52.11	-69.93	11.26	70.85	171
G50BMa	45.03	-36.65	-27.13	45.61	217
BMa	36.65	23.26	-62.27	66.49	290
B50RMa	34.94	57.27	-43.6	71.99	323
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	272

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 0.01 0.0  
 $LAB^*LABa$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0  
 $lab^*tce$  1.0 0.0 0.0  
 $lab^*ncE$  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 0.5  
 $cmyn^4*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  56.71 0.05 0.0  
 $LAB^*LABa$  56.71 0.0 0.0  
 $LAB^*TChA$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0  
 $lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.5 0.0 0.0  
 $lab^*tce$  0.5 0.0 0.0  
 $lab^*ncE$  0.5 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)  
 $olv^4*$  1.0 1.0 1.0 0.0  
 $cmyn^4*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.1 0.02  
 $LAB^*LABa$  18.02 0.0 0.0  
 $LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0  
 $lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0  
 $lab^*tce$  0.0 0.0 -  
 $lab^*ncE$  1.0 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 33.43 20.01  
 $LAB^*LABa$  72.52 33.39 20.01  
 $LAB^*TChA$  75.0 38.93 30.93

relative CIELAB lab\*

$lab^*lab$  0.704 0.429 0.257

$lab^*tch$  0.75 0.5 0.086

$lab^*nch$  0.0 0.5 0.086

relative Natural Colour (NC)

$lab^*lrij$  0.704 0.496 0.064

$lab^*tce$  0.75 0.2 0.02

$lab^*ncE$  0.0 0.5 r08j

relative Inform. Technology (IT)  
 $olv^3*$  1.0 0.0 0.0 (1.0)  
 $cmyn^3*$  0.0 1.0 1.0 (0.0)  
 $olv^4*$  1.0 0.0 0.0 1.0  
 $cmyn^4*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  49.63 66.84 40.03

$LAB^*LABa$  49.63 66.78 40.02

$LAB^*TChA$  50.0 77.85 30.93

relative CIELAB lab\*

$lab^*lab$  0.409 0.858 0.514

$lab^*tch$  0.5 1.0 0.086

$lab^*nch$  0.0 1.0 0.086

relative Natural Colour (NC)

$lab^*lrij$  0.409 0.992 0.128

$lab^*tce$  0.5 1.0 0.02

$lab^*ncE$  0.0 1.0 r08j

relative Inform. Technology (IT)  
 $olv^3*$  0.0 0.0 0.0 (1.0)

$cmyn^3*$  1.0 1.0 1.0 (0.0)

$olv^4*$  1.0 1.0 1.0 0.0

$cmyn^4*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  11.01 0.07 0.01

$LAB^*LABa$  11.01 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*tce$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 0,00$

$n^* = 0,50$

$n^* = 0,00$   
blackness  $n^*$   
0,25 0,50 0,75 1,00  
chromaticness  $c^*$

### Output: Colorimetric Reflective System NRS11

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

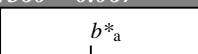
$lab^*tch$  and  $lab^*nch$

D65: hue R

LCH\*Ma: 53 84 24

olv\*Ma: 1.0 0.0 0.0

triangle lightness  $t^*$



### NRS11; adapted (a) CIELAB data

	$L^* = L^*_{ab}$	$a^*_{ab}$	$b^*_{ab}$	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	53.2	77.06	34.32	84.36	24
JMa	53.2	-1.51	84.38	84.39	91
GMa	53.2	-82.27	18.98	84.44	167
G50BMa	53.2	-77.72	-32.98	84.44	203
BMa	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

%Gamut

$u^*_{rel} = 92$

%Regularity

$g^*_{H,rel} = 42$

$g^*_{C,rel} = 49$

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

$LAB^*LAB$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)

$olv^3*$  0.5 0.5 0.5 (1.0)

$cmyn^3*$  0.5 1.0 1.0 (0.0)

$olv^4*$  1.0 0.5 0.5 0.5

$cmyn^4*$  0.0 0.5 0.5 0.5

standard and adapted CIELAB

$LAB^*LAB$  53.21 0.04 0.0

$LAB^*LABa$  53.21 0.0 0.0

$LAB^*TChA$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.5 0.0 0.0

$lab^*tce$  0.5 0.0 -

$lab^*ncE$  0.5 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)

$olv^4*$  1.0 1.0 1.0 0.0

$cmyn^4*$  0.0 1.0 1.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  11.01 0.07 0.01

$LAB^*LABa$  11.01 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*tce$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 0,00$

$n^* = 0,50$

$n^* = 1,0$

$n^* = 0,00$   
blackness  $n^*$   
0,25 0,50 0,75 1,00  
chromaticness  $c^*$

$n^* = 0,00$

$n^* = 0,50$

$n^* = 1,0$

$n^* = 0,00$

$n^* = 0,50$

$n^* = 1,0$

$n^* = 0,00$

$n^* = 0,50$

$n^* = 1,0$

$n^* = 0,00$ </p

### Input: Colorimetric Reflective System MRS18a

for hue  $h^* = lab^*h = 31/360 = 0.086$

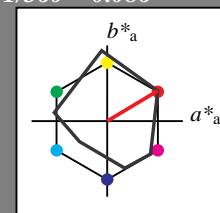
$lab^*tch$  and  $lab^*nch$

D65: hue R

LCH\*Ma: 50 78 31

olv\*Ma: 1.0 0.0 0.0

triangle lightness  $t^*$



### MRS18a; adapted (a) CIELAB data

	$L^*=L^*_a$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	49.63	66.8	40.02	77.87	31
JMa	90.7	-7.27	93.19	93.48	94
GMa	52.11	-69.93	11.26	70.85	171
G50BMa	45.03	-36.65	-27.13	45.61	217
BMa	36.65	23.26	-62.27	66.49	290
B50RMa	34.94	57.27	-43.6	71.99	323
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	272

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 0.01 0.0  
 $LAB^*LABa$  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 -  
 $lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  1.0 0.0 0.0  
 $lab^*ice$  1.0 0.0 0.0  
 $lab^*ncE$  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 0.5  
 $cmyn^4*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  56.71 0.05 0.0  
 $LAB^*LABa$  56.71 0.0 0.0  
 $LAB^*TChA$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0  
 $lab^*tch$  0.5 0.0 -  
 $lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  0.5 0.0 0.0  
 $lab^*ice$  0.5 0.0 0.0  
 $lab^*ncE$  0.5 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)  
 $olv^4*$  1.0 1.0 1.0 0.0  
 $cmyn^4*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.1 0.02  
 $LAB^*LABa$  18.02 0.0 0.0  
 $LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0  
 $lab^*tch$  0.0 0.0 -  
 $lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  0.0 0.0 0.0  
 $lab^*ice$  0.0 0.0 -  
 $lab^*ncE$  1.0 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 33.43 20.01  
 $LAB^*LABa$  72.52 33.39 20.01  
 $LAB^*TChA$  75.0 38.93 30.93

relative CIELAB lab\*

$lab^*lab$  0.704 0.429 0.257  
 $lab^*tch$  0.75 0.5 0.086  
 $lab^*nch$  0.0 0.5 0.086

relative Natural Colour (NC)

$lab^*lrj$  0.704 0.496 0.064  
 $lab^*ice$  0.75 0.2 0.02  
 $lab^*ncE$  0.0 0.5 r08j

relative Inform. Technology (IT)  
 $olv^3*$  0.5 0.0 0.0 (1.0)  
 $cmyn^3*$  0.5 0.0 0.0 (0.0)  
 $olv^4*$  1.0 0.0 0.0 1.0  
 $cmyn^4*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  49.63 66.84 40.03  
 $LAB^*LABa$  49.63 66.78 40.02  
 $LAB^*TChA$  50.0 77.85 30.93

relative CIELAB lab\*

$lab^*lab$  0.409 0.858 0.514  
 $lab^*tch$  0.5 1.0 0.086  
 $lab^*nch$  0.0 1.0 0.086

relative Natural Colour (NC)

$lab^*lrj$  0.409 0.992 0.128  
 $lab^*ice$  0.5 1.0 0.02  
 $lab^*ncE$  0.0 1.0 r08j

relative Inform. Technology (IT)  
 $olv^3*$  0.0 0.0 0.0 (1.0)  
 $cmyn^3*$  1.0 1.0 1.0 (0.0)  
 $olv^4*$  1.0 1.0 1.0 0.0  
 $cmyn^4*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  33.82 33.47 20.03  
 $LAB^*LABa$  33.82 33.39 20.01  
 $LAB^*TChA$  25.01 38.93 30.93

relative CIELAB lab\*

$lab^*lab$  0.204 0.429 0.257  
 $lab^*tch$  0.25 0.5 0.086  
 $lab^*nch$  0.5 0.5 0.086

relative Natural Colour (NC)

$lab^*lrj$  0.204 0.496 0.064  
 $lab^*ice$  0.25 0.5 0.02  
 $lab^*ncE$  0.5 0.5 r08j

$n^* = 0,00$

relative Inform. Technology (IT)  
 $olv^3*$  1.0 0.0 0.0 (1.0)  
 $cmyn^3*$  0.0 1.0 1.0 (0.0)  
 $olv^4*$  1.0 1.0 1.0 0.5  
 $cmyn^4*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  53.21 0.04 0.0  
 $LAB^*LABa$  53.21 0.0 0.0  
 $LAB^*TChA$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.409 0.858 0.514  
 $lab^*tch$  0.5 1.0 0.086  
 $lab^*nch$  0.0 1.0 0.086

relative Natural Colour (NC)

$lab^*lrj$  0.409 0.992 0.128  
 $lab^*ice$  0.5 1.0 0.02  
 $lab^*ncE$  0.0 1.0 r08j

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 0.5  
 $cmyn^4*$  0.0 0.5 0.5 0.5

standard and adapted CIELAB

$LAB^*LAB$  29.07 42.38 18.64  
 $LAB^*LABa$  29.07 42.31 18.62  
 $LAB^*TChA$  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  
 $lab^*nch$  0.5 0.5 0.066

relative Natural Colour (NC)

$lab^*lrj$  0.214 0.5 -0.011  
 $lab^*ice$  0.25 0.5 0.996  
 $lab^*ncE$  0.5 0.5 b98r

relative Inform. Technology (IT)  
 $olv^3*$  0.0 0.0 0.0 (1.0)  
 $cmyn^3*$  1.0 1.0 1.0 (0.0)  
 $olv^4*$  1.0 1.0 1.0 0.0  
 $cmyn^4*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  11.01 0.07 0.01  
 $LAB^*LABa$  11.01 0.0 0.0  
 $LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0  
 $lab^*tch$  0.0 0.0 -  
 $lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  0.0 0.0 0.0  
 $lab^*ice$  0.0 0.0 -  
 $lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

$n^* = 0,50$

$n^* = 1,00$

chromaticness  $c^*$

### Output: Colorimetric Reflective System NCS11

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

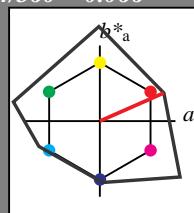
$lab^*tch$  and  $lab^*nch$

D65: hue R

LCH\*Ma: 47 92 24

olv\*Ma: 1.0 0.0 0.0

triangle lightness  $t^*$



### 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

%Gamut

$u^*_{rel} = 92$

%Regularity

$g^*_{H,rel} = 42$

$g^*_{C,rel} = 49$

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

$LAB^*LABa$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  1.0 0.0 0.0

$lab^*ice$  1.0 0.0 0.0

$lab^*ncE$  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 0.5 0.5 0.5

$cmyn^4*$  0.0 0.5 0.5 0.5

standard and adapted CIELAB

$LAB^*LAB$  53.21 0.04 0.0

$LAB^*LABa$  53.21 0.0 0.0

$LAB^*TChA$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  0.0 0.0 0.0

$lab^*ice$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 0,00$

$n^* = 0,50$

$n^* = 1,00$

chromaticness  $c^*$

3 step scales for constant CIELAB hue 24/360 = 0.066 (right)

UE100-7, 3 step scales for constant CIELAB hue 31/360 = 0.086 (left)

## Input: Colorimetric Reflective System NRS18

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

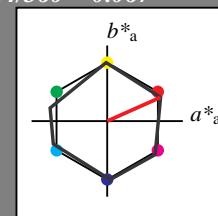
$lab^*tch$  and  $lab^*nch$

D65: hue R

LCH\*Ma: 57 77 24

olv\*Ma: 1.0 0.0 0.0

triangle lightness  $t^*$



relative Inform. Technology (IT)  
 $olv_i3^*$  1.0 1.0 1.0 (1.0)  
 $cmy_n3^*$  0.0 0.0 0.0 (0.0)  
 $olv_i4^*$  1.0 1.0 1.0 1.0  
 $cmy_n4^*$  0.0 0.0 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  95.41 0.0 0.0  
 $LAB^*LABa$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0  
 $lab^*tce$  1.0 0.0 0.0  
 $lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)  
 $olv_i3^*$  0.5 0.5 0.5 (1.0)  
 $cmy_n3^*$  0.5 0.5 0.5 (0.0)  
 $olv_i4^*$  1.0 1.0 1.0 0.5  
 $cmy_n4^*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  76.05 35.35 15.74  
 $LAB^*LABa$  76.05 35.32 15.73  
 $LAB^*TChA$  75.0 38.67 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)

$lab^*lrij$  0.75 0.5 -0.009  
 $lab^*tce$  0.75 0.5 0.997  
 $lab^*ncE$  0.0 0.5 b98r

relative Inform. Technology (IT)  
 $olv_i3^*$  0.0 0.0 0.0 (1.0)  
 $cmy_n3^*$  1.0 1.0 1.0 (0.0)  
 $olv_i4^*$  1.0 1.0 1.0 0.0  
 $cmy_n4^*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.09 0.02  
 $LAB^*LABa$  18.02 0.0 0.0  
 $LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0  
 $lab^*tch$  0.0 0.0 -  
 $lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0  
 $lab^*tce$  0.0 0.0 -  
 $lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

## NRS18; adapted (a) CIELAB data

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

RMa	56.7	70.66	31.47	77.35	24
JMa	56.7	-1.39	77.37	77.39	91
GMa	56.7	-75.46	17.4	77.45	167
G50BMa	56.7	-71.29	-30.25	77.45	203
BMa	56.7	4.0	-77.3	77.41	273
B50RMa	56.7	63.35	-44.4	77.36	325
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	272

%Gamut

$u^*_{rel} = 100$

%Regularity

$g^*_{H,rel} = 47$

$g^*_{C,rel} = 100$

relative Inform. Technology (IT)

$olv_i3^*$  1.0 0.5 0.5 (1.0)

$cmy_n3^*$  0.0 0.5 0.5 (0.0)

$olv_i4^*$  1.0 0.5 0.5 1.0

$cmy_n4^*$  0.0 0.5 0.5 0.0

standard and adapted CIELAB

$LAB^*LAB$  76.05 35.35 15.74  
 $LAB^*LABa$  76.05 35.32 15.73  
 $LAB^*TChA$  75.0 38.67 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)

$lab^*lrij$  0.75 0.5 -0.009  
 $lab^*tce$  0.75 0.5 0.997  
 $lab^*ncE$  0.0 0.5 b98r

relative Inform. Technology (IT)

$olv_i3^*$  0.5 0.5 0.5 (1.0)

$cmy_n3^*$  0.5 0.5 0.5 (0.0)

$olv_i4^*$  1.0 1.0 1.0 0.5

$cmy_n4^*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  56.72 0.05 0.0  
 $LAB^*LABa$  56.72 0.0 0.0  
 $LAB^*TChA$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0  
 $lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.5 0.0 0.0  
 $lab^*tce$  0.5 0.0 0.0  
 $lab^*ncE$  0.5 0.0 -

relative Inform. Technology (IT)

$olv_i3^*$  0.0 0.0 0.0 (1.0)

$cmy_n3^*$  1.0 1.0 1.0 (0.0)

$olv_i4^*$  1.0 1.0 1.0 0.0

$cmy_n4^*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.09 0.02  
 $LAB^*LABa$  18.02 0.0 0.0  
 $LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0  
 $lab^*tch$  0.0 0.0 -

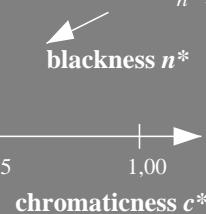
$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0  
 $lab^*tce$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 0,00$



## Output: Colorimetric Reflective System ORS18

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

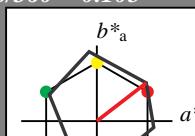
$lab^*tch$  and  $lab^*nch$

D65: hue O

LCH\*Ma: 48 83 38

olv\*Ma: 1.0 0.0 0.0

triangle lightness  $t^*$



%Gamut

$u^*_{rel} = 93$

%Regularity

$g^*_{H,rel} = 57$

$g^*_{C,rel} = 59$

relative Inform. Technology (IT)

$olv_i3^*$  1.0 1.0 1.0 (1.0)

$cmy_n3^*$  0.0 0.0 0.0 (0.0)

$olv_i4^*$  1.0 1.0 1.0 1.0

$cmy_n4^*$  0.0 0.0 0.0 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 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)

$olv_i3^*$  0.5 0.5 0.5 (1.0)

$cmy_n3^*$  0.5 0.5 0.5 (0.0)

$olv_i4^*$  1.0 1.0 1.0 0.5

$cmy_n4^*$  0.0 0.0 0.0 0.5

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 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)

$lab^*lrij$  0.693 0.477 0.15

$lab^*tce$  0.75 0.5 0.048

$lab^*ncE$  0.0 0.5 r19j

$n^* = 1,0$

3 step scales for constant CIELAB hue 38/360 = 0.105 (right)

## ORS18; adapted (a) CIELAB data

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

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	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)

$olv_i3^*$  1.0 1.0 1.0 (1.0)

$cmy_n3^*$  0.0 0.5 0.5 (0.0)

$olv_i4^*$  1.0 0.5 0.5 1.0

$cmy_n4^*$  0.0 0.5 0.5 0.0

standard and adapted CIELAB

$LAB^*LAB$  95.41 0.0 0.0

$LAB^*LABa$  95.41 0.0 0.0

$LAB^*TChA$  99.99 0.01 -

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)

$lab^*lrij$  0.693 0.477 0.15

$lab^*tce$  0.75 0.5 0.048

$lab^*ncE$  0.0 0.5 r19j

$n^* = 1,0$

3 step scales for constant CIELAB hue 38/360 = 0.105 (right)

$n^* = 0,00$

blackness  $n^*$

chromaticness  $c^*$

## Input: Colorimetric Reflective System NRS18

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

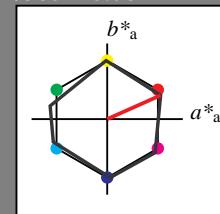
$lab^*tch$  and  $lab^*nch$

D65: hue R

LCH\*Ma: 57 77 24

olv\*Ma: 1.0 0.0 0.0

triangle lightness  $t^*$



%Gamut

$u^*_{rel} = 100$

%Regularity

$g^*_{H,rel} = 47$

$g^*_{C,rel} = 100$

relative Inform. Technology (IT)  
 $olv_i3^*$  1.0 1.0 1.0 (1.0)  
 $cmy_n3^*$  0.0 0.0 0.0 (0.0)  
 $olv_i4^*$  1.0 1.0 1.0 1.0  
 $cmy_n4^*$  0.0 0.0 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  95.41 0.0 0.0

$LAB^*LABa$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)  
 $olv_i3^*$  0.5 0.5 0.5 (1.0)  
 $cmy_n3^*$  0.5 0.5 0.5 (0.0)  
 $olv_i4^*$  1.0 1.0 1.0 0.5  
 $cmy_n4^*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  76.05 35.35 15.74

$LAB^*LABa$  76.05 35.32 15.73

$LAB^*TChA$  75.0 38.67 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)

$lab^*lrij$  0.75 0.5 -0.009

$lab^*tce$  0.75 0.5 0.997

$lab^*ncE$  0.0 0.5 b98r

relative Inform. Technology (IT)  
 $olv_i3^*$  0.0 0.0 0.0 (1.0)  
 $cmy_n3^*$  1.0 1.0 1.0 (0.0)  
 $olv_i4^*$  1.0 1.0 1.0 0.0  
 $cmy_n4^*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.09 0.02

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*tce$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

## NRS18; adapted (a) CIELAB data

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

RMa	56.7	70.66	31.47	77.35	24
JMa	56.7	-1.39	77.37	77.39	91
GMa	56.7	-75.46	17.4	77.45	167
G50BMa	56.7	-71.29	-30.25	77.45	203
BMa	56.7	4.0	-77.3	77.41	273
B50RMa	56.7	63.35	-44.4	77.36	325
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	272

## Output: Colorimetric Reflective System MRS18

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

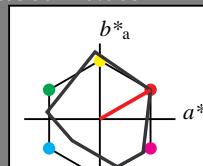
$lab^*tch$  and  $lab^*nch$

D65: hue R

LCH\*Ma: 50 77 30

olv\*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)  
 $olv_i3^*$  1.0 1.0 1.0 (1.0)  
 $cmy_n3^*$  0.0 0.0 0.0 (0.0)  
 $olv_i4^*$  1.0 1.0 1.0 1.0  
 $cmy_n4^*$  0.0 0.0 0.0 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 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)  
 $olv_i3^*$  1.0 0.5 0.5 (1.0)  
 $cmy_n3^*$  0.0 0.5 0.5 (0.0)  
 $olv_i4^*$  1.0 0.5 0.5 1.0  
 $cmy_n4^*$  0.0 0.5 0.5 0.0

standard and adapted CIELAB

$LAB^*LAB$  72.52 32.93 22.4

$LAB^*LABa$  72.52 33.47 19.18

$LAB^*TChA$  75.0 38.59 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)

$lab^*lrij$  0.704 0.496 0.06

$lab^*tce$  0.75 0.5 0.019

$lab^*ncE$  0.0 0.5 r07j

relative Inform. Technology (IT)  
 $olv_i3^*$  0.5 0.0 0.0 (1.0)  
 $cmy_n3^*$  0.5 1.0 1.0 (0.0)  
 $olv_i4^*$  1.0 0.5 0.5 0.5  
 $cmy_n4^*$  0.0 0.5 0.5 0.5

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 CIELAB lab\*

$lab^*lab$  0.5 0.913 0.407

$lab^*tch$  0.5 1.0 0.067

$lab^*nch$  0.0 1.0 0.067

relative Natural Colour (NC)

$lab^*lrij$  0.5 1.0 -0.019

$lab^*tce$  0.5 1.0 0.997

$lab^*ncE$  0.0 1.0 b98r

relative Inform. Technology (IT)  
 $olv_i3^*$  0.0 0.0 0.0 (1.0)  
 $cmy_n3^*$  1.0 1.0 1.0 (0.0)  
 $olv_i4^*$  1.0 1.0 1.0 0.0  
 $cmy_n4^*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.5 -0.46

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

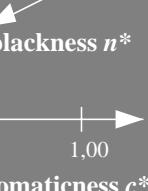
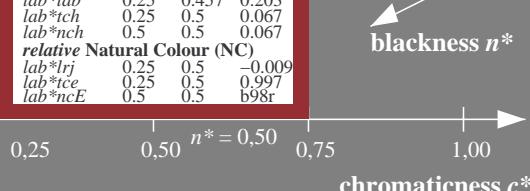
$lab^*tce$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

3 step scales for constant CIELAB hue 24/360 = 0.067 (left)

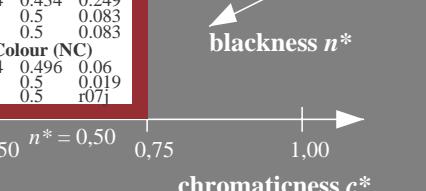
3 step scales for constant CIELAB hue 30/360 = 0.083 (right)



## MRS18; adapted (a) CIELAB data

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

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	58.67	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



## Input: Colorimetric Reflective System NRS18

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

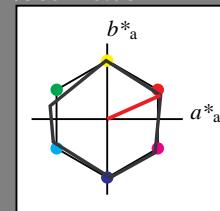
$lab^*tch$  and  $lab^*nch$

D65: hue R

LCH\*Ma: 57 77 24

olv\*Ma: 1.0 0.0 0.0

triangle lightness  $t^*$



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 0.0  
 $LAB^*LABa$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0  
 $lab^*tce$  1.0 0.0 0.0  
 $lab^*ncE$  0.0 0.0 -

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 0.5  
 $cmyn4^*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  76.05 35.35 15.74  
 $LAB^*LABa$  76.05 35.32 15.73  
 $LAB^*TChA$  75.0 38.67 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)

$lab^*lrij$  0.75 0.5 -0.009  
 $lab^*tce$  0.75 0.5 0.997  
 $lab^*ncE$  0.0 0.5 b98r

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

$LAB^*LAB$  18.02 0.09 0.02  
 $LAB^*LABa$  18.02 0.0 0.0  
 $LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0  
 $lab^*tch$  0.0 0.0 -  
 $lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0  
 $lab^*tce$  0.0 0.0 -  
 $lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

## NRS18; adapted (a) CIELAB data

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

RMa	56.7	70.66	31.47	77.35	24
JMa	56.7	-1.39	77.37	77.39	91
GMa	56.7	-75.46	17.4	77.45	167
G50BMa	56.7	-71.29	-30.25	77.45	203
BMa	56.7	4.0	-77.3	77.41	273
B50RMa	56.7	63.35	-44.4	77.36	325
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	272

%Gamut

$u^*_{rel} = 100$

%Regularity

$g^*_{H,rel} = 47$

$g^*_{C,rel} = 100$

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

$LAB^*LAB$  76.05 35.35 15.74  
 $LAB^*LABa$  76.05 35.32 15.73  
 $LAB^*TChA$  75.0 38.67 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)

$lab^*lrij$  0.75 0.5 -0.009  
 $lab^*tce$  0.75 0.5 0.997  
 $lab^*ncE$  0.0 0.5 b98r

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 0.5

$cmyn4^*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  56.72 0.05 0.0  
 $LAB^*LABa$  56.72 0.0 0.0  
 $LAB^*TChA$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0  
 $lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.5 0.0 0.0  
 $lab^*tce$  0.5 0.0 0.0  
 $lab^*ncE$  0.5 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

$LAB^*LAB$  18.02 0.09 0.02  
 $LAB^*LABa$  18.02 0.0 0.0  
 $LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0  
 $lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*tce$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 0,00$

blackness  $n^*$

$n^* = 0,50$

$n^* = 1,00$

chromaticness  $c^*$

## Output: Colorimetric Reflective System TRS18

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

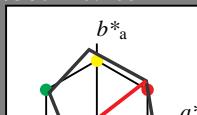
$lab^*tch$  and  $lab^*nch$

D65: hue O

LCH\*Ma: 48 83 38

olv\*Ma: 1.0 0.0 0.0

triangle lightness  $t^*$



%Gamut

$u^*_{rel} = 93$

%Regularity

$g^*_{H,rel} = 57$

$g^*_{C,rel} = 59$

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 0.5 0.5 1.0

$cmyn4^*$  0.0 0.0 0.0 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 0.0 0.0  
 $lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0  
 $lab^*tce$  1.0 0.0 0.0  
 $lab^*ncE$  0.0 0.0 -

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 0.5

$cmyn4^*$  0.0 0.5 0.5 0.5

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 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)

$lab^*lrij$  0.693 0.477 0.15  
 $lab^*tce$  0.75 0.5 0.048  
 $lab^*ncE$  0.0 0.5 r19j

relative Inform. Technology (IT)

$olvi3^*$  0.5 0.0 0.0 (1.0)

$cmyn3^*$  0.5 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

$LAB^*LAB$  47.95 65.29 52.06  
 $LAB^*LABa$  47.95 65.36 50.51  
 $LAB^*TChA$  50.0 82.6 37.7

relative CIELAB lab\*

$lab^*lab$  0.387 0.791 0.611  
 $lab^*tch$  0.5 1.0 0.105  
 $lab^*nch$  0.0 1.0 0.105

relative Natural Colour (NC)

$lab^*lrij$  0.387 0.954 0.299  
 $lab^*tce$  0.5 1.0 0.048  
 $lab^*ncE$  0.0 1.0 r19j

relative Inform. Technology (IT)

$olvi3^*$  0.0 0.0 0.0 (1.0)

$cmyn3^*$  1.0 0.0 0.0 (0.0)

$olvi4^*$  1.0 0.0 0.0 0.0

$cmyn4^*$  0.0 0.0 0.0 1.0

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 CIELAB lab\*

$lab^*lab$  0.193 0.396 0.306  
 $lab^*tch$  0.25 0.5 0.105  
 $lab^*nch$  0.5 0.5 0.105

relative Natural Colour (NC)

$lab^*lrij$  0.193 0.477 0.15  
 $lab^*tce$  0.25 0.5 0.048  
 $lab^*ncE$  0.5 0.5 r19j

relative Inform. Technology (IT)

$olvi3^*$  0.0 0.0 0.0 (1.0)

$cmyn3^*$  1.0 0.0 0.0 (0.0)

$olvi4^*$  1.0 0.0 0.0 0.0

$cmyn4^*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  32.98 32.68 25.25  
 $LAB^*LABa$  32.98 32.36 25.01  
 $LAB^*TChA$  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 0.5 0.105

relative Natural Colour (NC)

$lab^*lrij$  0.193 0.477 0.15  
 $lab^*tce$  0.25 0.5 0.048  
 $lab^*ncE$  0.5 0.5 r19j

relative Inform. Technology (IT)

$olvi3^*$  0.0 0.0 0.0 (1.0)

$cmyn3^*$  1.0 0.0 0.0 (0.0)

$olvi4^*$  1.0 0.0 0.0 0.0

$cmyn4^*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  32.98 32.36 25.01  
 $LAB^*LABa$  32.98 32.04 24.72  
 $LAB^*TChA$  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 0.5 0.105

relative Natural Colour (NC)

$lab^*lrij$  0.193

### Input: Colorimetric Reflective System NRS18

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

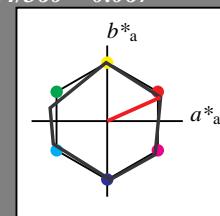
$lab^*tch$  and  $lab^*nch$

D65: hue R

LCH\*Ma: 57 77 24

olv\*Ma: 1.0 0.0 0.0

triangle lightness  $t^*$



%Gamut

$u^*_{rel} = 100$

%Regularity

$g^*_{H,rel} = 47$

$g^*_{C,rel} = 100$

relative Inform. Technology (IT)

$olv^3*$  1.0 1.0 1.0 (1.0)

$cmy^3*$  0.0 0.0 0.0 (0.0)

$olv^4*$  1.0 1.0 1.0 1.0

$cmy^4*$  0.0 0.0 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  95.41 0.0 0.0

$LAB^*LABa$  95.41 0.0 0.0

$LAB^*TCh$  99.99 0.01 -

relative CIELAB lab\*

$lab^*lab$  1.0 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  1.0 0.0 0.0

$lab^*ice$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)

$olv^3*$  0.5 0.5 0.5 (1.0)

$cmy^3*$  0.5 0.5 0.5 (0.0)

$olv^4*$  1.0 1.0 1.0 0.5

$cmy^4*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  56.72 0.05 0.0

$LAB^*LABa$  56.72 0.0 0.0

$LAB^*TCh$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  0.5 0.0 0.0

$lab^*ice$  0.5 0.0 0.0

$lab^*ncE$  0.5 0.0 -

relative Inform. Technology (IT)

$olv^3*$  0.0 0.0 0.0 (1.0)

$cmy^3*$  1.0 1.0 1.0 (0.0)

$olv^4*$  1.0 1.0 1.0 0.0

$cmy^4*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.09 0.02

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TCh$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  0.0 0.0 0.0

$lab^*ice$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

### NRS18; adapted (a) CIELAB data

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

RMa	56.7	70.66	31.47	77.35	24
JMa	56.7	-1.39	77.37	77.39	91
GMa	56.7	-75.46	17.4	77.45	167
G50BMa	56.7	-71.29	-30.25	77.45	203
BMa	56.7	4.0	-77.3	77.41	273
B50RMa	56.7	63.35	-44.4	77.36	325
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	272

### Output: Colorimetric Reflective System MRS18a

for hue  $h^* = lab^*h = 31/360 = 0.086$

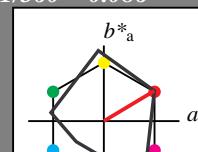
$lab^*tch$  and  $lab^*nch$

D65: hue R

LCH\*Ma: 50 78 31

olv\*Ma: 1.0 0.0 0.0

triangle lightness  $t^*$



%Gamut

$u^*_{rel} = 92$

%Regularity

$g^*_{H,rel} = 42$

$g^*_{C,rel} = 49$

relative Inform. Technology (IT)

$olv^3*$  1.0 1.0 1.0 (1.0)

$cmy^3*$  0.0 0.0 0.0 (0.0)

$olv^4*$  1.0 1.0 1.0 1.0

$cmy^4*$  0.0 0.0 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  95.41 0.01 0.0

$LAB^*LABa$  95.41 0.0 0.0

$LAB^*TCh$  99.99 0.01 -

relative CIELAB lab\*

$lab^*lab$  1.0 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  1.0 0.0 0.0

$lab^*ice$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)

$olv^3*$  0.5 0.5 0.5 (1.0)

$cmy^3*$  0.5 0.5 0.5 (0.0)

$olv^4*$  1.0 1.0 1.0 0.5

$cmy^4*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  72.52 33.43 20.01

$LAB^*LABa$  72.52 33.39 20.01

$LAB^*TCh$  75.0 38.93 30.93

relative CIELAB lab\*

$lab^*lab$  0.704 0.429 0.257

$lab^*tch$  0.75 0.5 0.086

$lab^*nch$  0.0 0.5 0.086

relative Natural Colour (NC)

$lab^*lrj$  0.704 0.496 0.064

$lab^*ice$  0.75 0.5 0.02

$lab^*ncE$  0.0 0.5 r08j

relative Inform. Technology (IT)

$olv^3*$  1.0 0.0 0.0 (1.0)

$cmy^3*$  0.5 1.0 1.0 (0.0)

$olv^4*$  1.0 0.5 0.5 0.5

$cmy^4*$  0.0 0.5 0.5 0.5

standard and adapted CIELAB

$LAB^*LAB$  33.82 33.47 20.03

$LAB^*LABa$  33.82 33.39 20.01

$LAB^*TCh$  25.01 38.93 30.93

relative CIELAB lab\*

$lab^*lab$  0.204 0.429 0.257

$lab^*tch$  0.25 0.5 0.086

$lab^*nch$  0.5 0.5 0.086

relative Natural Colour (NC)

$lab^*lrj$  0.204 0.496 0.064

$lab^*ice$  0.25 0.5 0.02

$lab^*ncE$  0.5 0.5 r08j

$n^* = 1,0$

$n^* = 0,00$

blackness  $n^*$

$n^* = 0,50$

chromaticness  $c^*$

UE100-7, 3 step scales for constant CIELAB hue 24/360 = 0.067 (left)

3 step scales for constant CIELAB hue 31/360 = 0.086 (right)

$n^* = 0,00$

blackness  $n^*$

chromaticness  $c^*$

## Input: Colorimetric Reflective System NRS18

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

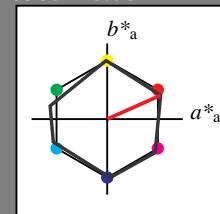
$lab^*tch$  and  $lab^*nch$

D65: hue R

LCH\*Ma: 57 77 24

olv\*Ma: 1.0 0.0 0.0

triangle lightness  $t^*$



%Gamut

$u^*_{rel} = 100$

%Regularity

$g^*_{H,rel} = 47$

$g^*_{C,rel} = 100$

relative Inform. Technology (IT)

$olv^3*$  1.0 1.0 1.0 (1.0)

$cmy^3*$  0.0 0.0 0.0 (0.0)

$olv^4*$  1.0 1.0 1.0 1.0

$cmy^4*$  0.0 0.0 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  95.41 0.0 0.0

$LAB^*LABa$  95.41 0.0 0.0

$LAB^*TCh$  99.99 0.01 –

relative CIELAB lab\*

$lab^*lab$  1.0 0.0 0.0

$lab^*tch$  1.0 0.0 –

$lab^*nch$  0.0 0.0 –

relative Natural Colour (NC)

$lab^*lrj$  1.0 0.0 0.0

$lab^*ice$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 –

relative Inform. Technology (IT)

$olv^3*$  0.5 0.5 0.5 (1.0)

$cmy^3*$  0.5 0.5 0.5 (0.0)

$olv^4*$  1.0 1.0 1.0 0.5

$cmy^4*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  56.72 0.05 0.0

$LAB^*LABa$  56.72 0.0 0.0

$LAB^*TCh$  50.0 0.01 –

relative CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 –

$lab^*nch$  0.5 0.0 –

relative Natural Colour (NC)

$lab^*lrj$  0.5 0.0 0.0

$lab^*ice$  0.5 0.0 0.0

$lab^*ncE$  0.5 0.0 –

relative Inform. Technology (IT)

$olv^3*$  0.0 0.0 0.0 (1.0)

$cmy^3*$  1.0 1.0 1.0 (0.0)

$olv^4*$  1.0 1.0 1.0 0.0

$cmy^4*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.09 0.02

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TCh$  0.01 0.01 –

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 –

$lab^*nch$  1.0 0.0 –

relative Natural Colour (NC)

$lab^*lrj$  0.0 0.0 0.0

$lab^*ice$  0.0 0.0 –

$lab^*ncE$  1.0 0.0 –

$n^* = 1,0$

## NRS18; adapted (a) CIELAB data

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

RMa	56.7	70.66	31.47	77.35	24
JMa	56.7	-1.39	77.37	77.39	91
GMa	56.7	-75.46	17.4	77.45	167
G50BMa	56.7	-71.29	-30.25	77.45	203
BMa	56.7	4.0	-77.3	77.41	273
B50RMa	56.7	63.35	-44.4	77.36	325
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	272

## Output: Colorimetric Reflective System NRS18

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

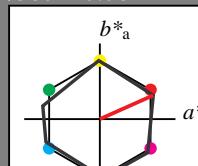
$lab^*tch$  and  $lab^*nch$

D65: hue R

LCH\*Ma: 57 77 24

olv\*Ma: 1.0 0.0 0.0

triangle lightness  $t^*$



%Gamut

$u^*_{rel} = 100$

%Regularity

$g^*_{H,rel} = 47$

$g^*_{C,rel} = 100$

relative Inform. Technology (IT)

$olv^3*$  1.0 1.0 1.0 (1.0)

$cmy^3*$  0.0 0.0 0.0 (0.0)

$olv^4*$  1.0 1.0 1.0 1.0

$cmy^4*$  0.0 0.0 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  95.41 0.0 0.0

$LAB^*LABa$  95.41 0.0 0.0

$LAB^*TCh$  99.99 0.01 –

relative CIELAB lab\*

$lab^*lab$  1.0 0.0 0.0

$lab^*tch$  1.0 0.0 –

$lab^*nch$  0.0 0.0 –

relative Natural Colour (NC)

$lab^*lrj$  1.0 0.0 0.0

$lab^*ice$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 –

relative Inform. Technology (IT)

$olv^3*$  0.5 0.5 0.5 (1.0)

$cmy^3*$  0.5 0.5 0.5 (0.0)

$olv^4*$  1.0 1.0 1.0 0.5

$cmy^4*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  56.72 0.05 0.0

$LAB^*LABa$  56.72 0.0 0.0

$LAB^*TCh$  50.0 0.01 –

relative CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 –

$lab^*nch$  0.0 1.0 0.067

relative Natural Colour (NC)

$lab^*lrj$  0.5 1.0 -0.019

$lab^*ice$  0.5 1.0 0.997

$lab^*ncE$  0.0 1.0 0.998

relative Inform. Technology (IT)

$olv^3*$  0.0 0.0 0.0 (1.0)

$cmy^3*$  1.0 1.0 1.0 (0.0)

$olv^4*$  1.0 1.0 1.0 0.0

$cmy^4*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.09 0.02

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TCh$  0.01 0.01 –

relative CIELAB lab\*

$lab^*lab$  0.25 0.457 0.203

$lab^*tch$  0.25 0.5 0.067

$lab^*nch$  0.5 0.5 0.067

relative Natural Colour (NC)

$lab^*lrj$  0.25 0.5 -0.009

$lab^*ice$  0.25 0.5 0.997

$lab^*ncE$  0.5 0.5 0.998

relative Inform. Technology (IT)

$olv^3*$  0.0 0.0 0.0 (1.0)

$cmy^3*$  1.0 1.0 1.0 (0.0)

$olv^4*$  1.0 1.0 1.0 0.0

$cmy^4*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.09 0.02

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TCh$  0.01 0.01 –

relative CIELAB lab\*

$lab^*lab$  0.25 0.457 0.203

$lab^*tch$  0.25 0.5 0.067

$lab^*nch$  0.5 0.5 0.067

relative Natural Colour (NC)

$lab^*lrj$  0.25 0.5 -0.009

$lab^*ice$  0.25 0.5 0.997

$lab^*ncE$  0.5 0.5 0.998

relative Inform. Technology (IT)

$olv^3*$  0.0 0.0 0.0 (1.0)

$cmy^3*$  1.0 1.0 1.0 (0.0)

$olv^4*$  1.0 1.0 1.0 0.0

$cmy^4*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.09 0.02

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TCh$  0.01 0.01 –

relative CIELAB lab\*

$lab^*lab$  0.25 0.457 0.203

$lab^*tch$  0.25 0.5 0.067

$lab^*nch$  0.5 0.5 0.067

relative Natural Colour (NC)

$lab^*lrj$  0.25 0.5 -0.009

$lab^*ice$  0.25 0.5 0.997

$lab^*ncE$  0.5 0.5 0.998

relative Inform. Technology (IT)

$olv^3*$  0.0 0.0 0.0 (1.0)

$cmy^3*$  1.0 1.0 1.0 (0.0)

$olv^4*$  1.0 1.0 1.0 0.0

$cmy^4*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.09 0.02

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TCh$  0.01 0.01 –

relative CIELAB lab\*

$lab^*lab$  0.25 0.457 0.203

$lab^*tch$  0.25 0.5 0.067

$lab^*nch$  0.5 0.5 0.067

relative Natural Colour (NC)

$lab^*lrj$  0.25 0.5 -0.009

$lab^*ice$  0.25 0.5 0.997

$lab^*ncE$  0.5 0.5 0.998

relative Inform. Technology (IT)

$olv^3*$  0.0 0.0 0.0 (1.0)

$cmy^3*$  1.0 1.0 1.0 (0.0)

$olv^4*$  1.0 1.0 1.0 0.0

$cmy^4*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.09 0.02

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TCh$  0.01 0.01 –

relative CIELAB lab\*

$lab^*lab$  0.25 0.4

## Input: Colorimetric Reflective System NRS18

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

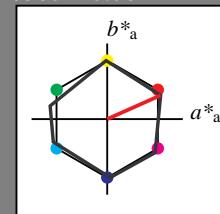
$lab^*tch$  and  $lab^*nch$

D65: hue R

LCH\*Ma: 57 77 24

olv\*Ma: 1.0 0.0 0.0

triangle lightness  $t^*$



## NRS18; adapted (a) CIELAB data

	$L^*=L_a^*$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	56.7	70.66	31.47	77.35	24
JMa	56.7	-1.39	77.37	77.39	91
GMa	56.7	-75.46	17.4	77.45	167
G50BMa	56.7	-71.29	-30.25	77.45	203
BMa	56.7	4.0	-77.3	77.41	273
B50RMa	56.7	63.35	-44.4	77.36	325
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	272

relative Inform. Technology (IT)  
 $olv_i3^*$  1.0 1.0 1.0 (1.0)  
 $cmyn3^*$  0.0 0.0 0.0 (0.0)  
 $olv_i4^*$  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 0.0  
 $LAB^*LABa$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0  
 $lab^*tce$  1.0 0.0 0.0  
 $lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)  
 $olv_i3^*$  0.5 0.5 0.5 (1.0)  
 $cmyn3^*$  0.5 0.5 0.5 (0.0)  
 $olv_i4^*$  1.0 1.0 1.0 0.5  
 $cmyn4^*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  76.05 35.35 15.74  
 $LAB^*LABa$  76.05 35.32 15.73  
 $LAB^*TChA$  75.0 38.67 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)

$lab^*lrij$  0.75 0.5 -0.009  
 $lab^*tce$  0.75 0.5 0.997  
 $lab^*ncE$  0.0 0.5 b98r

relative Inform. Technology (IT)  
 $olv_i3^*$  0.0 0.0 0.0 (1.0)  
 $cmyn3^*$  1.0 1.0 1.0 (0.0)

$olv_i4^*$  1.0 1.0 1.0 0.0

$cmyn4^*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.09 0.02  
 $LAB^*LABa$  18.02 0.0 0.0  
 $LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0  
 $lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0  
 $lab^*tce$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

## relative Inform. Technology (IT)

$olv_i3^*$  1.0 0.5 0.5 (1.0)  
 $cmyn3^*$  0.0 0.5 0.5 (0.0)  
 $olv_i4^*$  1.0 0.5 0.5 1.0  
 $cmyn4^*$  0.0 0.5 0.5 0.0

standard and adapted CIELAB

$LAB^*LAB$  76.05 35.35 15.74  
 $LAB^*LABa$  76.05 35.32 15.73  
 $LAB^*TChA$  75.0 38.67 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)

$lab^*lrij$  0.75 0.5 -0.009  
 $lab^*tce$  0.75 0.5 0.997  
 $lab^*ncE$  0.0 0.5 b98r

relative Inform. Technology (IT)  
 $olv_i3^*$  1.0 0.0 0.0 (1.0)  
 $cmyn3^*$  0.5 0.5 0.5 (0.0)

$olv_i4^*$  1.0 1.0 1.0 0.5  
 $cmyn4^*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  56.7 70.69 31.48  
 $LAB^*LABa$  56.7 70.64 31.46  
 $LAB^*TChA$  50.0 77.33 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 1.0 0.067

relative Natural Colour (NC)

$lab^*lrij$  0.5 1.0 -0.019  
 $lab^*tce$  0.5 1.0 0.997  
 $lab^*ncE$  0.0 1.0 b98r

relative Inform. Technology (IT)  
 $olv_i3^*$  0.0 0.0 0.0 (1.0)  
 $cmyn3^*$  1.0 1.0 1.0 (0.0)

$olv_i4^*$  1.0 1.0 1.0 0.0

$cmyn4^*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  37.36 35.4 15.75  
 $LAB^*LABa$  37.36 35.32 15.73  
 $LAB^*TChA$  25.01 38.67 24.01

relative CIELAB lab\*

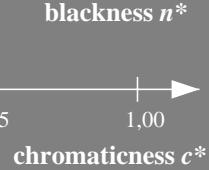
$lab^*lab$  0.25 0.457 0.203  
 $lab^*tch$  0.25 0.5 0.067  
 $lab^*nch$  0.5 0.5 0.067

relative Natural Colour (NC)

$lab^*lrij$  0.25 0.5 -0.009  
 $lab^*tce$  0.25 0.5 0.997  
 $lab^*ncE$  0.5 0.5 b98r

$n^* = 0,00$

blackness  $n^*$



chromaticness  $c^*$

## Output: Colorimetric Reflective System NCS18

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

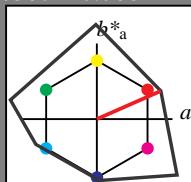
$lab^*tch$  and  $lab^*nch$

D65: hue R

LCH\*Ma: 47 92 24

olv\*Ma: 1.0 0.0 0.0

triangle lightness  $t^*$



## NCS18; adapted (a) CIELAB data

	$L^*=L_a^*$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	47.15	84.63	37.24	92.46	24
JMa	91.37	-1.27	125.03	125.03	91
GMa	63.07	-114.29	25.34	117.07	167
G50BMa	59.47	-80.61	-33.45	87.29	203
BMa	49.01	3.63	-81.2	81.29	273
B50RMa	44.06	106.07	-73.94	129.31	325
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	272

relative Inform. Technology (IT)  
 $olv_i3^*$  1.0 1.0 1.0 (1.0)  
 $cmyn3^*$  0.0 0.0 0.0 (0.0)  
 $olv_i4^*$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0  
 $lab^*tce$  1.0 0.0 0.0  
 $lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)  
 $olv_i3^*$  1.0 0.5 0.5 (1.0)  
 $cmyn3^*$  0.0 0.5 0.5 (0.0)  
 $olv_i4^*$  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  
 $LAB^*LABa$  71.27 42.31 18.62  
 $LAB^*TChA$  75.0 46.22 23.75

relative CIELAB lab\*

$lab^*lab$  0.688 0.458 0.201  
 $lab^*tch$  0.75 0.5 0.066  
 $lab^*nch$  0.0 0.5 0.066

relative Natural Colour (NC)

$lab^*lrij$  0.688 0.5 -0.011  
 $lab^*tce$  0.75 0.5 0.996  
 $lab^*ncE$  0.0 0.5 b98r

relative Inform. Technology (IT)  
 $olv_i3^*$  0.0 0.0 0.0 (1.0)  
 $cmyn3^*$  0.5 1.0 1.0 (0.0)

$olv_i4^*$  1.0 0.5 0.5 0.5  
 $cmyn4^*$  0.0 0.5 0.5 0.5

standard and adapted CIELAB

$LAB^*LAB$  47.15 84.68 37.26  
 $LAB^*LABa$  47.15 84.61 37.24  
 $LAB^*TChA$  50.0 92.44 23.75

relative CIELAB lab\*

$lab^*lab$  0.376 0.915 0.403  
 $lab^*tch$  0.5 1.0 0.066  
 $lab^*nch$  0.0 1.0 0.066

relative Natural Colour (NC)

$lab^*lrij$  0.376 1.0 -0.023  
 $lab^*tce$  0.5 1.0 0.996  
 $lab^*ncE$  0.0 1.0 b98r

$n^* = 1,0$

3 step scales for constant CIELAB hue 24/360 = 0.066 (right)

UE100-7, 3 step scales for constant CIELAB hue 24/360 = 0.067 (left)

## Input: Colorimetric Reflective System NRS18

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

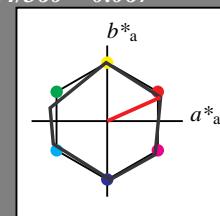
$lab^*tch$  and  $lab^*nch$

D65: hue R

LCH\*Ma: 57 77 24

olv\*Ma: 1.0 0.0 0.0

triangle lightness  $t^*$



%Gamut

$u^*_{rel} = 100$

%Regularity

$g^*_{H,rel} = 47$

$g^*_{C,rel} = 100$

relative Inform. Technology (IT)

$olv^3*$  1.0 1.0 1.0 (1.0)

$cmy^3*$  0.0 0.0 0.0 (0.0)

$olv^4*$  1.0 1.0 1.0 1.0

$cmy^4*$  0.0 0.0 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  95.41 0.0 0.0

$LAB^*LABa$  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 –

$lab^*nch$  0.0 0.0 –

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 –

relative Inform. Technology (IT)

$olv^3*$  0.5 0.5 0.5 (1.0)

$cmy^3*$  0.5 0.5 0.5 (0.0)

$olv^4*$  1.0 1.0 1.0 0.5

$cmy^4*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  56.72 0.05 0.0

$LAB^*LABa$  56.72 0.0 0.0

$LAB^*TChA$  50.0 0.01 –

relative CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 –

$lab^*nch$  0.5 0.0 –

relative Natural Colour (NC)

$lab^*lrij$  0.5 0.0 0.0

$lab^*tce$  0.5 0.0 0.0

$lab^*ncE$  0.5 0.0 –

relative Inform. Technology (IT)

$olv^3*$  0.0 0.0 0.0 (1.0)

$cmy^3*$  1.0 1.0 1.0 (0.0)

$olv^4*$  1.0 1.0 1.0 0.0

$cmy^4*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.09 0.02

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TChA$  0.01 0.01 –

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 –

$lab^*nch$  1.0 0.0 –

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*tce$  0.0 0.0 –

$lab^*ncE$  1.0 0.0 –

$n^* = 1,0$

## NRS18; adapted (a) CIELAB data

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

RMa	56.7	70.66	31.47	77.35	24
JMa	56.7	-1.39	77.37	77.39	91
GMa	56.7	-75.46	17.4	77.45	167
G50BMa	56.7	-71.29	-30.25	77.45	203
BMa	56.7	4.0	-77.3	77.41	273
B50RMa	56.7	63.35	-44.4	77.36	325
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	272

## 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

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

RMa	53.2	77.06	34.32	84.36	24
JMa	53.2	-1.51	84.38	84.39	91
GMa	53.2	-82.27	18.98	84.44	167
G50BMa	53.2	-77.72	-32.98	84.44	203
BMa	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)

$olv^3*$  1.0 1.0 1.0 (1.0)

$cmy^3*$  0.0 0.0 0.0 (0.0)

$olv^4*$  1.0 1.0 1.0 1.0

$cmy^4*$  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 –

$lab^*nch$  0.0 0.0 –

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 –

relative Inform. Technology (IT)

$olv^3*$  0.5 0.5 0.5 (1.0)

$cmy^3*$  0.5 0.5 0.5 (0.0)

$olv^4*$  1.0 0.5 0.5 1.0

$cmy^4*$  0.0 0.5 0.5 0.0

standard and adapted CIELAB

$LAB^*LAB$  74.3 38.55 17.16

$LAB^*LABa$  74.3 38.52 17.16

$LAB^*TChA$  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)

$lab^*lrij$  0.75 0.5 -0.009

$lab^*tce$  0.75 0.5 0.997

$lab^*ncE$  0.0 1.0 0.98r

relative Inform. Technology (IT)

$olv^3*$  0.5 0.0 0.0 (1.0)

$cmy^3*$  0.5 1.0 1.0 (0.0)

$olv^4*$  1.0 0.5 0.5 0.5

$cmy^4*$  0.0 0.5 0.5 0.5

standard and adapted CIELAB

$LAB^*LAB$  32.1 38.58 17.17

$LAB^*LABa$  32.1 38.52 17.16

$LAB^*TChA$  25.01 42.17 24.01

relative CIELAB lab\*

$lab^*lab$  0.25 0.457 0.203

$lab^*tch$  0.25 0.5 0.067

$lab^*nch$  0.5 0.5 0.067

relative Natural Colour (NC)

$lab^*lrij$  0.25 0.5 -0.009

$lab^*tce$  0.25 0.5 0.997

$lab^*ncE$  0.5 0.5 0.98r

relative Inform. Technology (IT)

$olv^3*$  1.0 0.5 0.5 (1.0)

$cmy^3*$  0.0 0.5 0.5 (0.0)

$olv^4*$  1.0 0.5 0.5 1.0

$cmy^4*$  0.0 0.5 0.5 0.0

standard and adapted CIELAB

$LAB^*LAB$  74.3 38.55 17.16

$LAB^*LABa$  74.3 38.52 17.16

$LAB^*TChA$  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)

$lab^*lrij$  0.75 0.5 -0.009

$lab^*tce$  0.75 0.5 0.997

$lab^*ncE$  0.0 1.0 0.98r

relative Inform. Technology (IT)

$olv^3*$  0.5 0.0 0.0 (1.0)

$cmy^3*$  0.5 1.0 1.0 (0.0)

$olv^4*$  1.0 0.5 0.5 0.5

$cmy^4*$  0.0 0.5 0.5 0.5

standard and adapted CIELAB

$LAB^*LAB$  32.1 38.58 17.17

$LAB^*LABa$  32.1 38.52 17.16

$LAB^*TChA$  25.01 42.17 24.01

relative CIELAB lab\*

$lab^*lab$  0.25 0.457 0.203

$lab^*tch$  0.25 0.5 0.067

$lab^*nch$  0.5 0.5 0.067

relative Natural Colour (NC)

$lab^*lrij$  0.25 0.5 -0.009

$lab^*tce$  0.25 0.5 0.997

$lab^*ncE$  0.5 0.5 0.98r

$n^* = 1,0$

blackness  $n^*$

$n^* = 0,50$

$n^* = 1,00$

chromaticness  $c^*$

$n^* = 1,0$

blackness  $n^*$

$n^* = 0,50$

$n^* = 1,00$

chromaticness  $c^*$

UE100-7, 3 step scales for constant CIELAB hue 24/360 = 0.067 (left)

3 step scales for constant CIELAB hue 24/360 = 0.067 (right)

## Input: Colorimetric Reflective System NRS18

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

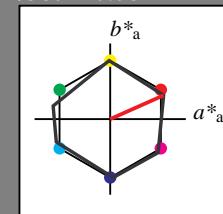
$lab^*tch$  and  $lab^*nch$

D65: hue R

LCH\*Ma: 57 77 24

olv\*Ma: 1.0 0.0 0.0

triangle lightness  $t^*$



### NRS18; adapted (a) CIELAB data

	$L^* = L_a^*$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	56.7	70.66	31.47	77.35	24
JMa	56.7	-1.39	77.37	77.39	91
GMa	56.7	-75.46	17.4	77.45	167
G50BMa	56.7	-71.29	-30.25	77.45	203
BMa	56.7	4.0	-77.3	77.41	273
B50RMa	56.7	63.35	-44.4	77.36	325
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	272

relative Inform. Technology (IT)  
 $olv_i3^*$  1.0 1.0 1.0 (1.0)  
 $cmy3^*$  0.0 0.0 0.0 (0.0)  
 $olv_i4^*$  1.0 1.0 1.0 1.0  
 $cmy4^*$  0.0 0.0 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  95.41 0.0 0.0  
 $LAB^*LABa$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0  
 $lab^*tce$  1.0 0.0 0.0  
 $lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)  
 $olv_i3^*$  0.5 0.5 0.5 (1.0)  
 $cmy3^*$  0.5 0.5 0.5 (0.0)  
 $olv_i4^*$  1.0 1.0 1.0 0.5  
 $cmy4^*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  76.05 35.35 15.74  
 $LAB^*LABa$  76.05 35.32 15.73  
 $LAB^*TChA$  75.0 38.67 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)

$lab^*lrij$  0.75 0.5 -0.009  
 $lab^*tce$  0.75 0.5 0.997  
 $lab^*ncE$  0.0 0.5 b98r

relative Inform. Technology (IT)  
 $olv_i3^*$  0.0 0.0 0.0 (1.0)  
 $cmy3^*$  1.0 1.0 1.0 (0.0)  
 $olv_i4^*$  1.0 1.0 1.0 0.0  
 $cmy4^*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.09 0.02  
 $LAB^*LABa$  18.02 0.0 0.0  
 $LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0  
 $lab^*tch$  0.0 0.0 -  
 $lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0  
 $lab^*tce$  0.0 0.0 -  
 $lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

relative Inform. Technology (IT)  
 $olv_i3^*$  0.0 0.0 0.0 (1.0)  
 $cmy3^*$  1.0 1.0 1.0 (0.0)  
 $olv_i4^*$  1.0 1.0 1.0 0.0  
 $cmy4^*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  11.01 0.07 0.01  
 $LAB^*LABa$  11.01 0.0 0.0  
 $LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.25 0.457 0.203  
 $lab^*tch$  0.25 0.5 0.067  
 $lab^*nch$  0.5 0.5 0.067

relative Natural Colour (NC)

$lab^*lrij$  0.25 0.5 -0.009  
 $lab^*tce$  0.25 0.5 0.997  
 $lab^*ncE$  0.5 0.5 b98r

$n^* = 0,50$

## NRS18; adapted (a) CIELAB data

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

RMa	56.7	70.66	31.47	77.35	24
JMa	56.7	-1.39	77.37	77.39	91
GMa	56.7	-75.46	17.4	77.45	167
G50BMa	56.7	-71.29	-30.25	77.45	203
BMa	56.7	4.0	-77.3	77.41	273
B50RMa	56.7	63.35	-44.4	77.36	325
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	272

%Gamut

$u^*_{rel} = 100$

%Regularity

$g^*_{H,rel} = 47$

$g^*_{C,rel} = 100$

relative Inform. Technology (IT)  
 $olv_i3^*$  1.0 0.5 0.5 (1.0)  
 $cmy3^*$  0.0 0.5 0.5 (0.0)  
 $olv_i4^*$  1.0 0.5 0.5 1.0  
 $cmy4^*$  0.0 0.5 0.5 0.0

standard and adapted CIELAB

$LAB^*LAB$  76.05 35.35 15.74  
 $LAB^*LABa$  76.05 35.32 15.73  
 $LAB^*TChA$  75.0 38.67 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)

$lab^*lrij$  0.75 0.5 -0.009  
 $lab^*tce$  0.75 0.5 0.997  
 $lab^*ncE$  0.0 0.5 b98r

relative Inform. Technology (IT)  
 $olv_i3^*$  0.5 0.5 0.5 (1.0)  
 $cmy3^*$  0.5 0.5 0.5 (0.0)  
 $olv_i4^*$  1.0 1.0 1.0 0.5  
 $cmy4^*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  56.7 35.35 31.48  
 $LAB^*LABa$  56.7 35.32 31.46  
 $LAB^*TChA$  50.0 77.33 24.01

relative CIELAB lab\*

$lab^*lab$  0.75 0.458 0.201  
 $lab^*tch$  0.75 0.5 0.066  
 $lab^*nch$  0.0 0.5 0.066

relative Natural Colour (NC)

$lab^*lrij$  0.75 0.5 -0.011  
 $lab^*tce$  0.75 0.5 0.996  
 $lab^*ncE$  0.0 0.5 b98r

$n^* = 0,00$

$n^* = 1,00$

chromaticness  $c^*$

blackness  $n^*$

chromaticness  $c^*$

## Output: Colorimetric Reflective System NCS11

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

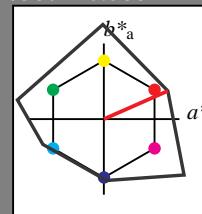
$lab^*tch$  and  $lab^*nch$

D65: hue R

LCH\*Ma: 47 92 24

olv\*Ma: 1.0 0.0 0.0

triangle lightness  $t^*$



### 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

%Gamut

$u^*_{rel} = 149$

%Regularity

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

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

relative Inform. Technology (IT)

$olv_i3^*$  1.0 0.5 0.5 (1.0)

$cmy3^*$  0.0 0.5 0.5 (0.0)

$olv_i4^*$  1.0 0.5 0.5 1.0

$cmy4^*$  0.0 0.5 0.5 0.0

standard and adapted CIELAB

$LAB^*LAB$  71.27 42.34 18.63  
 $LAB^*LABa$  71.27 42.31 18.62  
 $LAB^*TChA$  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)

$lab^*lrij$  0.714 0.5 -0.011

$lab^*tce$  0.75 0.5 0.996

$lab^*ncE$  0.0 0.5 b98r

relative Inform. Technology (IT)

$olv_i3^*$  0.5 0.0 0.0 (1.0)

$cmy3^*$  0.5 1.0 1.0 (0.0)

$olv_i4^*$  1.0 0.5 0.5 0.5

$cmy4^*$  0.0 0.5 0.5 0.5

standard and adapted CIELAB

$LAB^*LAB$  29.07 42.38 18.64  
 $LAB^*LABa$  29.07 42.31 18.62  
 $LAB^*TChA$  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  
 $lab^*nch$  0.5 0.5 0.066

relative Natural Colour (NC)

$lab^*lrij$  0.214 0.5 -0.011

$lab^*tce$  0.25 0.5 0.996

$lab^*ncE$  0.5 0.5 b98r

$n^* = 1,0$

relative Inform. Technology (IT)

$olv_i3^*$  1.0 0.0 0.0 (1.0)

$cmy3^*$  0.0 1.0 1.0 (0.0)

$olv_i4^*$  1.0 0.0 0.0 1.0

$cmy4^*$  0.0 1.0 1.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  47.15 84.68 37.26  
 $LAB^*LABa$  47.15 84.63 37.24  
 $LAB^*TChA$  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)

$lab^*lrij$  0.428 1.0 -0.023

$lab^*tce$  0.5 1.0 0.996

$lab^*ncE$  0.0 1.0 b98r

$n^* = 0,00$

blackness  $n^*$

chromaticness  $c^*$

## Input: Colorimetric Reflective System NCS18

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

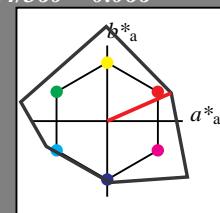
$lab^*tch$  and  $lab^*nch$

D65: hue R

LCH\*Ma: 47 92 24

olv\*Ma: 1.0 0.0 0.0

triangle lightness  $t^*$



relative Inform. Technology (IT)

olv*i*3\* 1.0 1.0 1.0 (1.0)

cmy*n*3\* 0.0 0.0 0.0 (0.0)

olv*i*4\* 1.0 1.0 1.0 1.0

cmy*n*4\* 0.0 0.0 0.0 0.0

standard and adapted CIELAB

LAB\*LAB 95.41 0.0 -0.01

LAB\*LAB*a* 95.41 0.0 0.0

LAB\*TCh*a* 99.99 0.01 -

relative CIELAB lab\*

lab\**lab* 1.0 0.0 0.0

lab\**tch* 1.0 0.0 -

lab\**nch* 0.0 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)

olv*i*3\* 0.5 0.5 0.5 (1.0)

cmy*n*3\* 0.5 0.5 0.5 (0.0)

olv*i*4\* 1.0 1.0 1.0 0.5

cmy*n*4\* 0.0 0.0 0.0 0.5

standard and adapted CIELAB

LAB\*LAB 56.72 0.05 0.0

LAB\*LAB*a* 56.72 0.0 0.0

LAB\*TCh*a* 50.0 0.01 -

relative CIELAB lab\*

lab\**lab* 0.5 0.0 0.0

lab\**tch* 0.5 0.0 -

lab\**nch* 0.5 0.0 -

relative Natural Colour (NC)

lab\**lrj* 0.5 0.0 0.0

lab\**tce* 0.5 0.0 0.0

lab\**ncE* 0.5 0.0 -

relative Inform. Technology (IT)

olv*i*3\* 0.0 0.0 0.0 (1.0)

cmy*n*3\* 1.0 1.0 1.0 (0.0)

olv*i*4\* 1.0 1.0 1.0 0.0

cmy*n*4\* 0.0 0.0 0.0 1.0

standard and adapted CIELAB

LAB\*LAB 18.02 0.09 0.02

LAB\*LAB*a* 18.02 0.0 0.0

LAB\*TCh*a* 0.01 0.01 -

relative CIELAB lab\*

lab\**lab* 0.0 0.0 0.0

lab\**tch* 0.0 0.0 -

lab\**nch* 1.0 0.0 -

relative Natural Colour (NC)

lab\**lrj* 0.0 0.0 0.0

lab\**tce* 0.0 0.0 -

lab\**ncE* 1.0 0.0 -

$n^* = 1,0$

## NCS18; adapted (a) CIELAB data

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

RMa	47.15	84.63	37.24	92.46	24
JMa	91.37	-1.27	125.03	125.03	91
GMa	63.07	-114.29	25.34	117.07	167
G50BMa	59.47	-80.61	-33.45	87.29	203
BMa	49.01	3.63	-81.2	81.29	273
B50RMa	44.06	106.07	-73.94	129.31	325
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	272

%Gamut

$u^*_{rel} = 136$

%Regularity

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

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

relative Inform. Technology (IT)

olv*i*3\* 1.0 0.5 0.5 (1.0)

cmy*n*3\* 0.0 0.5 0.5 (0.0)

olv*i*4\* 1.0 0.5 0.5 1.0

cmy*n*4\* 0.0 0.5 0.5 0.0

standard and adapted CIELAB

LAB\*LAB 71.27 42.34 18.63

LAB\*LAB*a* 71.27 42.31 18.62

LAB\*TCh*a* 75.0 46.22 23.75

relative CIELAB lab\*

lab\**lab* 0.688 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* 0.688 0.5 -0.011

lab\**tce* 0.75 0.5 0.996

lab\**ncE* 0.0 0.5 b98r

relative Inform. Technology (IT)

olv*i*3\* 1.0 0.0 0.0 (1.0)

cmy*n*3\* 0.5 0.5 0.5 (0.0)

olv*i*4\* 1.0 1.0 1.0 0.5

cmy*n*4\* 0.0 0.0 0.0 0.5

standard and adapted CIELAB

LAB\*LAB 47.15 84.68 37.26

LAB\*LAB*a* 47.15 84.61 37.24

LAB\*TCh*a* 50.0 92.44 23.75

relative CIELAB lab\*

lab\**lab* 0.376 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* 0.376 1.0 -0.023

lab\**tce* 0.5 1.0 0.996

lab\**ncE* 0.0 1.0 b98r

$n^* = 0,00$

$n^* = 0,00$

blackness  $n^*$

chromaticness  $c^*$

## Output: Colorimetric Reflective System ORS18

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

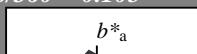
$lab^*tch$  and  $lab^*nch$

D65: hue O

LCH\*Ma: 48 83 38

olv\*Ma: 1.0 0.0 0.0

triangle lightness  $t^*$



%Gamut

$u^*_{rel} = 93$

%Regularity

$g^*_{H,rel} = 57$

$g^*_{C,rel} = 59$

relative Inform. Technology (IT)

olv*i*3\* 1.0 1.0 1.0 (1.0)

cmy*n*3\* 0.0 0.0 0.0 (0.0)

olv*i*4\* 1.0 0.5 0.5 1.0

cmy*n*4\* 0.0 0.0 0.0 0.0

standard and adapted CIELAB

LAB\*LAB 95.41 -0.97 4.75

LAB\*LAB*a* 95.41 0.0 0.0

LAB\*TCh*a* 99.99 0.01 -

relative CIELAB lab\*

lab\**lab* 1.0 0.0 0.0

lab\**tch* 1.0 0.0 -

lab\**nch* 0.0 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)

olv*i*3\* 0.5 0.5 0.5 (1.0)

cmy*n*3\* 0.5 0.5 0.5 (0.0)

olv*i*4\* 1.0 0.5 0.5 0.5

cmy*n*4\* 0.0 0.5 0.5 0.5

standard and adapted CIELAB

LAB\*LAB 71.67 32.15 28.41

LAB\*LAB*a* 71.67 32.68 25.25

LAB\*TCh*a* 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\**tce* 0.75 0.5 0.048

lab\**ncE* 0.0 0.5 r19j

## ORS18; adapted (a) CIELAB data

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

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

%Gamut

$u^*_{rel} = 59$

%Regularity

$g^*_{H,rel} = 57$

$g^*_{C,rel} = 59$

relative Inform. Technology (IT)

olv*i*3\* 1.0 0.0 0.0 (1.0)

cmy*n*3\* 0.0 1.0 1.0 (0.0)

olv*i*4\* 1.0 0.0 0.0 1.0

cmy*n*4\* 0.0 1.0 1.0 0.0

standard and adapted CIELAB

LAB\*LAB 71.67 32.15 28.41

LAB\*LAB*a* 71.67 32.68 25.25

LAB\*TCh*a* 75.0 41.3 37.7

relative CIELAB lab\*

lab\**lab* 0.387 0.791 0.611

lab\**tch* 0.5 1.0 0.105

lab\**nch* 0.0 1.0 0.105

relative Natural Colour (NC)

lab\**lrj* 0.387 0.954 0.299

lab\**tce* 0.5 1.0 0.048

lab\**ncE* 0.0 1.0 r19j

$n^* = 0,00$

&lt;p

## Input: Colorimetric Reflective System NCS18

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

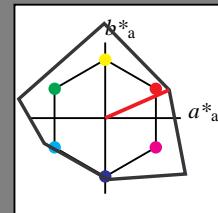
$lab^*tch$  and  $lab^*nch$

D65: hue R

LCH\*Ma: 47 92 24

olv\*Ma: 1.0 0.0 0.0

triangle lightness  $t^*$



%Gamut

$u^*_{rel} = 136$

%Regularity

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

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

relative Inform. Technology (IT)

$olv^3*$  1.0 1.0 1.0 (1.0)

$cmy^3*$  0.0 0.0 0.0 (0.0)

$olv^4*$  1.0 1.0 1.0 1.0

$cmy^4*$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 -

$lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)

$olv^3*$  0.5 0.5 0.5 (1.0)

$cmy^3*$  0.5 0.5 0.5 (0.0)

$olv^4*$  1.0 1.0 1.0 0.5

$cmy^4*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  56.72 0.05 0.0

$LAB^*LABa$  56.72 0.0 0.0

$LAB^*TChA$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.5 0.0 0.0

$lab^*tce$  0.5 0.0 -

$lab^*ncE$  0.5 0.0 -

relative Inform. Technology (IT)

$olv^3*$  0.0 0.0 0.0 (1.0)

$cmy^3*$  1.0 1.0 1.0 (0.0)

$olv^4*$  1.0 1.0 1.0 0.0

$cmy^4*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.09 0.02

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*tce$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

## NCS18; adapted (a) CIELAB data

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

RMa	47.15	84.63	37.24	92.46	24
JMa	91.37	-1.27	125.03	125.03	91
GMa	63.07	-114.29	25.34	117.07	167
G50BMa	59.47	-80.61	-33.45	87.29	203
BMa	49.01	3.63	-81.2	81.29	273
B50RMa	44.06	106.07	-73.94	129.31	325
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	272

## Output: Colorimetric Reflective System MRS18

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

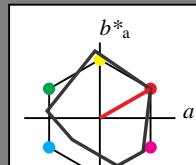
$lab^*tch$  and  $lab^*nch$

D65: hue R

LCH\*Ma: 50 77 30

olv\*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)

$olv^3*$  1.0 1.0 1.0 (1.0)

$cmy^3*$  0.0 0.0 0.0 (0.0)

$olv^4*$  1.0 1.0 1.0 1.0

$cmy^4*$  0.0 0.0 0.0 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 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 -

$lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)

$olv^3*$  0.5 0.5 0.5 (1.0)

$cmy^3*$  0.5 0.5 0.5 (0.0)

$olv^4*$  1.0 0.5 0.5 1.0

$cmy^4*$  0.0 0.5 0.5 0.5

standard and adapted CIELAB

$LAB^*LAB$  72.52 32.93 22.4

$LAB^*LABa$  72.52 33.47 19.18

$LAB^*TChA$  75.0 38.59 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)

$lab^*lrij$  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)

$cmy^3*$  0.5 1.0 1.0 (0.0)

$olv^4*$  1.0 0.5 0.5 0.5

$cmy^4*$  0.0 0.5 0.5 0.5

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.5 -0.46

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.204 0.434 0.249

$lab^*tch$  0.25 0.5 0.083

$lab^*nch$  0.5 0.5 0.083

relative Natural Colour (NC)

$lab^*lrij$  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  $n^*$

$n^* = 0,00$

blackness  $n^*$

$n^* = 0,50$

chromaticness  $c^*$

$n^* = 1,0$

blackness  $n^*$

$n^* = 0,50$

chromaticness  $c^*$

UE100-7, 3 step scales for constant CIELAB hue 24/360 = 0.066 (left)

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

$n^* = 0,00$

blackness  $n^*$

$n^* = 0,50$

chromaticness  $c^*$

## Input: Colorimetric Reflective System NCS18

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

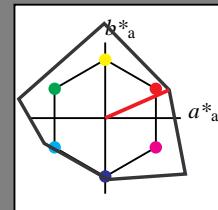
$lab^*tch$  and  $lab^*nch$

D65: hue R

LCH\*Ma: 47 92 24

olv\*Ma: 1.0 0.0 0.0

triangle lightness  $t^*$



## NCS18; adapted (a) CIELAB data

	$L^* = L^*_{ab}$	$a^*_{ab}$	$b^*_{ab}$	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	47.15	84.63	37.24	92.46	24
JMa	91.37	-1.27	125.03	125.03	91
GMa	63.07	-114.29	25.34	117.07	167
G50BMa	59.47	-80.61	-33.45	87.29	203
BMa	49.01	3.63	-81.2	81.29	273
B50RMa	44.06	106.07	-73.94	129.31	325
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	272

relative Inform. Technology (IT)

$olv^3*$  1.0 1.0 1.0 (1.0)

$cmy^3*$  0.0 0.0 0.0 (0.0)

$olv^4*$  1.0 1.0 1.0 1.0

$cmy^4*$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  71.27 42.34 18.63

$LAB^*LABa$  71.27 42.31 18.62

$LAB^*TChA$  75.0 46.22 23.75

relative CIELAB lab\*

$lab^*lab$  0.688 0.458 0.201

$lab^*tch$  0.75 0.5 0.066

$lab^*nch$  0.0 0.5 0.066

relative Natural Colour (NC)

$lab^*lrij$  0.688 0.5 -0.011

$lab^*tce$  0.75 0.5 0.996

$lab^*ncE$  0.0 0.5 b98r

relative Inform. Technology (IT)

$olv^3*$  0.5 0.5 0.5 (1.0)

$cmy^3*$  0.5 0.5 0.5 (0.0)

$olv^4*$  1.0 1.0 1.0 0.5

$cmy^4*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  56.72 0.05 0.0

$LAB^*LABa$  56.72 0.0 0.0

$LAB^*TChA$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.5 0.0 0.0

$lab^*tce$  0.5 0.0 0.0

$lab^*ncE$  0.5 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  32.58 42.39 18.64

$LAB^*LABa$  32.58 42.31 18.62

$LAB^*TChA$  25.01 46.22 23.75

relative CIELAB lab\*

$lab^*lab$  0.188 0.458 0.201

$lab^*tch$  0.25 0.5 0.066

$lab^*nch$  0.5 0.5 0.066

relative Natural Colour (NC)

$lab^*lrij$  0.188 0.5 -0.011

$lab^*tce$  0.25 0.5 0.996

$lab^*ncE$  0.5 0.5 b98r

$n^* = 1,0$

relative Inform. Technology (IT)

$olv^3*$  0.0 0.0 0.0 (1.0)

$cmy^3*$  1.0 1.0 1.0 (0.0)

$olv^4*$  1.0 1.0 1.0 0.0

$cmy^4*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.09 0.02

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*tce$  0.0 0.0 0.0

$lab^*ncE$  1.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.09 0.02

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

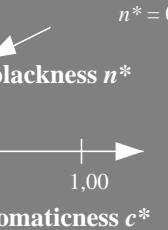
relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*tce$  0.0 0.0 0.0

$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$



## Output: Colorimetric Reflective System TRS18

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

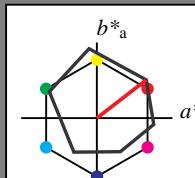
$lab^*tch$  and  $lab^*nch$

D65: hue O

LCH\*Ma: 48 83 38

olv\*Ma: 1.0 0.0 0.0

triangle lightness  $t^*$



## TRS18; adapted (a) CIELAB data

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

$olv^3*$  1.0 1.0 1.0 (1.0)

$cmy^3*$  0.0 0.0 0.0 (0.0)

$olv^4*$  1.0 1.0 1.0 1.0

$cmy^4*$  0.0 0.0 0.0 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 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  71.27 42.34 18.63

$LAB^*LABa$  71.27 42.31 18.62

$LAB^*TChA$  75.0 46.22 23.75

relative CIELAB lab\*

$lab^*lab$  0.376 0.915 0.403

$lab^*tch$  0.5 1.0 0.066

$lab^*nch$  0.0 1.0 0.066

relative Natural Colour (NC)

$lab^*lrij$  0.376 1.0 -0.023

$lab^*tce$  0.5 1.0 0.996

$lab^*ncE$  0.0 1.0 b98r

relative Inform. Technology (IT)

$olv^3*$  0.5 0.5 0.5 (1.0)

$cmy^3*$  0.5 1.0 1.0 (0.0)

$olv^4*$  1.0 0.5 0.5 0.5

$cmy^4*$  0.0 0.5 0.5 0.5

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.5 0.46

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*tce$  0.0 0.0 0.0

$lab^*ncE$  1.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.5 0.46

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.193 0.396 0.306

$lab^*tch$  0.25 0.5 0.105

$lab^*nch$  0.5 0.5 0.105

relative Natural Colour (NC)

$lab^*lrij$  0.193 0.477 0.15

$lab^*tce$  0.25 0.5 0.048

$lab^*ncE$  0.5 0.5 r19j

$n^* = 1,0$

$n^* = 0,50$

$n^* = 0,00$

$n^* = 1,0$

$n^* = 0,50$

$n^* = 0,00$

&lt;p

### Input: Colorimetric Reflective System NCS18

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

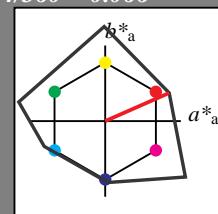
$lab^*tch$  and  $lab^*nch$

D65: hue R

LCH\*Ma: 47 92 24

olv\*Ma: 1.0 0.0 0.0

triangle lightness  $t^*$



relative Inform. Technology (IT)  
 $olv_i3^*$  1.0 1.0 1.0 (1.0)  
 $cmy_n3^*$  0.0 0.0 0.0 (0.0)

$olv_i4^*$  1.0 1.0 1.0 1.0  
 $cmy_n4^*$  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

$LAB^*TCh_a$  99.99 0.01 -

relative CIELAB lab\*

$lab^*lab$  1.0 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 -

$lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)  
 $olv_i3^*$  0.5 0.5 0.5 (1.0)  
 $cmy_n3^*$  0.5 0.5 0.5 (0.0)

$olv_i4^*$  1.0 1.0 1.0 0.5  
 $cmy_n4^*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB  
 $LAB^*LAB$  56.72 0.05 0.0  
 $LAB^*LABa$  56.72 0.0 0.0

$LAB^*TCh_a$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.5 0.0 0.0

$lab^*tce$  0.5 0.0 -

$lab^*ncE$  0.5 0.0 -

relative Inform. Technology (IT)  
 $olv_i3^*$  0.0 0.0 0.0 (1.0)  
 $cmy_n3^*$  1.0 1.0 1.0 (0.0)

$olv_i4^*$  1.0 1.0 1.0 0.0  
 $cmy_n4^*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB  
 $LAB^*LAB$  18.02 0.09 0.02  
 $LAB^*LABa$  18.02 0.0 0.0

$LAB^*TCh_a$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*tce$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

### NCS18; adapted (a) CIELAB data

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

RMa	47.15	84.63	37.24	92.46	24
JMa	91.37	-1.27	125.03	125.03	91
GMa	63.07	-114.29	25.34	117.07	167
G50BMa	59.47	-80.61	-33.45	87.29	203
BMa	49.01	3.63	-81.2	81.29	273
B50RMa	44.06	106.07	-73.94	129.31	325
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	272

%Gamut

$u^*_{rel} = 136$

%Regularity

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

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

relative Inform. Technology (IT)

$olv_i3^*$  1.0 0.5 0.5 (1.0)

$cmy_n3^*$  0.0 0.5 0.5 (0.0)

$olv_i4^*$  1.0 0.5 0.5 1.0

$cmy_n4^*$  0.0 0.5 0.5 0.0

standard and adapted CIELAB

$LAB^*LAB$  71.27 42.34 18.63

$LAB^*LABa$  71.27 42.31 18.62

$LAB^*TCh_a$  75.0 46.22 23.75

relative CIELAB lab\*

$lab^*lab$  0.688 0.458 0.201

$lab^*tch$  0.75 0.5 0.066

$lab^*nch$  0.0 0.5 0.066

relative Natural Colour (NC)

$lab^*lrij$  0.688 0.5 -0.011

$lab^*tce$  0.75 0.5 0.996

$lab^*ncE$  0.0 0.5 b98r

relative Inform. Technology (IT)

$olv_i3^*$  1.0 0.0 0.0 (1.0)

$cmy_n3^*$  0.0 1.0 1.0 (0.0)

$olv_i4^*$  1.0 1.0 1.0 0.5

$cmy_n4^*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  47.15 84.68 37.26

$LAB^*LABa$  47.15 84.61 37.24

$LAB^*TCh_a$  50.0 92.44 23.75

relative CIELAB lab\*

$lab^*lab$  0.376 0.915 0.403

$lab^*tch$  0.5 1.0 0.066

$lab^*nch$  0.0 1.0 0.066

relative Natural Colour (NC)

$lab^*lrij$  0.376 1.0 -0.023

$lab^*tce$  0.5 1.0 0.996

$lab^*ncE$  0.0 1.0 b98r

relative Inform. Technology (IT)

$olv_i3^*$  0.5 0.5 0.5 (1.0)

$cmy_n3^*$  0.5 0.5 0.5 (0.0)

$olv_i4^*$  1.0 0.5 0.5 1.0

$cmy_n4^*$  0.0 0.5 0.5 0.5

standard and adapted CIELAB

$LAB^*LAB$  32.58 42.39 18.64

$LAB^*LABa$  32.58 42.31 18.62

$LAB^*TCh_a$  25.01 46.22 23.75

relative CIELAB lab\*

$lab^*lab$  0.188 0.458 0.201

$lab^*tch$  0.25 0.5 0.066

$lab^*nch$  0.5 0.5 0.066

relative Natural Colour (NC)

$lab^*lrij$  0.188 0.5 -0.011

$lab^*tce$  0.25 0.5 0.996

$lab^*ncE$  0.5 0.5 b98r

$n^* = 0,00$

blackness  $n^*$

chromaticness  $c^*$

### Output: Colorimetric Reflective System MRS18a

for hue  $h^* = lab^*h = 31/360 = 0.086$

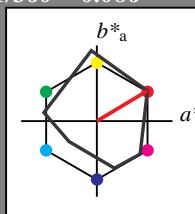
$lab^*tch$  and  $lab^*nch$

D65: hue R

LCH\*Ma: 50 78 31

olv\*Ma: 1.0 0.0 0.0

triangle lightness  $t^*$



%Gamut

$u^*_{rel} = 92$

%Regularity

$g^*_{H,rel} = 42$

$g^*_{C,rel} = 49$

relative Inform. Technology (IT)

$olv_i3^*$  1.0 1.0 1.0 (1.0)

$cmy_n3^*$  0.0 0.0 0.0 (0.0)

$olv_i4^*$  1.0 0.5 0.5 1.0

$cmy_n4^*$  0.0 0.0 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  95.41 0.01 0.0

$LAB^*LABa$  95.41 0.0 0.0

$LAB^*TCh_a$  99.99 0.01 -

relative CIELAB lab\*

$lab^*lab$  1.0 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 -

$lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)

$olv_i3^*$  1.0 0.5 0.5 (1.0)

$cmy_n3^*$  0.0 0.5 0.5 (0.0)

$olv_i4^*$  1.0 0.5 0.5 1.0

$cmy_n4^*$  0.0 0.5 0.5 0.0

standard and adapted CIELAB

$LAB^*LAB$  72.52 33.43 20.01

$LAB^*LABa$  72.52 33.39 20.01

$LAB^*TCh_a$  75.0 38.93 30.93

relative CIELAB lab\*

$lab^*lab$  0.704 0.429 0.257

$lab^*tch$  0.75 0.5 0.086

$lab^*nch$  0.0 0.5 0.086

relative Natural Colour (NC)

$lab^*lrij$  0.704 0.496 0.064

$lab^*tce$  0.75 0.5 0.02

$lab^*ncE$  0.0 0.5 r08j

relative Inform. Technology (IT)

$olv_i3^*$  1.0 1.0 1.0 (1.0)

$cmy_n3^*$  1.0 1.0 1.0 (0.0)

$olv_i4^*$  1.0 1.0 1.0 0.0

$cmy_n4^*$  0.0 1.0 1.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.1 0.02

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TCh_a$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.204 0.429 0.257

$lab^*tch$  0.25 0.5 0.086

$lab^*nch$  0.5 0.5 0.086

relative Natural Colour (NC)

$lab^*lrij$  0.204 0.496 0.064

$lab^*tce$  0.25 0.5 0.02

$lab^*ncE$  0.5 0.5 r08j

relative Inform. Technology (IT)

$olv_i3^*$  1.0 1.0 1.0 (1.0)

$cmy_n3^*$  1.0 1.0 1.0 (0.0)

$olv_i4^*$  1.0 1.0 1.0 0.0

$cmy_n4^*$  0.0 1.0 1.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  33.82 33.47 20.03

$LAB^*LABa$  33.82 33.39 20.01

$LAB^*TCh_a$  25.01 38.93 30.93

relative CIELAB lab\*

$lab^*lab$  0.204 0.429 0.257

$lab^*tch$  0.25 0.5 0.086

$lab^*nch$  0.5 0.5 0.086

relative Natural Colour (NC)

$lab^*lrij$  0.204 0.496 0.064

$lab^*tce$  0.25 0.5 0.02

## Input: Colorimetric Reflective System NCS18

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

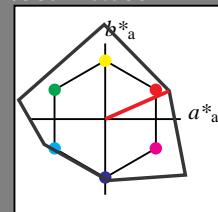
$lab^*tch$  and  $lab^*nch$

D65: hue R

LCH\*Ma: 47 92 24

olv\*Ma: 1.0 0.0 0.0

triangle lightness  $t^*$



## NCS18; adapted (a) CIELAB data

	$L^* = L^*_{ab}$	$a^*_{ab}$	$b^*_{ab}$	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	47.15	84.63	37.24	92.46	24
JMa	91.37	-1.27	125.03	125.03	91
GMa	63.07	-114.29	25.34	117.07	167
G50BMa	59.47	-80.61	-33.45	87.29	203
BMa	49.01	3.63	-81.2	81.29	273
B50RMa	44.06	106.07	-73.94	129.31	325
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	272

relative Inform. Technology (IT)

$olv^3*$  1.0 1.0 1.0 (1.0)

$cmyn3*$  0.0 0.0 0.0 (0.0)

$olv^4*$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  1.0 0.0 0.0

$lab^*ice$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  71.27 42.34 18.63

$LAB^*LABa$  71.27 42.31 18.62

$LAB^*TChA$  75.0 46.22 23.75

relative CIELAB lab\*

$lab^*lab$  0.688 0.458 0.201

$lab^*tch$  0.75 0.5 0.066

$lab^*nch$  0.0 0.5 0.066

relative Natural Colour (NC)

$lab^*lrj$  0.688 0.5 -0.011

$lab^*ice$  0.75 0.5 0.996

$lab^*ncE$  0.0 0.5 b98r

relative Inform. Technology (IT)

$olv^3*$  0.5 0.5 0.5 (1.0)

$cmyn3*$  0.5 0.5 0.5 (0.0)

$olv^4*$  1.0 1.0 1.0 0.5

$cmyn4*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  56.72 0.05 0.0

$LAB^*LABa$  56.72 0.0 0.0

$LAB^*TChA$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  0.5 0.0 0.0

$lab^*ice$  0.5 0.0 0.0

$lab^*ncE$  0.5 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.09 0.02

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  0.0 0.0 0.0

$lab^*ice$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

relative Inform. Technology (IT)

$olv^3*$  1.0 0.5 0.5 (1.0)

$cmyn3*$  0.0 0.5 0.5 (0.0)

$olv^4*$  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

$LAB^*LABa$  71.27 42.31 18.62

$LAB^*TChA$  75.0 46.22 23.75

relative CIELAB lab\*

$lab^*lab$  0.688 0.458 0.201

$lab^*tch$  0.75 0.5 0.066

$lab^*nch$  0.0 0.5 0.066

relative Natural Colour (NC)

$lab^*lrj$  0.688 0.5 -0.011

$lab^*ice$  0.75 0.5 0.996

$lab^*ncE$  0.0 0.5 b98r

relative Inform. Technology (IT)

$olv^3*$  0.5 0.0 0.0 (1.0)

$cmyn3*$  0.5 0.0 0.0 (0.0)

$olv^4*$  1.0 0.0 0.0 0.5

$cmyn4*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  47.15 84.63 37.24

$LAB^*LABa$  47.15 84.61 37.24

$LAB^*TChA$  50.0 92.44 23.75

relative CIELAB lab\*

$lab^*lab$  0.376 0.915 0.403

$lab^*tch$  0.5 1.0 0.066

$lab^*nch$  0.0 1.0 0.066

relative Natural Colour (NC)

$lab^*lrj$  0.376 1.0 -0.023

$lab^*ice$  0.5 1.0 0.996

$lab^*ncE$  0.0 1.0 b98r

relative Inform. Technology (IT)

$olv^3*$  0.0 0.0 0.0 (1.0)

$cmyn3*$  0.0 1.0 1.0 (0.0)

$olv^4*$  1.0 1.0 1.0 0.0

$cmyn4*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.09 0.02

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.188 0.458 0.201

$lab^*tch$  0.25 0.5 0.066

$lab^*nch$  0.5 0.5 0.066

relative Natural Colour (NC)

$lab^*lrj$  0.188 0.5 -0.011

$lab^*ice$  0.25 0.5 0.996

$lab^*ncE$  0.5 0.5 b98r

relative Inform. Technology (IT)

$olv^3*$  0.0 0.0 0.0 (1.0)

$cmyn3*$  0.0 1.0 1.0 (0.0)

$olv^4*$  1.0 1.0 1.0 0.0

$cmyn4*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.09 0.02

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.188 0.458 0.201

$lab^*tch$  0.25 0.5 0.066

$lab^*nch$  0.5 0.5 0.066

relative Natural Colour (NC)

$lab^*lrj$  0.188 0.5 -0.011

$lab^*ice$  0.25 0.5 0.996

$lab^*ncE$  0.5 0.5 b98r

relative Inform. Technology (IT)

$olv^3*$  0.0 0.0 0.0 (1.0)

$cmyn3*$  0.0 1.0 1.0 (0.0)

$olv^4*$  1.0 1.0 1.0 0.0

$cmyn4*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.09 0.02

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.188 0.458 0.201

$lab^*tch$  0.25 0.5 0.066

$lab^*nch$  0.5 0.5 0.066

relative Natural Colour (NC)

$lab^*lrj$  0.188 0.5 -0.011

$lab^*ice$  0.25 0.5 0.996

$lab^*ncE$  0.5 0.5 b98r

relative Inform. Technology (IT)

$olv^3*$  0.0 0.0 0.0 (1.0)

$cmyn3*$  0.0 1.0 1.0 (0.0)

$olv^4*$  1.0 1.0 1.0 0.0

$cmyn4*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.09 0.02

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.188 0.458 0.201

$lab^*tch$  0.25 0.5 0.066

$lab^*nch$  0.5 0.5 0.066

relative Natural Colour (NC)

$lab^*lrj$  0.188 0.5 -0.011

$lab^*ice$  0.25 0.5 0.996

$lab^*ncE$  0.5 0.5 b98r

relative Inform. Technology (IT)

$olv^3*$  0.0 0.0 0.0 (1.0)

$cmyn3*$  0.0 1.0 1.0 (0.0)

$olv^4*$  1.0 1.0 1.0 0.0

$cmyn4*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.09 0.02

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.188 0.458 0.201

$lab^*tch$  0.25 0.5 0.066

$lab^*nch$  0.5 0.5 0.066

relative Natural Colour (NC)

$lab^*lrj$  0.188 0.5 -0.011

$lab^*ice$  0.25 0.5 0.996

$lab^*ncE$  0.5 0.5 b98r

relative Inform. Technology (IT)

## Input: Colorimetric Reflective System NCS18

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

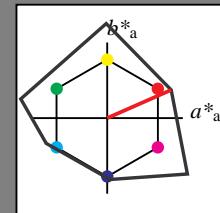
$lab^*tch$  and  $lab^*nch$

D65: hue R

LCH\*Ma: 47 92 24

olv\*Ma: 1.0 0.0 0.0

triangle lightness  $t^*$



relative Inform. Technology (IT)

$olv_i3^*$  1.0 1.0 1.0 (1.0)

$cmyn3^*$  0.0 0.0 0.0 (0.0)

$olv_i4^*$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 -

$lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)

$olv_i3^*$  0.5 0.5 0.5 (1.0)

$cmyn3^*$  0.5 0.5 0.5 (0.0)

$olv_i4^*$  1.0 1.0 1.0 0.5

$cmyn4^*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  56.72 0.05 0.0

$LAB^*LABa$  56.72 0.0 0.0

$LAB^*TChA$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.5 0.0 0.0

$lab^*tce$  0.5 0.0 -

$lab^*ncE$  0.5 0.0 -

relative Inform. Technology (IT)

$olv_i3^*$  0.0 0.0 0.0 (1.0)

$cmyn3^*$  1.0 1.0 1.0 (0.0)

$olv_i4^*$  1.0 1.0 1.0 0.0

$cmyn4^*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.09 0.02

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*tce$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

## NCS18; adapted (a) CIELAB data

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

RMa	47.15	84.63	37.24	92.46	24
JMa	91.37	-1.27	125.03	125.03	91
GMa	63.07	-114.29	25.34	117.07	167
G50BMa	59.47	-80.61	-33.45	87.29	203
BMa	49.01	3.63	-81.2	81.29	273
B50RMa	44.06	106.07	-73.94	129.31	325
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	272

%Gamut

$u^*_{rel} = 136$

%Regularity

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

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

relative Inform. Technology (IT)

$olv_i3^*$  1.0 0.5 0.5 (1.0)

$cmyn3^*$  0.0 0.5 0.5 (0.0)

$olv_i4^*$  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

$LAB^*LABa$  71.27 42.31 18.62

$LAB^*TChA$  75.0 46.22 23.75

relative CIELAB lab\*

$lab^*lab$  0.688 0.458 0.201

$lab^*tch$  0.75 0.5 0.066

$lab^*nch$  0.0 0.5 0.066

relative Natural Colour (NC)

$lab^*lrij$  0.688 0.5 -0.011

$lab^*tce$  0.75 0.5 0.996

$lab^*ncE$  0.0 0.5 698r

relative Inform. Technology (IT)

$olv_i3^*$  1.0 0.0 0.0 (1.0)

$cmyn3^*$  0.0 1.0 1.0 (0.0)

$olv_i4^*$  1.0 1.0 1.0 0.5

$cmyn4^*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  47.15 84.68 37.26

$LAB^*LABa$  47.15 84.61 37.24

$LAB^*TChA$  50.0 92.44 23.75

relative CIELAB lab\*

$lab^*lab$  0.376 0.915 0.403

$lab^*tch$  0.5 1.0 0.066

$lab^*nch$  0.0 1.0 0.066

relative Natural Colour (NC)

$lab^*lrij$  0.376 1.0 -0.023

$lab^*tce$  0.5 1.0 0.996

$lab^*ncE$  0.0 1.0 698r

relative Inform. Technology (IT)

$olv_i3^*$  0.0 0.0 0.0 (1.0)

$cmyn3^*$  1.0 1.0 1.0 (0.0)

$olv_i4^*$  1.0 1.0 1.0 0.0

$cmyn4^*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.09 0.02

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*tce$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 0,00$

blackness  $n^*$

chromaticness  $c^*$

## Output: Colorimetric Reflective System NCS18

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

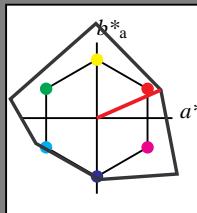
$lab^*tch$  and  $lab^*nch$

D65: hue R

LCH\*Ma: 47 92 24

olv\*Ma: 1.0 0.0 0.0

triangle lightness  $t^*$



%Gamut

$u^*_{rel} = 136$

%Regularity

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

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

relative Inform. Technology (IT)

$olv_i3^*$  1.0 0.5 0.5 (1.0)

$cmyn3^*$  0.0 0.5 0.5 (0.0)

$olv_i4^*$  1.0 0.5 0.5 1.0

$cmyn4^*$  0.0 0.5 0.5 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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 -

$lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)

$olv_i3^*$  1.0 0.5 0.5 (1.0)

$cmyn3^*$  0.0 0.5 0.5 (0.0)

$olv_i4^*$  1.0 0.5 0.5 1.0

$cmyn4^*$  0.0 0.5 0.5 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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 -

$lab^*ncE$  0.0 0.0 -

$n^* = 1,0$

3 step scales for constant CIELAB hue 24/360 = 0.066 (left)

3 step scales for constant CIELAB hue 24/360 = 0.066 (right)

## NCS18; adapted (a) CIELAB data

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

RMa	47.15	84.63	37.24	92.46	24
JMa	91.37	-1.27	125.03	125.03	91
GMa	63.07	-114.29	25.34	117.07	167
G50BMa	59.47	-80.61	-33.45	87.29	203
BMa	49.01	3.63	-81.2	81.29	273
B50RMa	44.06	106.07	-73.94	129.31	325
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	272

%Gamut

$u^*_{rel} = 136$

## Input: Colorimetric Reflective System NCS18

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

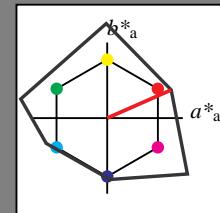
$lab^*tch$  and  $lab^*nch$

D65: hue R

LCH\*Ma: 47 92 24

olv\*Ma: 1.0 0.0 0.0

triangle lightness  $t^*$



## NCS18; adapted (a) CIELAB data

	$L^* = L_a^*$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	47.15	84.63	37.24	92.46	24
JMa	91.37	-1.27	125.03	125.03	91
GMa	63.07	-114.29	25.34	117.07	167
G50BMa	59.47	-80.61	-33.45	87.29	203
BMa	49.01	3.63	-81.2	81.29	273
B50RMa	44.06	106.07	-73.94	129.31	325
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	272

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

$LAB^*LABa$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrf$  1.0 0.0 0.0

$lab^*fce$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  71.27 42.34 18.63

$LAB^*LABa$  71.27 42.31 18.62

$LAB^*TChA$  75.0 46.22 23.75

relative CIELAB lab\*

$lab^*lab$  0.688 0.458 0.201

$lab^*tch$  0.75 0.5 0.066

$lab^*nch$  0.0 0.5 0.066

relative Natural Colour (NC)

$lab^*lrf$  0.688 0.5 -0.011

$lab^*fce$  0.75 0.5 0.996

$lab^*ncE$  0.0 0.5 b98r

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 0.5

$cmyn^4*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  56.72 0.05 0.0

$LAB^*LABa$  56.72 0.0 0.0

$LAB^*TChA$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrf$  0.5 0.0 0.0

$lab^*fce$  0.5 0.0 0.0

$lab^*ncE$  0.5 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.09 0.02

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrf$  0.0 0.0 0.0

$lab^*fce$  0.0 0.0 -

$lab^*ncE$  1.0 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

$LAB^*LAB$  71.27 42.34 18.63

$LAB^*LABa$  71.27 42.31 18.62

$LAB^*TChA$  75.0 46.22 23.75

relative CIELAB lab\*

$lab^*lab$  0.688 0.458 0.201

$lab^*tch$  0.75 0.5 0.066

$lab^*nch$  0.0 0.5 0.066

relative Natural Colour (NC)

$lab^*lrf$  0.688 0.5 -0.011

$lab^*fce$  0.75 0.5 0.996

$lab^*ncE$  0.0 0.5 b98r

relative Inform. Technology (IT)

$olv^3*$  0.5 0.0 0.0 (1.0)

$cmyn^3*$  0.5 0.0 0.0 (0.0)

$olv^4*$  1.0 0.5 0.5 0.5

$cmyn^4*$  0.0 0.5 0.5 0.5

standard and adapted CIELAB

$LAB^*LAB$  47.15 84.63 37.24

$LAB^*LABa$  47.15 84.61 37.24

$LAB^*TChA$  50.0 92.44 23.75

relative CIELAB lab\*

$lab^*lab$  0.376 0.915 0.403

$lab^*tch$  0.5 1.0 0.066

$lab^*nch$  0.0 1.0 0.066

relative Natural Colour (NC)

$lab^*lrf$  0.376 1.0 -0.023

$lab^*fce$  0.5 1.0 0.996

$lab^*ncE$  0.0 1.0 b98r

relative Inform. Technology (IT)

$olv^3*$  0.0 0.0 0.0 (1.0)

$cmyn^3*$  1.0 1.0 1.0 (0.0)

$olv^4*$  1.0 1.0 1.0 0.0

$cmyn^4*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.09 0.02

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrf$  0.0 0.0 0.0

$lab^*fce$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 0,00$

$n^* = 0,50$

$n^* = 1,00$

chromaticness  $c^*$

## Output: Colorimetric Reflective System NRS11

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

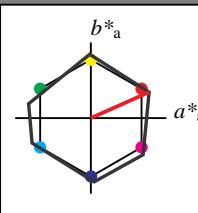
$lab^*tch$  and  $lab^*nch$

D65: hue R

LCH\*Ma: 53 84 24

olv\*Ma: 1.0 0.0 0.0

triangle lightness  $t^*$



## NRS11; adapted (a) CIELAB data

	$L^* = L_a^*$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	53.2	77.06	34.32	84.36	24
JMa	53.2	-1.51	84.38	84.39	91
GMa	53.2	-82.27	18.98	84.44	167
G50BMa	53.2	-77.72	-32.98	84.44	203
BMa	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)

$olv^3*$  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

$LAB^*LABa$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrf$  1.0 0.0 0.0

$lab^*fce$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  74.3 38.55 17.16

$LAB^*LABa$  74.3 38.52 17.16

$LAB^*TChA$  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)

$lab^*lrf$  0.75 0.5 -0.009

$lab^*fce$  0.75 0.5 0.997

$lab^*ncE$  0.0 0.5 b98r

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 1.0 1.0 0.5

$cmyn^4*$  0.0 0.5 0.5 0.5

standard and adapted CIELAB

$LAB^*LAB$  11.01 0.07 0.01

$LAB^*LABa$  11.01 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

### Input: Colorimetric Reflective System NCS18

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

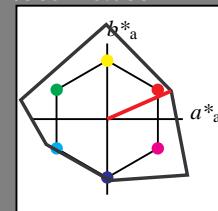
$lab^*tch$  and  $lab^*nch$

D65: hue R

LCH\*Ma: 47 92 24

olv\*Ma: 1.0 0.0 0.0

triangle lightness  $t^*$



relative Inform. Technology (IT)

$olv^3*$  1.0 1.0 1.0 (1.0)

$cmy^3*$  0.0 0.0 0.0 (0.0)

$olv^4*$  1.0 1.0 1.0 1.0

$cmy^4*$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  1.0 0.0 0.0

$lab^*ice$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)

$olv^3*$  0.5 0.5 0.5 (1.0)

$cmy^3*$  0.5 0.5 0.5 (0.0)

$olv^4*$  1.0 1.0 1.0 0.5

$cmy^4*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  56.72 0.05 0.0

$LAB^*LABa$  56.72 0.0 0.0

$LAB^*TChA$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  0.5 0.0 0.0

$lab^*ice$  0.5 0.0 0.0

$lab^*ncE$  0.5 0.0 -

relative Inform. Technology (IT)

$olv^3*$  0.0 0.0 0.0 (1.0)

$cmy^3*$  1.0 1.0 1.0 (0.0)

$olv^4*$  1.0 1.0 1.0 0.0

$cmy^4*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.09 0.02

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  0.0 0.0 0.0

$lab^*ice$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

### NCS18; adapted (a) CIELAB data

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

RMa	47.15	84.63	37.24	92.46	24
JMa	91.37	-1.27	125.03	125.03	91
GMa	63.07	-114.29	25.34	117.07	167
G50BMa	59.47	-80.61	-33.45	87.29	203
BMa	49.01	3.63	-81.2	81.29	273
B50RMa	44.06	106.07	-73.94	129.31	325
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	272

%Gamut

$u^*_{rel} = 136$

%Regularity

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

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

relative Inform. Technology (IT)

$olv^3*$  1.0 0.5 0.5 (1.0)

$cmy^3*$  0.0 0.5 0.5 (0.0)

$olv^4*$  1.0 0.5 0.5 1.0

$cmy^4*$  0.0 0.5 0.5 0.0

standard and adapted CIELAB

$LAB^*LAB$  71.27 42.34 18.63

$LAB^*LABa$  71.27 42.31 18.62

$LAB^*TChA$  75.0 46.22 23.75

relative CIELAB lab\*

$lab^*lab$  0.688 0.458 0.201

$lab^*tch$  0.75 0.5 0.066

$lab^*nch$  0.0 0.5 0.066

relative Natural Colour (NC)

$lab^*lrj$  0.688 0.5 -0.01

$lab^*ice$  0.75 0.5 0.996

$lab^*ncE$  0.0 0.5 b98r

relative Inform. Technology (IT)

$olv^3*$  0.5 0.5 0.5 (1.0)

$cmy^3*$  0.5 0.5 0.5 (0.0)

$olv^4*$  1.0 1.0 1.0 0.5

$cmy^4*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  47.15 84.68 37.26

$LAB^*LABa$  47.15 84.61 37.24

$LAB^*TChA$  50.0 92.44 23.75

relative CIELAB lab\*

$lab^*lab$  0.376 0.915 0.403

$lab^*tch$  0.5 1.0 0.066

$lab^*nch$  0.0 1.0 0.066

relative Natural Colour (NC)

$lab^*lrj$  0.376 1.0 -0.023

$lab^*ice$  0.5 1.0 0.996

$lab^*ncE$  0.0 1.0 b98r

relative Inform. Technology (IT)

$olv^3*$  0.0 0.0 0.0 (1.0)

$cmy^3*$  1.0 1.0 1.0 (0.0)

$olv^4*$  1.0 1.0 1.0 0.0

$cmy^4*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.09 0.02

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  0.0 0.0 0.0

$lab^*ice$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 0,00$

blackness  $n^*$

chromaticness  $c^*$

### Output: Colorimetric Reflective System NCS11

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

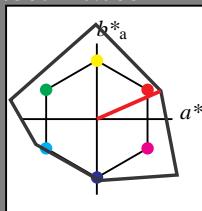
$lab^*tch$  and  $lab^*nch$

D65: hue R

LCH\*Ma: 47 92 24

olv\*Ma: 1.0 0.0 0.0

triangle lightness  $t^*$



%Gamut

$u^*_{rel} = 149$

%Regularity

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

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

relative Inform. Technology (IT)

$olv^3*$  1.0 1.0 1.0 (1.0)

$cmy^3*$  0.0 0.0 0.0 (0.0)

$olv^4*$  1.0 1.0 1.0 1.0

$cmy^4*$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  1.0 0.0 0.0

$lab^*ice$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)

$olv^3*$  0.5 0.5 0.5 (1.0)

$cmy^3*$  0.5 0.5 0.5 (0.0)

$olv^4*$  1.0 1.0 1.0 0.5

$cmy^4*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  71.27 42.34 18.63

$LAB^*LABa$  71.27 42.31 18.62

$LAB^*TChA$  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

$lab^*ice$  0.75 0.5 0.996

$lab^*ncE$  0.0 0.5 b98r

$n^* = 1,0$

3 step scales for constant CIELAB hue 24/360 = 0.066 (left)

### NCS11; adapted (a) CIELAB data

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

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	3.63	-81.2	81.29	273
B50RMa	44.06	106.07	-73.94	129.31	325
NMa	18.01	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	-2.91	71.56	71.62	92
GCIE	52.23	-42.45	13.59	44.59	162
BCIE	30.57	1.33	-46.48	46.51	272

%Gamut

$u^*_{rel} = 149$

%Regularity

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

## Input: Colorimetric Reflective System NRS11

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

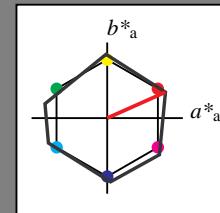
$lab^*tch$  and  $lab^*nch$

D65: hue R

LCH\*Ma: 53 84 24

olv\*Ma: 1.0 0.0 0.0

triangle lightness  $t^*$



relative Inform. Technology (IT)  
 $olv^3*$  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

$LAB^*LABa$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 -

$lab^*ncE$  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 0.5

$cmyn^4*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  53.21 0.04 0.0

$LAB^*LABa$  53.21 0.0 0.0

$LAB^*TChA$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.5 0.0 0.0

$lab^*tce$  0.5 0.0 -

$lab^*ncE$  0.5 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)

$olv^4*$  1.0 1.0 1.0 0.0

$cmyn^4*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  11.01 0.07 0.01

$LAB^*LABa$  11.01 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*tce$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

NRS11; adapted (a) CIELAB data					
	$L^*=L^*_a$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	53.2	77.06	34.32	84.36	24
JMa	53.2	-1.51	84.38	84.39	91
GMa	53.2	-82.27	18.98	84.44	167
G50BMa	53.2	-77.72	-32.98	84.44	203
BMa	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

%Gamut

$u^*_{rel} = 119$

%Regularity

$g^*_{H,rel} = 47$

$g^*_{C,rel} = 100$

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

$LAB^*LAB$  74.3 38.55 17.16

$LAB^*LABa$  74.3 38.52 17.16

$LAB^*TChA$  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)

$lab^*lrij$  0.75 0.5 -0.009

$lab^*tce$  0.75 0.5 0.997

$lab^*ncE$  0.0 0.5 b98r

relative Inform. Technology (IT)

$olv^3*$  1.0 0.0 0.0 (1.0)

$cmyn^3*$  0.0 1.0 1.0 (0.0)

$olv^4*$  1.0 1.0 1.0 0.5

$cmyn^4*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  53.2 77.09 34.32

$LAB^*LABa$  53.2 77.04 34.31

$LAB^*TChA$  50.0 84.34 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 1.0 0.067

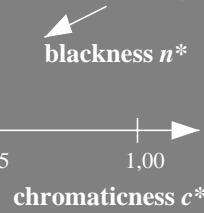
relative Natural Colour (NC)

$lab^*lrij$  0.5 1.0 -0.019

$lab^*tce$  0.5 1.0 0.997

$lab^*ncE$  0.0 1.0 b98r

$n^* = 0,00$



## Output: Colorimetric Reflective System ORS18

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

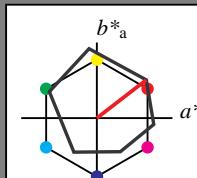
$lab^*tch$  and  $lab^*nch$

D65: hue O

LCH\*Ma: 48 83 38

olv\*Ma: 1.0 0.0 0.0

triangle lightness  $t^*$



%Gamut

$u^*_{rel} = 93$

%Regularity

$g^*_{H,rel} = 57$

$g^*_{C,rel} = 59$

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

$LAB^*LAB$  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 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 -

$lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)

$olv^3*$  0.5 0.5 0.5 (1.0)

$cmyn^3*$  0.5 1.0 1.0 (0.0)

$olv^4*$  1.0 0.5 0.5 0.5

$cmyn^4*$  0.0 0.5 0.5 0.5

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 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)

$lab^*lrij$  0.693 0.477 0.15

$lab^*tce$  0.75 0.5 0.048

$lab^*ncE$  0.0 0.5 r19j

$n^* = 0,00$

ORS18; adapted (a) CIELAB data					
	$L^*=L^*_a$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
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)

$olv^3*$  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

$LAB^*LAB$  95.41 0.0 0.0

$LAB^*LABa$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 -

$lab^*ncE$  0.0 0.0 -

$n^* = 0,00$

relative Inform. Technology (IT)

$olv^3*$  0.0 1.0 1.0 (0.0)

$cmyn^3*$  0.5 1.0 1.0 0.0

$olv^4*$  1.0 0.5 0.5 0.5

$cmyn^4*$  0.0 0.5 0.5 0.5

standard and adapted CIELAB

## Input: Colorimetric Reflective System NRS11

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

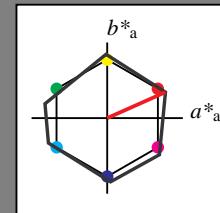
$lab^*tch$  and  $lab^*nch$

D65: hue R

LCH\*Ma: 53 84 24

olv\*Ma: 1.0 0.0 0.0

triangle lightness  $t^*$



## NRS11; adapted (a) CIELAB data

	$L^* = L^*_{ab}$	$a^*_{ab}$	$b^*_{ab}$	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	53.2	77.06	34.32	84.36	24
JMa	53.2	-1.51	84.38	84.39	91
GMa	53.2	-82.27	18.98	84.44	167
G50BMa	53.2	-77.72	-32.98	84.44	203
BMa	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)

$olv^3*$  1.0 1.0 1.0 (1.0)

$cmyn3*$  0.0 0.0 0.0 (0.0)

$olv^4*$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  1.0 0.0 0.0

$lab^*ice$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  74.3 38.55 17.16

$LAB^*LABa$  74.3 38.52 17.16

$LAB^*TChA$  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

$lab^*ice$  0.75 0.5 0.997

$lab^*ncE$  0.0 0.5 b98r

relative Inform. Technology (IT)

$olv^3*$  0.5 0.5 0.5 (1.0)

$cmyn3*$  0.5 0.5 0.5 (0.0)

$olv^4*$  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

$LAB^*LABa$  53.21 0.0 0.0

$LAB^*TChA$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  0.5 0.0 0.0

$lab^*ice$  0.5 0.0 0.0

$lab^*ncE$  0.5 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  32.1 38.58 17.17

$LAB^*LABa$  32.1 38.52 17.16

$LAB^*TChA$  25.01 42.17 24.01

relative CIELAB lab\*

$lab^*lab$  0.25 0.457 0.203

$lab^*tch$  0.25 0.5 0.067

$lab^*nch$  0.5 0.5 0.067

relative Natural Colour (NC)

$lab^*lrj$  0.25 0.5 -0.009

$lab^*ice$  0.25 0.5 0.997

$lab^*ncE$  0.5 0.5 b98r

$n^* = 1,0$

$n^* = 0,00$

$n^* = 0,50$

$1,00$

$chromaticness c^*$

## Output: Colorimetric Reflective System MRS18

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

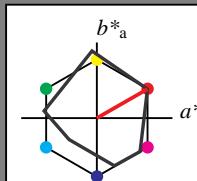
$lab^*tch$  and  $lab^*nch$

D65: hue R

LCH\*Ma: 50 77 30

olv\*Ma: 1.0 0.0 0.0

triangle lightness  $t^*$



## MRS18; adapted (a) CIELAB data

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

$olv^3*$  1.0 1.0 1.0 (1.0)

$cmyn3*$  0.0 0.0 0.0 (0.0)

$olv^4*$  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

$LAB^*LABa$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  1.0 0.0 0.0

$lab^*ice$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)

$olv^3*$  0.5 0.5 0.5 (1.0)

$cmyn3*$  0.5 1.0 1.0 (0.0)

$olv^4*$  1.0 1.0 1.0 0.5

$cmyn4*$  0.0 0.5 0.5 0.5

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 CIELAB lab\*

$lab^*lab$  0.5 0.913 0.407

$lab^*tch$  0.5 1.0 0.067

$lab^*nch$  0.0 1.0 0.067

relative Natural Colour (NC)

$lab^*lrj$  0.5 1.0 -0.019

$lab^*ice$  0.5 1.0 0.997

$lab^*ncE$  0.0 1.0 b98r

$n^* = 1,0$

$n^* = 0,00$

$n^* = 0,50$

$1,00$

$chromaticness c^*$

relative Inform. Technology (IT)

$olv^3*$  0.409 0.867 0.497

$cmyn3*$  0.0 1.0 1.0 (0.0)

$olv^4*$  1.0 0.5 0.5 0.5

$cmyn4*$  0.0 0.5 0.5 0.5

standard and adapted CIELAB

$LAB^*LAB$  33.82 33.67 19.79

$LAB^*LABa$  33.82 33.47 19.18

$LAB^*TChA$  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 1.0 0.083

relative Natural Colour (NC)

$lab^*lrj$  0.409 0.993 0.119

$lab^*ice$  0.5 1.0 0.019

$lab^*ncE$  0.0 1.0 r07j

$n^* = 1,0$

$n^* = 0,00$

$n^* = 0,50$

$1,00$

$chromaticness c^*$

UE100-7, 3 step scales for constant CIELAB hue 24/360 = 0.067 (left)

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

## Input: Colorimetric Reflective System NRS11

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

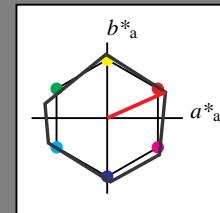
$lab^*tch$  and  $lab^*nch$

D65: hue R

LCH\*Ma: 53 84 24

olv\*Ma: 1.0 0.0 0.0

triangle lightness  $t^*$



relative Inform. Technology (IT)  
 $olv_i3^*$  1.0 1.0 1.0 (1.0)  
 $cmyn3^*$  0.0 0.0 0.0 (0.0)

$olv_i4^*$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 -

$lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)  
 $olv_i3^*$  0.5 0.5 0.5 (1.0)  
 $cmyn3^*$  0.5 0.5 0.5 (0.0)

$olv_i4^*$  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

$LAB^*LABa$  53.21 0.0 0.0

$LAB^*TChA$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.5 0.0 0.0

$lab^*tce$  0.5 0.0 -

$lab^*ncE$  0.5 0.0 -

relative Inform. Technology (IT)  
 $olv_i3^*$  0.0 0.0 0.0 (1.0)  
 $cmyn3^*$  1.0 1.0 1.0 (0.0)

$olv_i4^*$  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 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*tce$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

%Gamut

$u^*_{rel} = 119$

%Regularity

$g^*_{H,rel} = 47$

$g^*_{C,rel} = 100$

relative Inform. Technology (IT)

$olv_i3^*$  1.0 0.5 0.5 (1.0)

$cmyn3^*$  0.0 0.5 0.5 (0.0)

$olv_i4^*$  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

$LAB^*LABa$  74.3 38.52 17.16

$LAB^*TChA$  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)

$lab^*lrij$  0.75 0.5 -0.009

$lab^*tce$  0.75 0.5 0.997

$lab^*ncE$  0.0 0.5 b98r

relative Inform. Technology (IT)

$olv_i3^*$  1.0 0.0 0.0 (1.0)

$cmyn3^*$  0.0 1.0 1.0 (0.0)

$olv_i4^*$  1.0 1.0 1.0 0.5

$cmyn4^*$  0.0 1.0 1.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  53.2 77.09 34.32

$LAB^*LABa$  53.2 77.04 34.31

$LAB^*TChA$  50.0 84.34 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 1.0 0.067

relative Natural Colour (NC)

$lab^*lrij$  0.5 1.0 -0.019

$lab^*tce$  0.5 1.0 0.997

$lab^*ncE$  0.0 1.0 b98r

relative Inform. Technology (IT)

$olv_i3^*$  0.0 0.0 0.0 (1.0)

$cmyn3^*$  1.0 1.0 1.0 (0.0)

$olv_i4^*$  1.0 1.0 1.0 0.0

$cmyn4^*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.5 -0.46

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*tce$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

NRS11; adapted (a) CIELAB data  
 $L^*=L^*_{ab}$   $a^*_{ab}$   $b^*_{ab}$   $C^*_{ab,a}$   $h^*_{ab,a}$

## Output: Colorimetric Reflective System TRS18

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

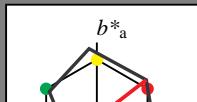
$lab^*tch$  and  $lab^*nch$

D65: hue O

LCH\*Ma: 48 83 38

olv\*Ma: 1.0 0.0 0.0

triangle lightness  $t^*$



%Gamut

$u^*_{rel} = 93$

%Regularity

$g^*_{H,rel} = 57$

$g^*_{C,rel} = 59$

relative Inform. Technology (IT)  
 $olv_i3^*$  1.0 1.0 1.0 (1.0)  
 $cmyn3^*$  0.0 0.0 0.0 (0.0)

$olv_i4^*$  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

$LAB^*LABa$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 -

$lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)  
 $olv_i3^*$  1.0 0.5 0.5 (1.0)  
 $cmyn3^*$  0.0 0.5 0.5 (0.0)

$olv_i4^*$  1.0 0.5 0.5 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 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)

$lab^*lrij$  0.693 0.477 0.15

$lab^*tce$  0.75 0.5 0.048

$lab^*ncE$  0.0 0.5 r19j

relative Inform. Technology (IT)  
 $olv_i3^*$  1.0 0.0 0.0 (1.0)  
 $cmyn3^*$  0.0 1.0 1.0 (0.0)

$olv_i4^*$  1.0 0.5 0.5 0.5  
 $cmyn4^*$  0.0 0.5 0.5 0.5

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 CIELAB lab\*

$lab^*lab$  0.193 0.396 0.306

$lab^*tch$  0.25 0.5 0.105

$lab^*nch$  0.5 0.5 0.105

relative Natural Colour (NC)

$lab^*lrij$  0.193 0.477 0.15

$lab^*tce$  0.25 0.5 0.048

$lab^*ncE$  0.5 0.5 r19j

relative Inform. Technology (IT)  
 $olv_i3^*$  0.0 0.0 0.0 (1.0)  
 $cmyn3^*$  1.0 1.0 1.0 (0.0)

$olv_i4^*$  1.0 1.0 1.0 0.0  
 $cmyn4^*$  0.0 1.0 1.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.5 -0.46

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*tce$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

relative Inform. Technology (IT)  
 $olv_i3^*$  1.0 0.0 0.0 (1.0)  
 $cmyn3^*$  0.0 1.0 1.0 (0.0)

$olv_i4^*$  1.0 1.0 1.0 0.0  
 $cmyn4^*$  0.0 1.0 1.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.5 -0.46

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*tce$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

relative Inform. Technology (IT)  
 $olv_i3^*$  1.0 0.0 0.0 (1.0)  
 $cmyn3^*$  0.0 1.0 1.0 (0.0)

$olv_i4^*$  1.0 1.0 1.0 0.0  
 $cmyn4^*$  0.0 1.0 1.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.5 -0.46

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

## Input: Colorimetric Reflective System NRS11

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

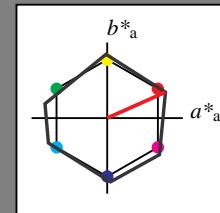
$lab^*tch$  and  $lab^*nch$

D65: hue R

LCH\*Ma: 53 84 24

olv\*Ma: 1.0 0.0 0.0

triangle lightness  $t^*$



### NRS11; adapted (a) CIELAB data

	$L^*=L_a^*$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	53.2	77.06	34.32	84.36	24
JMa	53.2	-1.51	84.38	84.39	91
GMa	53.2	-82.27	18.98	84.44	167
G50BMa	53.2	-77.72	-32.98	84.44	203
BMa	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)

$olv_i3^*$  1.0 1.0 1.0 (1.0)

$cmy_n3^*$  0.0 0.0 0.0 (0.0)

$olv_i4^*$  1.0 1.0 1.0 1.0

$cmy_n4^*$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  1.0 0.0 0.0

$lab^*ice$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  74.3 38.55 17.16

$LAB^*LABa$  74.3 38.52 17.16

$LAB^*TChA$  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

$lab^*ice$  0.75 0.5 0.997

$lab^*ncE$  0.0 0.5 b98r

relative Inform. Technology (IT)

$olv_i3^*$  0.5 0.5 0.5 (1.0)

$cmy_n3^*$  0.5 0.5 0.5 (0.0)

$olv_i4^*$  1.0 1.0 1.0 0.5

$cmy_n4^*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  53.21 0.04 0.0

$LAB^*LABa$  53.21 0.0 0.0

$LAB^*TChA$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  0.5 0.0 0.0

$lab^*ice$  0.5 0.0 0.0

$lab^*ncE$  0.5 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  32.1 38.58 17.17

$LAB^*LABa$  32.1 38.52 17.16

$LAB^*TChA$  25.01 42.17 24.01

relative CIELAB lab\*

$lab^*lab$  0.25 0.457 0.203

$lab^*tch$  0.25 0.5 0.067

$lab^*nch$  0.5 0.5 0.067

relative Natural Colour (NC)

$lab^*lrj$  0.25 0.5 -0.009

$lab^*ice$  0.25 0.5 0.997

$lab^*ncE$  0.5 0.5 b98r

$n^* = 1,0$

$n^* = 0,00$

$n^* = 0,50$

$1,00$

chromaticness  $c^*$

## Output: Colorimetric Reflective System MRS18a

for hue  $h^* = lab^*h = 31/360 = 0.086$

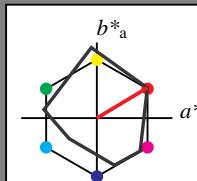
$lab^*tch$  and  $lab^*nch$

D65: hue R

LCH\*Ma: 50 78 31

olv\*Ma: 1.0 0.0 0.0

triangle lightness  $t^*$



### MRS18a; adapted (a) CIELAB data

	$L^*=L_a^*$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	49.63	66.8	40.02	77.87	31
JMa	90.7	-7.27	93.19	93.48	94
GMa	52.11	-69.93	11.26	70.85	171
G50BMa	45.03	-36.65	-27.13	45.61	217
BMa	36.65	23.26	-62.27	66.49	290
B50RMa	34.94	57.27	-43.6	71.99	323
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	272

relative Inform. Technology (IT)

$olv_i3^*$  1.0 1.0 1.0 (1.0)

$cmy_n3^*$  0.0 0.0 0.0 (0.0)

$olv_i4^*$  1.0 1.0 1.0 1.0

$cmy_n4^*$  0.0 0.0 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  72.52 33.43 20.01

$LAB^*LABa$  72.52 33.39 20.01

$LAB^*TChA$  75.0 38.93 30.93

relative CIELAB lab\*

$lab^*lab$  0.704 0.429 0.257

$lab^*tch$  0.75 0.5 0.086

$lab^*nch$  0.0 0.5 0.086

relative Natural Colour (NC)

$lab^*lrj$  0.704 0.496 0.064

$lab^*ice$  0.75 0.5 0.02

$lab^*ncE$  0.0 0.5 r08j

relative Inform. Technology (IT)

$olv_i3^*$  0.5 0.0 0.0 (1.0)

$cmy_n3^*$  0.5 1.0 1.0 (0.0)

$olv_i4^*$  1.0 0.5 0.5 0.5

$cmy_n4^*$  0.0 0.5 0.5 0.5

standard and adapted CIELAB

$LAB^*LAB$  49.63 66.84 40.03

$LAB^*LABa$  49.63 66.78 40.02

$LAB^*TChA$  50.0 77.85 30.93

relative CIELAB lab\*

$lab^*lab$  0.409 0.858 0.514

$lab^*tch$  0.5 1.0 0.086

$lab^*nch$  0.0 1.0 0.086

relative Natural Colour (NC)

$lab^*lrj$  0.409 0.992 0.128

$lab^*ice$  0.5 1.0 0.02

$lab^*ncE$  0.0 1.0 r08j

$n^* = 0,00$

$n^* = 0,50$

$1,00$

chromaticness  $c^*$

$n^* = 1,0$

3 step scales for constant CIELAB hue 24/360 = 0.067 (left)

3 step scales for constant CIELAB hue 31/360 = 0.086 (right)

## Input: Colorimetric Reflective System NRS11

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

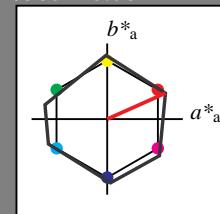
$lab^*tch$  and  $lab^*nch$

D65: hue R

LCH\*Ma: 53 84 24

olv\*Ma: 1.0 0.0 0.0

triangle lightness  $t^*$



### NRS11; adapted (a) CIELAB data

	$L^* = L_a^*$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	53.2	77.06	34.32	84.36	24
JMa	53.2	-1.51	84.38	84.39	91
GMa	53.2	-82.27	18.98	84.44	167
G50BMa	53.2	-77.72	-32.98	84.44	203
BMa	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)

$olv_i3^*$  1.0 1.0 1.0 (1.0)

$cmy_n3^*$  0.0 0.0 0.0 (0.0)

$olv_i4^*$  1.0 1.0 1.0 1.0

$cmy_n4^*$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 -

$lab^*ncE$  0.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  74.3 38.55 17.16

$LAB^*LABa$  74.3 38.52 17.16

$LAB^*TChA$  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)

$lab^*lrij$  0.75 0.5 -0.009

$lab^*tce$  0.75 0.5 0.997

$lab^*ncE$  0.0 0.5 b98r

relative Inform. Technology (IT)

$olv_i3^*$  0.5 0.5 0.5 (1.0)

$cmy_n3^*$  0.5 0.5 0.5 (0.0)

$olv_i4^*$  1.0 1.0 1.0 0.5

$cmy_n4^*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  53.21 0.04 0.0

$LAB^*LABa$  53.21 0.0 0.0

$LAB^*TChA$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.5 0.0 0.0

$lab^*tce$  0.5 0.0 -

$lab^*ncE$  0.5 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  32.1 38.58 17.17

$LAB^*LABa$  32.1 38.52 17.16

$LAB^*TChA$  25.01 42.17 24.01

relative CIELAB lab\*

$lab^*lab$  0.25 0.457 0.203

$lab^*tch$  0.25 0.5 0.067

$lab^*nch$  0.5 0.5 0.067

relative Natural Colour (NC)

$lab^*lrij$  0.25 0.5 -0.009

$lab^*tce$  0.25 0.5 0.997

$lab^*ncE$  0.5 0.5 b98r

$n^* = 1,0$

$n^* = 0,00$

$chromaticness c^*$

$n^* = 0,50$

## Output: Colorimetric Reflective System NRS18

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

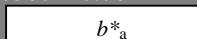
$lab^*tch$  and  $lab^*nch$

D65: hue R

LCH\*Ma: 57 77 24

olv\*Ma: 1.0 0.0 0.0

triangle lightness  $t^*$



### NRS18; adapted (a) CIELAB data

	$L^* = L_a^*$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	56.7	70.66	31.47	77.35	24
JMa	56.7	-1.39	77.37	77.39	91
GMa	56.7	-75.46	17.4	77.45	167
G50BMa	56.7	-71.29	-30.25	77.45	203
BMa	56.7	4.0	-77.3	77.41	273
B50RMa	56.7	63.35	-44.4	77.36	325
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	272

relative Inform. Technology (IT)

$olv_i3^*$  1.0 1.0 1.0 (1.0)

$cmy_n3^*$  0.0 0.0 0.0 (0.0)

$olv_i4^*$  1.0 1.0 1.0 1.0

$cmy_n4^*$  0.0 0.0 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  95.41 0.0 0.0

$LAB^*LABa$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 -

$lab^*ncE$  0.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  76.05 35.35 15.74

$LAB^*LABa$  76.05 35.32 15.73

$LAB^*TChA$  75.0 38.67 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)

$lab^*lrij$  0.75 0.5 -0.009

$lab^*tce$  0.75 0.5 0.997

$lab^*ncE$  0.0 0.5 b98r

relative Inform. Technology (IT)

$olv_i3^*$  0.5 0.5 0.5 (1.0)

$cmy_n3^*$  0.5 0.5 0.5 (0.0)

$olv_i4^*$  1.0 1.0 1.0 0.5

$cmy_n4^*$  0.0 0.5 0.5 0.5

standard and adapted CIELAB

$LAB^*LAB$  56.7 37.36 35.4

$LAB^*LABa$  56.7 37.36 35.32

$LAB^*TChA$  25.01 38.67 24.01

relative CIELAB lab\*

$lab^*lab$  0.25 0.457 0.203

$lab^*tch$  0.25 0.5 0.067

$lab^*nch$  0.5 0.5 0.067

relative Natural Colour (NC)

$lab^*lrij$  0.25 0.5 -0.009

$lab^*tce$  0.25 0.5 0.997

$lab^*ncE$  0.5 0.5 b98r

$n^* = 1,0$

### NRS18; adapted (a) CIELAB data

	$L^* = L_a^*$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	56.7	70.66	31.47	77.35	24
JMa	56.7	-1.39	77.37	77.39	91
GMa	56.7	-75.46	17.4	77.45	167
G50BMa	56.7	-71.29	-30.25	77.45	203
BMa	56.7	4.0	-77.3	77.41	273
B50RMa	56.7	63.35	-44.4	77.36	325
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	272

relative Inform. Technology (IT)

$olv_i3^*$  1.0 1.0 1.0 (1.0)

$cmy_n3^*$  0.0 0.0 0.0 (0.0)

$olv_i4^*$  1.0 1.0 1.0 1.0

$cmy_n4^*$  0.0 0.0 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  76.05 35.35 15.74

$LAB^*LABa$  76.05 35.32 15.73

$LAB^*TChA$  75.0 38.67 24.01

relative CIELAB lab\*

$lab^*lab$  0.75 0.457 0.203

$lab^*tch$

## Input: Colorimetric Reflective System NRS11

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

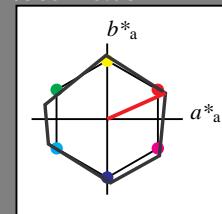
$lab^*tch$  and  $lab^*nch$

D65: hue R

LCH\*Ma: 53 84 24

olv\*Ma: 1.0 0.0 0.0

triangle lightness  $t^*$



### NRS11; adapted (a) CIELAB data

	$L^* = L_a^*$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	53.2	77.06	34.32	84.36	24
JMa	53.2	-1.51	84.38	84.39	91
GMa	53.2	-82.27	18.98	84.44	167
G50BMa	53.2	-77.72	-32.98	84.44	203
BMa	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)

$olv_i3^*$  1.0 1.0 1.0 (1.0)

$cmy3^*$  0.0 0.0 0.0 (0.0)

$olv_i4^*$  1.0 1.0 1.0 1.0

$cmy4^*$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 -

$lab^*ncE$  0.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  74.3 38.55 17.16

$LAB^*LABa$  74.3 38.52 17.16

$LAB^*TChA$  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)

$lab^*lrij$  0.75 0.5 -0.009

$lab^*tce$  0.75 0.5 0.997

$lab^*ncE$  0.0 0.5 b98r

relative Inform. Technology (IT)

$olv_i3^*$  0.5 0.5 0.5 (1.0)

$cmy3^*$  0.5 0.5 0.5 (0.0)

$olv_i4^*$  1.0 1.0 1.0 0.5

$cmy4^*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  53.21 0.04 0.0

$LAB^*LABa$  53.21 0.0 0.0

$LAB^*TChA$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.5 0.0 0.0

$lab^*tce$  0.5 0.0 -

$lab^*ncE$  0.5 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  32.1 38.58 17.17

$LAB^*LABa$  32.1 38.52 17.16

$LAB^*TChA$  25.01 42.17 24.01

relative CIELAB lab\*

$lab^*lab$  0.25 0.457 0.203

$lab^*tch$  0.25 0.5 0.067

$lab^*nch$  0.5 0.5 0.067

relative Natural Colour (NC)

$lab^*lrij$  0.25 0.5 -0.009

$lab^*tce$  0.25 0.5 0.997

$lab^*ncE$  0.5 0.5 b98r

$n^* = 1,0$

$n^* = 0,00$

$n^* = 0,50$

1,00

$n^* = 0,50$

chromaticness  $c^*$

## Output: Colorimetric Reflective System NCS18

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

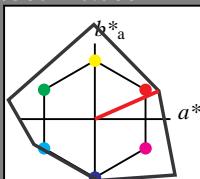
$lab^*tch$  and  $lab^*nch$

D65: hue R

LCH\*Ma: 47 92 24

olv\*Ma: 1.0 0.0 0.0

triangle lightness  $t^*$



### NCS18; adapted (a) CIELAB data

	$L^* = L_a^*$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	47.15	84.63	37.24	92.46	24
JMa	91.37	-1.27	125.03	125.03	91
GMa	63.07	-114.29	25.34	117.07	167
G50BMa	59.47	-80.61	-33.45	87.29	203
BMa	49.01	3.63	-81.2	81.29	273
B50RMa	44.06	106.07	-73.94	129.31	325
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	272

relative Inform. Technology (IT)

$olv_i3^*$  1.0 1.0 1.0 (1.0)

$cmy3^*$  0.0 0.0 0.0 (0.0)

$olv_i4^*$  1.0 1.0 1.0 1.0

$cmy4^*$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 -

$lab^*ncE$  0.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  74.3 38.55 17.16

$LAB^*LABa$  74.3 38.52 17.16

$LAB^*TChA$  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)

$lab^*lrij$  0.75 0.5 -0.009

$lab^*tce$  0.75 0.5 0.997

$lab^*ncE$  0.0 0.5 b98r

standard and adapted CIELAB

$LAB^*LAB$  53.2 77.09 34.32

$LAB^*LABa$  53.2 77.04 34.31

$LAB^*TChA$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 0.913 0.407

$lab^*tch$  0.5 1.0 0.067

$lab^*nch$  0.0 1.0 0.067

relative Natural Colour (NC)

$lab^*lrij$  0.5 1.0 -0.019

$lab^*tce$  0.5 1.0 0.997

$lab^*ncE$  0.0 1.0 -

$n^* = 1,0$

$n^* = 0,00$

$n^* = 0,50$

1,00

$n^* = 0,50$

chromaticness  $c^*$

$n^* = 0,00$

$n^* = 0,50$

1,00

$n^* = 0,50$

chromaticness  $c^*$

UE100-7, 3 step scales for constant CIELAB hue 24/360 = 0.067 (left)

3 step scales for constant CIELAB hue 24/360 = 0.066 (right)

## Input: Colorimetric Reflective System NRS11

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

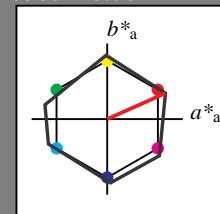
$lab^*tch$  and  $lab^*nch$

D65: hue R

LCH\*Ma: 53 84 24

olv\*Ma: 1.0 0.0 0.0

triangle lightness  $t^*$



relative Inform. Technology (IT)

$olv^3*$  1.0 1.0 1.0 (1.0)

$cmy^3*$  0.0 0.0 0.0 (0.0)

$olv^4*$  1.0 1.0 1.0 1.0

$cmy^4*$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrf$  1.0 0.0 0.0

$lab^*fce$  1.0 0.0 -

$lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)

$olv^3*$  0.5 0.5 0.5 (1.0)

$cmy^3*$  0.5 0.5 0.5 (0.0)

$olv^4*$  1.0 1.0 1.0 0.5

$cmy^4*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  53.21 0.04 0.0

$LAB^*LABa$  53.21 0.0 0.0

$LAB^*TChA$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrf$  0.5 0.0 0.0

$lab^*fce$  0.5 0.0 -

$lab^*ncE$  0.5 0.0 -

relative Inform. Technology (IT)

$olv^3*$  0.0 0.0 0.0 (1.0)

$cmy^3*$  1.0 1.0 1.0 (0.0)

$olv^4*$  1.0 1.0 1.0 0.0

$cmy^4*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  11.01 0.07 0.01

$LAB^*LABa$  11.01 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrf$  0.0 0.0 0.0

$lab^*fce$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

## NRS11; adapted (a) CIELAB data

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

RMa	53.2	77.06	34.32	84.36	24
JMa	53.2	-1.51	84.38	84.39	91
GMa	53.2	-82.27	18.98	84.44	167
G50BMa	53.2	-77.72	-32.98	84.44	203
BMa	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

%Gamut  
 $u^*_{rel} = 119$   
%Regularity  
 $g^*_{H,rel} = 47$   
 $g^*_{C,rel} = 100$

relative Inform. Technology (IT)  
 $olv^3*$  1.0 0.5 0.5 (1.0)  
 $cmy^3*$  0.0 0.5 0.5 (0.0)  
 $olv^4*$  1.0 0.5 0.5 1.0  
 $cmy^4*$  0.0 0.5 0.5 0.0

standard and adapted CIELAB  
 $LAB^*LAB$  74.3 38.55 17.16  
 $LAB^*LABa$  74.3 38.52 17.16  
 $LAB^*TChA$  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)  
 $lab^*lrf$  0.75 0.5 -0.009  
 $lab^*fce$  0.75 0.5 0.997  
 $lab^*ncE$  0.0 0.5 b98r

relative Inform. Technology (IT)

$olv^3*$  0.5 0.5 0.5 (1.0)

$cmy^3*$  0.0 0.5 0.5 (0.0)

$olv^4*$  1.0 0.5 0.5 0.5

$cmy^4*$  0.0 0.5 0.5 0.5

standard and adapted CIELAB

$LAB^*LAB$  53.2 77.09 34.32

$LAB^*LABa$  53.2 77.04 34.31

$LAB^*TChA$  50.0 84.34 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 1.0 0.067

relative Natural Colour (NC)

$lab^*lrf$  0.5 1.0 -0.019

$lab^*fce$  0.5 1.0 0.997

$lab^*ncE$  0.0 1.0 b98r

relative Inform. Technology (IT)

$olv^3*$  0.0 0.0 0.0 (1.0)

$cmy^3*$  1.0 1.0 1.0 (0.0)

$olv^4*$  1.0 1.0 1.0 0.0

$cmy^4*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  11.01 0.07 0.01

$LAB^*LABa$  11.01 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.25 0.457 0.203

$lab^*tch$  0.25 0.5 0.067

$lab^*nch$  0.5 0.5 0.067

relative Natural Colour (NC)

$lab^*lrf$  0.25 0.5 -0.009

$lab^*fce$  0.25 0.5 0.997

$lab^*ncE$  0.5 0.5 b98r

$n^* = 0,00$

blackness  $n^*$

chromaticness  $c^*$

## Output: Colorimetric Reflective System NRS11

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

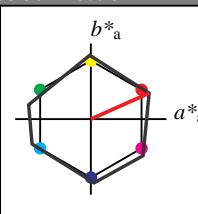
$lab^*tch$  and  $lab^*nch$

D65: hue R

LCH\*Ma: 53 84 24

olv\*Ma: 1.0 0.0 0.0

triangle lightness  $t^*$



%Gamut  
 $u^*_{rel} = 119$   
%Regularity  
 $g^*_{H,rel} = 47$   
 $g^*_{C,rel} = 100$

relative Inform. Technology (IT)  
 $olv^3*$  1.0 1.0 1.0 (1.0)  
 $cmy^3*$  0.0 0.0 0.0 (0.0)  
 $olv^4*$  1.0 1.0 1.0 1.0  
 $cmy^4*$  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 -  
 $lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)  
 $lab^*lrf$  1.0 0.0 0.0  
 $lab^*fce$  1.0 0.0 -  
 $lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)

$olv^3*$  1.0 1.0 1.0 (1.0)

$cmy^3*$  0.0 0.0 0.0 (0.0)

$olv^4*$  1.0 1.0 1.0 1.0

$cmy^4*$  0.0 0.0 0.0 0.0

standard and adapted CIELAB  
 $LAB^*LAB$  38.55 17.16 24.01  
 $LAB^*LABa$  38.52 17.16 24.01  
 $LAB^*TChA$  38.52 17.16 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)  
 $lab^*lrf$  0.75 0.5 -0.009  
 $lab^*fce$  0.75 0.5 0.997  
 $lab^*ncE$  0.0 0.5 b98r

relative Inform. Technology (IT)

$olv^3*$  1.0 1.0 1.0 (1.0)

$cmy^3*$  0.0 0.0 0.0 (0.0)

$olv^4*$  1.0 1.0 1.0 1.0

$cmy^4*$  0.0 0.0 0.0 0.0

standard and adapted CIELAB  
 $LAB^*LAB$  71.56 71.62 92  
 $LAB^*LABa$  71.56 71.62 92  
 $LAB^*TChA$  71.56 71.62 92

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)

$lab^*lrf$  0.75 0.5 -0.009

$lab^*fce$  0.75 0.5 0.997

$lab^*ncE$  0.0 0.5 b98r

$n^* = 1,0$

3 step scales for constant CIELAB hue 24/360 = 0.067 (right)

## NRS11; adapted (a) CIELAB data

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

RMa	53.2	77.06	34.32	84.36	24
JMa	53.2	-1.51	84.38	84.39	91
GMa	53.2	-82.27	18.98	84.44	167
G50BMa	53.2	-77.72	-32.98	84.44	203
BMa	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)  
 $olv^3*$  1.0 0.5 0.5 (1.0)  
 $cmy^3*$  0.0 0.5 0.5 (0.0)  
 $olv^4*$  1.0 0.5 0.5 1.0  
 $cmy^4*$  0.0 0.5 0.5 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\*  
 $lab^*lab$  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)  
 $lab^*lrf$  0.75 0.5 -0.009  
 $lab^*fce$  0.75 0.5 0.997  
 $lab^*ncE$  0.0 0.5 b98r

relative Inform. Technology (IT)

$olv^3*$  1.0 1.0 1.0 (1.0)

$cmy^3*$  0.0 1.0 1.0 (0.0)

## Input: Colorimetric Reflective System NRS11

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

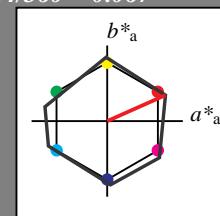
$lab^*tch$  and  $lab^*nch$

D65: hue R

LCH\*Ma: 53 84 24

olv\*Ma: 1.0 0.0 0.0

triangle lightness  $t^*$



### NRS11; adapted (a) CIELAB data

	$L^* = L_a^*$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	53.2	77.06	34.32	84.36	24
JMa	53.2	-1.51	84.38	84.39	91
GMa	53.2	-82.27	18.98	84.44	167
G50BMa	53.2	-77.72	-32.98	84.44	203
BMa	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)

$olv_i3^*$  1.0 1.0 1.0 (1.0)

$cmy3^*$  0.0 0.0 0.0 (0.0)

$olv_i4^*$  1.0 1.0 1.0 1.0

$cmy4^*$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  74.3 38.55 17.16

$LAB^*LABa$  74.3 38.52 17.16

$LAB^*TChA$  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)

$lab^*lrij$  0.75 0.5 -0.009

$lab^*tce$  0.75 0.5 0.997

$lab^*ncE$  0.0 0.5 b98r

relative Inform. Technology (IT)

$olv_i3^*$  0.5 0.5 0.5 (1.0)

$cmy3^*$  0.5 0.5 0.5 (0.0)

$olv_i4^*$  1.0 1.0 1.0 0.5

$cmy4^*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  53.21 0.04 0.0

$LAB^*LABa$  53.21 0.0 0.0

$LAB^*TChA$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.5 0.0 0.0

$lab^*tce$  0.5 0.0 0.0

$lab^*ncE$  0.5 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  32.1 38.58 17.17

$LAB^*LABa$  32.1 38.52 17.16

$LAB^*TChA$  25.01 42.17 24.01

relative CIELAB lab\*

$lab^*lab$  0.25 0.457 0.203

$lab^*tch$  0.25 0.5 0.067

$lab^*nch$  0.5 0.5 0.067

relative Natural Colour (NC)

$lab^*lrij$  0.25 0.5 -0.009

$lab^*tce$  0.25 0.5 0.997

$lab^*ncE$  0.5 0.5 b98r

$n^* = 1,0$

$n^* = 0,00$

$n^* = 0,50$

$1,00$

chromaticness  $c^*$

## Output: Colorimetric Reflective System NCS11

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

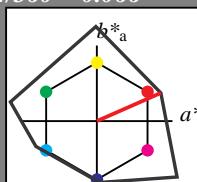
$lab^*tch$  and  $lab^*nch$

D65: hue R

LCH\*Ma: 47 92 24

olv\*Ma: 1.0 0.0 0.0

triangle lightness  $t^*$



### 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

relative Inform. Technology (IT)

$olv_i3^*$  1.0 1.0 1.0 (1.0)

$cmy3^*$  0.0 0.0 0.0 (0.0)

$olv_i4^*$  1.0 1.0 1.0 1.0

$cmy4^*$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  74.3 38.55 17.16

$LAB^*LABa$  74.3 38.52 17.16

$LAB^*TChA$  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)

$lab^*lrij$  0.75 0.5 -0.009

$lab^*tce$  0.75 0.5 0.997

$lab^*ncE$  0.0 0.5 b98r

relative Inform. Technology (IT)

$olv_i3^*$  0.5 0.5 0.5 (1.0)

$cmy3^*$  0.5 1.0 1.0 (0.0)

$olv_i4^*$  1.0 1.0 1.0 0.5

$cmy4^*$  0.0 0.5 0.5 0.5

standard and adapted CIELAB

$LAB^*LAB$  53.21 0.04 0.0

$LAB^*LABa$  53.21 0.0 0.0

$LAB^*TChA$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.25 0.457 0.203

$lab^*tch$  0.25 0.5 0.067

$lab^*nch$  0.5 0.5 0.067

relative Natural Colour (NC)

$lab^*lrij$  0.25 0.5 -0.009

$lab^*tce$  0.25 0.5 0.997

$lab^*ncE$  0.5 0.5 b98r

relative Inform. Technology (IT)

$olv_i3^*$  0.0 0.0 0.0 (1.0)

$cmy3^*$  1.0 1.0 1.0 (0.0)

$olv_i4^*$  1.0 1.0 1.0 0.5

$cmy4^*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  11.01 0.07 0.01

$LAB^*LABa$  11.01 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*tce$  0.0 0.0 -

$lab^*ncE$  1.0 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

$n^* = 1,0$

$n^* = 0,50$

$1,00$

chromaticness  $c^*$

$n^* = 1,0$

3 step scales for constant CIELAB hue 24/360 = 0.066 (right)

UE100-7, 3 step scales for constant CIELAB hue 24/360 = 0.067 (left)

## Input: Colorimetric Reflective System NCS11

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

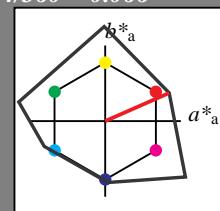
$lab^*tch$  and  $lab^*nch$

D65: hue R

LCH\*Ma: 47 92 24

olv\*Ma: 1.0 0.0 0.0

triangle lightness  $t^*$



relative Inform. Technology (IT)

$olv^3*$  1.0 1.0 1.0 (1.0)

$cmy^3*$  0.0 0.0 0.0 (0.0)

$olv^4*$  1.0 1.0 1.0 1.0

$cmy^4*$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)

$olv^3*$  0.5 0.5 0.5 (1.0)

$cmy^3*$  0.5 0.5 0.5 (0.0)

$olv^4*$  1.0 1.0 1.0 0.5

$cmy^4*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  53.21 0.04 0.0

$LAB^*LABa$  53.21 0.0 0.0

$LAB^*TChA$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.5 0.0 0.0

$lab^*tce$  0.5 0.0 0.0

$lab^*ncE$  0.5 0.0 -

relative Inform. Technology (IT)

$olv^3*$  0.0 0.0 0.0 (1.0)

$cmy^3*$  1.0 1.0 1.0 (0.0)

$olv^4*$  1.0 1.0 1.0 0.0

$cmy^4*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  11.01 0.07 0.01

$LAB^*LABa$  11.01 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*tce$  0.0 0.0 0.0

$lab^*ncE$  1.0 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
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

%Gamut

$u^*_{rel} = 149$

%Regularity

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

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

relative Inform. Technology (IT)

$olv^3*$  1.0 0.5 0.5 (1.0)

$cmy^3*$  0.0 0.5 0.5 (0.0)

$olv^4*$  1.0 0.5 0.5 1.0

$cmy^4*$  0.0 0.5 0.5 0.0

standard and adapted CIELAB

$LAB^*LAB$  71.27 42.34 18.63

$LAB^*LABa$  71.27 42.31 18.62

$LAB^*TChA$  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)

$lab^*lrij$  0.714 0.5 -0.01

$lab^*tce$  0.75 0.5 0.996

$lab^*ncE$  0.0 0.5 b98r

relative Inform. Technology (IT)

$olv^3*$  0.5 0.0 0.0 (1.0)

$cmy^3*$  0.5 0.0 0.5 (0.0)

$olv^4*$  1.0 1.0 1.0 0.5

$cmy^4*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  47.15 84.68 37.26

$LAB^*LABa$  47.15 84.63 37.24

$LAB^*TChA$  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)

$lab^*lrij$  0.428 1.0 -0.023

$lab^*tce$  0.5 1.0 0.996

$lab^*ncE$  0.0 1.0 b98r

relative Inform. Technology (IT)

$olv^3*$  0.0 0.0 0.0 (1.0)

$cmy^3*$  1.0 1.0 1.0 (0.0)

$olv^4*$  1.0 1.0 1.0 0.0

$cmy^4*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  11.01 0.07 0.01

$LAB^*LABa$  11.01 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*tce$  0.0 0.0 0.0

$lab^*ncE$  1.0 0.0 -

$n^* = 0,00$

blackness  $n^*$

chromaticness  $c^*$

## Output: Colorimetric Reflective System ORS18

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

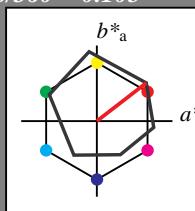
$lab^*tch$  and  $lab^*nch$

D65: hue O

LCH\*Ma: 48 83 38

olv\*Ma: 1.0 0.0 0.0

triangle lightness  $t^*$



%Gamut

$u^*_{rel} = 93$

%Regularity

$g^*_{H,rel} = 57$

$g^*_{C,rel} = 59$

relative Inform. Technology (IT)

$olv^3*$  1.0 0.5 0.5 (1.0)

$cmy^3*$  0.0 0.5 0.5 (0.0)

$olv^4*$  1.0 0.5 0.5 1.0

$cmy^4*$  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 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)

$olv^3*$  1.0 0.5 0.5 (1.0)

$cmy^3*$  0.0 0.5 0.5 (0.0)

$olv^4*$  1.0 0.5 0.5 1.0

$cmy^4*$  0.0 0.5 0.5 0.0

standard and adapted CIELAB

$LAB^*LAB$  71.27 32.15 28.41

$LAB^*LABa$  71.27 32.68 25.25

$LAB^*TChA$  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)

$lab^*lrij$  0.693 0.477 0.15

$lab^*tce$  0.75 0.5 0.048

$lab^*ncE$  0.0 0.5 r19j

$n^* = 1,0$

## ORS18; adapted (a) CIELAB data

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

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)

$olv^3*$  1.0 0.0 0.0 (1.0)

$cmy^3*$  0.0 1.0 1.0 (0.0)

$olv^4*$  1.

## Input: Colorimetric Reflective System NCS11

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

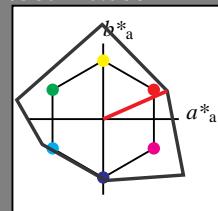
$lab^*tch$  and  $lab^*nch$

D65: hue R

LCH\*Ma: 47 92 24

olv\*Ma: 1.0 0.0 0.0

triangle lightness  $t^*$



## NCS11; adapted (a) CIELAB data

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

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

$LAB^*LABa$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrf$  1.0 0.0 0.0

$lab^*fce$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  71.27 42.34 18.63

$LAB^*LABa$  71.27 42.31 18.62

$LAB^*TChA$  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)

$lab^*lrf$  0.714 0.5 -0.011

$lab^*fce$  0.75 0.5 0.996

$lab^*ncE$  0.0 0.5 b98r

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 0.5

$cmyn^4*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  53.21 0.04 0.0

$LAB^*LABa$  53.21 0.0 0.0

$LAB^*TChA$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrf$  0.5 0.0 0.0

$lab^*fce$  0.5 0.0 0.0

$lab^*ncE$  0.5 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  11.01 0.07 0.01

$LAB^*LABa$  11.01 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

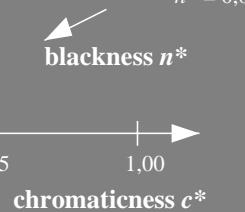
$lab^*lrf$  0.0 0.0 0.0

$lab^*fce$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

$n^* = 0,00$



chromaticness  $c^*$

## Output: Colorimetric Reflective System MRS18

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

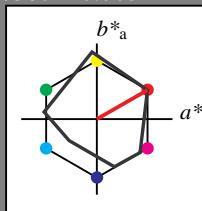
$lab^*tch$  and  $lab^*nch$

D65: hue R

LCH\*Ma: 50 77 30

olv\*Ma: 1.0 0.0 0.0

triangle lightness  $t^*$



## MRS18; adapted (a) CIELAB data

	$L^* = L^*_{ab}$	$a^*_{ab}$	$b^*_{ab}$	$C^*_{ab,a}$	$h^*_{ab,a}$
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)
$olv^3*$ 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

$LAB^*LABa$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrf$  1.0 0.0 0.0

$lab^*fce$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  72.52 32.93 22.4

$LAB^*LABa$  72.52 33.47 19.18

$LAB^*TChA$  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)

$lab^*lrf$  0.704 0.496 0.06

$lab^*fce$  0.75 0.5 0.019

$lab^*ncE$  0.0 0.5 r07j

relative Inform. Technology (IT)

$olv^3*$  1.0 0.0 0.0 (1.0)

$cmyn^3*$  0.0 1.0 1.0 (0.0)

$olv^4*$  1.0 0.5 0.5 0.5

$cmyn^4*$  0.0 0.5 0.5 0.5

standard and adapted CIELAB

$LAB^*LAB$  49.63 66.84 40.03

$LAB^*LABa$  49.63 66.95 38.36

$LAB^*TChA$  50.0 77.16 29.82

relative CIELAB lab\*

$lab^*lab$  0.409 0.867 0.497

$lab^*tch$  0.5 1.0 0.083

$lab^*nch$  0.0 1.0 0.083

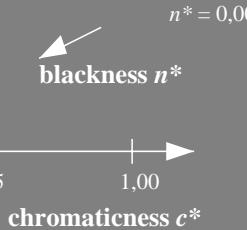
relative Natural Colour (NC)

$lab^*lrf$  0.409 0.993 0.119

$lab^*fce$  0.5 1.0 0.019

$lab^*ncE$  0.0 1.0 r07j

$n^* = 0,00$



chromaticness  $c^*$

$n^* = 1,0$

3 step scales for constant CIELAB hue 24/360 = 0.066 (left)

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

## Input: Colorimetric Reflective System NCS11

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

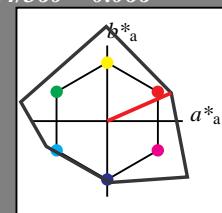
$lab^*tch$  and  $lab^*nch$

D65: hue R

LCH\*Ma: 47 92 24

olv\*Ma: 1.0 0.0 0.0

triangle lightness  $t^*$



## NCS11; adapted (a) CIELAB data

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

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

$LAB^*LABa$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  71.27 42.34 18.63

$LAB^*LABa$  71.27 42.31 18.62

$LAB^*TChA$  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)

$lab^*lrij$  0.714 0.5 -0.011

$lab^*tce$  0.75 0.5 0.996

$lab^*ncE$  0.0 0.5 b98r

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 0.5

$cmyn^4*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  53.21 0.04 0.0

$LAB^*LABa$  53.21 0.0 0.0

$LAB^*TChA$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.5 0.0 0.0

$lab^*tce$  0.5 0.0 0.0

$lab^*ncE$  0.5 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  11.01 0.07 0.01

$LAB^*LABa$  11.01 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*tce$  0.0 0.0 -

$lab^*ncE$  1.0 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

$LAB^*LAB$  71.27 42.34 18.63

$LAB^*LABa$  71.27 42.31 18.62

$LAB^*TChA$  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)

$lab^*lrij$  0.714 0.5 -0.011

$lab^*tce$  0.75 0.5 0.996

$lab^*ncE$  0.0 0.5 b98r

standard and adapted CIELAB

$LAB^*LAB$  29.07 42.38 18.64

$LAB^*LABa$  29.07 42.31 18.62

$LAB^*TChA$  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

$lab^*nch$  0.5 0.5 0.066

relative Natural Colour (NC)

$lab^*lrij$  0.214 0.5 -0.011

$lab^*tce$  0.25 0.5 0.996

$lab^*ncE$  0.5 0.5 b98r

standard and adapted CIELAB

$LAB^*LAB$  11.01 0.07 0.01

$LAB^*LABa$  11.01 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*tce$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 0,00$

blackness  $n^*$

chromaticness  $c^*$

$n^* = 0,50$

$n^* = 1,00$

$n^* = 0,25$

## Output: Colorimetric Reflective System TRS18

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

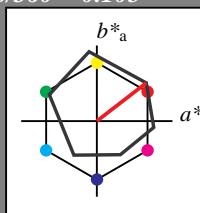
$lab^*tch$  and  $lab^*nch$

D65: hue O

LCH\*Ma: 48 83 38

olv\*Ma: 1.0 0.0 0.0

triangle lightness  $t^*$



## TRS18; adapted (a) CIELAB data

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

$olv^3*$  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

$LAB^*LABa$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 0.0

$lab^*ncE$  0.0 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 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)

$lab^*lrij$  0.693 0.477 0.15

$lab^*tce$  0.75 0.5 0.048

$lab^*ncE$  0.0 0.5 r19j

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 0.5 0.5 0.5

$cmyn^4*$  0.0 0.5 0.5 0.5

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 CIELAB lab\*

$lab^*lab$  0.387 0.791 0.611

$lab^*tch$  0.5 1.0 0.105

$lab^*nch$  0.0 1.0 0.105

relative Natural Colour (NC)

$lab^*lrij$  0.387 0.954 0.299

$lab^*tce$  0.5 1.0 0.048

$lab^*ncE$  0.0 1.0 r19j

relative Inform. Technology (IT)

$olv^3*$  1.0 1.0 1.0 (1.0)

$cmyn^3*$  1.0 1

## Input: Colorimetric Reflective System NCS11

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

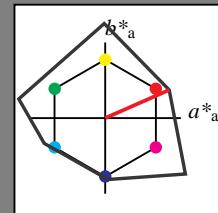
$lab^*tch$  and  $lab^*nch$

D65: hue R

LCH\*Ma: 47 92 24

olv\*Ma: 1.0 0.0 0.0

triangle lightness  $t^*$



### NCS11; adapted (a) CIELAB data

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

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

$LAB^*LABa$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  71.27 42.34 18.63

$LAB^*LABa$  71.27 42.31 18.62

$LAB^*TChA$  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)

$lab^*lrij$  0.714 0.5 -0.011

$lab^*tce$  0.75 0.5 0.996

$lab^*ncE$  0.0 0.5 b98r

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 0.5

$cmyn^4*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  53.21 0.04 0.0

$LAB^*LABa$  53.21 0.0 0.0

$LAB^*TChA$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.5 0.0 0.0

$lab^*tce$  0.5 0.0 0.0

$lab^*ncE$  0.5 0.0 -

n\* = 1,0

%Gamut

$u^*_{rel} = 149$

%Regularity

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

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

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

$LAB^*LABa$  71.27 42.31 18.62

$LAB^*TChA$  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)

$lab^*lrij$  0.714 0.5 -0.011

$lab^*tce$  0.75 0.5 0.996

$lab^*ncE$  0.0 0.5 b98r

standard and adapted CIELAB

$LAB^*LAB$  47.15 84.64 37.25

$LAB^*LABa$  47.15 84.63 37.24

$LAB^*TChA$  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)

$lab^*lrij$  0.428 1.0 -0.023

$lab^*tce$  0.5 1.0 0.996

$lab^*ncE$  0.0 1.0 b98r

n\* = 0,00

n\* = 0,50

n\* = 1,00

relative Inform. Technology (IT)

$olv^3*$  1.0 0.0 0.0 (1.0)

$cmyn^3*$  0.0 1.0 1.0 (0.0)

$olv^4*$  1.0 1.0 1.0 1.0

$cmyn^4*$  0.0 1.0 1.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  29.07 42.38 18.64

$LAB^*LABa$  29.07 42.31 18.62

$LAB^*TChA$  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

$lab^*nch$  0.5 0.5 0.066

relative Natural Colour (NC)

$lab^*lrij$  0.214 0.5 -0.011

$lab^*tce$  0.25 0.5 0.996

$lab^*ncE$  0.5 0.5 b98r

n\* = 0,00

n\* = 0,50

n\* = 1,00

## Output: Colorimetric Reflective System MRS18a

for hue  $h^* = lab^*h = 31/360 = 0.086$

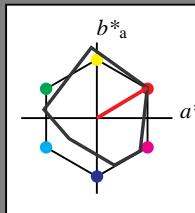
$lab^*tch$  and  $lab^*nch$

D65: hue R

LCH\*Ma: 50 78 31

olv\*Ma: 1.0 0.0 0.0

triangle lightness  $t^*$



	$L^* = L^*_{ab}$	$a^*_{ab}$	$b^*_{ab}$	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	49.63	66.8	40.02	77.87	31
JMa	90.7	-7.27	93.19	93.48	94
GMa	52.11	-69.93	11.26	70.85	171
G50BMa	45.03	-36.65	-27.13	45.61	217
BMa	36.65	23.26	-62.27	66.49	290
B50RMa	34.94	57.27	-43.6	71.99	323
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	272

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 0.01 0.0

$LAB^*LABa$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  72.52 33.43 20.01

$LAB^*LABa$  72.52 33.39 20.01

$LAB^*TChA$  75.0 38.93 30.93

relative CIELAB lab\*

$lab^*lab$  0.704 0.429 0.257

$lab^*tch$  0.75 0.5 0.086

$lab^*nch$  0.0 0.5 0.086

relative Natural Colour (NC)

$lab^*lrij$  0.704 0.496 0.064

$lab^*tce$  0.75 0.5 0.02

$lab^*ncE$  0.0 0.5 r08j

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 0.5

$cmyn^4*$  0.0 0.5 0.5 0.5

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.1 0.02

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*tce$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

n\* = 1,0

relative Inform. Technology (IT)

$olv^3*$  0.0 1.0 1.0 (0.0)

$cmyn^3*$  0.0 1.0 1.0 (0.0)

$olv^4*$  1.0 1.0 1.0 1.0

## Input: Colorimetric Reflective System NCS11

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

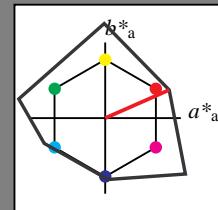
$lab^*tch$  and  $lab^*nch$

D65: hue R

LCH\*Ma: 47 92 24

olv\*Ma: 1.0 0.0 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

relative Inform. Technology (IT)  
 $olv_i3^*$  1.0 1.0 1.0 (1.0)  
 $cmyn3^*$  0.0 0.0 0.0 (0.0)  
 $olv_i4^*$  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 -  
 $lab^*nch$  0.0 0.0 -  
relative Natural Colour (NC)  
 $lab^*lrij$  1.0 0.0 0.0  
 $lab^*tce$  1.0 0.0 0.0  
 $lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)  
 $olv_i3^*$  0.5 0.5 0.5 (1.0)  
 $cmyn3^*$  0.5 0.5 0.5 (0.0)  
 $olv_i4^*$  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  
 $LAB^*LABa$  53.21 0.0 0.0  
 $LAB^*TChA$  50.0 0.01 -

relative CIELAB lab\*  
 $lab^*lab$  0.5 0.0 0.0  
 $lab^*tch$  0.5 0.0 -  
 $lab^*nch$  0.5 0.0 -  
relative Natural Colour (NC)  
 $lab^*lrij$  0.5 0.0 0.0  
 $lab^*tce$  0.5 0.0 0.0  
 $lab^*ncE$  0.5 0.0 -

relative Inform. Technology (IT)  
 $olv_i3^*$  0.0 0.0 0.0 (1.0)  
 $cmyn3^*$  1.0 1.0 1.0 (0.0)  
 $olv_i4^*$  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 0.0 0.0  
 $LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*  
 $lab^*lab$  0.0 0.0 0.0  
 $lab^*tch$  0.0 0.0 -  
 $lab^*nch$  1.0 0.0 -  
relative Natural Colour (NC)  
 $lab^*lrij$  0.0 0.0 0.0  
 $lab^*tce$  0.0 0.0 -  
 $lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

%Gamut

$u^*_{rel} = 149$

%Regularity

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

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

relative Inform. Technology (IT)  
 $olv_i3^*$  1.0 0.5 0.5 (1.0)  
 $cmyn3^*$  0.0 0.5 0.5 (0.0)

$olv_i4^*$  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  
 $LAB^*LABa$  71.27 42.31 18.62  
 $LAB^*TChA$  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)

$lab^*lrij$  0.714 0.5 -0.011

$lab^*tce$  0.75 0.5 0.996

$lab^*ncE$  0.0 0.5 b98r

standard and adapted CIELAB  
 $LAB^*LAB$  47.15 48.68 37.26  
 $LAB^*LABa$  47.15 84.63 37.24  
 $LAB^*TChA$  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)

$lab^*lrij$  0.428 1.0 -0.023

$lab^*tce$  0.5 1.0 0.996

$lab^*ncE$  0.0 1.0 b98r

relative Inform. Technology (IT)  
 $olv_i3^*$  0.0 0.0 0.0 (1.0)

$cmyn3^*$  1.0 1.0 1.0 (0.0)

$olv_i4^*$  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 0.0 0.0  
 $LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*tce$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 0,00$

relative Inform. Technology (IT)  
 $olv_i3^*$  1.0 0.0 0.0 (1.0)

$cmyn3^*$  0.0 1.0 1.0 (0.0)

$olv_i4^*$  1.0 1.0 1.0 0.5

$cmyn4^*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB  
 $LAB^*LAB$  47.15 48.68 37.26  
 $LAB^*LABa$  47.15 84.63 37.24  
 $LAB^*TChA$  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)

$lab^*lrij$  0.428 1.0 -0.023

$lab^*tce$  0.5 1.0 0.996

$lab^*ncE$  0.0 1.0 b98r

relative Inform. Technology (IT)  
 $olv_i3^*$  0.0 0.0 0.0 (1.0)

$cmyn3^*$  1.0 1.0 1.0 (0.0)

$olv_i4^*$  1.0 1.0 1.0 0.0

$cmyn4^*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB  
 $LAB^*LAB$  18.02 0.09 0.02  
 $LAB^*LABa$  18.02 0.0 0.0  
 $LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*tce$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 0,50$

$n^* = 1,00$

$n^* = 0,00$

blackness  $n^*$

$c^*$

## Output: Colorimetric Reflective System NRS18

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

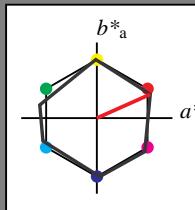
$lab^*tch$  and  $lab^*nch$

D65: hue R

LCH\*Ma: 57 77 24

olv\*Ma: 1.0 0.0 0.0

triangle lightness  $t^*$



## NRS18; adapted (a) CIELAB data

	$L^* = L_a^*$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	56.7	70.66	31.47	77.35	24
JMa	56.7	-1.39	77.37	77.39	91
GMa	56.7	-75.46	17.4	77.45	167
G50BMa	56.7	-71.29	-30.25	77.45	203
BMa	56.7	4.0	-77.3	77.41	273
B50RMa	56.7	63.35	-44.4	77.36	325
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	272

relative Inform. Technology (IT)  
 $olv_i3^*$  1.0 1.0 1.0 (1.0)  
 $cmyn3^*$  0.0 0.0 0.0 (0.0)

$olv_i4^*$  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 0.0  
 $LAB^*LABa$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 -

$lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)  
 $olv_i3^*$  0.5 0.5 0.5 (1.0)

$cmyn3^*$  0.5 0.5 0.5 (0.0)

$olv_i4^*$  1.0 0.5 0.5 1.0

$cmyn4^*$  0.0 0.5 0.5 0.0

standard and adapted CIELAB  
 $LAB^*LAB$  76.05 35.35 15.74  
 $LAB^*LABa$  76.05 35.32 15.73  
 $LAB^*TChA$  75.0 38.67 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)

$lab^*lrij$  0.75 0.5 -0.009

$lab^*tce$  0.75 0.5 0.997

$lab^*ncE$  0.0 0.5 b98r

relative Inform. Technology (IT)  
 $olv_i3^*$  0.0 0.0 0.0 (1.0)

$cmyn3^*$  1.0 1.0 1.0 (0.0)

$olv_i4^*$  1.0 1.0 1.0 0.0

$cmyn4^*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB  
 $LAB^*LAB$  37.36 35.4 15.75  
 $LAB^*LABa$  37.36 35.32 15.73  
 $LAB^*TChA$  25.01 38.67 24.01

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*tce$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

$n^* = 0,50$

blackness  $n^*$

$c^*$

$n^* = 0,00$

## Input: Colorimetric Reflective System NCS11

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

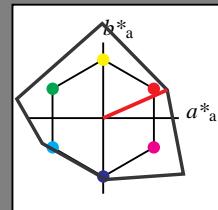
$lab^*tch$  and  $lab^*nch$

D65: hue R

LCH\*Ma: 47 92 24

olv\*Ma: 1.0 0.0 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

relative Inform. Technology (IT)

$olv_i3^*$  1.0 1.0 1.0 (1.0)

$cmyn3^*$  0.0 0.0 0.0 (0.0)

$olv_i4^*$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  71.27 42.34 18.63

$LAB^*LABa$  71.27 42.31 18.62

$LAB^*TChA$  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)

$lab^*lrij$  0.714 0.5 -0.011

$lab^*tce$  0.75 0.5 0.996

$lab^*ncE$  0.0 0.5 b98r

relative Inform. Technology (IT)

$olv_i3^*$  0.5 0.5 0.5 (1.0)

$cmyn3^*$  0.5 0.5 0.5 (0.0)

$olv_i4^*$  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

$LAB^*LABa$  53.21 0.0 0.0

$LAB^*TChA$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.5 0.0 0.0

$lab^*tce$  0.5 0.0 0.0

$lab^*ncE$  0.5 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  11.01 0.07 0.01

$LAB^*LABa$  11.01 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*tce$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

relative Inform. Technology (IT)

$olv_i3^*$  1.0 0.5 0.5 (1.0)

$cmyn3^*$  0.0 0.5 0.5 (0.0)

$olv_i4^*$  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

$LAB^*LABa$  71.27 42.31 18.62

$LAB^*TChA$  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)

$lab^*lrij$  0.714 0.5 -0.011

$lab^*tce$  0.75 0.5 0.996

$lab^*ncE$  0.0 0.5 b98r

standard and adapted CIELAB

$LAB^*LAB$  47.15 42.34 18.63

$LAB^*LABa$  47.15 42.31 18.62

$LAB^*TChA$  50.0 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)

$lab^*lrij$  0.714 0.5 -0.023

$lab^*tce$  0.75 0.5 0.996

$lab^*ncE$  0.0 0.5 b98r

standard and adapted CIELAB

$LAB^*LAB$  29.07 42.38 18.64

$LAB^*LABa$  29.07 42.31 18.62

$LAB^*TChA$  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

$lab^*nch$  0.5 0.5 0.066

relative Natural Colour (NC)

$lab^*lrij$  0.214 0.5 -0.011

$lab^*tce$  0.25 0.5 0.996

$lab^*ncE$  0.5 0.5 b98r

standard and adapted CIELAB

$LAB^*LAB$  11.01 0.07 0.01

$LAB^*LABa$  11.01 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*tce$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  11.01 0.07 0.01

$LAB^*LABa$  11.01 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

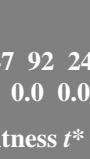
$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*tce$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -



$n^* = 0,00$

blackness  $n^*$

chromaticness  $c^*$

## Output: Colorimetric Reflective System NCS18

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

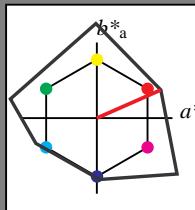
$lab^*tch$  and  $lab^*nch$

D65: hue R

LCH\*Ma: 47 92 24

olv\*Ma: 1.0 0.0 0.0

triangle lightness  $t^*$



%Gamut

$u^*_{rel} = 149$

%Regularity

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

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

relative Inform. Technology (IT)

$olv_i3^*$  1.0 1.0 1.0 (1.0)

$cmyn3^*$  0.0 0.0 0.0 (0.0)

$olv_i4^*$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  71.27 42.34 18.63

$LAB^*LABa$  71.27 42.31 18.62

$LAB^*TChA$  75.0 46.22 23.75

relative CIELAB lab\*

$lab^*lab$  0.688 0.458 0.201

$lab^*tch$  0.75 0.5 0.066

$lab^*nch$  0.0 0.5 0.066

relative Natural Colour (NC)

$lab^*lrij$  0.688 0.5 -0.011

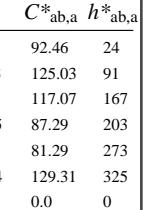
$lab^*tce$  0.75 0.5 0.996

$lab^*ncE$  0.0 0.5 b98r

$n^* = 1,00$

3 step scales for constant CIELAB hue 24/360 = 0.066 (left)

3 step scales for constant CIELAB hue 24/360 = 0.066 (right)



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




<tbl\_r cells="6" ix="4" maxcspan="1" maxrspan="1

## Input: Colorimetric Reflective System NCS11

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

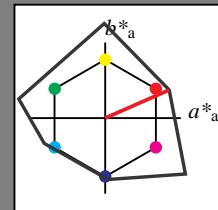
$lab^*tch$  and  $lab^*nch$

D65: hue R

LCH\*Ma: 47 92 24

olv\*Ma: 1.0 0.0 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

relative Inform. Technology (IT)

$olv_i3^*$  1.0 1.0 1.0 (1.0)

$cmyn3^*$  0.0 0.0 0.0 (0.0)

$olv_i4^*$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  71.27 42.34 18.63

$LAB^*LABa$  71.27 42.31 18.62

$LAB^*TChA$  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)

$lab^*lrij$  0.714 0.5 -0.011

$lab^*tce$  0.75 0.5 0.996

$lab^*ncE$  0.0 0.5 b98r

relative Inform. Technology (IT)

$olv_i3^*$  0.5 0.5 0.5 (1.0)

$cmyn3^*$  0.5 0.5 0.5 (0.0)

$olv_i4^*$  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

$LAB^*LABa$  53.21 0.0 0.0

$LAB^*TChA$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.5 0.0 0.0

$lab^*tce$  0.5 0.0 0.0

$lab^*ncE$  0.5 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  29.07 42.38 18.64

$LAB^*LABa$  29.07 42.31 18.62

$LAB^*TChA$  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

$lab^*nch$  0.5 0.5 0.066

relative Natural Colour (NC)

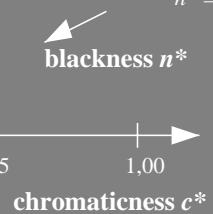
$lab^*lrij$  0.214 0.5 -0.011

$lab^*tce$  0.25 0.5 0.996

$lab^*ncE$  0.5 0.5 b98r

$n^* = 1,0$

$n^* = 0,00$



$chromaticness c^*$

## 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

	$L^* = L_a^*$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	53.2	77.06	34.32	84.36	24
JMa	53.2	-1.51	84.38	84.39	91
GMa	53.2	-82.27	18.98	84.44	167
G50BMa	53.2	-77.72	-32.98	84.44	203
BMa	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)

$olv_i3^*$  1.0 1.0 1.0 (1.0)

$cmyn3^*$  0.0 0.0 0.0 (0.0)

$olv_i4^*$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  74.3 38.55 17.16

$LAB^*LABa$  74.3 38.52 17.16

$LAB^*TChA$  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)

$lab^*lrij$  0.75 0.5 -0.009

$lab^*tce$  0.75 0.5 0.997

$lab^*ncE$  0.0 0.5 b98r

relative Inform. Technology (IT)

$olv_i3^*$  0.5 0.0 0.0 (1.0)

$cmyn3^*$  0.0 1.0 1.0 (0.0)

$olv_i4^*$  1.0 0.5 0.5 0.5

$cmyn4^*$  0.0 0.5 0.5 0.5

standard and adapted CIELAB

$LAB^*LAB$  53.21 0.04 0.0

$LAB^*LABa$  53.21 0.0 0.0

$LAB^*TChA$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 0.913 0.407

$lab^*tch$  0.5 1.0 0.067

$lab^*nch$  0.0 1.0 0.067

relative Natural Colour (NC)

$lab^*lrij$  0.5 1.0 -0.019

$lab^*tce$  0.5 1.0 0.997

$lab^*ncE$  0.0 1.0 b98r

$n^* = 1,0$

## NRS11; adapted (a) CIELAB data

	$L^* = L_a^*$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	53.2	77.06	34.32	84.36	24
JMa	53.2	-1.51	84.38	84.39	91
GMa	53.2	-82.27	18.98	84.44	167
G50BMa	53.2	-77.72	-32.98	84.44	203
BMa	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)

$olv_i3^*$  1.0 0.5 0.5 (1.0)

$cmyn3^*$  0.0 0.5 0.5 (0.0)

$olv_i4^*$  1.0 0.5 0.5 1.0

$cmyn4^*$  0.0 0.5 0.5 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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  74.3 38.55 17.16

$LAB^*LABa$  74.3 38.52 17.16

$LAB^*TChA$  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

## Input: Colorimetric Reflective System NCS11

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

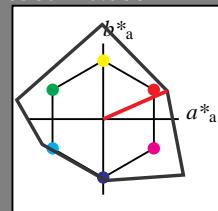
$lab^*tch$  and  $lab^*nch$

D65: hue R

LCH\*Ma: 47 92 24

olv\*Ma: 1.0 0.0 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

relative Inform. Technology (IT)

$olv_i3^*$  1.0 1.0 1.0 (1.0)

$cmyn3^*$  0.0 0.0 0.0 (0.0)

$olv_i4^*$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  1.0 0.0 0.0

$lab^*ice$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  71.27 42.34 18.63

$LAB^*LABa$  71.27 42.31 18.62

$LAB^*TChA$  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

$lab^*ice$  0.75 0.5 0.996

$lab^*ncE$  0.0 0.5 b98r

relative Inform. Technology (IT)

$olv_i3^*$  0.5 0.5 0.5 (1.0)

$cmyn3^*$  0.5 0.5 0.5 (0.0)

$olv_i4^*$  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

$LAB^*LABa$  53.21 0.0 0.0

$LAB^*TChA$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  0.5 0.0 0.0

$lab^*ice$  0.5 0.0 0.0

$lab^*ncE$  0.5 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  11.01 0.07 0.01

$LAB^*LABa$  11.01 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  0.0 0.0 0.0

$lab^*ice$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

relative Inform. Technology (IT)

$olv_i3^*$  1.0 0.5 0.5 (1.0)

$cmyn3^*$  0.0 0.5 0.5 (0.0)

$olv_i4^*$  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

$LAB^*LABa$  71.27 42.31 18.62

$LAB^*TChA$  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

$lab^*ice$  0.75 0.5 0.996

$lab^*ncE$  0.0 0.5 b98r

standard and adapted CIELAB

$LAB^*LAB$  47.15 48.68 37.26

$LAB^*LABa$  47.15 48.63 37.24

$LAB^*TChA$  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

$lab^*ice$  0.5 1.0 0.996

$lab^*ncE$  0.0 1.0 b98r

relative Inform. Technology (IT)

$olv_i3^*$  0.0 0.0 0.0 (1.0)

$cmyn3^*$  1.0 1.0 1.0 (0.0)

$olv_i4^*$  1.0 1.0 1.0 1.0

$cmyn4^*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  11.01 0.07 0.01

$LAB^*LABa$  11.01 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.214 0.458 0.201

$lab^*tch$  0.25 0.5 0.066

$lab^*nch$  0.5 0.5 0.066

relative Natural Colour (NC)

$lab^*lrj$  0.214 0.5 -0.011

$lab^*ice$  0.25 0.5 0.996

$lab^*ncE$  0.5 0.5 b98r

relative Inform. Technology (IT)

$olv_i3^*$  0.0 0.0 0.0 (1.0)

$cmyn3^*$  1.0 1.0 1.0 (0.0)

$olv_i4^*$  1.0 1.0 1.0 1.0

$cmyn4^*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  11.01 0.07 0.01

$LAB^*LABa$  11.01 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.214 0.458 0.201

$lab^*tch$  0.25 0.5 0.066

$lab^*nch$  0.5 0.5 0.066

relative Natural Colour (NC)

$lab^*lrj$  0.214 0.5 -0.011

$lab^*ice$  0.25 0.5 0.996

$lab^*ncE$  0.5 0.5 b98r

relative Inform. Technology (IT)

$olv_i3^*$  0.0 0.0 0.0 (1.0)

$cmyn3^*$  1.0 1.0 1.0 (0.0)

$olv_i4^*$  1.0 1.0 1.0 1.0

$cmyn4^*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  11.01 0.07 0.01

$LAB^*LABa$  11.01 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.214 0.458 0.201

$lab^*tch$  0.25 0.5 0.066

$lab^*nch$  0.5 0.5 0.066

relative Natural Colour (NC)

$lab^*lrj$  0.214 0.5 -0.011

$lab^*ice$  0.25 0.5 0.996

$lab^*ncE$  0.5 0.5 b98r

relative Inform. Technology (IT)

$olv_i3^*$  0.0 0.0 0.0 (1.0)

$cmyn3^*$  1.0 1.0 1.0 (0.0)

$olv_i4^*$  1.0 1.0 1.0 1.0

$cmyn4^*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  11.01 0.07 0.01

$LAB^*LABa$  11.01 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.214 0.458 0.201

$lab^*tch$  0.25 0.5 0.066

$lab^*nch$  0.5 0.5 0.066

relative Natural Colour (NC)

$lab^*lrj$  0.214 0.5 -0.011

$lab^*ice$  0.25 0.5 0.996

$lab^*ncE$  0.5 0.5 b98r

relative Inform. Technology (IT)

$olv_i3^*$  0.0 0.0 0.0 (1.0)

$cmyn3^*$  1.0 1.0 1.0 (0.0)

$olv_i4^*$  1.0 1.0 1.0 1.0

$cmyn4^*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  11.01 0.07 0.01

$LAB^*LABa$  11.01 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.214 0.458 0.201

$lab^*tch$  0.25 0.5 0.066

$lab^*nch$  0.5 0.5 0.066

relative Natural Colour (NC)

$lab^*lrj$  0.214 0.5 -0.011

$lab^*ice$  0.25 0.5 0.996

$lab^*ncE$  0.5 0.5 b98r

relative Inform. Technology (IT)

$olv_i3^*$  0.0 0.0 0.0 (1.0)

$cmyn3^*$  1.0 1.0 1.0 (0.0)

$olv_i4^*$  1.0 1.0 1.0 1.0

## Input: Colorimetric Reflective System ORS18

for hue  $h^* = lab^*h = 96/360 = 0.268$

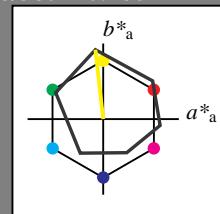
$lab^*tch$  and  $lab^*nch$

D65: hue Y

LCH\*Ma: 90 92 96

olv\*Ma: 1.0 1.0 0.0

triangle lightness  $t^*$



%Gamut

$u^*_{rel} = 93$

%Regularity

$g^*_{H,rel} = 57$

$g^*_{C,rel} = 59$

relative Inform. Technology (IT)

$olv^3* 1.0 \quad 1.0 \quad 1.0 \quad (1.0)$

$cmy^3* 0.0 \quad 0.0 \quad 0.0 \quad (0.0)$

$olv^4* 1.0 \quad 1.0 \quad 1.0 \quad 1.0$

$cmy^4* 0.0 \quad 0.0 \quad 0.0 \quad 0.0$

standard and adapted CIELAB

$LAB^*LAB \quad 95.41 \quad -0.97 \quad 4.75$

$LAB^*LABa \quad 95.41 \quad 0.0 \quad 0.0$

$LAB^*TCh \quad 99.99 \quad 0.01 \quad -$

relative CIELAB lab\*

$lab^*lab \quad 1.0 \quad 0.0 \quad 0.0$

$lab^*tch \quad 1.0 \quad 0.0 \quad -$

$lab^*nch \quad 0.0 \quad 0.0 \quad -$

relative Natural Colour (NC)

$lab^*lrj \quad 1.0 \quad 0.0 \quad 0.0$

$lab^*ice \quad 1.0 \quad 0.0 \quad -$

$lab^*ncE \quad 0.0 \quad 0.0 \quad -$

relative Inform. Technology (IT)

$olv^3* 0.5 \quad 0.5 \quad 0.5 \quad (1.0)$

$cmy^3* 0.5 \quad 0.5 \quad 0.5 \quad (0.0)$

$olv^4* 1.0 \quad 1.0 \quad 1.0 \quad 0.5$

$cmy^4* 0.0 \quad 0.0 \quad 0.0 \quad 0.5$

standard and adapted CIELAB

$LAB^*LAB \quad 92.88 \quad -6.06 \quad 50.46$

$LAB^*LABa \quad 92.88 \quad -5.13 \quad 45.87$

$LAB^*TCh \quad 75.0 \quad 46.16 \quad 96.39$

relative CIELAB lab\*

$lab^*lab \quad 0.967 \quad -0.055 \quad 0.497$

$lab^*tch \quad 0.75 \quad 0.5 \quad 0.268$

$lab^*nch \quad 0.0 \quad 0.5 \quad 0.268$

relative Natural Colour (NC)

$lab^*lrj \quad 0.967 \quad -0.048 \quad 0.497$

$lab^*ice \quad 0.75 \quad 0.2 \quad 0.266$

$lab^*ncE \quad 0.0 \quad 0.5 \quad j06g$

relative Inform. Technology (IT)

$olv^3* 0.5 \quad 0.5 \quad 0.0 \quad (1.0)$

$cmy^3* 0.5 \quad 0.5 \quad 1.0 \quad (0.0)$

$olv^4* 1.0 \quad 1.0 \quad 1.0 \quad 0.0$

$cmy^4* 0.0 \quad 0.0 \quad 0.0 \quad 1.0$

standard and adapted CIELAB

$LAB^*LAB \quad 18.02 \quad 0.5 \quad -0.46$

$LAB^*LABa \quad 18.02 \quad 0.0 \quad 0.0$

$LAB^*TCh \quad 0.01 \quad 0.01 \quad -$

relative CIELAB lab\*

$lab^*lab \quad 0.0 \quad 0.0 \quad 0.0$

$lab^*tch \quad 0.0 \quad 0.0 \quad -$

$lab^*nch \quad 1.0 \quad 0.0 \quad -$

relative Natural Colour (NC)

$lab^*lrj \quad 0.0 \quad 0.0 \quad 0.0$

$lab^*ice \quad 0.0 \quad 0.0 \quad -$

$lab^*ncE \quad 1.0 \quad 0.0 \quad -$

$n^* = 1,0$

## ORS18; adapted (a) CIELAB data

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

	$O_{Ma}$	$Y_{Ma}$	$L_{Ma}$	$C_{Ma}$	$V_{Ma}$	$M_{Ma}$	$N_{Ma}$	$W_{Ma}$	$R_{CIE}$	$J_{CIE}$	$G_{CIE}$	$B_{CIE}$
$L^*=L^*_{ab}$	47.94	65.37	50.52	82.62	38							
$a^*_{ab}$		-10.27	91.77	92.34	96							
$b^*_{ab}$			-62.79	34.95	71.87	151						
$C^*_{ab,a}$				-30.35	-45.01	54.3	236					
$h^*_{ab,a}$						75.73	305					

relative Inform. Technology (IT)

$olv^3* 1.0 \quad 1.0 \quad 1.0 \quad (1.0)$

$cmy^3* 0.0 \quad 0.0 \quad 0.0 \quad (0.0)$

$olv^4* 1.0 \quad 1.0 \quad 1.0 \quad 1.0$

$cmy^4* 0.0 \quad 0.0 \quad 0.0 \quad 0.0$

standard and adapted CIELAB

$LAB^*LAB \quad 95.41 \quad -0.97 \quad 4.75$

$LAB^*LABa \quad 95.41 \quad 0.0 \quad 0.0$

$LAB^*TCh \quad 99.99 \quad 0.01 \quad -$

relative CIELAB lab\*

$lab^*lab \quad 1.0 \quad 0.0 \quad 0.0$

$lab^*tch \quad 1.0 \quad 0.0 \quad -$

$lab^*nch \quad 0.0 \quad 0.0 \quad -$

relative Natural Colour (NC)

$lab^*lrj \quad 1.0 \quad 0.0 \quad 0.0$

$lab^*ice \quad 1.0 \quad 0.0 \quad -$

$lab^*ncE \quad 0.0 \quad 0.0 \quad -$

relative Inform. Technology (IT)

$olv^3* 0.5 \quad 0.5 \quad 0.5 \quad (1.0)$

$cmy^3* 0.5 \quad 0.5 \quad 0.5 \quad (0.0)$

$olv^4* 1.0 \quad 1.0 \quad 1.0 \quad 0.5$

$cmy^4* 0.0 \quad 0.0 \quad 0.5 \quad 0.5$

standard and adapted CIELAB

$LAB^*LAB \quad 92.88 \quad -6.06 \quad 50.46$

$LAB^*LABa \quad 92.88 \quad -5.13 \quad 45.87$

$LAB^*TCh \quad 75.0 \quad 46.16 \quad 96.39$

relative CIELAB lab\*

$lab^*lab \quad 0.967 \quad -0.055 \quad 0.497$

$lab^*tch \quad 0.75 \quad 0.5 \quad 0.268$

$lab^*nch \quad 0.0 \quad 0.5 \quad 0.268$

relative Natural Colour (NC)

$lab^*lrj \quad 0.967 \quad -0.048 \quad 0.497$

$lab^*ice \quad 0.75 \quad 0.2 \quad 0.266$

$lab^*ncE \quad 0.0 \quad 0.5 \quad j06g$

$n^* = 0,00$

blackness  $n^*$

chromaticness  $c^*$

## Output: Colorimetric Reflective System ORS18

for hue  $h^* = lab^*h = 96/360 = 0.268$

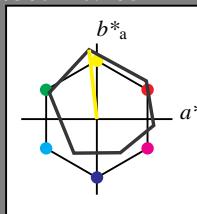
$lab^*tch$  and  $lab^*nch$

D65: hue Y

LCH\*Ma: 90 92 96

olv\*Ma: 1.0 1.0 0.0

triangle lightness  $t^*$



%Gamut

$u^*_{rel} = 93$

%Regularity

$g^*_{H,rel} = 57$

$g^*_{C,rel} = 59$

relative Inform. Technology (IT)

$olv^3* 1.0 \quad 1.0 \quad 1.0 \quad (1.0)$

$cmy^3* 0.0 \quad 0.0 \quad 0.0 \quad (0.0)$

$olv^4* 1.0 \quad 1.0 \quad 1.0 \quad 1.0$

$cmy^4* 0.0 \quad 0.0 \quad 0.0 \quad 0.0$

standard and adapted CIELAB

$LAB^*LAB \quad 95.41 \quad -0.97 \quad 4.75$

$LAB^*LABa \quad 95.41 \quad 0.0 \quad 0.0$

$LAB^*TCh \quad 99.99 \quad 0.01 \quad -$

relative CIELAB lab\*

$lab^*lab \quad 1.0 \quad 0.0 \quad 0.0$

$lab^*tch \quad 1.0 \quad 0.0 \quad -$

$lab^*nch \quad 0.0 \quad 0.0 \quad -$

relative Natural Colour (NC)

$lab^*lrj \quad 1.0 \quad 0.0 \quad 0.0$

$lab^*ice \quad 1.0 \quad 0.0 \quad -$

$lab^*ncE \quad 0.0 \quad 0.0 \quad -$

relative Inform. Technology (IT)

$olv^3* 0.5 \quad 0.5 \quad 0.5 \quad (1.0)$

$cmy^3* 0.5 \quad 0.5 \quad 0.5 \quad (0.0)$

$olv^4* 1.0 \quad 1.0 \quad 1.0 \quad 0.5$

$cmy^4* 0.0 \quad 0.0 \quad 0.5 \quad 0.5$

standard and adapted CIELAB

$LAB^*LAB \quad 92.88 \quad -6.06 \quad 50.46$

$LAB^*LABa \quad 92.88 \quad -5.13 \quad 45.87$

$LAB^*TCh \quad 75.0 \quad 46.16 \quad 96.39$

relative CIELAB lab\*

$lab^*lab \quad 0.967 \quad -0.055 \quad 0.497$

$lab^*tch \quad 0.75 \quad 0.5 \quad 0.268$

$lab^*nch \quad 0.0 \quad 0.5 \quad 0.268$

relative Natural Colour (NC)

$lab^*lrj \quad 0.967 \quad -0.048 \quad 0.497$

$lab^*ice \quad 0.75 \quad 0.2 \quad 0.266$

$lab^*ncE \quad 0.0 \quad 0.5 \quad j06g$

$n^* = 1,0$

blackness  $n^*$

chromaticness  $c^*$

## ORS18; adapted (a) CIELAB data

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

	$O_{Ma}$	$Y_{Ma}$	$L_{Ma}$	$C_{Ma}$	$V_{Ma}$	$M_{Ma}$	$N_{Ma}$	$W_{Ma}$	$R_{CIE}$	$J_{CIE}$	$G_{CIE}$	$B_{CIE}$
$L^*=L^*_{ab}$	47.94	65.37	50.52	82.62	38							
$a^*_{ab}$		-10.27	91.77	92.34	96							
$b^*_{ab}$			-62.79	34.95	71.87	151						
$C^*_{ab,a}$				-30.35	-45.01	54.3	236					
$h^*_{ab,a}$						75.73	305					

relative Inform. Technology (IT)

$olv^3* 1.0 \quad 1.0 \quad 1.0 \quad (1.0)$

$cmy^3* 0.0 \quad 0.0 \quad 0.0 \quad (0.0)$

$olv^4* 1.0 \quad 1.0 \quad 1.0 \quad 1.0$

$cmy^4* 0.0 \quad 0.0 \quad 0.0 \quad 0.0$

standard and adapted CIELAB

$LAB^*LAB \quad 95.41 \quad -0.97 \quad 4.75$

$LAB^*LABa \quad 95.41 \quad 0.0 \quad 0.0$

$LAB^*TCh \quad 99.99 \quad 0.01 \quad -$

## Input: Colorimetric Reflective System ORS18

for hue  $h^* = lab^*h = 96/360 = 0.268$

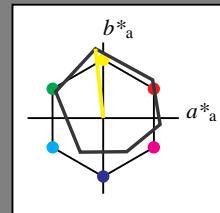
$lab^*tch$  and  $lab^*nch$

D65: hue Y

LCH\*Ma: 90 92 96

olv\*Ma: 1.0 1.0 0.0

triangle lightness  $t^*$



## ORS18; adapted (a) CIELAB data

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

$olv_i3^*$  1.0 1.0 1.0 (1.0)

$cmy_n3^*$  0.0 0.0 0.0 (0.0)

$olv_i4^*$  1.0 1.0 1.0 1.0

$cmy_n4^*$  0.0 0.0 0.0 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 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  1.0 0.0 0.0

$lab^*ice$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  92.88 -6.06 50.46

$LAB^*LABa$  92.88 -5.13 45.87

$LAB^*TChA$  75.0 46.16 96.39

relative CIELAB lab\*

$lab^*lab$  0.967 -0.055 0.497

$lab^*tch$  0.75 0.5 0.268

$lab^*nch$  0.0 0.5 0.268

relative Natural Colour (NC)

$lab^*lrj$  0.967 -0.048 0.497

$lab^*ice$  0.75 0.2 0.266

$lab^*ncE$  0.0 0.5 j06g

relative Inform. Technology (IT)

$olv_i3^*$  0.5 0.5 0.5 (1.0)

$cmy_n3^*$  0.5 0.5 0.5 (0.0)

$olv_i4^*$  1.0 1.0 1.0 0.5

$cmy_n4^*$  0.0 0.0 0.0 0.5

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 CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  0.5 0.0 0.0

$lab^*ice$  0.5 0.0 0.0

$lab^*ncE$  0.5 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.5 -0.46

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  0.0 0.0 0.0

$lab^*ice$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

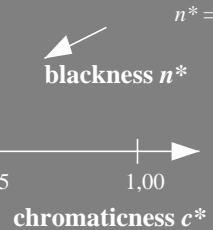
$n^* = 1,0$

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

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

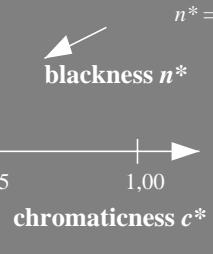
	$L^* = L_a^*$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
OMa	47.94	65.37	50.52	82.62	38
YMa	90.37	-10.27	91.77	92.34	96
LMa	50.9	-62.79	34.95	71.87	151
CMa	58.62	-30.35	-45.01	54.3	236
VMa	25.71	31.11	-44.42	54.24	305
MMa	48.13	75.27	-8.35	75.73	354
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	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

$n^* = 1,0$



blackness  $n^*$

chromaticness  $c^*$



blackness  $n^*$

chromaticness  $c^*$

## Output: Colorimetric Reflective System MRS18

for hue  $h^* = lab^*h = 94/360 = 0.261$

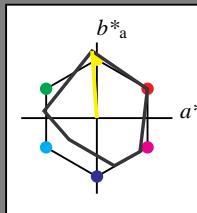
$lab^*tch$  and  $lab^*nch$

D65: hue J

LCH\*Ma: 91 89 94

olv\*Ma: 1.0 1.0 0.0

triangle lightness  $t^*$



%Gamut

$u^*_{rel} = 93$

%Regularity

$g^*_{H,rel} = 57$

$g^*_{C,rel} = 59$

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

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

<table border="1

## Input: Colorimetric Reflective System ORS18

for hue  $h^* = lab^*h = 96/360 = 0.268$

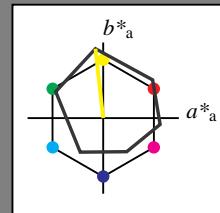
$lab^*tch$  and  $lab^*nch$

D65: hue Y

LCH\*Ma: 90 92 96

olv\*Ma: 1.0 1.0 0.0

triangle lightness  $t^*$



## ORS18; adapted (a) CIELAB data

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

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)  
 $olv_i3^*$  1.0 1.0 1.0 (1.0)  
 $cmyn3^*$  0.0 0.0 0.0 (0.0)  
 $olv_i4^*$  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

$LAB^*LABa$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)  
 $olv_i3^*$  0.5 0.5 0.5 (1.0)  
 $cmyn3^*$  0.5 0.5 0.5 (0.0)  
 $olv_i4^*$  1.0 1.0 1.0 0.5  
 $cmyn4^*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  92.88 -6.06 50.46

$LAB^*LABa$  92.88 -5.13 45.87

$LAB^*TChA$  75.0 46.16 96.39

relative CIELAB lab\*

$lab^*lab$  0.967 -0.055 0.497

$lab^*tch$  0.75 0.5 0.268

$lab^*nch$  0.0 0.5 0.268

relative Natural Colour (NC)

$lab^*lrij$  0.967 -0.048 0.497

$lab^*tce$  0.75 0.2 0.266

$lab^*ncE$  0.0 0.5 j06g

relative Inform. Technology (IT)  
 $olv_i3^*$  0.0 0.0 0.0 (1.0)  
 $cmyn3^*$  1.0 1.0 1.0 (0.0)  
 $olv_i4^*$  1.0 1.0 1.0 0.0  
 $cmyn4^*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.5 -0.46

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*tce$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

## ORS18; adapted (a) CIELAB data

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

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

%Gamut

$u^*_{rel} = 93$

%Regularity

$g^*_{H,rel} = 57$

$g^*_{C,rel} = 59$

relative Inform. Technology (IT)

$olv_i3^*$  1.0 1.0 0.5 (1.0)

$cmyn3^*$  0.0 0.0 0.0 (0.0)

$olv_i4^*$  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

$LAB^*LABa$  95.41 0.0 0.0

$LAB^*TChA$  99.99 0.01 -

relative CIELAB lab\*

$olv_i3^*$  1.0 1.0 0.5 (1.0)

$cmyn3^*$  0.0 0.0 0.0 (0.0)

$olv_i4^*$  1.0 1.0 1.0 0.5

$cmyn4^*$  0.0 0.0 0.0 0.5

relative Natural Colour (NC)

$olv_i3^*$  0.967 -0.048 0.497

$olv_i4^*$  0.75 0.5 0.268

$olv_i5^*$  0.0 0.5 0.268

relative CIELAB lab\*

$olv_i3^*$  0.5 0.5 0.0 (1.0)

$cmyn3^*$  0.5 0.5 0.5 (0.0)

$olv_i4^*$  1.0 1.0 1.0 0.5

$cmyn4^*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  90.37 -11.15 96.17

$LAB^*LABa$  90.37 -10.26 91.75

$LAB^*TChA$  50.0 0.0 0.0

relative CIELAB lab\*

$olv_i3^*$  0.935 -0.11 0.994

$olv_i4^*$  0.5 1.0 0.268

$olv_i5^*$  0.0 1.0 0.268

relative Natural Colour (NC)

$olv_i3^*$  0.935 -0.097 0.995

$olv_i4^*$  0.75 0.5 0.266

$olv_i5^*$  0.0 1.0 0.266

relative CIELAB lab\*

$olv_i3^*$  0.467 -0.055 0.497

$olv_i4^*$  0.25 0.5 0.268

$olv_i5^*$  0.5 0.5 0.268

relative Natural Colour (NC)

$olv_i3^*$  0.467 -0.048 0.497

$olv_i4^*$  0.25 0.5 0.266

$olv_i5^*$  0.5 0.5 0.266

relative CIELAB lab\*

$olv_i3^*$  0.467 -0.055 0.497

$olv_i4^*$  0.25 0.5 0.268

$olv_i5^*$  0.5 0.5 0.268

relative Natural Colour (NC)

$olv_i3^*$  0.467 -0.048 0.497

$olv_i4^*$  0.25 0.5 0.266

$olv_i5^*$  0.5 0.5 0.266

relative CIELAB lab\*

$olv_i3^*$  0.467 -0.055 0.497

$olv_i4^*$  0.25 0.5 0.268

$olv_i5^*$  0.5 0.5 0.268

relative Natural Colour (NC)

$olv_i3^*$  0.467 -0.048 0.497

$olv_i4^*$  0.25 0.5 0.266

$olv_i5^*$  0.5 0.5 0.266

relative CIELAB lab\*

$olv_i3^*$  0.467 -0.055 0.497

$olv_i4^*$  0.25 0.5 0.268

$olv_i5^*$  0.5 0.5 0.268

relative Natural Colour (NC)

$olv_i3^*$  0.467 -0.048 0.497

$olv_i4^*$  0.25 0.5 0.266

$olv_i5^*$  0.5 0.5 0.266

relative CIELAB lab\*

$olv_i3^*$  0.467 -0.055 0.497

$olv_i4^*$  0.25 0.5 0.268

$olv_i5^*$  0.5 0.5 0.268

relative Natural Colour (NC)

$olv_i3^*$  0.467 -0.048 0.497

$olv_i4^*$  0.25 0.5 0.266

$olv_i5^*$  0.5 0.5 0.266

relative CIELAB lab\*

$olv_i3^*$  0.467 -0.055 0.497

$olv_i4^*$  0.25 0.5 0.268

$olv_i5^*$  0.5 0.5 0.268

relative Natural Colour (NC)

$olv_i3^*$  0.467 -0.048 0.497

$olv_i4^*$  0.25 0.5 0.266

$olv_i5^*$  0.5 0.5 0.266

relative CIELAB lab\*

$olv_i3^*$  0.467 -0.055 0.497

$olv_i4^*$  0.25 0.5 0.268

$olv_i5^*$  0.5 0.5 0.268

relative Natural Colour (NC)

$olv_i3^*$  0.467 -0.048 0.497

$olv_i4^*$  0.25 0.5 0.266

$olv_i5^*$  0.5 0.5 0.266

relative CIELAB lab\*

$olv_i3^*$  0.467 -0.055 0.497

$olv_i4^*$  0.25 0.5 0.268

$olv_i5^*$  0.5 0.5 0.268

relative Natural Colour (NC)

$olv_i3^*$  0.467 -0.048 0.497

$olv_i4^*$  0.25 0.5 0.266

$olv_i5^*$  0.5 0.5 0.266

relative CIELAB lab\*

$olv_i3^*$  0.467 -0.055 0.497

$olv_i4^*$  0.25 0.5 0.268

$olv_i5^*$  0.5 0.5 0.268

relative Natural Colour (NC)

$olv_i3^*$  0.467 -0.048 0.497

$olv_i4^*$  0.25 0.5 0.266

$olv_i5^*$  0.5 0.5 0.266

relative CIELAB lab\*

$olv_i3^*$  0.467 -0.055 0.497</

## Input: Colorimetric Reflective System ORS18

for hue  $h^* = lab^*h = 96/360 = 0.268$

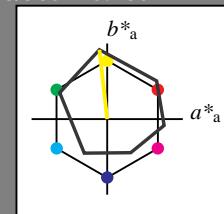
$lab^*tch$  and  $lab^*nch$

D65: hue Y

LCH\*Ma: 90 92 96

olv\*Ma: 1.0 1.0 0.0

triangle lightness  $t^*$



### ORS18; adapted (a) CIELAB data

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

$olv_i3^*$  1.0 1.0 1.0 (1.0)

$cmy_n3^*$  0.0 0.0 0.0 (0.0)

$olv_i4^*$  1.0 1.0 1.0 1.0

$cmy_n4^*$  0.0 0.0 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  95.41 -0.97 4.75

$LAB^*LABa$  95.41 0.0 0.0

$LAB^*TCh$  99.99 0.01 -

relative CIELAB lab\*

$lab^*lab$  1.0 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  1.0 0.0 0.0

$lab^*ice$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  92.88 -6.06 50.46

$LAB^*LABa$  92.88 -5.13 45.87

$LAB^*TCh$  75.0 46.16 96.39

relative CIELAB lab\*

$lab^*lab$  0.967 -0.055 0.497

$lab^*tch$  0.75 0.5 0.268

$lab^*nch$  0.0 0.5 0.268

relative Natural Colour (NC)

$lab^*lrj$  0.967 -0.048 0.497

$lab^*ice$  0.75 0.2 0.266

$lab^*ncE$  0.0 0.5 j06g

relative Inform. Technology (IT)

$olv_i3^*$  0.5 0.5 0.5 (1.0)

$cmy_n3^*$  0.5 0.5 0.5 (0.0)

$olv_i4^*$  1.0 1.0 1.0 0.5

$cmy_n4^*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  56.71 -0.23 2.14

$LAB^*LABa$  56.71 0.0 0.0

$LAB^*TCh$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  0.5 0.0 0.0

$lab^*ice$  0.5 0.0 0.0

$lab^*ncE$  0.5 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  54.19 -5.32 47.85

$LAB^*LABa$  54.19 -5.13 45.87

$LAB^*TCh$  25.01 46.16 96.39

relative CIELAB lab\*

$lab^*lab$  0.467 -0.055 0.497

$lab^*tch$  0.25 0.5 0.268

$lab^*nch$  0.5 0.5 0.268

relative Natural Colour (NC)

$lab^*lrj$  0.467 -0.048 0.497

$lab^*ice$  0.25 0.5 0.266

$lab^*ncE$  0.5 0.5 j06g

$n^* = 1,0$

$n^* = 0,00$

chromaticness  $c^*$

$n^* = 0,50$

$n^* = 0,00$   
blackness  $n^*$

$n^* = 0,50$

$n^* = 1,00$

## Output: Colorimetric Reflective System MRS18a

for hue  $h^* = lab^*h = 94/360 = 0.262$

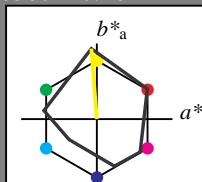
$lab^*tch$  and  $lab^*nch$

D65: hue J

LCH\*Ma: 91 93 94

olv\*Ma: 1.0 1.0 0.0

triangle lightness  $t^*$



### MRS18a; adapted (a) CIELAB data

	$L^* = L_a^*$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	49.63	66.8	40.02	77.87	31
JMa	90.7	-7.27	93.19	93.48	94
GMa	52.11	-69.93	11.26	70.85	171
G50BMa	45.03	-36.65	-27.13	45.61	217
BMa	36.65	23.26	-62.27	66.49	290
B50RMa	34.94	57.27	-43.6	71.99	323
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	272

relative Inform. Technology (IT)

$olv_i3^*$  1.0 1.0 1.0 (1.0)

$cmy_n3^*$  0.0 0.0 0.0 (0.0)

$olv_i4^*$  1.0 1.0 1.0 1.0

$cmy_n4^*$  0.0 0.0 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  95.41 0.01 0.0

$LAB^*LABa$  95.41 0.0 0.0

$LAB^*TCh$  99.99 0.01 -

relative CIELAB lab\*

$lab^*lab$  1.0 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  1.0 0.0 0.0

$lab^*ice$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)

$olv_i3^*$  0.5 0.5 0.5 (1.0)

$cmy_n3^*$  0.5 0.5 0.5 (0.0)

$olv_i4^*$  1.0 1.0 1.0 0.5

$cmy_n4^*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  93.05 -3.61 46.59

$LAB^*LABa$  93.05 -3.63 46.59

$LAB^*TCh$  75.0 46.73 94.46

relative CIELAB lab\*

$lab^*lab$  0.969 -0.038 0.498

$lab^*tch$  0.75 0.5 0.262

$lab^*nch$  0.0 0.5 0.262

relative Natural Colour (NC)

$lab^*lrj$  0.969 -0.023 0.499

$lab^*ice$  0.75 0.5 0.258

$lab^*ncE$  0.0 0.5 j03g

relative Inform. Technology (IT)

$olv_i3^*$  0.0 0.0 0.0 (1.0)

$cmy_n3^*$  1.0 1.0 1.0 (0.0)

$olv_i4^*$  1.0 1.0 1.0 0.0

$cmy_n4^*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  54.35 -3.57 46.6

$LAB^*LABa$  54.35 -3.63 46.59

$LAB^*TCh$  25.01 46.73 94.46

relative CIELAB lab\*

$lab^*lab$  0.47 -0.038 0.498

$lab^*tch$  0.25 0.5 0.262

$lab^*nch$  0.5 0.5 0.262

relative Natural Colour (NC)

$lab^*lrj$  0.47 -0.023 0.499

$lab^*ice$  0.25 0.5 0.258

$lab^*ncE$  0.5 0.5 j03g

$n^* = 0,00$

blackness  $n^*$

$n^* = 1,00$

chromaticness  $c^*$

$n^* = 1,0$

$n^* = 0,50$

$n^* = 1,00$

$n^* = 1,0$

$n^* = 0,50$

$n^* = 0,50$

$n^* = 0,50$

$n^* = 1,00$

$n^* = 0,50$

$n^* = 0,50$

$n^* = 0,50$

$n^* = 1,00$

## Input: Colorimetric Reflective System ORS18

for hue  $h^* = lab^*h = 96/360 = 0.268$

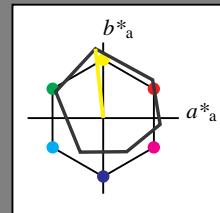
$lab^*tch$  and  $lab^*nch$

D65: hue Y

LCH\*Ma: 90 92 96

olv\*Ma: 1.0 1.0 0.0

triangle lightness  $t^*$



## ORS18; adapted (a) CIELAB data

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

relative Inform. Technology (IT)

$olv^3*$  1.0 1.0 1.0 (1.0)

$cmy^3*$  0.0 0.0 0.0 (0.0)

$olv^4*$  1.0 1.0 1.0 1.0

$cmy^4*$  0.0 0.0 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  95.41 -0.97 4.75

$LAB^*LABa$  95.41 0.0 0.0

$LAB^*TCh$  99.99 0.01 -

relative CIELAB lab\*

$lab^*lab$  1.0 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  1.0 0.0 0.0

$lab^*ice$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

%Gamut

$u^*_{rel} = 93$

%Regularity

$g^*_{H,rel} = 57$

$g^*_{C,rel} = 59$

relative Inform. Technology (IT)

$olv^3*$  1.0 1.0 0.5 (1.0)

$cmy^3*$  0.0 0.0 0.5 (0.0)

$olv^4*$  1.0 1.0 0.5 1.0

$cmy^4*$  0.0 0.0 0.5 0.0

standard and adapted CIELAB

$LAB^*LAB$  92.88 -6.06 50.46

$LAB^*LABa$  92.88 -5.13 45.87

$LAB^*TCh$  75.0 46.16 96.39

relative CIELAB lab\*

$lab^*lab$  0.967 -0.055 0.497

$lab^*tch$  0.75 0.5 0.268

$lab^*nch$  0.0 0.5 0.268

relative Natural Colour (NC)

$lab^*lrj$  0.967 -0.048 0.497

$lab^*ice$  0.75 0.2 0.266

$lab^*ncE$  0.0 0.5 j06g

relative Inform. Technology (IT)

$olv^3*$  0.5 0.5 0.5 (1.0)

$cmy^3*$  0.5 0.5 0.5 (0.0)

$olv^4*$  1.0 1.0 1.0 0.5

$cmy^4*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  56.71 -0.23 2.14

$LAB^*LABa$  56.71 0.0 0.0

$LAB^*TCh$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  0.5 0.0 0.0

$lab^*ice$  0.5 0.0 0.0

$lab^*ncE$  0.5 0.0 -

$n^* = 1,0$

relative Inform. Technology (IT)

$olv^3*$  0.5 0.5 0.0 (1.0)

$cmy^3*$  0.5 0.5 0.5 (0.0)

$olv^4*$  1.0 1.0 0.5 0.5

$cmy^4*$  0.0 0.0 0.5 0.5

standard and adapted CIELAB

$LAB^*LAB$  54.19 -5.32 47.85

$LAB^*LABa$  54.19 -5.13 45.87

$LAB^*TCh$  25.01 46.16 96.39

relative CIELAB lab\*

$lab^*lab$  0.467 -0.055 0.497

$lab^*tch$  0.25 0.5 0.268

$lab^*nch$  0.5 0.5 0.268

relative Natural Colour (NC)

$lab^*lrj$  0.467 -0.048 0.497

$lab^*ice$  0.25 0.5 0.266

$lab^*ncE$  0.5 0.5 j06g

relative Inform. Technology (IT)

$olv^3*$  0.0 0.0 0.0 (1.0)

$cmy^3*$  1.0 1.0 1.0 (0.0)

$olv^4*$  1.0 1.0 1.0 0.0

$cmy^4*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.5 -0.46

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TCh$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  0.0 0.0 0.0

$lab^*ice$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 0,00$

$n^* = 0,00$

blackness  $n^*$

chromaticness  $c^*$

## Output: Colorimetric Reflective System NRS18

for hue  $h^* = lab^*h = 91/360 = 0.253$

$lab^*tch$  and  $lab^*nch$

D65: hue J

LCH\*Ma: 57 77 91

olv\*Ma: 1.0 1.0 0.0

triangle lightness  $t^*$



## NRS18; adapted (a) CIELAB data

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

RMa	56.7	70.66	31.47	77.35	24
JMa	56.7	-1.39	77.37	77.39	91
GMa	56.7	-75.46	17.4	77.45	167
G50BMa	56.7	-71.29	-30.25	77.45	203
BMa	56.7	4.0	-77.3	77.41	273
B50RMa	56.7	63.35	-44.4	77.36	325
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	272

relative Inform. Technology (IT)

$olv^3*$  1.0 1.0 1.0 (1.0)

$cmy^3*$  0.0 0.0 0.0 (0.0)

$olv^4*$  1.0 1.0 1.0 1.0

$cmy^4*$  0.0 0.0 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  95.41 0.0 0.0

$LAB^*LABa$  95.41 0.0 0.0

$LAB^*TCh$  99.99 0.01 -

relative CIELAB lab\*

$lab^*lab$  1.0 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  1.0 0.0 0.0

$lab^*ice$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)

$olv^3*$  1.0 1.0 0.5 (1.0)

$cmy^3*$  0.0 0.0 0.5 (0.0)

$olv^4*$  1.0 1.0 0.5 1.0

$cmy^4*$  0.0 0.0 0.5 0.0

standard and adapted CIELAB

$LAB^*LAB$  92.88 -6.06 50.46

$LAB^*LABa$  92.88 -5.13 45.87

$LAB^*TCh$  75.0 46.16 96.39

relative CIELAB lab\*

$lab^*lab$  0.967 -0.055 0.497

$lab^*tch$  0.75 0.5 0.268

$lab^*nch$  0.0 0.5 0.268

relative Natural Colour (NC)

$lab^*lrj$  0.967 -0.048 0.497

$lab^*ice$  0.75 0.2 0.266

$lab^*ncE$  0.0 0.5 j06g

relative Inform. Technology (IT)

$olv^3*$  0.5 0.5 0.5 (1.0)

$cmy^3*$  0.5 0.5 0.5 (0.0)

$olv^4*$  1.0 1.0 0.5 0.5

$cmy^4*$  0.0 0.0 0.5 0.5

standard and adapted CIELAB

$LAB^*LAB$  90.37 -11.15 96.17

$LAB^*LABa$  90.37 -10.26 91.75

$LAB^*TCh$  50.0 92.32 96.39

relative CIELAB lab\*

$lab^*lab$  0.935 -0.11 0.994

$lab^*tch$  0.5 1.0 0.268

$lab^*nch$  0.0 1.0 0.268

relative Natural Colour (NC)

$lab^*lrj$  0.935 -0.097 0.995

$lab^*ice$  0.5 1.0 0.266

$lab^*ncE$  0.0 1.0 j06g

relative Inform. Technology (IT)

$olv^3*$  0.0 0.0 0.0 (1.0)

$cmy^3*$  1.0 1.0 1.0 (0.0)

$olv^4*$  1.0 1.0 1.0 0.0

$cmy^4*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.09 0.02

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TCh$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.25 -0.008 0.5

$lab^*tch$  0.25 0.5 0.253

$lab^*nch$  0.0 1.0 0.253

relative Natural Colour (NC)

$lab^*lrj$  0.25 0.015 0.5

$lab^*ice$  0.25 0.5 0.245

$lab^*ncE$  0.0 1.0 r98j

$n^* = 0,00$

blackness  $n^*$

chromaticness  $c^*$

$n^* = 1,0$

blackness  $n^*$

## Input: Colorimetric Reflective System ORS18

for hue  $h^* = lab^*h = 96/360 = 0.268$

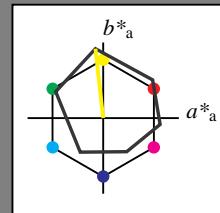
$lab^*tch$  and  $lab^*nch$

D65: hue Y

LCH\*Ma: 90 92 96

olv\*Ma: 1.0 1.0 0.0

triangle lightness  $t^*$



## ORS18; adapted (a) CIELAB data

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

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)

olv*i*3\* 1.0 1.0 1.0 (1.0)

cmy*n*3\* 0.0 0.0 0.0 (0.0)

olv*i*4\* 1.0 1.0 1.0 1.0

cmy*n*4\* 0.0 0.0 0.0 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 0.0 0.0

lab\*tch 1.0 0.0 -

lab\*nch 0.0 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)

olv*i*3\* 0.5 0.5 0.5 (1.0)

cmy*n*3\* 0.5 0.5 0.5 (0.0)

olv*i*4\* 1.0 1.0 1.0 0.5

cmy*n*4\* 0.0 0.0 0.5

standard and adapted CIELAB

LAB\*LAB 92.88 -6.06 50.46

LAB\*LABa 92.88 -5.13 45.87

LAB\*TChA 75.00 46.16 96.39

relative CIELAB lab\*

lab\*lab 0.967 -0.055 0.497

lab\*tch 0.75 0.5 0.268

lab\*nch 0.0 0.5 0.268

relative Natural Colour (NC)

lab\*lrj 0.967 -0.048 0.497

lab\*tce 0.75 0.2 0.266

lab\*ncE 0.0 0.5 j06g

relative Inform. Technology (IT)

olv*i*3\* 0.5 0.5 0.0 (1.0)

cmy*n*3\* 0.5 0.5 1.0 (0.0)

olv*i*4\* 1.0 1.0 0.5 0.5

cmy*n*4\* 0.0 0.5 0.5

standard and adapted CIELAB

LAB\*LAB 56.71 -0.23 2.14

LAB\*LABa 56.71 0.0 0.0

LAB\*TChA 50.00 0.01 -

relative CIELAB lab\*

lab\*lab 0.5 0.0 0.0

lab\*tch 0.5 0.0 -

lab\*nch 0.5 0.0 -

relative Natural Colour (NC)

lab\*lrj 0.5 0.0 0.0

lab\*tce 0.5 0.0 0.0

lab\*ncE 0.5 0.0 -

relative Inform. Technology (IT)

olv*i*3\* 0.0 0.0 0.0 (1.0)

cmy*n*3\* 1.0 1.0 1.0 (0.0)

olv*i*4\* 1.0 1.0 1.0 0.0

cmy*n*4\* 0.0 0.0 1.0

standard and adapted CIELAB

LAB\*LAB 18.02 0.5 -0.46

LAB\*LABa 18.02 0.0 0.0

LAB\*TChA 0.01 0.01 -

relative CIELAB lab\*

lab\*lab 0.0 0.0 0.0

lab\*tch 0.0 0.0 -

lab\*nch 1.0 0.0 -

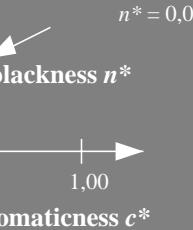
relative Natural Colour (NC)

lab\*lrj 0.0 0.0 0.0

lab\*tce 0.0 0.0 -

lab\*ncE 1.0 0.0 -

$n^* = 1,0$



## Output: Colorimetric Reflective System NCS18

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

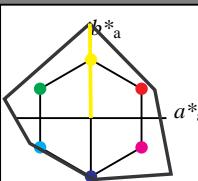
$lab^*tch$  and  $lab^*nch$

D65: hue J

LCH\*Ma: 91 125 91

olv\*Ma: 1.0 1.0 0.0

triangle lightness  $t^*$



## NCS18; adapted (a) CIELAB data

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

RMa	47.15	84.63	37.24	92.46	24
JMa	91.37	-1.27	125.03	125.03	91
GMa	63.07	-114.29	25.34	117.07	167
G50BMa	59.47	-80.61	-33.45	87.29	203
BMa	49.01	3.63	-81.2	81.29	273
B50RMa	44.06	106.07	-73.94	129.31	325
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	272

relative Inform. Technology (IT)

olv*i*3\* 1.0 1.0 1.0 (1.0)

cmy*n*3\* 0.0 0.0 0.0 (0.0)

olv*i*4\* 1.0 1.0 1.0 1.0

cmy*n*4\* 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 0.0 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)

olv*i*3\* 0.5 0.5 0.5 (1.0)

cmy*n*3\* 0.5 0.5 0.5 (0.0)

olv*i*4\* 1.0 1.0 0.5 0.5

cmy*n*4\* 0.0 0.0 0.5 0.5

standard and adapted CIELAB

LAB\*LAB 90.37 -11.15 96.17

LAB\*LABa 90.37 -10.26 91.75

LAB\*TChA 50.00 92.32 96.39

relative CIELAB lab\*

lab\*lab 0.935 -0.11 0.994

lab\*tch 0.5 1.0 0.268

lab\*nch 0.0 1.0 0.268

relative Natural Colour (NC)

lab\*lrj 0.935 -0.097 0.995

lab\*tce 0.5 1.0 0.266

lab\*ncE 0.0 1.0 j06g

relative Inform. Technology (IT)

olv*i*3\* 0.0 0.0 0.0 (1.0)

cmy*n*3\* 1.0 1.0 1.0 (0.0)

olv*i*4\* 1.0 1.0 1.0 0.0

cmy*n*4\* 0.0 0.0 1.0 0.0

standard and adapted CIELAB

LAB\*LAB 18.02 0.09 0.02

LAB\*LABa 18.02 0.0 0.0

LAB\*TChA 0.01 0.01 -

relative CIELAB lab\*

lab\*lab 0.0 0.0 0.0

lab\*tch 0.0 0.0 -

lab\*nch 1.0 0.0 -

relative Natural Colour (NC)

lab\*lrj 0.0 0.0 0.0

lab\*tce 0.0 0.0 -

lab\*ncE 1.0 0.0 -

$n^* = 1,0$



UE100-7, 3 step scales for constant CIELAB hue 96/360 = 0.268 (left)

3 step scales for constant CIELAB hue 91/360 = 0.252 (right)

## Input: Colorimetric Reflective System ORS18

for hue  $h^* = lab^*h = 96/360 = 0.268$

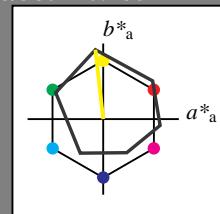
$lab^*tch$  and  $lab^*nch$

D65: hue Y

LCH\*Ma: 90 92 96

olv\*Ma: 1.0 1.0 0.0

triangle lightness  $t^*$



relative Inform. Technology (IT)  
 $olv_i3^*$  1.0 1.0 1.0 (1.0)  
 $cmyn3^*$  0.0 0.0 0.0 (0.0)

$olv_i4^*$  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

$LAB^*LABa$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  1.0 0.0 0.0

$lab^*ice$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)  
 $olv_i3^*$  0.5 0.5 0.5 (1.0)  
 $cmyn3^*$  0.5 0.5 0.5 (0.0)

$olv_i4^*$  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

$LAB^*LABa$  56.71 0.0 0.0

$LAB^*TChA$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  0.5 0.0 0.0

$lab^*ice$  0.5 0.0 0.0

$lab^*ncE$  0.5 0.0 -

relative Inform. Technology (IT)  
 $olv_i3^*$  0.0 0.0 0.0 (1.0)  
 $cmyn3^*$  1.0 1.0 1.0 (0.0)

$olv_i4^*$  1.0 1.0 1.0 0.0

$cmyn4^*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.5 -0.46

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  0.0 0.0 0.0

$lab^*ice$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

## ORS18; adapted (a) CIELAB data

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

O Ma	47.94	65.37	50.52	82.62	38
Y Ma	90.37	-10.27	91.77	92.34	96
L Ma	50.9	-62.79	34.95	71.87	151
C Ma	58.62	-30.35	-45.01	54.3	236
V Ma	25.71	31.11	-44.42	54.24	305
M Ma	48.13	75.27	-8.35	75.73	354
N Ma	18.01	0.0	0.0	0.0	0
W Ma	95.41	0.0	0.0	0.0	0
R CIE	39.92	58.66	26.98	64.56	25
J CIE	81.26	-2.17	67.76	67.79	92
G CIE	52.23	-42.26	11.75	43.87	164
B CIE	30.57	1.15	-46.84	46.87	271

%Gamut

$u^*_{rel} = 93$

%Regularity

$g^*_{H,rel} = 57$

$g^*_{C,rel} = 59$

relative Inform. Technology (IT)

$olv_i3^*$  1.0 1.0 0.5 (1.0)

$cmyn3^*$  0.0 0.0 0.0 (0.0)

$olv_i4^*$  1.0 1.0 1.0 1.0

$cmyn4^*$  0.0 0.0 0.5 0.0

standard and adapted CIELAB

$LAB^*LAB$  92.88 -6.06 50.46

$LAB^*LABa$  92.88 -5.13 45.87

$LAB^*TChA$  75.0 46.16 96.39

relative CIELAB lab\*

$lab^*lab$  0.967 -0.055 0.497

$lab^*tch$  0.75 0.5 0.268

$lab^*nch$  0.0 0.5 0.268

relative Natural Colour (NC)

$lab^*lrj$  0.967 -0.048 0.497

$lab^*ice$  0.75 0.2 0.266

$lab^*ncE$  0.0 0.5 j06g

relative Inform. Technology (IT)

$olv_i3^*$  0.5 0.5 0.5 (1.0)

$cmyn3^*$  0.5 0.5 0.5 (0.0)

$olv_i4^*$  1.0 1.0 1.0 0.5

$cmyn4^*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  90.37 -11.15 96.17

$LAB^*LABa$  90.37 -10.26 91.75

$LAB^*TChA$  50.0 92.32 96.39

relative CIELAB lab\*

$lab^*lab$  0.935 -0.11 0.994

$lab^*tch$  0.5 1.0 0.268

$lab^*nch$  0.0 1.0 0.268

relative Natural Colour (NC)

$lab^*lrj$  0.935 -0.097 0.995

$lab^*ice$  0.5 1.0 0.266

$lab^*ncE$  0.0 1.0 j06g

relative Inform. Technology (IT)

$olv_i3^*$  0.0 0.0 0.0 (1.0)

$cmyn3^*$  1.0 1.0 1.0 (0.0)

$olv_i4^*$  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 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  0.0 0.0 0.0

$lab^*ice$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 0,00$

blackness  $n^*$

chromaticness  $c^*$

## Output: Colorimetric Reflective System NRS11

for hue  $h^* = lab^*h = 91/360 = 0.253$

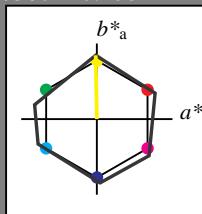
$lab^*tch$  and  $lab^*nch$

D65: hue J

LCH\*Ma: 53 84 91

olv\*Ma: 1.0 1.0 0.0

triangle lightness  $t^*$



%Gamut

$u^*_{rel} = 119$

%Regularity

$g^*_{H,rel} = 47$

$g^*_{C,rel} = 100$

relative Inform. Technology (IT)  
 $olv_i3^*$  1.0 1.0 1.0 (1.0)  
 $cmyn3^*$  0.0 0.0 0.0 (0.0)

$olv_i4^*$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  1.0 0.0 0.0

$lab^*ice$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)  
 $olv_i3^*$  1.0 1.0 0.5 (1.0)  
 $cmyn3^*$  0.0 0.0 0.5 (0.0)

$olv_i4^*$  1.0 1.0 0.5 1.0  
 $cmyn4^*$  0.0 0.0 0.5 0.0

standard and adapted CIELAB

$LAB^*LAB$  74.3 -0.72 42.18

$LAB^*LABa$  74.3 -0.75 42.18

$LAB^*TChA$  75.0 42.19 91.03

relative CIELAB lab\*

$lab^*lab$  0.75 -0.008 0.5

$lab^*tch$  0.75 0.5 0.253

$lab^*nch$  0.0 0.5 0.253

relative Natural Colour (NC)

$lab^*lrj$  0.75 0.015 0.5

$lab^*ice$  0.75 0.5 0.245

$lab^*ncE$  0.0 0.5 r98j

$n^* = 0,00$

blackness  $n^*$

chromaticness  $c^*$

$n^* = 1,0$

blackness  $n^*$

chromaticness  $c^*$

UE100-7, 3 step scales for constant CIELAB hue 96/360 = 0.268 (left)

3 step scales for constant CIELAB hue 91/360 = 0.253 (right)

## Input: Colorimetric Reflective System ORS18

for hue  $h^* = lab^*h = 96/360 = 0.268$

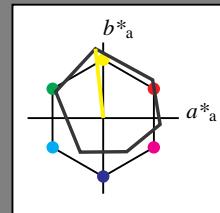
$lab^*tch$  and  $lab^*nch$

D65: hue Y

LCH\*Ma: 90 92 96

olv\*Ma: 1.0 1.0 0.0

triangle lightness  $t^*$



## ORS18; adapted (a) CIELAB data

	$L^* = L^*_{ab}$	$a^*_{ab}$	$b^*_{ab}$	$C^*_{ab,a}$	$h^*_{ab,a}$
O <sub>Ma</sub>	47.94	65.37	50.52	82.62	38
Y <sub>Ma</sub>	90.37	-10.27	91.77	92.34	96
L <sub>Ma</sub>	50.9	-62.79	34.95	71.87	151
C <sub>Ma</sub>	58.62	-30.35	-45.01	54.3	236
V <sub>Ma</sub>	25.71	31.11	-44.42	54.24	305
M <sub>Ma</sub>	48.13	75.27	-8.35	75.73	354
N <sub>Ma</sub>	18.01	0.0	0.0	0.0	0
W <sub>Ma</sub>	95.41	0.0	0.0	0.0	0
R <sub>CIE</sub>	39.92	58.66	26.98	64.56	25
J <sub>CIE</sub>	81.26	-2.17	67.76	67.79	92
G <sub>CIE</sub>	52.23	-42.26	11.75	43.87	164
B <sub>CIE</sub>	30.57	1.15	-46.84	46.87	271

relative Inform. Technology (IT)

olv*i*3\* 1.0 1.0 1.0 (1.0)

cmy*n*3\* 0.0 0.0 0.0 (0.0)

olv*i*4\* 1.0 1.0 1.0 1.0

cmy*n*4\* 0.0 0.0 0.0 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 0.0 0.0

lab\*tch 1.0 0.0 -

lab\*nch 0.0 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 -

standard and adapted CIELAB

LAB\*LAB 92.88 -6.06 50.46

LAB\*LABa 92.88 -5.13 45.87

LAB\*TChA 75.0 46.16 96.39

relative CIELAB lab\*

lab\*lab 0.967 -0.055 0.497

lab\*tch 0.75 0.5 0.268

lab\*nch 0.0 0.5 0.268

relative Natural Colour (NC)

lab\*lrj 0.967 -0.048 0.497

lab\*tce 0.75 0.2 0.266

lab\*ncE 0.0 0.5 j06g

relative Inform. Technology (IT)

olv*i*3\* 0.5 0.5 0.5 (1.0)

cmy*n*3\* 0.5 0.5 0.5 (0.0)

olv*i*4\* 1.0 1.0 1.0 0.5

cmy*n*4\* 0.0 0.0 0.5 0.5

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 CIELAB lab\*

lab\*lab 0.5 0.0 0.0

lab\*tch 0.5 0.0 -

lab\*nch 0.5 0.0 -

relative Natural Colour (NC)

lab\*lrj 0.5 0.0 0.0

lab\*tce 0.5 0.0 0.0

lab\*ncE 0.5 0.0 -

standard and adapted CIELAB

LAB\*LAB 18.02 0.5 -0.46

LAB\*LABa 18.02 0.0 0.0

LAB\*TChA 0.01 0.01 -

relative CIELAB lab\*

lab\*lab 0.0 0.0 0.0

lab\*tch 0.0 0.0 -

lab\*nch 1.0 0.0 -

relative Natural Colour (NC)

lab\*lrj 0.0 0.0 0.0

lab\*tce 0.0 0.0 -

lab\*ncE 1.0 0.0 -

$n^* = 1,0$

relative Inform. Technology (IT)

olv*i*3\* 0.0 0.0 0.0 (1.0)

cmy*n*3\* 1.0 1.0 1.0 (0.0)

olv*i*4\* 1.0 1.0 1.0 0.0

cmy*n*4\* 0.0 0.0 1.0

standard and adapted CIELAB

LAB\*LAB 18.02 0.5 -0.46

LAB\*LABa 18.02 0.0 0.0

LAB\*TChA 0.01 0.01 -

relative CIELAB lab\*

lab\*lab 0.0 0.0 0.0

lab\*tch 0.0 0.0 -

lab\*nch 1.0 0.0 -

relative Natural Colour (NC)

lab\*lrj 0.0 0.0 0.0

lab\*tce 0.0 0.0 -

lab\*ncE 1.0 0.0 -

$n^* = 0,00$

blackness  $n^*$

chromaticness  $c^*$

## Output: Colorimetric Reflective System NCS11

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

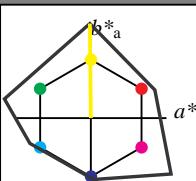
$lab^*tch$  and  $lab^*nch$

D65: hue J

LCH\*Ma: 91 125 91

olv\*Ma: 1.0 1.0 0.0

triangle lightness  $t^*$



## NCS11; adapted (a) CIELAB data

	$L^* = L^*_{ab}$	$a^*_{ab}$	$b^*_{ab}$	$C^*_{ab,a}$	$h^*_{ab,a}$
R <sub>Ma</sub>	47.15	84.64	37.25	92.48	24
J <sub>Ma</sub>	91.37	-1.27	125.03	125.03	91
G <sub>Ma</sub>	63.07	-114.28	25.35	117.06	167
G50B <sub>Ma</sub>	59.47	-80.6	-33.45	87.28	203
B <sub>Ma</sub>	49.01	3.65	-81.19	81.28	273
B50R <sub>Ma</sub>	44.06	106.09	-73.93	129.32	325
N <sub>Ma</sub>	10.99	0.0	0.0	0.0	0
W <sub>Ma</sub>	95.41	0.0	0.0	0.0	0
R <sub>CIE</sub>	39.92	58.69	27.98	65.01	25
J <sub>CIE</sub>	81.26	-2.9	71.56	71.62	92
G <sub>CIE</sub>	52.23	-42.45	13.59	44.59	162
B <sub>CIE</sub>	30.57	1.35	-46.48	46.51	272

%Gamut

$u^*_{rel} = 93$

%Regularity

$g^*_{H,rel} = 57$

$g^*_{C,rel} = 59$

relative Inform. Technology (IT)

olv*i*3\* 1.0 1.0 1.0 (1.0)

cmy*n*3\* 0.0 0.0 0.0 (0.0)

olv*i*4\* 1.0 1.0 1.0 1.0

cmy*n*4\* 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 0.0 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)

olv*i*3\* 0.5 0.5 0.5 (1.0)

cmy*n*3\* 0.5 0.5 0.5 (0.0)

olv*i*4\* 1.0 1.0 0.5 0.5

cmy*n*4\* 0.0 0.0 0.5 0.5

standard and adapted CIELAB

LAB\*LAB 90.37 -11.15 96.17

LAB\*LABa 90.37 -10.26 91.75

LAB\*TChA 50.0 92.32 96.39

relative CIELAB lab\*

lab\*lab 0.935 -0.11 0.994

lab\*tch 0.5 1.0 0.268

lab\*nch 0.0 1.0 0.268

relative Natural Colour (NC)

lab\*lrj 0.935 -0.097 0.995

lab\*tce 0.5 1.0 0.266

lab\*ncE 0.0 1.0 j06g

$n^* = 0,00$

blackness  $n^*$

chromaticness  $c^*$

$n^* = 1,0$

blackness  $n^*$

chromaticness  $c^*$

UE100-7, 3 step scales for constant CIELAB hue 96/360 = 0.268 (left)

3 step scales for constant CIELAB hue 91/360 = 0.252 (right)

## Input: Colorimetric Reflective System MRS18

for hue  $h^* = lab^*h = 94/360 = 0.261$

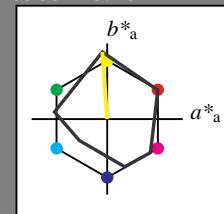
$lab^*tch$  and  $lab^*nch$

D65: hue J

LCH\*Ma: 91 89 94

olv\*Ma: 1.0 1.0 0.0

triangle lightness  $t^*$



## MRS18; adapted (a) CIELAB data

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

$olv^3*$  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

$LAB^*LABa$  95.41 0.0 0.0

$LAB^*TCh$  99.99 0.01 -

relative CIELAB lab\*

$lab^*lab$  1.0 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  93.05 -4.11 48.97

$LAB^*LABa$  93.05 -3.17 44.37

$LAB^*TCh$  75.0 44.48 94.1

relative CIELAB lab\*

$lab^*lab$  0.969 -0.035 0.499

$lab^*tch$  0.75 0.5 0.261

$lab^*nch$  0.0 0.5 0.261

relative Natural Colour (NC)

$lab^*lrij$  0.969 -0.023 0.499

$lab^*tce$  0.75 0.2 0.528

$lab^*ncE$  0.0 0.5 j05g

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 0.5

$cmyn^4*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  56.71 -0.23 2.14

$LAB^*LABa$  56.71 0.0 0.0

$LAB^*TCh$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.5 0.0 0.0

$lab^*tce$  0.5 0.0 0.0

$lab^*ncE$  0.5 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  54.35 -3.37 46.36

$LAB^*LABa$  54.35 -3.17 44.37

$LAB^*TCh$  25.01 44.48 94.1

relative CIELAB lab\*

$lab^*lab$  0.47 -0.035 0.499

$lab^*tch$  0.25 0.5 0.261

$lab^*nch$  0.5 0.5 0.261

relative Natural Colour (NC)

$lab^*lrij$  0.47 -0.023 0.499

$lab^*tce$  0.25 0.5 0.258

$lab^*ncE$  0.5 0.5 j03g

$n^* = 1,0$

$n^* = 0,00$

$n^* = 0,50$

$1,00$

chromaticness  $c^*$

$n^* = 0,00$

blackness  $n^*$

$1,00$

$c^*$

## Output: Colorimetric Reflective System ORS18

for hue  $h^* = lab^*h = 96/360 = 0.268$

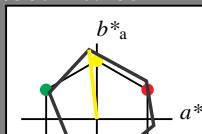
$lab^*tch$  and  $lab^*nch$

D65: hue Y

LCH\*Ma: 90 92 96

olv\*Ma: 1.0 1.0 0.0

triangle lightness  $t^*$



## ORS18; adapted (a) CIELAB data

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

$olv^3*$  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

$LAB^*LABa$  95.41 0.0 0.0

$LAB^*TCh$  99.99 0.01 -

relative CIELAB lab\*

$lab^*lab$  1.0 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  92.88 -6.06 50.46

$LAB^*LABa$  92.88 -5.13 45.87

$LAB^*TCh$  75.0 46.16 96.39

relative CIELAB lab\*

$lab^*lab$  0.967 -0.055 0.497

$lab^*tch$  0.75 0.5 0.268

$lab^*nch$  0.0 0.5 0.268

relative Natural Colour (NC)

$lab^*lrij$  0.967 -0.048 0.497

$lab^*tce$  0.75 0.5 0.266

$lab^*ncE$  0.0 0.5 j06g

relative Inform. Technology (IT)

$olv^3*$  1.0 1.0 0.0 (1.0)

$cmyn^3*$  0.0 0.0 0.5 (0.0)

$olv^4*$  1.0 1.0 0.5 1.0

$cmyn^4*$  0.0 0.0 0.5 0.5

standard and adapted CIELAB

$LAB^*LAB$  90.37 -11.15 96.17

$LAB^*LABa$  90.37 -10.26 91.75

$LAB^*TCh$  50.0 92.32 96.39

relative CIELAB lab\*

$lab^*lab$  0.935 -0.11 0.994

$lab^*tch$  0.5 1.0 0.268

$lab^*nch$  0.0 1.0 0.268

relative Natural Colour (NC)

$lab^*lrij$  0.935 -0.097 0.995

$lab^*tce$  0.5 1.0 0.266

$lab^*ncE$  0.0 1.0 j06g

$n^* = 0,00$

blackness  $n^*$

$1,00$

$c^*$

$n^* = 1,0$

3 step scales for constant CIELAB hue 96/360 = 0.268 (right)

UE100-7, 3 step scales for constant CIELAB hue 94/360 = 0.261 (left)

## Input: Colorimetric Reflective System MRS18

for hue  $h^* = lab^*h = 94/360 = 0.261$

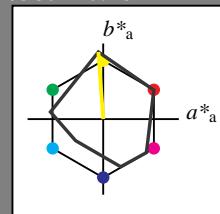
$lab^*tch$  and  $lab^*nch$

D65: hue J

LCH\*Ma: 91 89 94

olv\*Ma: 1.0 1.0 0.0

triangle lightness  $t^*$



%Gamut

$u^*_{rel} = 91$

%Regularity

$g^*_{H,rel} = 41$

$g^*_{C,rel} = 52$

relative Inform. Technology (IT)

$olv^3* 1.0 \quad 1.0 \quad 1.0 \quad (1.0)$

$cmy^3* 0.0 \quad 0.0 \quad 0.0 \quad (0.0)$

$olv^4* 1.0 \quad 1.0 \quad 1.0 \quad 1.0$

$cmy^4* 0.0 \quad 0.0 \quad 0.0 \quad 0.0$

standard and adapted CIELAB

$LAB^*LAB \quad 95.41 \quad -0.97 \quad 4.75$

$LAB^*LABa \quad 95.41 \quad 0.0 \quad 0.0$

$LAB^*TCh \quad 99.99 \quad 0.01 \quad -$

relative CIELAB lab\*

$lab^*lab \quad 1.0 \quad 0.0 \quad 0.0$

$lab^*tch \quad 1.0 \quad 0.0 \quad -$

$lab^*nch \quad 0.0 \quad 0.0 \quad -$

relative Natural Colour (NC)

$lab^*lrij \quad 1.0 \quad 0.0 \quad 0.0$

$lab^*tce \quad 1.0 \quad 0.0 \quad -$

$lab^*ncE \quad 0.0 \quad 0.0 \quad -$

relative Inform. Technology (IT)

$olv^3* 0.5 \quad 0.5 \quad 0.5 \quad (1.0)$

$cmy^3* 0.5 \quad 0.5 \quad 0.5 \quad (0.0)$

$olv^4* 1.0 \quad 1.0 \quad 1.0 \quad 0.5$

$cmy^4* 0.0 \quad 0.0 \quad 0.0 \quad 0.5$

standard and adapted CIELAB

$LAB^*LAB \quad 56.71 \quad -0.23 \quad 2.14$

$LAB^*LABa \quad 56.71 \quad 0.0 \quad 0.0$

$LAB^*TCh \quad 50.0 \quad 0.01 \quad -$

relative CIELAB lab\*

$lab^*lab \quad 0.5 \quad 0.0 \quad 0.0$

$lab^*tch \quad 0.5 \quad 0.0 \quad -$

$lab^*nch \quad 0.5 \quad 0.0 \quad -$

relative Natural Colour (NC)

$lab^*lrij \quad 0.5 \quad 0.0 \quad 0.0$

$lab^*tce \quad 0.5 \quad 0.0 \quad -$

$lab^*ncE \quad 0.5 \quad 0.0 \quad -$

relative Inform. Technology (IT)

$olv^3* 0.0 \quad 0.0 \quad 0.0 \quad (1.0)$

$cmy^3* 1.0 \quad 1.0 \quad 1.0 \quad (0.0)$

$olv^4* 1.0 \quad 1.0 \quad 1.0 \quad 0.0$

$cmy^4* 0.0 \quad 0.0 \quad 0.0 \quad 1.0$

standard and adapted CIELAB

$LAB^*LAB \quad 18.02 \quad 0.5 \quad -0.46$

$LAB^*LABa \quad 18.02 \quad 0.0 \quad 0.0$

$LAB^*TCh \quad 0.01 \quad 0.01 \quad -$

relative CIELAB lab\*

$lab^*lab \quad 0.0 \quad 0.0 \quad 0.0$

$lab^*tch \quad 0.0 \quad 0.0 \quad -$

$lab^*nch \quad 1.0 \quad 0.0 \quad -$

relative Natural Colour (NC)

$lab^*lrij \quad 0.0 \quad 0.0 \quad 0.0$

$lab^*tce \quad 0.0 \quad 0.0 \quad -$

$lab^*ncE \quad 1.0 \quad 0.0 \quad -$

$n^* = 1,0$

## MRS18; adapted (a) CIELAB data

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

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

## Output: Colorimetric Reflective System MRS18

for hue  $h^* = lab^*h = 94/360 = 0.261$

$lab^*tch$  and  $lab^*nch$

D65: hue J

LCH\*Ma: 91 89 94

olv\*Ma: 1.0 1.0 0.0

triangle lightness  $t^*$

## MRS18; adapted (a) CIELAB data

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

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)

$olv^3* 1.0 \quad 1.0 \quad 1.0 \quad (1.0)$

$cmy^3* 0.0 \quad 0.0 \quad 0.0 \quad (0.0)$

$olv^4* 1.0 \quad 1.0 \quad 1.0 \quad 1.0$

$cmy^4* 0.0 \quad 0.0 \quad 0.0 \quad 0.0$

standard and adapted CIELAB

$LAB^*LAB \quad 95.41 \quad -0.97 \quad 4.75$

$LAB^*LABa \quad 95.41 \quad 0.0 \quad 0.0$

$LAB^*TCh \quad 99.99 \quad 0.01 \quad -$

relative CIELAB lab\*

$lab^*lab \quad 1.0 \quad 0.0 \quad 0.0$

$lab^*tch \quad 1.0 \quad 0.0 \quad -$

$lab^*nch \quad 0.0 \quad 0.0 \quad -$

relative Natural Colour (NC)

$lab^*lrij \quad 1.0 \quad 0.0 \quad 0.0$

$lab^*tce \quad 1.0 \quad 0.0 \quad -$

$lab^*ncE \quad 0.0 \quad 0.0 \quad -$

relative Inform. Technology (IT)

$olv^3* 0.5 \quad 0.5 \quad 0.5 \quad (1.0)$

$cmy^3* 0.5 \quad 0.5 \quad 0.5 \quad (0.0)$

$olv^4* 1.0 \quad 1.0 \quad 1.0 \quad 0.5$

$cmy^4* 0.0 \quad 0.0 \quad 0.0 \quad 0.5$

standard and adapted CIELAB

$LAB^*LAB \quad 56.71 \quad -0.23 \quad 2.14$

$LAB^*LABa \quad 56.71 \quad 0.0 \quad 0.0$

$LAB^*TCh \quad 50.0 \quad 0.01 \quad -$

relative CIELAB lab\*

$lab^*lab \quad 0.939 \quad -0.071 \quad 0.997$

$lab^*tch \quad 0.5 \quad 1.0 \quad 0.261$

$lab^*nch \quad 0.0 \quad 1.0 \quad 0.261$

relative Natural Colour (NC)

$lab^*lrij \quad 0.939 \quad -0.048 \quad 0.999$

$lab^*tce \quad 0.5 \quad 1.0 \quad 0.258$

$lab^*ncE \quad 0.0 \quad 1.0 \quad -$

relative Inform. Technology (IT)

$olv^3* 0.0 \quad 0.0 \quad 0.0 \quad (1.0)$

$cmy^3* 1.0 \quad 1.0 \quad 1.0 \quad (0.0)$

$olv^4* 1.0 \quad 1.0 \quad 1.0 \quad 0.0$

$cmy^4* 0.0 \quad 0.0 \quad 0.0 \quad 1.0$

standard and adapted CIELAB

$LAB^*LAB \quad 18.02 \quad 0.5 \quad -0.46$

$LAB^*LABa \quad 18.02 \quad 0.0 \quad 0.0$

$LAB^*TCh \quad 0.01 \quad 0.01 \quad -$

relative CIELAB lab\*

$lab^*lab \quad 0.0 \quad 0.0 \quad 0.0$

$lab^*tch \quad 0.0 \quad 0.0 \quad -$

$lab^*nch \quad 1.0 \quad 0.0 \quad -$

relative Natural Colour (NC)

$lab^*lrij \quad 0.0 \quad 0.0 \quad 0.0$

$lab^*tce \quad 0.0 \quad 0.0 \quad -$

$lab^*ncE \quad 1.0 \quad 0.0 \quad -$

$n^* = 1,0$

blackness  $n^*$

$n^* = 0,50$

$n^* = 1,00$

chromaticness  $c^*$

## MRS18; adapted (a) CIELAB data

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

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)

$olv^3* 1.0 \quad 1.0 \quad 1.0 \quad (1.0)$

$cmy^3* 0.0 \quad 0.0 \quad 0.0 \quad (0.0)$

$olv^4* 1.0 \quad 1.0 \quad 1.0 \quad 1.0$

$cmy^4* 0.0 \quad 0.0 \quad 0.0 \quad 0.0$

standard and adapted CIELAB

$LAB^*LAB \quad 95.41 \quad -0.97 \quad 4.75$

$LAB^*LABa \quad 95.41 \quad 0.0 \quad 0.0$

$LAB^*TCh \quad 99.99 \quad 0.01 \quad -$

relative CIELAB lab\*

$lab^*lab \quad 1.0 \quad 0.0 \quad 0.0$

$lab^*tch \quad 1.0 \quad 0.0 \quad -$

$lab^*nch \quad 0.0 \quad 0.0 \quad -$

relative Natural Colour (NC)

$lab^*lrij \quad 1.0 \quad 0.0 \quad 0.0$

$lab^*tce \quad 1.0 \quad 0.0 \quad -$

## Input: Colorimetric Reflective System MRS18

for hue  $h^* = lab^*h = 94/360 = 0.261$

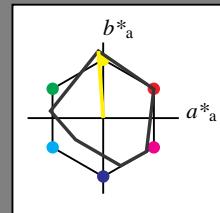
$lab^*tch$  and  $lab^*nch$

D65: hue J

LCH\*Ma: 91 89 94

olv\*Ma: 1.0 1.0 0.0

triangle lightness  $t^*$



## MRS18; adapted (a) CIELAB data

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

$olv^3*$  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

$LAB^*LABa$  95.41 0.0 0.0

$LAB^*TCh$  99.99 0.01 -

relative CIELAB lab\*

$lab^*lab$  1.0 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  93.05 -4.11 48.97

$LAB^*LABa$  93.05 -3.17 44.37

$LAB^*TCh$  75.0 44.48 94.1

relative CIELAB lab\*

$lab^*lab$  0.969 -0.035 0.499

$lab^*tch$  0.75 0.5 0.261

$lab^*nch$  0.0 0.5 0.261

relative Natural Colour (NC)

$lab^*lrij$  0.969 -0.023 0.499

$lab^*tce$  0.75 0.2 0.528

$lab^*ncE$  0.0 0.5 j05g

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 0.5

$cmyn^4*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  56.71 -0.23 2.14

$LAB^*LABa$  56.71 0.0 0.0

$LAB^*TCh$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.5 0.0 0.0

$lab^*tce$  0.5 0.0 0.0

$lab^*ncE$  0.5 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.5 -0.46

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TCh$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*tce$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

relative Inform. Technology (IT)

$olv^3*$  1.0 1.0 0.5 (1.0)

$cmyn^3*$  0.0 0.0 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

$LAB^*LAB$  93.05 -4.11 48.97

$LAB^*LABa$  93.05 -3.17 44.37

$LAB^*TCh$  75.0 44.48 94.1

relative CIELAB lab\*

$lab^*lab$  0.969 -0.035 0.499

$lab^*tch$  0.75 0.5 0.261

$lab^*nch$  0.0 0.5 0.261

relative Natural Colour (NC)

$lab^*lrij$  0.969 -0.023 0.499

$lab^*tce$  0.75 0.2 0.528

$lab^*ncE$  0.0 0.5 j05g

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 0.5

$cmyn^4*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  54.35 -3.37 46.36

$LAB^*LABa$  54.35 -3.17 44.37

$LAB^*TCh$  25.01 44.48 94.1

relative CIELAB lab\*

$lab^*lab$  0.47 -0.035 0.499

$lab^*tch$  0.25 0.5 0.261

$lab^*nch$  0.5 0.5 0.261

relative Natural Colour (NC)

$lab^*lrij$  0.47 -0.023 0.499

$lab^*tce$  0.25 0.5 0.258

$lab^*ncE$  0.5 0.5 j03g

relative Inform. Technology (IT)

$olv^3*$  0.0 0.0 0.0 (1.0)

$cmyn^3*$  1.0 1.0 1.0 (0.0)

$olv^4*$  1.0 1.0 1.0 0.0

$cmyn^4*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.5 -0.46

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TCh$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*tce$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

relative Inform. Technology (IT)

$olv^3*$  1.0 1.0 1.0 (0.0)

$cmyn^3*$  0.0 0.0 0.5 (0.0)

$olv^4*$  1.0 1.0 1.0 0.5

$cmyn^4*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.5 -0.46

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TCh$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*tce$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

relative Inform. Technology (IT)

$olv^3*$  1.0 1.0 1.0 (0.0)

$cmyn^3*$  0.0 0.0 0.5 (0.0)

$olv^4*$  1.0 1.0 1.0 0.5

$cmyn^4*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.5 -0.46

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TCh$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*tce$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

relative CIELAB lab\*

$lab^*lab$  0.47 -0.035 0.499

$lab^*tch$  0.25 0.5 0.261

$lab^*nch$  0.5 0.5 0.261

relative Natural Colour (NC)

$lab^*lrij$  0.47 -0.023 0.499

$lab^*tce$  0.25 0.5 0.258

$lab^*ncE$  0.5 0.5 j03g

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*tce$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*tce$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 0,00$

blackness  $n^*$

$n^* = 0,50$

$n^* = 1,00$

chromaticness  $c^*$

$n^* = 0,00$

$n^* = 0,50$

$n^* = 1,00$

blackness  $n^*$

$n^* = 0,00$

$n^* = 0,50$

$n^* = 1,00$

blackness  $n^*$

$n^* = 0,00$

$n^* = 0,50$

$n^* = 1,00$

blackness  $n^*$

## Input: Colorimetric Reflective System MRS18

for hue  $h^* = lab^*h = 94/360 = 0.261$

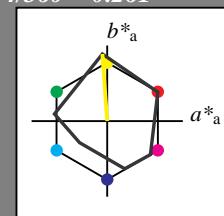
$lab^*tch$  and  $lab^*nch$

D65: hue J

LCH\*Ma: 91 89 94

olv\*Ma: 1.0 1.0 0.0

triangle lightness  $t^*$



### MRS18; adapted (a) CIELAB data

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

$olv^3*$  1.0 1.0 1.0 (1.0)

$cmy^3*$  0.0 0.0 0.0 (0.0)

$olv^4*$  1.0 1.0 1.0 1.0

$cmy^4*$  0.0 0.0 0.0 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 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  93.05 -4.11 48.97

$LAB^*LABa$  93.05 -3.17 44.37

$LAB^*TChA$  75.0 44.48 94.1

relative CIELAB lab\*

$lab^*lab$  0.969 -0.035 0.499

$lab^*tch$  0.75 0.5 0.261

$lab^*nch$  0.0 0.5 0.261

relative Natural Colour (NC)

$lab^*lrij$  0.969 -0.023 0.499

$lab^*tce$  0.75 0.2 0.258

$lab^*ncE$  0.0 0.5 j03g

relative Inform. Technology (IT)

$olv^3*$  0.5 0.5 0.5 (1.0)

$cmy^3*$  0.5 0.5 0.5 (0.0)

$olv^4*$  1.0 1.0 1.0 0.5

$cmy^4*$  0.0 0.0 0.0 0.5

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 CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.5 0.0 0.0

$lab^*tce$  0.5 0.0 0.0

$lab^*ncE$  0.5 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  54.35 -3.37 46.36

$LAB^*LABa$  54.35 -3.17 44.37

$LAB^*TChA$  25.01 44.48 94.1

relative CIELAB lab\*

$lab^*lab$  0.47 -0.035 0.499

$lab^*tch$  0.25 0.5 0.261

$lab^*nch$  0.5 0.5 0.261

relative Natural Colour (NC)

$lab^*lrij$  0.47 -0.023 0.499

$lab^*tce$  0.25 0.5 0.258

$lab^*ncE$  0.5 0.5 j03g

$n^* = 1,0$

$n^* = 1,0,0$

$n^* = 0,0,0$

## Output: Colorimetric Reflective System MRS18a

for hue  $h^* = lab^*h = 94/360 = 0.262$

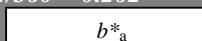
$lab^*tch$  and  $lab^*nch$

D65: hue J

LCH\*Ma: 91 93 94

olv\*Ma: 1.0 1.0 0.0

triangle lightness  $t^*$



### MRS18a; adapted (a) CIELAB data

	$L^* = L^*_{ab}$	$a^*_{ab}$	$b^*_{ab}$	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	49.63	66.96	38.37	77.18	30
JMa	90.7	-7.27	93.19	93.48	94
GMa	52.11	-69.93	11.26	70.85	171
G50BMa	45.03	-36.65	-27.13	45.61	217
BMa	36.65	23.26	-62.27	66.49	290
B50RMa	34.94	57.27	-43.6	71.99	323
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	272

relative Inform. Technology (IT)

$olv^3*$  1.0 1.0 1.0 (1.0)

$cmy^3*$  0.0 0.0 0.0 (0.0)

$olv^4*$  1.0 1.0 1.0 1.0

$cmy^4*$  0.0 0.0 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  95.41 0.01 0.0

$LAB^*LABa$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)

$olv^3*$  0.5 0.5 0.5 (1.0)

$cmy^3*$  0.5 0.5 0.5 (0.0)

$olv^4*$  1.0 1.0 1.0 0.5

$cmy^4*$  0.0 0.0 0.5 0.5

standard and adapted CIELAB

$LAB^*LAB$  93.05 -3.61 46.59

$LAB^*LABa$  93.05 -3.63 46.59

$LAB^*TChA$  75.0 46.73 94.46

relative CIELAB lab\*

$lab^*lab$  0.969 -0.038 0.498

$lab^*tch$  0.75 0.5 0.262

$lab^*nch$  0.0 0.5 0.262

relative Natural Colour (NC)

$lab^*lrij$  0.969 -0.023 0.499

$lab^*tce$  0.75 0.5 0.258

$lab^*ncE$  0.0 0.5 j03g

relative Inform. Technology (IT)

$olv^3*$  0.0 0.0 0.0 (1.0)

$cmy^3*$  1.0 1.0 1.0 (0.0)

$olv^4*$  1.0 1.0 1.0 0.0

$cmy^4*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.1 0.02

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*tce$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

### MRS18a; adapted (a) CIELAB data

	$L^* = L^*_{ab}$	$a^*_{ab}$	$b^*_{ab}$	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	49.63	66.8	40.02	77.87	31
JMa	90.7	-7.27	93.19	93.48	94
GMa	52.11	-69.93	11.26	70.85	171
G50BMa	45.03	-36.65	-27.13	45.61	217
BMa	36.65	23.26	-62.27	66.49	290
B50RMa	34.94	57.27	-43.6	71.99	323
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	272

relative Inform. Technology (IT)

$olv^3*$  1.0 1.0 1.0 (1.0)

$cmy^3*$  0.0 0.0 0.0 (0.0)

$olv^4*$  1.0 1.0 1.0 1.0

$cmy^4*$  0.0 0.0 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  95.41 0.01 0.0

$LAB^*LABa$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour

## Input: Colorimetric Reflective System MRS18

for hue  $h^* = lab^*h = 94/360 = 0.261$

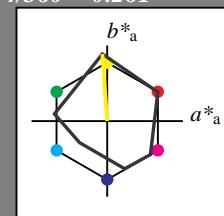
$lab^*tch$  and  $lab^*nch$

D65: hue J

LCH\*Ma: 91 89 94

olv\*Ma: 1.0 1.0 0.0

triangle lightness  $t^*$



## MRS18; adapted (a) CIELAB data

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

$olv^3*$  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

$LAB^*LABa$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  93.05 -4.11 48.97

$LAB^*LABa$  93.05 -3.17 44.37

$LAB^*TChA$  75.0 44.48 94.1

relative CIELAB lab\*

$lab^*lab$  0.969 -0.035 0.499

$lab^*tch$  0.75 0.5 0.261

$lab^*nch$  0.0 0.5 0.261

relative Natural Colour (NC)

$lab^*lrij$  0.969 -0.023 0.499

$lab^*tce$  0.75 0.2 0.528

$lab^*ncE$  0.0 0.5 j03g

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 0.5

$cmyn^4*$  0.0 0.0 0.0 0.5

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 CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.5 0.0 0.0

$lab^*tce$  0.5 0.0 0.0

$lab^*ncE$  0.5 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.5 -0.46

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*tce$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

	$L^* = L^*_{ab}$	$a^*_{ab}$	$b^*_{ab}$	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	0.0	0.0	0.0	(1.0)	
JMa	1.0	1.0	1.0	(0.0)	
GMa	1.0	1.0	1.0	0.0	
G50BMa	0.5	0.5	0.5	0.0	
BMa	0.5	0.5	0.5	0.5	
B50RMa	0.5	0.5	0.5	0.5	
NMa	0.0	0.0	0.0	1.0	
WMa	0.0	0.0	0.0	0.0	
RCIE	0.0	0.0	0.0	0.0	
JCIE	0.0	0.0	0.0	0.0	
GCIE	0.0	0.0	0.0	0.0	
BCIE	0.0	0.0	0.0	0.0	

	$L^* = L^*_{ab}$	$a^*_{ab}$	$b^*_{ab}$	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	0.5	0.5	0.5	(1.0)	
JMa	0.5	0.5	0.5	(0.0)	
GMa	1.0	1.0	1.0	0.5	
G50BMa	0.5	0.5	0.5	0.5	
BMa	0.5	0.5	0.5	0.5	
B50RMa	0.5	0.5	0.5	0.5	
NMa	0.0	0.0	0.0	1.0	
WMa	0.0	0.0	0.0	0.0	
RCIE	0.0	0.0	0.0	0.0	
JCIE	0.0	0.0	0.0	0.0	
GCIE	0.0	0.0	0.0	0.0	
BCIE	0.0	0.0	0.0	0.0	

	$L^* = L^*_{ab}$	$a^*_{ab}$	$b^*_{ab}$	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	0.0	0.0	0.0	(1.0)	
JMa	1.0	1.0	1.0	(0.0)	
GMa	1.0	1.0	1.0	0.0	
G50BMa	0.5	0.5	0.5	0.0	
BMa	0.5	0.5	0.5	0.5	
B50RMa	0.5	0.5	0.5	0.5	
NMa	0.0	0.0	0.0	1.0	
WMa	0.0	0.0	0.0	0.0	
RCIE	0.0	0.0	0.0	0.0	
JCIE	0.0	0.0	0.0	0.0	
GCIE	0.0	0.0	0.0	0.0	
BCIE	0.0	0.0	0.0	0.0	

	$L^* = L^*_{ab}$	$a^*_{ab}$	$b^*_{ab}$	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	0.0	0.0	0.0	(1.0)	
JMa	1.0	1.0	1.0	(0.0)	
GMa	1.0	1.0	1.0	0.0	
G50BMa	0.5	0.5	0.5	0.0	
BMa	0.5	0.5	0.5	0.5	
B50RMa	0.5	0.5	0.5	0.5	
NMa	0.0	0.0	0.0	1.0	
WMa	0.0	0.0	0.0	0.0	
RCIE	0.0	0.0	0.0	0.0	
JCIE	0.0	0.0	0.0	0.0	
GCIE	0.0	0.0	0.0	0.0	
BCIE	0.0	0.0	0.0	0.0	

	$L^* = L^*_{ab}$	$a^*_{ab}$	$b^*_{ab}$	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	0.0	0.0	0.0	(1.0)	
JMa	1.0	1.0	1.0	(0.0)	
GMa	1.0	1.0	1.0	0.0	
G50BMa	0.5	0.5	0.5	0.0	
BMa	0.5	0.5	0.5	0.5	
B50RMa	0.5	0.5	0.5	0.5	
NMa	0.0	0.0	0.0	1.0	
WMa	0.0	0.0	0.0	0.0	
RCIE	0.0	0.0	0.0	0.0	
JCIE	0.0	0.0	0.0	0.0	
GCIE	0.0	0.0	0.0	0.0	
BCIE	0.0	0.0	0.0	0.0	

	$L^* = L^*_{ab}$	$a^*_{ab}$	$b^*_{ab}$	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	0.0	0.0	0.0	(1.0)	
JMa	1.0	1.0	1.0	(0.0)	
GMa	1.0	1.0	1.0	0.0	
G50BMa	0.5	0.5	0.5	0.0	
BMa	0.5	0.5	0.5	0.5	
B50RMa	0.5	0.5	0.5	0.5	
NMa	0.0	0.0	0.0	1.0	
WMa	0.0	0.0	0.0	0.0	
RCIE	0.0	0.0	0.0	0.0	
JCIE	0.0	0.0	0.0	0.0	
GCIE	0.0	0.0	0.0	0.0	
BCIE	0.0	0.0	0.0	0.0	

$n^* = 1,0$

$n^* = 0,50$

$n^* = 0,00$

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

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

## Input: Colorimetric Reflective System MRS18

for hue  $h^* = lab^*h = 94/360 = 0.261$

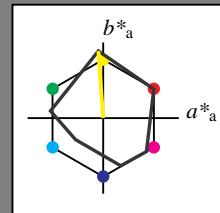
$lab^*tch$  and  $lab^*nch$

D65: hue J

LCH\*Ma: 91 89 94

olv\*Ma: 1.0 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
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)

$olv^3*$  1.0 1.0 1.0 (1.0)

$cmy^3*$  0.0 0.0 0.0 (0.0)

$olv^4*$  1.0 1.0 1.0 1.0

$cmy^4*$  0.0 0.0 0.0 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 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  93.05 -4.11 48.97

$LAB^*LABa$  93.05 -3.17 44.37

$LAB^*TChA$  75.0 44.48 94.1

relative CIELAB lab\*

$lab^*lab$  0.969 -0.035 0.499

$lab^*tch$  0.75 0.5 0.261

$lab^*nch$  0.0 0.5 0.261

relative Natural Colour (NC)

$lab^*lrij$  0.969 -0.023 0.499

$lab^*tce$  0.75 0.2 0.528

$lab^*ncE$  0.0 0.5 j03g

relative Inform. Technology (IT)

$olv^3*$  0.5 0.5 0.5 (1.0)

$cmy^3*$  0.5 0.5 0.5 (0.0)

$olv^4*$  1.0 1.0 1.0 0.5

$cmy^4*$  0.0 0.0 0.0 0.5

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 CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.5 0.0 0.0

$lab^*tce$  0.5 0.0 0.0

$lab^*ncE$  0.5 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.5 -0.46

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*tce$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

%Gamut

$u^*_{rel} = 91$

%Regularity

$g^*_{H,rel} = 41$

$g^*_{C,rel} = 52$

relative Inform. Technology (IT)

$olv^3*$  1.0 1.0 0.5 (1.0)

$cmy^3*$  0.0 0.0 0.5 (0.0)

$olv^4*$  1.0 1.0 0.5 1.0

$cmy^4*$  0.0 0.0 0.5 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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  93.05 -4.11 48.97

$LAB^*LABa$  93.05 -3.17 44.37

$LAB^*TChA$  75.0 44.48 94.1

relative CIELAB lab\*

$lab^*lab$  0.969 -0.035 0.499

$lab^*tch$  0.75 0.5 0.261

$lab^*nch$  0.0 0.5 0.261

relative Natural Colour (NC)

$lab^*lrij$  0.969 -0.023 0.499

$lab^*tce$  0.75 0.2 0.528

$lab^*ncE$  0.0 0.5 j03g

relative Inform. Technology (IT)

$olv^3*$  0.0 0.0 0.0 (1.0)

$cmy^3*$  1.0 1.0 1.0 (0.0)

$olv^4*$  1.0 1.0 1.0 0.0

$cmy^4*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.5 -0.46

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*tce$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

## Output: Colorimetric Reflective System NCS18

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

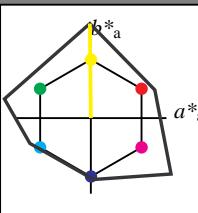
$lab^*tch$  and  $lab^*nch$

D65: hue J

LCH\*Ma: 91 125 91

olv\*Ma: 1.0 1.0 0.0

triangle lightness  $t^*$



## NCS18; adapted (a) CIELAB data

	$L^* = L^*_a$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	47.15	84.63	37.24	92.46	24
JMa	91.37	-1.27	125.03	125.03	91
GMa	63.07	-114.29	25.34	117.07	167
G50BMa	59.47	-80.61	-33.45	87.29	203
BMa	49.01	3.63	-81.2	81.29	273
B50RMa	44.06	106.07	-73.94	129.31	325
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	272

%Gamut

$u^*_{rel} = 136$

%Regularity

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

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

relative Inform. Technology (IT)

$olv^3*$  1.0 1.0 0.5 (1.0)

$cmy^3*$  0.0 0.0 0.5 (0.0)

$olv^4*$  1.0 1.0 0.5 1.0

$cmy^4*$  0.0 0.0 0.5 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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)

$olv^3*$  0.5 0.5 0.5 (1.0)

$cmy^3*$  0.5 0.5 0.5 (0.0)

$olv^4*$  1.0 1.0 0.5 0.5

$cmy^4*$  0.0 0.0 0.5 0.5

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 CIELAB lab\*

$lab^*lab$  0.974 -0.004 0.5

$lab^*tch$  0.75 0.5 0.252

$lab^*nch$  0.0 0.5 0.252

relative Natural Colour (NC)

$lab^*lrij$  0.974 0.021 0.499

$lab^*tce$  0.75 0.5 0.243

$lab^*ncE$  0.0 0.5 r97j

relative Inform. Technology (IT)

$olv^3*$  0.0 0.0 0.0 (1.0)

$cmy^3*$  1.0 1.0 1.0 (0.0)

$olv^4*$  1.0 1.0 0.5 0.5

$cmy^4*$  0.0 0.0 0.5 0.5

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.09 0.02

$LAB^*LABa$  18.02

## Input: Colorimetric Reflective System MRS18

for hue  $h^* = lab^*h = 94/360 = 0.261$

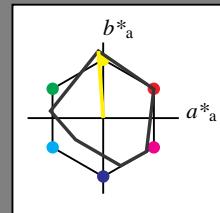
$lab^*tch$  and  $lab^*nch$

D65: hue J

LCH\*Ma: 91 89 94

olv\*Ma: 1.0 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
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)

$olv^3*$  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

$LAB^*LABa$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  1.0 0.0 0.0

$lab^*ice$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  93.05 -4.11 48.97

$LAB^*LABa$  93.05 -3.17 44.37

$LAB^*TChA$  75.0 44.48 94.1

relative CIELAB lab\*

$lab^*lab$  0.969 -0.035 0.499

$lab^*tch$  0.75 0.5 0.261

$lab^*nch$  0.0 0.5 0.261

relative Natural Colour (NC)

$lab^*lrj$  0.969 -0.023 0.499

$lab^*ice$  0.75 0.2 0.528

$lab^*ncE$  0.0 0.5 j03g

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 0.5

$cmyn^4*$  0.0 0.0 0.0 0.5

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 CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  0.5 0.0 0.0

$lab^*ice$  0.5 0.0 0.0

$lab^*ncE$  0.5 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.5 -0.46

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  0.0 0.0 0.0

$lab^*ice$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

relative Inform. Technology (IT)

$olv^3*$  0.0 0.0 0.0 (1.0)

$cmyn^3*$  1.0 1.0 1.0 (0.0)

$olv^4*$  1.0 1.0 1.0 0.0

$cmyn^4*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.5 -0.46

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.47 -0.035 0.499

$lab^*tch$  0.25 0.5 0.261

$lab^*nch$  0.5 0.5 0.261

relative Natural Colour (NC)

$lab^*lrj$  0.47 -0.023 0.499

$lab^*ice$  0.25 0.5 0.258

$lab^*ncE$  0.5 0.5 j03g

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.5 -0.46

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  0.0 0.0 0.0

$lab^*ice$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

$n^* = 0,00$



$n^* = 0,50$

$n^* = 1,00$

chromaticness  $c^*$

## Output: Colorimetric Reflective System NRS11

for hue  $h^* = lab^*h = 91/360 = 0.253$

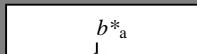
$lab^*tch$  and  $lab^*nch$

D65: hue J

LCH\*Ma: 53 84 91

olv\*Ma: 1.0 1.0 0.0

triangle lightness  $t^*$



## NRS11; adapted (a) CIELAB data

	$L^* = L^*_a$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	53.2	77.06	34.32	84.36	24
JMa	53.2	-1.51	84.38	84.39	91
GMa	53.2	-82.27	18.98	84.44	167
G50BMa	53.2	-77.72	-32.98	84.44	203
BMa	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

%Gamut

$u^*_{rel} = 91$

%Regularity

$g^*_{H,rel} = 41$

$g^*_{C,rel} = 52$

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 0.0 -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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  1.0 0.0 0.0

$lab^*ice$  1.0 0.0 0.0

$lab^*ncE$  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 0.5

$cmyn^4*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  74.3 -0.72 42.18

$LAB^*LABa$  74.3 -0.75 42.18

$LAB^*TChA$  75.0 42.19 91.03

relative CIELAB lab\*

$lab^*lab$  0.75 -0.008 0.5

$lab^*tch$  0.75 0.5 0.253

$lab^*nch$  0.0 0.5 0.253

relative Natural Colour (NC)

$lab^*lrj$  0.75 0.015 0.5

$lab^*ice$  0.75 0.5 0.245

$lab^*ncE$  0.0 0.5 r98j

$n^* = 0,00$

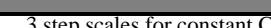


$n^* = 0,50$

$n^* = 1,00$

chromaticness  $c^*$

$n^* = 1,0$



$n^* = 0,50$

$n^* = 0,00$

UE100-7, 3 step scales for constant CIELAB hue 94/360 = 0.261 (left)

3 step scales for constant CIELAB hue 91/360 = 0.253 (right)

## Input: Colorimetric Reflective System MRS18

for hue  $h^* = lab^*h = 94/360 = 0.261$

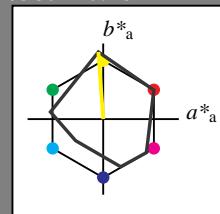
$lab^*tch$  and  $lab^*nch$

D65: hue J

LCH\*Ma: 91 89 94

olv\*Ma: 1.0 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
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

%Gamut

$u^*_{rel} = 91$

%Regularity

$g^*_{H,rel} = 41$

$g^*_{C,rel} = 52$

relative Inform. Technology (IT)

$olv^3* 1.0 \quad 1.0 \quad 1.0 \quad (1.0)$

$cmy^3* 0.0 \quad 0.0 \quad 0.0 \quad (0.0)$

$olv^4* 1.0 \quad 1.0 \quad 1.0 \quad 1.0$

$cmy^4* 0.0 \quad 0.0 \quad 0.0 \quad 0.0$

standard and adapted CIELAB

$LAB^*LAB \quad 95.41 \quad -0.97 \quad 4.75$

$LAB^*LABa \quad 95.41 \quad 0.0 \quad 0.0$

$LAB^*TCh \quad 99.99 \quad 0.01 \quad -$

relative CIELAB lab\*

$lab^*lab \quad 1.0 \quad 0.0 \quad 0.0$

$lab^*tch \quad 1.0 \quad 0.0 \quad -$

$lab^*nch \quad 0.0 \quad 0.0 \quad -$

relative Natural Colour (NC)

$lab^*lrij \quad 1.0 \quad 0.0 \quad 0.0$

$lab^*tce \quad 1.0 \quad 0.0 \quad -$

$lab^*ncE \quad 0.0 \quad 0.0 \quad -$

relative Inform. Technology (IT)

$olv^3* 0.5 \quad 0.5 \quad 0.5 \quad (1.0)$

$cmy^3* 0.5 \quad 0.5 \quad 0.5 \quad (0.0)$

$olv^4* 1.0 \quad 1.0 \quad 1.0 \quad 0.5$

$cmy^4* 0.0 \quad 0.0 \quad 0.0 \quad 0.5$

standard and adapted CIELAB

$LAB^*LAB \quad 56.71 \quad -0.23 \quad 2.14$

$LAB^*LABa \quad 56.71 \quad 0.0 \quad 0.0$

$LAB^*TCh \quad 50.0 \quad 0.01 \quad -$

relative CIELAB lab\*

$lab^*lab \quad 0.5 \quad 0.0 \quad 0.0$

$lab^*tch \quad 0.5 \quad 0.0 \quad -$

$lab^*nch \quad 0.5 \quad 0.0 \quad -$

relative Natural Colour (NC)

$lab^*lrij \quad 0.5 \quad 0.0 \quad 0.0$

$lab^*tce \quad 0.5 \quad 0.0 \quad -$

$lab^*ncE \quad 0.5 \quad 0.0 \quad -$

relative Inform. Technology (IT)

$olv^3* 0.0 \quad 0.0 \quad 0.0 \quad (1.0)$

$cmy^3* 1.0 \quad 1.0 \quad 1.0 \quad (0.0)$

$olv^4* 1.0 \quad 1.0 \quad 1.0 \quad 0.0$

$cmy^4* 0.0 \quad 0.0 \quad 0.0 \quad 1.0$

standard and adapted CIELAB

$LAB^*LAB \quad 18.02 \quad 0.5 \quad -0.46$

$LAB^*LABa \quad 18.02 \quad 0.0 \quad 0.0$

$LAB^*TCh \quad 0.01 \quad 0.01 \quad -$

relative CIELAB lab\*

$lab^*lab \quad 0.0 \quad 0.0 \quad 0.0$

$lab^*tch \quad 0.0 \quad 0.0 \quad -$

$lab^*nch \quad 1.0 \quad 0.0 \quad -$

relative Natural Colour (NC)

$lab^*lrij \quad 0.0 \quad 0.0 \quad 0.0$

$lab^*tce \quad 0.0 \quad 0.0 \quad -$

$lab^*ncE \quad 1.0 \quad 0.0 \quad -$

$n^* = 1,0$

$n^* = 0,00$

$n^* = 0,50$

$n^* = 1,00$

$n^* = 0,$

## Input: Colorimetric Reflective System TRS18

for hue  $h^* = lab^*h = 96/360 = 0.268$

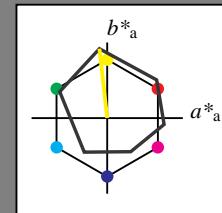
$lab^*tch$  and  $lab^*nch$

D65: hue Y

LCH\*Ma: 90 92 96

olv\*Ma: 1.0 1.0 0.0

triangle lightness  $t^*$



### TRS18; adapted (a) CIELAB data

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

$olv^3*$  1.0 1.0 1.0 (1.0)

$cmy^3*$  0.0 0.0 0.0 (0.0)

$olv^4*$  1.0 1.0 1.0 1.0

$cmy^4*$  0.0 0.0 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  95.41 -0.97 4.75

$LAB^*LABa$  95.41 0.0 0.0

$LAB^*TCh$  99.99 0.01 -

relative CIELAB lab\*

$lab^*lab$  1.0 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  1.0 0.0 0.0

$lab^*ice$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  92.88 -6.06 50.46

$LAB^*LABa$  92.88 -5.13 45.87

$LAB^*TCh$  75.0 46.16 96.39

relative CIELAB lab\*

$lab^*lab$  0.967 -0.055 0.497

$lab^*tch$  0.75 0.5 0.268

$lab^*nch$  0.0 0.5 0.268

relative Natural Colour (NC)

$lab^*lrj$  0.967 -0.048 0.497

$lab^*ice$  0.75 0.2 0.266

$lab^*ncE$  0.0 0.5 j06g

relative Inform. Technology (IT)

$olv^3*$  0.5 0.5 0.5 (1.0)

$cmy^3*$  0.5 0.5 0.5 (0.0)

$olv^4*$  1.0 1.0 1.0 0.5

$cmy^4*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  56.71 -0.23 2.14

$LAB^*LABa$  56.71 0.0 0.0

$LAB^*TCh$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  0.5 0.0 0.0

$lab^*ice$  0.5 0.0 0.0

$lab^*ncE$  0.5 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.5 -0.46

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TCh$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  0.0 0.0 0.0

$lab^*ice$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

relative Inform. Technology (IT)

$olv^3*$  0.0 0.0 0.0 (1.0)

$cmy^3*$  1.0 1.0 1.0 (0.0)

$olv^4*$  1.0 1.0 1.0 0.0

$cmy^4*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.5 -0.46

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TCh$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  0.0 0.0 0.0

$lab^*ice$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.5 -0.46

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TCh$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  0.0 0.0 0.0

$lab^*ice$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

relative Inform. Technology (IT)

$olv^3*$  1.0 1.0 1.0 (1.0)

$cmy^3*$  0.0 0.0 0.0 (0.0)

$olv^4*$  1.0 1.0 1.0 1.0

$cmy^4*$  0.0 0.0 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  95.41 -0.97 4.75

$LAB^*LABa$  95.41 0.0 0.0

$LAB^*TCh$  99.99 0.01 -

relative CIELAB lab\*

$lab^*lab$  1.0 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  1.0 0.0 0.0

$lab^*ice$  1.0 0.0 -

$lab^*ncE$  0.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  92.88 -6.06 50.46

$LAB^*LABa$  92.88 -5.13 45.87

$LAB^*TCh$  75.0 46.16 96.39

relative CIELAB lab\*

$lab^*lab$  0.967 -0.055 0.497

$lab^*tch$  0.75 0.5 0.268

$lab^*nch$  0.0 0.5 0.268

relative Natural Colour (NC)

$lab^*lrj$  0.967 -0.048 0.497

$lab^*ice$  0.75 0.5 0.266

$lab^*ncE$  0.0 0.5 j06g

$n^* = 1,0$

## Output: Colorimetric Reflective System ORS18

for hue  $h^* = lab^*h = 96/360 = 0.268$

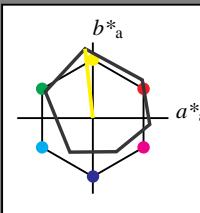
$lab^*tch$  and  $lab^*nch$

D65: hue Y

LCH\*Ma: 90 92 96

olv\*Ma: 1.0 1.0 0.0

triangle lightness  $t^*$



### ORS18; adapted (a) CIELAB data

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

$olv^3*$  1.0 1.0 1.0 (1.0)

$cmy^3*$  0.0 0.0 0.0 (0.0)

$olv^4*$  1.0 1.0 1.0 1.0

$cmy^4*$  0.0 0.0 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  95.41 -0.97 4.75

$LAB^*LABa$  95.41 0.0 0.0

$LAB^*TCh$  99.99 0.01 -

relative CIELAB lab\*

$lab^*lab$  1.0 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  1.0 0.0 0.0

$lab^*ice$  1.0 0.0 -

$lab^*ncE$  0.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  92.88 -6.06 50.46

$LAB^*LABa$  92.88 -5.13 45.87

$LAB^*TCh$  75.0 46.16 96.39

relative CIELAB lab\*

$lab^*lab$  0.967 -0.055 0.497

$lab^*tch$  0.75 0.5 0.268

$lab^*nch$  0.0 0.5 0.268

relative Natural Colour (NC)

$lab^*lrj$  0.967 -0.048 0.497

$lab^*ice$  0.75 0.5 0.266

$lab^*ncE$  0.0 0.5 j06g

$n^* = 0,00$

blackness  $n^*$

|--|

## Input: Colorimetric Reflective System TRS18

for hue  $h^* = lab^*h = 96/360 = 0.268$

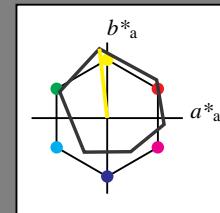
$lab^*tch$  and  $lab^*nch$

D65: hue Y

LCH\*Ma: 90 92 96

olv\*Ma: 1.0 1.0 0.0

triangle lightness  $t^*$



### TRS18; adapted (a) CIELAB data

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

$olv_i3^*$  1.0 1.0 1.0 (1.0)

$cmy_n3^*$  0.0 0.0 0.0 (0.0)

$olv_i4^*$  1.0 1.0 1.0 1.0

$cmy_n4^*$  0.0 0.0 0.0 0.0

standard and adapted CIELAB

$LAB^{*LAB}$  95.41 -0.97 4.75

$LAB^{*LAb}$  95.41 0.0 0.0

$LAB^{*TCh}$  99.99 0.01 -

relative CIELAB lab\*

$lab^{*lab}$  1.0 0.0 0.0

$lab^{*tch}$  1.0 0.0 -

$lab^{*nch}$  0.0 0.0 -

relative Natural Colour (NC)

$lab^{*lrj}$  1.0 0.0 0.0

$lab^{*ice}$  1.0 0.0 0.0

$lab^{*ncE}$  0.0 0.0 -

standard and adapted CIELAB

$LAB^{*LAB}$  92.88 -6.06 50.46

$LAB^{*LAb}$  92.88 -5.13 45.87

$LAB^{*TCh}$  75.0 46.16 96.39

relative CIELAB lab\*

$lab^{*lab}$  0.967 -0.055 0.497

$lab^{*tch}$  0.75 0.5 0.268

$lab^{*nch}$  0.0 0.5 0.268

relative Natural Colour (NC)

$lab^{*lrj}$  0.967 -0.048 0.497

$lab^{*ice}$  0.75 0.2 0.266

$lab^{*ncE}$  0.0 0.5 j06g

relative Inform. Technology (IT)

$olv_i3^*$  0.5 0.5 0.5 (1.0)

$cmy_n3^*$  0.5 0.5 0.5 (0.0)

$olv_i4^*$  1.0 1.0 1.0 0.5

$cmy_n4^*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^{*LAB}$  56.71 -0.23 2.14

$LAB^{*LAb}$  56.71 0.0 0.0

$LAB^{*TCh}$  50.0 0.01 -

relative CIELAB lab\*

$lab^{*lab}$  0.5 0.0 0.0

$lab^{*tch}$  0.5 0.0 -

$lab^{*nch}$  0.5 0.0 -

relative Natural Colour (NC)

$lab^{*lrj}$  0.5 0.0 0.0

$lab^{*ice}$  0.5 0.0 0.0

$lab^{*ncE}$  0.5 0.0 -

standard and adapted CIELAB

$LAB^{*LAB}$  18.02 0.5 -0.46

$LAB^{*LAb}$  18.02 0.0 0.0

$LAB^{*TCh}$  0.01 0.01 -

relative CIELAB lab\*

$lab^{*lab}$  0.0 0.0 0.0

$lab^{*tch}$  0.0 0.0 -

$lab^{*nch}$  1.0 0.0 -

relative Natural Colour (NC)

$lab^{*lrj}$  0.0 0.0 0.0

$lab^{*ice}$  0.0 0.0 -

$lab^{*ncE}$  1.0 0.0 -

$n^* = 1,0$

relative Inform. Technology (IT)

$olv_i3^*$  1.0 1.0 1.0 (1.0)

$cmy_n3^*$  0.0 0.0 0.0 (0.0)

$olv_i4^*$  1.0 1.0 1.0 1.0

$cmy_n4^*$  0.0 0.0 0.0 0.0

standard and adapted CIELAB

$LAB^{*LAB}$  54.19 -5.32 47.85

$LAB^{*LAb}$  54.19 -5.13 45.87

$LAB^{*TCh}$  25.01 46.16 96.39

relative CIELAB lab\*

$lab^{*lab}$  0.467 -0.055 0.497

$lab^{*tch}$  0.25 0.5 0.268

$lab^{*nch}$  0.5 0.5 0.268

relative Natural Colour (NC)

$lab^{*lrj}$  0.467 -0.048 0.497

$lab^{*ice}$  0.25 0.5 0.266

$lab^{*ncE}$  0.5 0.5 j06g

standard and adapted CIELAB

$LAB^{*LAB}$  18.02 0.5 -0.46

$LAB^{*LAb}$  18.02 0.0 0.0

$LAB^{*TCh}$  0.01 0.01 -

relative CIELAB lab\*

$lab^{*lab}$  0.0 0.0 0.0

$lab^{*tch}$  0.0 0.0 -

$lab^{*nch}$  1.0 0.0 -

relative Natural Colour (NC)

$lab^{*lrj}$  0.0 0.0 0.0

$lab^{*ice}$  0.0 0.0 -

$lab^{*ncE}$  1.0 0.0 -

$n^* = 1,0$

## Output: Colorimetric Reflective System MRS18

for hue  $h^* = lab^*h = 94/360 = 0.261$

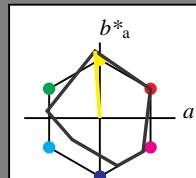
$lab^*tch$  and  $lab^*nch$

D65: hue J

LCH\*Ma: 91 89 94

olv\*Ma: 1.0 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
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)

$olv_i3^*$  1.0 1.0 1.0 (1.0)

$cmy_n3^*$  0.0 0.0 0.0 (0.0)

$olv_i4^*$  1.0 1.0 1.0 1.0

$cmy_n4^*$  0.0 0.0 0.0 0.0

standard and adapted CIELAB

$LAB^{*LAB}$  95.41 -0.97 4.75

$LAB^{*LAb}$  95.41 0.0 0.0

$LAB^{*TCh}$  99.99 0.01 -

relative CIELAB lab\*

$lab^{*lab}$  1.0 0.0 0.0

$lab^{*tch}$  1.0 0.0 -

$lab^{*nch}$  0.0 0.0 -

relative Natural Colour (NC)

$lab^{*lrj}$  1.0 0.0 0.0

$lab^{*ice}$  1.0 0.0 0.0

$lab^{*ncE}$  0.0 0.0 -

relative CIELAB lab\*

$lab^{*lab}$  0.969 -0.035 0.499

$lab^{*tch}$  0.75 0.5 0.261

$lab^{*nch}$  0.0 0.5 0.261

relative Natural Colour (NC)

$lab^{*lrj}$  0.969 -0.023 0.499

$lab^{*ice}$  0.75 0.5 0.258

$lab^{*ncE}$  0.0 0.5 j03g

relative Inform. Technology (IT)

$olv_i3^*$  0.0 0.0 0.0 (1.0)

$cmy_n3^*$  0.5 0.5 0.5 (0.0)

$olv_i4^*$  1.0 1.0 0.5 0.5

$cmy_n4^*$  0.0 0.0 0.5 0.5

standard and adapted CIELAB

$LAB^{*LAB}$  56.71 -0.23 2.14

$LAB^{*LAb}$  56.71 0.0 0.0

$LAB^{*TCh}$  50.0 0.01 -

relative CIELAB lab\*

$lab^{*lab}$  0.935 -0.11 0.994

$lab^{*tch}$  0.5 1.0 0.268

$lab^{*nch}$  0.0 1.0 0.268

relative Natural Colour (NC)

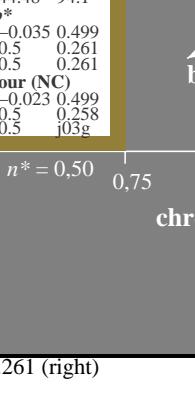
$lab^{*lrj}$  0.935 -0.097 0.995

$lab^{*ice}$  0.5 1.0 0.266

$lab^{*ncE}$  0.0 1.0 j06g

$n^* = 0,00$

blackness  $n^*$



relative Inform. Technology (IT)

$olv_i3^*$  1.0 1.0 0.0 (0.0)

$cmy_n3^*$  0.0 0.0 0.5 (0.0)

$olv_i4^*$  1.0 1.0 0.5 1.0

$cmy_n4^*$  0.0 0.0 0.5 0.0

standard and adapted CIELAB

$LAB^{*LAB}$  93.05 -4.11 48.97

$LAB^{*LAb}$  93.05 -3.17 44.37

$LAB^{*TCh}$  75.0 44.48 94.1

relative CIELAB lab\*

$lab^{*lab}$  0.969 -0.035 0.499

$lab^{*tch}$  0.75 0.5 0.261

$lab^{*nch}$  0.0 0.5 0.261

relative Natural Colour (NC)

$lab^{*lrj}$  0.969 -0.023 0.499

$lab^{*ice}$  0.75 0.5 0.258

$lab^{*ncE}$  0.0 0.5 j03g

$n^* = 0,00$

## Input: Colorimetric Reflective System TRS18

for hue  $h^* = lab^*h = 96/360 = 0.268$

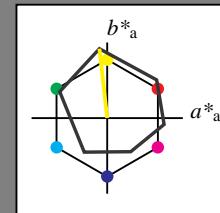
$lab^*tch$  and  $lab^*nch$

D65: hue Y

LCH\*Ma: 90 92 96

olv\*Ma: 1.0 1.0 0.0

triangle lightness  $t^*$



### TRS18; adapted (a) CIELAB data

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

$olv_i3^*$  1.0 1.0 1.0 (1.0)

$cmy_n3^*$  0.0 0.0 0.0 (0.0)

$olv_i4^*$  1.0 1.0 1.0 1.0

$cmy_n4^*$  0.0 0.0 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  95.41 -0.97 4.75

$LAB^*LABa$  95.41 0.0 0.0

$LAB^*TCh$  99.99 0.01 -

relative CIELAB lab\*

$lab^*lab$  1.0 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  1.0 0.0 0.0

$lab^*ice$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  92.88 -6.06 50.46

$LAB^*LABa$  92.88 -5.13 45.87

$LAB^*TCh$  75.0 46.16 96.39

relative CIELAB lab\*

$lab^*lab$  0.967 -0.055 0.497

$lab^*tch$  0.75 0.5 0.268

$lab^*nch$  0.0 0.5 0.268

relative Natural Colour (NC)

$lab^*lrj$  0.967 -0.048 0.497

$lab^*ice$  0.75 0.2 0.266

$lab^*ncE$  0.0 0.5 j06g

relative Inform. Technology (IT)

$olv_i3^*$  0.5 0.5 0.5 (1.0)

$cmy_n3^*$  0.5 0.5 0.5 (0.0)

$olv_i4^*$  1.0 1.0 1.0 0.5

$cmy_n4^*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  56.71 -0.23 2.14

$LAB^*LABa$  56.71 0.0 0.0

$LAB^*TCh$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  0.5 0.0 0.0

$lab^*ice$  0.5 0.0 0.0

$lab^*ncE$  0.5 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.5 -0.46

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TCh$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

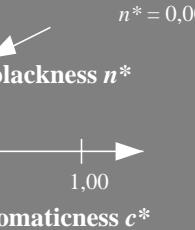
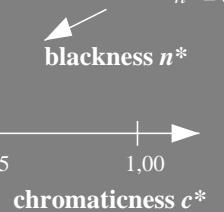
$lab^*lrj$  0.0 0.0 0.0

$lab^*ice$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

$n^* = 0,00$



UE100-7, 3 step scales for constant CIELAB hue 96/360 = 0.268 (left)

## Output: Colorimetric Reflective System TRS18

for hue  $h^* = lab^*h = 96/360 = 0.268$

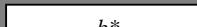
$lab^*tch$  and  $lab^*nch$

D65: hue Y

LCH\*Ma: 90 92 96

olv\*Ma: 1.0 1.0 0.0

triangle lightness  $t^*$



### TRS18; adapted (a) CIELAB data

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

$olv_i3^*$  1.0 1.0 1.0 (1.0)

$cmy_n3^*$  0.0 0.0 0.0 (0.0)

$olv_i4^*$  1.0 1.0 1.0 1.0

$cmy_n4^*$  0.0 0.0 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  95.41 -0.97 4.75

$LAB^*LABa$  95.41 0.0 0.0

$LAB^*TCh$  99.99 0.01 -

relative CIELAB lab\*

$lab^*lab$  1.0 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  1.0 0.0 0.0

$lab^*ice$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  92.88 -6.06 50.46

$LAB^*LABa$  92.88 -5.13 45.87

$LAB^*TCh$  75.0 46.16 96.39

relative CIELAB lab\*

$lab^*lab$  0.967 -0.055 0.497

$lab^*tch$  0.75 0.5 0.268

$lab^*nch$  0.0 0.5 0.268

relative Natural Colour (NC)

$lab^*lrj$  0.967 -0.048 0.497

$lab^*ice$  0.75 0.5 0.266

$lab^*ncE$  0.0 0.5 j06g

relative Inform. Technology (IT)

$olv_i3^*$  0.5 0.5 0.5 (1.0)

$cmy_n3^*$  0.5 0.5 0.5 (0.0)

$olv_i4^*$  1.0 1.0 1.0 0.5

$cmy_n4^*$  0.0 0.0 0.5 0.5

standard and adapted CIELAB

$LAB^*LAB$  56.71 -0.23 2.14

$LAB^*LABa$  56.71 0.0 0.0

$LAB^*TCh$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.935 -0.11 0.994

$lab^*tch$  0.5 1.0 0.268

$lab^*nch$  0.0 1.0 0.268

relative Natural Colour (NC)

$lab^*lrj$  0.935 -0.097 0.995

$lab^*ice$  0.5 1.0 0.266

$lab^*ncE$  0.5 1.0 j06g

$n^* = 1,0$

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

$olv_i3^*$  1.0 1.0 1.0 (1.0)

$cmy_n3^*$  0.0 0.0 0.0 (0.0)

$olv_i4^*$  1.0 1.0 1.0 1.0

$cmy_n4^*$  0.0 0.0 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  95.41 -0.97 4.75

$LAB^*LABa$  95.41 0.0 0.0

$LAB^*TCh$  99.99 0.01 -

relative CIELAB lab\*

$lab^*lab$  1.0 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  1.0 0.0 0.0

$lab^*ice$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  92.88 -6.06 50.46

$LAB^*LABa$  92.88 -5.13 45.87

$LAB^*TCh$  75.0 46.16 96.39

relative CIELAB lab\*

$lab^*lab$  0.967 -0.055 0.497

$lab^*tch$  0.75 0.5 0.268

$lab^*nch$  0.0 0.5 0.268



## Input: Colorimetric Reflective System TRS18

for hue  $h^* = lab^*h = 96/360 = 0.268$

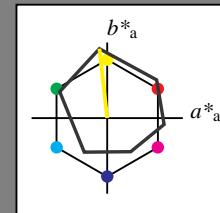
$lab^*tch$  and  $lab^*nch$

D65: hue Y

LCH\*Ma: 90 92 96

olv\*Ma: 1.0 1.0 0.0

triangle lightness  $t^*$



## TRS18; adapted (a) CIELAB data

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

$olv_i3^*$  1.0 1.0 1.0 (1.0)

$cmyn3^*$  0.0 0.0 0.0 (0.0)

$olv_i4^*$  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

$LAB^*LABa$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  92.88 -6.06 50.46

$LAB^*LABa$  92.88 -5.13 45.87

$LAB^*TChA$  75.0 46.16 96.39

relative CIELAB lab\*

$lab^*lab$  0.967 -0.055 0.497

$lab^*tch$  0.75 0.5 0.268

$lab^*nch$  0.0 0.5 0.268

relative Natural Colour (NC)

$lab^*lrij$  0.967 -0.048 0.497

$lab^*tce$  0.75 0.2 0.266

$lab^*ncE$  0.0 0.5 j06g

relative Inform. Technology (IT)

$olv_i3^*$  0.5 0.5 0.5 (1.0)

$cmyn3^*$  0.5 0.5 0.5 (0.0)

$olv_i4^*$  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

$LAB^*LABa$  56.71 0.0 0.0

$LAB^*TChA$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.5 0.0 0.0

$lab^*tce$  0.5 0.0 0.0

$lab^*ncE$  0.5 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.5 -0.46

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

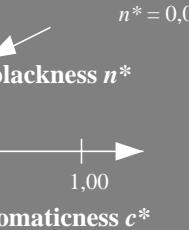
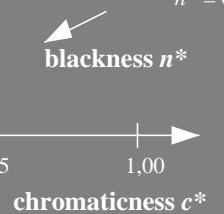
$lab^*lrij$  0.0 0.0 0.0

$lab^*tce$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

$n^* = 0,00$



## Output: Colorimetric Reflective System NRS18

for hue  $h^* = lab^*h = 91/360 = 0.253$

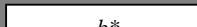
$lab^*tch$  and  $lab^*nch$

D65: hue J

LCH\*Ma: 57 77 91

olv\*Ma: 1.0 1.0 0.0

triangle lightness  $t^*$



## NRS18; adapted (a) CIELAB data

	$L^*=L_a^*$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	56.7	70.66	31.47	77.35	24
JMa	56.7	-1.39	77.37	77.39	91
GMa	56.7	-75.46	17.4	77.45	167
G50BMa	56.7	-71.29	-30.25	77.45	203
BMa	56.7	4.0	-77.3	77.41	273
B50RMa	56.7	63.35	-44.4	77.36	325
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	272

%Gamut

$u^*_{rel} = 93$

%Regularity

$g^*_{H,rel} = 57$

$g^*_{C,rel} = 59$

relative Inform. Technology (IT)

$olv_i3^*$  1.0 1.0 1.0 (1.0)

$cmyn3^*$  0.0 0.0 0.0 (0.0)

$olv_i4^*$  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 0.0

$LAB^*LABa$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)

$olv_i3^*$  0.5 0.5 0.5 (1.0)

$cmyn3^*$  0.5 0.5 0.5 (0.0)

$olv_i4^*$  1.0 1.0 1.0 0.5

$cmyn4^*$  0.0 0.0 0.5 0.5

standard and adapted CIELAB

$LAB^*LAB$  56.72 0.05 0.0

$LAB^*LABa$  56.72 0.0 0.0

$LAB^*TChA$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.935 -0.11 0.994

$lab^*tch$  0.5 1.0 0.268

$lab^*nch$  0.0 1.0 0.268

relative Natural Colour (NC)

$lab^*lrij$  0.935 -0.097 0.995

$lab^*tce$  0.5 1.0 0.266

$lab^*ncE$  0.0 1.0 j06g

$n^* = 1,0$

%Gamut

$u^*_{rel} = 100$

%Regularity

$g^*_{H,rel} = 47$

$g^*_{C,rel} = 100$

relative Inform. Technology (IT)

$olv_i3^*$  1.0 1.0 1.0 (1.0)

$cmyn3^*$  0.0 0.0 0.5 (0.0)

$olv_i4^*$  1.0 1.0 1.0 1.0

$cmyn4^*$  0.0 0.0 0.5 0.0

standard and adapted CIELAB

$LAB^*LAB$  76.05 -0.66 38.68

$LAB^*LABa$  76.05 -0.69 38.68

$LAB^*TChA$  75.0 38.69 91.04

relative CIELAB lab\*

$lab^*lab$  0.75 -0.008 0.5

$lab^*tch$  0.75 0.5 0.253

$lab^*nch$  0.0 0.5 0.253

relative Natural Colour (NC)

$lab^*lrij$  0.75 0.015 0.245

$lab^*tce$  0.75 0.5 0.245

$lab^*ncE$  0.0 0.5 r98j

relative Inform. Technology (IT)

$olv_i3^*$  1.0 1.0 0.0 (1.0)

$cmyn3^*$  0.0 0.1 0.0 (0.0)

$olv_i4^*$  1.0 1.0 0.0 1.0

$cmyn4^*$  0.0 0.0 1.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  56.7 -1.34 77.37

$LAB^*LABa$  56.7 -1.39 77.36

$LAB^*TChA$  50.0 77.37 91.04

relative CIELAB lab\*

$lab^*lab$  0.5 -0.017 1.0

$lab^*tch$  0.5 1.0 0.253

$lab^*nch$  0.0 1.0 0.253

relative Natural Colour (NC)

$lab^*lrij$  0.5 0.03 0.999

$lab^*tce$  0.5 1.0 0.245

$lab^*ncE$  0.0 1.0 r98j

$n^* = 0,00$

$n^* = 0,50$

$n^* = 1,00$

chromaticness  $c^*$

UE100-7, 3 step scales for constant CIELAB hue 96/360 = 0.268 (left)

3 step scales for constant CIELAB hue 91/360 = 0.253 (right)

### Input: Colorimetric Reflective System TRS18

for hue  $h^* = lab^*h = 96/360 = 0.268$

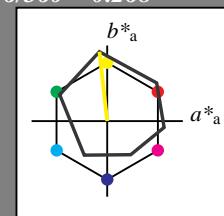
$lab^*tch$  and  $lab^*nch$

D65: hue Y

LCH\*Ma: 90 92 96

olv\*Ma: 1.0 1.0 0.0

triangle lightness  $t^*$



### TRS18; adapted (a) CIELAB data

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

$olv_i3^*$  1.0 1.0 1.0 (1.0)

$cmy_n3^*$  0.0 0.0 0.0 (0.0)

$olv_i4^*$  1.0 1.0 1.0 1.0

$cmy_n4^*$  0.0 0.0 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  95.41 -0.97 4.75

$LAB^*LAb$  95.41 0.0 0.0

$LAB^*TCh$  99.99 0.01 -

relative CIELAB lab\*

$lab^*lab$  1.0 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  1.0 0.0 0.0

$lab^*ice$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  92.88 -6.06 50.46

$LAB^*LAb$  92.88 -5.13 45.87

$LAB^*TCh$  75.0 46.16 96.39

relative CIELAB lab\*

$lab^*lab$  0.967 -0.055 0.497

$lab^*tch$  0.75 0.5 0.268

$lab^*nch$  0.0 0.5 0.268

relative Natural Colour (NC)

$lab^*lrj$  0.967 -0.048 0.497

$lab^*ice$  0.75 0.2 0.266

$lab^*ncE$  0.0 0.5 j06g

relative Inform. Technology (IT)

$olv_i3^*$  0.5 0.5 0.5 (1.0)

$cmy_n3^*$  0.5 0.5 0.5 (0.0)

$olv_i4^*$  1.0 1.0 1.0 0.5

$cmy_n4^*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  56.71 -0.23 2.14

$LAB^*LAb$  56.71 0.0 0.0

$LAB^*TCh$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  0.5 0.0 0.0

$lab^*ice$  0.5 0.0 0.0

$lab^*ncE$  0.5 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.5 -0.46

$LAB^*LAb$  18.02 0.0 0.0

$LAB^*TCh$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  0.0 0.0 0.0

$lab^*ice$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

### Output: Colorimetric Reflective System NCS18

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

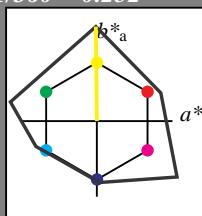
$lab^*tch$  and  $lab^*nch$

D65: hue J

LCH\*Ma: 91 125 91

olv\*Ma: 1.0 1.0 0.0

triangle lightness  $t^*$



### NCS18; adapted (a) CIELAB data

	$L^* = L_a^*$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	47.15	84.63	37.24	92.46	24
JMa	91.37	-1.27	125.03	125.03	91
GMa	63.07	-114.29	25.34	117.07	167
G50BMa	59.47	-80.61	-33.45	87.29	203
BMa	49.01	3.63	-81.2	81.29	273
B50RMa	44.06	106.07	-73.94	129.31	325
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	272

%Gamut

$u^*_{rel} = 93$

%Regularity

$g^*_{H,rel} = 57$

$g^*_{C,rel} = 59$

relative Inform. Technology (IT)

$olv_i3^*$  1.0 1.0 0.5 (1.0)

$cmy_n3^*$  0.0 0.0 0.0 (0.0)

$olv_i4^*$  1.0 1.0 0.5 1.0

$cmy_n4^*$  0.0 0.0 0.5 0.0

standard and adapted CIELAB

$LAB^*LAB$  95.41 -0.97 4.75

$LAB^*LAb$  95.41 0.0 0.0

$LAB^*TCh$  99.99 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.967 -0.055 0.497

$lab^*tch$  0.75 0.5 0.268

$lab^*nch$  0.0 0.5 0.268

relative Natural Colour (NC)

$lab^*lrj$  0.967 -0.048 0.497

$lab^*ice$  0.75 0.2 0.266

$lab^*ncE$  0.0 0.5 j06g

relative Inform. Technology (IT)

$olv_i3^*$  0.5 0.5 0.5 (1.0)

$cmy_n3^*$  0.5 0.5 0.5 (0.0)

$olv_i4^*$  1.0 1.0 0.5 0.5

$cmy_n4^*$  0.0 0.0 0.5 0.5

standard and adapted CIELAB

$LAB^*LAB$  56.71 -0.23 2.14

$LAB^*LAb$  56.71 0.0 0.0

$LAB^*TCh$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.935 -0.11 0.994

$lab^*tch$  0.5 1.0 0.268

$lab^*nch$  0.0 1.0 0.268

relative Natural Colour (NC)

$lab^*lrj$  0.935 -0.097 0.995

$lab^*ice$  0.5 1.0 0.266

$lab^*ncE$  0.0 1.0 j06g

relative Inform. Technology (IT)

$olv_i3^*$  0.0 0.0 0.0 (1.0)

$cmy_n3^*$  1.0 1.0 1.0 (0.0)

$olv_i4^*$  1.0 1.0 1.0 0.0

$cmy_n4^*$  0.0 0.0 0.1 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.09 -0.02

$LAB^*LAb$  18.02 0.0 0.0

$LAB^*TCh$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.467 -0.055 0.497

$lab^*tch$  0.25 0.5 0.268

$lab^*nch$  0.5 0.5 0.268

relative Natural Colour (NC)

$lab^*lrj$  0.467 -0.048 0.497

$lab^*ice$  0.25 0.5 0.266

$lab^*ncE$  0.5 0.5 j06g

relative Inform. Technology (IT)

$olv_i3^*$  0.0 0.0 0.0 (1.0)

$cmy_n3^*$  1.0 1.0 1.0 (0.0)

$olv_i4^*$  1.0 1.0 1.0 0.0

$cmy_n4^*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.09 0.02

$LAB^*LAb$  18.02 0.0 0.0

$LAB^*TCh$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  0.0 0.0 0.0

$lab^*ice$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

relative Inform. Technology (IT)

$olv_i3^*$  1.0 1.0 1.0 (0.0)

$cmy_n3^*$  1.0 1.0 1.0 (0.0)

$olv_i4^*$  1.0 1.0 1.0 0.0

$cmy_n4^*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.09 0.02

$LAB^*LAb$  18.02 0.0 0.0

$LAB^*TCh$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.474 -0.004 0.5

$lab^*tch$  0.25 0.5 0.252

$lab^*nch$  0.0 1.0 0.252

relative Natural Colour (NC)

$lab^*lrj$  0.474 0.021 0.499

$lab^*ice$  0.25 0.5 0.243

$lab^*ncE$  0.5 0.5 r97j

$n^* = 1,0$

blackness  $n^*$

chromaticness  $c^*$

$n^* = 0,0$

blackness  $n^*$

&lt;p

## Input: Colorimetric Reflective System TRS18

for hue  $h^* = lab^*h = 96/360 = 0.268$

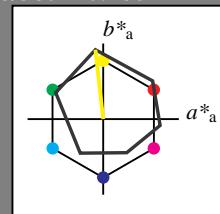
$lab^*tch$  and  $lab^*nch$

D65: hue Y

LCH\*Ma: 90 92 96

olv\*Ma: 1.0 1.0 0.0

triangle lightness  $t^*$



### TRS18; adapted (a) CIELAB data

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

$olv_i3^*$  1.0 1.0 1.0 (1.0)

$cmyn3^*$  0.0 0.0 0.0 (0.0)

$olv_i4^*$  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

$LAB^*LABa$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  92.88 -6.06 50.46

$LAB^*LABa$  92.88 -5.13 45.87

$LAB^*TChA$  75.0 46.16 96.39

relative CIELAB lab\*

$lab^*lab$  0.967 -0.055 0.497

$lab^*tch$  0.75 0.5 0.268

$lab^*nch$  0.0 0.5 0.268

relative Natural Colour (NC)

$lab^*lrij$  0.967 -0.048 0.497

$lab^*tce$  0.75 0.2 0.266

$lab^*ncE$  0.0 0.5 j06g

relative Inform. Technology (IT)

$olv_i3^*$  0.5 0.5 0.5 (1.0)

$cmyn3^*$  0.5 0.5 0.5 (0.0)

$olv_i4^*$  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

$LAB^*LABa$  56.71 0.0 0.0

$LAB^*TChA$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.5 0.0 0.0

$lab^*tce$  0.5 0.0 0.0

$lab^*ncE$  0.5 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.5 -0.46

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*tce$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

relative Inform. Technology (IT)

$olv_i3^*$  1.0 1.0 1.0 (1.0)

$cmyn3^*$  0.0 0.0 0.0 (0.0)

$olv_i4^*$  1.0 1.0 1.0 1.0

$cmyn4^*$  0.0 0.0 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  54.19 -5.32 47.85

$LAB^*LABa$  54.19 -5.13 45.87

$LAB^*TChA$  25.01 46.16 96.39

relative CIELAB lab\*

$lab^*lab$  0.467 -0.055 0.497

$lab^*tch$  0.25 0.5 0.268

$lab^*nch$  0.5 0.5 0.268

relative Natural Colour (NC)

$lab^*lrij$  0.467 -0.048 0.497

$lab^*tce$  0.25 0.5 0.266

$lab^*ncE$  0.5 0.5 j06g

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.5 -0.46

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*tce$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

$n^* = 0,00$

blackness  $n^*$

$n^* = 0,50$

$n^* = 1,00$

chromaticness  $c^*$

## Output: Colorimetric Reflective System NRS11

for hue  $h^* = lab^*h = 91/360 = 0.253$

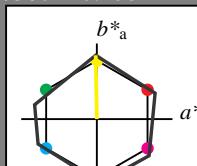
$lab^*tch$  and  $lab^*nch$

D65: hue J

LCH\*Ma: 53 84 91

olv\*Ma: 1.0 1.0 0.0

triangle lightness  $t^*$



### NRS11; adapted (a) CIELAB data

	$L^*=L_a^*$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	53.2	77.06	34.32	84.36	24
JMa	53.2	-1.51	84.38	84.39	91
GMa	53.2	-82.27	18.98	84.44	167
G50BMa	53.2	-77.72	-32.98	84.44	203
BMa	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)

$olv_i3^*$  1.0 1.0 1.0 (1.0)

$cmyn3^*$  0.0 0.0 0.0 (0.0)

$olv_i4^*$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)

$olv_i3^*$  0.5 0.5 0.5 (1.0)

$cmyn3^*$  0.5 0.5 0.5 (0.0)

$olv_i4^*$  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

$LAB^*LABa$  53.21 0.0 0.0

$LAB^*TChA$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.935 -0.11 0.994

$lab^*tch$  0.5 1.0 0.268

$lab^*nch$  0.0 1.0 0.268

relative Natural Colour (NC)

$lab^*lrij$  0.935 -0.097 0.995

$lab^*tce$  0.5 1.0 0.266

$lab^*ncE$  0.0 1.0 j06g

$n^* = 1,0$

$n^* = 0,00$

blackness  $n^*$

$n^* = 0,50$

$n^* = 1,00$

chromaticness  $c^*$

UE100-7, 3 step scales for constant CIELAB hue 96/360 = 0.268 (left)

3 step scales for constant CIELAB hue 91/360 = 0.253 (right)

### Input: Colorimetric Reflective System TRS18

for hue  $h^* = lab^*h = 96/360 = 0.268$

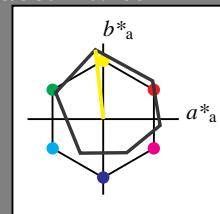
$lab^*tch$  and  $lab^*nch$

D65: hue Y

LCH\*Ma: 90 92 96

olv\*Ma: 1.0 1.0 0.0

triangle lightness  $t^*$



### TRS18; adapted (a) CIELAB data

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

$olv_i3^*$  1.0 1.0 1.0 (1.0)

$cmy_n3^*$  0.0 0.0 0.0 (0.0)

$olv_i4^*$  1.0 1.0 1.0 1.0

$cmy_n4^*$  0.0 0.0 0.0 0.0

standard and adapted CIELAB

$LAB^{*LAB}$  95.41 -0.97 4.75

$LAB^{*LAb}$  95.41 0.0 0.0

$LAB^{*TCh}$  99.99 0.01 -

relative CIELAB lab\*

$lab^{*lab}$  1.0 0.0 0.0

$lab^{*tch}$  1.0 0.0 -

$lab^{*nch}$  0.0 0.0 -

relative Natural Colour (NC)

$lab^{*lrj}$  1.0 0.0 0.0

$lab^{*ice}$  1.0 0.0 0.0

$lab^{*ncE}$  0.0 0.0 -

standard and adapted CIELAB

$LAB^{*LAB}$  92.88 -6.06 50.46

$LAB^{*LAb}$  92.88 -5.13 45.87

$LAB^{*TCh}$  75.0 46.16 96.39

relative CIELAB lab\*

$lab^{*lab}$  0.967 -0.055 0.497

$lab^{*tch}$  0.75 0.5 0.268

$lab^{*nch}$  0.0 0.5 0.268

relative Natural Colour (NC)

$lab^{*lrj}$  0.967 -0.048 0.497

$lab^{*ice}$  0.75 0.2 0.266

$lab^{*ncE}$  0.0 0.5 j06g

relative Inform. Technology (IT)

$olv_i3^*$  0.5 0.5 0.5 (1.0)

$cmy_n3^*$  0.5 0.5 0.5 (0.0)

$olv_i4^*$  1.0 1.0 1.0 0.5

$cmy_n4^*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^{*LAB}$  56.71 -0.23 2.14

$LAB^{*LAb}$  56.71 0.0 0.0

$LAB^{*TCh}$  50.0 0.01 -

relative CIELAB lab\*

$lab^{*lab}$  0.5 0.0 0.0

$lab^{*tch}$  0.5 0.0 -

$lab^{*nch}$  0.5 0.0 -

relative Natural Colour (NC)

$lab^{*lrj}$  0.5 0.0 0.0

$lab^{*ice}$  0.5 0.0 0.0

$lab^{*ncE}$  0.5 0.0 -

standard and adapted CIELAB

$LAB^{*LAB}$  18.02 0.5 -0.46

$LAB^{*LAb}$  18.02 0.0 0.0

$LAB^{*TCh}$  0.01 0.01 -

relative CIELAB lab\*

$lab^{*lab}$  0.0 0.0 0.0

$lab^{*tch}$  0.0 0.0 -

$lab^{*nch}$  1.0 0.0 -

relative Natural Colour (NC)

$lab^{*lrj}$  0.0 0.0 0.0

$lab^{*ice}$  0.0 0.0 -

$lab^{*ncE}$  1.0 0.0 -

$n^* = 1,0$

$n^* = 0,00$

$n^* = 0,50$

$1,00$

chromaticness  $c^*$

$n^* = 0,50$

$0,25$

$0,50$

$0,75$

### Output: Colorimetric Reflective System NCS11

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

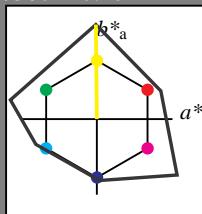
$lab^*tch$  and  $lab^*nch$

D65: hue J

LCH\*Ma: 91 125 91

olv\*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

relative Inform. Technology (IT)

$olv_i3^*$  1.0 1.0 1.0 (1.0)

$cmy_n3^*$  0.0 0.0 0.0 (0.0)

$olv_i4^*$  1.0 1.0 1.0 1.0

$cmy_n4^*$  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

$LAB^{*TCh}$  99.99 0.01 -

relative CIELAB lab\*

$lab^{*lab}$  1.0 0.0 0.0

$lab^{*tch}$  1.0 0.0 -

$lab^{*nch}$  0.0 0.0 -

relative Natural Colour (NC)

$lab^{*lrj}$  1.0 0.0 0.0

$lab^{*ice}$  1.0 0.0 0.0

$lab^{*ncE}$  0.0 0.0 -

standard and adapted CIELAB

$LAB^{*LAB}$  93.38 -0.62 62.5

$LAB^{*LAb}$  93.38 -0.63 62.5

$LAB^{*TCh}$  75.0 62.5 90.59

relative CIELAB lab\*

$lab^{*lab}$  0.976 -0.004 0.5

$lab^{*tch}$  0.75 0.5 0.252

$lab^{*nch}$  0.0 0.5 0.252

relative Natural Colour (NC)

$lab^{*lrj}$  0.976 0.02 0.499

$lab^{*ice}$  0.75 0.5 0.243

$lab^{*ncE}$  0.0 0.5 r97j

relative Inform. Technology (IT)

$olv_i3^*$  1.0 1.0 0.0 (1.0)

$cmy_n3^*$  0.0 0.0 0.5 (0.0)

$olv_i4^*$  1.0 1.0 0.5 1.0

$cmy_n4^*$  0.0 0.0 0.5 0.5

standard and adapted CIELAB

$LAB^{*LAB}$  91.36 -1.26 125.0

$LAB^{*LAb}$  91.36 -1.27 125.0

$LAB^{*TCh}$  50.0 125.01 90.59

relative CIELAB lab\*

$lab^{*lab}$  0.952 -0.009 1.0

$lab^{*tch}$  0.5 1.0 0.252

$lab^{*nch}$  0.0 1.0 0.252

relative Natural Colour (NC)

$lab^{*lrj}$  0.952 0.041 0.999

$lab^{*ice}$  0.5 1.0 0.243

$lab^{*ncE}$  0.0 1.0 r97j

$n^* = 0,00$

$n^* = 1,0$

$n^* = 0,50$

$0,25$

$0,50$

$0,75$

$1,00$

chromaticness  $c^*$

$n^* = 0,50$

$n^* = 0,50$

$0,25$

$0,50$

$0,75$

$1,00$

chromaticness  $c^*$

UE100-7, 3 step scales for constant CIELAB hue 96/360 = 0.268 (left)

3 step scales for constant CIELAB hue 91/360 = 0.252 (right)

### Input: Colorimetric Reflective System MRS18a

for hue  $h^* = lab^*h = 94/360 = 0.262$

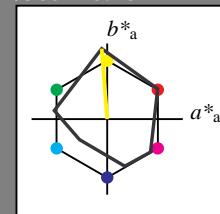
$lab^*tch$  and  $lab^*nch$

D65: hue J

LCH\*Ma: 91 93 94

olv\*Ma: 1.0 1.0 0.0

triangle lightness  $t^*$



### MRS18a; adapted (a) CIELAB data

	$L^*=L^*_a$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	49.63	66.8	40.02	77.87	31
JMa	90.7	-7.27	93.19	93.48	94
GMa	52.11	-69.93	11.26	70.85	171
G50BMa	45.03	-36.65	-27.13	45.61	217
BMa	36.65	23.26	-62.27	66.49	290
B50RMa	34.94	57.27	-43.6	71.99	323
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	272

relative Inform. Technology (IT)  
 $olv^3*$  1.0 1.0 1.0 (1.0)  
 $cmy^3*$  0.0 0.0 0.0 (0.0)  
 $olv^4*$  1.0 1.0 1.0 1.0  
 $cmy^4*$  0.0 0.0 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  95.41 0.01 0.0  
 $LAB^*LABa$  95.41 0.0 0.0  
 $LAB^*TCh$  99.99 0.01 -

relative CIELAB lab\*

$lab^*lab$  1.0 0.0 0.0  
 $lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0  
 $lab^*tce$  1.0 0.0 0.0  
 $lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)  
 $olv^3*$  0.5 0.5 0.5 (1.0)  
 $cmy^3*$  0.5 0.5 0.5 (0.0)  
 $olv^4*$  1.0 1.0 1.0 0.5  
 $cmy^4*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  56.71 0.05 0.0  
 $LAB^*LABa$  56.71 0.0 0.0  
 $LAB^*TCh$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0  
 $lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.5 0.0 0.0  
 $lab^*tce$  0.5 0.0 0.0  
 $lab^*ncE$  0.5 0.0 -

relative Inform. Technology (IT)  
 $olv^3*$  0.0 0.0 0.0 (1.0)  
 $cmy^3*$  1.0 1.0 1.0 (0.0)

$olv^4*$  1.0 1.0 1.0 0.0

$cmy^4*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.1 0.02  
 $LAB^*LABa$  18.02 0.0 0.0  
 $LAB^*TCh$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0  
 $lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0  
 $lab^*tce$  0.0 0.0 -  
 $lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

%Gamut  
 $u^*_{rel} = 92$   
%Regularity  
 $g^*_{H,rel} = 42$   
 $g^*_{C,rel} = 49$

relative Inform. Technology (IT)  
 $olv^3*$  1.0 1.0 0.5 (1.0)  
 $cmy^3*$  0.0 0.0 0.5 (0.0)  
 $olv^4*$  1.0 1.0 0.5 1.0  
 $cmy^4*$  0.0 0.0 0.5 0.0

standard and adapted CIELAB

$LAB^*LAB$  93.05 -3.61 46.59  
 $LAB^*LABa$  93.05 -3.63 46.59  
 $LAB^*TCh$  75.0 46.73 94.46

relative CIELAB lab\*

$lab^*lab$  0.969 -0.038 0.498  
 $lab^*tch$  0.75 0.5 0.262  
 $lab^*nch$  0.0 0.5 0.262

relative Natural Colour (NC)

$lab^*lrij$  0.969 -0.023 0.499  
 $lab^*tce$  0.75 0.5 0.258  
 $lab^*ncE$  0.0 0.5 j05g

relative Inform. Technology (IT)  
 $olv^3*$  1.0 1.0 0.0 (1.0)  
 $cmy^3*$  0.5 0.5 0.5 (0.0)  
 $olv^4*$  1.0 1.0 1.0 0.5  
 $cmy^4*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  90.69 -7.25 93.17  
 $LAB^*LABa$  90.69 -7.26 93.18  
 $LAB^*TCh$  50.0 93.46 94.46

relative CIELAB lab\*

$lab^*lab$  0.939 -0.077 0.997  
 $lab^*tch$  0.5 1.0 0.262  
 $lab^*nch$  0.0 1.0 0.262

relative Natural Colour (NC)

$lab^*lrij$  0.939 -0.047 0.999  
 $lab^*tce$  0.5 1.0 0.258  
 $lab^*ncE$  0.0 1.0 j03g

relative Inform. Technology (IT)  
 $olv^3*$  0.5 0.5 0.0 (1.0)  
 $cmy^3*$  0.5 0.5 0.5 (0.0)  
 $olv^4*$  1.0 1.0 1.0 0.5  
 $cmy^4*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  54.35 -3.57 46.6  
 $LAB^*LABa$  54.35 -3.63 46.59  
 $LAB^*TCh$  25.01 46.73 94.46

relative CIELAB lab\*

$lab^*lab$  0.47 -0.038 0.498  
 $lab^*tch$  0.25 0.5 0.262  
 $lab^*nch$  0.5 0.5 0.262

relative Natural Colour (NC)

$lab^*lrij$  0.47 -0.023 0.499  
 $lab^*tce$  0.25 0.5 0.258  
 $lab^*ncE$  0.5 0.5 j03g

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

standard and adapted CIELAB

$LAB^*LAB$  95.41 -0.97 4.75  
 $LAB^*LABa$  95.41 0.0 0.0  
 $LAB^*TCh$  99.99 0.01 -

relative CIELAB lab\*

$lab^*lab$  1.0 0.0 0.0  
 $lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0  
 $lab^*tce$  1.0 0.0 -  
 $lab^*ncE$  0.0 0.0 -

relative CIELAB lab\*

$lab^*lab$  0.966 -0.055 0.497  
 $lab^*tch$  0.75 0.5 0.268  
 $lab^*nch$  0.0 0.5 0.268

relative Natural Colour (NC)

$lab^*lrij$  0.967 -0.048 0.497  
 $lab^*tce$  0.75 0.5 0.266  
 $lab^*ncE$  0.0 0.5 j06g

relative Inform. Technology (IT)  
 $olv^3*$  1.0 1.0 0.5 (1.0)  
 $cmy^3*$  0.0 0.0 0.5 (0.0)  
 $olv^4*$  1.0 1.0 0.5 1.0  
 $cmy^4*$  0.0 0.0 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  56.71 -0.23 2.14  
 $LAB^*LABa$  56.71 0.0 0.0  
 $LAB^*TCh$  50.0 0.0 0.01

relative CIELAB lab\*

$lab^*lab$  0.939 -0.077 0.997  
 $lab^*tch$  0.5 1.0 0.262  
 $lab^*nch$  0.0 1.0 0.262

relative Natural Colour (NC)

$lab^*lrij$  0.939 -0.047 0.999  
 $lab^*tce$  0.5 1.0 0.258  
 $lab^*ncE$  0.0 1.0 j03g

relative Inform. Technology (IT)  
 $olv^3*$  0.5 0.5 0.0 (1.0)  
 $cmy^3*$  0.5 0.5 0.5 (0.0)  
 $olv^4*$  1.0 1.0 0.5 0.5  
 $cmy^4*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  54.35 -3.57 46.6  
 $LAB^*LABa$  54.35 -3.63 46.59  
 $LAB^*TCh$  25.01 46.73 94.46

relative CIELAB lab\*

$lab^*lab$  0.47 -0.038 0.498  
 $lab^*tch$  0.25 0.5 0.262  
 $lab^*nch$  0.5 0.5 0.262

relative Natural Colour (NC)

$lab^*lrij$  0.47 -0.023 0.499  
 $lab^*tce$  0.25 0.5 0.258  
 $lab^*ncE$  0.5 0.5 j03g

relative Inform. Technology (IT)  
 $olv^3*$  0.0 0.0 0.0 (1.0)  
 $cmy^3*$  1.0 1.0 1.0 (0.0)  
 $olv^4*$  1.0 1.0 1.0 0.0  
 $cmy^4*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.5 -0.46  
 $LAB^*LABa$  18.02 0.0 0.0  
 $LAB^*TCh$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0  
 $lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0  
 $lab^*tce$  0.0 0.0 -  
 $lab^*ncE$  1.0 0.0 -

relative Inform. Technology (IT)  
 $olv^3*$  0.0 0.0 0.0 (1.0)  
 $cmy^3*$  1.0 1.0 1.0 (0.0)  
 $olv^4*$  1.0 1.0 1.0 0.0  
 $cmy^4*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.5 -0.46  
 $LAB^*LABa$  18.02 0.0 0.0  
 $LAB^*TCh$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0  
 $lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0  
 $lab^*tce$  0.0 0.0 -  
 $lab^*ncE$  1.0 0.0 -

relative Inform. Technology (IT)  
 $olv^3*$  0.0 0.0 0.0 (1.0)  
 $cmy^3*$  1.0 1.0 1.0 (0.0)  
 $olv^4*$  1.0 1.0 1.0 0.0  
 $cmy^4*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.5 -0.46  
 $LAB^*LABa$  18.02 0.0 0.0  
 $LAB^*TCh$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0  
 $lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0  
 $lab^*tce$  0.0 0.0 -  
 $lab^*ncE$  1.0 0.0 -

relative Inform. Technology (IT)  
 $olv^3*$  0.0 0.0 0.0 (1.0)  
 $cmy^3*$  1.0 1.0 1.0 (0.0)  
 $olv^4*$  1.0 1.0 1.0 0.0  
 $cmy^4*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.5 -0.46  
 $LAB^*LABa$  18.02 0.0 0.0  
 $LAB^*TCh$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0  
 $lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0  
 $lab^*tce$  0.0 0.0 -  
 $lab^*ncE$  1.0 0.0 -

relative Inform. Technology (IT)  
 $olv^3*$  0.0 0.0 0.0 (1.0)  
 $cmy^3*$  1.0 1.0 1.0 (0.0)  
 $olv^4*$  1.0 1.0 1.0 0.0  
 $cmy^4*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.5 -0.46  
 $LAB^*LABa$  18.02 0.0 0.0  
 $LAB^*TCh$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0  
 $lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0  
 $lab^*tce$  0.0 0.0 -  
 $lab^*ncE$  1.0 0.0 -

relative Inform. Technology (IT)  
 $olv^3*$  0.0 0.0 0.0 (1.0)  
 $cmy^3*$  1.0 1.0 1.0 (0.0)  
 $olv^4*$  1.0 1.0 1.0 0.0  
 $cmy^4*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.5 -0.46  
 $LAB^*LABa$  18.02 0.0 0.0  
 $LAB^*TCh$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0  
 $lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0  
 $lab^*tce$  0.0

### Input: Colorimetric Reflective System MRS18a

for hue  $h^* = lab^*h = 94/360 = 0.262$

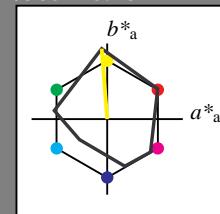
$lab^*tch$  and  $lab^*nch$

D65: hue J

LCH\*Ma: 91 93 94

olv\*Ma: 1.0 1.0 0.0

triangle lightness  $t^*$



### MRS18a; adapted (a) CIELAB data

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

RMa	49.63	66.8	40.02	77.87	31
JMa	90.7	-7.27	93.19	93.48	94
GMa	52.11	-69.93	11.26	70.85	171
G50BMa	45.03	-36.65	-27.13	45.61	217
BMa	36.65	23.26	-62.27	66.49	290
B50RMa	34.94	57.27	-43.6	71.99	323
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	272

relative Inform. Technology (IT)  
 $olv_i3^*$  1.0 1.0 1.0 (1.0)  
 $cmy3^*$  0.0 0.0 0.0 (0.0)  
 $olv_i4^*$  1.0 1.0 1.0 1.0  
 $cmy4^*$  0.0 0.0 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  95.41 0.01 0.0  
 $LAB^*LABa$  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 -  
 $lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0  
 $lab^*tce$  1.0 0.0 0.0  
 $lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)  
 $olv_i3^*$  0.5 0.5 0.5 (1.0)  
 $cmy3^*$  0.5 0.5 0.5 (0.0)  
 $olv_i4^*$  1.0 1.0 1.0 0.5  
 $cmy4^*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  56.71 0.05 0.0  
 $LAB^*LABa$  56.71 0.0 0.0  
 $LAB^*TChA$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0  
 $lab^*tch$  0.5 0.0 -  
 $lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.5 0.0 0.0  
 $lab^*tce$  0.5 0.0 0.0  
 $lab^*ncE$  0.5 0.0 -

relative Inform. Technology (IT)  
 $olv_i3^*$  0.0 0.0 0.0 (1.0)  
 $cmy3^*$  1.0 1.0 1.0 (0.0)  
 $olv_i4^*$  1.0 1.0 1.0 0.0  
 $cmy4^*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.1 0.02  
 $LAB^*LABa$  18.02 0.0 0.0  
 $LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0  
 $lab^*tch$  0.0 0.0 -  
 $lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0  
 $lab^*tce$  0.0 0.0 -  
 $lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

%Gamut  
 $u^*_{rel} = 92$   
%Regularity  
 $g^*_{H,rel} = 42$   
 $g^*_{C,rel} = 49$

relative Inform. Technology (IT)  
 $olv_i3^*$  1.0 1.0 0.5 (1.0)  
 $cmy3^*$  0.0 0.0 0.5 (0.0)  
 $olv_i4^*$  1.0 1.0 0.5 1.0  
 $cmy4^*$  0.0 0.0 0.5 0.0

standard and adapted CIELAB

$LAB^*LAB$  93.05 -3.61 46.59  
 $LAB^*LABa$  93.05 -3.63 46.59  
 $LAB^*TChA$  75.0 46.73 94.46

relative CIELAB lab\*

$lab^*lab$  0.969 -0.038 0.498  
 $lab^*tch$  0.75 0.5 0.262  
 $lab^*nch$  0.0 0.5 0.262

relative Natural Colour (NC)

$lab^*lrij$  0.969 -0.023 0.499  
 $lab^*tce$  0.75 0.5 0.258  
 $lab^*ncE$  0.0 0.5 j03g

relative Inform. Technology (IT)  
 $olv_i3^*$  1.0 1.0 0.0 (1.0)  
 $cmy3^*$  0.0 0.0 1.0 (0.0)  
 $olv_i4^*$  1.0 1.0 0.0 1.0  
 $cmy4^*$  0.0 0.0 1.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  90.69 -7.25 93.17  
 $LAB^*LABa$  90.69 -7.26 93.18  
 $LAB^*TChA$  50.0 93.46 94.46

relative CIELAB lab\*

$lab^*lab$  0.939 -0.077 0.997  
 $lab^*tch$  0.5 1.0 0.262  
 $lab^*nch$  0.0 1.0 0.262

relative Natural Colour (NC)

$lab^*lrij$  0.939 -0.047 0.999  
 $lab^*tce$  0.5 1.0 0.258  
 $lab^*ncE$  0.0 1.0 j03g

relative Inform. Technology (IT)  
 $olv_i3^*$  0.5 0.5 0.5 (1.0)  
 $cmy3^*$  0.5 0.5 0.5 (0.0)  
 $olv_i4^*$  1.0 1.0 0.5 0.5  
 $cmy4^*$  0.0 0.0 0.5 0.5

standard and adapted CIELAB

$LAB^*LAB$  54.35 -3.57 46.6  
 $LAB^*LABa$  54.35 -3.63 46.59  
 $LAB^*TChA$  25.01 46.73 94.46

relative CIELAB lab\*

$lab^*lab$  0.47 -0.038 0.498  
 $lab^*tch$  0.25 0.5 0.262  
 $lab^*nch$  0.5 0.5 0.262

relative Natural Colour (NC)

$lab^*lrij$  0.47 -0.023 0.499  
 $lab^*tce$  0.25 0.5 0.258  
 $lab^*ncE$  0.5 0.5 j03g

relative Inform. Technology (IT)  
 $olv_i3^*$  0.0 0.0 0.0 (1.0)  
 $cmy3^*$  1.0 1.0 1.0 (0.0)  
 $olv_i4^*$  1.0 1.0 1.0 0.0  
 $cmy4^*$  0.0 0.0 1.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.5 -0.46  
 $LAB^*LABa$  18.02 0.0 0.0  
 $LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0  
 $lab^*tch$  0.0 0.0 -  
 $lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0  
 $lab^*tce$  0.0 0.0 -  
 $lab^*ncE$  1.0 0.0 -

$n^* = 0,00$

$n^* = 0,00$   
blackness  $n^*$   
0,25 0,50 0,75 1,00  
chromaticness  $c^*$

### Output: Colorimetric Reflective System MRS18

for hue  $h^* = lab^*h = 94/360 = 0.261$

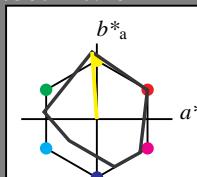
$lab^*tch$  and  $lab^*nch$

D65: hue J

LCH\*Ma: 91 89 94

olv\*Ma: 1.0 1.0 0.0

triangle lightness  $t^*$



### MRS18; adapted (a) CIELAB data

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

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)  
 $olv_i3^*$  1.0 1.0 1.0 (1.0)  
 $cmy3^*$  0.0 0.0 0.0 (0.0)  
 $olv_i4^*$  1.0 1.0 1.0 1.0  
 $cmy4^*$  0.0 0.0 0.0 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 0.0 0.0  
 $lab^*tch$  1.0 0.0 -  
 $lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0  
 $lab^*tce$  1.0 0.0 0.0  
 $lab^*ncE$  0.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  93.05 -4.11 48.97  
 $LAB^*LABa$  93.05 -3.17 44.37  
 $LAB^*TChA$  75.0 44.48 94.1

relative CIELAB lab\*

$lab^*lab$  0.969 -0.035 0.499  
 $lab^*tch$  0.75 0.5 0.261  
 $lab^*nch$  0.0 0.5 0.261

relative Natural Colour (NC)

$lab^*lrij$  0.969 -0.023 0.499  
 $lab^*tce$  0.75 0.5 0.258  
 $lab^*ncE$  0.0 0.5 j03g

relative Inform. Technology (IT)  
 $olv_i3^*$  0.5 0.5 0.5 (1.0)  
 $cmy3^*$  0.5 0.5 0.5 (0.0)  
 $olv_i4^*$  1.0 1.0 0.5 0.5  
 $cmy4^*$  0.0 0.0 0.5 0.5

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 CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0  
 $lab^*tch$  0.5 0.0 -  
 $lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.5 0.0 0.0  
 $lab^*tce$  0.5 0.0 0.0  
 $lab^*ncE$  0.5 0.0 -

relative Inform. Technology (IT)  
 $olv_i3^*$  0.0 0.0 0.0 (1.0)  
 $cmy3^*$  1.0 1.0 1.0 (0.0)  
 $olv_i4^*$  1.0 1.0 1.0 0.0  
 $cmy4^*$  0.0 0.0 1.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.5 -0.46  
 $LAB^*LABa$  18.02 0.0 0.0  
 $LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0  
 $lab^*tch$  0.0 0.0 -  
 $lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0  
 $lab^*tce$  0.0 0.0 -  
 $lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

$n^* = 0,00$   
blackness  $n^*$   
0,25 0,50 0,75 1,00  
chromaticness  $c^*$

3 step scales for constant CIELAB hue 94/360 = 0.261 (right)

UE100-7, 3 step scales for constant CIELAB hue 94/360 = 0.262 (left)

## Input: Colorimetric Reflective System MRS18a

for hue  $h^* = lab^*h = 94/360 = 0.262$

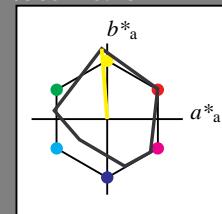
$lab^*tch$  and  $lab^*nch$

D65: hue J

LCH\*Ma: 91 93 94

olv\*Ma: 1.0 1.0 0.0

triangle lightness  $t^*$



## MRS18a; adapted (a) CIELAB data

	$L^* = L^*_a$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	49.63	66.8	40.02	77.87	31
JMa	90.7	-7.27	93.19	93.48	94
GMa	52.11	-69.93	11.26	70.85	171
G50BMa	45.03	-36.65	-27.13	45.61	217
BMa	36.65	23.26	-62.27	66.49	290
B50RMa	34.94	57.27	-43.6	71.99	323
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	272

relative Inform. Technology (IT)  
 $olv^3*$  1.0 1.0 1.0 (1.0)  
 $cmy^3*$  0.0 0.0 0.0 (0.0)  
 $olv^4*$  1.0 1.0 1.0 1.0  
 $cmy^4*$  0.0 0.0 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  95.41 0.01 0.0  
 $LAB^*LABa$  95.41 0.0 0.0  
 $LAB^*TCh$  99.99 0.01 -

relative CIELAB lab\*

$lab^*lab$  1.0 0.0 0.0  
 $lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0  
 $lab^*tce$  1.0 0.0 0.0  
 $lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)  
 $olv^3*$  0.5 0.5 0.5 (1.0)  
 $cmy^3*$  0.5 0.5 0.5 (0.0)  
 $olv^4*$  1.0 1.0 1.0 0.5  
 $cmy^4*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  56.71 0.05 0.0  
 $LAB^*LABa$  56.71 0.0 0.0  
 $LAB^*TCh$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0  
 $lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.5 0.0 0.0  
 $lab^*tce$  0.5 0.0 0.0  
 $lab^*ncE$  0.5 0.0 -

relative Inform. Technology (IT)  
 $olv^3*$  0.0 0.0 0.0 (1.0)  
 $cmy^3*$  1.0 1.0 1.0 (0.0)  
 $olv^4*$  1.0 1.0 1.0 0.0  
 $cmy^4*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.1 0.02  
 $LAB^*LABa$  18.02 0.0 0.0  
 $LAB^*TCh$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0  
 $lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0  
 $lab^*tce$  0.0 0.0 -  
 $lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

%Gamut  
 $u^*_{rel} = 92$   
%Regularity  
 $g^*_{H,rel} = 42$   
 $g^*_{C,rel} = 49$

relative Inform. Technology (IT)  
 $olv^3*$  1.0 1.0 0.5 (1.0)  
 $cmy^3*$  0.0 0.0 0.5 (0.0)  
 $olv^4*$  1.0 1.0 0.5 1.0  
 $cmy^4*$  0.0 0.0 0.5 0.0

standard and adapted CIELAB

$LAB^*LAB$  93.05 -3.61 46.59  
 $LAB^*LABa$  93.05 -3.63 46.59  
 $LAB^*TCh$  75.0 46.73 94.46

relative CIELAB lab\*

$lab^*lab$  0.969 -0.038 0.498  
 $lab^*tch$  0.75 0.5 0.262  
 $lab^*nch$  0.0 0.5 0.262

relative Natural Colour (NC)

$lab^*lrij$  0.969 -0.023 0.499  
 $lab^*tce$  0.75 0.2 0.528  
 $lab^*ncE$  0.0 0.5 j05g

relative Inform. Technology (IT)  
 $olv^3*$  1.0 1.0 0.0 (1.0)  
 $cmy^3*$  0.5 0.5 0.5 (0.0)  
 $olv^4*$  1.0 1.0 1.0 0.5  
 $cmy^4*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  90.69 -7.25 93.17  
 $LAB^*LABa$  90.69 -7.26 93.18  
 $LAB^*TCh$  50.0 93.46 94.46

relative CIELAB lab\*

$lab^*lab$  0.939 -0.077 0.997  
 $lab^*tch$  0.5 1.0 0.262  
 $lab^*nch$  0.0 1.0 0.262

relative Natural Colour (NC)

$lab^*lrij$  0.939 -0.047 0.999  
 $lab^*tce$  0.5 1.0 0.258  
 $lab^*ncE$  0.0 1.0 j03g

relative Inform. Technology (IT)  
 $olv^3*$  0.5 0.5 0.0 (1.0)  
 $cmy^3*$  0.5 0.5 0.5 (0.0)  
 $olv^4*$  1.0 1.0 1.0 0.5  
 $cmy^4*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  54.35 -3.57 46.6  
 $LAB^*LABa$  54.35 -3.63 46.59  
 $LAB^*TCh$  25.01 46.73 94.46

relative CIELAB lab\*

$lab^*lab$  0.47 -0.038 0.498  
 $lab^*tch$  0.25 0.5 0.262  
 $lab^*nch$  0.5 0.5 0.262

relative Natural Colour (NC)

$lab^*lrij$  0.47 -0.023 0.499  
 $lab^*tce$  0.25 0.5 0.258  
 $lab^*ncE$  0.5 0.5 j03g

relative Inform. Technology (IT)  
 $olv^3*$  0.0 0.0 0.0 (1.0)  
 $cmy^3*$  1.0 1.0 1.0 (0.0)  
 $olv^4*$  1.0 1.0 1.0 0.0  
 $cmy^4*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.2 0.02  
 $LAB^*LABa$  18.02 0.0 0.0  
 $LAB^*TCh$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0  
 $lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0  
 $lab^*tce$  0.0 0.0 -  
 $lab^*ncE$  1.0 0.0 -

$n^* = 0,00$

$n^* = 0,00$   
blackness  $n^*$   
chromaticness  $c^*$

## Output: Colorimetric Reflective System TRS18

for hue  $h^* = lab^*h = 96/360 = 0.268$

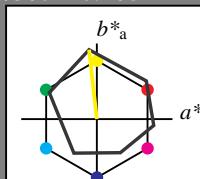
$lab^*tch$  and  $lab^*nch$

D65: hue Y

LCH\*Ma: 90 92 96

olv\*Ma: 1.0 1.0 0.0

triangle lightness  $t^*$



## TRS18; adapted (a) CIELAB data

	$L^* = L^*_a$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
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)  
 $olv^3*$  1.0 1.0 1.0 (1.0)  
 $cmy^3*$  0.0 0.0 0.0 (0.0)  
 $olv^4*$  1.0 1.0 1.0 1.0  
 $cmy^4*$  0.0 0.0 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  95.41 -0.97 4.75  
 $LAB^*LABa$  95.41 0.0 0.0  
 $LAB^*TCh$  99.99 0.01 -

relative CIELAB lab\*

$lab^*lab$  1.0 0.0 0.0  
 $lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0  
 $lab^*tce$  1.0 0.0 0.0  
 $lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)  
 $olv^3*$  0.5 0.5 0.5 (1.0)  
 $cmy^3*$  0.5 0.5 0.5 (0.0)  
 $olv^4*$  1.0 1.0 1.0 0.5  
 $cmy^4*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  92.88 -6.06 50.46  
 $LAB^*LABa$  92.88 -5.13 45.87  
 $LAB^*TCh$  75.0 46.16 96.39

relative CIELAB lab\*

$lab^*lab$  0.967 -0.055 0.497  
 $lab^*tch$  0.75 0.5 0.268  
 $lab^*nch$  0.0 0.5 0.268

relative Natural Colour (NC)

$lab^*lrij$  0.967 -0.048 0.497  
 $lab^*tce$  0.75 0.5 0.266  
 $lab^*ncE$  0.0 0.5 j06g

relative Inform. Technology (IT)  
 $olv^3*$  0.5 0.5 0.0 (1.0)  
 $cmy^3*$  0.5 0.5 1.0 (0.0)  
 $olv^4*$  1.0 1.0 0.5 0.5  
 $cmy^4*$  0.0 0.0 0.5 0.5

standard and adapted CIELAB

$LAB^*LAB$  56.71 -0.23 2.14  
 $LAB^*LABa$  56.71 0.0 0.0  
 $LAB^*TCh$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.939 -0.077 0.997  
 $lab^*tch$  0.5 1.0 0.262  
 $lab^*nch$  0.0 1.0 0.262

relative Natural Colour (NC)

$lab^*lrij$  0.939 -0.047 0.999  
 $lab^*tce$  0.5 1.0 0.258  
 $lab^*ncE$  0.0 1.0 -

relative Inform. Technology (IT)  
 $olv^3*$  0.0 0.0 0.0 (1.0)  
 $cmy^3*$  1.0 1.0 1.0 (0.0)  
 $olv^4*$  1.0 1.0 1.0 0.0  
 $cmy^4*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.2 0.02  
 $LAB^*LABa$  18.02 0.0 0.0  
 $LAB^*TCh$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0  
 $lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0  
 $lab^*tce$  0.0 0.0 -  
 $lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

$n^* = 0,00$   
blackness  $n^*$   
chromaticness  $c^*$

UE100-7, 3 step scales for constant CIELAB hue 94/360 = 0.262 (left)

3 step scales for constant CIELAB hue 96/360 = 0.268 (right)

### Input: Colorimetric Reflective System MRS18a

for hue  $h^* = lab^*h = 94/360 = 0.262$

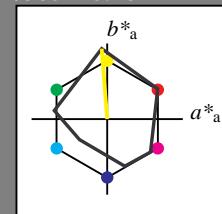
$lab^*tch$  and  $lab^*nch$

D65: hue J

LCH\*Ma: 91 93 94

olv\*Ma: 1.0 1.0 0.0

triangle lightness  $t^*$



### MRS18a; adapted (a) CIELAB data

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

RMa	49.63	66.8	40.02	77.87	31
JMa	90.7	-7.27	93.19	93.48	94
GMa	52.11	-69.93	11.26	70.85	171
G50BMa	45.03	-36.65	-27.13	45.61	217
BMa	36.65	23.26	-62.27	66.49	290
B50RMa	34.94	57.27	-43.6	71.99	323
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	272

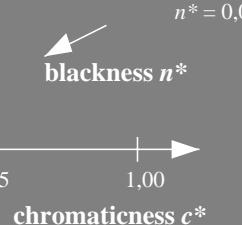
relative Inform. Technology (IT)  
 $olv^3*$  1.0 1.0 1.0 (1.0)  
 $cmy^3*$  0.0 0.0 0.0 (0.0)  
 $olv^4*$  1.0 1.0 1.0 1.0  
 $cmy^4*$  0.0 0.0 0.0 0.0  
**standard and adapted CIELAB**  
 $LAB^*LAB$  95.41 0.01 0.0  
 $LAB^*LABa$  95.41 0.0 0.0  
 $LAB^*TChA$  99.99 0.01 -

relative CIELAB lab\*  
 $lab^*lab$  1.0 0.0 0.0  
 $lab^*tch$  1.0 0.0 -  
 $lab^*nch$  0.0 0.0 -  
**relative Natural Colour (NC)**  
 $lab^*lrij$  1.0 0.0 0.0  
 $lab^*tce$  1.0 0.0 0.0  
 $lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)  
 $olv^3*$  0.5 0.5 0.5 (1.0)  
 $cmy^3*$  0.5 0.5 0.5 (0.0)  
 $olv^4*$  1.0 1.0 1.0 0.5  
 $cmy^4*$  0.0 0.0 0.0 0.5  
**standard and adapted CIELAB**  
 $LAB^*LAB$  56.71 0.05 0.0  
 $LAB^*LABa$  56.71 0.0 0.0  
 $LAB^*TChA$  50.0 0.01 -  
**relative CIELAB lab\***  
 $lab^*lab$  0.5 0.0 0.0  
 $lab^*tch$  0.5 0.0 -  
 $lab^*nch$  0.5 0.0 -  
**relative Natural Colour (NC)**  
 $lab^*lrij$  0.5 0.0 0.0  
 $lab^*tce$  0.5 0.0 0.0  
 $lab^*ncE$  0.5 0.0 -

relative Inform. Technology (IT)  
 $olv^3*$  0.0 0.0 0.0 (1.0)  
 $cmy^3*$  1.0 1.0 1.0 (0.0)  
 $olv^4*$  1.0 1.0 1.0 0.0  
 $cmy^4*$  0.0 0.0 0.0 1.0  
**standard and adapted CIELAB**  
 $LAB^*LAB$  18.02 0.1 0.02  
 $LAB^*LABa$  18.02 0.0 0.0  
 $LAB^*TChA$  0.01 0.01 -  
**relative CIELAB lab\***  
 $lab^*lab$  0.0 0.0 0.0  
 $lab^*tch$  0.0 0.0 -  
 $lab^*nch$  1.0 0.0 -  
**relative Natural Colour (NC)**  
 $lab^*lrij$  0.0 0.0 0.0  
 $lab^*tce$  0.0 0.0 -  
 $lab^*ncE$  1.0 0.0 -

$n^* = 1,0$



$n^* = 0,00$

blackness  $n^*$

chromaticness  $c^*$

### Output: Colorimetric Reflective System MRS18a

for hue  $h^* = lab^*h = 94/360 = 0.262$

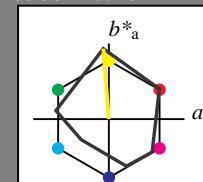
$lab^*tch$  and  $lab^*nch$

D65: hue J

LCH\*Ma: 91 93 94

olv\*Ma: 1.0 1.0 0.0

triangle lightness  $t^*$



### MRS18a; adapted (a) CIELAB data

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

RMa	49.63	66.8	40.02	77.87	31
JMa	90.7	-7.27	93.19	93.48	94
GMa	52.11	-69.93	11.26	70.85	171
G50BMa	45.03	-36.65	-27.13	45.61	217
BMa	36.65	23.26	-62.27	66.49	290
B50RMa	34.94	57.27	-43.6	71.99	323
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	272

%Gamut  
 $u^*_{rel} = 92$   
%Regularity  
 $g^*_{H,rel} = 42$   
 $g^*_{C,rel} = 49$

relative Inform. Technology (IT)  
 $olv^3*$  1.0 1.0 1.0 (1.0)  
 $cmy^3*$  0.0 0.0 0.0 (0.0)  
 $olv^4*$  1.0 1.0 1.0 1.0  
 $cmy^4*$  0.0 0.0 0.0 0.0  
**standard and adapted CIELAB**  
 $LAB^*LAB$  95.41 0.01 0.0  
 $LAB^*LABa$  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 -  
 $lab^*nch$  0.0 0.0 -  
**relative Natural Colour (NC)**  
 $lab^*lrij$  1.0 0.0 0.0  
 $lab^*tce$  1.0 0.0 0.0  
 $lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)  
 $olv^3*$  0.5 0.5 0.5 (1.0)  
 $cmy^3*$  0.5 0.5 0.5 (0.0)  
 $olv^4*$  1.0 1.0 1.0 0.5  
 $cmy^4*$  0.0 0.0 0.0 0.5  
**standard and adapted CIELAB**  
 $LAB^*LAB$  56.71 0.05 0.0  
 $LAB^*LABa$  56.71 0.0 0.0  
 $LAB^*TChA$  50.0 0.01 -  
**relative CIELAB lab\***  
 $lab^*lab$  0.5 0.0 0.0  
 $lab^*tch$  0.5 0.0 -  
 $lab^*nch$  0.5 0.0 -  
**relative Natural Colour (NC)**  
 $lab^*lrij$  0.5 0.0 0.0  
 $lab^*tce$  0.5 0.0 0.0  
 $lab^*ncE$  0.5 0.0 -

relative Inform. Technology (IT)  
 $olv^3*$  0.0 0.0 0.0 (1.0)  
 $cmy^3*$  0.5 0.5 0.5 (0.0)  
 $olv^4*$  1.0 1.0 1.0 0.5  
 $cmy^4*$  0.0 0.0 0.0 0.5  
**standard and adapted CIELAB**  
 $LAB^*LAB$  18.02 0.1 0.02  
 $LAB^*LABa$  18.02 0.0 0.0  
 $LAB^*TChA$  0.01 0.01 -  
**relative CIELAB lab\***  
 $lab^*lab$  0.0 0.0 0.0  
 $lab^*tch$  0.0 0.0 -  
 $lab^*nch$  1.0 0.0 -  
**relative Natural Colour (NC)**  
 $lab^*lrij$  0.0 0.0 0.0  
 $lab^*tce$  0.0 0.0 -  
 $lab^*ncE$  1.0 0.0 -

relative Inform. Technology (IT)  
 $olv^3*$  0.0 0.0 0.0 (1.0)  
 $cmy^3*$  1.0 1.0 1.0 (0.0)  
 $olv^4*$  1.0 1.0 1.0 0.0  
 $cmy^4*$  0.0 0.0 0.0 1.0  
**standard and adapted CIELAB**  
 $LAB^*LAB$  18.02 0.1 0.02  
 $LAB^*LABa$  18.02 0.0 0.0  
 $LAB^*TChA$  0.01 0.01 -  
**relative CIELAB lab\***  
 $lab^*lab$  0.0 0.0 0.0  
 $lab^*tch$  0.0 0.0 -  
 $lab^*nch$  1.0 0.0 -  
**relative Natural Colour (NC)**  
 $lab^*lrij$  0.0 0.0 0.0  
 $lab^*tce$  0.0 0.0 -  
 $lab^*ncE$  1.0 0.0 -

relative Inform. Technology (IT)  
 $olv^3*$  0.0 0.0 0.0 (1.0)  
 $cmy^3*$  1.0 1.0 1.0 (0.0)  
 $olv^4*$  1.0 1.0 1.0 0.0  
 $cmy^4*$  0.0 0.0 0.0 1.0  
**standard and adapted CIELAB**  
 $LAB^*LAB$  18.02 0.1 0.02  
 $LAB^*LABa$  18.02 0.0 0.0  
 $LAB^*TChA$  0.01 0.01 -  
**relative CIELAB lab\***  
 $lab^*lab$  0.0 0.0 0.0  
 $lab^*tch$  0.0 0.0 -  
 $lab^*nch$  1.0 0.0 -  
**relative Natural Colour (NC)**  
 $lab^*lrij$  0.0 0.0 0.0  
 $lab^*tce$  0.0 0.0 -  
 $lab^*ncE$  1.0 0.0 -

relative Inform. Technology (IT)  
 $olv^3*$  0.0 0.0 0.0 (1.0)  
 $cmy^3*$  1.0 1.0 1.0 (0.0)  
 $olv^4*$  1.0 1.0 1.0 0.0  
 $cmy^4*$  0.0 0.0 0.0 1.0  
**standard and adapted CIELAB**  
 $LAB^*LAB$  18.02 0.1 0.02  
 $LAB^*LABa$  18.02 0.0 0.0  
 $LAB^*TChA$  0.01 0.01 -  
**relative CIELAB lab\***  
 $lab^*lab$  0.0 0.0 0.0  
 $lab^*tch$  0.0 0.0 -  
 $lab^*nch$  1.0 0.0 -  
**relative Natural Colour (NC)**  
 $lab^*lrij$  0.0 0.0 0.0  
 $lab^*tce$  0.0 0.0 -  
 $lab^*ncE$  1.0 0.0 -

RMa	49.63	66.8	40.02	77.87	31
JMa	90.7	-7.27	93.19	93.48	94
GMa	52.11	-69.93	11.26	70.85	171
G50BMa	45.03	-36.65	-27.13	45.61	217
BMa	36.65	23.26	-62.27	66.49	290
B50RMa	34.94	57.27	-43.6	71.99	323
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	272

%Gamut  
 $u^*_{rel} = 92$   
%Regularity  
 $g^*_{H,rel} = 42$   
 $g^*_{C,rel} = 49$

relative Inform. Technology (IT)  
 $olv^3*$  1.0 1.0 1.0 (1.0)  
 $cmy^3*$  0.0 0.0 0.0 (0.0)  
 $olv^4*$  1.0 1.0 1.0 1.0  
 $cmy^4*$  0.0 0.0 0.0 0.0  
**standard and adapted CIELAB**  
 $LAB^*LAB$  95.41 0.01 0.0  
 $LAB^*LABa$  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 -  
 $lab^*nch$  0.0 0.0 -  
**relative Natural Colour (NC)**  
 $lab^*lrij$  1.0 0.0 0.0  
 $lab^*tce$  1.0 0.0 0.0  
 $lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)  
 $olv^3*$  0.5 0.5 0.5 (1.0)  
 $cmy^3*$  0.5 0.5 0.5 (0.0)  
 $olv^4*$  1.0 1.0 1.0 0.5  
 $cmy^4*$  0.0 0.0 0.0 0.5  
**standard and adapted CIELAB**  
 $LAB^*LAB$  56.71 0.05 0.0  
 $LAB^*LABa$  56.71 0.0 0.0  
 $LAB^*TChA$  50.0 0.01 -  
**relative CIELAB lab\***  
 $lab^*lab$  0.5 0.0 0.0  
 $lab^*tch$  0.5 0.0 -  
 $lab^*nch$  0.5 0.0 -  
**relative Natural Colour (NC)**  
 $lab^*lrij$  0.5 0.0 0.0  
 $lab^*tce$  0.5 0.0 0.0  
 $lab^*ncE$  0.5 0.0 -

relative Inform. Technology (IT)  
 $olv^3*$  0.0 0.0 0.0 (1.0)  
 $cmy^3*$  0.5 0.5 0.5 (0.0)  
 $olv^4*$  1.0 1.0 1.0 0.0  
 $cmy^4*$  0.0 0.0 0.0 1.0  
**standard and adapted CIELAB**  
 $LAB^*LAB$  18.02 0.1 0.02  
 $LAB^*LABa$  18.02 0.0 0.0  
 $LAB^*TChA$  0.01 0.01 -  
**relative CIELAB lab\***  
 $lab^*lab$  0.0 0.0 0.0  
 $lab^*tch$  0.0 0.0 -  
 $lab^*nch$  1.0 0.0 -  
**relative Natural Colour (NC)**  
 $lab^*lrij$  0.0 0.0 0.0  
 $lab^*tce$  0.0 0.0 -  
 $lab^*ncE$  1.0 0.0 -

relative Inform. Technology (IT)  
 $olv^3*$  0.0 0.0 0.0 (1.0)  
 $cmy^3*$  1.0 1.0 1.0 (0.0)  
 $olv^4*$  1.0 1.0 1.0 0.0  
 $cmy^4*$  0.0 0.0 0.0 1.0  
**standard and adapted CIELAB**  
 $LAB^*LAB$  18.02 0.1 0.02  
 $LAB^*LABa$  18.02 0.0 0.0  
 $LAB^*TChA$  0.01 0.01 -  
**relative CIELAB lab\***  
 $lab^*lab$  0.0 0.0 0.0  
 $lab^*tch$  0.0 0.0 -  
 $lab^*nch$  1.0 0.0 -  
**relative Natural Colour (NC)**  
 $lab^*lrij$  0.0 0.0 0.0  
 $lab^*tce$  0.0 0.0 -  
 $lab^*ncE$  1.0 0.0 -

relative Inform. Technology (IT)  
 $olv^3*$  0.0 0.0 0.0 (1.0)  
 $cmy^3*$  1.0 1.0 1.0 (0.0)  
 $olv^4*$  1.0 1.0 1.0 0.0  
 $cmy^4*$  0.0 0.0 0.0 1.0  
**standard and adapted CIELAB**  
 $LAB^*LAB$  18.02 0.1 0.02  
 $LAB^*LABa$  18.02 0.0 0.0  
 $LAB^*TChA$  0.01 0.01 -  
**relative CIELAB lab\***  
 $lab^*lab$  0.0 0.0 0.0  
 $lab^*tch$  0.0 0.0 -  
 $lab^*nch$  1.0 0.0 -  
**relative Natural Colour (NC)**  
 $lab^*lrij$  0.0 0.0 0.0  
 $lab^*tce$  0.0 0.0 -  
 $lab^*ncE$  1.0 0.0 -

RMa	49.63	66.8	40.02	77.87	31
JMa	90.7	-7.27	93.19	93.48	94
GMa	52.11	-69.93	11.26	70.85	171
G50BMa	45.03	-36.65	-27.13	45.61	217
BMa	36.65	23.26	-62.27	66.49	290
B50RMa	34.94	57.27	-43.6	71.99	323
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58		

### Input: Colorimetric Reflective System MRS18a

for hue  $h^* = lab^*h = 94/360 = 0.262$

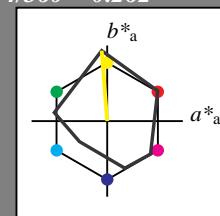
$lab^*tch$  and  $lab^*nch$

D65: hue J

LCH\*Ma: 91 93 94

olv\*Ma: 1.0 1.0 0.0

triangle lightness  $t^*$



relative Inform. Technology (IT)  
 $olvi3^*$  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 0.01 0.0  
 $LAB^*LABa$  95.41 0.0 0.0  
 $LAB^*TCh$  99.99 0.01 -

relative CIELAB lab\*

$lab^*lab$  1.0 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  1.0 0.0 0.0

$lab^*ice$  1.0 0.0 -

$lab^*ncE$  0.0 0.0 -

%Gamut

$u^*_{rel}$  = 92

%Regularity

$g^*_{H,rel}$  = 42

$g^*_{C,rel}$  = 49

standard and adapted CIELAB

$LAB^*LAB$  95.41 0.01 0.0

$LAB^*LABa$  95.41 0.0 0.0

$LAB^*TCh$  99.99 0.01 -

relative CIELAB lab\*

$lab^*lab$  1.0 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  1.0 0.0 0.0

$lab^*ice$  1.0 0.0 -

$lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)

$olvi3^*$  0.5 0.5 0.5 (1.0)

$cmyn3^*$  0.5 0.5 0.5 (0.0)

$olv4^*$  1.0 1.0 1.0 0.5

$cmyn4^*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  56.71 0.05 0.0

$LAB^*LABa$  56.71 0.0 0.0

$LAB^*TCh$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  0.5 0.0 0.0

$lab^*ice$  0.5 0.0 -

$lab^*ncE$  0.5 0.0 -

%Gamut

$u^*_{rel}$  = 0,0

%Regularity

$g^*_{H,rel}$  = 0,0

$g^*_{C,rel}$  = 0,0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.1 0.02

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TCh$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  0.0 0.0 0.0

$lab^*ice$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

%Gamut

$u^*_{rel}$  = 1,0

%Regularity

$g^*_{H,rel}$  = 1,0

$g^*_{C,rel}$  = 1,0

standard and adapted CIELAB

$LAB^*LAB$  9.41 0.01 0.0

$LAB^*LABa$  9.41 0.0 0.0

$LAB^*TCh$  99.99 0.01 -

relative CIELAB lab\*

$lab^*lab$  1.0 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  1.0 0.0 0.0

$lab^*ice$  1.0 0.0 -

$lab^*ncE$  0.0 0.0 -

%Gamut

$u^*_{rel}$  = 1,0

%Regularity

$g^*_{H,rel}$  = 1,0

$g^*_{C,rel}$  = 1,0

standard and adapted CIELAB

$LAB^*LAB$  9.41 0.01 0.0

$LAB^*LABa$  9.41 0.0 0.0

$LAB^*TCh$  99.99 0.01 -

relative CIELAB lab\*

$lab^*lab$  1.0 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  1.0 0.0 0.0

$lab^*ice$  1.0 0.0 -

$lab^*ncE$  0.0 0.0 -

%Gamut

$u^*_{rel}$  = 1,0

%Regularity

$g^*_{H,rel}$  = 1,0

$g^*_{C,rel}$  = 1,0

standard and adapted CIELAB

$LAB^*LAB$  9.41 0.01 0.0

$LAB^*LABa$  9.41 0.0 0.0

$LAB^*TCh$  99.99 0.01 -

relative CIELAB lab\*

$lab^*lab$  1.0 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  1.0 0.0 0.0

$lab^*ice$  1.0 0.0 -

$lab^*ncE$  0.0 0.0 -

%Gamut

$u^*_{rel}$  = 1,0

%Regularity

$g^*_{H,rel}$  = 1,0

$g^*_{C,rel}$  = 1,0

standard and adapted CIELAB

$LAB^*LAB$  9.41 0.01 0.0

$LAB^*LABa$  9.41 0.0 0.0

$LAB^*TCh$  99.99 0.01 -

relative CIELAB lab\*

$lab^*lab$  1.0 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  1.0 0.0 0.0

$lab^*ice$  1.0 0.0 -

$lab^*ncE$  0.0 0.0 -

%Gamut

$u^*_{rel}$  = 1,0

%Regularity

$g^*_{H,rel}$  = 1,0

$g^*_{C,rel}$  = 1,0

standard and adapted CIELAB

$LAB^*LAB$  9.41 0.01 0.0

$LAB^*LABa$  9.41 0.0 0.0

$LAB^*TCh$  99.99 0.01 -

relative CIELAB lab\*

$lab^*lab$  1.0 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  1.0 0.0 0.0

$lab^*ice$  1.0 0.0 -

$lab^*ncE$  0.0 0.0 -

%Gamut

$u^*_{rel}$  = 1,0

%Regularity

$g^*_{H,rel}$  = 1,0

$g^*_{C,rel}$  = 1,0

standard and adapted CIELAB

$LAB^*LAB$  9.41 0.01 0.0

$LAB^*LABa$  9.41 0.0 0.0

$LAB^*TCh$  99.99 0.01 -

relative CIELAB lab\*

$lab^*lab$  1.0 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  1.0 0.0 0.0

$lab^*ice$  1.0 0.0 -

$lab^*ncE$  0.0 0.0 -

%Gamut

$u^*_{rel}$  = 1,0

%Regularity

$g^*_{H,rel}$  = 1,0

$g^*_{C,rel}$  = 1,0

standard and adapted CIELAB

$LAB^*LAB$  9.41 0.01 0.0

$LAB^*LABa$  9.41 0.0 0.0

$LAB^*TCh$  99.99 0.01 -

relative CIELAB lab\*

$lab^*lab$  1.0 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  1.0 0.0 0.0

$lab^*ice$  1.0 0.0 -

$lab^*ncE$  0.0 0.0 -

%Gamut

$u^*_{rel}$  = 1,0

%Regularity

$g^*_{H,rel}$  = 1,0

$g^*_{C,rel}$  = 1,0

standard and adapted CIELAB

$LAB^*LAB$  9.41 0.01 0.0

$LAB^*LABa$  9.41 0.0 0.0

$LAB^*TCh$  99.99 0.01 -

relative CIELAB lab\*

$lab^*lab$  1.0 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  1.0 0.0 0.0

$lab^*ice$  1.0 0.0 -

$lab^*ncE$  0.0 0.0 -

%Gamut

$u^*_{rel}$  = 1,0

%Regularity

$g^*_{H,rel}$  = 1,0

$g^*_{C,rel}$  = 1,0

standard and adapted CIELAB

$LAB^*LAB$  9.41 0.01 0.0

$LAB^*LABa$  9.41 0.0 0.0

$LAB^*TCh$  99.99 0.01 -

relative CIELAB lab\*

$lab^*lab$  1.0 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  1.0 0.0 0.0</p

### Input: Colorimetric Reflective System MRS18a

for hue  $h^* = lab^*h = 94/360 = 0.262$

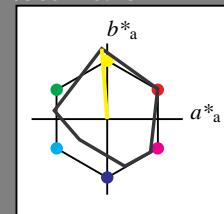
$lab^*tch$  and  $lab^*nch$

D65: hue J

LCH\*Ma: 91 93 94

olv\*Ma: 1.0 1.0 0.0

triangle lightness  $t^*$



### MRS18a; adapted (a) CIELAB data

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

RMa	49.63	66.8	40.02	77.87	31
JMa	90.7	-7.27	93.19	93.48	94
GMa	52.11	-69.93	11.26	70.85	171
G50BMa	45.03	-36.65	-27.13	45.61	217
BMa	36.65	23.26	-62.27	66.49	290
B50RMa	34.94	57.27	-43.6	71.99	323
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	272

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 0.01 0.0  
 $LAB^*LABa$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0  
 $lab^*tce$  1.0 0.0 0.0  
 $lab^*ncE$  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 0.5  
 $cmyn^4*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  56.71 0.05 0.0  
 $LAB^*LABa$  56.71 0.0 0.0  
 $LAB^*TChA$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0  
 $lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.5 0.0 0.0  
 $lab^*tce$  0.5 0.0 0.0  
 $lab^*ncE$  0.5 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)  
 $olv^4*$  1.0 1.0 1.0 0.0  
 $cmyn^4*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.1 0.02  
 $LAB^*LABa$  18.02 0.0 0.0  
 $LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0  
 $lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0  
 $lab^*tce$  0.0 0.0 -  
 $lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

%Gamut  
 $u^*_{rel} = 92$   
%Regularity  
 $g^*_{H,rel} = 42$   
 $g^*_{C,rel} = 49$

relative Inform. Technology (IT)  
 $olv^3*$  1.0 1.0 0.5 (1.0)  
 $cmyn^3*$  0.0 0.0 0.5 (0.0)  
 $olv^4*$  1.0 1.0 0.5 1.0  
 $cmyn^4*$  0.0 0.0 0.5 0.0

standard and adapted CIELAB

$LAB^*LAB$  93.05 -3.61 46.59  
 $LAB^*LABa$  93.05 -3.63 46.59  
 $LAB^*TChA$  75.0 46.73 94.46

relative CIELAB lab\*

$lab^*lab$  0.969 -0.038 0.498  
 $lab^*tch$  0.75 0.5 0.262  
 $lab^*nch$  0.0 0.5 0.262

relative Natural Colour (NC)

$lab^*lrij$  0.969 -0.023 0.499  
 $lab^*tce$  0.75 0.2 0.528  
 $lab^*ncE$  0.0 0.5 0.505

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 0.5  
 $cmyn^4*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  90.69 -7.25 93.17  
 $LAB^*LABa$  90.69 -7.26 93.18  
 $LAB^*TChA$  50.0 93.46 94.46

relative CIELAB lab\*

$lab^*lab$  0.939 -0.077 0.997  
 $lab^*tch$  0.5 1.0 0.262  
 $lab^*nch$  0.0 1.0 0.262

relative Natural Colour (NC)

$lab^*lrij$  0.939 -0.047 0.999  
 $lab^*tce$  0.5 1.0 0.258  
 $lab^*ncE$  0.0 1.0 0.505

relative Inform. Technology (IT)  
 $olv^3*$  0.0 0.0 0.0 (1.0)  
 $cmyn^3*$  1.0 1.0 1.0 (0.0)  
 $olv^4*$  1.0 1.0 1.0 0.0  
 $cmyn^4*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  54.35 -3.57 46.6  
 $LAB^*LABa$  54.35 -3.63 46.59  
 $LAB^*TChA$  25.01 46.73 94.46

relative CIELAB lab\*

$lab^*lab$  0.47 -0.038 0.498  
 $lab^*tch$  0.25 0.5 0.262  
 $lab^*nch$  0.5 0.5 0.262

relative Natural Colour (NC)

$lab^*lrij$  0.47 -0.023 0.499  
 $lab^*tce$  0.25 0.5 0.258  
 $lab^*ncE$  0.5 0.5 0.505

$n^* = 0,00$

$n^* = 0,50$

$n^* = 1,00$

chromaticness  $c^*$

$n^* = 0,00$

blackness  $n^*$

$n^* = 1,00$

### Output: Colorimetric Reflective System NCS18

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

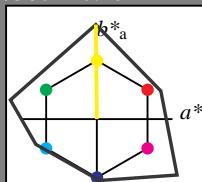
$lab^*tch$  and  $lab^*nch$

D65: hue J

LCH\*Ma: 91 125 91

olv\*Ma: 1.0 1.0 0.0

triangle lightness  $t^*$



### NCS18; adapted (a) CIELAB data

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

RMa	47.15	84.63	37.24	92.46	24
JMa	91.37	-1.27	125.03	125.03	91
GMa	63.07	-114.29	25.34	117.07	167
G50BMa	59.47	-80.61	-33.45	87.29	203
BMa	49.01	3.63	-81.2	81.29	273
B50RMa	44.06	106.07	-73.94	129.31	325
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	272

%Gamut

$u^*_{rel} = 136$

%Regularity

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

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

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

$LAB^*LABa$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 0.0

$lab^*ncE$  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 0.5

$cmyn^4*$  0.0 0.0 0.5 0.5

standard and adapted CIELAB

$LAB^*LAB$  56.71 0.05 0.0

$LAB^*LABa$  56.71 0.0 0.0

$LAB^*TChA$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.5 0.0 0.0

$lab^*tce$  0.5 0.0 0.0

$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

$n^* = 0,50$

$n^* = 1,00$

chromaticness  $c^*$

$n^* = 0,00$

blackness  $n^*$

$n^* = 1,00$

chromaticness  $c^*$

UE100-7, 3 step scales for constant CIELAB hue 94/360 = 0.262 (left)

3 step scales for constant CIELAB hue 91/360 = 0.252 (right)

### Input: Colorimetric Reflective System MRS18a

for hue  $h^* = lab^*h = 94/360 = 0.262$

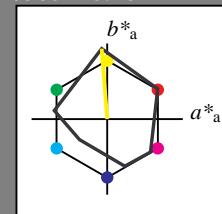
$lab^*tch$  and  $lab^*nch$

D65: hue J

LCH\*Ma: 91 93 94

olv\*Ma: 1.0 1.0 0.0

triangle lightness  $t^*$



### MRS18a; adapted (a) CIELAB data

	$L^*=L^*_a$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	49.63	66.8	40.02	77.87	31
JMa	90.7	-7.27	93.19	93.48	94
GMa	52.11	-69.93	11.26	70.85	171
G50BMa	45.03	-36.65	-27.13	45.61	217
BMa	36.65	23.26	-62.27	66.49	290
B50RMa	34.94	57.27	-43.6	71.99	323
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	272

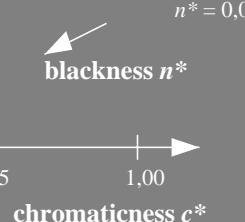
relative Inform. Technology (IT)  
 $olv_i3^*$  1.0 1.0 1.0 (1.0)  
 $cmyn3^*$  0.0 0.0 0.0 (0.0)  
 $olv_i4^*$  1.0 1.0 1.0 1.0  
 $cmyn4^*$  0.0 0.0 0.0 0.0  
**standard and adapted CIELAB**  
 $LAB^*LAB$  95.41 0.01 0.0  
 $LAB^*LABa$  95.41 0.0 0.0  
 $LAB^*TChA$  99.99 0.01 -

relative CIELAB lab\*  
 $lab^*lab$  1.0 0.0 0.0  
 $lab^*tch$  1.0 0.0 -  
 $lab^*nch$  0.0 0.0 -  
**relative Natural Colour (NC)**  
 $lab^*lrij$  1.0 0.0 0.0  
 $lab^*tce$  1.0 0.0 0.0  
 $lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)  
 $olv_i3^*$  0.5 0.5 0.5 (1.0)  
 $cmyn3^*$  0.5 0.5 0.5 (0.0)  
 $olv_i4^*$  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 0.05 0.0  
 $LAB^*LABa$  56.71 0.0 0.0  
 $LAB^*TChA$  50.0 0.01 -  
**relative CIELAB lab\***  
 $lab^*lab$  0.5 0.0 0.0  
 $lab^*tch$  0.5 0.0 -  
 $lab^*nch$  0.5 0.0 -  
**relative Natural Colour (NC)**  
 $lab^*lrij$  0.5 0.0 0.0  
 $lab^*tce$  0.5 0.0 0.0  
 $lab^*ncE$  0.5 0.0 -

relative Inform. Technology (IT)  
 $olv_i3^*$  0.0 0.0 0.0 (1.0)  
 $cmyn3^*$  1.0 1.0 1.0 (0.0)  
 $olv_i4^*$  1.0 1.0 1.0 0.0  
 $cmyn4^*$  0.0 0.0 0.0 1.0  
**standard and adapted CIELAB**  
 $LAB^*LAB$  18.02 0.1 0.02  
 $LAB^*LABa$  18.02 0.0 0.0  
 $LAB^*TChA$  0.01 0.01 -  
**relative CIELAB lab\***  
 $lab^*lab$  0.0 0.0 0.0  
 $lab^*tch$  0.0 0.0 -  
 $lab^*nch$  1.0 0.0 -  
**relative Natural Colour (NC)**  
 $lab^*lrij$  0.0 0.0 0.0  
 $lab^*tce$  0.0 0.0 -  
 $lab^*ncE$  1.0 0.0 -

$n^* = 1,0$



### Output: Colorimetric Reflective System NRS11

for hue  $h^* = lab^*h = 91/360 = 0.253$

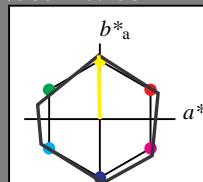
$lab^*tch$  and  $lab^*nch$

D65: hue J

LCH\*Ma: 53 84 91

olv\*Ma: 1.0 1.0 0.0

triangle lightness  $t^*$



### NRS11; adapted (a) CIELAB data

	$L^*=L^*_a$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	53.2	77.06	34.32	84.36	24
JMa	53.2	-1.51	84.38	84.39	91
GMa	53.2	-82.27	18.98	84.44	167
G50BMa	53.2	-77.72	-32.98	84.44	203
BMa	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

%Gamut  
 $u^*_{rel} = 92$   
%Regularity  
 $g^*_{H,rel} = 42$   
 $g^*_{C,rel} = 49$

relative Inform. Technology (IT)  
 $olv_i3^*$  1.0 1.0 1.0 (1.0)  
 $cmyn3^*$  0.0 0.0 0.0 (0.0)  
 $olv_i4^*$  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 -  
 $lab^*nch$  0.0 0.0 -  
**relative Natural Colour (NC)**  
 $lab^*lrij$  1.0 0.0 0.0  
 $lab^*tce$  1.0 0.0 0.0  
 $lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)  
 $olv_i3^*$  0.5 0.5 0.5 (1.0)  
 $cmyn3^*$  0.5 0.5 0.5 (0.0)  
 $olv_i4^*$  1.0 1.0 1.0 0.5  
 $cmyn4^*$  0.0 0.0 0.0 0.5  
**standard and adapted CIELAB**  
 $LAB^*LAB$  74.3 -0.72 42.18  
 $LAB^*LABa$  74.3 -0.75 42.18  
 $LAB^*TChA$  75.0 42.19 91.03

relative CIELAB lab\*  
 $lab^*lab$  0.75 -0.008 0.5  
 $lab^*tch$  0.75 0.5 0.253  
 $lab^*nch$  0.0 0.5 0.253  
**relative Natural Colour (NC)**  
 $lab^*lrij$  0.75 0.015 0.245  
 $lab^*tce$  0.75 0.5 0.245  
 $lab^*ncE$  0.0 0.5 r98j

relative Inform. Technology (IT)  
 $olv_i3^*$  1.0 1.0 0.0 (1.0)  
 $cmyn3^*$  0.0 0.0 1.0 (0.0)  
 $olv_i4^*$  1.0 1.0 0.5 1.0  
 $cmyn4^*$  0.0 0.0 1.0 0.5  
**standard and adapted CIELAB**  
 $LAB^*LAB$  53.2 -1.46 84.37  
 $LAB^*LABa$  53.2 -1.51 84.36  
 $LAB^*TChA$  50.0 84.37 91.03

relative CIELAB lab\*  
 $lab^*lab$  0.5 0.5 0.0  
 $lab^*tch$  0.5 0.0 -  
 $lab^*nch$  0.5 0.0 -  
**relative Natural Colour (NC)**  
 $lab^*lrij$  0.5 0.0 0.0  
 $lab^*tce$  0.5 0.0 0.0  
 $lab^*ncE$  0.5 0.0 -

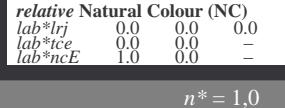
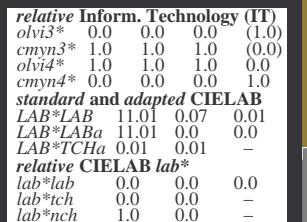
relative Inform. Technology (IT)  
 $olv_i3^*$  0.5 0.5 0.5 (1.0)  
 $cmyn3^*$  0.5 0.5 1.0 (0.0)  
 $olv_i4^*$  1.0 1.0 0.5 0.5  
 $cmyn4^*$  0.0 0.0 0.5 0.5  
**standard and adapted CIELAB**  
 $LAB^*LAB$  32.1 -0.69 42.2  
 $LAB^*LABa$  32.1 -0.75 42.18  
 $LAB^*TChA$  25.01 42.19 91.03

relative CIELAB lab\*  
 $lab^*lab$  0.25 -0.008 0.5  
 $lab^*tch$  0.25 0.5 0.253  
 $lab^*nch$  0.5 0.5 0.253  
**relative Natural Colour (NC)**  
 $lab^*lrij$  0.25 0.015 0.5  
 $lab^*tce$  0.25 0.5 0.245  
 $lab^*ncE$  0.5 0.5 r98j

relative Inform. Technology (IT)  
 $olv_i3^*$  1.0 1.0 0.0 (1.0)  
 $cmyn3^*$  0.0 0.0 1.0 (0.0)  
 $olv_i4^*$  1.0 1.0 0.0 1.0  
 $cmyn4^*$  0.0 0.0 1.0 0.0  
**standard and adapted CIELAB**  
 $LAB^*LAB$  53.2 -1.46 84.37  
 $LAB^*LABa$  53.2 -1.51 84.36  
 $LAB^*TChA$  50.0 84.37 91.03

relative CIELAB lab\*  
 $lab^*lab$  0.5 0.5 0.0  
 $lab^*tch$  0.5 0.0 -  
 $lab^*nch$  0.0 1.0 0.253  
**relative Natural Colour (NC)**  
 $lab^*lrij$  0.5 0.031 0.999  
 $lab^*tce$  0.5 1.0 0.245  
 $lab^*ncE$  0.0 1.0 r98j

$n^* = 0,00$   
blackness  $n^*$



$n^* = 0,50$   
chromaticness  $c^*$

UE100-7, 3 step scales for constant CIELAB hue 94/360 = 0.262 (left)

3 step scales for constant CIELAB hue 91/360 = 0.253 (right)

### Input: Colorimetric Reflective System MRS18a

for hue  $h^* = lab^*h = 94/360 = 0.262$

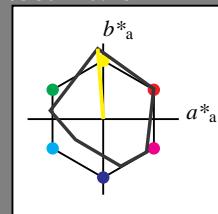
$lab^*tch$  and  $lab^*nch$

D65: hue J

LCH\*Ma: 91 93 94

olv\*Ma: 1.0 1.0 0.0

triangle lightness  $t^*$



### MRS18a; adapted (a) CIELAB data

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

RMa	49.63	66.8	40.02	77.87	31
JMa	90.7	-7.27	93.19	93.48	94
GMa	52.11	-69.93	11.26	70.85	171
G50BMa	45.03	-36.65	-27.13	45.61	217
BMa	36.65	23.26	-62.27	66.49	290
B50RMa	34.94	57.27	-43.6	71.99	323
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	272

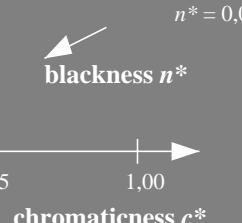
relative Inform. Technology (IT)  
 $olv^3*$  1.0 1.0 1.0 (1.0)  
 $cmyn^3*$  0.0 0.0 0.0 (0.0)  
 $olv^4*$  1.0 1.0 1.0 1.0  
 $cmyn^4*$  0.0 0.0 0.0 0.0  
**standard and adapted CIELAB**  
 $LAB^*LAB$  95.41 0.01 0.0  
 $LAB^*LABa$  95.41 0.0 0.0  
 $LAB^*TChA$  99.99 0.01 -

**relative CIELAB lab\***  
 $lab^*lab$  1.0 0.0 0.0  
 $lab^*tch$  1.0 0.0 -  
 $lab^*nch$  0.0 0.0 -  
**relative Natural Colour (NC)**  
 $lab^*lrij$  1.0 0.0 0.0  
 $lab^*tce$  1.0 0.0 0.0  
 $lab^*ncE$  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 0.5  
 $cmyn^4*$  0.0 0.0 0.0 0.5  
**standard and adapted CIELAB**  
 $LAB^*LAB$  56.71 0.05 0.0  
 $LAB^*LABa$  56.71 0.0 0.0  
 $LAB^*TChA$  50.0 0.01 -  
**relative CIELAB lab\***  
 $lab^*lab$  0.5 0.0 0.0  
 $lab^*tch$  0.5 0.0 -  
 $lab^*nch$  0.5 0.0 -  
**relative Natural Colour (NC)**  
 $lab^*lrij$  0.5 0.0 0.0  
 $lab^*tce$  0.5 0.0 0.0  
 $lab^*ncE$  0.5 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)  
 $olv^4*$  1.0 1.0 1.0 0.0  
 $cmyn^4*$  0.0 0.0 0.0 1.0  
**standard and adapted CIELAB**  
 $LAB^*LAB$  18.02 0.1 0.02  
 $LAB^*LABa$  18.02 0.0 0.0  
 $LAB^*TChA$  0.01 0.01 -  
**relative CIELAB lab\***  
 $lab^*lab$  0.0 0.0 0.0  
 $lab^*tch$  0.0 0.0 -  
 $lab^*nch$  1.0 0.0 -  
**relative Natural Colour (NC)**  
 $lab^*lrij$  0.0 0.0 0.0  
 $lab^*tce$  0.0 0.0 -  
 $lab^*ncE$  1.0 0.0 -

$n^* = 1,0$



### Output: Colorimetric Reflective System NCS11

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

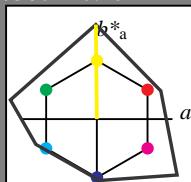
$lab^*tch$  and  $lab^*nch$

D65: hue J

LCH\*Ma: 91 125 91

olv\*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

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  
 $LAB^*LABa$  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 -  
 $lab^*nch$  0.0 0.0 -  
**relative Natural Colour (NC)**  
 $lab^*lrij$  1.0 0.0 0.0  
 $lab^*tce$  1.0 0.0 0.0  
 $lab^*ncE$  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 0.5  
 $cmyn^4*$  0.0 0.0 0.0 0.5  
**standard and adapted CIELAB**  
 $LAB^*LAB$  93.05 -3.61 46.59  
 $LAB^*LABa$  93.05 -3.63 46.59  
 $LAB^*TChA$  75.0 46.73 94.46  
**relative CIELAB lab\***  
 $lab^*lab$  0.969 -0.038 0.498  
 $lab^*tch$  0.75 0.5 0.262  
 $lab^*nch$  0.0 0.5 0.262

relative Inform. Technology (IT)  
 $olv^3*$  1.0 1.0 0.0 (1.0)  
 $cmyn^3*$  0.0 0.0 1.0 (0.0)  
 $olv^4*$  1.0 1.0 0.0 1.0  
 $cmyn^4*$  0.0 0.0 1.0 0.0  
**standard and adapted CIELAB**  
 $LAB^*LAB$  90.69 -7.25 93.17  
 $LAB^*LABa$  90.69 -7.26 93.18  
 $LAB^*TChA$  50.0 93.46 94.46  
**relative CIELAB lab\***  
 $lab^*lab$  0.939 -0.077 0.997  
 $lab^*tch$  0.5 1.0 0.262  
 $lab^*nch$  0.0 1.0 0.262

relative Inform. Technology (IT)  
 $olv^3*$  0.5 0.5 0.0 (1.0)  
 $cmyn^3*$  0.5 0.5 0.0 (0.0)  
 $olv^4*$  1.0 1.0 0.5 0.5  
 $cmyn^4*$  0.0 0.0 0.5 0.5  
**standard and adapted CIELAB**  
 $LAB^*LAB$  90.69 -7.25 93.17  
 $LAB^*LABa$  90.69 -7.26 93.18  
 $LAB^*TChA$  50.0 0.0 0.01 -  
**relative CIELAB lab\***  
 $lab^*lab$  0.939 -0.077 0.997  
 $lab^*tch$  0.5 1.0 0.262  
 $lab^*nch$  0.0 1.0 0.262

relative Inform. Technology (IT)  
 $olv^3*$  0.0 0.0 0.0 (1.0)  
 $cmyn^3*$  1.0 1.0 1.0 (0.0)  
 $olv^4*$  1.0 1.0 1.0 0.0  
 $cmyn^4*$  0.0 0.0 1.0 0.0  
**standard and adapted CIELAB**  
 $LAB^*LAB$  54.35 -3.57 46.6  
 $LAB^*LABa$  54.35 -3.63 46.59  
 $LAB^*TChA$  25.01 46.73 94.46  
**relative CIELAB lab\***  
 $lab^*lab$  0.47 -0.038 0.498  
 $lab^*tch$  0.25 0.5 0.262  
 $lab^*nch$  0.5 0.5 0.262

relative Inform. Technology (IT)  
 $olv^3*$  0.0 0.0 0.0 (1.0)  
 $cmyn^3*$  1.0 1.0 1.0 (0.0)  
 $olv^4*$  1.0 1.0 1.0 0.0  
 $cmyn^4*$  0.0 0.0 1.0 0.0  
**standard and adapted CIELAB**  
 $LAB^*LAB$  11.01 0.07 0.01  
 $LAB^*LABa$  11.01 0.0 0.0  
 $LAB^*TChA$  0.01 0.01 -  
**relative CIELAB lab\***  
 $lab^*lab$  0.0 0.0 0.0  
 $lab^*tch$  0.0 0.0 -  
 $lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)  
 $lab^*lrij$  0.0 0.0 0.0  
 $lab^*tce$  0.0 0.0 -  
 $lab^*ncE$  1.0 0.0 -

relative Inform. Technology (IT)  
 $olv^3*$  1.0 1.0 0.0 (1.0)  
 $cmyn^3*$  0.0 0.0 1.0 (0.0)  
 $olv^4*$  1.0 1.0 0.5 1.0  
 $cmyn^4*$  0.0 0.0 1.0 0.0  
**standard and adapted CIELAB**  
 $LAB^*LAB$  91.36 -1.26 125.0  
 $LAB^*LABa$  91.36 -1.27 125.0  
 $LAB^*TChA$  50.0 125.01 90.59  
**relative CIELAB lab\***  
 $lab^*lab$  0.976 -0.004 0.5  
 $lab^*tch$  0.75 0.5 0.252  
 $lab^*nch$  0.0 0.5 0.252

relative Inform. Technology (IT)  
 $olv^3*$  1.0 1.0 0.5 0.5  
 $cmyn^3*$  0.0 0.0 0.5 0.5  
 $olv^4*$  1.0 1.0 0.5 0.5  
 $cmyn^4*$  0.0 0.0 0.5 0.5  
**standard and adapted CIELAB**  
 $LAB^*LAB$  51.18 -0.59 62.51  
 $LAB^*LABa$  51.18 -0.63 62.5  
 $LAB^*TChA$  25.01 62.5 90.59  
**relative CIELAB lab\***  
 $lab^*lab$  0.952 -0.009 1.0  
 $lab^*tch$  0.5 1.0 0.252  
 $lab^*nch$  0.0 1.0 0.252

relative Inform. Technology (IT)  
 $olv^3*$  0.5 0.5 0.0 (1.0)  
 $cmyn^3*$  0.5 0.5 0.0 (0.0)  
 $olv^4*$  1.0 1.0 0.5 0.5  
 $cmyn^4*$  0.0 0.0 0.5 0.5  
**standard and adapted CIELAB**  
 $LAB^*LAB$  51.18 -0.59 62.51  
 $LAB^*LABa$  51.18 -0.63 62.5  
 $LAB^*TChA$  25.01 62.5 90.59  
**relative CIELAB lab\***  
 $lab^*lab$  0.476 -0.004 0.5  
 $lab^*tch$  0.25 0.5 0.252  
 $lab^*nch$  0.5 0.5 0.252

relative Inform. Technology (IT)  
 $olv^3*$  0.0 0.0 0.0 (1.0)  
 $cmyn^3*$  1.0 1.0 1.0 (0.0)  
 $olv^4*$  1.0 1.0 1.0 0.0  
 $cmyn^4*$  0.0 0.0 1.0 0.0  
**standard and adapted CIELAB**  
 $LAB^*LAB$  0.476 0.02 0.499  
 $LAB^*LABa$  0.25 0.5 0.243  
 $LAB^*TChA$  0.5 0.5 0.243  
**relative CIELAB lab\***  
 $lab^*lab$  0.0 0.0 0.0  
 $lab^*tch$  0.0 0.0 -  
 $lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)  
 $lab^*lrij$  0.0 0.0 0.0  
 $lab^*tce$  0.0 0.0 -  
 $lab^*ncE$  1.0 0.0 -

$n^* = 0,00$

relative Inform. Technology (IT)  
 $olv^3*$  0.0 0.0 0.0 (1.0)  
 $cmyn^3*$  1.0 1.0 1.0 (0.0)  
 $olv^4*$  1.0 1.0 1.0 0.0  
 $cmyn^4*$  0.0 0.0 1.0 0.0  
**standard and adapted CIELAB**  
 $LAB^*LAB$  11.01 0.07 0.01  
 $LAB^*LABa$  11.01 0.0 0.0  
 $LAB^*TChA$  0.01 0.01 -  
**relative CIELAB lab\***  
 $lab^*lab$  0.0 0.0 0.0  
 $lab^*tch$  0.0 0.0 -  
 $lab^*nch$  1.0 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)  
 $olv^4*$  1.0 1.0 1.0 0.0  
 $cmyn^4*$  0.0 0.0 1.0 0.0  
**standard and adapted CIELAB**  
 $LAB^*LAB$  0.476 0.02 0.499  
 $LAB^*LABa$  0.25 0.5 0.243  
 $LAB^*TChA$  0.5 0.5 0.243  
**relative CIELAB lab\***  
 $lab^*lab$  0.0 0.0 0.0  
 $lab^*tch$  0.0 0.0 -  
 $lab^*nch$  1.0 0.0 -

$n^* = 1,0$

UE100-7, 3 step scales for constant CIELAB hue 94/360 = 0.262 (left)

3 step scales for constant CIELAB hue 91/360 = 0.252 (right)

## Input: Colorimetric Reflective System NRS18

for hue  $h^* = lab^*h = 91/360 = 0.253$

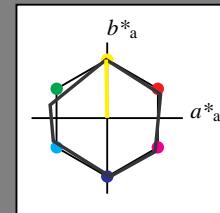
$lab^*tch$  and  $lab^*nch$

D65: hue J

LCH\*Ma: 57 77 91

olv\*Ma: 1.0 1.0 0.0

triangle lightness  $t^*$



%Gamut

$u^*_{rel} = 100$

%Regularity

$g^*_{H,rel} = 47$

$g^*_{C,rel} = 100$

relative Inform. Technology (IT)

$olv^3*$  1.0 1.0 1.0 (1.0)

$cmy^3*$  0.0 0.0 0.0 (0.0)

$olv^4*$  1.0 1.0 1.0 1.0

$cmy^4*$  0.0 0.0 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  95.41 0.0 0.0

$LAB^*LABa$  95.41 0.0 0.0

$LAB^*TCh$  99.99 0.01 -

relative CIELAB lab\*

$lab^*lab$  1.0 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*ice$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  76.05 -0.66 38.68

$LAB^*LABa$  76.05 -0.69 38.68

$LAB^*TCh$  75.0 38.69 91.04

relative CIELAB lab\*

$lab^*lab$  0.75 -0.008 0.5

$lab^*tch$  0.75 0.5 0.253

$lab^*nch$  0.0 0.5 0.253

relative Natural Colour (NC)

$lab^*lrij$  0.75 0.015 0.5

$lab^*ice$  0.75 0.5 0.245

$lab^*ncE$  0.0 0.5 r98j

relative Inform. Technology (IT)

$olv^3*$  0.5 0.5 0.5 (1.0)

$cmy^3*$  0.5 0.5 0.5 (0.0)

$olv^4*$  1.0 1.0 1.0 0.5

$cmy^4*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  56.72 0.05 0.0

$LAB^*LABa$  56.72 0.0 0.0

$LAB^*TCh$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.5 0.0 0.0

$lab^*ice$  0.5 0.0 0.0

$lab^*ncE$  0.5 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.09 0.02

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TCh$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*ice$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

relative Inform. Technology (IT)

$olv^3*$  0.0 0.0 0.0 (1.0)

$cmy^3*$  1.0 1.0 1.0 (0.0)

$olv^4*$  1.0 1.0 1.0 0.0

$cmy^4*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.09 0.02

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TCh$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*ice$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 0,00$

blackness  $n^*$

chromaticness  $c^*$

## Output: Colorimetric Reflective System ORS18

for hue  $h^* = lab^*h = 96/360 = 0.268$

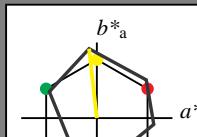
$lab^*tch$  and  $lab^*nch$

D65: hue Y

LCH\*Ma: 90 92 96

olv\*Ma: 1.0 1.0 0.0

triangle lightness  $t^*$



%Gamut

$u^*_{rel} = 93$

%Regularity

$g^*_{H,rel} = 57$

$g^*_{C,rel} = 59$

relative Inform. Technology (IT)

$olv^3*$  1.0 1.0 1.0 (1.0)

$cmy^3*$  0.0 0.0 0.0 (0.0)

$olv^4*$  1.0 1.0 1.0 1.0

$cmy^4*$  0.0 0.0 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  95.41 -0.97 4.75

$LAB^*LABa$  95.41 0.0 0.0

$LAB^*TCh$  99.99 0.01 -

relative CIELAB lab\*

$lab^*lab$  1.0 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*ice$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)

$olv^3*$  0.5 0.5 0.5 (1.0)

$cmy^3*$  0.5 0.5 0.5 (0.0)

$olv^4*$  1.0 1.0 1.0 0.5

$cmy^4*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  56.71 -0.23 2.14

$LAB^*LABa$  56.71 0.0 0.0

$LAB^*TCh$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 -0.017 1.0

$lab^*tch$  0.5 1.0 0.253

$lab^*nch$  0.0 1.0 0.253

relative Natural Colour (NC)

$lab^*lrij$  0.5 0.03 0.999

$lab^*ice$  0.5 1.0 0.245

$lab^*ncE$  0.0 1.0 r98j

relative Inform. Technology (IT)

$olv^3*$  0.0 0.0 0.0 (1.0)

$cmy^3*$  1.0 1.0 1.0 (0.0)

$olv^4*$  1.0 1.0 1.0 0.0

$cmy^4*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.5 -0.46

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TCh$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*ice$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

3 step scales for constant CIELAB hue 96/360 = 0.268 (right)

## Output: Colorimetric Reflective System ORS18

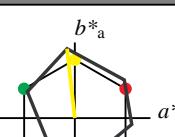
$lab^*tch$  and  $lab^*nch$

D65: hue Y

LCH\*Ma: 90 92 96

olv\*Ma: 1.0 1.0 0.0

triangle lightness  $t^*$



%Gamut

$u^*_{rel} = 93$

%Regularity

$g^*_{H,rel} = 57$

$g^*_{C,rel} = 59$

relative Inform. Technology (IT)

$olv^3*$  1.0 1.0 1.0 (1.0)

$cmy^3*$  0.0 0.0 0.0 (0.0)

$olv^4*$  1.0 1.0 1.0 1.0

$cmy^4*$  0.0 0.0 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  90.37 -10.27 91.77

$LAB^*LABa$  50.9 -62.79 34.95

$LAB^*TCh$  25.71 -44.42 54.24

$LAB^*TCh$  48.13 75.27 -8.35

$LAB^*TCh$  18.01 0.0 0.0

$LAB^*TCh$  95.41 0.0 0.0

$LAB^*TCh$  39.92 58.66 26.98

$LAB^*TCh$  81.26 -2.17 67.76

$LAB^*TCh$  52.23 -42.26 11.75

$LAB^*TCh$  30.57 1.15 -46.84

$LAB^*TCh$  46.16 96.39

relative Inform. Technology (IT)

$olv^3*$  1.0 1.0 1.0 (1.0)

$cmy^3*$  0.0 0.0 0.0 (0.0)

$olv^4*$  1.0 1.0 1.0 1.0

$cmy^4*$  0.0 0.0 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  90.37 -11.15 96.17

$LAB^*LABa$  50.9 -10.26 91.75

$LAB^*TCh$  50.0 92.32 96.39

$LAB^*TCh$  0.935 -0.11 0.994

$LAB^*TCh$  0.25 0.5 0.268

$LAB^*TCh$  0.0 0.5 0.268

$LAB^*TCh$  0.935 -0.097 0.995

$LAB^*TCh$  0.5 1.0 0.266

$LAB^*TCh$  0.0 1.0 j06g

$n^* = 0,00$

blackness  $n^*$

chromaticness  $c^*$

$n^* = 1,0$

3 step scales for constant CIELAB hue 96/360 = 0.268 (right)

## Input: Colorimetric Reflective System NRS18

for hue  $h^* = lab^*h = 91/360 = 0.253$

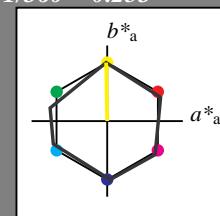
$lab^*tch$  and  $lab^*nch$

D65: hue J

LCH\*Ma: 57 77 91

olv\*Ma: 1.0 1.0 0.0

triangle lightness  $t^*$



%Gamut

$u^*_{rel} = 100$

%Regularity

$g^*_{H,rel} = 47$

$g^*_{C,rel} = 100$

relative Inform. Technology (IT)  
 $olv_i3^*$  1.0 1.0 1.0 (1.0)  
 $cmy_n3^*$  0.0 0.0 0.0 (0.0)  
 $olv_i4^*$  1.0 1.0 1.0 1.0  
 $cmy_n4^*$  0.0 0.0 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  95.41 0.0 0.0

$LAB^*LAB_a$  95.41 0.0 0.0

$LAB^*TCh_a$  99.99 0.01 -

relative CIELAB lab\*

$lab^*lab$  1.0 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  1.0 0.0 0.0

$lab^*ice$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)  
 $olv_i3^*$  0.5 0.5 0.5 (1.0)  
 $cmy_n3^*$  0.5 0.5 0.5 (0.0)  
 $olv_i4^*$  1.0 1.0 1.0 0.5  
 $cmy_n4^*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  56.72 0.05 0.0

$LAB^*LAB_a$  56.72 0.0 0.0

$LAB^*TCh_a$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  0.5 0.0 0.0

$lab^*ice$  0.5 0.0 0.0

$lab^*ncE$  0.5 0.0 -

relative Inform. Technology (IT)  
 $olv_i3^*$  0.0 0.0 0.0 (1.0)  
 $cmy_n3^*$  1.0 1.0 1.0 (0.0)  
 $olv_i4^*$  1.0 1.0 1.0 0.0  
 $cmy_n4^*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.09 0.02

$LAB^*LAB_a$  18.02 0.0 0.0

$LAB^*TCh_a$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  0.0 0.0 0.0

$lab^*ice$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

## NRS18; adapted (a) CIELAB data

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

RMa	56.7	70.66	31.47	77.35	24
JMa	56.7	-1.39	77.37	77.39	91
GMa	56.7	-75.46	17.4	77.45	167
G50BMa	56.7	-71.29	-30.25	77.45	203
BMa	56.7	4.0	-77.3	77.41	273
B50RMa	56.7	63.35	-44.4	77.36	325
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	272

## Output: Colorimetric Reflective System MRS18

for hue  $h^* = lab^*h = 94/360 = 0.261$

$lab^*tch$  and  $lab^*nch$

D65: hue J

LCH\*Ma: 91 89 94

olv\*Ma: 1.0 1.0 0.0

triangle lightness  $t^*$

## MRS18; adapted (a) CIELAB data

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

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

$n^* = 0,00$

blackness  $n^*$

chromaticness  $c^*$

$n^* = 1,0$

UE100-7, 3 step scales for constant CIELAB hue 91/360 = 0.253 (left)

3 step scales for constant CIELAB hue 94/360 = 0.261 (right)

## Input: Colorimetric Reflective System NRS18

for hue  $h^* = lab^*h = 91/360 = 0.253$

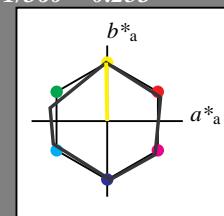
$lab^*tch$  and  $lab^*nch$

D65: hue J

LCH\*Ma: 57 77 91

olv\*Ma: 1.0 1.0 0.0

triangle lightness  $t^*$



relative Inform. Technology (IT)  
 $olv_i3^*$  1.0 1.0 1.0 (1.0)  
 $cmy_n3^*$  0.0 0.0 0.0 (0.0)  
 $olv_i4^*$  1.0 1.0 1.0 1.0  
 $cmy_n4^*$  0.0 0.0 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  95.41 0.0 0.0  
 $LAB^*LABa$  95.41 0.0 0.0  
 $LAB^*TCh_a$  99.99 0.01 -

relative CIELAB  $lab^*$

$lab^*lab$  1.0 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)  
 $olv_i3^*$  0.5 0.5 0.5 (1.0)  
 $cmy_n3^*$  0.5 0.5 0.5 (0.0)  
 $olv_i4^*$  1.0 1.0 1.0 0.5  
 $cmy_n4^*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  56.72 0.05 0.0  
 $LAB^*LABa$  56.72 0.0 0.0  
 $LAB^*TCh_a$  50.0 0.01 -

relative CIELAB  $lab^*$

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.5 0.0 0.0

$lab^*tce$  0.5 0.0 0.0

$lab^*ncE$  0.5 0.0 -

relative Inform. Technology (IT)  
 $olv_i3^*$  0.0 0.0 0.0 (1.0)  
 $cmy_n3^*$  1.0 1.0 1.0 (0.0)  
 $olv_i4^*$  1.0 1.0 1.0 0.0  
 $cmy_n4^*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.09 0.02  
 $LAB^*LABa$  18.02 0.0 0.0  
 $LAB^*TCh_a$  0.01 0.01 -

relative CIELAB  $lab^*$

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*tce$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

## NRS18; adapted (a) CIELAB data

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

RMa	56.7	70.66	31.47	77.35	24
JMa	56.7	-1.39	77.37	77.39	91
GMa	56.7	-75.46	17.4	77.45	167
G50BMa	56.7	-71.29	-30.25	77.45	203
BMa	56.7	4.0	-77.3	77.41	273
B50RMa	56.7	63.35	-44.4	77.36	325
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	272

%Gamut

$u^*_{rel} = 100$

%Regularity

$g^*_{H,rel} = 47$

$g^*_{C,rel} = 100$

relative Inform. Technology (IT)

$olv_i3^*$  1.0 1.0 0.5 (1.0)

$cmy_n3^*$  0.0 0.0 0.5 (0.0)

$olv_i4^*$  1.0 1.0 1.0 1.0

$cmy_n4^*$  0.0 0.0 0.5 0.0

standard and adapted CIELAB

$LAB^*LAB$  76.05 -0.66 38.68

$LAB^*LABa$  76.05 -0.69 38.68

$LAB^*TCh_a$  75.0 38.69 91.04

relative CIELAB  $lab^*$

$lab^*lab$  0.75 -0.008 0.5

$lab^*tch$  0.75 0.5 0.253

$lab^*nch$  0.0 0.5 0.253

relative Natural Colour (NC)

$lab^*lrij$  0.75 0.015 0.5

$lab^*tce$  0.75 0.5 0.245

$lab^*ncE$  0.0 0.5 r98j

relative Inform. Technology (IT)

$olv_i3^*$  0.5 0.5 0.5 (1.0)

$cmy_n3^*$  0.5 0.5 0.5 (0.0)

$olv_i4^*$  1.0 1.0 1.0 0.5

$cmy_n4^*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  56.7 -1.34 77.37

$LAB^*LABa$  56.7 -1.39 77.36

$LAB^*TCh_a$  50.0 77.37 91.04

relative CIELAB  $lab^*$

$lab^*lab$  0.5 -0.017 1.0

$lab^*tch$  0.5 1.0 0.253

$lab^*nch$  0.0 1.0 0.253

relative Natural Colour (NC)

$lab^*lrij$  0.5 0.03 0.999

$lab^*tce$  0.5 1.0 0.245

$lab^*ncE$  0.0 1.0 r98j

$n^* = 0,00$

## Output: Colorimetric Reflective System TRS18

for hue  $h^* = lab^*h = 96/360 = 0.268$

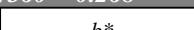
$lab^*tch$  and  $lab^*nch$

D65: hue Y

LCH\*Ma: 90 92 96

olv\*Ma: 1.0 1.0 0.0

triangle lightness  $t^*$



%Gamut

$u^*_{rel} = 93$

%Regularity

$g^*_{H,rel} = 57$

$g^*_{C,rel} = 59$

relative Inform. Technology (IT)

$olv_i3^*$  1.0 1.0 0.5 (1.0)

$cmy_n3^*$  0.0 0.0 0.5 (0.0)

$olv_i4^*$  1.0 1.0 1.0 1.0

$cmy_n4^*$  0.0 0.0 0.5 0.0

standard and adapted CIELAB

$LAB^*LAB$  95.41 -0.97 4.75

$LAB^*LABa$  95.41 0.0 0.0

$LAB^*TCh_a$  99.99 0.01 -

relative CIELAB  $lab^*$

$lab^*lab$  1.0 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

$n^* = 0,00$

relative Inform. Technology (IT)

$olv_i3^*$  0.5 0.5 0.5 (1.0)

$cmy_n3^*$  0.5 0.5 0.5 (0.0)

$olv_i4^*$  1.0 1.0 0.5 0.5

$cmy_n4^*$  0.0 0.0 0.5 0.5

standard and adapted CIELAB

$LAB^*LAB$  92.88 -6.06 50.46

$LAB^*LABa$  92.88 -5.13 45.87

$LAB^*TCh_a$  75.0 46.16 96.39

relative CIELAB  $lab^*$

$lab^*lab$  0.967 -0.055 0.497

$lab^*tch$  0.75 0.5 0.268

$lab^*nch$  0.0 0.5 0.268

relative Natural Colour (NC)

$lab^*lrij$  0.967 -0.048 0.497

$lab^*tce$  0.75 0.5 0.266

$lab^*ncE$  0.0 0.5 j06g

$n^* = 0,00$

## TRS18; adapted (a) CIELAB data

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

O Ma	47.94	65.37	50.52	82.62	38
Y Ma	90.37	-10.27	91.77	92.34	96
L Ma	50.9	-62.79	34.95	71.87	151
C Ma	58.62	-30.35	-45.01	54.3	236
V Ma	25.71	31.11	-44.42	54.24	305
M 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
BCIE	30.57	1.15	-46.84	46.87	271

relative Inform. Technology (IT)

$olv_i3^*$  1.0 1.0 0.0 (1.0)

$cmy_n3^*$  0.0 0.0 0.5 (0.0)

$olv_i4^*$  1.0 1.0 1.0 1.0

$cmy_n4^*$  0.0 0.0 0.5 0.0

standard and adapted CIELAB

$LAB^*LAB$  92.88 -6.06 50.46

$LAB^*LABa$  92.88 -5.13 45.87

$LAB^*TCh_a$  75.0 46.16 96.39

relative CIELAB  $lab^*$

$lab^*lab$  0.967 -0.055 0.497

$lab^*tch$  0.75 0.5 0.268

$lab^*nch$  0.0 0.5 0.268

relative Natural Colour (NC)

$lab^*lrij$  0.935 -0.097 0.995

$lab^*tce$  0.5 1.0 0.266

$lab^*ncE$  0.0 1.0 j06g

$n^* = 0,00$

relative Inform. Technology (IT)

$olv_i3^*$  0.5 0.5 0.5 (1.0)

$cmy_n3^*$  0.5 0.5 0.5 (0.0)

$olv_i4^*$  1.0 1.0 0.5 0.5

$cmy_n4^*$  0.0 0.0 0.5 0.5

standard and adapted CIELAB

$LAB^*LAB$  54.19 -5.32 47.85

$LAB^*LABa$  54.19 -5.13 45.87

$LAB^*TCh_a$  25.01 46.16 96.39

relative CIELAB  $lab^*$

$lab^*lab$  0.467 -0.055 0.497

$lab^*tch$  0.25 0.5 0.268

$lab^*nch$  0.5 0.5 0.268

relative Natural Colour (NC)

## Input: Colorimetric Reflective System NRS18

for hue  $h^* = lab^*h = 91/360 = 0.253$

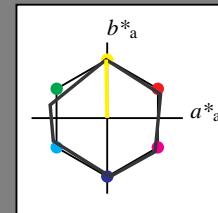
$lab^*tch$  and  $lab^*nch$

D65: hue J

LCH\*Ma: 57 77 91

olv\*Ma: 1.0 1.0 0.0

triangle lightness  $t^*$



%Gamut

$u^*_{rel} = 100$

%Regularity

$g^*_{H,rel} = 47$

$g^*_{C,rel} = 100$

relative Inform. Technology (IT)  
 $olv^3*$  1.0 1.0 1.0 (1.0)  
 $cmy^3*$  0.0 0.0 0.0 (0.0)  
 $olv^4*$  1.0 1.0 1.0 1.0  
 $cmy^4*$  0.0 0.0 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  95.41 0.0 0.0

$LAB^*LABa$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)  
 $olv^3*$  0.5 0.5 0.5 (1.0)  
 $cmy^3*$  0.5 0.5 0.5 (0.0)  
 $olv^4*$  1.0 1.0 1.0 0.5  
 $cmy^4*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  56.72 0.05 0.0

$LAB^*LABa$  56.72 0.0 0.0

$LAB^*TChA$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.5 0.0 0.0

$lab^*tce$  0.5 0.0 0.0

$lab^*ncE$  0.5 0.0 -

relative Inform. Technology (IT)  
 $olv^3*$  0.0 0.0 0.0 (1.0)  
 $cmy^3*$  1.0 1.0 1.0 (0.0)  
 $olv^4*$  1.0 1.0 1.0 0.0  
 $cmy^4*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.09 0.02

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*tce$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

## NRS18; adapted (a) CIELAB data

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

RMa	56.7	70.66	31.47	77.35	24
JMa	56.7	-1.39	77.37	77.39	91
GMa	56.7	-75.46	17.4	77.45	167
G50BMa	56.7	-71.29	-30.25	77.45	203
BMa	56.7	4.0	-77.3	77.41	273
B50RMa	56.7	63.35	-44.4	77.36	325
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	272

## Output: Colorimetric Reflective System MRS18a

for hue  $h^* = lab^*h = 94/360 = 0.262$

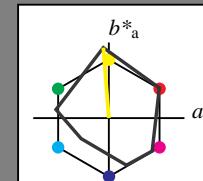
$lab^*tch$  and  $lab^*nch$

D65: hue J

LCH\*Ma: 91 93 94

olv\*Ma: 1.0 1.0 0.0

triangle lightness  $t^*$



%Gamut

$u^*_{rel} = 92$

%Regularity

$g^*_{H,rel} = 42$

$g^*_{C,rel} = 49$

relative Inform. Technology (IT)  
 $olv^3*$  1.0 1.0 1.0 (1.0)  
 $cmy^3*$  0.0 0.0 0.0 (0.0)  
 $olv^4*$  1.0 1.0 1.0 1.0  
 $cmy^4*$  0.0 0.0 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  95.41 0.01 0.0

$LAB^*LABa$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)  
 $olv^3*$  1.0 1.0 0.5 (1.0)  
 $cmy^3*$  0.0 0.0 0.5 (0.0)  
 $olv^4*$  1.0 1.0 0.5 1.0  
 $cmy^4*$  0.0 0.0 0.5 0.0

standard and adapted CIELAB

$LAB^*LAB$  93.05 -3.61 46.59

$LAB^*LABa$  93.05 -3.63 46.59

$LAB^*TChA$  75.0 46.73 94.46

relative CIELAB lab\*

$lab^*lab$  0.969 -0.038 0.498

$lab^*tch$  0.75 0.5 0.262

$lab^*nch$  0.0 0.5 0.262

relative Natural Colour (NC)

$lab^*lrij$  0.969 -0.023 0.499

$lab^*tce$  0.75 0.5 0.258

$lab^*ncE$  0.0 0.5 0.03 g

## MRS18a; adapted (a) CIELAB data

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

RMa	49.63	66.8	40.02	77.87	31
JMa	90.7	-7.27	93.19	93.48	94
GMa	52.11	-69.93	11.26	70.85	171
G50BMa	45.03	-36.65	-27.13	45.61	217
BMa	36.65	23.26	-62.27	66.49	290
B50RMa	34.94	57.27	-43.6	71.99	323
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	272

relative Inform. Technology (IT)  
 $olv^3*$  1.0 1.0 0.0 (1.0)  
 $cmy^3*$  0.0 0.0 1.0 (0.0)  
 $olv^4*$  1.0 1.0 0.0 1.0  
 $cmy^4*$  0.0 0.0 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  93.05 -3.61 46.59

$LAB^*LABa$  93.05 -3.63 46.59

$LAB^*TChA$  75.0 46.73 94.46

relative CIELAB lab\*

$lab^*lab$  0.969 -0.038 0.498

$lab^*tch$  0.75 0.5 0.262

$lab^*nch$  0.0 0.5 0.262

relative Natural Colour (NC)

$lab^*lrij$  0.969 -0.023 0.499

$lab^*tce$  0.75 0.5 0.258

$lab^*ncE$  0.0 0.5 0.03 g

$n^* = 0,00$

blackness  $n^*$

relative Inform. Technology (IT)  
 $olv^3*$  0.0 0.0 0.0 (1.0)  
 $cmy^3*$  1.0 1.0 1.0 (0.0)  
 $olv^4*$  1.0 1.0 1.0 0.0  
 $cmy^4*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.1 0.02

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*tce$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

relative Inform. Technology (IT)  
 $olv^3*$  0.0 0.0 0.0 (1.0)  
 $cmy^3*$  1.0 1.0 1.0 (0.0)  
 $olv^4*$  1.0 1.0 1.0 0.0  
 $cmy^4*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.1 0.02

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TChA$  25.01 46.73 94.46

relative CIELAB lab\*

$lab^*lab$  0.47 -0.038 0.498

$lab^*tch$  0.25 0.5 0.262

$lab^*nch$  0.5 0.5 0.262

relative Natural Colour (NC)

$lab^*lrij$  0.47 -0.023 0.499

$lab^*tce$  0.25 0.5 0.258

$lab^*ncE$  0.5 0.5 0.03 g

$n^* = 0,00$

blackness  $n^*$

relative Inform. Technology (IT)  
 $olv^3*$  0.0 0.0 0.0 (1.0)  
 $cmy^3*$  1.0 1.0 1.0 (0.0)  
 $olv^4*$  1.0 1.0 1.0 0.0  
 $cmy^4*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.1 0.02

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TChA$  25.01 46.73 94.46

relative CIELAB lab\*

$lab^*lab$  0.47 -0.038 0.498

$lab^*tch$  0.25 0.5 0.262

$lab^*nch$  0.5 0.5 0.262

relative Natural Colour (NC)

$lab^*lrij$  0.47 -0.023 0.499

$lab^*tce$  0.25 0.5 0.258

$lab^*ncE$  0.5 0.5 0.03 g

$n^* = 1,0$

blackness  $n^*$

relative Inform. Technology (IT)  
 $olv^3*$  0.0 0.0 0.0 (1.0)  
 $cmy^3*$  1.0 1.0 1.0 (0.0)  
 $olv^4*$  1.0 1.0 1.0 0.0  
 $cmy^4*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^$

## Input: Colorimetric Reflective System NRS18

for hue  $h^* = lab^*h = 91/360 = 0.253$

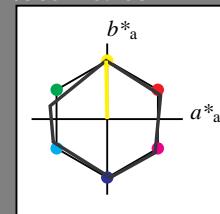
$lab^*tch$  and  $lab^*nch$

D65: hue J

LCH\*Ma: 57 77 91

olv\*Ma: 1.0 1.0 0.0

triangle lightness  $t^*$



%Gamut

$u^*_{rel} = 100$

%Regularity

$g^*_{H,rel} = 47$

$g^*_{C,rel} = 100$

relative Inform. Technology (IT)

$olv^3*$  1.0 1.0 1.0 (1.0)

$cmy^3*$  0.0 0.0 0.0 (0.0)

$olv^4*$  1.0 1.0 1.0 1.0

$cmy^4*$  0.0 0.0 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  95.41 0.0 0.0

$LAB^*LABa$  95.41 0.0 0.0

$LAB^*TCh$  99.99 0.01 -

relative CIELAB lab\*

$lab^*lab$  1.0 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*ice$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  76.05 -0.66 38.68

$LAB^*LABa$  76.05 -0.69 38.68

$LAB^*TCh$  75.0 38.69 91.04

relative CIELAB lab\*

$lab^*lab$  0.75 -0.008 0.5

$lab^*tch$  0.75 0.5 0.253

$lab^*nch$  0.0 0.5 0.253

relative Natural Colour (NC)

$lab^*lrij$  0.75 0.015 0.5

$lab^*ice$  0.75 0.5 0.245

$lab^*ncE$  0.0 0.5 r98j

relative Inform. Technology (IT)

$olv^3*$  0.5 0.5 0.5 (1.0)

$cmy^3*$  0.5 0.5 0.5 (0.0)

$olv^4*$  1.0 1.0 1.0 0.5

$cmy^4*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  56.72 0.05 0.0

$LAB^*LABa$  56.72 0.0 0.0

$LAB^*TCh$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.5 0.0 0.0

$lab^*ice$  0.5 0.0 0.0

$lab^*ncE$  0.5 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.09 0.02

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TCh$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*ice$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

$n^* = 0,00$

$n^* = 0,50$

$n^* = 1,00$

chromaticness  $c^*$

## Output: Colorimetric Reflective System NRS18

for hue  $h^* = lab^*h = 91/360 = 0.253$

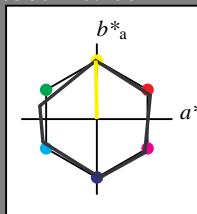
$lab^*tch$  and  $lab^*nch$

D65: hue J

LCH\*Ma: 57 77 91

olv\*Ma: 1.0 1.0 0.0

triangle lightness  $t^*$



%Gamut

$u^*_{rel} = 100$

%Regularity

$g^*_{H,rel} = 47$

$g^*_{C,rel} = 100$

relative Inform. Technology (IT)

$olv^3*$  1.0 1.0 1.0 (1.0)

$cmy^3*$  0.0 0.0 0.0 (0.0)

$olv^4*$  1.0 1.0 1.0 1.0

$cmy^4*$  0.0 0.0 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  95.41 0.0 0.0

$LAB^*LABa$  95.41 0.0 0.0

$LAB^*TCh$  99.99 0.01 -

relative CIELAB lab\*

$lab^*lab$  1.0 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*ice$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)

$olv^3*$  0.5 0.5 0.5 (1.0)

$cmy^3*$  0.5 0.5 0.5 (0.0)

$olv^4*$  1.0 1.0 1.0 0.5

$cmy^4*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  76.05 -0.66 38.68

$LAB^*LABa$  76.05 -0.69 38.68

$LAB^*TCh$  75.0 38.69 91.04

relative CIELAB lab\*

$lab^*lab$  0.75 -0.008 0.5

$lab^*tch$  0.75 0.5 0.253

$lab^*nch$  0.0 0.5 0.253

relative Natural Colour (NC)

$lab^*lrij$  0.75 0.015 0.5

$lab^*ice$  0.75 0.5 0.245

$lab^*ncE$  0.0 0.5 r98j

relative Inform. Technology (IT)

$olv^3*$  0.0 0.0 0.0 (1.0)

$cmy^3*$  1.0 1.0 1.0 (0.0)

$olv^4*$  1.0 1.0 1.0 0.0

$cmy^4*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  56.72 0.05 0.0

$LAB^*LABa$  56.72 0.0 0.0

$LAB^*TCh$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.25 -0.008 0.5

$lab^*tch$  0.25 0.5 0.253

$lab^*nch$  0.5 0.5 0.253

relative Natural Colour (NC)

$lab^*lrij$  0.25 0.015 0.5

$lab^*ice$  0.25 0.5 0.245

$lab^*ncE$  0.5 0.5 r98j

relative Inform. Technology (IT)

$olv^3*$  0.0 0.0 0.0 (1.0)

$cmy^3*$  1.0 1.0 1.0 (0.0)

$olv^4*$  1.0 1.0 1.0 0.0

$cmy^4*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.09 0.02

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TCh$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*ice$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

$n^* = 0,50$

$n^* = 1,00$

blackness  $n^*$

$n^* = 1,0$

$n^* = 0,50$

$n^* = 1,00$

blackness  $n^*$

$n^* = 1,0$

$n^* = 0,50$

$n^* = 1,00$

blackness  $n^*$

UE100-7, 3 step scales for constant CIELAB hue 91/360 = 0.253 (left)

3 step scales for constant CIELAB hue 91/360 = 0.253 (right)

### Input: Colorimetric Reflective System NRS18

for hue  $h^* = lab^*h = 91/360 = 0.253$

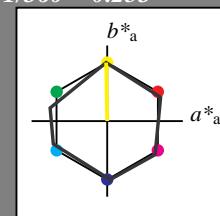
$lab^*tch$  and  $lab^*nch$

D65: hue J

LCH\*Ma: 57 77 91

olv\*Ma: 1.0 1.0 0.0

triangle lightness  $t^*$



relative Inform. Technology (IT)  
 $olvi3^*$  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 0.0  
 $LAB^*LABa$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)  
 $olvi3^*$  0.5 0.5 0.5 (1.0)  
 $cmyn3^*$  0.5 0.5 0.5 (0.0)  
 $olv4^*$  1.0 1.0 1.0 0.5  
 $cmyn4^*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  56.72 0.05 0.0  
 $LAB^*LABa$  56.72 0.0 0.0  
 $LAB^*TChA$  50.0 0.01 -

relative CIELAB  $lab^*$

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.5 0.0 0.0

$lab^*tce$  0.5 0.0 0.0

$lab^*ncE$  0.5 0.0 -

relative Inform. Technology (IT)  
 $olvi3^*$  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 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.09 0.02  
 $LAB^*LABa$  18.02 0.0 0.0  
 $LAB^*TChA$  0.01 0.01 -

relative CIELAB  $lab^*$

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*tce$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

### NRS18; adapted (a) CIELAB data

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

RMa	56.7	70.66	31.47	77.35	24
JMa	56.7	-1.39	77.37	77.39	91
GMa	56.7	-75.46	17.4	77.45	167
G50BMa	56.7	-71.29	-30.25	77.45	203
BMa	56.7	4.0	-77.3	77.41	273
B50RMa	56.7	63.35	-44.4	77.36	325
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	272

%Gamut

$u^*_{rel} = 100$

%Regularity

$g^*_{H,rel} = 47$

$g^*_{C,rel} = 100$

relative Inform. Technology (IT)

$olvi3^*$  1.0 1.0 0.5 (1.0)

$cmyn3^*$  0.0 0.0 0.5 (0.0)

$olv4^*$  1.0 1.0 1.0 1.0

$cmyn4^*$  0.0 0.0 0.5 0.0

standard and adapted CIELAB

$LAB^*LAB$  76.05 -0.66 38.68

$LAB^*LABa$  76.05 -0.69 38.68

$LAB^*TChA$  75.0 38.69 91.04

relative CIELAB  $lab^*$

$lab^*lab$  0.75 -0.008 0.5

$lab^*tch$  0.75 0.5 0.253

$lab^*nch$  0.0 0.5 0.253

relative Natural Colour (NC)

$lab^*lrij$  0.75 0.015 0.5

$lab^*tce$  0.75 0.2 0.245

$lab^*ncE$  0.0 0.5 r98j

relative Inform. Technology (IT)

$olvi3^*$  0.5 0.5 0.5 (1.0)

$cmyn3^*$  0.5 0.5 0.5 (0.0)

$olv4^*$  1.0 1.0 1.0 0.5

$cmyn4^*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  56.7 -1.34 77.37

$LAB^*LABa$  56.7 -1.39 77.36

$LAB^*TChA$  50.0 77.37 91.04

relative CIELAB  $lab^*$

$lab^*lab$  0.5 -0.017 1.0

$lab^*tch$  0.5 1.0 0.253

$lab^*nch$  0.0 1.0 0.253

relative Natural Colour (NC)

$lab^*lrij$  0.5 0.03 0.999

$lab^*tce$  0.5 1.0 0.245

$lab^*ncE$  0.0 1.0 r98j

relative Inform. Technology (IT)

$olvi3^*$  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 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.09 0.02

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB  $lab^*$

$lab^*lab$  0.25 -0.008 0.5

$lab^*tch$  0.25 0.5 0.253

$lab^*nch$  0.5 0.5 0.253

relative Natural Colour (NC)

$lab^*lrij$  0.25 0.015 0.5

$lab^*tce$  0.25 0.5 0.245

$lab^*ncE$  0.5 0.5 r98j

$n^* = 0,00$

blackness  $n^*$

chromaticness  $c^*$

### Output: Colorimetric Reflective System NCS18

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

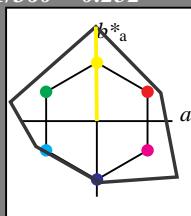
$lab^*tch$  and  $lab^*nch$

D65: hue J

LCH\*Ma: 91 125 91

olv\*Ma: 1.0 1.0 0.0

triangle lightness  $t^*$



%Gamut

$u^*_{rel} = 136$

%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)  
 $olv4^*$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)

$olvi3^*$  1.0 1.0 0.5 (1.0)

$cmyn3^*$  0.0 0.0 0.5 (0.0)

$olv4^*$  1.0 1.0 0.5 1.0

$cmyn4^*$  0.0 0.0 0.5 0.0

standard and adapted CIELAB

$LAB^*LAB$  93.58 -0.62 62.5

$LAB^*LABa$  93.58 -0.63 62.5

$LAB^*TChA$  75.0 62.5 90.59

relative CIELAB  $lab^*$

$lab^*lab$  0.974 -0.004 0.5

$lab^*tch$  0.75 0.5 0.252

$lab^*nch$  0.0 0.5 0.252

relative Natural Colour (NC)

$lab^*lrij$  0.974 0.021 0.499

$lab^*tce$  0.75 0.5 0.243

$lab^*ncE$  0.0 0.5 r97j

relative Inform. Technology (IT)

$olvi3^*$  0.5 0.5 0.0 (1.0)

$cmyn3^*$  1.0 1.0 1.0 (0.0)

$olv4^*$  1.0 1.0 0.5 0.5

$cmyn4^*$  0.0 0.0 0.5 0.5

standard and adapted CIELAB

$LAB^*LAB$  56.72 0.05 0.0

$LAB^*LABa$  56.72 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB  $lab^*$

$lab^*lab$  0.25 -0.008 0.5

$lab^*tch$  0.25 0.5 0.252

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.25 0.015 0.5

$lab^*tce$  0.25 0.5 0.245

$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

blackness  $n^*$

chromaticness  $c^*$

$n^* = 0,00$

blackness  $n^*$

chromaticness  $c^*$

UE100-7, 3 step scales for constant CIELAB hue 91/360 = 0.253 (left)

3 step scales for constant CIELAB hue 91/360 = 0.252 (right)

## Input: Colorimetric Reflective System NRS18

for hue  $h^* = lab^*h = 91/360 = 0.253$

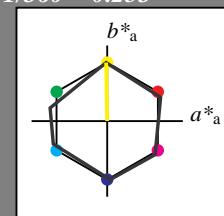
$lab^*tch$  and  $lab^*nch$

D65: hue J

LCH\*Ma: 57 77 91

olv\*Ma: 1.0 1.0 0.0

triangle lightness  $t^*$



%Gamut

$u^*_{rel} = 100$

%Regularity

$g^*_{H,rel} = 47$

$g^*_{C,rel} = 100$

relative Inform. Technology (IT)

$olv^3*$  1.0 1.0 1.0 (1.0)

$cmy^3*$  0.0 0.0 0.0 (0.0)

$olv^4*$  1.0 1.0 1.0 1.0

$cmy^4*$  0.0 0.0 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  95.41 0.0 0.0

$LAB^*LABa$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  1.0 0.0 0.0

$lab^*ice$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  76.05 -0.66 38.68

$LAB^*LABa$  76.05 -0.69 38.68

$LAB^*TChA$  75.0 38.69 91.04

relative CIELAB lab\*

$lab^*lab$  0.75 -0.008 0.5

$lab^*tch$  0.75 0.5 0.253

$lab^*nch$  0.0 0.5 0.253

relative Natural Colour (NC)

$lab^*lrj$  0.75 0.015 0.5

$lab^*ice$  0.75 0.5 0.245

$lab^*ncE$  0.0 0.5 r98j

relative Inform. Technology (IT)

$olv^3*$  0.5 0.5 0.5 (1.0)

$cmy^3*$  0.5 0.5 0.5 (0.0)

$olv^4*$  1.0 1.0 1.0 0.5

$cmy^4*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  56.72 0.05 0.0

$LAB^*LABa$  56.72 0.0 0.0

$LAB^*TChA$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  0.5 0.0 0.0

$lab^*ice$  0.5 0.0 0.0

$lab^*ncE$  0.5 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.09 0.02

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  0.0 0.0 0.0

$lab^*ice$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

NRS18; adapted (a) CIELAB data					
	$L^*=L^*_a$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	56.7	70.66	31.47	77.35	24
JMa	56.7	-1.39	77.37	77.39	91
GMa	56.7	-75.46	17.4	77.45	167
G50BMa	56.7	-71.29	-30.25	77.45	203
BMa	56.7	4.0	-77.3	77.41	273
B50RMa	56.7	63.35	-44.4	77.36	325
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	272

## Output: Colorimetric Reflective System NRS11

for hue  $h^* = lab^*h = 91/360 = 0.253$

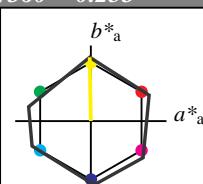
$lab^*tch$  and  $lab^*nch$

D65: hue J

LCH\*Ma: 53 84 91

olv\*Ma: 1.0 1.0 0.0

triangle lightness  $t^*$



%Gamut

$u^*_{rel} = 119$

%Regularity

$g^*_{H,rel} = 47$

$g^*_{C,rel} = 100$

relative Inform. Technology (IT)

$olv^3*$  1.0 1.0 1.0 (1.0)

$cmy^3*$  0.0 0.0 0.0 (0.0)

$olv^4*$  1.0 1.0 1.0 1.0

$cmy^4*$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  1.0 0.0 0.0

$lab^*ice$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)

$olv^3*$  0.5 0.5 0.5 (1.0)

$cmy^3*$  0.5 0.5 0.5 (0.0)

$olv^4*$  1.0 1.0 1.0 0.5

$cmy^4*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  74.3 -0.72 42.18

$LAB^*LABa$  74.3 -0.75 42.18

$LAB^*TChA$  75.0 42.19 91.03

relative CIELAB lab\*

$lab^*lab$  0.75 -0.008 0.5

$lab^*tch$  0.75 0.5 0.253

$lab^*nch$  0.0 0.5 0.253

relative Natural Colour (NC)

$lab^*lrj$  0.75 0.015 0.5

$lab^*ice$  0.75 0.5 0.245

$lab^*ncE$  0.0 0.5 r98j

relative Inform. Technology (IT)

$olv^3*$  0.0 0.0 0.0 (1.0)

$cmy^3*$  1.0 1.0 1.0 (0.0)

$olv^4*$  1.0 1.0 1.0 0.0

$cmy^4*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  53.21 0.04 0.0

$LAB^*LABa$  53.21 0.0 0.0

$LAB^*TChA$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 -0.017 1.0

$lab^*tch$  0.5 0.5 0.253

$lab^*nch$  0.0 1.0 0.253

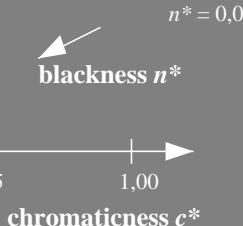
relative Natural Colour (NC)

$lab^*lrj$  0.5 0.031 0.999

$lab^*ice$  0.5 1.0 0.245

$lab^*ncE$  0.0 1.0 r98j

$n^* = 1,0$



$n^* = 0,00$

$n^* = 0,50$

$n^* = 1,00$

blackness  $n^*$

chromaticness  $c^*$

NRS11; adapted (a) CIELAB data					
	$L^*=L^*_a$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	53.2	77.06	34.32	84.36	24
JMa	53.2	-1.51	84.38	84.39	91
GMa	53.2	-82.27	18.98	84.44	167
G50BMa	53.2	-77.72	-32.98	84.44	203
BMa	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	-2.91	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

$n^* = 0,00$

$n^* = 1,00$

$n^* = 0,00$

blackness  $n^*$

chromaticness  $c^*$

$n^* = 0,00$

$n^* = 1,00$

$n^* = 0,00$

blackness  $n^*$

chromaticness  $c^*$

$n^* = 0,00$

$n^* = 0,00$

$n^* = 1,00$

$n^* = 0,00$

blackness  $n^*$

chromaticness  $c^*$

$n^* = 0,00$

UE100-7, 3 step scales for constant CIELAB hue 91/360 = 0.253 (left)

3 step scales for constant CIELAB hue 91/360 = 0.253 (right)

## Input: Colorimetric Reflective System NRS18

for hue  $h^* = lab^*h = 91/360 = 0.253$

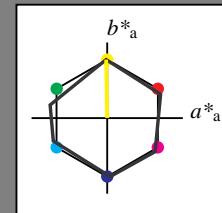
$lab^*tch$  and  $lab^*nch$

D65: hue J

LCH\*Ma: 57 77 91

olv\*Ma: 1.0 1.0 0.0

triangle lightness  $t^*$



## NRS18; adapted (a) CIELAB data

	$L^*=L_a^*$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	56.7	70.66	31.47	77.35	24
JMa	56.7	-1.39	77.37	77.39	91
GMa	56.7	-75.46	17.4	77.45	167
G50BMa	56.7	-71.29	-30.25	77.45	203
BMa	56.7	4.0	-77.3	77.41	273
B50RMa	56.7	63.35	-44.4	77.36	325
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	272

relative Inform. Technology (IT)  
 $olv_i3^*$  1.0 1.0 1.0 (1.0)  
 $cmy_n3^*$  0.0 0.0 0.0 (0.0)  
 $olv_i4^*$  1.0 1.0 1.0 1.0  
 $cmy_n4^*$  0.0 0.0 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  95.41 0.0 0.0  
 $LAB^*LABa$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0  
 $lab^*ice$  1.0 0.0 0.0  
 $lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)  
 $olv_i3^*$  0.5 0.5 0.5 (1.0)  
 $cmy_n3^*$  0.5 0.5 0.5 (0.0)  
 $olv_i4^*$  1.0 1.0 1.0 0.5  
 $cmy_n4^*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  56.72 0.05 0.0  
 $LAB^*LABa$  56.72 0.0 0.0  
 $LAB^*TChA$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0  
 $lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.5 0.0 0.0  
 $lab^*ice$  0.5 0.0 0.0  
 $lab^*ncE$  0.5 0.0 -

relative Inform. Technology (IT)  
 $olv_i3^*$  0.0 0.0 0.0 (1.0)  
 $cmy_n3^*$  1.0 1.0 1.0 (0.0)  
 $olv_i4^*$  1.0 1.0 1.0 0.0  
 $cmy_n4^*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.09 0.02  
 $LAB^*LABa$  18.02 0.0 0.0  
 $LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0  
 $lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0  
 $lab^*ice$  0.0 0.0 -  
 $lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

%Gamut  
 $u^*_{rel} = 100$   
%Regularity  
 $g^*_{H,rel} = 47$   
 $g^*_{C,rel} = 100$

relative Inform. Technology (IT)  
 $olv_i3^*$  1.0 1.0 0.5 (1.0)  
 $cmy_n3^*$  0.0 0.0 0.5 (0.0)  
 $olv_i4^*$  1.0 1.0 0.5 1.0  
 $cmy_n4^*$  0.0 0.0 0.5 0.0

standard and adapted CIELAB

$LAB^*LAB$  76.05 -0.66 38.68  
 $LAB^*LABa$  76.05 -0.69 38.68  
 $LAB^*TChA$  75.0 38.69 91.04

relative CIELAB lab\*

$lab^*lab$  0.75 -0.008 0.5  
 $lab^*tch$  0.75 0.5 0.253  
 $lab^*nch$  0.0 0.5 0.253

relative Natural Colour (NC)

$lab^*lrij$  0.75 0.015 0.5  
 $lab^*ice$  0.75 0.2 0.245  
 $lab^*ncE$  0.0 0.5 r98j

relative Inform. Technology (IT)  
 $olv_i3^*$  1.0 1.0 0.0 (1.0)  
 $cmy_n3^*$  0.5 0.5 0.5 (0.0)  
 $olv_i4^*$  1.0 1.0 1.0 0.5  
 $cmy_n4^*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  56.7 -1.34 77.37  
 $LAB^*LABa$  56.7 -1.39 77.36  
 $LAB^*TChA$  50.0 77.37 91.04

relative CIELAB lab\*

$lab^*lab$  0.5 -0.017 1.0  
 $lab^*tch$  0.5 0.0 0.253  
 $lab^*nch$  0.0 1.0 0.253

relative Natural Colour (NC)

$lab^*lrij$  0.5 0.03 0.999  
 $lab^*ice$  0.5 1.0 0.245  
 $lab^*ncE$  0.0 1.0 r98j

relative Inform. Technology (IT)  
 $olv_i3^*$  0.0 0.0 0.0 (1.0)  
 $cmy_n3^*$  1.0 1.0 1.0 (0.0)  
 $olv_i4^*$  1.0 1.0 1.0 0.0  
 $cmy_n4^*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  11.01 0.07 0.01  
 $LAB^*LABa$  11.01 0.0 0.0  
 $LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0  
 $lab^*tch$  0.0 0.0 -  
 $lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0  
 $lab^*ice$  0.0 0.0 -  
 $lab^*ncE$  1.0 0.0 -

$n^* = 0,00$   
blackness  $n^*$   
chromaticness  $c^*$

## Output: Colorimetric Reflective System NCS11

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

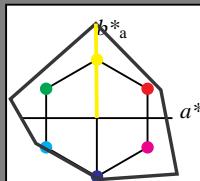
$lab^*tch$  and  $lab^*nch$

D65: hue J

LCH\*Ma: 91 125 91

olv\*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

relative Inform. Technology (IT)  
 $olv_i3^*$  1.0 1.0 1.0 (1.0)  
 $cmy_n3^*$  0.0 0.0 0.0 (0.0)  
 $olv_i4^*$  1.0 1.0 1.0 1.0  
 $cmy_n4^*$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0  
 $lab^*ice$  1.0 0.0 0.0  
 $lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)  
 $olv_i3^*$  0.5 0.5 0.5 (1.0)  
 $cmy_n3^*$  0.5 0.5 0.5 (0.0)  
 $olv_i4^*$  1.0 1.0 1.0 0.5  
 $cmy_n4^*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  93.58 -0.62 62.5  
 $LAB^*LABa$  93.58 -0.63 62.5  
 $LAB^*TChA$  75.0 62.5 90.59

relative CIELAB lab\*

$lab^*lab$  0.976 -0.004 0.5  
 $lab^*tch$  0.75 0.5 0.252  
 $lab^*nch$  0.0 0.5 0.252

relative Natural Colour (NC)

$lab^*lrij$  0.976 0.02 0.499  
 $lab^*ice$  0.75 0.5 0.243  
 $lab^*ncE$  0.0 0.5 r97j

relative Inform. Technology (IT)  
 $olv_i3^*$  0.5 0.5 0.5 (1.0)  
 $cmy_n3^*$  0.5 0.5 1.0 (0.0)  
 $olv_i4^*$  1.0 1.0 0.5 0.5  
 $cmy_n4^*$  0.0 0.0 0.5 0.5

standard and adapted CIELAB

$LAB^*LAB$  51.18 -0.59 62.51  
 $LAB^*LABa$  51.18 -0.63 62.5  
 $LAB^*TChA$  25.01 62.5 90.59

relative CIELAB lab\*

$lab^*lab$  0.476 -0.004 0.5  
 $lab^*tch$  0.25 0.5 0.252  
 $lab^*nch$  0.5 0.5 0.252

relative Natural Colour (NC)

$lab^*lrij$  0.476 0.02 0.499  
 $lab^*ice$  0.25 0.5 0.243  
 $lab^*ncE$  0.5 0.5 r97j

$n^* = 1,0$   
blackness  $n^*$   
chromaticness  $c^*$

3 step scales for constant CIELAB hue 91/360 = 0.252 (right)

$n^* = 0,00$   
blackness  $n^*$   
chromaticness  $c^*$

UE100-7, 3 step scales for constant CIELAB hue 91/360 = 0.253 (left)

## Input: Colorimetric Reflective System NCS18

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

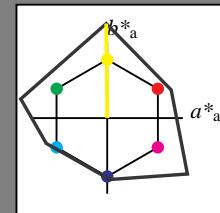
$lab^*tch$  and  $lab^*nch$

D65: hue J

LCH\*Ma: 91 125 91

olv\*Ma: 1.0 1.0 0.0

triangle lightness  $t^*$



## NCS18; adapted (a) CIELAB data

	$L^* = L^*_{ab}$	$a^*_{ab}$	$b^*_{ab}$	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	47.15	84.63	37.24	92.46	24
JMa	91.37	-1.27	125.03	125.03	91
GMa	63.07	-114.29	25.34	117.07	167
G50BMa	59.47	-80.61	-33.45	87.29	203
BMa	49.01	3.63	-81.2	81.29	273
B50RMa	44.06	106.07	-73.94	129.31	325
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	272

relative Inform. Technology (IT)

$olv^3*$  1.0 1.0 1.0 (1.0)

$cmy^3*$  0.0 0.0 0.0 (0.0)

$olv^4*$  1.0 1.0 1.0 1.0

$cmy^4*$  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

$LAB^*TCh$  99.99 0.01 -

relative CIELAB lab\*

$lab^*lab$  1.0 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  93.38 -0.62 62.5

$LAB^*LABa$  93.38 -0.63 62.5

$LAB^*TCh$  75.0 62.5 90.59

relative CIELAB lab\*

$lab^*lab$  0.974 -0.004 0.5

$lab^*tch$  0.75 0.5 0.252

$lab^*nch$  0.0 0.5 0.252

relative Natural Colour (NC)

$lab^*lrij$  0.974 0.021 0.499

$lab^*tce$  0.75 0.2 0.243

$lab^*ncE$  0.0 0.5 r97j

relative Inform. Technology (IT)

$olv^3*$  0.5 0.5 0.5 (1.0)

$cmy^3*$  0.5 0.5 0.5 (0.0)

$olv^4*$  1.0 1.0 1.0 0.5

$cmy^4*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  56.72 0.05 0.0

$LAB^*LABa$  56.72 0.0 0.0

$LAB^*TCh$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.5 0.0 0.0

$lab^*tce$  0.5 0.0 0.0

$lab^*ncE$  0.5 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  54.69 -0.58 62.52

$LAB^*LABa$  54.69 -0.63 62.5

$LAB^*TCh$  25.01 62.5 90.59

relative CIELAB lab\*

$lab^*lab$  0.474 -0.004 0.5

$lab^*tch$  0.25 0.5 0.252

$lab^*nch$  0.5 0.5 0.252

relative Natural Colour (NC)

$lab^*lrij$  0.474 0.021 0.499

$lab^*tce$  0.25 0.5 0.243

$lab^*ncE$  0.5 0.5 r97j

$n^* = 1,0$

$n^* = 0,00$

$n^* = 0,50$

$n^* = 1,00$

$chromaticness c^*$

## Output: Colorimetric Reflective System ORS18

for hue  $h^* = lab^*h = 96/360 = 0.268$

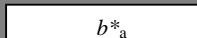
$lab^*tch$  and  $lab^*nch$

D65: hue Y

LCH\*Ma: 90 92 96

olv\*Ma: 1.0 1.0 0.0

triangle lightness  $t^*$



## ORS18; adapted (a) CIELAB data

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

%Gamut

$u^*_{rel} = 136$

%Regularity

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

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

relative Inform. Technology (IT)

$olv^3*$  1.0 1.0 1.0 (1.0)

$cmy^3*$  0.0 0.0 0.0 (0.0)

$olv^4*$  1.0 1.0 1.0 1.0

$cmy^4*$  0.0 0.0 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  95.41 -0.97 4.75

$LAB^*LABa$  95.41 0.0 0.0

$LAB^*TCh$  99.99 0.01 -

relative CIELAB lab\*

$lab^*lab$  1.0 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  92.88 -6.06 50.46

$LAB^*LABa$  92.88 -5.13 45.87

$LAB^*TCh$  75.0 46.16 96.39

relative CIELAB lab\*

$lab^*lab$  0.967 -0.055 0.497

$lab^*tch$  0.75 0.5 0.268

$lab^*nch$  0.0 0.5 0.268

relative Natural Colour (NC)

$lab^*lrij$  0.967 -0.048 0.497

$lab^*tce$  0.75 0.5 0.266

$lab^*ncE$  0.0 0.5 j06g

relative Inform. Technology (IT)

$olv^3*$  1.0 1.0 0.0 (1.0)

$cmy^3*$  0.0 0.0 0.5 (0.0)

$olv^4*$  1.0 1.0 0.5 1.0

$cmy^4*$  0.0 0.0 0.5 0.0

standard and adapted CIELAB

$LAB^*LAB$  90.37 -11.15 96.17

$LAB^*LABa$  90.37 -10.26 91.75

$LAB^*TCh$  50.0 92.32 96.39

relative CIELAB lab\*

$lab^*lab$  0.935 -0.11 0.994

$lab^*tch$  0.5 1.0 0.268

$lab^*nch$  0.0 1.0 0.268

relative Natural Colour (NC)

$lab^*lrij$  0.935 -0.097 0.995

$lab^*tce$  0.5 1.0 0.266

$lab^*ncE$  0.0 1.0 j06g

$n^* = 1,0$

$n^* = 0,50$

$n^* = 1,00$

$chromaticness c^*$

UE100-7, 3 step scales for constant CIELAB hue 91/360 = 0.252 (left)

3 step scales for constant CIELAB hue 96/360 = 0.268 (right)

## Input: Colorimetric Reflective System NCS18

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

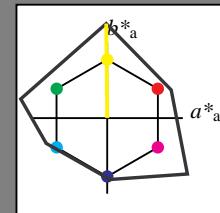
$lab^*tch$  and  $lab^*nch$

D65: hue J

LCH\*Ma: 91 125 91

olv\*Ma: 1.0 1.0 0.0

triangle lightness  $t^*$



%Gamut

$u^*_{rel} = 136$

%Regularity

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

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

relative Inform. Technology (IT)

$olv^3*$  1.0 1.0 1.0 (1.0)

$cmy^3*$  0.0 0.0 0.0 (0.0)

$olv^4*$  1.0 1.0 1.0 1.0

$cmy^4*$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)

$olv^3*$  0.5 0.5 0.5 (1.0)

$cmy^3*$  0.5 0.5 0.5 (0.0)

$olv^4*$  1.0 1.0 1.0 0.5

$cmy^4*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  56.72 0.05 0.0

$LAB^*LABa$  56.72 0.0 0.0

$LAB^*TChA$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.5 0.0 0.0

$lab^*tce$  0.5 0.0 0.0

$lab^*ncE$  0.5 0.0 -

relative Inform. Technology (IT)

$olv^3*$  0.0 0.0 0.0 (1.0)

$cmy^3*$  1.0 1.0 1.0 (0.0)

$olv^4*$  1.0 1.0 1.0 0.0

$cmy^4*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.09 0.02

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*tce$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

## NCS18; adapted (a) CIELAB data

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

RMa	47.15	84.63	37.24	92.46	24
JMa	91.37	-1.27	125.03	125.03	91
GMa	63.07	-114.29	25.34	117.07	167
G50BMa	59.47	-80.61	-33.45	87.29	203
BMa	49.01	3.63	-81.2	81.29	273
B50RMa	44.06	106.07	-73.94	129.31	325
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	272

## Output: Colorimetric Reflective System MRS18

for hue  $h^* = lab^*h = 94/360 = 0.261$

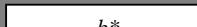
$lab^*tch$  and  $lab^*nch$

D65: hue J

LCH\*Ma: 91 89 94

olv\*Ma: 1.0 1.0 0.0

triangle lightness  $t^*$



%Gamut

$u^*_{rel} = 91$

%Regularity

$g^*_{H,rel} = 41$

$g^*_{C,rel} = 52$

relative Inform. Technology (IT)

$olv^3*$  1.0 1.0 1.0 (1.0)

$cmy^3*$  0.0 0.0 0.0 (0.0)

$olv^4*$  1.0 1.0 1.0 1.0

$cmy^4*$  0.0 0.0 0.0 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 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)

$olv^3*$  0.5 0.5 0.5 (1.0)

$cmy^3*$  0.5 0.5 0.5 (0.0)

$olv^4*$  1.0 1.0 1.0 0.5

$cmy^4*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  93.38 -0.62 62.5

$LAB^*LABa$  93.38 -0.63 62.5

$LAB^*TChA$  75.0 62.5 90.59

relative CIELAB lab\*

$lab^*lab$  0.974 -0.004 0.5

$lab^*tch$  0.75 0.5 0.252

$lab^*nch$  0.0 0.5 0.252

relative Natural Colour (NC)

$lab^*lrij$  0.974 0.021 0.499

$lab^*tce$  0.75 0.2 0.243

$lab^*ncE$  0.0 1.0 r97j

$n^* = 0,00$

blackness  $n^*$

chromaticness  $c^*$

$n^* = 1,0$

## MRS18; adapted (a) CIELAB data

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

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)	$olv^3*$ 1.0 1.0 0.5 (1.0)
$cmy^3*$	0.0 0.0 0.5 (0.0)
$olv^4*$	1.0 1.0 0.5 1.0
$cmy^4*$	0.0 0.0 0.0 0.0
standard and adapted CIELAB	
$LAB^*LAB$	93.38 -4.11 48.97
$LAB^*LABa$	93.05 -3.17 44.37
$LAB^*TChA$	75.0 44.48 94.1
relative CIELAB lab*	
$lab^*lab$	0.969 -0.035 0.499
$lab^*tch$	0.75 0.5 0.261
$lab^*nch$	0.0 0.5 0.261
relative Natural Colour (NC)	
$lab^*lrij$	0.969 -0.023 0.499
$lab^*tce$	0.75 0.5 0.258
$lab^*ncE$	0.0 0.5 0.258

relative Inform. Technology (IT)	$olv^3*$ 0.5 0.5 0.0 (1.0)
$cmy^3*$	0.5 0.5 0.1 (0.0)
$olv^4*$	1.0 1.0 0.5 0.5
$cmy^4*$	0.0 0.0 0.5 0.5
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 CIELAB lab*	
$lab^*lab$	0.948 -0.009 1.0
$lab^*tch$	0.5 0.252
$lab^*nch$	0.0 0.252
relative Natural Colour (NC)	
$lab^*lrij$	0.948 0.041 0.999
$lab^*tce$	0.5 0.243
$lab^*ncE$	0.0 1.0 -

relative Inform. Technology (IT)	$olv^3*$ 0.47 -0.035 0.499
$cmy^3*$	0.25 0.5 0.261
$olv^4*$	0.5 0.5 0.261
$cmy^4*$	0.47 -0.023 0.499
standard and adapted CIELAB	
$LAB^*LAB$	54.35 -3.37 46.36
$LAB^*LABa$	54.35 -3.17 44.37
$LAB^*TChA$	25.01 44.48 94.1
relative CIELAB lab*	
$lab^*lab$	0.47 -0.035 0.499
$lab^*tch$	0.25 0.5 0.261
$lab^*nch$	0.5 0.5 0.261
relative Natural Colour (NC)	
$lab^*lrij$	0.47 -0.023 0.499
$lab^*tce$	0.25 0.5 0.258
$lab^*ncE$	0.5 0.5 0.258

$n^* = 0,00$

blackness  $n^*$

chromaticness  $c^*$

$n^* = 1,0$

UE100-7, 3 step scales for constant CIELAB hue 91/360 = 0.252 (left)

3 step scales for constant CIELAB hue 94/360 = 0.261 (right)

## Input: Colorimetric Reflective System NCS18

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

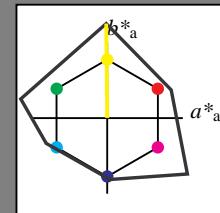
$lab^*tch$  and  $lab^*nch$

D65: hue J

LCH\*Ma: 91 125 91

olv\*Ma: 1.0 1.0 0.0

triangle lightness  $t^*$



## NCS18; adapted (a) CIELAB data

	$L^* = L^*_{ab}$	$a^*_{ab}$	$b^*_{ab}$	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	47.15	84.63	37.24	92.46	24
JMa	91.37	-1.27	125.03	125.03	91
GMa	63.07	-114.29	25.34	117.07	167
G50BMa	59.47	-80.61	-33.45	87.29	203
BMa	49.01	3.63	-81.2	81.29	273
B50RMa	44.06	106.07	-73.94	129.31	325
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	272

relative Inform. Technology (IT)

$olv^3*$  1.0 1.0 1.0 (1.0)

$cmy^3*$  0.0 0.0 0.0 (0.0)

$olv^4*$  1.0 1.0 1.0 1.0

$cmy^4*$  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

$LAB^*TCh$  99.99 0.01 -

relative CIELAB lab\*

$lab^*lab$  1.0 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  93.38 -0.62 62.5

$LAB^*LABa$  93.38 -0.63 62.5

$LAB^*TCh$  75.0 62.5 90.59

relative CIELAB lab\*

$lab^*lab$  0.974 -0.004 0.5

$lab^*tch$  0.75 0.5 0.252

$lab^*nch$  0.0 0.5 0.252

relative Natural Colour (NC)

$lab^*lrij$  0.974 0.021 0.499

$lab^*tce$  0.75 0.2 0.243

$lab^*ncE$  0.0 0.5 r97j

relative Inform. Technology (IT)

$olv^3*$  0.5 0.5 0.5 (1.0)

$cmy^3*$  0.5 0.5 0.5 (0.0)

$olv^4*$  1.0 1.0 1.0 0.5

$cmy^4*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  56.72 0.05 0.0

$LAB^*LABa$  56.72 0.0 0.0

$LAB^*TCh$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.5 0.0 0.0

$lab^*tce$  0.5 0.0 0.0

$lab^*ncE$  0.5 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.09 0.02

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TCh$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*tce$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

%Gamut

$u^*_{rel} = 136$

%Regularity

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

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

relative Inform. Technology (IT)

$olv^3*$  1.0 1.0 0.5 (1.0)

$cmy^3*$  0.0 0.0 0.5 (0.0)

$olv^4*$  1.0 1.0 0.5 1.0

$cmy^4*$  0.0 0.0 0.5 0.0

standard and adapted CIELAB

$LAB^*LAB$  93.38 -0.62 62.5

$LAB^*LABa$  93.38 -0.63 62.5

$LAB^*TCh$  75.0 62.5 90.59

relative CIELAB lab\*

$lab^*lab$  0.974 -0.004 0.5

$lab^*tch$  0.75 0.5 0.252

$lab^*nch$  0.0 0.5 0.252

relative Natural Colour (NC)

$lab^*lrij$  0.974 0.021 0.499

$lab^*tce$  0.75 0.2 0.243

$lab^*ncE$  0.0 0.5 r97j

relative Inform. Technology (IT)

$olv^3*$  0.5 0.5 0.5 (1.0)

$cmy^3*$  0.5 0.5 0.5 (0.0)

$olv^4*$  1.0 1.0 1.0 0.5

$cmy^4*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  54.69 -0.58 62.52

$LAB^*LABa$  54.69 -0.63 62.5

$LAB^*TCh$  25.01 62.5 90.59

relative CIELAB lab\*

$lab^*lab$  0.474 -0.004 0.5

$lab^*tch$  0.25 0.5 0.252

$lab^*nch$  0.5 0.5 0.252

relative Natural Colour (NC)

$lab^*lrij$  0.474 0.021 0.499

$lab^*tce$  0.25 0.5 0.243

$lab^*ncE$  0.5 0.5 r97j

$n^* = 0,00$

blackness  $n^*$

$n^* = 0,50$

$n^* = 1,00$

chromaticness  $c^*$

## Output: Colorimetric Reflective System TRS18

for hue  $h^* = lab^*h = 96/360 = 0.268$

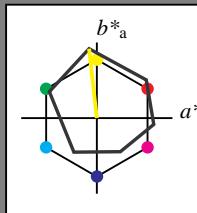
$lab^*tch$  and  $lab^*nch$

D65: hue Y

LCH\*Ma: 90 92 96

olv\*Ma: 1.0 1.0 0.0

triangle lightness  $t^*$



## TRS18; adapted (a) CIELAB data

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

$olv^3*$  1.0 1.0 1.0 (1.0)

$cmy^3*$  0.0 0.0 0.0 (0.0)

$olv^4*$  1.0 1.0 1.0 1.0

$cmy^4*$  0.0 0.0 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  95.41 -0.97 4.75

$LAB^*LABa$  95.41 0.0 0.0

$LAB^*TCh$  99.99 0.01 -

relative CIELAB lab\*

$lab^*lab$  1.0 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

relative CIELAB lab\*

$lab^*lab$  0.967 -0.055 0.497

$lab^*tch$  0.75 0.5 0.268

$lab^*nch$  0.0 0.5 0.268

relative Natural Colour (NC)

$lab^*lrij$  0.967 -0.048 0.497

$lab^*tce$  0.75 0.5 0.266

$lab^*ncE$  0.0 0.5 j06g

relative Inform. Technology (IT)

$olv^3*$  0.5 0.5 0.5 (1.0)

$cmy^3*$  0.5 0.5 0.5 (0.0)

$olv^4*$  1.0 1.0 0.5 0.5

$cmy^4*$  0.0 0.0 0.5 0.5

standard and adapted CIELAB

$LAB^*LAB$  56.71 -1.26 125.0

$LAB^*LABa$  56.71 -1.27 125.0

$LAB^*TCh$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.948 -0.009 1.0

$lab^*tch$  0.5 0.252

$lab^*nch$  0.0 0.252

relative Natural Colour (NC)

$lab^*lrij$  0.948 0.041 0.999

$lab^*tce$  0.5 0.243

$lab^*ncE$  0.0 1.0 r97j

$n^* = 1,0$

relative Inform. Technology (IT)

$olv^3*$  1.0 1.0 0.5 (1.0)

$cmy^3*$  0.0 0.0 0.5 (0.0)

$olv^4*$  1.0 1.0 0.5 1.0

$cmy^4*$  0.0 0.0 0.5 0.0

standard and adapted CIELAB

$LAB^*LAB$  92.88 -6.06 50.46

$LAB^*LABa$  92.88 -5.13 45.87

## Input: Colorimetric Reflective System NCS18

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

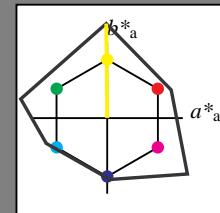
$lab^*tch$  and  $lab^*nch$

D65: hue J

LCH\*Ma: 91 125 91

olv\*Ma: 1.0 1.0 0.0

triangle lightness  $t^*$



## NCS18; adapted (a) CIELAB data

	$L^* = L^*_{ab}$	$a^*_{ab}$	$b^*_{ab}$	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	47.15	84.63	37.24	92.46	24
JMa	91.37	-1.27	125.03	125.03	91
GMa	63.07	-114.29	25.34	117.07	167
G50BMa	59.47	-80.61	-33.45	87.29	203
BMa	49.01	3.63	-81.2	81.29	273
B50RMa	44.06	106.07	-73.94	129.31	325
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	272

relative Inform. Technology (IT)

$olv^3*$  1.0 1.0 1.0 (1.0)

$cmy^3*$  0.0 0.0 0.0 (0.0)

$olv^4*$  1.0 1.0 1.0 1.0

$cmy^4*$  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

$LAB^*TCh$  99.99 0.01 -

relative CIELAB lab\*

$lab^*lab$  1.0 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  93.38 -0.62 62.5

$LAB^*LABa$  93.38 -0.63 62.5

$LAB^*TCh$  75.0 62.5 90.59

relative CIELAB lab\*

$lab^*lab$  0.974 -0.004 0.5

$lab^*tch$  0.75 0.5 0.252

$lab^*nch$  0.0 0.5 0.252

relative Natural Colour (NC)

$lab^*lrij$  0.974 0.021 0.499

$lab^*tce$  0.75 0.2 0.243

$lab^*ncE$  0.0 0.5 r97j

relative Inform. Technology (IT)

$olv^3*$  0.5 0.5 0.5 (1.0)

$cmy^3*$  0.5 0.5 0.5 (0.0)

$olv^4*$  1.0 1.0 1.0 0.5

$cmy^4*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  56.72 0.05 0.0

$LAB^*LABa$  56.72 0.0 0.0

$LAB^*TCh$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.5 0.0 0.0

$lab^*tce$  0.5 0.0 0.0

$lab^*ncE$  0.5 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  54.69 -0.58 62.52

$LAB^*LABa$  54.69 -0.63 62.5

$LAB^*TCh$  25.01 62.5 90.59

relative CIELAB lab\*

$lab^*lab$  0.474 -0.004 0.5

$lab^*tch$  0.25 0.5 0.252

$lab^*nch$  0.5 0.5 0.252

relative Natural Colour (NC)

$lab^*lrij$  0.474 0.021 0.499

$lab^*tce$  0.25 0.5 0.243

$lab^*ncE$  0.5 0.5 r97j

$n^* = 1,0$

$n^* = 0,00$

$n^* = blackness n^*$

$n^* = chromaticness c^*$

UE100-7, 3 step scales for constant CIELAB hue 91/360 = 0.252 (left)

## Output: Colorimetric Reflective System MRS18a

for hue  $h^* = lab^*h = 94/360 = 0.262$

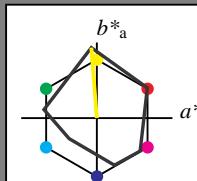
$lab^*tch$  and  $lab^*nch$

D65: hue J

LCH\*Ma: 91 93 94

olv\*Ma: 1.0 1.0 0.0

triangle lightness  $t^*$



## MRS18a; adapted (a) CIELAB data

	$L^* = L^*_{ab}$	$a^*_{ab}$	$b^*_{ab}$	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	49.63	66.8	40.02	77.87	31
JMa	90.7	-7.27	93.19	93.48	94
GMa	52.11	-69.93	11.26	70.85	171
G50BMa	45.03	-36.65	-27.13	45.61	217
BMa	36.65	23.26	-62.27	66.49	290
B50RMa	34.94	57.27	-43.6	71.99	323
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	272

relative Inform. Technology (IT)

$olv^3*$  1.0 1.0 1.0 (1.0)

$cmy^3*$  0.0 0.0 0.0 (0.0)

$olv^4*$  1.0 1.0 1.0 1.0

$cmy^4*$  0.0 0.0 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  95.41 0.01 0.0

$LAB^*LABa$  95.41 0.0 0.0

$LAB^*TCh$  99.99 0.01 -

relative CIELAB lab\*

$lab^*lab$  1.0 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  93.05 -3.61 46.59

$LAB^*LABa$  93.05 -3.63 46.59

$LAB^*TCh$  75.0 46.73 94.46

relative CIELAB lab\*

$lab^*lab$  0.969 -0.038 0.498

$lab^*tch$  0.75 0.5 0.262

$lab^*nch$  0.0 0.5 0.262

relative Natural Colour (NC)

$lab^*lrij$  0.969 -0.023 0.499

$lab^*tce$  0.75 0.5 0.258

$lab^*ncE$  0.0 0.5 j03g

standard and adapted CIELAB

$LAB^*LAB$  90.69 -7.25 93.17

$LAB^*LABa$  90.69 -7.26 93.18

$LAB^*TCh$  50.0 93.46 94.46

relative CIELAB lab\*

$lab^*lab$  0.939 -0.077 0.997

$lab^*tch$  0.5 1.0 0.262

$lab^*nch$  0.0 1.0 0.262

relative Natural Colour (NC)

$lab^*lrij$  0.939 -0.047 0.999

$lab^*tce$  0.5 1.0 0.258

$lab^*ncE$  0.0 1.0 j03g

$n^* = 0,00$

$n^* = blackness n^*$

$n^* = chromaticness c^*$

3 step scales for constant CIELAB hue 94/360 = 0.262 (right)

### Input: Colorimetric Reflective System NCS18

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

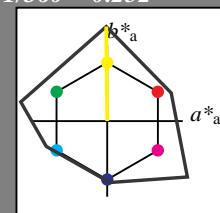
$lab^*tch$  and  $lab^*nch$

D65: hue J

LCH\*Ma: 91 125 91

olv\*Ma: 1.0 1.0 0.0

triangle lightness  $t^*$



### NCS18; adapted (a) CIELAB data

	$L^* = L_{ab,a}^*$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	47.15	84.63	37.24	92.46	24
JMa	91.37	-1.27	125.03	125.03	91
GMa	63.07	-114.29	25.34	117.07	167
G50BMa	59.47	-80.61	-33.45	87.29	203
BMa	49.01	3.63	-81.2	81.29	273
B50RMa	44.06	106.07	-73.94	129.31	325
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	272

relative Inform. Technology (IT)

$olv_i3^*$  1.0 1.0 1.0 (1.0)

$cmy_n3^*$  0.0 0.0 0.0 (0.0)

$olv_i4^*$  1.0 1.0 1.0 1.0

$cmy_n4^*$  0.0 0.0 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  95.41 0.0 -0.01

$LAB^*LAB_a$  95.41 0.0 0.0

$LAB^*TCh_a$  99.99 0.01 -

relative CIELAB lab\*

$lab^*lab$  1.0 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*ice$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  93.38 -0.62 62.5

$LAB^*LAB_a$  93.38 -0.63 62.5

$LAB^*TCh_a$  75.0 62.5 90.59

relative CIELAB lab\*

$lab^*lab$  0.974 -0.004 0.5

$lab^*tch$  0.75 0.5 0.252

$lab^*nch$  0.0 0.5 0.252

relative Natural Colour (NC)

$lab^*lrij$  0.974 0.021 0.499

$lab^*ice$  0.75 0.2 0.243

$lab^*ncE$  0.0 0.5 r97j

relative Inform. Technology (IT)

$olv_i3^*$  0.5 0.5 0.5 (1.0)

$cmy_n3^*$  0.5 0.5 0.5 (0.0)

$olv_i4^*$  1.0 1.0 1.0 0.5

$cmy_n4^*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  56.72 0.05 0.0

$LAB^*LAB_a$  56.72 0.0 0.0

$LAB^*TCh_a$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.5 0.0 0.0

$lab^*ice$  0.5 0.0 0.0

$lab^*ncE$  0.5 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  54.69 -0.58 62.52

$LAB^*LAB_a$  54.69 -0.63 62.5

$LAB^*TCh_a$  25.01 62.5 90.59

relative CIELAB lab\*

$lab^*lab$  0.474 -0.004 0.5

$lab^*tch$  0.25 0.5 0.252

$lab^*nch$  0.5 0.5 0.252

relative Natural Colour (NC)

$lab^*lrij$  0.474 0.021 0.499

$lab^*ice$  0.25 0.5 0.243

$lab^*ncE$  0.5 0.5 r97j

$n^* = 1,0$

$n^* = 0,00$

$n^* = 0,50$

$1,00$

$chromaticness c^*$

UE100-7, 3 step scales for constant CIELAB hue 91/360 = 0.252 (left)

### Output: Colorimetric Reflective System NRS18

for hue  $h^* = lab^*h = 91/360 = 0.253$

$lab^*tch$  and  $lab^*nch$

D65: hue J

LCH\*Ma: 57 77 91

olv\*Ma: 1.0 1.0 0.0

triangle lightness  $t^*$



### NRS18; adapted (a) CIELAB data

	$L^* = L_{ab,a}^*$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	56.7	70.66	31.47	77.35	24
JMa	56.7	-1.39	77.37	77.39	91
GMa	56.7	-75.46	17.4	77.45	167
G50BMa	56.7	-71.29	-30.25	77.45	203
BMa	56.7	4.0	-77.3	77.41	273
B50RMa	56.7	63.35	-44.4	77.36	325
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	272

relative Inform. Technology (IT)

$olv_i3^*$  1.0 1.0 1.0 (1.0)

$cmy_n3^*$  0.0 0.0 0.0 (0.0)

$olv_i4^*$  1.0 1.0 1.0 1.0

$cmy_n4^*$  0.0 0.0 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  95.41 0.0 0.0

$LAB^*LAB_a$  95.41 0.0 0.0

$LAB^*TCh_a$  99.99 0.01 -

relative CIELAB lab\*

$lab^*lab$  1.0 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*ice$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)

$olv_i3^*$  0.5 0.5 0.5 (1.0)

$cmy_n3^*$  0.5 0.5 0.5 (0.0)

$olv_i4^*$  1.0 1.0 1.0 0.5

$cmy_n4^*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  76.05 -0.66 38.68

$LAB^*LAB_a$  76.05 -0.69 38.68

$LAB^*TCh_a$  75.0 38.69 91.04

relative CIELAB lab\*

$lab^*lab$  0.75 -0.008 0.5

$lab^*tch$  0.75 0.5 0.253

$lab^*nch$  0.0 0.5 0.253

relative Natural Colour (NC)

$lab^*lrij$  0.75 0.015 0.245

$lab^*ice$  0.75 0.5 0.245

$lab^*ncE$  0.0 0.5 r98j

relative Inform. Technology (IT)

$olv_i3^*$  1.0 1.0 1.0 (1.0)

$cmy_n3^*$  0.0 0.0 0.0 (0.0)

$olv_i4^*$  1.0 1.0 1.0 1.0

$cmy_n4^*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  56.7 -1.34 77.37

$LAB^*LAB_a$  56.7 -1.39 77.36

$LAB^*TCh_a$  50.0 77.37 91.04

relative CIELAB lab\*

$lab^*lab$  0.5 -0.017 1.0

$lab^*tch$  0.5 1.0 0.253

$lab^*nch$  0.0 1.0 0.253

relative Natural Colour (NC)

$lab^*lrij$  0.5 0.03 0.999

$lab^*ice$  0.5 1.0 0.245

$lab^*ncE$  0.0 1.0 r98j

$n^* = 0,00$

$n^* = 0,50$

$1,00$

$chromaticness c^*$

3 step scales for constant CIELAB hue 91/360 = 0.253 (right)

### Input: Colorimetric Reflective System NCS18

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

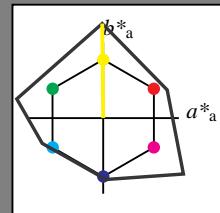
$lab^*tch$  and  $lab^*nch$

D65: hue J

LCH\*Ma: 91 125 91

olv\*Ma: 1.0 1.0 0.0

triangle lightness  $t^*$



%Gamut

$u^*_{rel} = 136$

%Regularity

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

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

relative Inform. Technology (IT)

$olv^3*$  1.0 1.0 1.0 (1.0)

$cmy^3*$  0.0 0.0 0.0 (0.0)

$olv^4*$  1.0 1.0 1.0 1.0

$cmy^4*$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)

$olv^3*$  0.5 0.5 0.5 (1.0)

$cmy^3*$  0.5 0.5 0.5 (0.0)

$olv^4*$  1.0 1.0 1.0 0.5

$cmy^4*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  56.72 0.05 0.0

$LAB^*LABa$  56.72 0.0 0.0

$LAB^*TChA$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.5 0.0 0.0

$lab^*tce$  0.5 0.0 0.0

$lab^*ncE$  0.5 0.0 -

relative Inform. Technology (IT)

$olv^3*$  0.0 0.0 0.0 (1.0)

$cmy^3*$  1.0 1.0 1.0 (0.0)

$olv^4*$  1.0 1.0 1.0 0.0

$cmy^4*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.09 0.02

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*tce$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

### NCS18; adapted (a) CIELAB data

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

RMa	47.15	84.63	37.24	92.46	24
JMa	91.37	-1.27	125.03	125.03	91
GMa	63.07	-114.29	25.34	117.07	167
G50BMa	59.47	-80.61	-33.45	87.29	203
BMa	49.01	3.63	-81.2	81.29	273
B50RMa	44.06	106.07	-73.94	129.31	325
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	272

### Output: Colorimetric Reflective System NCS18

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

$lab^*tch$  and  $lab^*nch$

D65: hue J

LCH\*Ma: 91 125 91

olv\*Ma: 1.0 1.0 0.0

triangle lightness  $t^*$

### NCS18; adapted (a) CIELAB data

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

RMa	47.15	84.63	37.24	92.46	24
JMa	91.37	-1.27	125.03	125.03	91
GMa	63.07	-114.29	25.34	117.07	167
G50BMa	59.47	-80.61	-33.45	87.29	203
BMa	49.01	3.63	-81.2	81.29	273
B50RMa	44.06	106.07	-73.94	129.31	325
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	272

relative Inform. Technology (IT)

$olv^3*$  1.0 1.0 1.0 (1.0)

$cmy^3*$  0.0 0.0 0.0 (0.0)

$olv^4*$  1.0 1.0 1.0 1.0

$cmy^4*$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)

$olv^3*$  0.5 0.5 0.5 (1.0)

$cmy^3*$  0.5 0.5 0.5 (0.0)

$olv^4*$  1.0 1.0 1.0 0.5

$cmy^4*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  56.72 0.05 0.0

$LAB^*LABa$  56.72 0.0 0.0

$LAB^*TChA$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.974 -0.004 0.5

$lab^*tch$  0.75 0.5 0.252

$lab^*nch$  0.0 1.0 0.252

relative Natural Colour (NC)

$lab^*lrij$  0.948 0.041 0.999

$lab^*tce$  0.5 1.0 0.243

$lab^*ncE$  0.0 1.0 r97j

relative Inform. Technology (IT)

$olv^3*$  0.5 0.5 0.5 (1.0)

$cmy^3*$  0.5 0.5 0.5 (0.0)

$olv^4*$  1.0 1.0 0.5 0.5

$cmy^4*$  0.0 0.0 0.5 0.5

standard and adapted CIELAB

$LAB^*LAB$  91.36 -1.26 125.0

$LAB^*LABa$  91.36 -1.27 125.0

$LAB^*TChA$  50.0 125.0 90.59

relative CIELAB lab\*

$lab^*lab$  0.948 -0.009 1.0

$lab^*tch$  0.5 1.0 0.252

$lab^*nch$  0.5 0.0 0.252

relative Natural Colour (NC)

$lab^*lrij$  0.948 0.041 0.999

$lab^*tce$  0.75 0.5 0.243

$lab^*ncE$  0.0 0.5 r97j

relative Inform. Technology (IT)

$olv^3*$  1.0 1.0 0.0 (1.0)

$cmy^3*$  0.0 0.0 1.0 (0.0)

$olv^4*$  1.0 1.0 0.0 1.0

$cmy^4*$  0.0 0.0 1.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  91.36 -1.26 125.0

$LAB^*LABa$  91.36 -1.27 125.0

$LAB^*TChA$  50.0 125.0 90.59

relative CIELAB lab\*

$lab^*lab$  0.948 -0.009 1.0

$lab^*tch$  0.5 1.0 0.252

$lab^*nch$  0.5 0.0 0.252

relative Natural Colour (NC)

$lab^*lrij$  0.948 0.041 0.999

$lab^*tce$  0.5 1.0 0.243

$lab^*ncE$  0.0 1.0 r97j

relative Inform. Technology (IT)

$olv^3*$  1.0 1.0 0.0 (1.0)

$cmy^3*$  0.0 0.0 1.0 (0.0)

$olv^4*$  1.0 1.0 0.0 1.0

$cmy^4*$  0.0 0.0 1.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  91.36 -1.26 125.0

$LAB^*LABa$  91.36 -1.27 125.0

$LAB^*TChA$  50.0 125.0 90.59

relative CIELAB lab\*

$lab^*lab$  0.948 -0.009 1.0

$lab^*tch$  0.5 1.0 0.252

$lab^*nch$  0.5 0.0 0.252

relative Natural Colour (NC)

$lab^*lrij$  0.948 0.041 0.999

$lab^*tce$  0.5 1.0 0.243

$lab^*ncE$  0.0 1.0 r97j

relative Inform. Technology (IT)

$olv^3*$  1.0 1.0 0.0 (1.0)

$cmy^3*$  0.0 0.0 1.0 (0.0)

$olv^4*$  1.0 1.0 0.0 1.0

$cmy^4*$  0.0 0.0 1.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  91.36 -1.26 125.0

$LAB^*LABa$  91.36 -1.27 125.0

$LAB^*TChA$  50.0 125.0 90.59

relative CIELAB lab\*

$lab^*lab$  0.948 -0.009 1.0

$lab^*tch$  0.5 1.0 0.252

## Input: Colorimetric Reflective System NCS18

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

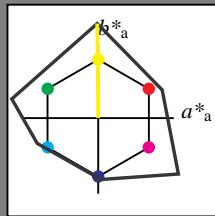
$lab^*tch$  and  $lab^*nch$

D65: hue J

LCH\*Ma: 91 125 91

olv\*Ma: 1.0 1.0 0.0

triangle lightness  $t^*$



relative Inform. Technology (IT)

olv13\* 1.0 1.0 1.0 (1.0)

cmyn3\* 0.0 0.0 0.0 (0.0)

olv14\* 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 0.0 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 -

standard and adapted CIELAB

LAB\*LAB 93.38 -0.62 62.5

LAB\*LABa 93.38 -0.63 62.5

LAB\*TChA 75.0 62.5 90.59

relative CIELAB lab\*

lab\*lab 0.974 -0.004 0.5

lab\*tch 0.75 0.5 0.252

lab\*nch 0.0 0.5 0.252

relative Natural Colour (NC)

lab\*lrj 0.974 0.021 0.499

lab\*tce 0.75 0.2 0.243

lab\*ncE 0.0 0.5 r97j

relative Inform. Technology (IT)

olv13\* 0.5 0.5 0.5 (1.0)

cmyn3\* 0.5 0.5 0.5 (0.0)

olv14\* 1.0 1.0 1.0 0.5

cmyn4\* 0.0 0.0 0.0 0.5

standard and adapted CIELAB

LAB\*LAB 56.72 0.05 0.0

LAB\*LABa 56.72 0.0 0.0

LAB\*TChA 50.0 0.01 -

relative CIELAB lab\*

lab\*lab 0.5 0.0 0.0

lab\*tch 0.5 0.0 -

lab\*nch 0.5 0.0 -

relative Natural Colour (NC)

lab\*lrj 0.5 0.0 0.0

lab\*tce 0.5 0.0 0.0

lab\*ncE 0.5 0.0 -

standard and adapted CIELAB

LAB\*LAB 18.02 0.09 0.02

LAB\*LABa 18.02 0.0 0.0

LAB\*TChA 0.01 0.01 -

relative CIELAB lab\*

lab\*lab 0.0 0.0 0.0

lab\*tch 0.0 0.0 -

lab\*nch 1.0 0.0 -

relative Natural Colour (NC)

lab\*lrj 0.0 0.0 0.0

lab\*tce 0.0 0.0 -

lab\*ncE 1.0 0.0 -

$n^* = 1,0$

## NCS18; adapted (a) CIELAB data

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

RMa	47.15	84.63	37.24	92.46	24
JMa	91.37	-1.27	125.03	125.03	91
GMa	63.07	-114.29	25.34	117.07	167
G50BMa	59.47	-80.61	-33.45	87.29	203
BMa	49.01	3.63	-81.2	81.29	273
B50RMa	44.06	106.07	-73.94	129.31	325
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	272

%Gamut

$u^*_{rel} = 136$

%Regularity

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

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

relative Inform. Technology (IT)

olv13\* 1.0 1.0 0.5 (1.0)

cmyn3\* 0.0 0.0 0.5 (0.0)

olv14\* 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 -0.63 62.5

LAB\*TChA 75.0 62.5 90.59

relative CIELAB lab\*

lab\*lab 0.974 -0.004 0.5

lab\*tch 0.75 0.5 0.252

lab\*nch 0.0 0.5 0.252

relative Natural Colour (NC)

lab\*lrj 0.974 0.021 0.499

lab\*tce 0.75 0.2 0.243

lab\*ncE 0.0 0.5 r97j

standard and adapted CIELAB

LAB\*LAB 91.36 -1.26 125.0

LAB\*LABa 91.36 -1.27 125.0

LAB\*TChA 50.0 125.01 90.59

relative CIELAB lab\*

lab\*lab 0.948 -0.009 1.0

lab\*tch 0.5 1.0 0.252

lab\*nch 0.0 1.0 0.252

relative Natural Colour (NC)

lab\*lrj 0.948 0.041 0.999

lab\*tce 0.5 1.0 0.243

lab\*ncE 0.0 1.0 r97j

standard and adapted CIELAB

LAB\*LAB 54.69 -0.58 62.52

LAB\*LABa 54.69 -0.63 62.5

LAB\*TChA 25.01 62.5 90.59

relative CIELAB lab\*

lab\*lab 0.474 -0.004 0.5

lab\*tch 0.25 0.5 0.252

lab\*nch 0.5 0.5 0.252

relative Natural Colour (NC)

lab\*lrj 0.474 0.021 0.499

lab\*tce 0.25 0.5 0.243

lab\*ncE 0.5 0.5 r97j

## Output: Colorimetric Reflective System NRS11

for hue  $h^* = lab^*h = 91/360 = 0.253$

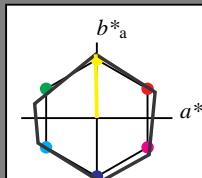
$lab^*tch$  and  $lab^*nch$

D65: hue J

LCH\*Ma: 53 84 91

olv\*Ma: 1.0 1.0 0.0

triangle lightness  $t^*$



%Gamut

$u^*_{rel} = 119$

%Regularity

$g^*_{H,rel} = 47$

$g^*_{C,rel} = 100$

relative Inform. Technology (IT)

olv13\* 1.0 1.0 0.5 (1.0)

cmyn3\* 0.0 0.0 0.5 (0.0)

olv14\* 1.0 1.0 0.5 1.0

cmyn4\* 0.0 0.0 0.5 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 0.0 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 -

standard and adapted CIELAB

LAB\*LAB 74.3 -0.72 42.18

LAB\*LABa 74.3 -0.75 42.18

LAB\*TChA 75.0 42.19 91.03

relative CIELAB lab\*

lab\*lab 0.75 -0.008 0.5

lab\*tch 0.75 0.5 0.253

lab\*nch 0.0 0.5 0.253

relative Natural Colour (NC)

lab\*lrj 0.75 0.015 0.5

lab\*tce 0.75 0.5 0.245

lab\*ncE 0.0 0.5 r98j

standard and adapted CIELAB

LAB\*LAB 32.1 -0.69 42.2

LAB\*LABa 32.1 -0.75 42.18

LAB\*TChA 25.01 42.19 91.03

relative CIELAB lab\*

lab\*lab 0.25 -0.008 0.5

lab\*tch 0.25 0.5 0.253

lab\*nch 0.5 0.5 0.253

relative Natural Colour (NC)

lab\*lrj 0.25 0.015 0.5

lab\*tce 0.25 0.5 0.245

lab\*ncE 0.5 0.5 r98j

## NRS11; adapted (a) CIELAB data

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

RMa	53.2	77.06	34.32	84.36	24
JMa	53.2	-1.51	84.38	84.39	91
GMa	53.2	-82.27	18.98	84.44	167
G50BMa	53.2	-77.72	-32.98	84.44	203
BMa	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	-2.91	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

%Gamut

$u^*_{rel} = 119$

%Regularity

$g^*_{H,rel} = 47$

$g^*_{C,rel} = 100$

relative Inform. Technology (IT)

olv13\* 1.0 1.0 0.5 (1.0)

cmyn3\* 0.0 0.0 0.5 (0.0)

olv14\* 1.0 1.0 0.5 1.0

cmyn4\* 0.0 0.0 0.5 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 0.0 0.0 -

relative Natural Colour (NC)

lab\*lrj 1.0 0.0 0.0

## Input: Colorimetric Reflective System NCS18

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

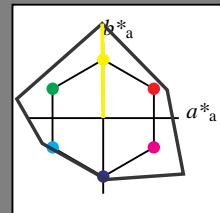
$lab^*tch$  and  $lab^*nch$

D65: hue J

LCH\*Ma: 91 125 91

olv\*Ma: 1.0 1.0 0.0

triangle lightness  $t^*$



%Gamut

$u^*_{rel} = 136$

%Regularity

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

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

relative Inform. Technology (IT)

$olv^3*$  1.0 1.0 1.0 (1.0)

$cmy^3*$  0.0 0.0 0.0 (0.0)

$olv^4*$  1.0 1.0 1.0 1.0

$cmy^4*$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)

$olv^3*$  0.5 0.5 0.5 (1.0)

$cmy^3*$  0.5 0.5 0.5 (0.0)

$olv^4*$  1.0 1.0 1.0 0.5

$cmy^4*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  56.72 0.05 0.0

$LAB^*LABa$  56.72 0.0 0.0

$LAB^*TChA$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.5 0.0 0.0

$lab^*tce$  0.5 0.0 0.0

$lab^*ncE$  0.5 0.0 -

relative Inform. Technology (IT)

$olv^3*$  0.0 0.0 0.0 (1.0)

$cmy^3*$  1.0 1.0 1.0 (0.0)

$olv^4*$  1.0 1.0 1.0 0.0

$cmy^4*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.09 0.02

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*tce$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

## NCS18; adapted (a) CIELAB data

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

RMa	47.15	84.63	37.24	92.46	24
JMa	91.37	-1.27	125.03	125.03	91
GMa	63.07	-114.29	25.34	117.07	167
G50BMa	59.47	-80.61	-33.45	87.29	203
BMa	49.01	3.63	-81.2	81.29	273
B50RMa	44.06	106.07	-73.94	129.31	325
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	272

## Output: 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

olv\*Ma: 1.0 1.0 0.0

triangle lightness  $t^*$

## NCS11; adapted (a) CIELAB data

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

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

relative Inform. Technology (IT)

$olv^3*$  1.0 1.0 1.0 (1.0)

$cmy^3*$  0.0 0.0 0.0 (0.0)

$olv^4*$  1.0 1.0 1.0 1.0

$cmy^4*$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)

$olv^3*$  0.5 0.5 0.5 (1.0)

$cmy^3*$  0.5 0.5 0.5 (0.0)

$olv^4*$  1.0 1.0 1.0 0.5

$cmy^4*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  53.38 -0.62 62.5

$LAB^*LABa$  53.38 -0.63 62.5

$LAB^*TChA$  75.0 62.5 90.59

relative CIELAB lab\*

$lab^*lab$  0.948 -0.004 0.5

$lab^*tch$  0.75 0.5 0.252

$lab^*nch$  0.0 1.0 0.252

relative Natural Colour (NC)

$lab^*lrij$  0.948 0.041 0.999

$lab^*tce$  0.5 1.0 0.243

$lab^*ncE$  0.0 1.0 r97j

$n^* = 0,00$

blackness  $n^*$

chromaticness  $c^*$

$n^* = 1,0$

blackness  $n^*$

chromaticness  $c^*$

$n^* = 0,00$

## Input: Colorimetric Reflective System NRS11

for hue  $h^* = lab^*h = 91/360 = 0.253$

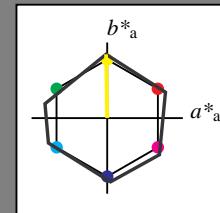
$lab^*tch$  and  $lab^*nch$

D65: hue J

LCH\*Ma: 53 84 91

olv\*Ma: 1.0 1.0 0.0

triangle lightness  $t^*$



## NRS11; adapted (a) CIELAB data

	$L^*=L_a^*$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	53.2	77.06	34.32	84.36	24
JMa	53.2	-1.51	84.38	84.39	91
GMa	53.2	-82.27	18.98	84.44	167
G50BMa	53.2	-77.72	-32.98	84.44	203
BMa	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)

$olv_i3^*$  1.0 1.0 1.0 (1.0)

$cmyn3^*$  0.0 0.0 0.0 (0.0)

$olv_i4^*$  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

$LAB^*TCh$  99.99 0.01 -

relative CIELAB lab\*

$lab^*lab$  1.0 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  1.0 0.0 0.0

$lab^*ice$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  74.3 -0.72 42.18

$LAB^*LABa$  74.3 -0.75 42.18

$LAB^*TCh$  75.0 42.19 91.03

relative CIELAB lab\*

$lab^*lab$  0.75 -0.008 0.5

$lab^*tch$  0.75 0.5 0.253

$lab^*nch$  0.0 0.5 0.253

relative Natural Colour (NC)

$lab^*lrj$  0.75 0.015 0.5

$lab^*ice$  0.75 0.5 0.245

$lab^*ncE$  0.0 0.5 r98j

relative Inform. Technology (IT)

$olv_i3^*$  0.5 0.5 0.5 (1.0)

$cmyn3^*$  0.5 0.5 0.5 (0.0)

$olv_i4^*$  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

$LAB^*LABa$  53.21 0.0 0.0

$LAB^*TCh$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  0.5 0.0 0.0

$lab^*ice$  0.5 0.0 0.0

$lab^*ncE$  0.5 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  32.1 -0.69 42.2

$LAB^*LABa$  32.1 -0.75 42.18

$LAB^*TCh$  25.01 42.19 91.03

relative CIELAB lab\*

$lab^*lab$  0.25 -0.008 0.5

$lab^*tch$  0.25 0.5 0.253

$lab^*nch$  0.5 0.5 0.253

relative Natural Colour (NC)

$lab^*lrj$  0.25 0.015 0.5

$lab^*ice$  0.25 0.5 0.245

$lab^*ncE$  0.5 0.5 r98j

$n^* = 1,0$

relative Inform. Technology (IT)

$olv_i3^*$  1.0 1.0 1.0 (0.0)

$cmyn3^*$  1.0 1.0 1.0 (0.0)

$olv_i4^*$  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

$LAB^*LABa$  11.01 0.0 0.0

$LAB^*TCh$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  0.0 0.0 0.0

$lab^*ice$  0.0 0.0 0.0

$lab^*ncE$  1.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.5 -0.46

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TCh$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

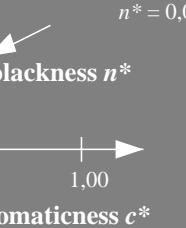
relative Natural Colour (NC)

$lab^*lrj$  0.0 0.0 0.0

$lab^*ice$  0.0 0.0 0.0

$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$



## Output: Colorimetric Reflective System ORS18

for hue  $h^* = lab^*h = 96/360 = 0.268$

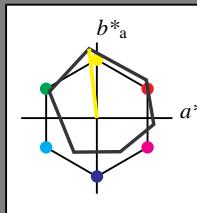
$lab^*tch$  and  $lab^*nch$

D65: hue Y

LCH\*Ma: 90 92 96

olv\*Ma: 1.0 1.0 0.0

triangle lightness  $t^*$



## ORS18; adapted (a) CIELAB data

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

$olv_i3^*$  1.0 1.0 1.0 (1.0)

$cmyn3^*$  0.0 0.0 0.0 (0.0)

$olv_i4^*$  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

$LAB^*LABa$  95.41 0.0 0.0

$LAB^*TCh$  99.99 0.01 -

relative CIELAB lab\*

$lab^*lab$  1.0 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  1.0 0.0 0.0

$lab^*ice$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  92.88 -6.06 50.46

$LAB^*LABa$  92.88 -5.13 45.87

$LAB^*TCh$  75.0 46.16 96.39

relative CIELAB lab\*

$lab^*lab$  0.967 -0.055 0.497

$lab^*tch$  0.75 0.5 0.268

$lab^*nch$  0.0 0.5 0.268

relative Natural Colour (NC)

$lab^*lrj$  0.967 -0.048 0.497

$lab^*ice$  0.75 0.5 0.266

$lab^*ncE$  0.0 0.5 0.06g

relative Inform. Technology (IT)

$olv_i3^*$  0.5 0.5 0.5 (1.0)

$cmyn3^*$  0.5 0.5 0.5 (0.0)

$olv_i4^*$  1.0 1.0 0.5 0.5

$cmyn4^*$  0.0 0.0 0.5 0.5

standard and adapted CIELAB

$LAB^*LAB$  54.19 -5.32 47.85

$LAB^*LABa$  54.19 -5.13 45.87

$LAB^*TCh$  25.01 46.16 96.39

relative CIELAB lab\*

$lab^*lab$  0.467 -0.055 0.497

$lab^*tch$  0.25 0.5 0.268

$lab^*nch$  0.0 0.5 0.268

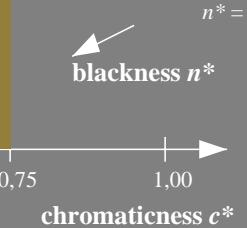
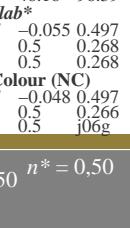
relative Natural Colour (NC)

$lab^*lrj$  0.467 -0.048 0.497

$lab^*ice$  0.25 0.5 0.266

$lab^*ncE$  0.5 0.5 0.06g

$n^* = 1,0$



3 step scales for constant CIELAB hue 96/360 = 0.268 (right)

UE100-7, 3 step scales for constant CIELAB hue 91/360 = 0.253 (left)

## Input: Colorimetric Reflective System NRS11

for hue  $h^* = lab^*h = 91/360 = 0.253$

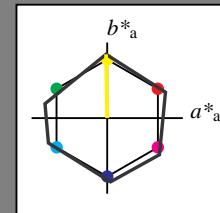
$lab^*tch$  and  $lab^*nch$

D65: hue J

LCH\*Ma: 53 84 91

olv\*Ma: 1.0 1.0 0.0

triangle lightness  $t^*$



### NRS11; adapted (a) CIELAB data

	$L^*=L_a^*$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	53.2	77.06	34.32	84.36	24
JMa	53.2	-1.51	84.38	84.39	91
GMa	53.2	-82.27	18.98	84.44	167
G50BMa	53.2	-77.72	-32.98	84.44	203
BMa	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)

$olv_i3^*$  1.0 1.0 1.0 (1.0)

$cmyn3^*$  0.0 0.0 0.0 (0.0)

$olv_i4^*$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)

$olv_i3^*$  0.5 0.5 0.5 (1.0)

$cmyn3^*$  0.5 0.5 0.5 (0.0)

$olv_i4^*$  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

$LAB^*LABa$  53.21 0.0 0.0

$LAB^*TChA$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.5 0.0 0.0

$lab^*tce$  0.5 0.0 0.0

$lab^*ncE$  0.5 0.0 -

relative Inform. Technology (IT)

$olv_i3^*$  0.0 0.0 0.0 (1.0)

$cmyn3^*$  1.0 1.0 1.0 (0.0)

$olv_i4^*$  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 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*tce$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

%Gamut  
 $u^*_{rel} = 119$   
%Regularity  
 $g^*_{H,rel} = 47$   
 $g^*_{C,rel} = 100$

relative Inform. Technology (IT)  
 $olv_i3^*$  1.0 1.0 0.5 (1.0)  
 $cmyn3^*$  0.0 0.0 0.5 (0.0)  
 $olv_i4^*$  1.0 1.0 0.5 1.0  
 $cmyn4^*$  0.0 0.0 0.5 0.0  
standard and adapted CIELAB  
 $LAB^*LAB$  74.3 -0.72 42.18  
 $LAB^*LABa$  74.3 -0.75 42.18  
 $LAB^*TChA$  75.0 42.19 91.03  
relative CIELAB lab\*

relative Inform. Technology (IT)  
 $olv_i3^*$  0.75 -0.008 0.5  
 $lab^*tch$  0.75 0.5 0.253  
 $lab^*nch$  0.0 0.5 0.253  
relative Natural Colour (NC)  
 $lab^*lrij$  0.75 0.015 0.5  
 $lab^*tce$  0.75 0.5 0.245  
 $lab^*ncE$  0.0 0.5 r98j

relative Inform. Technology (IT)  
 $olv_i3^*$  0.5 0.5 0.0 (1.0)  
 $cmyn3^*$  0.5 0.5 0.5 (0.0)  
 $olv_i4^*$  1.0 1.0 1.0 0.5  
 $cmyn4^*$  0.0 0.0 1.0 0.0  
standard and adapted CIELAB  
 $LAB^*LAB$  53.2 -1.46 84.37  
 $LAB^*LABa$  53.2 -1.51 84.36  
 $LAB^*TChA$  50.0 84.37 91.03  
relative CIELAB lab\*

relative Inform. Technology (IT)  
 $olv_i3^*$  0.5 0.5 0.0 (1.0)  
 $cmyn3^*$  0.5 0.5 1.0 (0.0)  
 $olv_i4^*$  1.0 1.0 0.5 0.5  
 $cmyn4^*$  0.0 0.0 0.5 0.5  
standard and adapted CIELAB  
 $LAB^*LAB$  32.1 -0.69 42.2  
 $LAB^*LABa$  32.1 -0.75 42.18  
 $LAB^*TChA$  25.01 42.19 91.03  
relative CIELAB lab\*

relative Inform. Technology (IT)  
 $olv_i3^*$  0.25 -0.008 0.5  
 $lab^*tch$  0.25 0.5 0.253  
 $lab^*nch$  0.5 0.5 0.253  
relative Natural Colour (NC)  
 $lab^*lrij$  0.25 0.015 0.5  
 $lab^*tce$  0.25 0.5 0.245  
 $lab^*ncE$  0.5 0.5 r98j

$n^* = 0,00$

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

RMa 53.2 77.06 34.32 84.36 24

JMa 53.2 -1.51 84.38 84.39 91

GMa 53.2 -82.27 18.98 84.44 167

G50BMa 53.2 -77.72 -32.98 84.44 203

BMa 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

$n^* = 0,00$

blackness  $n^*$

chromaticness  $c^*$

## Output: Colorimetric Reflective System MRS18

for hue  $h^* = lab^*h = 94/360 = 0.261$

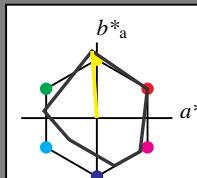
$lab^*tch$  and  $lab^*nch$

D65: hue J

LCH\*Ma: 91 89 94

olv\*Ma: 1.0 1.0 0.0

triangle lightness  $t^*$



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

$olv_i3^*$  1.0 1.0 1.0 (1.0)

$cmyn3^*$  0.0 0.0 0.0 (0.0)

$olv_i4^*$  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

$LAB^*LABa$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)

$olv_i3^*$  0.5 0.5 0.5 (1.0)

$cmyn3^*$  0.5 0.5 0.5 (0.0)

$olv_i4^*$  1.0 1.0 1.0 0.5

$cmyn4^*$  0.0 0.0 0.5 0.5

standard and adapted CIELAB

$LAB^*LAB$  53.2 -1.46 84.37

$LAB^*LABa$  53.2 -1.51 84.36

$LAB^*TChA$  50.0 84.37 91.03

relative CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.5 0.0 0.0

$lab^*tce$  0.5 0.0 0.0

$lab^*ncE$  0.5 0.0 -

relative Inform. Technology (IT)

$olv_i3^*$  0.0 0.0 0.0 (1.0)

$cmyn3^*$  1.0 1.0 1.0 (0.0)

$olv_i4^*$  1.0 1.0 1.0 0.0

$cmyn4^*$  0.0 0.0 1.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.5 -0.46

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*tce$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

relative Inform. Technology (IT)  
 $olv_i3^*$  1.0 1.0 0.5 (1.0)  
 $cmyn3^*$  0.0 0.0 0.5 (0.0)  
 $olv_i4^*$  1.0 1.0 0.5 1.0  
 $cmyn4^*$  0.0 0.0 0.5 0.0  
standard and adapted CIELAB  
 $LAB^*LAB$  93.05 -4.11 48.97  
 $LAB^*LABa$  93.05 -3.17 44.37  
 $LAB^*TChA$  75.0 44.48 94.1  
relative CIELAB lab\*

$lab^*lab$  0.969 -0.035 0.499

$lab^*tch$  0.75 0.5 0.261

$lab^*nch$  0.0 0.5 0.261

## Input: Colorimetric Reflective System NRS11

for hue  $h^* = lab^*h = 91/360 = 0.253$

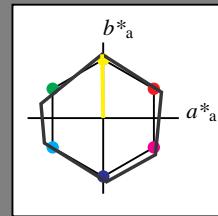
$lab^*tch$  and  $lab^*nch$

D65: hue J

LCH\*Ma: 53 84 91

olv\*Ma: 1.0 1.0 0.0

triangle lightness  $t^*$



## NRS11; adapted (a) CIELAB data

	$L^*=L_a^*$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	53.2	77.06	34.32	84.36	24
JMa	53.2	-1.51	84.38	84.39	91
GMa	53.2	-82.27	18.98	84.44	167
G50BMa	53.2	-77.72	-32.98	84.44	203
BMa	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)

$olv_i3^*$  1.0 1.0 1.0 (1.0)

$cmyn3^*$  0.0 0.0 0.0 (0.0)

$olv_i4^*$  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

$LAB^*TCh$  99.99 0.01 -

relative CIELAB lab\*

$lab^*lab$  1.0 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  1.0 0.0 0.0

$lab^*ice$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)

$olv_i3^*$  0.5 0.5 0.5 (1.0)

$cmyn3^*$  0.5 0.5 0.5 (0.0)

$olv_i4^*$  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

$LAB^*LABa$  53.21 0.0 0.0

$LAB^*TCh$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  0.5 0.0 0.0

$lab^*ice$  0.5 0.0 0.0

$lab^*ncE$  0.5 0.0 -

relative Inform. Technology (IT)

$olv_i3^*$  0.0 0.0 0.0 (1.0)

$cmyn3^*$  1.0 1.0 1.0 (0.0)

$olv_i4^*$  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 0.0 0.0

$LAB^*TCh$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

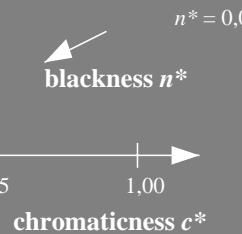
relative Natural Colour (NC)

$lab^*lrj$  0.0 0.0 0.0

$lab^*ice$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$



$n^* = 1,0$

UE100-7, 3 step scales for constant CIELAB hue 91/360 = 0.253 (left)

## Output: Colorimetric Reflective System TRS18

for hue  $h^* = lab^*h = 96/360 = 0.268$

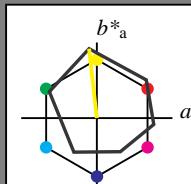
$lab^*tch$  and  $lab^*nch$

D65: hue Y

LCH\*Ma: 90 92 96

olv\*Ma: 1.0 1.0 0.0

triangle lightness  $t^*$



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

$olv_i3^*$  1.0 1.0 1.0 (1.0)

$cmyn3^*$  0.0 0.0 0.0 (0.0)

$olv_i4^*$  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

$LAB^*LABa$  95.41 0.0 0.0

$LAB^*TCh$  99.99 0.01 -

relative CIELAB lab\*

$lab^*lab$  1.0 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  1.0 0.0 0.0

$lab^*ice$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)

$olv_i3^*$  0.5 0.5 0.5 (1.0)

$cmyn3^*$  0.5 0.5 0.5 (0.0)

$olv_i4^*$  1.0 1.0 1.0 0.5

$cmyn4^*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  74.3 -0.72 42.18

$LAB^*LABa$  74.3 -0.75 42.18

$LAB^*TCh$  75.0 42.19 91.03

relative CIELAB lab\*

$lab^*lab$  0.75 -0.008 0.5

$lab^*tch$  0.75 0.5 0.253

$lab^*nch$  0.0 0.5 0.253

relative Natural Colour (NC)

$lab^*lrj$  0.75 0.015 0.5

$lab^*ice$  0.75 0.5 0.245

$lab^*ncE$  0.0 1.0 r98j

relative Inform. Technology (IT)

$olv_i3^*$  0.0 0.0 0.0 (1.0)

$cmyn3^*$  0.0 0.0 1.0 (0.0)

$olv_i4^*$  1.0 1.0 1.0 0.0

$cmyn4^*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  53.2 -1.46 84.37

$LAB^*LABa$  53.2 -1.51 84.36

$LAB^*TCh$  50.0 84.37 91.03

relative CIELAB lab\*

$lab^*lab$  0.5 -0.017 1.0

$lab^*tch$  0.5 0.253

$lab^*nch$  0.0 1.0 0.253

relative Natural Colour (NC)

$lab^*lrj$  0.5 0.031 0.999

$lab^*ice$  0.5 1.0 0.245

$lab^*ncE$  0.0 1.0 -

$lab^*ncE$  0.5 0.0 -

$n^* = 0,00$

$blackness n^*$

$chromaticness c^*$

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

$olv_i3^*$  1.0 1.0 1.0 (1.0)

$cmyn3^*$  0.0 0.0 0.5 (0.0)

$olv_i4^*$  1.0 1.0 1.0 1.0

$cmyn4^*$  0.0 0.0 0.5 0.0

standard and adapted CIELAB

$LAB^*LAB$  95.41 -0.97 4.75

$LAB^*LABa$  95.41 0.0 0.0

$LAB^*TCh$  99.99 0.01 -

relative CIELAB lab\*

$lab^*lab$  1.0 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  1.0 0.0 0.0

$lab^*ice$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)

$olv_i3^*$  0.5 0.5 0.5 (1.0)

$cmyn3^*$  0.5 0.5 0.5 (0.0)

$olv_i4^*$  1.0 1.0 1.0 0.5

$cmyn4^*$  0.0 0.0 0.5 0.5

standard and adapted CIELAB

## Input: Colorimetric Reflective System NRS11

for hue  $h^* = lab^*h = 91/360 = 0.253$

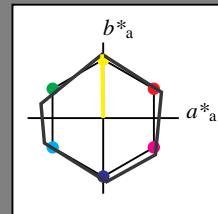
$lab^*tch$  and  $lab^*nch$

D65: hue J

LCH\*Ma: 53 84 91

olv\*Ma: 1.0 1.0 0.0

triangle lightness  $t^*$



### NRS11; adapted (a) CIELAB data

	$L^*=L_a^*$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	53.2	77.06	34.32	84.36	24
JMa	53.2	-1.51	84.38	84.39	91
GMa	53.2	-82.27	18.98	84.44	167
G50BMa	53.2	-77.72	-32.98	84.44	203
BMa	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)

$olv_i3^*$  1.0 1.0 1.0 (1.0)

$cmy_n3^*$  0.0 0.0 0.0 (0.0)

$olv_i4^*$  1.0 1.0 1.0 1.0

$cmy_n4^*$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  1.0 0.0 0.0

$lab^*ice$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  74.3 -0.72 42.18

$LAB^*LABa$  74.3 -0.75 42.18

$LAB^*TChA$  75.0 42.19 91.03

relative CIELAB lab\*

$lab^*lab$  0.75 -0.008 0.5

$lab^*tch$  0.75 0.5 0.253

$lab^*nch$  0.0 0.5 0.253

relative Natural Colour (NC)

$lab^*lrj$  0.75 0.015 0.5

$lab^*ice$  0.75 0.5 0.245

$lab^*ncE$  0.0 0.5 r98j

relative Inform. Technology (IT)

$olv_i3^*$  0.5 0.5 0.5 (1.0)

$cmy_n3^*$  0.5 0.5 0.5 (0.0)

$olv_i4^*$  1.0 1.0 1.0 0.5

$cmy_n4^*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  53.21 0.04 0.0

$LAB^*LABa$  53.21 0.0 0.0

$LAB^*TChA$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  0.5 0.0 0.0

$lab^*ice$  0.5 0.0 0.0

$lab^*ncE$  0.5 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  32.1 -0.69 42.2

$LAB^*LABa$  32.1 -0.75 42.18

$LAB^*TChA$  25.01 42.19 91.03

relative CIELAB lab\*

$lab^*lab$  0.25 -0.008 0.5

$lab^*tch$  0.25 0.5 0.253

$lab^*nch$  0.5 0.5 0.253

relative Natural Colour (NC)

$lab^*lrj$  0.25 0.015 0.5

$lab^*ice$  0.25 0.5 0.245

$lab^*ncE$  0.5 0.5 r98j

$n^* = 1,0$

%Gamut  
 $u^*_{rel} = 119$   
%Regularity  
 $g^*_{H,rel} = 47$   
 $g^*_{C,rel} = 100$

relative Inform. Technology (IT)  
 $olv_i3^*$  1.0 1.0 0.5 (1.0)  
 $cmy_n3^*$  0.0 0.0 0.5 (0.0)  
 $olv_i4^*$  1.0 1.0 0.5 1.0  
 $cmy_n4^*$  0.0 0.0 0.5 0.0  
standard and adapted CIELAB  
 $LAB^*LAB$  74.3 -0.72 42.18  
 $LAB^*LABa$  74.3 -0.75 42.18  
 $LAB^*TChA$  75.0 42.19 91.03  
relative CIELAB lab\*

relative Inform. Technology (IT)  
 $olv_i3^*$  1.0 1.0 0.0 (1.0)  
 $cmy_n3^*$  0.0 0.0 1.0 (0.0)  
 $olv_i4^*$  1.0 1.0 0.0 1.0  
 $cmy_n4^*$  0.0 0.0 1.0 0.0  
standard and adapted CIELAB  
 $LAB^*LAB$  53.2 -1.46 84.37  
 $LAB^*LABa$  53.2 -1.51 84.36  
 $LAB^*TChA$  50.0 84.37 91.03  
relative CIELAB lab\*

relative Inform. Technology (IT)  
 $olv_i3^*$  0.5 0.5 0.0 (1.0)  
 $cmy_n3^*$  0.5 0.5 0.5 (0.0)  
 $olv_i4^*$  1.0 1.0 0.5 0.5  
 $cmy_n4^*$  0.0 0.0 0.5 0.5  
standard and adapted CIELAB  
 $LAB^*LAB$  32.1 -0.69 42.2  
 $LAB^*LABa$  32.1 -0.75 42.18  
 $LAB^*TChA$  25.01 42.19 91.03  
relative CIELAB lab\*

relative Inform. Technology (IT)  
 $olv_i3^*$  0.0 0.0 0.0 (1.0)  
 $cmy_n3^*$  1.0 1.0 1.0 (0.0)  
 $olv_i4^*$  1.0 1.0 1.0 0.0  
 $cmy_n4^*$  0.0 0.0 0.0 1.0  
standard and adapted CIELAB  
 $LAB^*LAB$  11.01 0.07 0.01  
 $LAB^*LABa$  11.01 0.0 0.0  
 $LAB^*TChA$  0.01 0.01 -  
relative CIELAB lab\*

relative Inform. Technology (IT)  
 $olv_i3^*$  0.0 0.0 0.0 (1.0)  
 $cmy_n3^*$  1.0 1.0 0.0 (0.0)  
 $olv_i4^*$  1.0 1.0 1.0 0.0  
 $cmy_n4^*$  0.0 0.0 0.0 1.0  
standard and adapted CIELAB  
 $LAB^*LAB$  11.01 0.07 0.01  
 $LAB^*LABa$  11.01 0.0 0.0  
 $LAB^*TChA$  0.01 0.01 -  
relative CIELAB lab\*

$n^* = 0,00$

	$L^*=L_a^*$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	53.2	77.06	34.32	84.36	24
JMa	53.2	-1.51	84.38	84.39	91
GMa	53.2	-82.27	18.98	84.44	167
G50BMa	53.2	-77.72	-32.98	84.44	203
BMa	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

%Gamut  
 $u^*_{rel} = 119$   
%Regularity  
 $g^*_{H,rel} = 47$   
 $g^*_{C,rel} = 100$

relative Inform. Technology (IT)

$olv_i3^*$  1.0 1.0 1.0 (1.0)

$cmy_n3^*$  0.0 0.0 0.0 (0.0)

$olv_i4^*$  1.0 1.0 1.0 1.0

$cmy_n4^*$  0.0 0.0 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  95.41 0.01 0.0

$LAB^*LABa$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  1.0 0.0 0.0

$lab^*ice$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  74.3 -0.72 42.18

$LAB^*LABa$  74.3 -0.75 42.18

$LAB^*TChA$  75.0 42.19 91.03

relative CIELAB lab\*

$lab^*lab$  0.75 -0.008 0.5

$lab^*tch$  0.75 0.5 0.253

$lab^*nch$  0.0 1.0 0.253

relative Natural Colour (NC)

$lab^*lrj$  0.75 0.015 0.5

$lab^*ice$  0.75 0.5 0.245

$lab^*ncE$  0.0 1.0 r98j

$n^* = 0,50$

$n^* = 1,00$

chromaticness  $c^*$

$n^* = 0,00$

$n^* = 0,50$

$n^* = 1,00$

blackness  $n^*$

$n^* = 1,0$

## Output: Colorimetric Reflective System MRS18a

for hue  $h^* = lab^*h = 94/360 = 0.262$

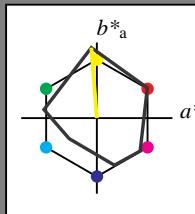
$lab^*tch$  and  $lab^*nch$

D65: hue J

LCH\*Ma: 91 93 94

olv\*Ma: 1.0 1.0 0.0

triangle lightness  $t^*$



	$L^*=L_a^*$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	49.63	66.8	40.02	77.87	31
JMa	90.7	-7.27	93.19	93.48	94
GMa	52.11	-69.93	11.26	70.85	171
G50BMa	45.03	-36.65	-27.13	45.61	217
BMa	36.65	23.26	-62.27	66.49	290
B50RMa	34.94	57.27	-43.6	71.99	323
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	272

relative Inform. Technology (IT)  
 $olv_i3^*$  1.0 1.0 1.0 (1.0)  
 $cmy_n3^*$  0.0 0.0 0.0 (0.0)  
 $olv_i4^*$  1.0 1.0 1.0 1.0  
 $cmy_n4^*$  0.0 0.0 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  95.41 0.01 0.0

$LAB^*LABa$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

## Input: Colorimetric Reflective System NRS11

for hue  $h^* = lab^*h = 91/360 = 0.253$

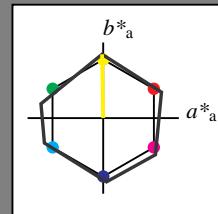
$lab^*tch$  and  $lab^*nch$

D65: hue J

LCH\*Ma: 53 84 91

olv\*Ma: 1.0 1.0 0.0

triangle lightness  $t^*$



## NRS11; adapted (a) CIELAB data

	$L^*=L_a^*$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	53.2	77.06	34.32	84.36	24
JMa	53.2	-1.51	84.38	84.39	91
GMa	53.2	-82.27	18.98	84.44	167
G50BMa	53.2	-77.72	-32.98	84.44	203
BMa	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)

$olv_i3^*$  1.0 1.0 1.0 (1.0)

$cmyn3^*$  0.0 0.0 0.0 (0.0)

$olv_i4^*$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrf$  1.0 0.0 0.0

$lab^*fce$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  74.3 -0.72 42.18

$LAB^*LABa$  74.3 -0.75 42.18

$LAB^*TChA$  75.0 42.19 91.03

relative CIELAB lab\*

$lab^*lab$  0.75 -0.008 0.5

$lab^*tch$  0.75 0.5 0.253

$lab^*nch$  0.0 0.5 0.253

relative Natural Colour (NC)

$lab^*lrf$  0.75 0.015 0.5

$lab^*fce$  0.75 0.5 0.245

$lab^*ncE$  0.0 0.5 r98j

relative Inform. Technology (IT)

$olv_i3^*$  0.5 0.5 0.5 (1.0)

$cmyn3^*$  0.5 0.5 0.5 (0.0)

$olv_i4^*$  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

$LAB^*LABa$  53.21 0.0 0.0

$LAB^*TChA$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrf$  0.5 0.0 0.0

$lab^*fce$  0.5 0.0 0.0

$lab^*ncE$  0.5 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  11.01 0.07 0.01

$LAB^*LABa$  11.01 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrf$  0.0 0.0 0.0

$lab^*fce$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

%Gamut

$u^*_{rel} = 119$

%Regularity

$g^*_{H,rel} = 47$

$g^*_{C,rel} = 100$

relative Inform. Technology (IT)

$olv_i3^*$  1.0 1.0 0.5 (1.0)

$cmyn3^*$  0.0 0.0 0.0 (0.0)

$olv_i4^*$  1.0 1.0 0.5 1.0

$cmyn4^*$  0.0 0.0 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  74.3 -0.72 42.18

$LAB^*LABa$  74.3 -0.75 42.18

$LAB^*TChA$  75.0 42.19 91.03

relative CIELAB lab\*

$lab^*lab$  0.75 -0.008 0.5

$lab^*tch$  0.75 0.5 0.253

$lab^*nch$  0.0 0.5 0.253

relative Natural Colour (NC)

$lab^*lrf$  0.75 0.015 0.5

$lab^*fce$  0.75 0.5 0.245

$lab^*ncE$  0.0 0.5 r98j

relative Inform. Technology (IT)

$olv_i3^*$  0.5 0.5 0.5 (1.0)

$cmyn3^*$  0.5 0.5 0.5 (0.0)

$olv_i4^*$  1.0 1.0 1.0 0.5

$cmyn4^*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  53.2 -1.46 84.37

$LAB^*LABa$  53.2 -1.51 84.36

$LAB^*TChA$  50.0 84.37 91.03

relative CIELAB lab\*

$lab^*lab$  0.5 -0.017 1.0

$lab^*tch$  0.5 1.0 0.253

$lab^*nch$  0.0 1.0 0.253

relative Natural Colour (NC)

$lab^*lrf$  0.5 0.031 0.999

$lab^*fce$  0.5 1.0 0.245

$lab^*ncE$  0.0 1.0 r98j

$n^* = 0,00$

$n^* = 0,00$

blackness  $n^*$

$n^* = 0,50$

0,25

0,50

0,75

1,00

chromaticness  $c^*$

## Output: Colorimetric Reflective System NRS18

for hue  $h^* = lab^*h = 91/360 = 0.253$

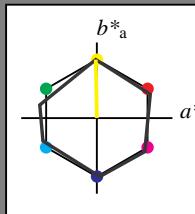
$lab^*tch$  and  $lab^*nch$

D65: hue J

LCH\*Ma: 57 77 91

olv\*Ma: 1.0 1.0 0.0

triangle lightness  $t^*$



## NRS18; adapted (a) CIELAB data

	$L^*=L_a^*$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	56.7	70.66	31.47	77.35	24
JMa	56.7	-1.39	77.37	77.39	91
GMa	56.7	-75.46	17.4	77.45	167
G50BMa	56.7	-71.29	-30.25	77.45	203
BMa	56.7	4.0	-77.3	77.41	273
B50RMa	56.7	63.35	-44.4	77.36	325
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	272

relative Inform. Technology (IT)

$olv_i3^*$  1.0 1.0 1.0 (1.0)

$cmyn3^*$  0.0 0.0 0.0 (0.0)

$olv_i4^*$  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 0.0

$LAB^*LABa$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrf$  1.0 0.0 0.0

$lab^*fce$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  76.05 -0.66 38.68

$LAB^*LABa$  76.05 -0.69 38.68

$LAB^*TChA$  75.0 38.69 91.04

relative CIELAB lab\*

$lab^*lab$  0.75 -0.008 0.5

$lab^*tch$  0.75 0.5 0.253

$lab^*nch$  0.0 0.5 0.253

relative Natural Colour (NC)

$lab^*lrf$  0.75 0.015 0.5

$lab^*fce$  0.75 0.5 0.245

$lab^*ncE$  0.0 0.5 r98j

$n^* = 0,00$

$n^* = 0,50$

0,25

0,50

0,75

1,00

chromaticness  $c^*$

$n^* = 1,0$

$n^* = 0,50$

0,25

0,50

0,75

1,00

chromaticness  $c^*$

$n^* = 0,00$

$n^* = 0,50$

0,25

0,50

0,75

1,00

chromaticness  $c^*$

UE100-7, 3 step scales for constant CIELAB hue 91/360 = 0.253 (left)

3 step scales for constant CIELAB hue 91/360 = 0.253 (right)

## Input: Colorimetric Reflective System NRS11

for hue  $h^* = lab^*h = 91/360 = 0.253$

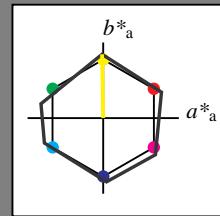
$lab^*tch$  and  $lab^*nch$

D65: hue J

LCH\*Ma: 53 84 91

olv\*Ma: 1.0 1.0 0.0

triangle lightness  $t^*$



### NRS11; adapted (a) CIELAB data

	$L^*=L_a^*$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	53.2	77.06	34.32	84.36	24
JMa	53.2	-1.51	84.38	84.39	91
GMa	53.2	-82.27	18.98	84.44	167
G50BMa	53.2	-77.72	-32.98	84.44	203
BMa	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)

$olv_i3^*$  1.0 1.0 1.0 (1.0)

$cmy_n3^*$  0.0 0.0 0.0 (0.0)

$olv_i4^*$  1.0 1.0 1.0 1.0

$cmy_n4^*$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  74.3 -0.72 42.18

$LAB^*LABa$  74.3 -0.75 42.18

$LAB^*TChA$  75.0 42.19 91.03

relative CIELAB lab\*

$lab^*lab$  0.75 -0.008 0.5

$lab^*tch$  0.75 0.5 0.253

$lab^*nch$  0.0 0.5 0.253

relative Natural Colour (NC)

$lab^*lrij$  0.75 0.015 0.5

$lab^*tce$  0.75 0.5 0.245

$lab^*ncE$  0.0 0.5 r98j

relative Inform. Technology (IT)

$olv_i3^*$  0.5 0.5 0.5 (1.0)

$cmy_n3^*$  0.5 0.5 0.5 (0.0)

$olv_i4^*$  1.0 1.0 1.0 0.5

$cmy_n4^*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  53.21 0.04 0.0

$LAB^*LABa$  53.21 0.0 0.0

$LAB^*TChA$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.5 0.0 0.0

$lab^*tce$  0.5 0.0 0.0

$lab^*ncE$  0.5 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  11.01 0.07 0.01

$LAB^*LABa$  11.01 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*tce$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

relative Inform. Technology (IT)		
$olv_i3^*$	1.0	1.0 0.5 (1.0)
$cmy_n3^*$	0.0	0.0 0.0 (0.0)
$olv_i4^*$	1.0	1.0 0.5 1.0
$cmy_n4^*$	0.0	0.0 0.0 0.0

relative Inform. Technology (IT)		
$olv_i3^*$	0.5	0.5 0.5 (1.0)
$cmy_n3^*$	0.5	0.5 0.5 (0.0)
$olv_i4^*$	1.0	1.0 0.5 0.5
$cmy_n4^*$	0.0	0.0 0.0 0.5

relative Inform. Technology (IT)		
$olv_i3^*$	0.5	0.5 0.0 (1.0)
$cmy_n3^*$	0.5	0.5 0.0 (0.0)
$olv_i4^*$	1.0	1.0 0.0 0.5
$cmy_n4^*$	0.0	0.0 0.0 0.5

relative Inform. Technology (IT)		
$olv_i3^*$	0.25	-0.008 0.5
$cmy_n3^*$	0.25	0.5 0.253
$olv_i4^*$	0.5	0.5 0.253
$cmy_n4^*$	0.0	0.0 0.253

relative Inform. Technology (IT)		
$olv_i3^*$	0.25	0.015 0.5
$cmy_n3^*$	0.25	0.5 0.245
$olv_i4^*$	0.5	0.5 0.245
$cmy_n4^*$	0.0	0.0 0.245

relative Inform. Technology (IT)		
$olv_i3^*$	0.25	0.015 0.5
$cmy_n3^*$	0.25	0.5 0.245
$olv_i4^*$	0.5	0.5 0.245
$cmy_n4^*$	0.0	0.0 0.245

$n^* = 0,00$

### NRS11; adapted (a) CIELAB data

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

RMa 53.2 77.06 34.32 84.36 24

JMa 53.2 -1.51 84.38 84.39 91

GMa 53.2 -82.27 18.98 84.44 167

G50BMa 53.2 -77.72 -32.98 84.44 203

BMa 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

%Gamut

$u^*_{rel} = 119$

%Regularity

$g^*_{H,rel} = 47$

$g^*_{C,rel} = 100$

relative Inform. Technology (IT)

$olv_i3^*$  1.0 1.0 1.0 (1.0)

$cmy_n3^*$  0.0 0.0 0.0 (0.0)

$olv_i4^*$  1.0 1.0 1.0 1.0

$cmy_n4^*$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  74.3 -0.72 42.18

$LAB^*LABa$  74.3 -0.75 42.18

$LAB^*TChA$  75.0 42.19 91.03

relative CIELAB lab\*

$lab^*lab$  0.75 -0.008 0.5

$lab^*tch$  0.75 0.5 0.253

$lab^*nch$  0.0 0.5 0.253

relative Natural Colour (NC)

$lab^*lrij$  0.75 0.015 0.5

$lab^*tce$  0.75 0.5 0.245

$lab^*ncE$  0.0 0.5 r98j

$n^* = 0,00$

blackness  $n^*$

$n^* = 0,50$

$n^* = 1,00$

chromaticness  $c^*$

$n^* = 1,0$

UE100-7, 3 step scales for constant CIELAB hue 91/360 = 0.253 (left)

## Output: Colorimetric Reflective System NCS18

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

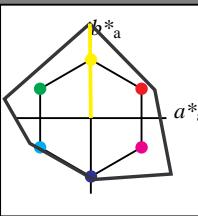
$lab^*tch$  and  $lab^*nch$

D65: hue J

LCH\*Ma: 91 125 91

olv\*Ma: 1.0 1.0 0.0

triangle lightness  $t^*$



	$L^*=L_a^*$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	47.15	84.63	37.24	92.46	24
JMa	91.37	-1.27	125.03	125.03	91
GMa	63.07	-114.29	25.34	117.07	

## Input: Colorimetric Reflective System NRS11

for hue  $h^* = lab^*h = 91/360 = 0.253$

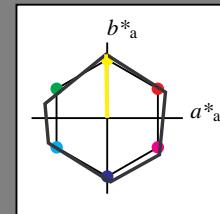
$lab^*tch$  and  $lab^*nch$

D65: hue J

LCH\*Ma: 53 84 91

olv\*Ma: 1.0 1.0 0.0

triangle lightness  $t^*$



relative Inform. Technology (IT)  
 $olv_i3^*$  1.0 1.0 1.0 (1.0)  
 $cmyn3^*$  0.0 0.0 0.0 (0.0)

$olv_i4^*$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)  
 $olv_i3^*$  0.5 0.5 0.5 (1.0)  
 $cmyn3^*$  0.5 0.5 0.5 (0.0)

$olv_i4^*$  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

$LAB^*LABa$  53.21 0.0 0.0

$LAB^*TChA$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.5 0.0 0.0

$lab^*tce$  0.5 0.0 0.0

$lab^*ncE$  0.5 0.0 -

relative Inform. Technology (IT)  
 $olv_i3^*$  0.0 0.0 0.0 (1.0)  
 $cmyn3^*$  1.0 1.0 1.0 (0.0)

$olv_i4^*$  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 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*tce$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

%Gamut  
 $u^*_{rel} = 119$   
%Regularity  
 $g^*_{H,rel} = 47$   
 $g^*_{C,rel} = 100$

	$L^*=L^*_{a,a}$	$a^*_{a,a}$	$b^*_{a,a}$	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	53.2	77.06	34.32	84.36	24
JMa	53.2	-1.51	84.38	84.39	91
GMa	53.2	-82.27	18.98	84.44	167
G50BMa	53.2	-77.72	-32.98	84.44	203
BMa	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)  
 $olv_i3^*$  1.0 1.0 0.5 (1.0)  
 $cmyn3^*$  0.0 0.0 0.5 (0.0)

$olv_i4^*$  1.0 1.0 0.5 1.0

$cmyn4^*$  0.0 0.0 0.5 0.0

standard and adapted CIELAB

$LAB^*LAB$  74.3 -0.72 42.18

$LAB^*LABa$  74.3 -0.75 42.18

$LAB^*TChA$  75.0 42.19 91.03

relative CIELAB lab\*

$lab^*lab$  0.75 -0.008 0.5

$lab^*tch$  0.75 0.5 0.253

$lab^*nch$  0.0 0.5 0.253

relative Natural Colour (NC)

$lab^*lrij$  0.75 0.015 0.5

$lab^*tce$  0.75 0.2 0.245

$lab^*ncE$  0.0 0.5 r98j

relative Inform. Technology (IT)  
 $olv_i3^*$  0.5 0.5 0.5 (1.0)  
 $cmyn3^*$  0.5 0.5 0.5 (0.0)

$olv_i4^*$  1.0 1.0 0.0 0.5

$cmyn4^*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  53.2 -1.46 84.37

$LAB^*LABa$  53.2 -1.51 84.36

$LAB^*TChA$  50.0 84.37 91.03

relative CIELAB lab\*

$lab^*lab$  0.5 -0.017 1.0

$lab^*tch$  0.5 0.0 0.253

$lab^*nch$  0.5 0.0 0.253

relative Natural Colour (NC)

$lab^*lrij$  0.5 0.031 0.999

$lab^*tce$  0.5 1.0 0.245

$lab^*ncE$  0.0 1.0 r98j

$n^* = 0,00$

relative Inform. Technology (IT)  
 $olv_i3^*$  1.0 1.0 0.0 (1.0)  
 $cmyn3^*$  0.0 0.0 1.0 (0.0)

$olv_i4^*$  1.0 1.0 0.0 1.0

$cmyn4^*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  53.21 0.04 0.0

$LAB^*LABa$  53.21 0.0 0.0

$LAB^*TChA$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 0.253

$lab^*nch$  0.5 0.0 0.253

relative Natural Colour (NC)

$lab^*lrij$  0.5 0.031 0.999

$lab^*tce$  0.5 1.0 0.245

$lab^*ncE$  0.0 1.0 r98j

$n^* = 0,50$

relative Inform. Technology (IT)  
 $olv_i3^*$  0.5 0.5 0.5 (1.0)  
 $cmyn3^*$  0.5 0.5 1.0 (0.0)

$olv_i4^*$  1.0 1.0 0.5 0.5

$cmyn4^*$  0.0 0.0 0.5 0.5

standard and adapted CIELAB

$LAB^*LAB$  32.1 -0.69 42.2

$LAB^*LABa$  32.1 -0.75 42.18

$LAB^*TChA$  25.01 42.19 91.03

relative CIELAB lab\*

$lab^*lab$  0.25 -0.008 0.5

$lab^*tch$  0.25 0.5 0.253

$lab^*nch$  0.5 0.5 0.253

relative Natural Colour (NC)

$lab^*lrij$  0.25 0.015 0.5

$lab^*tce$  0.25 0.5 0.245

$lab^*ncE$  0.5 0.5 r98j

$n^* = 1,00$

blackness  $n^*$

chromaticness  $c^*$

## Output: Colorimetric Reflective System NRS11

for hue  $h^* = lab^*h = 91/360 = 0.253$

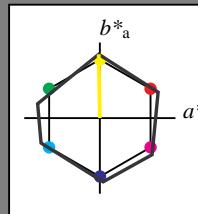
$lab^*tch$  and  $lab^*nch$

D65: hue J

LCH\*Ma: 53 84 91

olv\*Ma: 1.0 1.0 0.0

triangle lightness  $t^*$



relative Inform. Technology (IT)  
 $olv_i3^*$  1.0 1.0 1.0 (1.0)  
 $cmyn3^*$  0.0 0.0 0.0 (0.0)

$olv_i4^*$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)  
 $olv_i3^*$  0.5 0.5 0.5 (1.0)

$cmyn3^*$  0.5 0.5 0.5 (0.0)

$olv_i4^*$  1.0 1.0 0.5 1.0

$cmyn4^*$  0.0 0.0 0.5 0.0

standard and adapted CIELAB

$LAB^*LAB$  53.2 -1.46 84.37

$LAB^*LABa$  53.2 -1.51 84.36

$LAB^*TChA$  50.0 84.37 91.03

relative CIELAB lab\*

$lab^*lab$  0.75 -0.008 0.5

$lab^*tch$  0.75 0.5 0.253

$lab^*nch$  0.0 0.5 0.253

relative Natural Colour (NC)

$lab^*lrij$  0.75 0.015 0.5

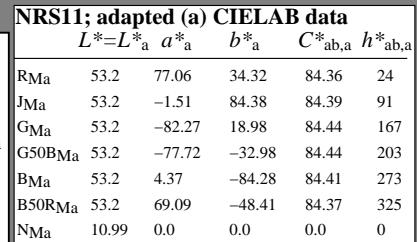
$lab^*tce$  0.75 0.5 0.245

$lab^*ncE$  0.0 0.5 r98j

$n^* = 1,00$

blackness  $n^*$

chromaticness  $c^*$



relative Inform. Technology (IT)  
 $olv_i3^*$  1.0 1.0 1.0 (1.0)  
 $cmyn3^*$  0.0 0.0 0.0 (0.0)

$olv_i4^*$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)  
 $olv_i3^*$  0.5 0.5 0.5 (1.0)

$cmyn3^*$  0.5 0.5 0.5 (0.0)

$olv_i4^*$

## Input: Colorimetric Reflective System NRS11

for hue  $h^* = lab^*h = 91/360 = 0.253$

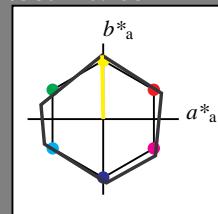
$lab^*tch$  and  $lab^*nch$

D65: hue J

LCH\*Ma: 53 84 91

olv\*Ma: 1.0 1.0 0.0

triangle lightness  $t^*$



### NRS11; adapted (a) CIELAB data

	$L^*=L_a^*$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	53.2	77.06	34.32	84.36	24
JMa	53.2	-1.51	84.38	84.39	91
GMa	53.2	-82.27	18.98	84.44	167
G50BMa	53.2	-77.72	-32.98	84.44	203
BMa	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)

$olv_i3^*$  1.0 1.0 1.0 (1.0)

$cmy_n3^*$  0.0 0.0 0.0 (0.0)

$olv_i4^*$  1.0 1.0 1.0 1.0

$cmy_n4^*$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  1.0 0.0 0.0

$lab^*ice$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  74.3 -0.72 42.18

$LAB^*LABa$  74.3 -0.75 42.18

$LAB^*TChA$  75.0 42.19 91.03

relative CIELAB lab\*

$lab^*lab$  0.75 -0.008 0.5

$lab^*tch$  0.75 0.5 0.253

$lab^*nch$  0.0 0.5 0.253

relative Natural Colour (NC)

$lab^*lrj$  0.75 0.015 0.5

$lab^*ice$  0.75 0.5 0.245

$lab^*ncE$  0.0 0.5 r98j

relative Inform. Technology (IT)

$olv_i3^*$  0.5 0.5 0.5 (1.0)

$cmy_n3^*$  0.5 0.5 0.5 (0.0)

$olv_i4^*$  1.0 1.0 1.0 0.5

$cmy_n4^*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  53.21 0.04 0.0

$LAB^*LABa$  53.21 0.0 0.0

$LAB^*TChA$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  0.5 0.0 0.0

$lab^*ice$  0.5 0.0 0.0

$lab^*ncE$  0.5 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  32.1 -0.69 42.2

$LAB^*LABa$  32.1 -0.75 42.18

$LAB^*TChA$  25.01 42.19 91.03

relative CIELAB lab\*

$lab^*lab$  0.25 -0.008 0.5

$lab^*tch$  0.25 0.5 0.253

$lab^*nch$  0.5 0.5 0.253

relative Natural Colour (NC)

$lab^*lrj$  0.25 0.015 0.5

$lab^*ice$  0.25 0.5 0.245

$lab^*ncE$  0.5 0.5 r98j

$n^* = 1,0$

relative Inform. Technology (IT)		
$olv_i3^*$	1.0	1.0 0.5 (1.0)
$cmy_n3^*$	0.0	0.0 0.0 (0.0)
$olv_i4^*$	1.0	1.0 0.5 1.0
$cmy_n4^*$	0.0	0.0 0.0 0.0

relative Inform. Technology (IT)		
$olv_i3^*$	0.75	-0.008 0.5
$lab^*tch$	0.75	0.5 0.253
$lab^*nch$	0.0	1.0 0.253
relative Natural Colour (NC)		
$lab^*lrj$	0.75	0.015 0.5
$lab^*ice$	0.75	0.5 0.245
$lab^*ncE$	0.0	1.0 r98j

relative Inform. Technology (IT)		
$olv_i3^*$	0.5	0.5 0.5 (1.0)
$cmy_n3^*$	0.5	0.5 0.5 (0.0)
$olv_i4^*$	1.0	1.0 0.5 1.0
$cmy_n4^*$	0.0	0.0 0.0 0.5

relative Inform. Technology (IT)		
$olv_i3^*$	0.25	-0.008 0.5
$lab^*tch$	0.25	0.5 0.253
$lab^*nch$	0.5	0.5 0.253
relative Natural Colour (NC)		
$lab^*lrj$	0.25	0.015 0.5
$lab^*ice$	0.25	0.5 0.245
$lab^*ncE$	0.5	0.5 r98j

$n^* = 0,00$

$n^* = 0,50$

$1,00$

chromaticness  $c^*$

$n^* = 0,50$

$1,00$

blackness  $n^*$

$1,00$

$n^* = 0,00$

## Output: Colorimetric Reflective System NCS11

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

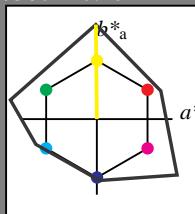
$lab^*tch$  and  $lab^*nch$

D65: hue J

LCH\*Ma: 91 125 91

olv\*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

relative Inform. Technology (IT)

$olv_i3^*$  1.0 1.0 1.0 (1.0)

$cmy_n3^*$  0.0 0.0 0.0 (0.0)

$olv_i4^*$  1.0 1.0 1.0 1.0

$cmy_n4^*$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  1.0 0.0 0.0

$lab^*ice$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  73.38 -0.62 62.5

$LAB^*LABa$  73.38 -0.63 62.5

$LAB^*TChA$  75.0 62.5 90.59

relative CIELAB lab\*

$lab^*lab$  0.976 -0.004 0.5

$lab^*tch$  0.75 0.5 0.252

$lab^*nch$  0.0 0.5 0.252

relative Natural Colour (NC)

$lab^*lrj$  0.976 0.02 0.499

$lab^*ice$  0.75 0.5 0.243

$lab^*ncE$  0.0 0.5 r97j

relative Inform. Technology (IT)

$olv_i3^*$  0.5 0.5 0.5 (1.0)

$cmy_n3^*$  0.5 0.5 0.5 (0.0)

$olv_i4^*$  1.0 1.0 0.5 0.5

$cmy_n4^*$  0.0 0.0 0.5 0.5

standard and adapted CIELAB

$LAB^*LAB$  51.18 -0.59 62.51

$LAB^*LABa$  51.18 -0.63 62.5

$LAB^*TChA$  25.01 62.5 90.59

relative CIELAB lab\*

$lab^*lab$  0.476 -0.004 0.5

$lab^*tch$  0.25 0.5 0.252

$lab^*nch$  0.0 0.5 0.252

relative Natural Colour (NC)

$lab^*lrj$  0.476 0.02 0.499

$lab^*ice$  0.25 0.5 0.243

$lab^*ncE$  0.5 0.5 r97j

$n^* = 1,0$

$n^* = 0,00$

$n^* = 0,50$

$1,00$

## Input: Colorimetric Reflective System NCS11

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

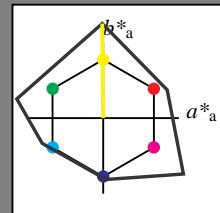
$lab^*tch$  and  $lab^*nch$

D65: hue J

LCH\*Ma: 91 125 91

olv\*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

relative Inform. Technology (IT)

$olv_i3^*$  1.0 1.0 1.0 (1.0)

$cmyn3^*$  0.0 0.0 0.0 (0.0)

$olv_i4^*$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  93.38 -0.62 62.5

$LAB^*LABa$  93.38 -0.63 62.5

$LAB^*TChA$  75.0 62.5 90.59

relative CIELAB lab\*

$lab^*lab$  0.976 -0.004 0.5

$lab^*tch$  0.75 0.5 0.252

$lab^*nch$  0.0 0.5 0.252

relative Natural Colour (NC)

$lab^*lrij$  0.976 0.02 0.499

$lab^*tce$  0.75 0.2 0.243

$lab^*ncE$  0.0 0.5 r97j

relative Inform. Technology (IT)

$olv_i3^*$  0.5 0.5 0.5 (1.0)

$cmyn3^*$  0.5 0.5 0.5 (0.0)

$olv_i4^*$  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

$LAB^*LABa$  53.21 0.0 0.0

$LAB^*TChA$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.5 0.0 0.0

$lab^*tce$  0.5 0.0 0.0

$lab^*ncE$  0.5 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  51.18 -0.59 62.51

$LAB^*LABa$  51.18 -0.63 62.5

$LAB^*TChA$  25.01 62.5 90.59

relative CIELAB lab\*

$lab^*lab$  0.476 -0.004 0.5

$lab^*tch$  0.25 0.5 0.252

$lab^*nch$  0.5 0.5 0.252

relative Natural Colour (NC)

$lab^*lrij$  0.476 0.02 0.499

$lab^*tce$  0.25 0.5 0.243

$lab^*ncE$  0.5 0.5 r97j

$n^* = 1,0$

%Gamut  
 $u^*_{rel} = 149$   
%Regularity  
 $g^*_{H,rel} = 46$   
 $g^*_{C,rel} = 65$

relative Inform. Technology (IT)  
 $olv_i3^*$  1.0 1.0 0.5 (1.0)  
 $cmyn3^*$  0.0 0.0 0.5 (0.0)  
 $olv_i4^*$  1.0 1.0 0.5 1.0  
 $cmyn4^*$  0.0 0.0 0.5 0.0

relative Inform. Technology (IT)  
 $olv_i3^*$  0.5 0.5 0.5 (1.0)  
 $cmyn3^*$  0.5 0.5 0.5 (0.0)  
 $olv_i4^*$  1.0 1.0 1.0 0.5  
 $cmyn4^*$  0.0 0.0 0.5 0.5

relative Inform. Technology (IT)  
 $olv_i3^*$  0.0 0.0 0.0 (1.0)  
 $cmyn3^*$  1.0 1.0 1.0 (0.0)  
 $olv_i4^*$  1.0 1.0 1.0 0.0  
 $cmyn4^*$  0.0 0.0 0.0 1.0

relative Inform. Technology (IT)  
 $olv_i3^*$  0.0 0.0 0.0 (1.0)  
 $cmyn3^*$  1.0 1.0 1.0 (0.0)  
 $olv_i4^*$  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 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*tce$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

$n^* = 0,00$   
blackness  $n^*$   
chromaticness  $c^*$

## Output: Colorimetric Reflective System ORS18

for hue  $h^* = lab^*h = 96/360 = 0.268$

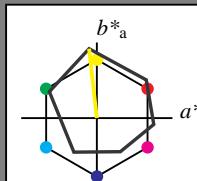
$lab^*tch$  and  $lab^*nch$

D65: hue Y

LCH\*Ma: 90 92 96

olv\*Ma: 1.0 1.0 0.0

triangle lightness  $t^*$



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

%Gamut

$u^*_{rel} = 93$

%Regularity

$g^*_{H,rel} = 57$

$g^*_{C,rel} = 59$

relative Inform. Technology (IT)

$olv_i3^*$  1.0 1.0 0.5 (1.0)

$cmyn3^*$  0.0 0.0 0.5 (0.0)

$olv_i4^*$  1.0 1.0 0.5 1.0

$cmyn4^*$  0.0 0.0 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 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)

$olv_i3^*$  0.5 0.5 0.5 (1.0)

$cmyn3^*$  0.5 0.5 0.5 (0.0)

$olv_i4^*$  1.0 1.0 0.5 0.5

$cmyn4^*$  0.0 0.0 0.5 0.5

standard and adapted CIELAB

$LAB^*LAB$  91.36 -1.26 125.0

$LAB^*LABa$  91.36 -1.27 125.0

$LAB^*TChA$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.952 -0.009 1.0

$lab^*tch$  0.5 1.0 0.252

$lab^*nch$  0.0 1.0 0.252

relative Natural Colour (NC)

$lab^*lrij$  0.952 0.041 0.999

$lab^*tce$  0.5 1.0 0.243

$lab^*ncE$  0.0 1.0 r97j

$n^* = 1,0$

$n^* = 0,00$   
blackness  $n^*$   
chromaticness  $c^*$

$n^* = 1,0$

3 step scales for constant CIELAB hue 96/360 = 0.268 (right)

UE100-7, 3 step scales for constant CIELAB hue 91/360 = 0.252 (left)

## Input: Colorimetric Reflective System NCS11

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

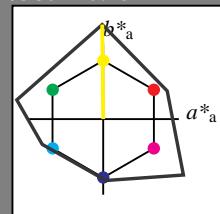
$lab^*tch$  and  $lab^*nch$

D65: hue J

LCH\*Ma: 91 125 91

olv\*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

relative Inform. Technology (IT)

$olv_i3^*$  1.0 1.0 1.0 (1.0)

$cmy3^*$  0.0 0.0 0.0 (0.0)

$olv_i4^*$  1.0 1.0 1.0 1.0

$cmy4^*$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  93.38 -0.62 62.5

$LAB^*LABa$  93.38 -0.63 62.5

$LAB^*TChA$  75.0 62.5 90.59

relative CIELAB lab\*

$lab^*lab$  0.976 -0.004 0.5

$lab^*tch$  0.75 0.5 0.252

$lab^*nch$  0.0 0.5 0.252

relative Natural Colour (NC)

$lab^*lrij$  0.976 0.02 0.499

$lab^*tce$  0.75 0.2 0.243

$lab^*ncE$  0.0 0.5 r97j

relative Inform. Technology (IT)

$olv_i3^*$  0.5 0.5 0.5 (1.0)

$cmy3^*$  0.5 0.5 0.5 (0.0)

$olv_i4^*$  1.0 1.0 1.0 0.5

$cmy4^*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  53.21 0.04 0.0

$LAB^*LABa$  53.21 0.0 0.0

$LAB^*TChA$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.5 0.0 0.0

$lab^*tce$  0.5 0.0 0.0

$lab^*ncE$  0.5 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  11.01 0.07 0.01

$LAB^*LABa$  11.01 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*tce$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

%Gamut

$u^*_{rel} = 149$

%Regularity

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

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

relative Inform. Technology (IT)

$olv_i3^*$  1.0 1.0 0.5 (1.0)

$cmy3^*$  0.0 0.0 0.5 (0.0)

$olv_i4^*$  1.0 1.0 0.5 1.0

$cmy4^*$  0.0 0.0 0.5 0.0

standard and adapted CIELAB

$LAB^*LAB$  93.38 -0.62 62.5

$LAB^*LABa$  93.38 -0.63 62.5

$LAB^*TChA$  75.0 62.5 90.59

relative CIELAB lab\*

$lab^*lab$  0.976 -0.004 0.5

$lab^*tch$  0.75 0.5 0.252

$lab^*nch$  0.0 0.5 0.252

relative Natural Colour (NC)

$lab^*lrij$  0.976 0.02 0.499

$lab^*tce$  0.75 0.2 0.243

$lab^*ncE$  0.0 0.5 r97j

relative Inform. Technology (IT)

$olv_i3^*$  0.5 0.5 0.5 (1.0)

$cmy3^*$  0.5 0.5 0.5 (0.0)

$olv_i4^*$  1.0 1.0 1.0 0.5

$cmy4^*$  0.0 0.0 0.5 0.5

standard and adapted CIELAB

$LAB^*LAB$  51.18 -0.59 62.51

$LAB^*LABa$  51.18 -0.63 62.5

$LAB^*TChA$  25.01 62.5 90.59

relative CIELAB lab\*

$lab^*lab$  0.476 -0.004 0.5

$lab^*tch$  0.25 0.5 0.252

$lab^*nch$  0.5 0.5 0.252

relative Natural Colour (NC)

$lab^*lrij$  0.476 0.02 0.499

$lab^*tce$  0.25 0.5 0.243

$lab^*ncE$  0.5 0.5 r97j

$n^* = 0,00$

blackness  $n^*$

$n^* = 0,00$

$n^* = 0,50$

$n^* = 1,00$

chromaticness  $c^*$

## Output: Colorimetric Reflective System MRS18

for hue  $h^* = lab^*h = 94/360 = 0.261$

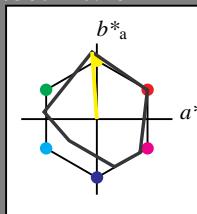
$lab^*tch$  and  $lab^*nch$

D65: hue J

LCH\*Ma: 91 89 94

olv\*Ma: 1.0 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
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)

$olv_i3^*$  1.0 1.0 1.0 (1.0)

$cmy3^*$  0.0 0.0 0.0 (0.0)

$olv_i4^*$  1.0 1.0 1.0 1.0

$cmy4^*$  0.0 0.0 0.0 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 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

relative CIELAB lab\*

$lab^*lab$  0.969 -0.035 0.499

$lab^*tch$  0.75 0.5 0.261

$lab^*nch$  0.0 0.5 0.261

relative Natural Colour (NC)

$lab^*lrij$  0.969 -0.023 0.499

$lab^*tce$  0.75 0.5 0.258

$lab^*ncE$  0.0 0.5 j03g

relative Inform. Technology (IT)

$olv_i3^*$  0.0 0.0 0.0 (1.0)

$cmy3^*$  1.0 1.0 1.0 (0.0)

$olv_i4^*$  1.0 1.0 1.0 0.5

$cmy4^*$  0.0 0.0 0.5 0.5

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.5 -0.46

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.47 0.035 0.499

$lab^*tch$  0.25 0.5 0.261

$lab^*nch$  0.5 0.5 0.261

relative Natural Colour (NC)

$lab^*lrij$  0.47 0.023 0.499

$lab^*tce$  0.25 0.5 0.258

$lab^*ncE$  0.5 0.5 j03g

$n^* = 0,00$

blackness  $n^*$

$n^* = 0,00$

$n^* = 0,50$

$n^* = 1,00$

chromaticness  $c^*$

3 step scales for constant CIELAB hue 94/360 = 0.261 (right)

UE100-7, 3 step scales for constant CIELAB hue 91/360 = 0.252 (left)

## Input: Colorimetric Reflective System NCS11

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

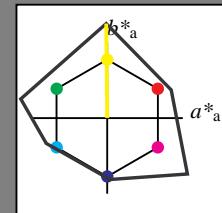
$lab^*tch$  and  $lab^*nch$

D65: hue J

LCH\*Ma: 91 125 91

olv\*Ma: 1.0 1.0 0.0

triangle lightness  $t^*$



### NCS11; adapted (a) CIELAB data

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

relative Inform. Technology (IT)

$olv^3*$  1.0 1.0 1.0 (1.0)

$cmy^3*$  0.0 0.0 0.0 (0.0)

$olv^4*$  1.0 1.0 1.0 1.0

$cmy^4*$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  93.38 -0.62 62.5

$LAB^*LABa$  93.38 -0.63 62.5

$LAB^*TChA$  75.0 62.5 90.59

relative CIELAB lab\*

$lab^*lab$  0.976 -0.004 0.5

$lab^*tch$  0.75 0.5 0.252

$lab^*nch$  0.0 0.5 0.252

relative Natural Colour (NC)

$lab^*lrij$  0.976 0.02 0.499

$lab^*tce$  0.75 0.2 0.243

$lab^*ncE$  0.0 0.5 r97j

relative Inform. Technology (IT)

$olv^3*$  0.5 0.5 0.5 (1.0)

$cmy^3*$  0.5 0.5 0.5 (0.0)

$olv^4*$  1.0 1.0 1.0 0.5

$cmy^4*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  53.21 0.04 0.0

$LAB^*LABa$  53.21 0.0 0.0

$LAB^*TChA$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.5 0.0 0.0

$lab^*tce$  0.5 0.0 0.0

$lab^*ncE$  0.5 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  51.18 -0.59 62.51

$LAB^*LABa$  51.18 -0.63 62.5

$LAB^*TChA$  25.01 62.5 90.59

relative CIELAB lab\*

$lab^*lab$  0.476 -0.004 0.5

$lab^*tch$  0.25 0.5 0.252

$lab^*nch$  0.5 0.5 0.252

relative Natural Colour (NC)

$lab^*lrij$  0.476 0.02 0.499

$lab^*tce$  0.25 0.5 0.243

$lab^*ncE$  0.5 0.5 r97j

$n^* = 1,0$

%Gamut

$u^*_{rel} = 149$

%Regularity

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

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

relative Inform. Technology (IT)

$olv^3*$  1.0 1.0 0.5 (1.0)

$cmy^3*$  0.0 0.0 0.0 (0.0)

$olv^4*$  1.0 1.0 1.0 1.0

$cmy^4*$  0.0 0.0 0.0 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 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  93.38 -0.62 62.5

$LAB^*LABa$  93.38 -0.63 62.5

$LAB^*TChA$  75.0 62.5 90.59

relative CIELAB lab\*

$lab^*lab$  0.976 -0.004 0.5

$lab^*tch$  0.75 0.5 0.252

$lab^*nch$  0.0 0.5 0.252

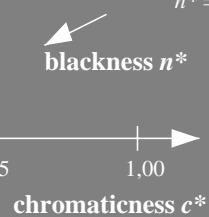
relative Natural Colour (NC)

$lab^*lrij$  0.976 0.02 0.499

$lab^*tce$  0.75 0.2 0.243

$lab^*ncE$  0.0 0.5 r97j

$n^* = 0,00$



## Output: Colorimetric Reflective System TRS18

for hue  $h^* = lab^*h = 96/360 = 0.268$

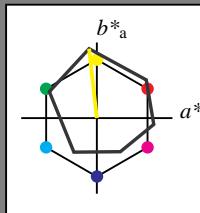
$lab^*tch$  and  $lab^*nch$

D65: hue Y

LCH\*Ma: 90 92 96

olv\*Ma: 1.0 1.0 0.0

triangle lightness  $t^*$



### TRS18; adapted (a) CIELAB data

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

$olv^3*$  1.0 1.0 1.0 (1.0)

$cmy^3*$  0.0 0.0 0.0 (0.0)

$olv^4*$  1.0 1.0 1.0 1.0

$cmy^4*$  0.0 0.0 0.0 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 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  92.88 -6.06 50.46

$LAB^*LABa$  92.88 -5.13 45.87

$LAB^*TChA$  75.0 46.16 96.39

relative CIELAB lab\*

$lab^*lab$  0.967 -0.055 0.497

$lab^*tch$  0.75 0.5 0.268

$lab^*nch$  0.0 0.5 0.268

relative Natural Colour (NC)

$lab^*lrij$  0.967 -0.048 0.497

$lab^*tce$  0.75 0.5 0.266

$lab^*ncE$  0.0 0.5 j06g

$n^* = 0,00$

relative Inform. Technology (IT)

$olv^3*$  0.0 0.0 0.0 (1.0)

$cmy^3*$  0.0 0.0 0.0 (0.0)

$olv^4*$  1.0 1.0 1.0 1.0

$cmy^4*$  0.0 0.0 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  90.37 -11.15 96.17

$LAB^*LABa$  90.37 -10.26 91.75

$LAB^*TChA$  50.0 92.32 96.39

relative CIELAB lab\*

$lab^*lab$  0.935 -0.11 0.994

$lab^*tch$  0.5 1.0 0.268

$lab^*nch$  0.0 1.0 0.268

relative Natural Colour (NC)

$lab^*lrij$  0.935 -0.097 0.995

$lab^*tce$  0.5 1.0 0.266

$lab^*ncE$  0.0 1.0 j06g

$n^* = 1,0$

relative Inform. Technology (IT)

$olv^3*$  1.0 1.0 1.0 (1.0)

$cmy^3*$  0.0 0.0 0.0 (0.0)

$olv^4*$  1.0 1.0 1.0 1.0

$cmy^4*$  0.0 0.0 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.5 -0.46

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TChA$  0.01

## Input: Colorimetric Reflective System NCS11

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

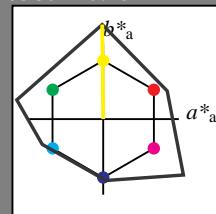
$lab^*tch$  and  $lab^*nch$

D65: hue J

LCH\*Ma: 91 125 91

olv\*Ma: 1.0 1.0 0.0

triangle lightness  $t^*$



## NCS11; adapted (a) CIELAB data

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

relative Inform. Technology (IT)

$olv^3*$  1.0 1.0 1.0 (1.0)

$cmy^3*$  0.0 0.0 0.0 (0.0)

$olv^4*$  1.0 1.0 1.0 1.0

$cmy^4*$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  93.38 -0.62 62.5

$LAB^*LABa$  93.38 -0.63 62.5

$LAB^*TChA$  75.0 62.5 90.59

relative CIELAB lab\*

$lab^*lab$  0.976 -0.004 0.5

$lab^*tch$  0.75 0.5 0.252

$lab^*nch$  0.0 0.5 0.252

relative Natural Colour (NC)

$lab^*lrij$  0.976 0.02 0.499

$lab^*tce$  0.75 0.2 0.243

$lab^*ncE$  0.0 0.5 r97j

relative Inform. Technology (IT)

$olv^3*$  0.5 0.5 0.5 (1.0)

$cmy^3*$  0.5 0.5 0.5 (0.0)

$olv^4*$  1.0 1.0 1.0 0.5

$cmy^4*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  53.21 0.04 0.0

$LAB^*LABa$  53.21 0.0 0.0

$LAB^*TChA$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.5 0.0 0.0

$lab^*tce$  0.5 0.0 0.0

$lab^*ncE$  0.5 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  51.18 -0.59 62.51

$LAB^*LABa$  51.18 -0.63 62.5

$LAB^*TChA$  25.01 62.5 90.59

relative CIELAB lab\*

$lab^*lab$  0.476 -0.004 0.5

$lab^*tch$  0.25 0.5 0.252

$lab^*nch$  0.5 0.5 0.252

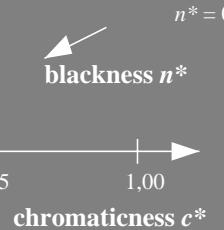
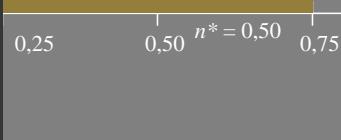
relative Natural Colour (NC)

$lab^*lrij$  0.476 0.02 0.499

$lab^*tce$  0.25 0.5 0.243

$lab^*ncE$  0.5 0.5 r97j

$n^* = 1,0$



chromaticness  $c^*$

## Output: Colorimetric Reflective System MRS18a

for hue  $h^* = lab^*h = 94/360 = 0.262$

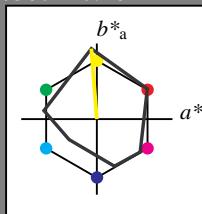
$lab^*tch$  and  $lab^*nch$

D65: hue J

LCH\*Ma: 91 93 94

olv\*Ma: 1.0 1.0 0.0

triangle lightness  $t^*$



## MRS18a; adapted (a) CIELAB data

	$L^* = L^*_{ab}$	$a^*_{ab}$	$b^*_{ab}$	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	49.63	66.8	40.02	77.87	31
JMa	90.7	-7.27	93.19	93.48	94
GMa	52.11	-69.93	11.26	70.85	171
G50BMa	45.03	-36.65	-27.13	45.61	217
BMa	36.65	23.26	-62.27	66.49	290
B50RMa	34.94	57.27	-43.6	71.99	323
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	272

relative Inform. Technology (IT)

$olv^3*$  1.0 1.0 1.0 (1.0)

$cmy^3*$  0.0 0.0 0.0 (0.0)

$olv^4*$  1.0 1.0 1.0 1.0

$cmy^4*$  0.0 0.0 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  95.41 0.01 0.0

$LAB^*LABa$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  93.05 -3.61 46.59

$LAB^*LABa$  93.05 -3.63 46.59

$LAB^*TChA$  75.0 46.73 94.46

relative CIELAB lab\*

$lab^*lab$  0.969 -0.038 0.498

$lab^*tch$  0.75 0.5 0.262

$lab^*nch$  0.0 0.5 0.262

relative Natural Colour (NC)

$lab^*lrij$  0.969 -0.023 0.499

$lab^*tce$  0.75 0.5 0.258

$lab^*ncE$  0.0 0.5 j03g

relative Inform. Technology (IT)

$olv^3*$  1.0 1.0 0.0 (1.0)

$cmy^3*$  0.0 0.0 0.0 (0.0)

$olv^4*$  1.0 1.0 0.5 1.0

$cmy^4*$  0.0 0.0 0.5 0.5

standard and adapted CIELAB

$LAB^*LAB$  90.69 -7.25 93.17

$LAB^*LABa$  90.69 -7.26 93.18

$LAB^*TChA$  50.0 93.46 94.46

relative CIELAB lab\*

$lab^*lab$  0.939 -0.077 0.997

$lab^*tch$  0.5 1.0 0.262

$lab^*nch$  0.0 1.0 0.262

relative Natural Colour (NC)

$lab^*lrij$  0.939 -0.047 0.999

$lab^*tce$  0.5 1.0 0.258

$lab^*ncE$  0.0 1.0 j03g

$n^* = 0,00$



blackness  $n^*$

$n^* = 1,0$



chromaticness  $c^*$

UE100-7, 3 step scales for constant CIELAB hue 91/360 = 0.252 (left)

3 step scales for constant CIELAB hue 94/360 = 0.262 (right)

## Input: Colorimetric Reflective System NCS11

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

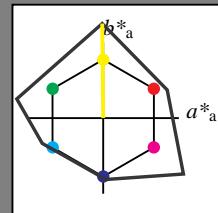
$lab^*tch$  and  $lab^*nch$

D65: hue J

LCH\*Ma: 91 125 91

olv\*Ma: 1.0 1.0 0.0

triangle lightness  $t^*$



relative Inform. Technology (IT)

olv*i*3\* 1.0 1.0 1.0 (1.0)

cmy*n*3\* 0.0 0.0 0.0 (0.0)

olv*i*4\* 1.0 1.0 1.0 1.0

cmy*n*4\* 0.0 0.0 0.0 0.0

standard and adapted CIELAB

LAB\*LAB 95.41 0.0 -0.01

LAB\*LAB*a* 95.41 0.0 0.0

LAB\*TCh*a* 99.99 0.01 -

relative CIELAB lab\*

lab\**lab* 1.0 0.0 0.0

lab\**tch* 1.0 0.0 -

lab\**nch* 0.0 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 -

standard and adapted CIELAB

LAB\*LAB 93.38 -0.62 62.5

LAB\*LAB*a* 93.38 -0.63 62.5

LAB\*TCh*a* 75.0 62.5 90.59

relative CIELAB lab\*

lab\**lab* 0.976 -0.004 0.5

lab\**tch* 0.75 0.5 0.252

lab\**nch* 0.0 0.5 0.252

relative Natural Colour (NC)

lab\**lrj* 0.976 0.02 0.499

lab\**tce* 0.75 0.2 0.243

lab\**ncE* 0.0 0.5 r97j

relative Inform. Technology (IT)

olv*i*3\* 0.5 0.5 0.5 (1.0)

cmy*n*3\* 0.5 0.5 0.5 (0.0)

olv*i*4\* 1.0 1.0 1.0 0.5

cmy*n*4\* 0.0 0.0 0.5

standard and adapted CIELAB

LAB\*LAB 53.21 0.04 0.0

LAB\*LAB*a* 53.21 0.0 0.0

LAB\*TCh*a* 50.0 0.01 -

relative CIELAB lab\*

lab\**lab* 0.5 0.0 0.0

lab\**tch* 0.5 0.0 -

lab\**nch* 0.5 0.0 -

relative Natural Colour (NC)

lab\**lrj* 0.5 0.0 0.0

lab\**tce* 0.5 0.0 0.0

lab\**ncE* 0.5 0.0 -

standard and adapted CIELAB

LAB\*LAB 11.01 0.07 0.01

LAB\*LAB*a* 11.01 0.0 0.0

LAB\*TCh*a* 0.01 0.01 -

relative CIELAB lab\*

lab\**lab* 0.0 0.0 0.0

lab\**tch* 0.0 0.0 -

lab\**nch* 1.0 0.0 -

relative Natural Colour (NC)

lab\**lrj* 0.0 0.0 0.0

lab\**tce* 0.0 0.0 -

lab\**ncE* 1.0 0.0 -

$n^* = 1,0$

## NCS11; adapted (a) CIELAB data

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

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

%Gamut

$u^*_{rel} = 149$

%Regularity

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

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

relative Inform. Technology (IT)

olv*i*3\* 1.0 1.0 0.5 (1.0)

cmy*n*3\* 0.0 0.0 0.5 (0.0)

olv*i*4\* 1.0 1.0 0.5 1.0

cmy*n*4\* 0.0 0.0 0.5 0.0

standard and adapted CIELAB

LAB\*LAB 93.38 -0.62 62.5

LAB\*LAB*a* 93.38 -0.63 62.5

LAB\*TCh*a* 75.0 62.5 90.59

relative CIELAB lab\*

lab\**lab* 0.976 -0.004 0.5

lab\**tch* 0.75 0.5 0.252

lab\**nch* 0.0 0.5 0.252

relative Natural Colour (NC)

lab\**lrj* 0.976 0.02 0.499

lab\**tce* 0.75 0.2 0.243

lab\**ncE* 0.0 0.5 r97j

standard and adapted CIELAB

LAB\*LAB 91.36 -1.26 125.0

LAB\*LAB*a* 91.36 -1.27 125.0

LAB\*TCh*a* 50.0 0.01 -

relative CIELAB lab\*

lab\**lab* 0.952 -0.009 1.0

lab\**tch* 0.5 1.0 0.252

lab\**nch* 0.0 1.0 0.252

relative Natural Colour (NC)

lab\**lrj* 0.952 0.041 0.999

lab\**tce* 0.5 1.0 0.243

lab\**ncE* 0.0 1.0 r97j

standard and adapted CIELAB

LAB\*LAB 51.18 -0.59 62.51

LAB\*LAB*a* 51.18 -0.63 62.5

LAB\*TCh*a* 25.01 62.5 90.59

relative CIELAB lab\*

lab\**lab* 0.476 -0.004 0.5

lab\**tch* 0.25 0.5 0.252

lab\**nch* 0.5 0.5 0.252

relative Natural Colour (NC)

lab\**lrj* 0.476 0.02 0.499

lab\**tce* 0.25 0.5 0.243

lab\**ncE* 0.5 0.5 r97j

standard and adapted CIELAB

LAB\*LAB 11.01 0.07 0.01

LAB\*LAB*a* 11.01 0.0 0.0

LAB\*TCh*a* 0.01 0.01 -

relative CIELAB lab\*

lab\**lab* 0.0 0.0 0.0

lab\**tch* 0.0 0.0 -

lab\**nch* 1.0 0.0 -

relative Natural Colour (NC)

lab\**lrj* 0.0 0.0 0.0

lab\**tce* 0.0 0.0 -

lab\**ncE* 1.0 0.0 -

standard and adapted CIELAB

LAB\*LAB 11.01 0.07 0.01

LAB\*LAB*a* 11.01 0.0 0.0

LAB\*TCh*a* 0.01 0.01 -

relative CIELAB lab\*

lab\**lab* 0.0 0.0 0.0

lab\**tch* 0.0 0.0 -

lab\**nch* 1.0 0.0 -

relative Natural Colour (NC)

lab\**lrj* 0.0 0.0 0.0

lab\**tce* 0.0 0.0 -

lab\**ncE* 1.0 0.0 -

$n^* = 0,00$

$n^* = 0,00$

blackness  $n^*$

$n^* = 0,50$

chromaticness  $c^*$

## Output: Colorimetric Reflective System NRS18

for hue  $h^* = lab^*h = 91/360 = 0.253$

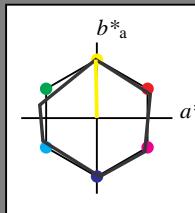
$lab^*tch$  and  $lab^*nch$

D65: hue J

LCH\*Ma: 57 77 91

olv\*Ma: 1.0 1.0 0.0

triangle lightness  $t^*$



%Gamut

$u^*_{rel} = 100$

%Regularity

$g^*_{H,rel} = 47$

$g^*_{C,rel} = 100$

relative Inform. Technology (IT)

olv*i*3\* 1.0 1.0 0.5 (1.0)

cmy*n*3\* 0.0 0.0 0.5 (0.0)

olv*i*4\* 1.0 1.0 0.5 1.0

cmy*n*4\* 0.0 0.0 0.5 0.0

standard and adapted CIELAB

LAB\*LAB 76.05 -0.6 -38.68

LAB\*LAB*a* 76.05 -0.69 38.68

LAB\*TCh*a* 75.0 38.69 91.04

relative CIELAB lab\*

lab\**lab* 0.75 -0.008 0.5

lab\**tch* 0.75 0.5 0.253

lab\**nch* 0.0 0.5 0.253

relative Natural Colour (NC)

lab\**lrj* 0.75 0.015 0.245

lab\**tce* 0.75 0.5 0.245

lab\**ncE* 0.0 0.5 r98j

relative Inform. Technology (IT)

olv*i*3\* 0.5 0.5 0.5 (1.0)

cmy*n*3\* 0.5 0.5 0.5 (0.0)

olv*i*4\* 1.0 1.0 0.5 0.5

cmy*n*4\* 0.0 0.0 0.5 0.5

standard and adapted CIELAB

LAB\*LAB 37.36 -0.62 38.7

LAB\*LAB*a* 37.36 -0.69 38.68

LAB\*TCh*a* 25.01 38.69 91.04

relative CIELAB lab\*

lab\**lab* 0.25 -0.008 0.5

lab\**tch* 0.25 0.5 0.253

lab\**nch* 0.5 0.5 0.253

relative Natural Colour (NC)

lab\**lrj* 0.25 0.015 0.5

lab\**tce* 0.25 0.5 0.245

lab\**ncE* 0.5 0.5 r98j

$n^* = 1,0$

## Input: Colorimetric Reflective System NCS11

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

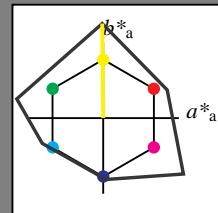
$lab^*tch$  and  $lab^*nch$

D65: hue J

LCH\*Ma: 91 125 91

olv\*Ma: 1.0 1.0 0.0

triangle lightness  $t^*$



%Gamut

$u^*_{rel} = 149$

%Regularity

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

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

relative Inform. Technology (IT)

$olv13^*$  1.0 1.0 1.0 (1.0)

$cmy3^*$  0.0 0.0 0.0 (0.0)

$olv4^*$  1.0 1.0 1.0 1.0

$cmy4^*$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*ice$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)

$olv13^*$  0.5 0.5 0.5 (1.0)

$cmy3^*$  0.5 0.5 0.5 (0.0)

$olv4^*$  1.0 1.0 1.0 0.5

$cmy4^*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  53.21 0.04 0.0

$LAB^*LABa$  53.21 0.0 0.0

$LAB^*TChA$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.5 0.0 0.0

$lab^*ice$  0.5 0.0 0.0

$lab^*ncE$  0.5 0.0 -

relative Inform. Technology (IT)

$olv13^*$  0.0 0.0 0.0 (1.0)

$cmy3^*$  1.0 1.0 1.0 (0.0)

$olv4^*$  1.0 1.0 1.0 0.0

$cmy4^*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  11.01 0.07 0.01

$LAB^*LABa$  11.01 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*ice$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

## NCS11; adapted (a) CIELAB data

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

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

## Output: Colorimetric Reflective System NCS18

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

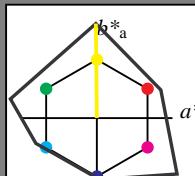
$lab^*tch$  and  $lab^*nch$

D65: hue J

LCH\*Ma: 91 125 91

olv\*Ma: 1.0 1.0 0.0

triangle lightness  $t^*$



%Gamut

$u^*_{rel} = 136$

%Regularity

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

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

relative Inform. Technology (IT)

$olv13^*$  1.0 1.0 1.0 (1.0)

$cmy3^*$  0.0 0.0 0.0 (0.0)

$olv4^*$  1.0 1.0 1.0 1.0

$cmy4^*$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*ice$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)

$olv13^*$  0.5 0.5 0.5 (1.0)

$cmy3^*$  0.5 0.5 0.5 (0.0)

$olv4^*$  1.0 1.0 1.0 0.5

$cmy4^*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  53.21 0.04 0.0

$LAB^*LABa$  53.21 0.0 0.0

$LAB^*TChA$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.0 1.0 0.252

relative Natural Colour (NC)

$lab^*lrij$  0.952 0.041 0.999

$lab^*ice$  0.5 1.0 0.243

$lab^*ncE$  0.0 1.0 r97j

$n^* = 0,00$

blackness  $n^*$

chromaticness  $c^*$

$n^* = 1,0$

## NCS18; adapted (a) CIELAB data

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

RMa	47.15	84.63	37.24	92.46	24
JMa	91.37	-1.27	125.03	125.03	91
GMa	63.07	-114.29	25.34	117.07	167
G50BMa	59.47	-80.61	-33.45	87.29	203
BMa	49.01	3.63	-81.2	81.29	273
B50RMa	44.06	106.07	-73.94	129.31	325
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	272

relative Inform. Technology (IT)

$olv13^*$  1.0 1.0 1.0 (1.0)

$cmy3^*$  0.0 0.0 0.5 (0.0)

$olv4^*$  1.0 1.0 1.0 1.0

$cmy4^*$  0.0 0.0 0.5 0.0

standard and adapted CIELAB

$LAB^*LAB$  93.38 -0.62 62.5

$LAB^*LABa$  93.38 -0.63 62.5

$LAB^*TChA$  75.0 62.5 90.59

relative CIELAB lab\*

$lab^*lab$  0.974 -0.004 0.5

$lab^*tch$  0.75 0.5 0.252

$lab^*nch$  0.0 0.5 0.252

relative Natural Colour (NC)

$lab^*lrij$  0.974 0.021 0.499

$lab^*ice$  0.75 0.5 0.243

$lab^*ncE$  0.0 0.5 r97j

$n^* = 0,00$

blackness  $n^*$

chromaticness  $c^*$

$n^* = 1,0$

$n^* = 0,00$

blackness  $n^*$

chromaticness  $c^*$

$n^* = 1,0$

UE100-7, 3 step scales for constant CIELAB hue 91/360 = 0.252 (left)

3 step scales for constant CIELAB hue 91/360 = 0.252 (right)

## Input: Colorimetric Reflective System NCS11

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

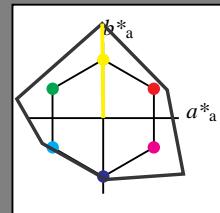
$lab^*tch$  and  $lab^*nch$

D65: hue J

LCH\*Ma: 91 125 91

olv\*Ma: 1.0 1.0 0.0

triangle lightness  $t^*$



%Gamut

$u^*_{rel} = 149$

%Regularity

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

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

relative Inform. Technology (IT)

$olv^3*$  1.0 1.0 1.0 (1.0)

$cmy^3*$  0.0 0.0 0.0 (0.0)

$olv^4*$  1.0 1.0 1.0 1.0

$cmy^4*$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*ice$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)

$olv^3*$  0.5 0.5 0.5 (1.0)

$cmy^3*$  0.5 0.5 0.5 (0.0)

$olv^4*$  1.0 1.0 1.0 0.5

$cmy^4*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  53.21 0.04 0.0

$LAB^*LABa$  53.21 0.0 0.0

$LAB^*TChA$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.5 0.0 0.0

$lab^*ice$  0.5 0.0 0.0

$lab^*ncE$  0.5 0.0 -

relative Inform. Technology (IT)

$olv^3*$  0.0 0.0 0.0 (1.0)

$cmy^3*$  1.0 1.0 1.0 (0.0)

$olv^4*$  1.0 1.0 1.0 0.0

$cmy^4*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  11.01 0.07 0.01

$LAB^*LABa$  11.01 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*ice$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

## NCS11; adapted (a) CIELAB data

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

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

## Output: Colorimetric Reflective System NRS11

for hue  $h^* = lab^*h = 91/360 = 0.253$

$lab^*tch$  and  $lab^*nch$

D65: hue J

LCH\*Ma: 53 84 91

olv\*Ma: 1.0 1.0 0.0

triangle lightness  $t^*$

## NRS11; adapted (a) CIELAB data

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

RMa	53.2	77.06	34.32	84.36	24
JMa	53.2	-1.51	84.38	84.39	91
GMa	53.2	-82.27	18.98	84.44	167
G50BMa	53.2	-77.72	-32.98	84.44	203
BMa	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

$n^* = 0,00$



blackness  $n^*$



chromaticness  $c^*$

$n^* = 1,0$

3 step scales for constant CIELAB hue 91/360 = 0.253 (right)

$n^* = 0,00$



blackness  $n^*$



chromaticness  $c^*$

UE100-7, 3 step scales for constant CIELAB hue 91/360 = 0.252 (left)

## Input: Colorimetric Reflective System NCS11

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

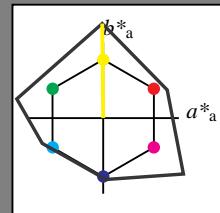
$lab^*tch$  and  $lab^*nch$

D65: hue J

LCH\*Ma: 91 125 91

olv\*Ma: 1.0 1.0 0.0

triangle lightness  $t^*$



%Gamut

$u^*_{rel} = 149$

%Regularity

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

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

relative Inform. Technology (IT)

$olv^3*$  1.0 1.0 1.0 (1.0)

$cmy^3*$  0.0 0.0 0.0 (0.0)

$olv^4*$  1.0 1.0 1.0 1.0

$cmy^4*$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)

$olv^3*$  0.5 0.5 0.5 (1.0)

$cmy^3*$  0.5 0.5 0.5 (0.0)

$olv^4*$  1.0 1.0 1.0 0.5

$cmy^4*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  53.21 0.04 0.0

$LAB^*LABa$  53.21 0.0 0.0

$LAB^*TChA$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.5 0.0 0.0

$lab^*tce$  0.5 0.0 0.0

$lab^*ncE$  0.5 0.0 -

relative Inform. Technology (IT)

$olv^3*$  0.0 0.0 0.0 (1.0)

$cmy^3*$  1.0 1.0 1.0 (0.0)

$olv^4*$  1.0 1.0 1.0 0.0

$cmy^4*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  11.01 0.07 0.01

$LAB^*LABa$  11.01 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*tce$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

## NCS11; adapted (a) CIELAB data

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

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

## Output: 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

olv\*Ma: 1.0 1.0 0.0

triangle lightness  $t^*$

## NCS11; adapted (a) CIELAB data

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

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

relative Inform. Technology (IT)

$olv^3*$  1.0 1.0 1.0 (1.0)

$cmy^3*$  0.0 0.0 0.0 (0.0)

$olv^4*$  1.0 1.0 1.0 1.0

$cmy^4*$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)

$olv^3*$  0.5 0.5 0.5 (1.0)

$cmy^3*$  0.5 0.5 0.5 (0.0)

$olv^4*$  1.0 1.0 1.0 0.5

$cmy^4*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  53.21 0.04 0.0

$LAB^*LABa$  53.21 0.0 0.0

$LAB^*TChA$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.976 -0.004 0.5

$lab^*tch$  0.75 0.5 0.252

$lab^*nch$  0.0 1.0 0.252

relative Natural Colour (NC)

$lab^*lrij$  0.976 0.02 0.499

$lab^*tce$  0.75 0.5 0.243

$lab^*ncE$  0.0 1.0 r97j

relative Inform. Technology (IT)

$olv^3*$  0.5 0.5 0.5 (1.0)

$cmy^3*$  0.5 0.5 0.5 (0.0)

$olv^4*$  1.0 1.0 0.5 0.5

$cmy^4*$  0.0 0.0 0.5 0.5

standard and adapted CIELAB

$LAB^*LAB$  51.18 -0.59 62.51

$LAB^*LABa$  51.18 -0.63 62.5

$LAB^*TChA$  25.01 62.5 90.59

relative CIELAB lab\*

$lab^*lab$  0.476 -0.004 0.5

$lab^*tch$  0.25 0.5 0.252

$lab^*nch$  0.5 0.5 0.252

relative Natural Colour (NC)

$lab^*lrij$  0.476 0.02 0.499

$lab^*tce$  0.25 0.5 0.243

$lab^*ncE$  0.5 0.5 r97j

$n^* = 0,00$

blackness  $n^*$

chromaticness  $c^*$

$n^* = 1,0$

blackness  $n^*$

chromaticness  $c^*$

$n^* = 0,00$

blackness  $n^*$

chromaticness  $c^*$

$n^* = 1,0$

$n^* = 0,00$

blackness  $n^*$

chromaticness  $c^*$

$n^* = 1,0$

blackness  $n^*$

chromaticness  $c^*$

$n^* = 0,00$

blackness  $n^*$

chromaticness  $c^*$

$n^* = 1,0$

blackness  $n^*$

chromaticness  $c^*$

$n^* = 0,00$

blackness  $n^*$

chromaticness  $c^*$

$n^* = 1,0$

blackness  $n^*$

chromaticness  $c^*$

$n^* = 0,00$

blackness  $n^*$

chromaticness  $c^*$

$n^* = 1,0$

blackness  $n^*$

chromaticness  $c^*$

$n^* = 0,00$

blackness  $n^*$

chromaticness  $c^*$

$n^* = 1,0$

blackness  $n^*$

chromaticness  $c^*$

$n^* = 0,00$

blackness  $n^*$

chromaticness  $c^*$

$n^* = 1,0$

blackness  $n^*$

chromaticness  $c^*$

$n^* = 0,00$

blackness  $n^*$

chromaticness  $c^*$

$n^* = 1,0$

blackness  $n^*$

chromaticness  $c^*$

$n^* = 0,00$

blackness  $n^*$

chromaticness  $c^*$

$n^* = 1,0$

blackness  $n^*$

chromaticness  $c^*$

## Input: Colorimetric Reflective System ORS18

for hue  $h^* = lab^*h = 151/360 = 0.419$

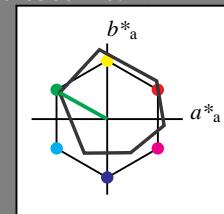
$lab^*tch$  and  $lab^*nch$

D65: hue L

LCH\*Ma: 51 72 151

olv\*Ma: 0.0 1.0 0.0

triangle lightness  $t^*$



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\*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 0.0 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 -

standard and adapted CIELAB

LAB\*LAB 73.15 -31.94 20.73

LAB\*LABa 73.15 -31.38 17.47

LAB\*TChA 75.0 35.93 150.91

relative CIELAB lab\*

lab\*lab 0.712 -0.436 0.243

lab\*tch 0.75 0.5 0.419

lab\*nch 0.0 0.5 0.419

relative Natural Colour (NC)

lab\*lrj 0.712 -0.478 0.144

lab\*tce 0.75 0.2 0.453

lab\*ncE 0.0 0.5 j81g

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 0.5

cmyn4\* 0.0 0.0 0.0 0.5

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 CIELAB lab\*

lab\*lab 0.5 0.0 0.0

lab\*tch 0.5 0.0 -

lab\*nch 0.5 0.0 -

relative Natural Colour (NC)

lab\*lrj 0.5 0.0 0.0

lab\*tce 0.5 0.0 0.0

lab\*ncE 0.5 0.0 -

standard and adapted CIELAB

LAB\*LAB 18.02 0.5 -0.46

LAB\*LABa 18.02 0.0 0.0

LAB\*TChA 0.01 0.01 -

relative CIELAB lab\*

lab\*lab 0.0 0.0 0.0

lab\*tch 0.0 0.0 -

lab\*nch 1.0 0.0 -

relative Natural Colour (NC)

lab\*lrj 0.0 0.0 0.0

lab\*tce 0.0 0.0 -

lab\*ncE 1.0 0.0 -

$n^* = 1,0$

relative Inform. Technology (IT)

olvi3\* 0.0 0.0 0.0 (1.0)

cmyn3\* 1.0 1.0 1.0 (0.0)

olvi4\* 1.0 1.0 1.0 0.0

cmyn4\* 0.0 0.0 0.0 1.0

standard and adapted CIELAB

LAB\*LAB 18.02 0.5 -0.46

LAB\*LABa 18.02 0.0 0.0

LAB\*TChA 0.01 0.01 -

relative CIELAB lab\*

lab\*lab 0.213 -0.436 0.243

lab\*tch 0.25 0.5 0.419

lab\*nch 0.5 0.5 0.419

relative Natural Colour (NC)

lab\*lrj 0.213 -0.478 0.144

lab\*tce 0.25 0.5 0.453

lab\*ncE 0.5 0.5 j81g

standard and adapted CIELAB

LAB\*LAB 18.02 0.5 -0.46

LAB\*LABa 18.02 0.0 0.0

LAB\*TChA 0.01 0.01 -

relative CIELAB lab\*

lab\*lab 0.213 -0.436 0.243

lab\*tch 0.25 0.5 0.419

lab\*nch 0.5 0.5 0.419

relative Natural Colour (NC)

lab\*lrj 0.213 -0.478 0.144

lab\*tce 0.25 0.5 0.453

lab\*ncE 0.5 0.5 j81g

standard and adapted CIELAB

LAB\*LAB 18.02 0.5 -0.46

LAB\*LABa 18.02 0.0 0.0

LAB\*TChA 0.01 0.01 -

relative CIELAB lab\*

lab\*lab 0.213 -0.436 0.243

lab\*tch 0.25 0.5 0.419

lab\*nch 0.5 0.5 0.419

relative Natural Colour (NC)

lab\*lrj 0.213 -0.478 0.144

lab\*tce 0.25 0.5 0.453

lab\*ncE 0.5 0.5 j81g

standard and adapted CIELAB

LAB\*LAB 18.02 0.5 -0.46

LAB\*LABa 18.02 0.0 0.0

LAB\*TChA 0.01 0.01 -

relative CIELAB lab\*

lab\*lab 0.213 -0.436 0.243

lab\*tch 0.25 0.5 0.419

lab\*nch 0.5 0.5 0.419

relative Natural Colour (NC)

lab\*lrj 0.213 -0.478 0.144

lab\*tce 0.25 0.5 0.453

lab\*ncE 0.5 0.5 j81g

standard and adapted CIELAB

LAB\*LAB 18.02 0.5 -0.46

LAB\*LABa 18.02 0.0 0.0

LAB\*TChA 0.01 0.01 -

relative CIELAB lab\*

lab\*lab 0.213 -0.436 0.243

lab\*tch 0.25 0.5 0.419

lab\*nch 0.5 0.5 0.419

relative Natural Colour (NC)

lab\*lrj 0.213 -0.478 0.144

lab\*tce 0.25 0.5 0.453

lab\*ncE 0.5 0.5 j81g

standard and adapted CIELAB

LAB\*LAB 18.02 0.5 -0.46

LAB\*LABa 18.02 0.0 0.0

LAB\*TChA 0.01 0.01 -

relative CIELAB lab\*

lab\*lab 0.213 -0.436 0.243

lab\*tch 0.25 0.5 0.419

lab\*nch 0.5 0.5 0.419

relative Natural Colour (NC)

lab\*lrj 0.213 -0.478 0.144

lab\*tce 0.25 0.5 0.453

lab\*ncE 0.5 0.5 j81g

standard and adapted CIELAB

LAB\*LAB 18.02 0.5 -0.46

LAB\*LABa 18.02 0.0 0.0

LAB\*TChA 0.01 0.01 -

relative CIELAB lab\*

lab\*lab 0.213 -0.436 0.243

lab\*tch 0.25 0.5 0.419

lab\*nch 0.5 0.5 0.419

relative Natural Colour (NC)

lab\*lrj 0.213 -0.478 0.144

lab\*tce 0.25 0.5 0.453

lab\*ncE 0.5 0.5 j81g

standard and adapted CIELAB

LAB\*LAB 18.02 0.5 -0.46

LAB\*LABa 18.02 0.0 0.0

LAB\*TChA 0.01 0.01 -

relative CIELAB lab\*

lab\*lab 0.213 -0.436 0.243

lab\*tch 0.25 0.5 0.419

lab\*nch 0.5 0.5 0.419

relative Natural Colour (NC)

lab\*lrj 0.213 -0.478 0.144

lab\*tce 0.25 0.5 0.453

lab\*ncE 0.5 0.5 j81g

standard and adapted CIELAB

LAB\*LAB 18.02 0.5 -0.46

LAB\*LABa 18.02 0.0 0.0

LAB\*TChA 0.01 0.01 -

relative CIELAB lab\*

lab\*lab 0.213 -0.436 0.243

lab\*tch 0.25 0.5 0.419

lab\*nch 0.5 0.5 0.419

relative Natural Colour (NC)

lab\*lrj 0.213 -0.478 0.144

lab\*tce 0.25 0.5 0.453

lab\*ncE 0.5 0.5 j81g

standard and adapted CIELAB

LAB\*LAB 18.02 0.5 -0.46

LAB\*LABa 18.02 0.0 0.0

LAB\*TChA 0.01 0.01 -

relative CIELAB lab\*

lab\*lab 0.213 -0.436 0.243

lab\*tch 0.25 0.5 0.419

lab\*nch 0.5 0.5 0.419

relative Natural Colour (NC)

lab\*lrj 0.213 -0.478 0.144

lab\*tce 0.25 0.5 0.453

lab\*ncE 0.5 0.5 j81g

standard and adapted CIELAB

LAB\*LAB 18.02 0.5 -0.46

LAB\*LABa 18.02 0.0 0.0

LAB\*TChA 0.01 0.01 -

relative CIELAB lab\*

lab\*lab 0.213 -0.436 0.243

lab\*tch 0.25 0.5 0.419

lab\*nch 0.5 0.5 0.419

relative Natural Colour (NC)

lab\*lrj 0.213 -0.478 0.144

lab\*tce 0.25 0.5 0.453

lab\*ncE 0.5 0.5 j81g

standard and adapted CIELAB

LAB\*LAB 18.02 0.5 -0.46

LAB\*LABa 18.02 0.0 0.0

LAB\*TChA 0.01 0.01 -

relative CIELAB lab\*

lab\*lab 0.213 -0.436 0.243

lab\*tch 0.25 0.5 0.419

lab\*nch 0.5 0.5 0.419

relative Natural Colour (NC)

lab\*lrj 0.213 -0.478 0.144

lab\*tce 0.25 0.5 0.453

lab\*ncE 0.5 0.5 j81g

standard and adapted CIELAB

LAB\*LAB 18.02 0.5 -0.46

LAB\*LABa 18.02 0.0 0.0

LAB\*TChA 0.01 0.01 -

relative CIELAB lab\*

lab\*lab 0.213 -0.436 0.243

lab\*tch 0.25 0.5 0.419

lab\*nch 0.5 0

## Input: Colorimetric Reflective System ORS18

for hue  $h^* = lab^*h = 151/360 = 0.419$

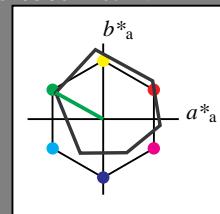
$lab^*tch$  and  $lab^*nch$

D65: hue L

LCH\*Ma: 51 72 151

olv\*Ma: 0.0 1.0 0.0

triangle lightness  $t^*$



relative Inform. Technology (IT)  
 $olv_i3^*$  1.0 1.0 1.0 (1.0)  
 $cmy_n3^*$  0.0 0.0 0.0 (0.0)

$olv_i4^*$  1.0 1.0 1.0 1.0  
 $cmy_n4^*$  0.0 0.0 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  95.41 -0.97 4.75

$LAB^*LAB_a$  95.41 0.0 0.0

$LAB^*TCh_a$  99.99 0.01 -

relative CIELAB lab\*

$lab^*lab$  1.0 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 -

$lab^*ncE$  0.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  73.15 -31.94 20.73

$LAB^*LAB_a$  73.15 -31.38 17.47

$LAB^*TCh_a$  75.0 35.93 150.91

relative CIELAB lab\*

$lab^*lab$  0.712 -0.436 0.243

$lab^*tch$  0.75 0.5 0.419

$lab^*nch$  0.0 0.5 0.419

relative Natural Colour (NC)

$lab^*lrij$  0.712 -0.478 0.144

$lab^*tce$  0.75 0.2 0.453

$lab^*ncE$  0.0 0.5 0.419

standard and adapted CIELAB

$LAB^*LAB$  56.71 -0.23 2.14

$LAB^*LAB_a$  56.71 0.0 0.0

$LAB^*TCh_a$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.5 0.0 0.0

$lab^*tce$  0.5 0.0 -

$lab^*ncE$  0.5 0.0 -

relative Inform. Technology (IT)

$olv_i3^*$  0.0 0.0 0.0 (1.0)

$cmy_n3^*$  1.0 1.0 1.0 (0.0)

$olv_i4^*$  1.0 1.0 1.0 0.0

$cmy_n4^*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.5 -0.46

$LAB^*LAB_a$  18.02 0.0 0.0

$LAB^*TCh_a$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*tce$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

ORS18; adapted (a) CIELAB data					
	$L^*=L^*_a$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
O Ma	47.94	65.37	50.52	82.62	38
Y Ma	90.37	-10.27	91.77	92.34	96
L Ma	50.9	-62.79	34.95	71.87	151
C Ma	58.62	-30.35	-45.01	54.3	236
V Ma	25.71	31.11	-44.42	54.24	305
M Ma	48.13	75.27	-8.35	75.73	354
N Ma	18.01	0.0	0.0	0.0	0
W Ma	95.41	0.0	0.0	0.0	0
R CIE	39.92	58.66	26.98	64.56	25
J CIE	81.26	-2.17	67.76	67.79	92
G CIE	52.23	-42.26	11.75	43.87	164
B CIE	30.57	1.15	-46.84	46.87	271

%Gamut

$u^*_{rel} = 93$

%Regularity

$g^*_{H,rel} = 57$

$g^*_{C,rel} = 59$

relative Inform. Technology (IT)

$olv_i3^*$  0.5 1.0 0.5 (1.0)

$cmy_n3^*$  0.5 0.5 0.5 (0.0)

$olv_i4^*$  0.5 1.0 0.5 1.0

$cmy_n4^*$  0.5 0.0 0.5 0.0

standard and adapted CIELAB

$LAB^*LAB$  73.15 -31.94 20.73

$LAB^*LAB_a$  73.15 -31.38 17.47

$LAB^*TCh_a$  75.0 35.93 150.91

relative CIELAB lab\*

$lab^*lab$  0.712 -0.436 0.243

$lab^*tch$  0.75 0.5 0.419

$lab^*nch$  0.0 0.5 0.419

relative Natural Colour (NC)

$lab^*lrij$  0.712 -0.478 0.144

$lab^*tce$  0.75 0.2 0.453

$lab^*ncE$  0.0 0.5 0.419

standard and adapted CIELAB

$LAB^*LAB$  50.9 -62.91 36.69

$LAB^*LAB_a$  50.9 -62.78 34.94

$LAB^*TCh_a$  50.0 71.86 150.91

relative CIELAB lab\*

$lab^*lab$  0.425 -0.873 0.486

$lab^*tch$  0.5 1.0 0.419

$lab^*nch$  0.0 1.0 0.419

relative Natural Colour (NC)

$lab^*lrij$  0.425 -0.956 0.289

$lab^*tce$  0.5 1.0 0.453

$lab^*ncE$  0.0 1.0 0.419

relative Inform. Technology (IT)

$olv_i3^*$  0.0 0.0 0.0 (1.0)

$cmy_n3^*$  1.0 1.0 1.0 (0.0)

$olv_i4^*$  1.0 1.0 1.0 0.0

$cmy_n4^*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.5 -0.46

$LAB^*LAB_a$  18.02 0.0 0.0

$LAB^*TCh_a$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

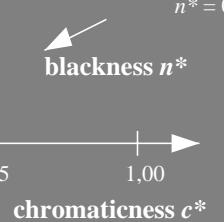
relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*tce$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 0,00$



$n^* = 0,00$

blackness  $n^*$

## Output: Colorimetric Reflective System MRS18

for hue  $h^* = lab^*h = 172/360 = 0.479$

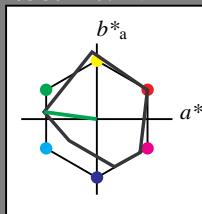
$lab^*tch$  and  $lab^*nch$

D65: hue G

LCH\*Ma: 52 70 172

olv\*Ma: 0.0 1.0 0.0

triangle lightness  $t^*$



%Gamut

$u^*_{rel} = 91$

%Regularity

$g^*_{H,rel} = 41$

$g^*_{C,rel} = 52$

relative Inform. Technology (IT)

$olv_i3^*$  1.0 1.0 1.0 (1.0)

$cmy_n3^*$  0.0 0.0 0.0 (0.0)

$olv_i4^*$  1.0 1.0 1.0 1.0

$cmy_n4^*$  0.0 0.0 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  95.41 -0.97 4.75

$LAB^*LAB_a$  95.41 0.0 0.0

$LAB^*TCh_a$  99.99 0.01 -

relative CIELAB lab\*

$lab^*lab$  1.0 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 -

$lab^*ncE$  0.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  73.75 -35.42 8.02

$LAB^*LAB_a$  73.75 -34.85 4.72

$LAB^*TCh_a$  75.0 35.18 172.29

relative CIELAB lab\*

$lab^*lab$  0.72 -0.494 0.067

$lab^*tch$  0.75 0.5 0.479

$lab^*nch$  0.0 0.5 0.479

relative Natural Colour (NC)

$lab^*lrij$  0.72 -0.496 -0.056

$lab^*tce$  0.75 0.5 0.518

$lab^*ncE$  0.0 0.5 0.507b

$n^* = 1,0$

MRS18; adapted (a) CIELAB data					
	$L^*=L^*_a$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
R Ma	49.63	66.96	38.37	77.18	30
J Ma	90.7	-6.36	88.75	88.98	94
G Ma	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
R CIE	39.92	58.66	26.98	64.56	25
J CIE	81.26	-2.17	67.76	67.79	92
G CIE	52.23	-42.26	11.75	43.87	164
B CIE	30.57	1.15	-46.84	46.87	271

%Gamut

$u^*_{rel} = 91$

%Regularity

$g^*_{H,rel} = 41$

$g^*_{C$

## Input: Colorimetric Reflective System ORS18

for hue  $h^* = lab^*h = 151/360 = 0.419$

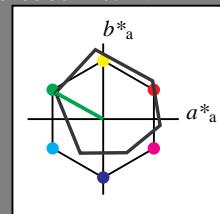
$lab^*tch$  and  $lab^*nch$

D65: hue L

LCH\*Ma: 51 72 151

olv\*Ma: 0.0 1.0 0.0

triangle lightness  $t^*$



### ORS18; adapted (a) CIELAB data

	$L^* = L^*_a$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
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)

$olvi3^*$  1.0 1.0 1.0 (1.0)

$cmy3^*$  0.0 0.0 0.0 (0.0)

$olv4^*$  1.0 1.0 1.0 1.0

$cmy4^*$  0.0 0.0 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  95.41 -0.97 4.75

$LAB^*LABa$  95.41 0.0 0.0

$LAB^*TCh$  99.99 0.01 -

relative CIELAB lab\*

$lab^*lab$  1.0 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  73.15 -31.94 20.73

$LAB^*LABa$  73.15 -31.38 17.47

$LAB^*TCh$  75.0 35.93 150.91

relative CIELAB lab\*

$lab^*lab$  0.712 -0.436 0.243

$lab^*tch$  0.75 0.5 0.419

$lab^*nch$  0.0 0.5 0.419

relative Natural Colour (NC)

$lab^*lrij$  0.712 -0.478 0.144

$lab^*tce$  0.75 0.2 0.453

$lab^*ncE$  0.0 0.5 j81g

relative Inform. Technology (IT)

$olvi3^*$  0.5 0.5 0.5 (1.0)

$cmy3^*$  0.5 0.5 0.5 (0.0)

$olv4^*$  1.0 1.0 1.0 0.5

$cmy4^*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  56.71 -0.23 2.14

$LAB^*LABa$  56.71 0.0 0.0

$LAB^*TCh$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.5 0.0 0.0

$lab^*tce$  0.5 0.0 0.0

$lab^*ncE$  0.5 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  34.46 -31.2 18.11

$LAB^*LABa$  34.46 -31.38 17.47

$LAB^*TCh$  25.01 35.93 150.91

relative CIELAB lab\*

$lab^*lab$  0.213 -0.436 0.243

$lab^*tch$  0.25 0.5 0.419

$lab^*nch$  0.5 0.5 0.419

relative Natural Colour (NC)

$lab^*lrij$  0.213 -0.478 0.144

$lab^*tce$  0.25 0.5 0.453

$lab^*ncE$  0.5 0.5 j81g

$n^* = 1,0$

### ORS18; adapted (a) CIELAB data

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

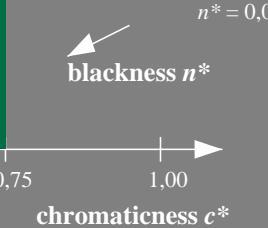
%Gamut

$u^*_{rel} = 93$

%Regularity

$g^*_{H,rel} = 57$

$g^*_{C,rel} = 59$



## Output: Colorimetric Reflective System TRS18

for hue  $h^* = lab^*h = 151/360 = 0.419$

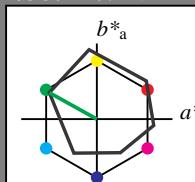
$lab^*tch$  and  $lab^*nch$

D65: hue L

LCH\*Ma: 51 72 151

olv\*Ma: 0.0 1.0 0.0

triangle lightness  $t^*$



### TRS18; adapted (a) CIELAB data

	$L^* = L^*_a$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
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)

$olvi3^*$  1.0 1.0 1.0 (1.0)

$cmy3^*$  0.0 0.0 0.0 (0.0)

$olv4^*$  1.0 1.0 1.0 1.0

$cmy4^*$  0.0 0.0 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  95.41 -0.97 4.75

$LAB^*LABa$  95.41 0.0 0.0

$LAB^*TCh$  99.99 0.01 -

relative CIELAB lab\*

$lab^*lab$  1.0 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  73.15 -31.94 20.73

$LAB^*LABa$  73.15 -31.38 17.47

$LAB^*TCh$  75.0 35.93 150.91

relative CIELAB lab\*

$lab^*lab$  0.712 -0.436 0.243

$lab^*tch$  0.75 0.5 0.419

$lab^*nch$  0.0 0.5 0.419

relative Natural Colour (NC)

$lab^*lrij$  0.712 -0.478 0.144

$lab^*tce$  0.75 0.2 0.453

$lab^*ncE$  0.0 0.5 j81g

$n^* = 1,00$

blackness  $n^*$

$n^* = 0,00$

blackness  $n^*$

	$L^* = L^*_a$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
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)

$olvi3^*$  0.5 1.0 0.5 (1.0)

$cmy3^*$  0.5 0.0 0.5 (0.0)

$olv4^*$  0.5 1.0 0.5 1.0

$cmy4^*$  0.5 0.0 0.5 0.0

standard and adapted CIELAB

$LAB^*LAB$  95.41 -0.97 4.75

$LAB^*LABa$  95.41 0.0 0.0

$LAB^*TCh$  99.99 0.01 -

relative CIELAB lab\*

$lab^*lab$  1.0 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

## Input: Colorimetric Reflective System ORS18

for hue  $h^* = lab^*h = 151/360 = 0.419$

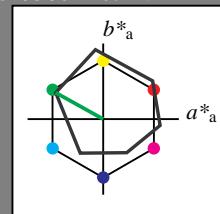
$lab^*tch$  and  $lab^*nch$

D65: hue L

LCH\*Ma: 51 72 151

olv\*Ma: 0.0 1.0 0.0

triangle lightness  $t^*$



### ORS18; adapted (a) CIELAB data

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

$olv^3*$  1.0 1.0 1.0 (1.0)

$cmy^3*$  0.0 0.0 0.0 (0.0)

$olv^4*$  1.0 1.0 1.0 1.0

$cmy^4*$  0.0 0.0 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  95.41 -0.97 4.75

$LAB^*LABa$  95.41 0.0 0.0

$LAB^*TCh$  99.99 0.01 -

relative CIELAB lab\*

$lab^*lab$  1.0 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*ice$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  73.15 -31.94 20.73

$LAB^*LABa$  73.15 -31.38 17.47

$LAB^*TCh$  75.0 35.93 150.91

relative CIELAB lab\*

$lab^*lab$  0.712 -0.436 0.243

$lab^*tch$  0.75 0.5 0.419

$lab^*nch$  0.0 0.5 0.419

relative Natural Colour (NC)

$lab^*lrij$  0.712 -0.478 0.144

$lab^*ice$  0.75 0.2 0.453

$lab^*ncE$  0.0 0.5 0.419

relative Inform. Technology (IT)

$olv^3*$  0.5 0.5 0.5 (1.0)

$cmy^3*$  0.5 0.5 0.5 (0.0)

$olv^4*$  1.0 1.0 1.0 0.5

$cmy^4*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  56.71 -0.23 2.14

$LAB^*LABa$  56.71 0.0 0.0

$LAB^*TCh$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.5 0.0 0.0

$lab^*ice$  0.5 0.0 0.0

$lab^*ncE$  0.5 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  34.46 -31.2 18.11

$LAB^*LABa$  34.46 -31.38 17.47

$LAB^*TCh$  25.01 35.93 150.91

relative CIELAB lab\*

$lab^*lab$  0.213 -0.436 0.243

$lab^*tch$  0.25 0.5 0.419

$lab^*nch$  0.5 0.5 0.419

relative Natural Colour (NC)

$lab^*lrij$  0.213 -0.478 0.144

$lab^*ice$  0.25 0.5 0.453

$lab^*ncE$  0.5 0.5 0.419

$n^* = 1,0$

### relative Inform. Technology (IT)

$olv^3*$  0.0 0.0 0.0 (1.0)

$cmy^3*$  1.0 1.0 1.0 (0.0)

$olv^4*$  1.0 1.0 1.0 0.0

$cmy^4*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.5 -0.46

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TCh$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*ice$  0.0 0.0 0.0

$lab^*ncE$  1.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.5 -0.46

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TCh$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.213 -0.436 0.243

$lab^*tch$  0.25 0.5 0.419

$lab^*nch$  0.5 0.5 0.419

relative Natural Colour (NC)

$lab^*lrij$  0.213 -0.478 0.144

$lab^*ice$  0.25 0.5 0.453

$lab^*ncE$  0.5 0.5 0.419

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.2 0.02

$LAB^*LABa$  18.02 0.1 0.02

$LAB^*TCh$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*ice$  0.0 0.0 0.0

$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

$n^* = 0,00$

blackness  $n^*$

chromaticness  $c^*$

## Output: Colorimetric Reflective System MRS18a

for hue  $h^* = lab^*h = 171/360 = 0.475$

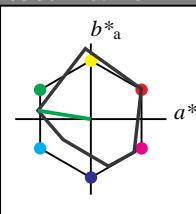
$lab^*tch$  and  $lab^*nch$

D65: hue G

LCH\*Ma: 52 71 171

olv\*Ma: 0.0 1.0 0.0

triangle lightness  $t^*$



### MRS18a; adapted (a) CIELAB data

	$L^* = L^*_{ab}$	$a^*_{ab}$	$b^*_{ab}$	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	49.63	66.8	40.02	77.87	31
JMa	90.7	-7.27	93.19	93.48	94
GMa	52.11	-69.93	11.26	70.85	171
G50BMa	45.03	-36.65	-27.13	45.61	217
BMa	36.65	23.26	-62.27	66.49	290
B50RMa	34.94	57.27	-43.6	71.99	323
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	272

relative Inform. Technology (IT)

$olv^3*$  1.0 1.0 1.0 (1.0)

$cmy^3*$  0.0 0.0 0.0 (0.0)

$olv^4*$  1.0 1.0 1.0 1.0

$cmy^4*$  0.0 0.0 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  95.41 0.01 0.0

$LAB^*LABa$  95.41 0.0 0.0

$LAB^*TCh$  99.99 0.01 -

relative CIELAB lab\*

$lab^*lab$  1.0 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*ice$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  73.75 -34.92 5.64

$LAB^*LABa$  73.75 -34.96 5.63

$LAB^*TCh$  75.0 35.42 170.85

relative CIELAB lab\*

$lab^*lab$  0.72 -0.493 0.079

$lab^*tch$  0.75 0.5 0.475

$lab^*nch$  0.0 0.5 0.475

relative Inform. Technology (IT)

$olv^3*$  0.5 1.0 0.5 (1.0)

$cmy^3*$  0.5 0.5 0.5 (0.0)

$olv^4*$  0.5 1.0 0.5 1.0

$cmy^4*$  0.5 0.0 0.5 0.0

standard and adapted CIELAB

$LAB^*LAB$  52.11 -69.86 11.28

$LAB^*LABa$  52.11 -69.92 11.26

$LAB^*TCh$  50.0 70.83 170.85

relative CIELAB lab\*

$lab^*lab$  0.441 -0.986 0.159

$lab^*tch$  0.5 1.0 0.475

$lab^*nch$  0.0 1.0 0.475

relative Natural Colour (NC)

$lab^*lrij$  0.441 -0.991 -0.122

$lab^*ice$  0.5 1.0 0.52

$lab^*ncE$  0.0 1.0 0.707b

$n^* = 1,0$

$n^* = 0,00$

blackness  $n^*$

chromaticness  $c^*$

3 step scales for constant CIELAB hue 151/360 = 0.419 (left)

3 step scales for constant CIELAB hue 171/360 = 0

## Input: Colorimetric Reflective System ORS18

for hue  $h^* = lab^*h = 151/360 = 0.419$

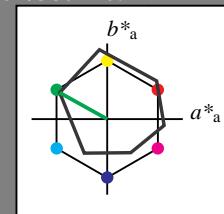
$lab^*tch$  and  $lab^*nch$

D65: hue L

LCH\*Ma: 51 72 151

olv\*Ma: 0.0 1.0 0.0

triangle lightness  $t^*$



## ORS18; adapted (a) CIELAB data

	$L^* = L^*_a$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
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)

$olv^3*$  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

$LAB^*LABa$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  1.0 0.0 0.0

$lab^*ice$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  73.15 -31.94 20.73

$LAB^*LABa$  73.15 -31.38 17.47

$LAB^*TChA$  75.0 35.93 150.91

relative CIELAB lab\*

$lab^*lab$  0.712 -0.436 0.243

$lab^*tch$  0.75 0.5 0.419

$lab^*nch$  0.0 0.5 0.419

relative Natural Colour (NC)

$lab^*lrj$  0.712 -0.478 0.144

$lab^*ice$  0.75 0.2 0.453

$lab^*ncE$  0.0 0.5 0.419

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 0.5

$cmyn^4*$  0.0 0.0 0.0 0.5

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 CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  0.5 0.0 0.0

$lab^*ice$  0.5 0.0 0.0

$lab^*ncE$  0.5 0.0 -

$n^* = 1,0$

%Gamut

$u^*_{rel} = 93$

%Regularity

$g^*_{H,rel} = 57$

$g^*_{C,rel} = 59$

relative Inform. Technology (IT)

$olv^3*$  0.5 1.0 0.5 (1.0)

$cmyn^3*$  0.5 0.0 0.0 (0.0)

$olv^4*$  0.5 1.0 1.0 1.0

$cmyn^4*$  0.5 0.0 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  73.15 -31.94 20.73

$LAB^*LABa$  73.15 -31.38 17.47

$LAB^*TChA$  75.0 35.93 150.91

relative CIELAB lab\*

$lab^*lab$  0.712 -0.436 0.243

$lab^*tch$  0.75 0.5 0.419

$lab^*nch$  0.0 0.5 0.419

relative Natural Colour (NC)

$lab^*lrj$  0.712 -0.478 0.144

$lab^*ice$  0.75 0.2 0.453

$lab^*ncE$  0.0 0.5 0.419

relative Inform. Technology (IT)

$olv^3*$  0.0 0.5 0.0 (1.0)

$cmyn^3*$  1.0 0.0 1.0 (0.0)

$olv^4*$  1.0 1.0 1.0 0.0

$cmyn^4*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.5 -0.46

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.213 -0.436 0.243

$lab^*tch$  0.25 0.5 0.419

$lab^*nch$  0.5 0.5 0.419

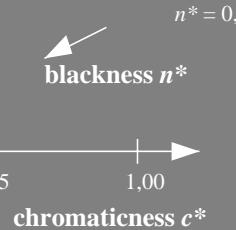
relative Natural Colour (NC)

$lab^*lrj$  0.213 -0.478 0.144

$lab^*ice$  0.25 0.5 0.453

$lab^*ncE$  0.5 0.5 0.419

$n^* = 1,0$



## Output: Colorimetric Reflective System NRS18

for hue  $h^* = lab^*h = 167/360 = 0.464$

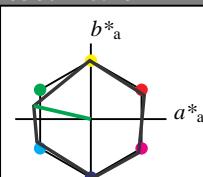
$lab^*tch$  and  $lab^*nch$

D65: hue G

LCH\*Ma: 57 77 167

olv\*Ma: 0.0 1.0 0.0

triangle lightness  $t^*$



## NRS18; adapted (a) CIELAB data

	$L^* = L^*_a$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	56.7	70.66	31.47	77.35	24
JMa	56.7	-1.39	77.37	77.39	91
GMa	56.7	-75.46	17.4	77.45	167
G50BMa	56.7	-71.29	-30.25	77.45	203
BMa	56.7	4.0	-77.3	77.41	273
B50RMa	56.7	63.35	-44.4	77.36	325
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	272

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 0.0

$LAB^*LABa$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  1.0 0.0 0.0

$lab^*ice$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)

$olv^3*$  0.5 1.0 0.5 (1.0)

$cmyn^3*$  0.5 0.0 0.5 (0.0)

$olv^4*$  0.5 1.0 0.5 1.0

$cmyn^4*$  0.5 0.0 0.5 0.0

standard and adapted CIELAB

$LAB^*LAB$  73.15 -31.94 20.73

$LAB^*LABa$  73.15 -31.38 17.47

$LAB^*TChA$  75.0 35.93 150.91

relative CIELAB lab\*

$lab^*lab$  0.712 -0.436 0.243

$lab^*tch$  0.75 0.5 0.419

$lab^*nch$  0.0 0.5 0.419

relative Natural Colour (NC)

$lab^*lrj$  0.712 -0.478 0.144

$lab^*ice$  0.75 0.2 0.453

$lab^*ncE$  0.0 0.5 0.419

relative Inform. Technology (IT)

$olv^3*$  0.0 0.5 0.0 (1.0)

$cmyn^3*$  1.0 0.0 1.0 (0.0)

$olv^4*$  1.0 1.0 1.0 0.0

$cmyn^4*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  50.9 -62.91 36.69

$LAB^*LABa$  50.9 -62.78 34.94

$LAB^*TChA$  50.0 71.86 150.91

relative CIELAB lab\*

$lab^*lab$  0.425 -0.873 0.486

$lab^*tch$  0.5 1.0 0.419

$lab^*nch$  0.0 1.0 0.419

relative Natural Colour (NC)

$lab^*lrj$  0.425 -0.956 0.289

$lab^*ice$  0.5 1.0 0.453

$lab^*ncE$  0.0 1.0 0.419

relative Inform. Technology (IT)

$olv^3*$  0.25 0.5 0.0 (1.0)

$cmyn^3*$  1.0 0.5 1.0 (0.0)

$olv^4*$  0.5 1.0 0.5 0.5

$cmyn^4*$  0.5 0.0 0.5 0.5

standard and adapted CIELAB

$LAB^*LAB$  37.36 -37.64 8.72

$LAB^*LABa$  37.36 -37.72 8.7

$LAB^*TChA$  25.01 38.72 167.02

relative CIELAB lab\*

$lab^*lab$  0.25 -0.486 0.112

$lab^*tch$  0.25 0.5 0.464

$lab^*nch$  0.0 0.5 0.464

relative Natural Colour (NC)

$lab^*lrj$  0.5 -0.996 -0.067

$lab^*ice$  0.5 1.0 0.511

$lab^*ncE$  0.0 1.0 0.404

$n^* = 0,00$

blackness  $n^*$

chromaticness  $c^*$

$n^* = 1,0$

blackness  $n^*$

chromaticness  $c^*$

3 step scales for constant CIELAB hue 151/360 = 0.419 (left)

3 step scales for constant CIELAB hue 167/360 = 0.464 (right)

UE100-7, 3 step scales for constant CIELAB hue 151/360 = 0.419 (left)

## Input: Colorimetric Reflective System ORS18

for hue  $h^* = lab^*h = 151/360 = 0.419$

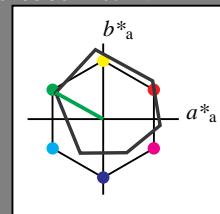
$lab^*tch$  and  $lab^*nch$

D65: hue L

LCH\*Ma: 51 72 151

olv\*Ma: 0.0 1.0 0.0

triangle lightness  $t^*$



## ORS18; adapted (a) CIELAB data

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

$olv^3*$  1.0 1.0 1.0 (1.0)

$cmy3*$  0.0 0.0 0.0 (0.0)

$olv^4*$  1.0 1.0 1.0 1.0

$cmy4*$  0.0 0.0 0.0 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 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  73.15 -31.94 20.73

$LAB^*LABa$  73.15 -31.38 17.47

$LAB^*TChA$  75.0 35.93 150.91

relative CIELAB lab\*

$lab^*lab$  0.712 -0.436 0.243

$lab^*tch$  0.75 0.5 0.419

$lab^*nch$  0.0 0.5 0.419

relative Natural Colour (NC)

$lab^*lrij$  0.712 -0.478 0.144

$lab^*tce$  0.75 0.2 0.453

$lab^*ncE$  0.0 0.5 0.419

relative Inform. Technology (IT)

$olv^3*$  0.5 0.5 0.5 (1.0)

$cmy3*$  0.5 0.5 0.5 (0.0)

$olv^4*$  1.0 1.0 1.0 0.5

$cmy4*$  0.0 0.0 0.0 0.5

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 CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.5 0.0 0.0

$lab^*tce$  0.5 0.0 0.0

$lab^*ncE$  0.5 0.0 -

relative Inform. Technology (IT)

$olv^3*$  0.0 0.0 0.0 (1.0)

$cmy3*$  1.0 1.0 1.0 (0.0)

$olv^4*$  1.0 1.0 1.0 0.0

$cmy4*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.5 -0.46

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*tce$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

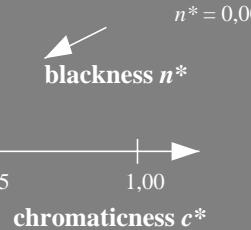
%Gamut

$u^*_{rel} = 93$

%Regularity

$g^*_{H,rel} = 57$

$g^*_{C,rel} = 59$



chromaticness  $c^*$

$n^* = 0.50$

$n^* = 0.00$

blackness  $n^*$

$n^* = 1,0$

## Output: Colorimetric Reflective System NCS18

for hue  $h^* = lab^*h = 167/360 = 0.465$

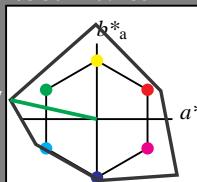
$lab^*tch$  and  $lab^*nch$

D65: hue G

LCH\*Ma: 63 117 167

olv\*Ma: 0.0 1.0 0.0

triangle lightness  $t^*$



## NCS18; adapted (a) CIELAB data

	$L^* = L^*_{ab}$	$a^*_{ab}$	$b^*_{ab}$	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	47.15	84.63	37.24	92.46	24
JMa	91.37	-1.27	125.03	125.03	91
GMa	63.07	-114.29	25.34	117.07	167
G50BMa	59.47	-80.61	-33.45	87.29	203
BMa	49.01	3.63	-81.2	81.29	273
B50RMa	44.06	106.07	-73.94	129.31	325
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	272

%Gamut

$u^*_{rel} = 136$

%Regularity

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

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

relative Inform. Technology (IT)

$olv^3*$  1.0 1.0 1.0 (1.0)

$cmy3*$  0.0 0.0 0.0 (0.0)

$olv^4*$  1.0 1.0 1.0 1.0

$cmy4*$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  79.24 -57.11 12.67

$LAB^*LABa$  79.24 -57.13 12.67

$LAB^*TChA$  75.0 58.52 167.5

relative CIELAB lab\*

$lab^*lab$  0.791 -0.487 0.108

$lab^*tch$  0.75 0.5 0.465

$lab^*nch$  0.0 0.5 0.465

relative Natural Colour (NC)

$lab^*lrij$  0.791 -0.497 -0.037

$lab^*tce$  0.75 0.5 0.512

$lab^*ncE$  0.0 0.5 0.512

relative Inform. Technology (IT)

$olv^3*$  0.0 0.0 0.0 (1.0)

$cmy3*$  1.0 1.0 1.0 (0.0)

$olv^4*$  1.0 1.0 1.0 0.5

$cmy4*$  0.5 0.0 0.5 0.5

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.09 0.02

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*tce$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

relative Inform. Technology (IT)

$olv^3*$  0.0 0.0 0.0 (1.0)

$cmy3*$  1.0 1.0 1.0 (0.0)

$olv^4*$  1.0 1.0 1.0 0.0

$cmy4*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.5 -0.46

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.291 -0.487 0.108

$lab^*tch$  0.25 0.5 0.465

$lab^*nch$  0.5 0.5 0.465

relative Natural Colour (NC)

$lab^*lrij$  0.291 -0.497 -0.037

$lab^*tce$  0.25 0.5 0.512

$lab^*ncE$  0.5 0.5 0.512

relative Inform. Technology (IT)

$olv^3*$  0.0 0.0 0.0 (1.0)

$cmy3*$  1.0 1.0 1.0 (0.0)

$olv^4*$  1.0 1.0 1.0 0.0

$cmy4*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.5 -0.46

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.291 -0.487 0.108

$lab^*tch$

## Input: Colorimetric Reflective System ORS18

for hue  $h^* = lab^*h = 151/360 = 0.419$

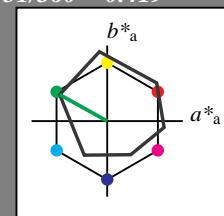
$lab^*tch$  and  $lab^*nch$

D65: hue L

LCH\*Ma: 51 72 151

olv\*Ma: 0.0 1.0 0.0

triangle lightness  $t^*$



### ORS18; adapted (a) CIELAB data

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

$olv^3*$  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

$LAB^*LABa$  95.41 0.0 0.0

$LAB^*TCh$  99.99 0.01 -

relative CIELAB lab\*

$lab^*lab$  1.0 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  73.15 -31.94 20.73

$LAB^*LABa$  73.15 -31.38 17.47

$LAB^*TCh$  75.0 35.93 150.91

relative CIELAB lab\*

$lab^*lab$  0.712 -0.436 0.243

$lab^*tch$  0.75 0.5 0.419

$lab^*nch$  0.0 0.5 0.419

relative Natural Colour (NC)

$lab^*lrij$  0.712 -0.478 0.144

$lab^*tce$  0.75 0.2 0.453

$lab^*ncE$  0.0 0.5 0.419

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 0.5

$cmyn^4*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  56.71 -0.23 2.14

$LAB^*LABa$  56.71 0.0 0.0

$LAB^*TCh$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.5 0.0 0.0

$lab^*tce$  0.5 0.0 0.0

$lab^*ncE$  0.5 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  34.46 -31.2 18.11

$LAB^*LABa$  34.46 -31.38 17.47

$LAB^*TCh$  25.01 35.93 150.91

relative CIELAB lab\*

$lab^*lab$  0.213 -0.436 0.243

$lab^*tch$  0.25 0.5 0.419

$lab^*nch$  0.5 0.5 0.419

relative Natural Colour (NC)

$lab^*lrij$  0.213 -0.478 0.144

$lab^*tce$  0.25 0.5 0.453

$lab^*ncE$  0.5 0.5 0.419

$n^* = 1,0$

$n^* = 0,00$

$n^* = 0,50$

$1,00$

chromaticness  $c^*$

$n^* = 0,50$

$0,25$

$0,50$

$0,75$

$1,00$

$c^*$

## Output: Colorimetric Reflective System NRS11

for hue  $h^* = lab^*h = 167/360 = 0.464$

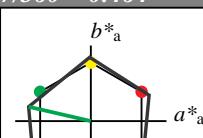
$lab^*tch$  and  $lab^*nch$

D65: hue G

LCH\*Ma: 53 84 167

olv\*Ma: 0.0 1.0 0.0

triangle lightness  $t^*$



### NRS11; adapted (a) CIELAB data

	$L^* = L_a^*$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	53.2	77.06	34.32	84.36	24
JMa	53.2	-1.51	84.38	84.39	91
GMa	53.2	-82.27	18.98	84.44	167
G50BMa	53.2	-77.72	-32.98	84.44	203
BMa	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)

$olv^3*$  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

$LAB^*LABa$  95.41 0.0 0.0

$LAB^*TCh$  99.99 0.01 -

relative CIELAB lab\*

$lab^*lab$  1.0 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  74.3 -41.1 9.49

$LAB^*LABa$  74.3 -41.12 9.49

$LAB^*TCh$  75.0 42.21 167.01

relative CIELAB lab\*

$lab^*lab$  0.75 -0.486 0.112

$lab^*tch$  0.75 0.5 0.464

$lab^*nch$  0.0 0.5 0.464

relative Natural Colour (NC)

$lab^*lrij$  0.75 -0.498 -0.033

$lab^*tce$  0.75 0.5 0.511

$lab^*ncE$  0.0 0.5 0.511

standard and adapted CIELAB

$LAB^*LAB$  32.1 -41.06 9.5

$LAB^*LABa$  32.1 -41.12 9.49

$LAB^*TCh$  25.01 42.21 167.01

relative CIELAB lab\*

$lab^*lab$  0.25 -0.486 0.112

$lab^*tch$  0.25 0.5 0.464

$lab^*nch$  0.5 0.5 0.464

relative Natural Colour (NC)

$lab^*lrij$  0.25 -0.498 -0.033

$lab^*tce$  0.25 0.5 0.511

$lab^*ncE$  0.5 0.5 0.511

standard and adapted CIELAB

$LAB^*LAB$  11.01 0.07 0.01

$LAB^*LABa$  11.01 0.0 0.0

$LAB^*TCh$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*tce$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  0.0 0.0 0.0

$LAB^*LABa$  0.0 0.0 0.0

$LAB^*TCh$  0.0 0.0 0.0

relative CIELAB lab\*

$lab^*lab$  0.25 -0.486 0.112

$lab^*tch$  0.25 0.5 0.464

$lab^*nch$  0.5 0.5 0.464

relative Natural Colour (NC)

$lab^*lrij$  0.25 -0.498 -0.033

$lab^*tce$  0.25 0.5 0.511

$lab^*ncE$  0.5 0.5 0.511

standard and adapted CIELAB

$LAB^*LAB$  0.0 0.0 0.0

$LAB^*LABa$  0.0 0.0 0.0

$LAB^*TCh$  0.0 0.0 0.0

relative CIELAB lab\*

$lab^*lab$  0.25 -0.486 0.112

$lab^*tch$  0.25 0.5 0.464

$lab^*nch$  0.5 0.5 0.464

relative Natural Colour (NC)

$lab^*lrij$  0.25 -0.498 -0.033

$lab^*tce$  0.25 0.5 0.511

$lab^*ncE$  0.5 0.5 0.511

standard and adapted CIELAB

$LAB^*LAB$  0.0 0.0 0.0

$LAB^*LABa$  0.0 0.0 0.0

$LAB^*TCh$  0.0 0.0 0.0

relative CIELAB lab\*

$lab^*lab$  0.25 -0.486 0.112

$lab^*tch$  0.25 0.5 0.464

$lab^*nch$  0.5 0.5 0.464

## Input: Colorimetric Reflective System ORS18

for hue  $h^* = lab^*h = 151/360 = 0.419$

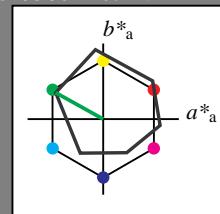
$lab^*tch$  and  $lab^*nch$

D65: hue L

LCH\*Ma: 51 72 151

olv\*Ma: 0.0 1.0 0.0

triangle lightness  $t^*$



relative Inform. Technology (IT)

$olvi3^*$  1.0 1.0 1.0 (1.0)

$cmy3^*$  0.0 0.0 0.0 (0.0)

$olvi4^*$  1.0 1.0 1.0 1.0

$cmy4^*$  0.0 0.0 0.0 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 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*ice$  1.0 0.0 -

$lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)

$olvi3^*$  0.5 0.5 0.5 (1.0)

$cmy3^*$  0.5 0.5 0.5 (0.0)

$olvi4^*$  1.0 1.0 1.0 0.5

$cmy4^*$  0.0 0.0 0.0 0.5

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 CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.5 0.0 0.0

$lab^*ice$  0.5 0.0 -

$lab^*ncE$  0.5 0.0 -

relative Inform. Technology (IT)

$olvi3^*$  0.0 0.0 0.0 (1.0)

$cmy3^*$  1.0 1.0 1.0 (0.0)

$olvi4^*$  1.0 1.0 1.0 0.0

$cmy4^*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.5 -0.46

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*ice$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

## ORS18; adapted (a) CIELAB data

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

%Gamut

$u^*_{rel} = 93$

%Regularity

$g^*_{H,rel} = 57$

$g^*_{C,rel} = 59$

## Output: Colorimetric Reflective System NCS11

for hue  $h^* = lab^*h = 167/360 = 0.465$

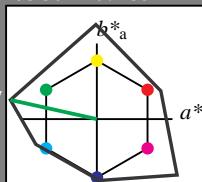
$lab^*tch$  and  $lab^*nch$

D65: hue G

LCH\*Ma: 63 117 167

olv\*Ma: 0.0 1.0 0.0

triangle lightness  $t^*$



%Gamut

$u^*_{rel} = 149$

%Regularity

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

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

relative Inform. Technology (IT)

$olvi3^*$  1.0 1.0 1.0 (1.0)

$cmy3^*$  0.0 0.0 0.0 (0.0)

$olvi4^*$  1.0 1.0 1.0 1.0

$cmy4^*$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*ice$  1.0 0.0 -

$lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)

$olvi3^*$  0.5 1.0 0.5 (1.0)

$cmy3^*$  0.5 0.5 0.5 (0.0)

$olvi4^*$  0.5 1.0 0.5 1.0

$cmy4^*$  0.5 0.0 0.5 0.0

standard and adapted CIELAB

$LAB^*LAB$  59.0 -62.91 36.69

$LAB^*LABa$  59.0 -62.78 34.94

$LAB^*TChA$  50.0 71.86 150.91

relative CIELAB lab\*

$lab^*lab$  0.425 -0.873 0.486

$lab^*tch$  0.5 1.0 0.419

$lab^*nch$  0.0 1.0 0.419

relative Natural Colour (NC)

$lab^*lrij$  0.425 -0.956 0.289

$lab^*ice$  0.5 1.0 0.453

$lab^*ncE$  0.0 1.0 0.181g

relative Inform. Technology (IT)

$olvi3^*$  0.0 0.0 0.0 (1.0)

$cmy3^*$  1.0 1.0 1.0 (0.0)

$olvi4^*$  1.0 1.0 1.0 0.0

$cmy4^*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  11.01 0.07 0.01

$LAB^*LABa$  11.01 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*ice$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

3 step scales for constant CIELAB hue 167/360 = 0.465 (right)

relative Inform. Technology (IT)

$olvi3^*$  0.0 0.5 0.0 (1.0)

$cmy3^*$  1.0 0.5 1.0 (0.0)

$olvi4^*$  0.5 1.0 0.5 0.5

$cmy4^*$  0.5 0.0 0.5 0.5

standard and adapted CIELAB

$LAB^*LAB$  37.04 -57.07 12.69

$LAB^*LABa$  37.04 -57.12 12.67

$LAB^*TChA$  25.01 58.52 167.5

relative CIELAB lab\*

$lab^*lab$  0.309 -0.487 0.108

$lab^*tch$  0.25 0.5 0.465

$lab^*nch$  0.5 0.5 0.465

relative Natural Colour (NC)

$lab^*lrij$  0.309 -0.497 -0.037

$lab^*ice$  0.25 0.5 0.512

$lab^*ncE$  0.5 0.5 0.504b

$n^* = 0,50$

3 step scales for constant CIELAB hue 167/360 = 0.465 (right)

relative Inform. Technology (IT)

$olvi3^*$  0.0 0.0 0.0 (1.0)

$cmy3^*$  1.0 0.0 1.0 (0.0)

$olvi4^*$  1.0 0.0 1.0 0.0

$cmy4^*$  1.0 0.0 1.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  37.04 -57.07 12.69

$LAB^*LABa$  37.04 -57.12 12.67

$LAB^*TChA$  25.01 58.52 167.5

relative CIELAB lab\*

$lab^*lab$  0.309 -0.487 0.108

$lab^*tch$  0.25 0.5 0.465

$lab^*nch$  0.5 0.5 0.465

relative Natural Colour (NC)

$lab^*lrij$  0.309 -0.497 -0.037

$lab^*ice$  0.25 0.5 0.512

$lab^*ncE$  0.5 0.5 0.504b

$n^* = 1,00$

3 step scales for constant CIELAB hue 167/360 = 0.465 (right)

UE100-7, 3 step scales for constant CIELAB hue 151/360 = 0.419 (left)

UE100-7, 3 step scales for constant CIELAB hue 167/360 = 0.465 (right)

## Input: Colorimetric Reflective System MRS18

for hue  $h^* = lab^*h = 172/360 = 0.479$

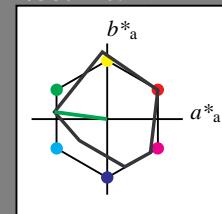
$lab^*tch$  and  $lab^*nch$

D65: hue G

LCH\*Ma: 52 70 172

olv\*Ma: 0.0 1.0 0.0

triangle lightness  $t^*$



### MRS18; adapted (a) CIELAB data

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

$olv^3*$  1.0 1.0 1.0 (1.0)

$cmy^3*$  0.0 0.0 0.0 (0.0)

$olv^4*$  1.0 1.0 1.0 1.0

$cmy^4*$  0.0 0.0 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  95.41 -0.97 4.75

$LAB^*LABa$  95.41 0.0 0.0

$LAB^*TCh$  99.99 0.01 -

relative CIELAB lab\*

$lab^*lab$  1.0 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  73.75 -35.42 8.02

$LAB^*LABa$  73.75 -34.85 4.72

$LAB^*TCh$  75.0 35.18 172.29

relative CIELAB lab\*

$lab^*lab$  0.72 -0.494 0.067

$lab^*tch$  0.75 0.5 0.479

$lab^*nch$  0.0 0.5 0.479

relative Natural Colour (NC)

$lab^*lrij$  0.72 -0.496 -0.056

$lab^*tce$  0.75 0.2 0.518

$lab^*ncE$  0.0 0.5 g07b

relative Inform. Technology (IT)

$olv^3*$  0.5 0.5 0.5 (1.0)

$cmy^3*$  0.5 0.5 0.5 (0.0)

$olv^4*$  1.0 1.0 1.0 0.5

$cmy^4*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  56.71 -0.23 2.14

$LAB^*LABa$  56.71 0.0 0.0

$LAB^*TCh$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.5 0.0 0.0

$lab^*tce$  0.5 0.0 0.0

$lab^*ncE$  0.5 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  35.06 -34.67 5.41

$LAB^*LABa$  35.06 -34.85 4.72

$LAB^*TCh$  25.01 35.18 172.29

relative CIELAB lab\*

$lab^*lab$  0.22 -0.494 0.067

$lab^*tch$  0.25 0.5 0.479

$lab^*nch$  0.5 0.5 0.479

relative Natural Colour (NC)

$lab^*lrij$  0.22 -0.496 -0.056

$lab^*tce$  0.25 0.5 0.518

$lab^*ncE$  0.5 0.5 g07b

$n^* = 1,0$

$n^* = 0,00$



## Output: Colorimetric Reflective System ORS18

for hue  $h^* = lab^*h = 151/360 = 0.419$

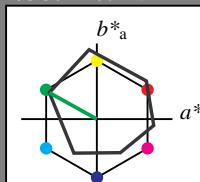
$lab^*tch$  and  $lab^*nch$

D65: hue L

LCH\*Ma: 51 72 151

olv\*Ma: 0.0 1.0 0.0

triangle lightness  $t^*$



### ORS18; adapted (a) CIELAB data

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

$olv^3*$  1.0 1.0 1.0 (1.0)

$cmy^3*$  0.0 0.0 0.0 (0.0)

$olv^4*$  1.0 1.0 1.0 1.0

$cmy^4*$  0.0 0.0 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  95.41 -0.97 4.75

$LAB^*LABa$  95.41 0.0 0.0

$LAB^*TCh$  99.99 0.01 -

relative CIELAB lab\*

$lab^*lab$  1.0 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  73.15 -31.94 20.73

$LAB^*LABa$  73.15 -31.38 17.47

$LAB^*TCh$  75.0 35.93 150.91

relative CIELAB lab\*

$lab^*lab$  0.712 -0.436 0.243

$lab^*tch$  0.75 0.5 0.419

$lab^*nch$  0.0 0.5 0.419

relative Natural Colour (NC)

$lab^*lrij$  0.712 -0.478 0.144

$lab^*tce$  0.75 0.5 0.453

$lab^*ncE$  0.0 0.5 j81g

relative Inform. Technology (IT)

$olv^3*$  0.5 0.5 0.5 (1.0)

$cmy^3*$  0.5 0.5 0.5 (0.0)

$olv^4*$  1.0 1.0 1.0 0.5

$cmy^4*$  0.5 0.0 0.5 0.5

standard and adapted CIELAB

$LAB^*LAB$  50.9 -62.91 36.69

$LAB^*LABa$  50.9 -62.78 34.94

$LAB^*TCh$  50.0 71.86 150.91

relative CIELAB lab\*

$lab^*lab$  0.425 -0.873 0.486

$lab^*tch$  0.5 1.0 0.419

$lab^*nch$  0.0 1.0 0.419

relative Natural Colour (NC)

$lab^*lrij$  0.425 -0.956 0.289

$lab^*tce$  0.5 1.0 0.453

$lab^*ncE$  0.0 1.0 j81g

$n^* = 1,0$

$n^* = 0,50$

$n^* = 0,00$

$n^* = 0,50$

$n^* = 1,00$

$n^* = 0,00$

$n^* = 1,00$

$n^* = 1,0$

$n^* = 0,50$

$n^* = 0,00$

$n^* = 1,00$

$n^* = 0,00$

$n^* = 1,00$

$n^* = 1,0$

$n^* = 0,50$

$n^* = 0,00$

$n^* = 1,00$

$n^* = 0,00$

$n^* = 1,00$

UE100-7, 3 step scales for constant CIELAB hue 172/360 = 0.479 (left)

3 step scales for constant CIELAB hue 151/360 = 0.419 (right)

$n^* = 0,00$

$n^* = 0,50$

$n^* = 1,00$

$n^* = 0,00$

$n^* = 1,00$

## Input: Colorimetric Reflective System MRS18

for hue  $h^* = lab^*h = 172/360 = 0.479$

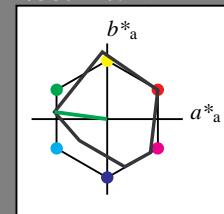
$lab^*tch$  and  $lab^*nch$

D65: hue G

LCH\*Ma: 52 70 172

olv\*Ma: 0.0 1.0 0.0

triangle lightness  $t^*$



## MRS18; adapted (a) CIELAB data

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

$LAB^*LABa$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  73.75 -35.42 8.02

$LAB^*LABa$  73.75 -34.85 4.72

$LAB^*TChA$  75.0 35.18 172.29

relative CIELAB lab\*

$lab^*lab$  0.72 -0.494 0.067

$lab^*tch$  0.75 0.5 0.479

$lab^*nch$  0.0 0.5 0.479

relative Natural Colour (NC)

$lab^*lrij$  0.72 -0.496 -0.056

$lab^*tce$  0.75 0.2 0.518

$lab^*ncE$  0.0 0.5 g07b

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 0.5

$cmyn4^*$  0.0 0.0 0.0 0.5

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 CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.5 0.0 0.0

$lab^*tce$  0.5 0.0 0.0

$lab^*ncE$  0.5 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

$LAB^*LAB$  18.02 0.5 -0.46

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

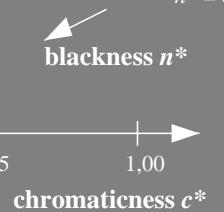
$lab^*lrij$  0.0 0.0 0.0

$lab^*tce$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

$n^* = 0,00$



## Output: Colorimetric Reflective System MRS18

for hue  $h^* = lab^*h = 172/360 = 0.479$

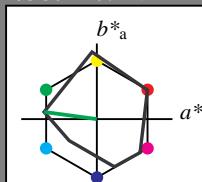
$lab^*tch$  and  $lab^*nch$

D65: hue G

LCH\*Ma: 52 70 172

olv\*Ma: 0.0 1.0 0.0

triangle lightness  $t^*$



## MRS18; adapted (a) CIELAB data

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

$LAB^*LABa$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)

$olvi3^*$  0.5 1.0 0.5 (1.0)

$cmyn3^*$  0.5 0.0 0.5 (0.0)

$olvi4^*$  0.5 1.0 0.5 1.0

$cmyn4^*$  0.5 0.0 0.5 0.0

standard and adapted CIELAB

$LAB^*LAB$  73.75 -35.42 8.02

$LAB^*LABa$  73.75 -34.85 4.72

$LAB^*TChA$  75.0 35.18 172.29

relative CIELAB lab\*

$lab^*lab$  0.72 -0.494 0.067

$lab^*tch$  0.75 0.5 0.479

$lab^*nch$  0.0 0.5 0.479

relative Natural Colour (NC)

$lab^*lrij$  0.72 -0.496 -0.056

$lab^*tce$  0.75 0.5 0.518

$lab^*ncE$  0.0 0.5 g07b

$n^* = 1,0$

$n^* = 0,00$

3 step scales for constant CIELAB hue 172/360 = 0.479 (left)

3 step scales for constant CIELAB hue 172/360 = 0.479 (right)

## Input: Colorimetric Reflective System MRS18

for hue  $h^* = lab^*h = 172/360 = 0.479$

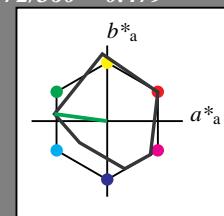
$lab^*tch$  and  $lab^*nch$

D65: hue G

LCH\*Ma: 52 70 172

olv\*Ma: 0.0 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
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)

$olv^3*$  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

$LAB^*LABa$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 0.0

$lab^*ncE$  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 0.5

$cmyn^4*$  0.0 0.0 0.0 0.5

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 CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.5 0.0 0.0

$lab^*tce$  0.5 0.0 0.0

$lab^*ncE$  0.5 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)

$olv^4*$  1.0 1.0 1.0 0.0

$cmyn^4*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.5 -0.46

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*tce$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

%Gamut  
 $u^*_{rel} = 91$   
%Regularity  
 $g^*_{H,rel} = 41$   
 $g^*_{C,rel} = 52$

relative Inform. Technology (IT)  
 $olv^3*$  0.5 1.0 0.5 (1.0)  
 $cmyn^3*$  0.5 0.0 0.5 (0.0)  
 $olv^4*$  0.5 1.0 0.5 1.0  
 $cmyn^4*$  0.5 0.0 0.5 0.0  
relative CIELAB lab\*

relative Inform. Technology (IT)  
 $olv^3*$  0.0 1.0 0.0 (1.0)  
 $cmyn^3*$  1.0 0.0 1.0 (0.0)  
 $olv^4*$  0.0 1.0 0.0 1.0  
 $cmyn^4*$  1.0 0.0 1.0 0.0  
relative Natural Colour (NC)  
 $lab^*lrij$  0.72 -0.496 -0.056  
 $lab^*tce$  0.75 0.2 0.518  
 $lab^*ncE$  0.0 0.5 g07b

relative Inform. Technology (IT)

$olv^3*$  0.0 0.5 0.0 (1.0)

$cmyn^3*$  1.0 0.5 1.0 (0.0)

$olv^4*$  0.5 1.0 0.5 0.5

$cmyn^4*$  0.5 0.0 0.5 0.5

relative CIELAB lab\*

$lab^*lab$  0.22 -0.494 0.067

$lab^*tch$  0.25 0.5 0.479

$lab^*nch$  0.5 0.5 0.479

relative Natural Colour (NC)

$lab^*lrij$  0.22 -0.496 -0.056

$lab^*tce$  0.25 0.5 0.518

$lab^*ncE$  0.5 0.5 g07b

$n^* = 0,00$

blackness  $n^*$

$n^* = 0,00$   
blackness  $n^*$   
chromaticness  $c^*$

## Output: Colorimetric Reflective System TRS18

for hue  $h^* = lab^*h = 151/360 = 0.419$

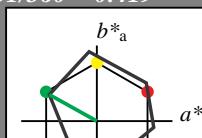
$lab^*tch$  and  $lab^*nch$

D65: hue L

LCH\*Ma: 51 72 151

olv\*Ma: 0.0 1.0 0.0

triangle lightness  $t^*$



### TRS18; adapted (a) CIELAB data

	$L^* = L^*_a$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
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)

$olv^3*$  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

$LAB^*LABa$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)

$olv^3*$  0.5 1.0 0.5 (1.0)

$cmyn^3*$  0.5 0.5 0.5 (0.0)

$olv^4*$  0.5 1.0 0.5 1.0

$cmyn^4*$  0.5 0.0 0.5 0.5

standard and adapted CIELAB

$LAB^*LAB$  52.11 -69.86 11.28

$LAB^*LABa$  52.11 -69.71 9.44

$LAB^*TChA$  50.0 70.36 172.29

relative CIELAB lab\*

$lab^*lab$  0.441 -0.99 0.134

$lab^*tch$  0.5 1.0 0.479

$lab^*nch$  0.0 1.0 0.479

relative Natural Colour (NC)

$lab^*lrij$  0.441 -0.992 -0.114

$lab^*tce$  0.5 1.0 0.518

$lab^*ncE$  0.0 1.0 g07b

$n^* = 0,00$

blackness  $n^*$

chromaticness  $c^*$

relative Inform. Technology (IT)

$olv^3*$  0.5 0.5 0.5 (1.0)

$cmyn^3*$  0.5 0.0 0.5 (0.0)

$olv^4*$  0.5 1.0 0.5 1.0

$cmyn^4*$  0.5 0.0 0.5 0.5

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 CIELAB lab\*

$lab^*lab$  0.712 -0.436 0.243

$lab^*tch$  0.75 0.5 0.419

$lab^*nch$  0.0 0.5 0.419

relative Natural Colour (NC)

$lab^*lrij$  0.712 -0.478 0.144

$lab^*tce$  0.75 0.5 0.453

$lab^*ncE$  0.0 0.5 j81g

relative Inform. Technology (IT)

$olv^3*$  0.0 0.5 0.0 (1.0)

$cmyn^3*$  1.0 1.0 1.0 (0.0)

$olv^4*$  0.5 1.0 0.5 0.5

$cmyn^4*$  0.5 0.0 0.5 0.5

standard and adapted CIELAB

$LAB^*LAB$  34.46 -31.21 18.11

$LAB^*LABa$  34.46 -31.38 17.47

$LAB^*TChA$  25.01 35.93 150.91

relative CIELAB lab\*

$lab^*lab$  0.213 -0.436 0.243

$lab^*tch$  0.25 0.5 0.419

$lab^*nch$  0.5 0.5 0.419

relative Natural Colour (NC)

$lab^*lrij$  0.213 -0.478 0.144

$lab^*tce$  0.25 0.5 0.453

$lab^*ncE$  0.5 0.5 j81g

$n^* = 0,00$

blackness  $n^*$

chromaticness  $c^*$

relative Inform. Technology (IT)  
 $olv^3*$  1.0 1.0 1.0 (0.0)  
 $cmyn^3*$  0.0 1.0 0.0 (0.0)  
 $olv^4*$  1.0 1.0 1.0 1.0  
<math

## Input: Colorimetric Reflective System MRS18

for hue  $h^* = lab^*h = 172/360 = 0.479$

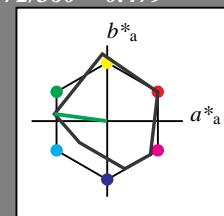
$lab^*tch$  and  $lab^*nch$

D65: hue G

LCH\*Ma: 52 70 172

olv\*Ma: 0.0 1.0 0.0

triangle lightness  $t^*$



### MRS18; adapted (a) CIELAB data

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

$olv^3*$  1.0 1.0 1.0 (1.0)

$cmy^3*$  0.0 0.0 0.0 (0.0)

$olv^4*$  1.0 1.0 1.0 1.0

$cmy^4*$  0.0 0.0 0.0 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 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  73.75 -35.42 8.02

$LAB^*LABa$  73.75 -34.85 4.72

$LAB^*TChA$  75.0 35.18 172.29

relative CIELAB lab\*

$lab^*lab$  0.72 -0.494 0.067

$lab^*tch$  0.75 0.5 0.479

$lab^*nch$  0.0 0.5 0.479

relative Natural Colour (NC)

$lab^*lrij$  0.72 -0.496 -0.056

$lab^*tce$  0.75 0.2 0.518

$lab^*ncE$  0.0 0.5 g07b

relative Inform. Technology (IT)

$olv^3*$  0.5 0.5 0.5 (1.0)

$cmy^3*$  0.5 0.5 0.5 (0.0)

$olv^4*$  1.0 1.0 1.0 0.5

$cmy^4*$  0.0 0.0 0.0 0.5

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 CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.5 0.0 0.0

$lab^*tce$  0.5 0.0 0.0

$lab^*ncE$  0.5 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  35.06 -34.67 5.41

$LAB^*LABa$  35.06 -34.85 4.72

$LAB^*TChA$  25.01 35.18 172.29

relative CIELAB lab\*

$lab^*lab$  0.22 -0.494 0.067

$lab^*tch$  0.25 0.5 0.479

$lab^*nch$  0.5 0.5 0.479

relative Natural Colour (NC)

$lab^*lrij$  0.22 -0.496 -0.056

$lab^*tce$  0.25 0.5 0.518

$lab^*ncE$  0.5 0.5 g07b

$n^* = 1,0$

relative Inform. Technology (IT)

$olv^3*$  0.0 0.0 0.0 (1.0)

$cmy^3*$  1.0 1.0 1.0 (0.0)

$olv^4*$  1.0 1.0 1.0 0.0

$cmy^4*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.5 -0.46

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*tce$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.2 -0.46

$LAB^*LABa$  18.02 0.1 0.02

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.22 -0.494 0.067

$lab^*tch$  0.25 0.5 0.479

$lab^*nch$  0.5 0.5 0.479

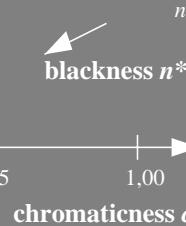
relative Natural Colour (NC)

$lab^*lrij$  0.22 -0.496 -0.056

$lab^*tce$  0.25 0.5 0.518

$lab^*ncE$  1.0 0.0 -

$n^* = 0,00$



## Output: Colorimetric Reflective System MRS18a

for hue  $h^* = lab^*h = 171/360 = 0.475$

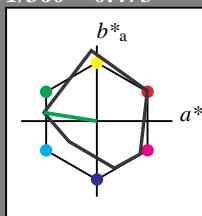
$lab^*tch$  and  $lab^*nch$

D65: hue G

LCH\*Ma: 52 71 171

olv\*Ma: 0.0 1.0 0.0

triangle lightness  $t^*$



### MRS18a; adapted (a) CIELAB data

	$L^* = L^*_{ab}$	$a^*_{ab}$	$b^*_{ab}$	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	49.63	66.96	38.37	77.18	30
JMa	90.7	-7.27	93.19	93.48	94
GMa	52.11	-69.93	11.26	70.85	171
G50BMa	45.03	-36.65	-27.13	45.61	217
BMa	36.65	23.26	-62.27	66.49	290
B50RMa	34.94	57.27	-43.6	71.99	323
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	272

relative Inform. Technology (IT)

$olv^3*$  1.0 1.0 1.0 (1.0)

$cmy^3*$  0.0 0.0 0.0 (0.0)

$olv^4*$  1.0 1.0 1.0 1.0

$cmy^4*$  0.0 0.0 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  95.41 0.01 0.0

$LAB^*LABa$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  73.75 -34.92 5.64

$LAB^*LABa$  73.75 -34.96 5.63

$LAB^*TChA$  75.0 35.42 170.85

relative CIELAB lab\*

$lab^*lab$  0.72 -0.493 0.079

$lab^*tch$  0.75 0.5 0.475

$lab^*nch$  0.0 0.5 0.475

relative Natural Colour (NC)

$lab^*lrij$  0.72 -0.495 -0.06

$lab^*tce$  0.75 0.5 0.52

$lab^*ncE$  0.0 0.5 g07b

$n^* = 0,00$

relative Inform. Technology (IT)

$olv^3*$  0.0 0.0 0.0 (1.0)

$cmy^3*$  1.0 1.0 1.0 (0.0)

$olv^4*$  1.0 1.0 1.0 0.5

$cmy^4*$  0.5 0.0 0.5 0.5

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.1 0.02

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.22 -0.493 0.079

$lab^*tch$  0.25 0.5 0.475

$lab^*nch$  0.5 0.5 0.475

relative Natural Colour (NC)

$lab^*lrij$  0.22 -0.495 -0.06

$lab^*tce$  0.25 0.5 0.52

$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

$n^* = 0,50$

$n^* = 1,00$

blackness  $n^*$

chromaticness  $c^*$

UE100-7, 3 step scales for constant CIELAB hue 172/360 = 0.479 (left)

3 step scales for constant CIELAB hue 171/360 = 0.475 (right)

## Input: Colorimetric Reflective System MRS18

for hue  $h^* = lab^*h = 172/360 = 0.479$

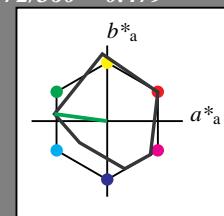
$lab^*tch$  and  $lab^*nch$

D65: hue G

LCH\*Ma: 52 70 172

olv\*Ma: 0.0 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
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 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

$LAB^*LABa$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  73.75 -35.42 8.02

$LAB^*LABa$  73.75 -34.85 4.72

$LAB^*TChA$  75.0 35.18 172.29

relative CIELAB lab\*

$lab^*lab$  0.72 -0.494 0.067

$lab^*tch$  0.75 0.5 0.479

$lab^*nch$  0.0 0.5 0.479

relative Natural Colour (NC)

$lab^*lrij$  0.72 -0.496 -0.056

$lab^*tce$  0.75 0.2 0.518

$lab^*ncE$  0.0 0.5 g07b

relative Inform. Technology (IT)

$olvi3^*$  0.5 0.5 0.5 (1.0)

$cmyn3^*$  0.5 0.5 0.5 (0.0)

$olv4^*$  1.0 1.0 1.0 0.5

$cmyn4^*$  0.0 0.0 0.0 0.5

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 CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.5 0.0 0.0

$lab^*tce$  0.5 0.0 0.0

$lab^*ncE$  0.5 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  35.06 -34.67 5.41

$LAB^*LABa$  35.06 -34.85 4.72

$LAB^*TChA$  25.01 35.18 172.29

relative CIELAB lab\*

$lab^*lab$  0.22 -0.494 0.067

$lab^*tch$  0.25 0.5 0.479

$lab^*nch$  0.5 0.5 0.479

relative Natural Colour (NC)

$lab^*lrij$  0.22 -0.496 -0.056

$lab^*tce$  0.25 0.5 0.518

$lab^*ncE$  0.5 0.5 g07b

$n^* = 1,0$

relative Inform. Technology (IT)

$olvi3^*$  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 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.5 -0.46

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*tce$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.5 -0.46

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*tce$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.5 -0.46

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*tce$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.5 -0.46

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*tce$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.5 -0.46

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*tce$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.5 -0.46

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*tce$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.5 -0.46

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*tce$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.5 -0.46

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*tce$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.5 -0.46

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*tce$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.5 -0.46

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*tce$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.5 -0.46

$LAB^*LAB$

## Input: Colorimetric Reflective System MRS18

for hue  $h^* = lab^*h = 172/360 = 0.479$

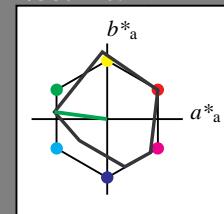
$lab^*tch$  and  $lab^*nch$

D65: hue G

LCH\*Ma: 52 70 172

olv\*Ma: 0.0 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
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

%Gamut

$u^*_{rel} = 91$

%Regularity

$g^*_{H,rel} = 41$

$g^*_{C,rel} = 52$

relative Inform. Technology (IT)

$olv^3*$  1.0 1.0 1.0 (1.0)

$cmy^3*$  0.0 0.0 0.0 (0.0)

$olv^4*$  1.0 1.0 1.0 1.0

$cmy^4*$  0.0 0.0 0.0 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 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)

$olv^3*$  0.5 0.5 0.5 (1.0)

$cmy^3*$  0.5 0.5 0.5 (0.0)

$olv^4*$  1.0 1.0 1.0 0.5

$cmy^4*$  0.0 0.0 0.0 0.5

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 CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.5 0.0 0.0

$lab^*tce$  0.5 0.0 0.0

$lab^*ncE$  0.5 0.0 -

relative Inform. Technology (IT)

$olv^3*$  0.0 0.0 0.0 (1.0)

$cmy^3*$  1.0 1.0 1.0 (0.0)

$olv^4*$  1.0 1.0 1.0 0.0

$cmy^4*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.5 -0.46

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*tce$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

$n^* = 0,00$

$n^* = 0,50$

$n^* = 1,00$

chromaticness  $c^*$

## Output: Colorimetric Reflective System NCS18

for hue  $h^* = lab^*h = 167/360 = 0.465$

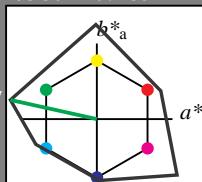
$lab^*tch$  and  $lab^*nch$

D65: hue G

LCH\*Ma: 63 117 167

olv\*Ma: 0.0 1.0 0.0

triangle lightness  $t^*$



### NCS18; adapted (a) CIELAB data

	$L^* = L^*_a$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	47.15	84.63	37.24	92.46	24
JMa	91.37	-1.27	125.03	125.03	91
GMa	63.07	-114.29	25.34	117.07	167
G50BMa	59.47	-80.61	-33.45	87.29	203
BMa	49.01	3.63	-81.2	81.29	273
B50RMa	44.06	106.07	-73.94	129.31	325
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	272

%Gamut

$u^*_{rel} = 136$

%Regularity

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

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

relative Inform. Technology (IT)

$olv^3*$  1.0 1.0 1.0 (1.0)

$cmy^3*$  0.0 0.0 0.0 (0.0)

$olv^4*$  1.0 1.0 1.0 1.0

$cmy^4*$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)

$olv^3*$  0.5 0.5 0.5 (1.0)

$cmy^3*$  0.5 0.5 0.5 (0.0)

$olv^4*$  1.0 1.0 1.0 0.5

$cmy^4*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  56.72 0.05 0.0

$LAB^*LABa$  56.72 0.0 0.0

$LAB^*TChA$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*tce$  0.0 0.0 -

$lab^*ncE$  0.0 0.0 -

$n^* = 1,0$

$n^* = 0,00$

$n^* = 0,50$

$n^* = 1,00$



	$L^* = L^*_a$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	47.15	84.63	37.24	92.46	24
JMa	91.37	-1.27	125.03	125.03	91
GMa	63.07	-114.29	25.34	117.07	167
G50BMa	59.47	-80.61	-33.45	87.29	203
BMa	49.01	3.63	-81.2	81.29	273
B50RMa	44.06	106.07	-73.94	129.31	325
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	272

relative Inform. Technology (IT)

$olv^3*$  0.5 0.5 0.5 (1.0)

$cmy^3*$  0.5 0.5 0.5 (0.0)

$olv^4*$  0.5 1.0 0.5 1.0

$cmy^4*$  0.5 0.0 0.5 0.0

standard and adapted CIELAB

$LAB^*LAB$  79.24 -57.13 12.67

$LAB^*LABa$  79.24 -57.13 12.67

$LAB^*TChA$  75.0 58.52 167.5

relative CIELAB lab\*

$lab^*lab$  0.791 -0.487 0.108

$lab^*tch$  0.75 0.5 0.465

$lab^*nch$  0.0 0.5 0.465

relative Natural Colour (NC)

$lab^*lrij$  0.791 -0.497 -0.037

$lab^*tce$  0.75 0.5 0.512

$lab^*ncE$  0.0 0.5 0.465

relative Inform. Technology (IT)

$olv^3*$  0.0 0.0 0.0 (1.0)

$cmy^3*$  1.0 1.0 1.0 (0.0)

$olv^4*$  1.0 1.0 1.0 0.0

$cmy^4*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  63.07 -114.225 35

$LAB^*LABa$  63.07 -114.225 34

$LAB^*TChA$  50.0 117.05 167.5

relative CIELAB lab\*

$lab^*lab$  0.582 -0.975 0.216

$lab^*tch$  0.5 1.0 0.465

$lab^*nch$  0.0 1.0 0.465

## Input: Colorimetric Reflective System MRS18

for hue  $h^* = lab^*h = 172/360 = 0.479$

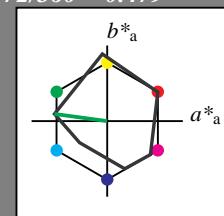
$lab^*tch$  and  $lab^*nch$

D65: hue G

LCH\*Ma: 52 70 172

olv\*Ma: 0.0 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
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)

$olv^3*$  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

$LAB^*LABa$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  73.75 -35.42 8.02

$LAB^*LABa$  73.75 -34.85 4.72

$LAB^*TChA$  75.0 35.18 172.29

relative CIELAB lab\*

$lab^*lab$  0.72 -0.494 0.067

$lab^*tch$  0.75 0.5 0.479

$lab^*nch$  0.0 0.5 0.479

relative Natural Colour (NC)

$lab^*lrij$  0.72 -0.496 -0.056

$lab^*tce$  0.75 0.2 0.518

$lab^*ncE$  0.0 0.5 g07b

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 0.5

$cmyn^4*$  0.0 0.0 0.0 0.5

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 CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.5 0.0 0.0

$lab^*tce$  0.5 0.0 0.0

$lab^*ncE$  0.5 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  35.06 -34.67 5.41

$LAB^*LABa$  35.06 -34.85 4.72

$LAB^*TChA$  25.01 35.18 172.29

relative CIELAB lab\*

$lab^*lab$  0.22 -0.494 0.067

$lab^*tch$  0.25 0.5 0.479

$lab^*nch$  0.5 0.5 0.479

relative Natural Colour (NC)

$lab^*lrij$  0.22 -0.496 -0.056

$lab^*tce$  0.25 0.5 0.518

$lab^*ncE$  0.5 0.5 g07b

$n^* = 1,0$

relative Inform. Technology (IT)

$olv^3*$  0.0 0.0 0.0 (1.0)

$cmyn^3*$  1.0 1.0 1.0 (0.0)

$olv^4*$  1.0 1.0 1.0 0.0

$cmyn^4*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.5 -0.46

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*tce$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.5 -0.46

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*tce$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

## Output: Colorimetric Reflective System NRS11

for hue  $h^* = lab^*h = 167/360 = 0.464$

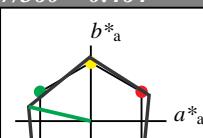
$lab^*tch$  and  $lab^*nch$

D65: hue G

LCH\*Ma: 53 84 167

olv\*Ma: 0.0 1.0 0.0

triangle lightness  $t^*$



### NRS11; adapted (a) CIELAB data

	$L^*=L^*_a$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	53.2	77.06	34.32	84.36	24
JMa	53.2	-1.51	84.38	84.39	91
GMa	53.2	-82.27	18.98	84.44	167
G50BMa	53.2	-77.72	-32.98	84.44	203
BMa	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)

$olv^3*$  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

$LAB^*LABa$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  74.3 -41.1 9.49

$LAB^*LABa$  74.3 -41.12 9.49

$LAB^*TChA$  75.0 42.21 167.01

relative CIELAB lab\*

$lab^*lab$  0.75 -0.486 0.112

$lab^*tch$  0.75 0.5 0.464

$lab^*nch$  0.0 0.5 0.464

relative Natural Colour (NC)

$lab^*lrij$  0.75 -0.498 -0.033

$lab^*tce$  0.75 0.5 0.511

$lab^*ncE$  0.0 0.5 g04b

relative Inform. Technology (IT)

$olv^3*$  0.0 1.0 0.0 (1.0)

$cmyn^3*$  1.0 0.0 1.0 (0.0)

$olv^4*$  0.0 1.0 0.0 1.0

$cmyn^4*$  1.0 0.0 1.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  53.2 -82.21 18.98

$LAB^*LABa$  53.2 -82.25 18.97

$LAB^*TChA$  50.0 84.42 167.01

relative CIELAB lab\*

$lab^*lab$  0.5 -0.973 0.225

$lab^*tch$  0.5 1.0 0.464

$lab^*nch$  0.0 1.0 0.464

relative Natural Colour (NC)

$lab^*lrij$  0.5 -0.996 -0.067

$lab^*tce$  0.5 1.0 0.511

$lab^*ncE$  0.0 1.0 g04b

$n^* = 0,00$

blackness  $n^*$

chromaticness  $c^*$

$n^* = 1,0$

blackness  $n^*$

chromaticness  $c^*$

$n^* = 0,50$

blackness  $n^*$

chromaticness  $c^*$

$n^* = 1,00$

blackness  $n^*$

chromaticness  $c^*$

UE100-7, 3 step scales for constant CIELAB hue 172/360 = 0.479 (left)

3 step scales for constant CIELAB hue 167/360 = 0.464 (right)

## Input: Colorimetric Reflective System MRS18

for hue  $h^* = lab^*h = 172/360 = 0.479$

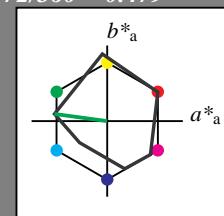
$lab^*tch$  and  $lab^*nch$

D65: hue G

LCH\*Ma: 52 70 172

olv\*Ma: 0.0 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
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)

$olv^3*$  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

$LAB^*LABa$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 0.0

$lab^*ncE$  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 0.5

$cmyn^4*$  0.0 0.0 0.0 0.5

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 CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.5 0.0 0.0

$lab^*tce$  0.5 0.0 0.0

$lab^*ncE$  0.5 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)

$olv^4*$  1.0 1.0 1.0 0.0

$cmyn^4*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.5 -0.46

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

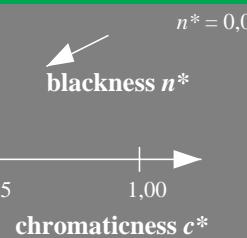
relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

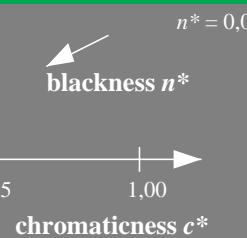
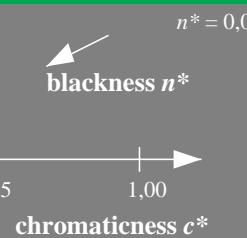
$lab^*tce$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$



chromaticness  $c^*$



## Output: Colorimetric Reflective System NCS11

for hue  $h^* = lab^*h = 167/360 = 0.465$

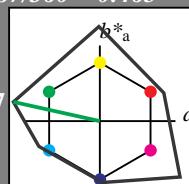
$lab^*tch$  and  $lab^*nch$

D65: hue G

LCH\*Ma: 63 117 167

olv\*Ma: 0.0 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

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

$LAB^*LABa$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)

$olv^3*$  0.5 1.0 0.5 (1.0)

$cmyn^3*$  0.5 0.5 0.5 (0.0)

$olv^4*$  0.5 1.0 0.5 1.0

$cmyn^4*$  0.5 0.0 0.5 0.0

standard and adapted CIELAB

$LAB^*LAB$  52.11 -69.86 11.28

$LAB^*LABa$  52.11 -69.71 9.44

$LAB^*TChA$  50.0 70.36 172.29

relative CIELAB lab\*

$lab^*lab$  0.441 -0.99 0.134

$lab^*tch$  0.5 1.0 0.479

$lab^*nch$  0.0 1.0 0.479

relative Natural Colour (NC)

$lab^*lrij$  0.441 -0.992 -0.114

$lab^*tce$  0.5 1.0 0.518

$lab^*ncE$  0.0 1.0 g07b

relative Inform. Technology (IT)

$olv^3*$  0.0 0.0 0.0 (1.0)

$cmyn^3*$  1.0 1.0 1.0 (0.0)

$olv^4*$  1.0 1.0 1.0 0.0

$cmyn^4*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  11.01 0.07 0.01

$LAB^*LABa$  11.01 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

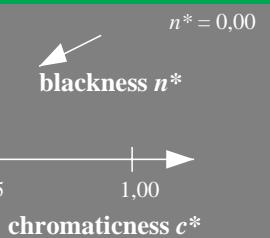
relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

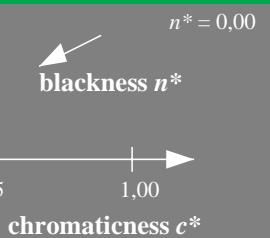
$lab^*tce$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

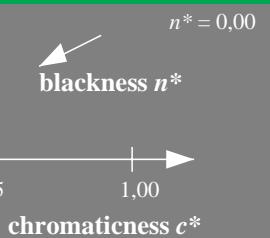
$n^* = 1,0$



chromaticness  $c^*$



chromaticness  $c^*$



chromaticness  $c^*$

UE100-7, 3 step scales for constant CIELAB hue 172/360 = 0.479 (left)

3 step scales for constant CIELAB hue 167/360 = 0.465 (right)

## Input: Colorimetric Reflective System TRS18

for hue  $h^* = lab^*h = 151/360 = 0.419$

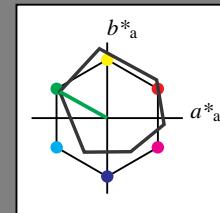
$lab^*tch$  and  $lab^*nch$

D65: hue L

LCH\*Ma: 51 72 151

olv\*Ma: 0.0 1.0 0.0

triangle lightness  $t^*$



### TRS18; adapted (a) CIELAB data

	$L^* = L^*_a$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
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)

$olv^3*$  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

$LAB^*LABa$  95.41 0.0 0.0

$LAB^*TCh$  99.99 0.01 -

relative CIELAB lab\*

$lab^*lab$  1.0 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  73.15 -31.94 20.73

$LAB^*LABa$  73.15 -31.38 17.47

$LAB^*TCh$  75.0 35.93 150.91

relative CIELAB lab\*

$lab^*lab$  0.712 -0.436 0.243

$lab^*tch$  0.75 0.5 0.419

$lab^*nch$  0.0 0.5 0.419

relative Natural Colour (NC)

$lab^*lrij$  0.712 -0.478 0.144

$lab^*tce$  0.75 0.2 0.453

$lab^*ncE$  0.0 0.5 j81g

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 0.5

$cmyn^4*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  56.71 -0.23 2.14

$LAB^*LABa$  56.71 0.0 0.0

$LAB^*TCh$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.5 0.0 0.0

$lab^*tce$  0.5 0.0 0.0

$lab^*ncE$  0.5 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  34.46 -31.2 18.11

$LAB^*LABa$  34.46 -31.38 17.47

$LAB^*TCh$  25.01 35.93 150.91

relative CIELAB lab\*

$lab^*lab$  0.213 -0.436 0.243

$lab^*tch$  0.25 0.5 0.419

$lab^*nch$  0.5 0.5 0.419

relative Natural Colour (NC)

$lab^*lrij$  0.213 -0.478 0.144

$lab^*tce$  0.25 0.5 0.453

$lab^*ncE$  0.5 0.5 j81g

$n^* = 1,0$

$n^* = 0,00$

$n^* = 0,50$

$1,00$

$chromaticness c^*$

## Output: Colorimetric Reflective System ORS18

for hue  $h^* = lab^*h = 151/360 = 0.419$

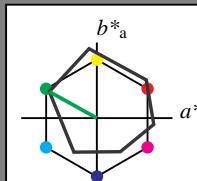
$lab^*tch$  and  $lab^*nch$

D65: hue L

LCH\*Ma: 51 72 151

olv\*Ma: 0.0 1.0 0.0

triangle lightness  $t^*$



### ORS18; adapted (a) CIELAB data

	$L^* = L^*_a$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
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)

$olv^3*$  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

$LAB^*LABa$  95.41 0.0 0.0

$LAB^*TCh$  99.99 0.01 -

relative CIELAB lab\*

$lab^*lab$  1.0 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 0.0

$lab^*ncE$  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 0.5

$cmyn^4*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  73.15 -31.94 20.73

$LAB^*LABa$  73.15 -31.38 17.47

$LAB^*TCh$  75.0 35.93 150.91

relative CIELAB lab\*

$lab^*lab$  0.712 -0.436 0.243

$lab^*tch$  0.75 0.5 0.419

$lab^*nch$  0.0 0.5 0.419

relative Natural Colour (NC)

$lab^*lrij$  0.712 -0.478 0.144

$lab^*tce$  0.75 0.5 0.453

$lab^*ncE$  0.0 0.5 j81g

$n^* = 1,0$

$n^* = 0,50$

$1,00$

$chromaticness c^*$

$n^* = 1,0$

$n^* = 0,50$

$1,00$

$chromaticness c^*$

UE100-7, 3 step scales for constant CIELAB hue 151/360 = 0.419 (left)

3 step scales for constant CIELAB hue 151/360 = 0.419 (right)

## Input: Colorimetric Reflective System TRS18

for hue  $h^* = lab^*h = 151/360 = 0.419$

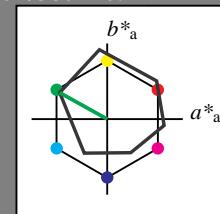
$lab^*tch$  and  $lab^*nch$

D65: hue L

LCH\*Ma: 51 72 151

olv\*Ma: 0.0 1.0 0.0

triangle lightness  $t^*$



### TRS18; adapted (a) CIELAB data

	$L^* = L^*_a$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
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)

$olv^3*$  1.0 1.0 1.0 (1.0)

$cmy^3*$  0.0 0.0 0.0 (0.0)

$olv^4*$  1.0 1.0 1.0 1.0

$cmy^4*$  0.0 0.0 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  95.41 -0.97 4.75

$LAB^*LABa$  95.41 0.0 0.0

$LAB^*TCh$  99.99 0.01 -

relative CIELAB lab\*

$lab^*lab$  1.0 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  73.15 -31.94 20.73

$LAB^*LABa$  73.15 -31.38 17.47

$LAB^*TCh$  75.0 35.93 150.91

relative CIELAB lab\*

$lab^*lab$  0.712 -0.436 0.243

$lab^*tch$  0.75 0.5 0.419

$lab^*nch$  0.0 0.5 0.419

relative Natural Colour (NC)

$lab^*lrij$  0.712 -0.478 0.144

$lab^*tce$  0.75 0.2 0.453

$lab^*ncE$  0.0 0.5 0.419

standard and adapted CIELAB

$LAB^*LAB$  56.71 -0.23 2.14

$LAB^*LABa$  56.71 0.0 0.0

$LAB^*TCh$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.5 0.0 0.0

$lab^*tce$  0.5 0.0 0.0

$lab^*ncE$  0.5 0.0 -

relative Inform. Technology (IT)

$olv^3*$  0.0 0.0 0.0 (1.0)

$cmy^3*$  1.0 1.0 1.0 (0.0)

$olv^4*$  1.0 1.0 1.0 0.0

$cmy^4*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.5 -0.46

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TCh$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*tce$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

%Gamut

$u^*_{rel} = 93$

%Regularity

$g^*_{H,rel} = 57$

$g^*_{C,rel} = 59$

## Output: Colorimetric Reflective System MRS18

for hue  $h^* = lab^*h = 172/360 = 0.479$

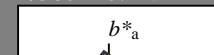
$lab^*tch$  and  $lab^*nch$

D65: hue G

LCH\*Ma: 52 70 172

olv\*Ma: 0.0 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
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)

$olv^3*$  1.0 1.0 1.0 (1.0)

$cmy^3*$  0.0 0.0 0.0 (0.0)

$olv^4*$  1.0 1.0 1.0 1.0

$cmy^4*$  0.0 0.0 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  95.41 -0.97 4.75

$LAB^*LABa$  95.41 0.0 0.0

$LAB^*TCh$  99.99 0.01 -

relative CIELAB lab\*

$lab^*lab$  1.0 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  73.75 -35.42 8.02

$LAB^*LABa$  73.75 -34.85 4.72

$LAB^*TCh$  75.0 35.18 172.29

relative CIELAB lab\*

$lab^*lab$  0.72 -0.494 0.067

$lab^*tch$  0.75 0.5 0.479

$lab^*nch$  0.0 0.5 0.479

relative Natural Colour (NC)

$lab^*lrij$  0.72 -0.496 -0.056

$lab^*tce$  0.75 0.5 0.518

$lab^*ncE$  0.0 0.5 0.507b

relative Inform. Technology (IT)

$olv^3*$  0.5 1.0 0.0 (1.0)

$cmy^3*$  0.5 0.5 0.5 (0.0)

$olv^4*$  0.5 1.0 0.5 1.0

$cmy^4*$  0.5 0.0 0.5 0.5

standard and adapted CIELAB

$LAB^*LAB$  52.11 -69.86 11.28

$LAB^*LABa$  52.11 -69.71 9.44

$LAB^*TCh$  50.0 70.36 172.29

relative CIELAB lab\*

$lab^*lab$  0.441 -0.99 0.134

$lab^*tch$  0.5 1.0 0.479

$lab^*nch$  0.0 1.0 0.479

relative Natural Colour (NC)

$lab^*lrij$  0.441 -0.992 -0.114

$lab^*tce$  0.5 1.0 0.518

$lab^*ncE$  0.0 1.0 0.507b

relative Inform. Technology (IT)

$olv^3*$  0.0 0.0 0.0 (1.0)

$cmy^3*$  1.0 1.0 1.0 (0.0)

$olv^4*$  1.0 1.0 1.0 0.0

$cmy^4*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.5 -0.46

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TCh$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*tce$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

$n^* = 0,00$

blackness  $n^*$

$n^* = 0,50$

chromaticness  $c^*$

$n^* = 0,00$

blackness  $n^*$

$n^* = 0,50$

chromaticness  $c^*$

UE100-7, 3 step scales for constant CIELAB hue 151/360 = 0.419 (left)

3 step scales for constant CIELAB hue 172/360 = 0.479 (right)

$n^* = 0,00$

blackness  $n^*$

$n^* = 0,50$

chromaticness  $c^*$

## Input: Colorimetric Reflective System TRS18

for hue  $h^* = lab^*h = 151/360 = 0.419$

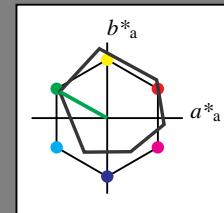
$lab^*tch$  and  $lab^*nch$

D65: hue L

LCH\*Ma: 51 72 151

olv\*Ma: 0.0 1.0 0.0

triangle lightness  $t^*$



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\*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 0.0 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 -

standard and adapted CIELAB

LAB\*LAB 73.15 -31.94 20.73

LAB\*LABa 73.15 -31.38 17.47

LAB\*TChA 75.0 35.93 150.91

relative CIELAB lab\*

lab\*lab 0.5 0.5 0.5 (1.0)

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\*LABa 56.71 0.0 0.0

LAB\*TChA 50.0 0.01 -

relative CIELAB lab\*

lab\*lab 0.5 0.0 0.0

lab\*tch 0.5 0.0 -

lab\*nch 0.5 0.0 -

relative Natural Colour (NC)

lab\*lrj 0.5 0.0 0.0

lab\*tce 0.5 0.0 0.0

lab\*ncE 0.5 0.0 -

standard and adapted CIELAB

LAB\*LAB 34.46 -31.2 18.11

LAB\*LABa 34.46 -31.38 17.47

LAB\*TChA 25.01 35.93 150.91

relative CIELAB lab\*

lab\*lab 0.213 -0.436 0.243

lab\*tch 0.25 0.5 0.419

lab\*nch 0.5 0.5 0.419

relative Natural Colour (NC)

lab\*lrj 0.213 -0.478 0.144

lab\*tce 0.25 0.5 0.453

lab\*ncE 0.5 0.5 0.481g

$n^* = 1,0$

## TRS18; adapted (a) CIELAB data

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

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

%Gamut

$u^*_{rel} = 93$

%Regularity

$g^*_{H,rel} = 57$

$g^*_{C,rel} = 59$

relative Inform. Technology (IT)

olvi3\* 0.5 1.0 0.5 (1.0)

cmyn3\* 0.5 0.0 0.0 (0.0)

olvi4\* 0.5 1.0 0.5 1.0

cmyn4\* 0.5 0.0 0.5 0.0

relative CIELAB lab\*

lab\*lab 0.712 -0.436 0.243

lab\*tch 0.75 0.5 0.419

lab\*nch 0.0 0.5 0.419

relative Natural Colour (NC)

lab\*lrj 0.712 -0.478 0.144

lab\*tce 0.75 0.5 0.453

lab\*ncE 0.0 0.5 0.481g

relative Inform. Technology (IT)

olvi3\* 0.0 1.0 0.0 (1.0)

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

relative CIELAB lab\*

lab\*lab 0.425 -0.873 0.486

lab\*tch 0.5 1.0 0.419

lab\*nch 0.0 1.0 0.419

relative Natural Colour (NC)

lab\*lrj 0.425 -0.956 0.289

lab\*tce 0.5 1.0 0.453

lab\*ncE 0.0 1.0 0.481g

relative Inform. Technology (IT)

olvi3\* 0.5 1.0 0.5 (1.0)

cmyn3\* 0.5 0.5 0.5 (0.0)

olvi4\* 0.5 1.0 0.5 0.5

cmyn4\* 0.5 0.0 0.5 0.5

relative CIELAB lab\*

lab\*lab 0.213 -0.436 0.243

lab\*tch 0.25 0.5 0.419

lab\*nch 0.5 0.5 0.419

relative Natural Colour (NC)

lab\*lrj 0.213 -0.478 0.144

lab\*tce 0.25 0.5 0.453

lab\*ncE 0.5 0.5 0.481g

relative Inform. Technology (IT)

olvi3\* 0.0 1.0 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

relative CIELAB lab\*

lab\*lab 0.213 -0.436 0.243

lab\*tch 0.25 0.5 0.419

lab\*nch 0.5 0.5 0.419

relative Natural Colour (NC)

lab\*lrj 0.213 -0.478 0.144

lab\*tce 0.25 0.5 0.453

lab\*ncE 0.5 0.5 0.481g

$n^* = 0,00$

blackness  $n^*$

$n^* = 0,50$

## Output: Colorimetric Reflective System TRS18

for hue  $h^* = lab^*h = 151/360 = 0.419$

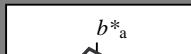
$lab^*tch$  and  $lab^*nch$

D65: hue L

LCH\*Ma: 51 72 151

olv\*Ma: 0.0 1.0 0.0

triangle lightness  $t^*$



%Gamut

$u^*_{rel} = 93$

%Regularity

$g^*_{H,rel} = 57$

$g^*_{C,rel} = 59$

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\*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 0.0 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 -

standard and adapted CIELAB

LAB\*LAB 73.15 -31.94 20.73

LAB\*LABa 73.15 -31.38 17.47

LAB\*TChA 75.0 35.93 150.91

relative CIELAB lab\*

lab\*lab 0.712 -0.436 0.243

lab\*tch 0.75 0.5 0.419

lab\*nch 0.0 0.5 0.419

relative Natural Colour (NC)

lab\*lrj 0.712 -0.478 0.144

lab\*tce 0.75 0.5 0.453

lab\*ncE 0.0 0.5 0.481g

relative Inform. Technology (IT)

olvi3\* 0.5 1.0 0.5 (1.0)

cmyn3\* 0.5 0.0 0.0 (0.0)

olvi4\* 0.5 1.0 0.5 0.5

cmyn4\* 0.5 0.0 0.0 0.5

relative CIELAB lab\*

lab\*lab 0.213 -0.436 0.243

lab\*tch 0.25 0.5 0.419

lab\*nch 0.5 0.5 0.419

relative Natural Colour (NC)

lab\*lrj 0.213 -0.478 0.144

lab\*tce 0.25 0.5 0.453

lab\*ncE 0.5 0.5 0.481g

relative Inform. Technology (IT)

olvi3\* 0.0 1.0 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

relative CIELAB lab\*

lab\*lab 0.213 -0.436 0.243

lab\*tch 0.25 0.5 0.419

lab\*nch 0.5 0.5 0.419

relative Natural Colour (NC)

lab\*lrj 0.213 -0.478 0.144

lab\*tce 0.25 0.5 0.453

lab\*ncE 0.5 0.5 0.481g

relative Inform. Technology (IT)

olvi3\* 0.5 1.0 0.5 (1.0)

cmyn3\* 0.5 0.0 0.0 (0.0)

olvi4\* 0.5 1.0 0.5 0.5

cmyn4\* 0.5 0.0 0.0 0.5

relative CIELAB lab\*

lab\*lab 0.213 -0.436 0.243

lab\*tch 0.25 0.5 0.419

lab\*nch 0.5 0.5 0.419

relative Natural Colour (NC)

lab\*lrj 0.213 -0.478 0.144

lab\*tce 0.25 0.5 0.453

lab\*ncE 0.5 0.5 0.481g

relative Inform. Technology (IT)

### Input: Colorimetric Reflective System TRS18

for hue  $h^* = lab^*h = 151/360 = 0.419$

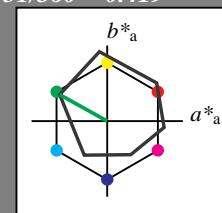
$lab^*tch$  and  $lab^*nch$

D65: hue L

LCH\*Ma: 51 72 151

olv\*Ma: 0.0 1.0 0.0

triangle lightness  $t^*$



### TRS18; adapted (a) CIELAB data

	$L^* = L^*_a$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
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)

$olv^3*$  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

$LAB^*LABa$  95.41 0.0 0.0

$LAB^*TCh$  99.99 0.01 -

relative CIELAB lab\*

$lab^*lab$  1.0 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  1.0 0.0 0.0

$lab^*ice$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  73.15 -31.94 20.73

$LAB^*LABa$  73.15 -31.38 17.47

$LAB^*TCh$  75.0 35.93 150.91

relative CIELAB lab\*

$lab^*lab$  0.712 -0.436 0.243

$lab^*tch$  0.75 0.5 0.419

$lab^*nch$  0.0 0.5 0.419

relative Natural Colour (NC)

$lab^*lrj$  0.712 -0.478 0.144

$lab^*ice$  0.75 0.2 0.453

$lab^*ncE$  0.0 0.5 0.419

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 0.5

$cmyn^4*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  56.71 -0.23 2.14

$LAB^*LABa$  56.71 0.0 0.0

$LAB^*TCh$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  0.5 0.0 0.0

$lab^*ice$  0.5 0.0 0.0

$lab^*ncE$  0.5 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.5 -0.46

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TCh$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  0.0 0.0 0.0

$lab^*ice$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

relative Inform. Technology (IT)

$olv^3*$  0.5 1.0 0.5 (1.0)

$cmyn^3*$  0.5 0.0 0.5 (0.0)

$olv^4*$  1.0 1.0 1.0 1.0

$cmyn^4*$  0.5 0.0 0.5 0.0

standard and adapted CIELAB

$LAB^*LAB$  73.15 -31.94 20.73

$LAB^*LABa$  73.15 -31.38 17.47

$LAB^*TCh$  75.0 35.93 150.91

relative CIELAB lab\*

$lab^*lab$  0.712 -0.436 0.243

$lab^*tch$  0.75 0.5 0.419

$lab^*nch$  0.0 0.5 0.419

relative Natural Colour (NC)

$lab^*lrj$  0.712 -0.478 0.144

$lab^*ice$  0.75 0.2 0.453

$lab^*ncE$  0.0 0.5 0.419

relative Inform. Technology (IT)

$olv^3*$  0.0 1.0 0.5 (1.0)

$cmyn^3*$  0.5 0.0 0.5 (0.0)

$olv^4*$  1.0 1.0 1.0 0.5

$cmyn^4*$  0.0 0.0 0.5 0.5

standard and adapted CIELAB

$LAB^*LAB$  50.9 -62.91 36.69

$LAB^*LABa$  50.9 -62.78 34.94

$LAB^*TCh$  50.0 71.86 150.91

relative CIELAB lab\*

$lab^*lab$  0.425 -0.873 0.486

$lab^*tch$  0.5 1.0 0.419

$lab^*nch$  0.0 1.0 0.419

relative Natural Colour (NC)

$lab^*lrj$  0.425 -0.956 0.289

$lab^*ice$  0.5 1.0 0.453

$lab^*ncE$  0.0 1.0 0.419

relative Inform. Technology (IT)

$olv^3*$  0.0 0.0 0.0 (1.0)

$cmyn^3*$  1.0 1.0 1.0 (0.0)

$olv^4*$  1.0 1.0 1.0 0.0

$cmyn^4*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.1 -0.02

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TCh$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.213 -0.436 0.243

$lab^*tch$  0.25 0.5 0.419

$lab^*nch$  0.5 0.5 0.419

relative Natural Colour (NC)

$lab^*lrj$  0.213 -0.478 0.144

$lab^*ice$  0.25 0.5 0.453

$lab^*ncE$  0.5 0.5 0.419

$n^* = 0,00$

$n^* = 0,50$

$n^* = 1,00$

chromaticness  $c^*$

### Output: Colorimetric Reflective System MRS18a

for hue  $h^* = lab^*h = 171/360 = 0.475$

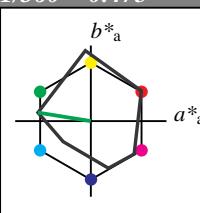
$lab^*tch$  and  $lab^*nch$

D65: hue G

LCH\*Ma: 52 71 171

olv\*Ma: 0.0 1.0 0.0

triangle lightness  $t^*$



### MRS18a; adapted (a) CIELAB data

	$L^* = L^*_a$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	49.63	66.8	40.02	77.87	31
JMa	90.7	-7.27	93.19	93.48	94
GMa	52.11	-69.93	11.26	70.85	171
G50BMa	45.03	-36.65	-27.13	45.61	217
BMa	36.65	23.26	-62.27	66.49	290
B50RMa	34.94	57.27	-43.6	71.99	323
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	272

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 0.01 0.0

$LAB^*LABa$  95.41 0.0 0.0

$LAB^*TCh$  99.99 0.01 -

relative CIELAB lab\*

$lab^*lab$  1.0 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  1.0 0.0 0.0

$lab^*ice$  1.0 0.0 0.0

$lab^*ncE$  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 0.5

$cmyn^4*$  0.5 0.0 0.5 0.5

standard and adapted CIELAB

$LAB^*LAB$  52.11 -34.92 5.64

$LAB^*LABa$  52.11 -34.96 5.63

$LAB^*TCh$  75.0 35.42 170.85

relative CIELAB lab\*

$lab^*lab$  0.72 -0.493 0.079

$lab^*tch$  0.75 0.5 0.475

$lab^*nch$  0.0 0.5 0.475

relative Natural Colour (NC)

$lab^*lrj$  0.72 -0.495 -0.06

$lab^*ice$  0.75 0.5 0.52

$lab^*ncE$  0.0 0.5 0.475

$n^* = 0,00$

$n^* = 0,50$

$n^* = 1,00$

chromaticness  $c^*$

### Input: Colorimetric Reflective System TRS18

for hue  $h^* = lab^*h = 151/360 = 0.419$

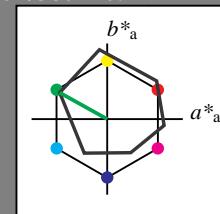
$lab^*tch$  and  $lab^*nch$

D65: hue L

LCH\*Ma: 51 72 151

olv\*Ma: 0.0 1.0 0.0

triangle lightness  $t^*$



### TRS18; adapted (a) CIELAB data

	$L^* = L^*_a$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
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)

$olv^3*$  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

$LAB^*LABa$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  1.0 0.0 0.0

$lab^*ice$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  73.15 -31.94 20.73

$LAB^*LABa$  73.15 -31.38 17.47

$LAB^*TChA$  75.0 35.93 150.91

relative CIELAB lab\*

$lab^*lab$  0.712 -0.436 0.243

$lab^*tch$  0.75 0.5 0.419

$lab^*nch$  0.0 0.5 0.419

relative Natural Colour (NC)

$lab^*lrj$  0.712 -0.478 0.144

$lab^*ice$  0.75 0.2 0.453

$lab^*ncE$  0.0 0.5 0.419

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 0.5

$cmyn^4*$  0.0 0.0 0.0 0.5

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 CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  0.5 0.0 0.0

$lab^*ice$  0.5 0.0 0.0

$lab^*ncE$  0.5 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.5 -0.46

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  0.0 0.0 0.0

$lab^*ice$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

$n^* = 1,0$

$n^* = 0,0$

chromaticness  $c^*$

$n^* = 0,50$

$n^* = 0,00$

blackness  $n^*$

$n^* = 0,50$

$n^* = 0,00$

### Output: Colorimetric Reflective System NRS18

for hue  $h^* = lab^*h = 167/360 = 0.464$

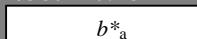
$lab^*tch$  and  $lab^*nch$

D65: hue G

LCH\*Ma: 57 77 167

olv\*Ma: 0.0 1.0 0.0

triangle lightness  $t^*$



### NRS18; adapted (a) CIELAB data

	$L^* = L^*_a$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	56.7	70.66	31.47	77.35	24
JMa	56.7	-1.39	77.37	77.39	91
GMa	56.7	-75.46	17.4	77.45	167
G50BMa	56.7	-71.29	-30.25	77.45	203
BMa	56.7	4.0	-77.3	77.41	273
B50RMa	56.7	63.35	-44.4	77.36	325
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	272

%Gamut

$u^*_{rel} = 93$

%Regularity

$g^*_{H,rel} = 57$

$g^*_{C,rel} = 59$

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 0.0

$LAB^*LABa$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  1.0 0.0 0.0

$lab^*ice$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)

$olv^3*$  0.5 1.0 0.5 (1.0)

$cmyn^3*$  0.5 0.5 0.5 (0.0)

$olv^4*$  0.5 1.0 0.5 1.0

$cmyn^4*$  0.5 0.0 0.5 0.0

standard and adapted CIELAB

$LAB^*LAB$  50.9 -62.91 36.69

$LAB^*LABa$  50.9 -62.78 34.94

$LAB^*TChA$  50.0 71.86 150.91

relative CIELAB lab\*

$lab^*lab$  0.425 -0.873 0.486

$lab^*tch$  0.5 1.0 0.419

$lab^*nch$  0.0 1.0 0.419

relative Natural Colour (NC)

$lab^*lrj$  0.425 -0.956 0.289

$lab^*ice$  0.5 1.0 0.453

$lab^*ncE$  0.0 1.0 0.419

relative Inform. Technology (IT)

$olv^3*$  0.0 0.0 0.0 (1.0)

$cmyn^3*$  1.0 1.0 1.0 (0.0)

$olv^4*$  1.0 1.0 1.0 0.0

$cmyn^4*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.09 0.02

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  0.0 0.0 0.0

$lab^*ice$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

### NRS18; adapted (a) CIELAB data

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

RMa 56.7 70.66 31.47 77.35 24

JMa 56.7 -1.39 77.37 77.39 91

GMa 56.7 -75.46 17.4 77.45 167

G50BMa 56.7 -71.29 -30.25 77.45 203

BMa 56.7 4.0 -77.3 77.41 273

B50RMa 56.7 63.35 -44.4 77.36 325

NMa 18.01 0.0 0.0 0.0 0

WMa 95.41 0.0 0.0 0.0 0

RCIE 39.92 58.67 27.97 64.99 25

JCIE 81.26 -2.91 71.56 71.62 92

GCIE 52.23 -42.47 13.58 44.6 162

BCIE 30.57 1.33 -46.48 46.51 272

relative Inform. Technology (IT)

$olv^3*$  1.0 1.0 0.5 (1.0)

$cmyn^3*$  0.0 0.0 0.5 (0.0)

$olv^4*$  1.0 1.0 0.5 1.0

$cmyn^4*$  0.0 0.0 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  76.05 -37.69 8.7

$LAB^*LABa$  76.05 -37.

## Input: Colorimetric Reflective System TRS18

for hue  $h^* = lab^*h = 151/360 = 0.419$

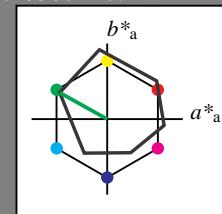
$lab^*tch$  and  $lab^*nch$

D65: hue L

LCH\*Ma: 51 72 151

olv\*Ma: 0.0 1.0 0.0

triangle lightness  $t^*$



relative Inform. Technology (IT)

$olvi3^*$  1.0 1.0 1.0 (1.0)

$cmy3^*$  0.0 0.0 0.0 (0.0)

$olvi4^*$  1.0 1.0 1.0 1.0

$cmy4^*$  0.0 0.0 0.0 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 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 -

$lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)

$olvi3^*$  0.5 0.5 0.5 (1.0)

$cmy3^*$  0.5 0.5 0.5 (0.0)

$olvi4^*$  1.0 1.0 1.0 0.5

$cmy4^*$  0.0 0.0 0.0 0.5

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 CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.5 0.0 0.0

$lab^*tce$  0.5 0.0 -

$lab^*ncE$  0.5 0.0 -

relative Inform. Technology (IT)

$olvi3^*$  0.0 0.0 0.0 (1.0)

$cmy3^*$  1.0 1.0 1.0 (0.0)

$olvi4^*$  1.0 1.0 1.0 0.0

$cmy4^*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.5 -0.46

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*tce$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

## TRS18; adapted (a) CIELAB data

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

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

%Gamut

$u^*_{rel} = 93$

%Regularity

$g^*_{H,rel} = 57$

$g^*_{C,rel} = 59$

relative Inform. Technology (IT)

$olvi3^*$  0.5 1.0 0.5 (1.0)

$cmy3^*$  0.5 0.0 0.5 (0.0)

$olvi4^*$  0.5 1.0 0.5 1.0

$cmy4^*$  0.5 0.0 0.5 0.0

standard and adapted CIELAB

$LAB^*LAB$  73.15 -31.94 20.73

$LAB^*LABa$  73.15 -31.38 17.47

$LAB^*TChA$  75.0 35.93 150.91

relative CIELAB lab\*

$lab^*lab$  0.712 -0.436 0.243

$lab^*tch$  0.75 0.5 0.419

$lab^*nch$  0.0 0.5 0.419

relative Natural Colour (NC)

$lab^*lrij$  0.712 -0.478 0.144

$lab^*tce$  0.75 0.2 0.453

$lab^*ncE$  0.0 0.5 0.181g

relative Inform. Technology (IT)

$olvi3^*$  0.0 1.0 0.0 (1.0)

$cmy3^*$  1.0 0.0 1.0 (0.0)

$olvi4^*$  1.0 1.0 1.0 0.5

$cmy4^*$  1.0 0.0 1.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  50.9 -62.91 36.69

$LAB^*LABa$  50.9 -62.78 34.94

$LAB^*TChA$  50.0 71.86 150.91

relative CIELAB lab\*

$lab^*lab$  0.425 -0.873 0.486

$lab^*tch$  0.5 1.0 0.419

$lab^*nch$  0.0 1.0 0.419

relative Natural Colour (NC)

$lab^*lrij$  0.425 -0.956 0.289

$lab^*tce$  0.5 1.0 0.453

$lab^*ncE$  0.0 1.0 0.181g

relative Inform. Technology (IT)

$olvi3^*$  0.0 0.0 0.0 (1.0)

$cmy3^*$  1.0 1.0 1.0 (0.0)

$olvi4^*$  1.0 1.0 1.0 0.0

$cmy4^*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.09 -0.02

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*tce$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 0,00$

blackness  $n^*$

chromaticness  $c^*$

## Output: Colorimetric Reflective System NCS18

for hue  $h^* = lab^*h = 167/360 = 0.465$

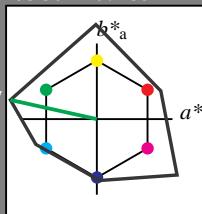
$lab^*tch$  and  $lab^*nch$

D65: hue G

LCH\*Ma: 63 117 167

olv\*Ma: 0.0 1.0 0.0

triangle lightness  $t^*$



%Gamut

$u^*_{rel} = 136$

%Regularity

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

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

relative Inform. Technology (IT)

$olvi3^*$  1.0 1.0 1.0 (1.0)

$cmy3^*$  0.0 0.0 0.0 (0.0)

$olvi4^*$  1.0 1.0 1.0 1.0

$cmy4^*$  0.0 0.0 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  79.24 -57.11 12.67

$LAB^*LABa$  79.24 -57.13 12.67

$LAB^*TChA$  75.0 58.52 167.5

relative CIELAB lab\*

$lab^*lab$  0.791 -0.487 0.108

$lab^*tch$  0.75 0.5 0.465

$lab^*nch$  0.0 0.5 0.465

relative Natural Colour (NC)

$lab^*lrij$  0.791 -0.497 -0.037

$lab^*tce$  0.75 0.5 0.512

$lab^*ncE$  0.0 0.5 0.04b

relative Inform. Technology (IT)

$olvi3^*$  0.0 0.5 0.0 (1.0)

$cmy3^*$  1.0 0.5 1.0 (0.0)

$olvi4^*$  1.0 0.5 0.5 0.5

$cmy4^*$  0.5 0.0 0.5 0.5

standard and adapted CIELAB

$LAB^*LAB$  43.07 -114.225 35

$LAB^*LABa$  63.07 -114.262 34

$LAB^*TChA$  50.0 117.05 167.5

relative CIELAB lab\*

$lab^*lab$  0.582 -0.975 0.216

$lab^*tch$  0.5 1.0 0.465

$lab^*nch$  0.0 1.0 0.465

relative Natural Colour (NC)

$lab^*lrij$  0.582 -0.996 -0.074

$lab^*tce$  0.5 1.0 0.512

$lab^*ncE$  0.0 1.0 0.04b

$n^* = 1,0$

3 step scales for constant CIELAB hue 167/360 = 0.465 (right)

UE100-7, 3 step scales for constant CIELAB hue 151/360 = 0.419 (left)

3 step scales for constant CIELAB hue 167/360 = 0.465 (right)

$n^* = 0,00$

blackness  $n^*$

chromaticness  $c^*$

## Input: Colorimetric Reflective System TRS18

for hue  $h^* = lab^*h = 151/360 = 0.419$

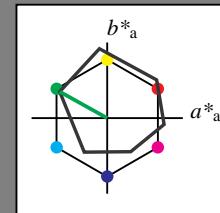
$lab^*tch$  and  $lab^*nch$

D65: hue L

LCH\*Ma: 51 72 151

olv\*Ma: 0.0 1.0 0.0

triangle lightness  $t^*$



### TRS18; adapted (a) CIELAB data

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

$olv_i3^*$  1.0 1.0 1.0 (1.0)

$cmyn3^*$  0.0 0.0 0.0 (0.0)

$olv_i4^*$  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

$LAB^*LABa$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  73.15 -31.94 20.73

$LAB^*LABa$  73.15 -31.38 17.47

$LAB^*TChA$  75.0 35.93 150.91

relative CIELAB lab\*

$lab^*lab$  0.712 -0.436 0.243

$lab^*tch$  0.75 0.5 0.419

$lab^*nch$  0.0 0.5 0.419

relative Natural Colour (NC)

$lab^*lrij$  0.712 -0.478 0.144

$lab^*tce$  0.75 0.2 0.453

$lab^*ncE$  0.0 0.5 0.419

relative Inform. Technology (IT)

$olv_i3^*$  0.5 0.5 0.5 (1.0)

$cmyn3^*$  0.5 0.5 0.5 (0.0)

$olv_i4^*$  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

$LAB^*LABa$  56.71 0.0 0.0

$LAB^*TChA$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.5 0.0 0.0

$lab^*tce$  0.5 0.0 0.0

$lab^*ncE$  0.5 0.0 -

relative Inform. Technology (IT)

$olv_i3^*$  0.0 0.0 0.0 (1.0)

$cmyn3^*$  1.0 1.0 1.0 (0.0)

$olv_i4^*$  1.0 1.0 1.0 0.0

$cmyn4^*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.5 -0.46

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*tce$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

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

%Gamut

$u^*_{rel} = 93$

%Regularity

$g^*_{H,rel} = 57$

$g^*_{C,rel} = 59$

relative Inform. Technology (IT)

$olv_i3^*$  0.5 1.0 0.5 (1.0)

$cmyn3^*$  0.5 0.0 0.5 (0.0)

$olv_i4^*$  0.5 1.0 0.5 1.0

$cmyn4^*$  0.5 0.0 0.5 0.0

standard and adapted CIELAB

$LAB^*LAB$  73.15 -31.94 20.73

$LAB^*LABa$  73.15 -31.38 17.47

$LAB^*TChA$  75.0 35.93 150.91

relative CIELAB lab\*

$lab^*lab$  0.712 -0.436 0.243

$lab^*tch$  0.75 0.5 0.419

$lab^*nch$  0.0 0.5 0.419

relative Natural Colour (NC)

$lab^*lrij$  0.712 -0.478 0.144

$lab^*tce$  0.75 0.2 0.453

$lab^*ncE$  0.0 0.5 0.419

relative Inform. Technology (IT)

$olv_i3^*$  0.0 0.5 0.5 (1.0)

$cmyn3^*$  0.5 0.5 0.5 (0.0)

$olv_i4^*$  1.0 1.0 1.0 0.5

$cmyn4^*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  50.9 -62.91 36.69

$LAB^*LABa$  50.9 -62.78 34.94

$LAB^*TChA$  50.0 71.86 150.91

relative CIELAB lab\*

$lab^*lab$  0.425 -0.873 0.486

$lab^*tch$  0.5 1.0 0.419

$lab^*nch$  0.0 1.0 0.419

relative Natural Colour (NC)

$lab^*lrij$  0.425 -0.956 0.289

$lab^*tce$  0.5 1.0 0.453

$lab^*ncE$  0.0 1.0 0.419

relative Inform. Technology (IT)

$olv_i3^*$  0.0 0.0 0.0 (1.0)

$cmyn3^*$  1.0 1.0 1.0 (0.0)

$olv_i4^*$  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 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*tce$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

blackness  $n^*$

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

$n^* = 0,00$

blackness  $n^*$

$n^* = 0,50$

$n^* = 1,00$

chromaticness  $c^*$

## Output: Colorimetric Reflective System NRS11

for hue  $h^* = lab^*h = 167/360 = 0.464$

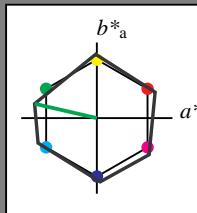
$lab^*tch$  and  $lab^*nch$

D65: hue G

LCH\*Ma: 53 84 167

olv\*Ma: 0.0 1.0 0.0

triangle lightness  $t^*$



	$L^* = L_a^*$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	53.2</td				

### Input: Colorimetric Reflective System TRS18

for hue  $h^* = lab^*h = 151/360 = 0.419$

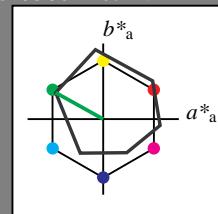
$lab^*tch$  and  $lab^*nch$

D65: hue L

LCH\*Ma: 51 72 151

olv\*Ma: 0.0 1.0 0.0

triangle lightness  $t^*$



### TRS18; adapted (a) CIELAB data

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

$olvi3^*$  1.0 1.0 1.0 (1.0)

$cmy3^*$  0.0 0.0 0.0 (0.0)

$olvi4^*$  1.0 1.0 1.0 1.0

$cmy4^*$  0.0 0.0 0.0 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 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  73.15 -31.94 20.73

$LAB^*LABa$  73.15 -31.38 17.47

$LAB^*TChA$  75.0 35.93 150.91

relative CIELAB lab\*

$lab^*lab$  0.712 -0.436 0.243

$lab^*tch$  0.75 0.5 0.419

$lab^*nch$  0.0 0.5 0.419

relative Natural Colour (NC)

$lab^*lrij$  0.712 -0.478 0.144

$lab^*tce$  0.75 0.2 0.453

$lab^*ncE$  0.0 0.5 0.419

relative Inform. Technology (IT)

$olvi3^*$  0.5 0.5 0.5 (1.0)

$cmy3^*$  0.5 0.5 0.5 (0.0)

$olvi4^*$  1.0 1.0 1.0 0.5

$cmy4^*$  0.0 0.0 0.0 0.5

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 CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.5 0.0 0.0

$lab^*tce$  0.5 0.0 0.0

$lab^*ncE$  0.5 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.5 -0.46

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*tce$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

$n^* = 0,00$

$n^* = 0,50$

$1,00$

$chromaticness c^*$

### Output: Colorimetric Reflective System NCS11

for hue  $h^* = lab^*h = 167/360 = 0.465$

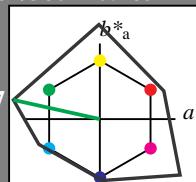
$lab^*tch$  and  $lab^*nch$

D65: hue G

LCH\*Ma: 63 117 167

olv\*Ma: 0.0 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

%Gamut

$u^*_{rel} = 93$

%Regularity

$g^*_{H,rel} = 57$

$g^*_{C,rel} = 59$

relative Inform. Technology (IT)

$olvi3^*$  1.0 1.0 1.0 (1.0)

$cmy3^*$  0.0 0.0 0.0 (0.0)

$olvi4^*$  1.0 1.0 1.0 1.0

$cmy4^*$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  73.15 -31.94 20.73

$LAB^*LABa$  73.15 -31.38 17.47

$LAB^*TChA$  75.0 35.93 150.91

relative CIELAB lab\*

$lab^*lab$  0.712 -0.436 0.243

$lab^*tch$  0.75 0.5 0.419

$lab^*nch$  0.0 0.5 0.419

relative Natural Colour (NC)

$lab^*lrij$  0.712 -0.478 0.144

$lab^*tce$  0.75 0.2 0.453

$lab^*ncE$  0.0 0.5 0.419

relative Inform. Technology (IT)

$olvi3^*$  0.0 0.0 0.0 (1.0)

$cmy3^*$  1.0 1.0 1.0 (0.0)

$olvi4^*$  1.0 1.0 1.0 0.5

$cmy4^*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  50.9 -62.91 36.69

$LAB^*LABa$  50.9 -62.78 34.94

$LAB^*TChA$  50.0 71.86 150.91

relative CIELAB lab\*

$lab^*lab$  0.425 -0.873 0.486

$lab^*tch$  0.5 1.0 0.419

$lab^*nch$  0.0 1.0 0.419

relative Natural Colour (NC)

$lab^*lrij$  0.425 -0.956 0.289

$lab^*tce$  0.5 1.0 0.453

$lab^*ncE$  0.0 1.0 0.419

$n^* = 1,0$

$n^* = 0,50$

$1,00$

$chromaticness c^*$

$n^* = 0,00$

$n^* = 0,50$

$1,00$

$chromaticness c^*$

UE100-7, 3 step scales for constant CIELAB hue 151/360 = 0.419 (left)

3 step scales for constant CIELAB hue 167/360 = 0.465 (right)

### Input: Colorimetric Reflective System MRS18a

for hue  $h^* = lab^*h = 171/360 = 0.475$

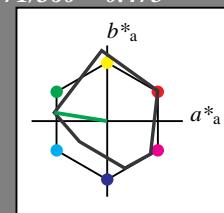
$lab^*tch$  and  $lab^*nch$

D65: hue G

LCH\*Ma: 52 71 171

olv\*Ma: 0.0 1.0 0.0

triangle lightness  $t^*$



### MRS18a; adapted (a) CIELAB data

	$L^*=L^*_a$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	49.63	66.8	40.02	77.87	31
JMa	90.7	-7.27	93.19	93.48	94
GMa	52.11	-69.93	11.26	70.85	171
G50BMa	45.03	-36.65	-27.13	45.61	217
BMa	36.65	23.26	-62.27	66.49	290
B50RMa	34.94	57.27	-43.6	71.99	323
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	272

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 0.01 0.0  
 $LAB^*LABa$  95.41 0.0 0.0  
 $LAB^*TCh$  99.99 0.01 -

relative CIELAB lab\*

$lab^*lab$  1.0 0.0 0.0  
 $lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  1.0 0.0 0.0  
 $lab^*ice$  1.0 0.0 0.0  
 $lab^*ncE$  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 0.5  
 $cmyn^4*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  56.71 0.05 0.0  
 $LAB^*LABa$  56.71 0.0 0.0  
 $LAB^*TCh$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0  
 $lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  0.5 0.0 0.0  
 $lab^*ice$  0.5 0.0 0.0  
 $lab^*ncE$  0.5 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)  
 $olv^4*$  1.0 1.0 1.0 0.0  
 $cmyn^4*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.01 0.02  
 $LAB^*LABa$  18.02 0.0 0.0  
 $LAB^*TCh$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0  
 $lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  0.0 0.0 0.0  
 $lab^*ice$  0.0 0.0 -  
 $lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

### relative Inform. Technology (IT)

$olv^3*$  0.5 1.0 0.5 (1.0)

$cmyn^3*$  0.5 0.0 0.5 (0.0)

$olv^4*$  0.5 1.0 0.5 1.0

$cmyn^4*$  0.5 0.0 0.5 0.0

standard and adapted CIELAB

$LAB^*LAB$  73.75 -34.92 5.64  
 $LAB^*LABa$  73.75 -34.96 5.63  
 $LAB^*TCh$  75.0 35.42 170.85

relative CIELAB lab\*

$lab^*lab$  0.72 -0.493 0.079

$lab^*tch$  0.75 0.5 0.475

$lab^*nch$  0.0 0.5 0.475

relative Natural Colour (NC)

$lab^*lrj$  0.72 -0.495 -0.06

$lab^*ice$  0.75 0.2 0.52

$lab^*ncE$  0.0 0.5 g07b

relative Inform. Technology (IT)  
 $olv^3*$  0.0 1.0 0.0 (1.0)

$cmyn^3*$  0.5 0.5 0.5 (0.0)

$olv^4*$  1.0 1.0 1.0 0.5

$cmyn^4*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  52.11 -69.86 11.28  
 $LAB^*LABa$  52.11 -69.92 11.26  
 $LAB^*TCh$  50.0 70.83 170.85

relative CIELAB lab\*

$lab^*lab$  0.441 -0.986 0.159

$lab^*tch$  0.5 1.0 0.475

$lab^*nch$  0.0 1.0 0.475

relative Natural Colour (NC)

$lab^*lrj$  0.441 -0.991 -0.122

$lab^*ice$  0.5 1.0 0.52

$lab^*ncE$  0.0 1.0 g07b

relative Inform. Technology (IT)  
 $olv^3*$  0.0 0.0 0.0 (1.0)

$cmyn^3*$  1.0 1.0 1.0 (0.0)

$olv^4*$  1.0 1.0 1.0 0.0

$cmyn^4*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  35.06 -34.88 5.65  
 $LAB^*LABa$  35.06 -34.96 5.63  
 $LAB^*TCh$  25.01 35.42 170.85

relative CIELAB lab\*

$lab^*lab$  0.22 -0.493 0.079

$lab^*tch$  0.25 0.5 0.475

$lab^*nch$  0.5 0.5 0.475

relative Natural Colour (NC)

$lab^*lrj$  0.22 -0.495 -0.06

$lab^*ice$  0.25 0.5 0.52

$lab^*ncE$  0.5 0.5 g07b

### 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  
 $LAB^*LABa$  95.41 0.0 0.0  
 $LAB^*TCh$  99.99 0.01 -

relative CIELAB lab\*

$lab^*lab$  1.0 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  1.0 0.0 0.0

$lab^*ice$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)  
 $olv^3*$  0.0 0.5 0.5 (1.0)

$cmyn^3*$  0.5 0.5 0.5 (0.0)

$olv^4*$  1.0 1.0 1.0 0.5

$cmyn^4*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  73.75 -34.92 5.64  
 $LAB^*LABa$  73.75 -34.96 5.63  
 $LAB^*TCh$  75.0 35.42 170.85

relative CIELAB lab\*

$lab^*lab$  0.72 -0.493 0.079

$lab^*tch$  0.75 0.5 0.475

$lab^*nch$  0.0 0.5 0.475

relative Natural Colour (NC)

$lab^*lrj$  0.72 -0.495 -0.06

$lab^*ice$  0.75 0.2 0.52

$lab^*ncE$  0.0 0.5 g07b

relative Inform. Technology (IT)  
 $olv^3*$  0.0 0.0 0.0 (1.0)

$cmyn^3*$  1.0 1.0 1.0 (0.0)

$olv^4*$  1.0 1.0 1.0 0.0

$cmyn^4*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  73.75 -34.92 5.64  
 $LAB^*LABa$  73.75 -34.96 5.63  
 $LAB^*TCh$  75.0 35.42 170.85

relative CIELAB lab\*

$lab^*lab$  0.72 -0.493 0.079

$lab^*tch$  0.75 0.5 0.475

$lab^*nch$  0.0 0.5 0.475

relative Natural Colour (NC)

$lab^*lrj$  0.72 -0.495 -0.06

$lab^*ice$  0.75 0.2 0.52

$lab^*ncE$  0.0 0.5 g07b

relative Inform. Technology (IT)  
 $olv^3*$  0.0 0.0 0.0 (1.0)

$cmyn^3*$  1.0 1.0 1.0 (0.0)

$olv^4*$  1.0 1.0 1.0 0.0

$cmyn^4*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  73.75 -34.92 5.64  
 $LAB^*LABa$  73.75 -34.96 5.63  
 $LAB^*TCh$  75.0 35.42 170.85

relative CIELAB lab\*

$lab^*lab$  0.72 -0.493 0.079

$lab^*tch$  0.75 0.5 0.475

$lab^*nch$  0.0 0.5 0.475

relative Natural Colour (NC)

$lab^*lrj$  0.72 -0.495 -0.06

$lab^*ice$  0.75 0.2 0.52

$lab^*ncE$  0.0 0.5 g07b

relative Inform. Technology (IT)  
 $olv^3*$  0.0 0.0 0.0 (1.0)

$cmyn^3*$  1.0 1.0 1.0 (0.0)

$olv^4*$  1.0 1.0 1.0 0.0

$cmyn^4*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  73.75 -34.92 5.64  
 $LAB^*LABa$  73.75 -34.96 5.63  
 $LAB^*TCh$  75.0 35.42 170.85

relative CIELAB lab\*

$lab^*lab$  0.72 -0.493 0.079

$lab^*tch$  0.75 0.5 0.475

$lab^*nch$  0.0 0.5 0.475

relative Natural Colour (NC)

$lab^*lrj$  0.72 -0.495 -0.06

$lab^*ice$  0.75 0.2 0.52

$lab^*ncE$  0.0 0.5 g07b

relative Inform. Technology (IT)  
 $olv^3*$  0.0 0.0 0.0 (1.0)

$cmyn^3*$  1.0 1.0 1.0 (0.0)

$olv^4*$  1.0 1.0 1.0 0.0

$cmyn^4*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  73.75 -34.92 5.64  
 $LAB^*LABa$  73.75 -34.96 5.63  
 $LAB^*TCh$  75.0 35.42 170.85

relative CIELAB lab\*

$lab^*lab$  0.72 -0.493 0.079

$lab^*tch$  0.75 0.5 0.475

$lab^*nch$  0.0 0.5 0.475

relative Natural Colour (NC)

$lab^*lrj$  0.72 -0.495 -0.06

$lab^*ice$  0.75 0.2 0.52

$lab^*ncE$  0.0 0.5 g07b

relative Inform. Technology (IT)  
 $olv^3*$  0.0 0.0 0.0 (1.0)

$cmyn^3*$  1.0 1.0 1.0 (0.0)

### Input: Colorimetric Reflective System MRS18a

for hue  $h^* = lab^*h = 171/360 = 0.475$

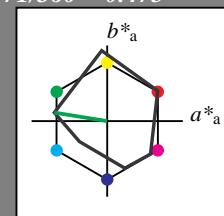
$lab^*tch$  and  $lab^*nch$

D65: hue G

LCH\*Ma: 52 71 171

olv\*Ma: 0.0 1.0 0.0

triangle lightness  $t^*$



**%Gamut**  
 $u^*_{rel} = 92$

**%Regularity**

$g^*_{H,rel} = 42$

$g^*_{C,rel} = 49$

**relative Inform. Technology (IT)**  
 $olv13^*$  1.0 1.0 1.0 (1.0)  
 $cmy3^*$  0.0 0.0 0.0 (0.0)  
 $olv4^*$  1.0 1.0 1.0 1.0  
 $cmy4^*$  0.0 0.0 0.0 0.0

**standard and adapted CIELAB**

$LAB^*LAB$  95.41 0.01 0.0  
 $LAB^*LABa$  95.41 0.0 0.0  
 $LAB^*TCh$  99.99 0.01 -

**relative CIELAB lab\***

$lab^*lab$  1.0 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

**relative Natural Colour (NC)**

$lab^*lrij$  1.0 0.0 0.0

$lab^*ice$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

**relative Inform. Technology (IT)**  
 $olv13^*$  0.5 0.5 0.5 (1.0)  
 $cmy3^*$  0.5 0.5 0.5 (0.0)  
 $olv4^*$  1.0 1.0 1.0 0.5  
 $cmy4^*$  0.0 0.0 0.0 0.5

**standard and adapted CIELAB**

$LAB^*LAB$  56.71 0.05 0.0  
 $LAB^*LABa$  56.71 0.0 0.0  
 $LAB^*TCh$  50.0 0.01 -

**relative CIELAB lab\***

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

**relative Natural Colour (NC)**

$lab^*lrij$  0.5 0.0 0.0

$lab^*ice$  0.5 0.0 0.0

$lab^*ncE$  0.5 0.0 -

**relative Inform. Technology (IT)**  
 $olv13^*$  0.0 0.0 0.0 (1.0)  
 $cmy3^*$  1.0 1.0 1.0 (0.0)  
 $olv4^*$  1.0 1.0 1.0 0.0  
 $cmy4^*$  0.0 0.0 0.0 1.0

**standard and adapted CIELAB**

$LAB^*LAB$  18.02 0.01 0.02  
 $LAB^*LABa$  18.02 0.0 0.0  
 $LAB^*TCh$  0.01 0.01 -

**relative CIELAB lab\***

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

**relative Natural Colour (NC)**

$lab^*lrij$  0.0 0.0 0.0

$lab^*ice$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

### MRS18a; adapted (a) CIELAB data

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

RMa	49.63	66.8	40.02	77.87	31
JMa	90.7	-7.27	93.19	93.48	94
GMa	52.11	-69.93	11.26	70.85	171
G50BMa	45.03	-36.65	-27.13	45.61	217
BMa	36.65	23.26	-62.27	66.49	290
B50RMa	34.94	57.27	-43.6	71.99	323
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	272

### Output: Colorimetric Reflective System MRS18

for hue  $h^* = lab^*h = 172/360 = 0.479$

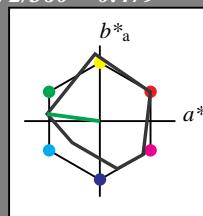
$lab^*tch$  and  $lab^*nch$

D65: hue G

LCH\*Ma: 52 70 172

olv\*Ma: 0.0 1.0 0.0

triangle lightness  $t^*$



**%Gamut**

$u^*_{rel} = 91$

**%Regularity**

$g^*_{H,rel} = 41$

$g^*_{C,rel} = 52$

**relative Inform. Technology (IT)**  
 $olv13^*$  1.0 1.0 1.0 (1.0)  
 $cmy3^*$  0.0 0.0 0.0 (0.0)  
 $olv4^*$  1.0 1.0 1.0 1.0  
 $cmy4^*$  0.0 0.0 0.0 0.0

**standard and adapted CIELAB**

$LAB^*LAB$  95.41 -0.97 4.75  
 $LAB^*LABa$  95.41 0.0 0.0  
 $LAB^*TCh$  99.99 0.01 -

**relative CIELAB lab\***

$lab^*lab$  1.0 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

**relative Natural Colour (NC)**

$lab^*lrij$  1.0 0.0 0.0

$lab^*ice$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

**relative Inform. Technology (IT)**  
 $olv13^*$  0.5 0.5 0.5 (1.0)  
 $cmy3^*$  0.5 0.5 0.5 (0.0)  
 $olv4^*$  0.5 1.0 0.5 1.0  
 $cmy4^*$  0.5 0.0 0.5 0.0

**standard and adapted CIELAB**

$LAB^*LAB$  73.75 -34.92 5.64  
 $LAB^*LABa$  73.75 -34.96 5.63  
 $LAB^*TCh$  75.0 35.42 170.85

**relative CIELAB lab\***

$lab^*lab$  0.72 -0.493 0.079

$lab^*tch$  0.75 0.5 0.475

$lab^*nch$  0.0 0.5 0.475

**relative Natural Colour (NC)**

$lab^*lrij$  0.72 -0.495 -0.06

$lab^*ice$  0.75 0.5 0.52

$lab^*ncE$  0.0 0.5 g07b

**relative Inform. Technology (IT)**  
 $olv13^*$  0.0 1.0 0.0 (1.0)  
 $cmy3^*$  1.0 0.0 1.0 (0.0)  
 $olv4^*$  0.0 1.0 0.0 1.0  
 $cmy4^*$  1.0 0.0 0.0 0.5

**standard and adapted CIELAB**

$LAB^*LAB$  52.11 -69.86 11.28  
 $LAB^*LABa$  52.11 -69.92 11.26  
 $LAB^*TCh$  50.0 70.83 170.85

**relative CIELAB lab\***

$lab^*lab$  0.441 -0.986 0.159

$lab^*tch$  0.5 1.0 0.475

$lab^*nch$  0.0 1.0 0.475

**relative Natural Colour (NC)**

$lab^*lrij$  0.441 -0.991 -0.122

$lab^*ice$  0.5 1.0 0.52

$lab^*ncE$  0.0 1.0 g07b

$n^* = 0,00$

blackness  $n^*$

chromaticness  $c^*$

0,25 0,50 0,75 1,00

$n^* = 0,50$

blackness  $n^*$

chromaticness  $c^*$

0,25 0,50 0,75 1,00

$n^* = 1,0$

blackness  $n^*$

chromaticness  $c^*$

0,25 0,50 0,75 1,00

UE100-7, 3 step scales for constant CIELAB hue 171/360 = 0.475 (left)

3 step scales for constant CIELAB hue 172/360 = 0.479 (right)

### Input: Colorimetric Reflective System MRS18a

for hue  $h^* = lab^*h = 171/360 = 0.475$

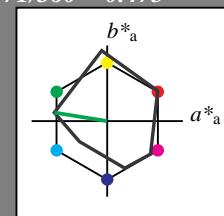
$lab^*tch$  and  $lab^*nch$

D65: hue G

LCH\*Ma: 52 71 171

olv\*Ma: 0.0 1.0 0.0

triangle lightness  $t^*$



### MRS18a; adapted (a) CIELAB data

	$L^* = L^*_a$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	49.63	66.8	40.02	77.87	31
JMa	90.7	-7.27	93.19	93.48	94
GMa	52.11	-69.93	11.26	70.85	171
G50BMa	45.03	-36.65	-27.13	45.61	217
BMa	36.65	23.26	-62.27	66.49	290
B50RMa	34.94	57.27	-43.6	71.99	323
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	272

relative Inform. Technology (IT)  
 $olv_i3^*$  1.0 1.0 1.0 (1.0)  
 $cmyn3^*$  0.0 0.0 0.0 (0.0)  
 $olv_i4^*$  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 0.01 0.0  
 $LAB^*LABa$  95.41 0.0 0.0  
 $LAB^*TCh$  99.99 0.01 -

relative CIELAB lab\*  
 $lab^*lab$  1.0 0.0 0.0  
 $lab^*tch$  1.0 0.0 -  
 $lab^*nch$  0.0 0.0 -  
relative Natural Colour (NC)  
 $lab^*lrij$  1.0 0.0 0.0  
 $lab^*tce$  1.0 0.0 0.0  
 $lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)  
 $olv_i3^*$  0.5 0.5 0.5 (1.0)  
 $cmyn3^*$  0.5 0.5 0.5 (0.0)  
 $olv_i4^*$  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 0.05 0.0  
 $LAB^*LABa$  56.71 0.0 0.0  
 $LAB^*TCh$  50.0 0.01 -

relative CIELAB lab\*  
 $lab^*lab$  0.5 0.0 0.0  
 $lab^*tch$  0.5 0.0 -  
 $lab^*nch$  0.5 0.0 -  
relative Natural Colour (NC)  
 $lab^*lrij$  0.5 0.0 0.0  
 $lab^*tce$  0.5 0.0 0.0  
 $lab^*ncE$  0.5 0.0 -

relative Inform. Technology (IT)  
 $olv_i3^*$  0.0 0.0 0.0 (1.0)  
 $cmyn3^*$  1.0 1.0 1.0 (0.0)  
 $olv_i4^*$  1.0 1.0 1.0 0.0  
 $cmyn4^*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB  
 $LAB^*LAB$  18.02 0.01 0.02  
 $LAB^*LABa$  18.02 0.0 0.0  
 $LAB^*TCh$  0.01 0.01 -

relative CIELAB lab\*  
 $lab^*lab$  0.0 0.0 0.0  
 $lab^*tch$  0.0 0.0 -  
 $lab^*nch$  1.0 0.0 -  
relative Natural Colour (NC)  
 $lab^*lrij$  0.0 0.0 0.0  
 $lab^*tce$  0.0 0.0 -  
 $lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

relative Inform. Technology (IT)  
 $olv_i3^*$  0.5 1.0 0.5 (1.0)  
 $cmyn3^*$  0.5 0.0 0.5 (0.0)  
 $olv_i4^*$  0.5 1.0 0.5 1.0  
 $cmyn4^*$  0.5 0.0 0.5 0.0

standard and adapted CIELAB  
 $LAB^*LAB$  73.75 -34.92 5.64  
 $LAB^*LABa$  73.75 -34.96 5.63  
 $LAB^*TCh$  75.0 35.42 170.85

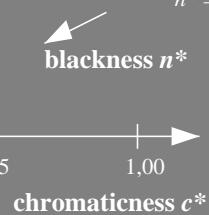
relative CIELAB lab\*  
 $lab^*lab$  0.72 -0.493 0.079  
 $lab^*tch$  0.75 0.5 0.475  
 $lab^*nch$  0.0 0.5 0.475

relative Inform. Technology (IT)  
 $olv_i3^*$  0.0 1.0 0.0 (1.0)  
 $cmyn3^*$  1.0 0.0 1.0 (0.0)  
 $olv_i4^*$  0.0 1.0 0.0 1.0  
 $cmyn4^*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB  
 $LAB^*LAB$  52.11 -69.86 11.28  
 $LAB^*LABa$  52.11 -69.92 11.26  
 $LAB^*TCh$  50.0 70.83 170.85

relative CIELAB lab\*  
 $lab^*lab$  0.72 -0.495 -0.06  
 $lab^*tce$  0.75 0.2 0.52  
 $lab^*ncE$  0.0 0.5 g07b

$n^* = 0,00$



$n^* = 0,00$

blackness  $n^*$

chromaticness  $c^*$

$n^* = 0,50$

$n^* = 1,00$

### Output: Colorimetric Reflective System TRS18

for hue  $h^* = lab^*h = 151/360 = 0.419$

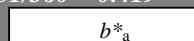
$lab^*tch$  and  $lab^*nch$

D65: hue L

LCH\*Ma: 51 72 151

olv\*Ma: 0.0 1.0 0.0

triangle lightness  $t^*$



### TRS18; adapted (a) CIELAB data

	$L^* = L^*_a$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
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)  
 $olv_i3^*$  1.0 1.0 1.0 (1.0)  
 $cmyn3^*$  0.0 0.0 0.0 (0.0)  
 $olv_i4^*$  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  
 $LAB^*LABa$  95.41 0.0 0.0  
 $LAB^*TCh$  99.99 0.01 -

relative CIELAB lab\*  
 $lab^*lab$  1.0 0.0 0.0  
 $lab^*tch$  1.0 0.0 -  
 $lab^*nch$  0.0 0.0 -  
relative Natural Colour (NC)  
 $lab^*lrij$  1.0 0.0 0.0  
 $lab^*tce$  1.0 0.0 0.0  
 $lab^*ncE$  0.0 0.0 -

standard and adapted CIELAB  
 $LAB^*LAB$  73.15 -31.94 20.73  
 $LAB^*LABa$  73.15 -31.38 17.47  
 $LAB^*TCh$  75.0 35.93 150.91

relative CIELAB lab\*  
 $lab^*lab$  0.712 -0.436 0.243  
 $lab^*tch$  0.75 0.5 0.419  
 $lab^*nch$  0.0 0.5 0.419

relative Inform. Technology (IT)  
 $olv_i3^*$  0.5 1.0 0.5 (1.0)  
 $cmyn3^*$  0.5 0.0 0.5 (0.0)  
 $olv_i4^*$  0.5 1.0 0.5 1.0  
 $cmyn4^*$  0.5 0.0 0.5 0.0

standard and adapted CIELAB  
 $LAB^*LAB$  56.71 -0.23 2.14  
 $LAB^*LABa$  56.71 0.0 0.0  
 $LAB^*TCh$  50.0 0.01 -

relative CIELAB lab\*  
 $lab^*lab$  0.441 -0.986 0.159  
 $lab^*tch$  0.5 1.0 0.475  
 $lab^*nch$  0.0 1.0 0.475

relative Inform. Technology (IT)  
 $olv_i3^*$  0.0 0.5 0.0 (1.0)  
 $cmyn3^*$  1.0 0.5 1.0 (0.0)  
 $olv_i4^*$  0.5 1.0 0.5 0.5  
 $cmyn4^*$  0.5 0.0 0.5 0.5

standard and adapted CIELAB  
 $LAB^*LAB$  34.46 -31.21 18.11  
 $LAB^*LABa$  34.46 -31.38 17.47  
 $LAB^*TCh$  25.01 35.93 150.91

relative CIELAB lab\*  
 $lab^*lab$  0.213 -0.436 0.243  
 $lab^*tch$  0.25 0.5 0.419  
 $lab^*nch$  0.5 0.5 0.419

relative Inform. Technology (IT)  
 $olv_i3^*$  0.213 -0.478 0.144  
 $cmyn3^*$  0.25 0.5 0.453  
 $olv_i4^*$  0.5 0.5 0.453  
 $cmyn4^*$  0.5 0.5 0.453

relative CIELAB lab\*  
 $lab^*lab$  0.213 -0.478 0.144  
 $lab^*tch$  0.25 0.5 0.453  
 $lab^*nch$  0.5 0.5 0.453

relative Inform. Technology (IT)  
 $olv_i3^*$  0.213 -0.478 0.144  
 $cmyn3^*$  0.25 0.5 0.453  
 $olv_i4^*$  0.5 0.5 0.453  
 $cmyn4^*$  0.5 0.5 0.453

$n^* = 1,0$

	$L^* = L^*_a$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
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)  
 $olv_i3^*$  1.0 1.0 1.0 (1.0)  
 $cmyn3^*$  0.0 0.0 0.0 (0.0)  
 $olv_i4^*$  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  
 $LAB^*LABa$  95.41 0.0 0.0  
 $LAB^*TCh$  99.99 0.01 -

relative CIELAB lab\*  
 $lab^*lab$  1.0 0.0 0.0  
 $lab^*tch$  1.0 0.0 -  
 $lab^*nch$  0.0 0.0 -  
relative Natural Colour (NC)  
 $lab^*lrij$  1.0 0.0 0.0  
 $lab^*tce$  1.0 0.0 0.0  
 $lab^*ncE$  0.0 0.0 -

standard and adapted CIELAB  
 $LAB^*LAB$  73.15 -31.94 20.73  
 $LAB^*LABa$  73.15 -31.38 17.47  
 $LAB^*TCh$  75.0 35.93 150.91

relative CIELAB lab\*  
 $lab^*lab$  0.712 -0.436 0.243  
 $lab^*tch$  0.75 0.5 0.419  
 $lab^*nch$  0.0 0.5 0.419

relative Inform. Technology (IT)  
 $olv_i3^*$  0.5 1.0 0.0 (1.0)  
 $cmyn3^*$  1.0 0.0 1.0 (0.0)  
 $olv_i4^*$  0.0 1.0 0.0 1.0  
 $cmyn4^*$  0.0 0.0 1.0 0.0

standard and adapted CIELAB  
 $LAB^*LAB$  56.71 -0.23 2.14  
 $LAB^*LABa$  56.71 0.0 0.0  
 $LAB^*TCh$  50.0 0.01 -

relative CIELAB lab\*  
 $lab^*lab$  0.441 -0.986 0.159  
 $lab^*tch$  0.5 1.0 0.475  
 $lab^*nch$  0.0 1.0 0.475

relative Inform. Technology (IT)  
 $olv_i3^*$  0.0 0.5 0.0 (1.0)  
 $cmyn3^*$  1.0 0.5 1.0 (0.0)  
 $olv_i4^*$  0.5 1.0 0.5 0.5  
 $cmyn4^*$  0.5 0.0 0.5 0.5

relative CIELAB lab\*  
 $lab^*lab$  0.441 -0.986 0.159  
 $lab^*tch$  0.5 1.0 0.475  
 $lab^*nch$  0.0 1.0 0.475

relative Inform. Technology (IT)  
 $olv_i3^*$  0.0 0.5 0.0 (1.0)  
 $cmyn3^*$  1.0 0.5 1.0 (0.0)  
 $olv_i4^*$  0.5 1.0 0.5 0.5  
 $cmyn4^*$  0.5 0.0 0.5 0.5

relative CIELAB lab\*  
 $lab^*lab$  0.441 -0.986 0.159  
 $lab^*tch$  0.5 1.0 0.475  
 $lab^*nch$  0.0 1.0 0.475

$n^* = 0,00$

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

### Input: Colorimetric Reflective System MRS18a

for hue  $h^* = lab^*h = 171/360 = 0.475$

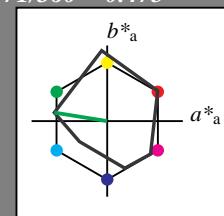
$lab^*tch$  and  $lab^*nch$

D65: hue G

LCH\*Ma: 52 71 171

olv\*Ma: 0.0 1.0 0.0

triangle lightness  $t^*$



### MRS18a; adapted (a) CIELAB data

	$L^*=L^*_a$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	49.63	66.8	40.02	77.87	31
JMa	90.7	-7.27	93.19	93.48	94
GMa	52.11	-69.93	11.26	70.85	171
G50BMa	45.03	-36.65	-27.13	45.61	217
BMa	36.65	23.26	-62.27	66.49	290
B50RMa	34.94	57.27	-43.6	71.99	323
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	272

relative Inform. Technology (IT)  
 $olv_i3^*$  1.0 1.0 1.0 (1.0)  
 $cmy3^*$  0.0 0.0 0.0 (0.0)  
 $olv_i4^*$  1.0 1.0 1.0 1.0  
 $cmy4^*$  0.0 0.0 0.0 0.0

standard and adapted CIELAB  
 $LAB^*LAB$  95.41 0.01 0.0  
 $LAB^*LABa$  95.41 0.0 0.0  
 $LAB^*TCh$  99.99 0.01 -

relative CIELAB lab\*  
 $lab^*lab$  1.0 0.0 0.0  
 $lab^*tch$  1.0 0.0 -  
 $lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)  
 $lab^*lrij$  1.0 0.0 0.0  
 $lab^*tce$  1.0 0.0 0.0  
 $lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)  
 $olv_i3^*$  0.5 0.5 0.5 (1.0)  
 $cmy3^*$  0.5 0.5 0.5 (0.0)  
 $olv_i4^*$  1.0 1.0 1.0 0.5  
 $cmy4^*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB  
 $LAB^*LAB$  56.71 0.05 0.0  
 $LAB^*LABa$  56.71 0.0 0.0  
 $LAB^*TCh$  50.0 0.01 -

relative CIELAB lab\*  
 $lab^*lab$  0.5 0.0 0.0  
 $lab^*tch$  0.5 0.0 -  
 $lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)  
 $lab^*lrij$  0.5 0.0 0.0  
 $lab^*tce$  0.5 0.0 0.0  
 $lab^*ncE$  0.5 0.0 -

relative Inform. Technology (IT)  
 $olv_i3^*$  0.0 0.0 0.0 (1.0)  
 $cmy3^*$  1.0 1.0 1.0 (0.0)  
 $olv_i4^*$  1.0 1.0 1.0 0.0  
 $cmy4^*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB  
 $LAB^*LAB$  18.02 0.1 0.02  
 $LAB^*LABa$  18.02 0.0 0.0  
 $LAB^*TCh$  0.01 0.01 -

relative CIELAB lab\*  
 $lab^*lab$  0.0 0.0 0.0  
 $lab^*tch$  0.0 0.0 -  
 $lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)  
 $lab^*lrij$  0.0 0.0 0.0  
 $lab^*tce$  0.0 0.0 -  
 $lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

relative Inform. Technology (IT)  
 $olv_i3^*$  0.5 1.0 0.5 (1.0)  
 $cmy3^*$  0.5 0.0 0.5 (0.0)  
 $olv_i4^*$  0.5 1.0 0.5 1.0  
 $cmy4^*$  0.5 0.0 0.5 0.0

standard and adapted CIELAB  
 $LAB^*LAB$  73.75 -34.92 5.64  
 $LAB^*LABa$  73.75 -34.96 5.63  
 $LAB^*TCh$  75.0 35.42 170.85

relative CIELAB lab\*  
 $lab^*lab$  0.72 -0.493 0.079  
 $lab^*tch$  0.75 0.5 0.475  
 $lab^*nch$  0.0 0.5 0.475

relative Natural Colour (NC)  
 $lab^*lrij$  0.72 -0.495 -0.06  
 $lab^*tce$  0.75 0.5 0.52  
 $lab^*ncE$  0.0 0.5 g07b

relative Inform. Technology (IT)  
 $olv_i3^*$  0.0 1.0 0.0 (1.0)  
 $cmy3^*$  1.0 0.0 1.0 (0.0)  
 $olv_i4^*$  0.0 1.0 0.0 1.0  
 $cmy4^*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB  
 $LAB^*LAB$  52.11 -69.86 11.28  
 $LAB^*LABa$  52.11 -69.92 11.26  
 $LAB^*TCh$  50.0 70.83 170.85

relative CIELAB lab\*  
 $lab^*lab$  0.441 -0.986 0.159  
 $lab^*tch$  0.5 1.0 0.475  
 $lab^*nch$  0.0 1.0 0.475

relative Natural Colour (NC)  
 $lab^*lrij$  0.441 -0.991 -0.122  
 $lab^*tce$  0.5 1.0 0.52  
 $lab^*ncE$  0.0 1.0 g07b

relative Inform. Technology (IT)  
 $olv_i3^*$  0.0 0.0 0.0 (1.0)  
 $cmy3^*$  1.0 1.0 1.0 (0.0)  
 $olv_i4^*$  1.0 1.0 1.0 0.0  
 $cmy4^*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB  
 $LAB^*LAB$  35.06 -34.88 5.65  
 $LAB^*LABa$  35.06 -34.96 5.63  
 $LAB^*TCh$  25.01 35.42 170.85

relative CIELAB lab\*  
 $lab^*lab$  0.22 -0.493 0.079  
 $lab^*tch$  0.25 0.5 0.475  
 $lab^*nch$  0.5 0.5 0.475

relative Natural Colour (NC)  
 $lab^*lrij$  0.22 -0.495 -0.06  
 $lab^*tce$  0.25 0.5 0.52  
 $lab^*ncE$  0.5 0.5 g07b

$n^* = 0,00$

relative Inform. Technology (IT)  
 $olv_i3^*$  0.0 1.0 0.0 (1.0)  
 $cmy3^*$  0.5 0.5 0.5 (0.0)  
 $olv_i4^*$  1.0 1.0 1.0 0.5  
 $cmy4^*$  0.5 0.0 0.5 0.0

standard and adapted CIELAB  
 $LAB^*LAB$  52.11 -69.86 11.28  
 $LAB^*LABa$  52.11 -69.92 11.26  
 $LAB^*TCh$  50.0 70.83 170.85

relative CIELAB lab\*  
 $lab^*lab$  0.441 -0.986 0.159  
 $lab^*tch$  0.5 1.0 0.475  
 $lab^*nch$  0.0 1.0 0.475

relative Natural Colour (NC)  
 $lab^*lrij$  0.441 -0.991 -0.122  
 $lab^*tce$  0.5 1.0 0.52  
 $lab^*ncE$  0.0 1.0 g07b

relative Inform. Technology (IT)  
 $olv_i3^*$  0.0 0.5 0.5 (1.0)  
 $cmy3^*$  1.0 0.5 1.0 (0.0)  
 $olv_i4^*$  0.5 1.0 0.5 0.5  
 $cmy4^*$  0.5 0.0 0.5 0.5

standard and adapted CIELAB  
 $LAB^*LAB$  35.06 -34.88 5.65  
 $LAB^*LABa$  35.06 -34.96 5.63  
 $LAB^*TCh$  25.01 35.42 170.85

relative CIELAB lab\*  
 $lab^*lab$  0.441 -0.986 0.159  
 $lab^*tch$  0.5 1.0 0.475  
 $lab^*nch$  0.0 1.0 0.475

relative Natural Colour (NC)  
 $lab^*lrij$  0.441 -0.991 -0.122  
 $lab^*tce$  0.5 1.0 0.52  
 $lab^*ncE$  0.0 1.0 g07b

relative Inform. Technology (IT)  
 $olv_i3^*$  0.0 0.0 0.0 (1.0)  
 $cmy3^*$  1.0 1.0 1.0 (0.0)  
 $olv_i4^*$  1.0 1.0 1.0 0.0  
 $cmy4^*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB  
 $LAB^*LAB$  18.02 0.1 0.02  
 $LAB^*LABa$  18.02 0.0 0.0  
 $LAB^*TCh$  0.01 0.01 -

relative CIELAB lab\*  
 $lab^*lab$  0.0 0.0 0.0  
 $lab^*tch$  0.0 0.0 -  
 $lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)  
 $lab^*lrij$  0.0 0.0 0.0  
 $lab^*tce$  0.0 0.0 -  
 $lab^*ncE$  1.0 0.0 -

$n^* = 0,00$

### Output: Colorimetric Reflective System MRS18a

for hue  $h^* = lab^*h = 171/360 = 0.475$

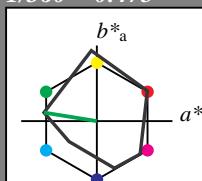
$lab^*tch$  and  $lab^*nch$

D65: hue G

LCH\*Ma: 52 71 171

olv\*Ma: 0.0 1.0 0.0

triangle lightness  $t^*$



### MRS18a; adapted (a) CIELAB data

	$L^*=L^*_a$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	49.63	66.8	40.02	77.87	31
JMa	90.7	-7.27	93.19	93.48	94
GMa	52.11	-69.93	11.26	70.85	171
G50BMa	45.03	-36.65	-27.13	45.61	217
BMa	36.65	23.26	-62.27	66.49	290
B50RMa	34.94	57.27	-43.6	71.99	323
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	272

relative Inform. Technology (IT)  
 $olv_i3^*$  1.0 1.0 1.0 (1.0)  
 $cmy3^*$  0.0 0.0 0.0 (0.0)  
 $olv_i4^*$  1.0 1.0 1.0 1.0  
 $cmy4^*$  0.0 0.0 0.0 0.0

standard and adapted CIELAB  
 $LAB^*LAB$  95.41 0.01 0.0  
 $LAB^*LABa$  95.41 0.0 0.0  
 $LAB^*TCh$  99.99 0.01 -

relative CIELAB lab\*  
 $lab^*lab$  1.0 0.0 0.0  
 $lab^*tch$  1.0 0.0 -  
 $lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)  
 $lab^*lrij$  1.0 0.0 0.0  
 $lab^*tce$  1.0 0.0 0.0  
 $lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)  
 $olv_i3^*$  0.5 0.5 0.5 (1.0)  
 $cmy3^*$  0.5 0.5 0.5 (0.0)  
 $olv_i4^*$  0.5 1.0 0.5 1.0  
 $cmy4^*$  0.5 0.0 0.5 0.0

standard and adapted CIELAB  
 $LAB^*LAB$  56.71 0.05 0.0  
 $LAB^*LABa$  56.71 0.0 0.0  
 $LAB^*TCh$  50.0 0.01 -

relative CIELAB lab\*  
 $lab^*lab$  0.72 -0.493 0.079  
 $lab^*tch$  0.75 0.5 0.475  
 $lab^*nch$  0.0 0.5 0.475

relative Natural Colour (NC)  
 $lab^*lrij$  0.72 -0.495 -0.06  
 $lab^*tce$  0.75 0.5 0.52  
 $lab^*ncE$  0.0 0.5 g07b

relative Inform. Technology (IT)  
 $olv_i3^*$  0.0 0.5 0.5 (1.0)  
 $cmy3^*$  1.0 0.5 1.0 (0.0)  
 $olv_i4^*$  1.0 1.0 1.0 0.5  
 $cmy4^*$  0.0 0.0 0.5 0.5

standard and adapted CIELAB  
 $LAB^*LAB$  35.06 -34.88 5.65  
 $LAB^*LABa$  35.06 -34.96 5.63  
 $LAB^*TCh$  25.01 35.42 170.85

relative CIELAB lab\*  
 $lab^*lab$  0.441 -0.986 0.159  
 $lab^*tch$  0.5 1.0 0.475  
 $lab^*nch$  0.0 1.0 0.475

relative Natural Colour (NC)  
 $lab^*lrij$  0.441 -0.991 -0.122  
 $lab^*tce$  0.5 1.0 0.52  
 $lab^*ncE$  0.0 1.0 g07b

relative Inform. Technology (IT)  
 $olv_i3^*$  0.0 0.0 0.0 (1.0)  
 $cmy3^*$  1.0 1.0 1.0 (0.0)  
 $olv_i4^*$  1.0 1.0 1.0 0.0  
 $cmy4^*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB  
 $LAB^*LAB$  18.02 0.1 0.02  
 $LAB^*LABa$  18.02 0.0 0.0  
 $LAB^*TCh$  0.01 0.01 -

relative CIELAB lab\*  
 $lab^*lab$  0.0 0.0 0.0  
 $lab^*tch$  0.0 0.0 -  
 $lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)  
 $lab^*lrij$  0.0 0.0 0.0  
 $lab^*tce$  0.0 0.0 -  
 $lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

3 step scales for constant CIELAB hue 171/360 = 0.475 (left)

3 step scales for constant CIELAB hue 171/360 = 0.475 (right)

UE100-7, 3 step scales for constant CIELAB hue 171/360 = 0.475 (left)

UE100-7, 3 step scales for constant CIELAB hue 171/360 = 0.475 (right)

### Input: Colorimetric Reflective System MRS18a

for hue  $h^* = lab^*h = 171/360 = 0.475$

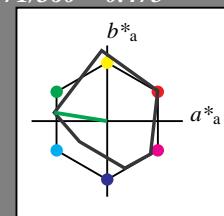
$lab^*tch$  and  $lab^*nch$

D65: hue G

LCH\*Ma: 52 71 171

olv\*Ma: 0.0 1.0 0.0

triangle lightness  $t^*$



### MRS18a; adapted (a) CIELAB data

	$L^*=L^*_a$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	49.63	66.8	40.02	77.87	31
JMa	90.7	-7.27	93.19	93.48	94
GMa	52.11	-69.93	11.26	70.85	171
G50BMa	45.03	-36.65	-27.13	45.61	217
BMa	36.65	23.26	-62.27	66.49	290
B50RMa	34.94	57.27	-43.6	71.99	323
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	272

relative Inform. Technology (IT)  
 $olv_i3^*$  1.0 1.0 1.0 (1.0)  
 $cmyn3^*$  0.0 0.0 0.0 (0.0)  
 $olv_i4^*$  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 0.01 0.0  
 $LAB^*LABa$  95.41 0.0 0.0  
 $LAB^*TCh$  99.99 0.01 -

relative CIELAB lab\*

$lab^*lab$  1.0 0.0 0.0  
 $lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0  
 $lab^*tce$  1.0 0.0 0.0  
 $lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)  
 $olv_i3^*$  0.5 0.5 0.5 (1.0)  
 $cmyn3^*$  0.5 0.5 0.5 (0.0)  
 $olv_i4^*$  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 0.05 0.0  
 $LAB^*LABa$  56.71 0.0 0.0  
 $LAB^*TCh$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0  
 $lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.5 0.0 0.0  
 $lab^*tce$  0.5 0.0 0.0  
 $lab^*ncE$  0.5 0.0 -

relative Inform. Technology (IT)  
 $olv_i3^*$  0.0 0.0 0.0 (1.0)  
 $cmyn3^*$  1.0 1.0 1.0 (0.0)  
 $olv_i4^*$  1.0 1.0 1.0 0.0  
 $cmyn4^*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.1 0.02  
 $LAB^*LABa$  18.02 0.0 0.0  
 $LAB^*TCh$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0  
 $lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0  
 $lab^*tce$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

relative Inform. Technology (IT)

$olv_i3^*$  0.5 1.0 0.5 (1.0)

$cmyn3^*$  0.5 0.0 0.5 (0.0)

$olv_i4^*$  0.5 1.0 0.5 1.0

$cmyn4^*$  0.5 0.0 0.5 0.0

standard and adapted CIELAB

$LAB^*LAB$  73.75 -34.92 5.64  
 $LAB^*LABa$  73.75 -34.96 5.63  
 $LAB^*TCh$  75.0 35.42 170.85

relative CIELAB lab\*

$lab^*lab$  0.72 -0.493 0.079

$lab^*tch$  0.75 0.5 0.475

$lab^*nch$  0.0 0.5 0.475

relative Natural Colour (NC)

$lab^*lrij$  0.72 -0.495 -0.06

$lab^*tce$  0.75 0.2 0.52

$lab^*ncE$  0.0 0.5 g07b

relative Inform. Technology (IT)

$olv_i3^*$  0.0 1.0 0.0 (1.0)

$cmyn3^*$  1.0 0.0 1.0 (0.0)

$olv_i4^*$  0.0 1.0 0.0 1.0

$cmyn4^*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  52.11 -69.86 11.28  
 $LAB^*LABa$  52.11 -69.92 11.26  
 $LAB^*TCh$  50.0 70.83 170.85

relative CIELAB lab\*

$lab^*lab$  0.441 -0.986 0.159

$lab^*tch$  0.5 1.0 0.475

$lab^*nch$  0.0 1.0 0.475

relative Natural Colour (NC)

$lab^*lrij$  0.441 -0.991 -0.122

$lab^*tce$  0.5 1.0 0.52

$lab^*ncE$  0.0 1.0 g07b

relative Inform. Technology (IT)

$olv_i3^*$  0.0 0.0 0.0 (1.0)

$cmyn3^*$  1.0 1.0 1.0 (0.0)

$olv_i4^*$  1.0 1.0 1.0 0.0

$cmyn4^*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.09 0.02  
 $LAB^*LABa$  18.02 0.0 0.0  
 $LAB^*TCh$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.22 -0.493 0.079

$lab^*tch$  0.25 0.5 0.475

$lab^*nch$  0.5 0.5 0.475

relative Natural Colour (NC)

$lab^*lrij$  0.22 -0.495 -0.06

$lab^*tce$  0.25 0.5 0.52

$lab^*ncE$  0.5 0.5 g07b

relative Inform. Technology (IT)

$olv_i3^*$  0.0 0.0 0.0 (1.0)

$cmyn3^*$  0.0 0.0 0.0 (0.0)

$olv_i4^*$  0.0 0.0 0.0 1.0

$cmyn4^*$  0.0 0.0 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  76.05 -37.69 8.7  
 $LAB^*LABa$  76.05 -37.72 8.7  
 $LAB^*TCh$  75.0 38.72 167.02

relative CIELAB lab\*

$lab^*lab$  0.75 -0.486 0.112

$lab^*tch$  0.75 0.5 0.464

$lab^*nch$  0.0 0.5 0.464

relative Natural Colour (NC)

$lab^*lrij$  0.75 -0.498 -0.033

$lab^*tce$  0.75 0.5 0.511

$lab^*ncE$  0.0 0.5 g04b

relative Inform. Technology (IT)

$olv_i3^*$  0.5 1.0 0.5 (1.0)

$cmyn3^*$  0.5 0.0 0.5 (0.0)

$olv_i4^*$  0.5 1.0 0.5 0.5

$cmyn4^*$  0.5 0.0 0.5 0.5

standard and adapted CIELAB

$LAB^*LAB$  56.72 0.05 0.0  
 $LAB^*LABa$  56.72 0.0 0.0  
 $LAB^*TCh$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.5 0.0 0.0

$lab^*tce$  0.5 0.0 -

$lab^*ncE$  0.5 0.0 -

relative Inform. Technology (IT)

$olv_i3^*$  0.0 0.0 0.0 (1.0)

$cmyn3^*$  1.0 1.0 1.0 (0.0)

$olv_i4^*$  1.0 1.0 1.0 0.0

$cmyn4^*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.09 0.02  
 $LAB^*LABa$  18.02 0.0 0.0  
 $LAB^*TCh$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.25 -0.486 0.112

$lab^*tch$  0.25 0.5 0.464

$lab^*nch$  0.5 0.5 0.464

relative Natural Colour (NC)

$lab^*lrij$  0.25 -0.498 -0.033

$lab^*tce$  0.25 0.5 0.511

$lab^*ncE$  0.5 0.5 g04b

### Output: Colorimetric Reflective System NRS18

for hue  $h^* = lab^*h = 167/360 = 0.464$

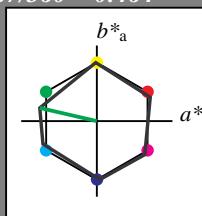
$lab^*tch$  and  $lab^*nch$

D65: hue G

LCH\*Ma: 57 77 167

olv\*Ma: 0.0 1.0 0.0

triangle lightness  $t^*$



### NRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	56.7	70.66	31.47	77.35	24
JMa	56.7	-1.39	77.37	77.39	91
GMa	56.7	-75.46	17.4	77.45	167
G50BMa	56.7	-71.29	-30.25	77.45	203
BMa	56.7	4.0	-77.3	77.41	273
B50RMa	56.7	63.35	-44.4	77.36	325
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	272

%Gamut

$u^*_{rel} = 92$

%Regularity

$g^*_{H,rel} = 42$

$g^*_{C,rel} = 49$

relative Inform. Technology (IT)

$olv_i3^*$  1.0 1.0 1.0 (1.0)

$cmyn3^*$  0.0 0.0 0.0 (0.0)

$olv_i4^*$  1.0 1.0 1.0 1.0

$cmyn4^*$  0.0 0.0 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  76.05 -37.69 8.7  
 $LAB^*LABa$  76.05 -37.72 8.7  
 $LAB^*TCh$  75.0 38.72 167.02

relative CIELAB lab\*

$lab^*lab$  0.75 -0.486 0.112

$lab^*tch$  0.75 0.5 0.464

$lab^*nch$  0.0 0.5 0.464

relative Natural Colour (NC)

$lab^*lrij$  0.75 -0.498 -0.033

$lab^*tce$  0.75 0.5 0.511</

### Input: Colorimetric Reflective System MRS18a

for hue  $h^* = lab^*h = 171/360 = 0.475$

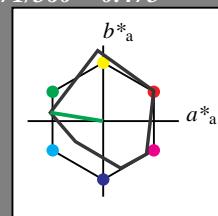
$lab^*tch$  and  $lab^*nch$

D65: hue G

LCH\*Ma: 52 71 171

olv\*Ma: 0.0 1.0 0.0

triangle lightness  $t^*$



### MRS18a; adapted (a) CIELAB data

	$L^* = L^*_a$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	49.63	66.8	40.02	77.87	31
JMa	90.7	-7.27	93.19	93.48	94
GMa	52.11	-69.93	11.26	70.85	171
G50BMa	45.03	-36.65	-27.13	45.61	217
BMa	36.65	23.26	-62.27	66.49	290
B50RMa	34.94	57.27	-43.6	71.99	323
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	272

relative Inform. Technology (IT)  
 $olv_i3^*$  1.0 1.0 1.0 (1.0)  
 $cmy3^*$  0.0 0.0 0.0 (0.0)  
 $olv_i4^*$  1.0 1.0 1.0 1.0  
 $cmy4^*$  0.0 0.0 0.0 0.0

standard and adapted CIELAB  
 $LAB^*LAB$  95.41 0.01 0.0  
 $LAB^*LABa$  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 -  
 $lab^*nch$  0.0 0.0 -  
relative Natural Colour (NC)  
 $lab^*lrij$  1.0 0.0 0.0  
 $lab^*tce$  1.0 0.0 0.0  
 $lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)  
 $olv_i3^*$  0.5 0.5 0.5 (1.0)  
 $cmy3^*$  0.5 0.5 0.5 (0.0)  
 $olv_i4^*$  1.0 1.0 1.0 0.5  
 $cmy4^*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB  
 $LAB^*LAB$  56.71 0.05 0.0  
 $LAB^*LABa$  56.71 0.0 0.0  
 $LAB^*TChA$  50.0 0.01 -

relative CIELAB lab\*  
 $lab^*lab$  0.5 0.0 0.0  
 $lab^*tch$  0.5 0.0 -  
 $lab^*nch$  0.5 0.0 -  
relative Natural Colour (NC)  
 $lab^*lrij$  0.5 0.0 0.0  
 $lab^*tce$  0.5 0.0 0.0  
 $lab^*ncE$  0.5 0.0 -

relative Inform. Technology (IT)  
 $olv_i3^*$  0.0 0.0 0.0 (1.0)  
 $cmy3^*$  1.0 1.0 1.0 (0.0)  
 $olv_i4^*$  1.0 1.0 1.0 0.0  
 $cmy4^*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB  
 $LAB^*LAB$  18.02 0.01 0.02  
 $LAB^*LABa$  18.02 0.0 0.0  
 $LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*  
 $lab^*lab$  0.0 0.0 0.0  
 $lab^*tch$  0.0 0.0 -  
 $lab^*nch$  1.0 0.0 -  
relative Natural Colour (NC)  
 $lab^*lrij$  0.0 0.0 0.0  
 $lab^*tce$  0.0 0.0 -  
 $lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

relative Inform. Technology (IT)  
 $olv_i3^*$  0.5 1.0 0.5 (1.0)  
 $cmy3^*$  0.5 0.0 0.5 (0.0)  
 $olv_i4^*$  0.5 1.0 0.5 1.0  
 $cmy4^*$  0.5 0.0 0.5 0.0

standard and adapted CIELAB  
 $LAB^*LAB$  73.75 -34.92 5.64  
 $LAB^*LABa$  73.75 -34.96 5.63  
 $LAB^*TChA$  75.0 35.42 170.85

relative CIELAB lab\*  
 $lab^*lab$  0.72 -0.493 0.079  
 $lab^*tch$  0.75 0.5 0.475  
 $lab^*nch$  0.0 0.5 0.475

relative Natural Colour (NC)  
 $lab^*lrij$  0.72 -0.495 -0.06  
 $lab^*tce$  0.75 0.2 0.52  
 $lab^*ncE$  0.0 0.5 g07b

relative Inform. Technology (IT)  
 $olv_i3^*$  0.0 0.5 0.0 (1.0)  
 $cmy3^*$  1.0 0.0 1.0 (0.0)  
 $olv_i4^*$  0.0 1.0 0.0 1.0  
 $cmy4^*$  1.0 0.0 1.0 0.0

standard and adapted CIELAB  
 $LAB^*LAB$  52.11 -69.86 11.28  
 $LAB^*LABa$  52.11 -69.92 11.26  
 $LAB^*TChA$  50.0 70.83 170.85

relative CIELAB lab\*  
 $lab^*lab$  0.441 -0.986 0.159  
 $lab^*tch$  0.5 1.0 0.475  
 $lab^*nch$  0.0 1.0 0.475

relative Natural Colour (NC)  
 $lab^*lrij$  0.441 -0.991 -0.122  
 $lab^*tce$  0.5 1.0 0.52  
 $lab^*ncE$  0.0 1.0 g07b

relative Inform. Technology (IT)  
 $olv_i3^*$  0.0 0.0 0.0 (1.0)  
 $cmy3^*$  1.0 1.0 1.0 (0.0)  
 $olv_i4^*$  1.0 1.0 1.0 0.0  
 $cmy4^*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB  
 $LAB^*LAB$  35.06 -34.88 5.65  
 $LAB^*LABa$  35.06 -34.96 5.63  
 $LAB^*TChA$  25.01 35.42 170.85

relative CIELAB lab\*  
 $lab^*lab$  0.22 -0.493 0.079  
 $lab^*tch$  0.25 0.5 0.475  
 $lab^*nch$  0.5 0.5 0.475

relative Natural Colour (NC)  
 $lab^*lrij$  0.22 -0.495 -0.06  
 $lab^*tce$  0.25 0.5 0.52  
 $lab^*ncE$  0.5 0.5 g07b

$n^* = 0,00$

relative Inform. Technology (IT)  
 $olv_i3^*$  1.0 1.0 1.0 (1.0)  
 $cmy3^*$  1.0 0.0 1.0 (0.0)  
 $olv_i4^*$  1.0 1.0 1.0 1.0  
 $cmy4^*$  1.0 0.0 1.0 0.0

standard and adapted CIELAB  
 $LAB^*LAB$  56.72 0.05 0.0  
 $LAB^*LABa$  56.72 0.0 0.0  
 $LAB^*TChA$  50.0 0.01 -

relative CIELAB lab\*  
 $lab^*lab$  0.441 -0.986 0.159  
 $lab^*tch$  0.5 1.0 0.475  
 $lab^*nch$  0.0 1.0 0.475

relative Natural Colour (NC)  
 $lab^*lrij$  0.441 -0.991 -0.122  
 $lab^*tce$  0.5 1.0 0.52  
 $lab^*ncE$  0.0 1.0 g07b

relative Inform. Technology (IT)  
 $olv_i3^*$  0.0 0.5 0.0 (1.0)  
 $cmy3^*$  1.0 0.5 1.0 (0.0)  
 $olv_i4^*$  0.5 1.0 0.5 0.5  
 $cmy4^*$  0.5 0.0 0.5 0.5

standard and adapted CIELAB  
 $LAB^*LAB$  56.72 0.05 0.0  
 $LAB^*LABa$  56.72 0.0 0.0  
 $LAB^*TChA$  50.0 0.01 -

relative CIELAB lab\*  
 $lab^*lab$  0.441 -0.986 0.159  
 $lab^*tch$  0.5 1.0 0.475  
 $lab^*nch$  0.0 1.0 0.475

relative Natural Colour (NC)  
 $lab^*lrij$  0.441 -0.991 -0.122  
 $lab^*tce$  0.5 1.0 0.52  
 $lab^*ncE$  0.0 1.0 g07b

relative Inform. Technology (IT)  
 $olv_i3^*$  0.0 0.0 0.0 (1.0)  
 $cmy3^*$  1.0 1.0 1.0 (0.0)  
 $olv_i4^*$  1.0 1.0 1.0 0.0  
 $cmy4^*$  1.0 0.0 1.0 0.0

standard and adapted CIELAB  
 $LAB^*LAB$  18.02 0.09 0.02  
 $LAB^*LABa$  18.02 0.0 0.0  
 $LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*  
 $lab^*lab$  0.0 0.0 0.0  
 $lab^*tch$  0.0 0.0 -  
 $lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)  
 $lab^*lrij$  0.0 0.0 0.0  
 $lab^*tce$  0.0 0.0 -  
 $lab^*ncE$  1.0 0.0 -

$n^* = 0,00$

### Output: Colorimetric Reflective System NCS18

for hue  $h^* = lab^*h = 167/360 = 0.465$

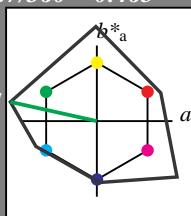
$lab^*tch$  and  $lab^*nch$

D65: hue G

LCH\*Ma: 63 117 167

olv\*Ma: 0.0 1.0 0.0

triangle lightness  $t^*$



### NCS18; adapted (a) CIELAB data

	$L^* = L^*_a$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	47.15	84.63	37.24	92.46	24
JMa	91.37	-1.27	125.03	125.03	91
GMa	63.07	-114.29	25.34	117.07	167
G50BMa	59.47	-80.61	-33.45	87.29	203
BMa	49.01	3.63	-81.2	81.29	273
B50RMa	44.06	106.07	-73.94	129.31	325
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	272

relative Inform. Technology (IT)

$olv_i3^*$  1.0 1.0 1.0 (1.0)

$cmy3^*$  0.0 0.0 0.0 (0.0)

$olv_i4^*$  1.0 1.0 1.0 1.0

$cmy4^*$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  79.24 -57.13 12.67

$LAB^*LABa$  79.24 -57.13 12.67

$LAB^*TChA$  75.0 58.52 167.5

relative CIELAB lab\*

$lab^*lab$  0.791 -0.487 0.108

$lab^*tch$  0.75 0.5 0.465

$lab^*nch$  0.0 0.5 0.465

relative Natural Colour (NC)

$lab^*lrij$  0.791 -0.497 -0.037

$lab^*tce$  0.75 0.5 0.512

$lab^*ncE$  0.0 0.5 g04b

$n^* = 0,00$

	$L^* = L^*_a$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	47.15	84.63	37.24	92.46	24
JMa	91.37	-1.27	125.03	125.03	91
GMa	63.07	-114.29	25.34	117.07	167
G50BMa	59.47	-80.61	-33.45	87.29	203
BMa	49.01	3.63	-81.2	81.29	273
B50RMa	44.06	106.07	-73.94	129.31	325
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	272

relative Inform. Technology (IT)

$olv_i3^*$  0.5 1.0 0.5 (1.0)

$cmy3^*$  0.5 0.0 0.5 (0.0)

$olv_i4^*$  0.5 1.0 0.5 1.0

$cmy4^*$  0.5 0.0 0.5 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\*

$lab^*lab$  0.75 0.5 0.465

$lab^*tch$  0.7 0.5 0.465

$lab^*nch$  0.0 0.5 0.465

relative Natural Colour (NC)

<math

### Input: Colorimetric Reflective System MRS18a

for hue  $h^* = lab^*h = 171/360 = 0.475$

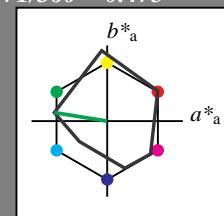
$lab^*tch$  and  $lab^*nch$

D65: hue G

LCH\*Ma: 52 71 171

olv\*Ma: 0.0 1.0 0.0

triangle lightness  $t^*$



### MRS18a; adapted (a) CIELAB data

	$L^*=L^*_a$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	49.63	66.8	40.02	77.87	31
JMa	90.7	-7.27	93.19	93.48	94
GMa	52.11	-69.93	11.26	70.85	171
G50BMa	45.03	-36.65	-27.13	45.61	217
BMa	36.65	23.26	-62.27	66.49	290
B50RMa	34.94	57.27	-43.6	71.99	323
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	272

relative Inform. Technology (IT)  
 $olv^3*$  1.0 1.0 1.0 (1.0)  
 $cmy3*$  0.0 0.0 0.0 (0.0)  
 $olv^4*$  1.0 1.0 1.0 1.0  
 $cmy4*$  0.0 0.0 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  95.41 0.01 0.0  
 $LAB^*LABa$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0  
 $lab^*tce$  1.0 0.0 0.0  
 $lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)  
 $olv^3*$  0.5 0.5 0.5 (1.0)  
 $cmy3*$  0.5 0.5 0.5 (0.0)  
 $olv^4*$  1.0 1.0 1.0 0.5  
 $cmy4*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  56.71 0.05 0.0  
 $LAB^*LABa$  56.71 0.0 0.0  
 $LAB^*TChA$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0  
 $lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.5 0.0 0.0  
 $lab^*tce$  0.5 0.0 0.0  
 $lab^*ncE$  0.5 0.0 -

relative Inform. Technology (IT)  
 $olv^3*$  0.0 0.0 0.0 (1.0)  
 $cmy3*$  1.0 1.0 1.0 (0.0)  
 $olv^4*$  1.0 1.0 1.0 0.0  
 $cmy4*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.1 0.02  
 $LAB^*LABa$  18.02 0.0 0.0  
 $LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0  
 $lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0  
 $lab^*tce$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

### MRS18a; adapted (a) CIELAB data

	$L^*=L^*_a$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	49.63	66.8	40.02	77.87	31
JMa	90.7	-7.27	93.19	93.48	94
GMa	52.11	-69.93	11.26	70.85	171
G50BMa	45.03	-36.65	-27.13	45.61	217
BMa	36.65	23.26	-62.27	66.49	290
B50RMa	34.94	57.27	-43.6	71.99	323
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	272

relative Inform. Technology (IT)

$olv^3*$  0.5 1.0 0.5 (1.0)  
 $cmy3*$  0.5 0.0 0.0 (0.0)

$olv^4*$  1.0 1.0 1.0 1.0

$cmy4*$  0.5 0.0 0.5 0.0

standard and adapted CIELAB

$LAB^*LAB$  73.75 -34.92 5.64  
 $LAB^*LABa$  73.75 -34.96 5.63  
 $LAB^*TChA$  75.0 35.42 170.85

relative CIELAB lab\*

$lab^*lab$  0.72 -0.493 0.079

$lab^*tch$  0.75 0.5 0.475

$lab^*nch$  0.0 0.5 0.475

relative Natural Colour (NC)

$lab^*lrij$  0.72 -0.495 -0.06

$lab^*tce$  0.75 0.2 0.52

$lab^*ncE$  0.0 0.5 g07b

standard and adapted CIELAB

$LAB^*LAB$  52.11 -69.86 11.28  
 $LAB^*LABa$  52.11 -69.92 11.26  
 $LAB^*TChA$  50.0 70.83 170.85

relative CIELAB lab\*

$lab^*lab$  0.441 -0.986 0.159

$lab^*tch$  0.5 1.0 0.475

$lab^*nch$  0.0 1.0 0.475

relative Natural Colour (NC)

$lab^*lrij$  0.441 -0.991 -0.122

$lab^*tce$  0.5 1.0 0.52

$lab^*ncE$  0.0 1.0 g07b

relative Inform. Technology (IT)

$olv^3*$  0.0 0.5 0.0 (1.0)

$cmy3*$  1.0 0.5 1.0 (0.0)

$olv^4*$  1.0 1.0 1.0 0.5

$cmy4*$  0.0 0.0 0.5 1.0

standard and adapted CIELAB

$LAB^*LAB$  35.06 -34.88 5.65  
 $LAB^*LABa$  35.06 -34.96 5.63  
 $LAB^*TChA$  25.01 35.42 170.85

relative CIELAB lab\*

$lab^*lab$  0.22 -0.493 0.079

$lab^*tch$  0.25 0.5 0.475

$lab^*nch$  0.5 0.5 0.475

relative Natural Colour (NC)

$lab^*lrij$  0.22 -0.495 -0.06

$lab^*tce$  0.25 0.5 0.52

$lab^*ncE$  0.5 0.5 g07b

relative Inform. Technology (IT)

$olv^3*$  0.0 0.0 0.0 (1.0)

$cmy3*$  1.0 1.0 1.0 (0.0)

$olv^4*$  1.0 1.0 1.0 0.0

$cmy4*$  0.0 0.0 1.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  11.01 0.07 0.01  
 $LAB^*LABa$  11.01 0.0 0.0  
 $LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*tce$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 0,00$

blackness  $n^*$

chromaticness  $c^*$

### Output: Colorimetric Reflective System NRS11

for hue  $h^* = lab^*h = 167/360 = 0.464$

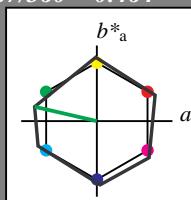
$lab^*tch$  and  $lab^*nch$

D65: hue G

LCH\*Ma: 53 84 167

olv\*Ma: 0.0 1.0 0.0

triangle lightness  $t^*$



### NRS11; adapted (a) CIELAB data

	$L^*=L^*_a$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	53.2	77.06	34.32	84.36	24
JMa	53.2	-1.51	84.38	84.39	91
GMa	53.2	-82.27	18.98	84.44	167
G50BMa	53.2	-77.72	-32.98	84.44	203
BMa	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)

$olv^3*$  1.0 1.0 1.0 (1.0)

$cmy3*$  0.0 0.0 0.0 (0.0)

$olv^4*$  1.0 1.0 1.0 1.0

$cmy4*$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 -

$lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)

$olv^3*$  0.5 1.0 0.5 (1.0)

$cmy3*$  0.5 0.0 0.5 (0.0)

$olv^4*$  0.5 1.0 0.5 1.0

$cmy4*$  0.5 0.0 0.5 0.0

standard and adapted CIELAB

$LAB^*LAB$  74.3 -41.1 9.49

$LAB^*LABa$  74.3 -41.12 9.49

$LAB^*TChA$  75.0 42.21 167.01

relative CIELAB lab\*

$lab^*lab$  0.75 -0.486 0.112

$lab^*tch$  0.75 0.5 0.464

$lab^*nch$  0.0 0.5 0.464

relative Natural Colour (NC)

$lab^*lrij$  0.75 -0.498 -0.033

$lab^*tce$  0.75 0.5 0.511

$lab^*ncE$  0.0 0.5 g04b

### Input: Colorimetric Reflective System MRS18a

for hue  $h^* = lab^*h = 171/360 = 0.475$

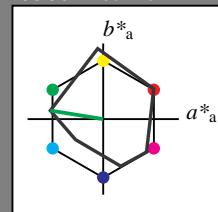
$lab^*tch$  and  $lab^*nch$

D65: hue G

LCH\*Ma: 52 71 171

olv\*Ma: 0.0 1.0 0.0

triangle lightness  $t^*$



### MRS18a; adapted (a) CIELAB data

	$L^*=L^*_a$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	49.63	66.8	40.02	77.87	31
JMa	90.7	-7.27	93.19	93.48	94
GMa	52.11	-69.93	11.26	70.85	171
G50BMa	45.03	-36.65	-27.13	45.61	217
BMa	36.65	23.26	-62.27	66.49	290
B50RMa	34.94	57.27	-43.6	71.99	323
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	272

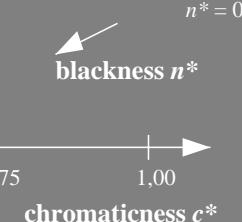
relative Inform. Technology (IT)  
 $olv_i3^*$  1.0 1.0 1.0 (1.0)  
 $cmy_n3^*$  0.0 0.0 0.0 (0.0)  
 $olv_i4^*$  1.0 1.0 1.0 1.0  
 $cmy_n4^*$  0.0 0.0 0.0 0.0  
**standard and adapted CIELAB**  
 $LAB^*LAB$  95.41 0.01 0.0  
 $LAB^*LABa$  95.41 0.0 0.0  
 $LAB^*TChA$  99.99 0.01 -

relative CIELAB lab\*  
 $lab^*lab$  1.0 0.0 0.0  
 $lab^*tch$  1.0 0.0 -  
 $lab^*nch$  0.0 0.0 -  
**relative Natural Colour (NC)**  
 $lab^*lrij$  1.0 0.0 0.0  
 $lab^*tce$  1.0 0.0 0.0  
 $lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)  
 $olv_i3^*$  0.5 0.5 0.5 (1.0)  
 $cmy_n3^*$  0.5 0.5 0.5 (0.0)  
 $olv_i4^*$  1.0 1.0 1.0 0.5  
 $cmy_n4^*$  0.0 0.0 0.0 0.5  
**standard and adapted CIELAB**  
 $LAB^*LAB$  56.71 0.05 0.0  
 $LAB^*LABa$  56.71 0.0 0.0  
 $LAB^*TChA$  50.0 0.01 -  
**relative CIELAB lab\***  
 $lab^*lab$  0.5 0.0 0.0  
 $lab^*tch$  0.5 0.0 -  
 $lab^*nch$  0.5 0.0 -  
**relative Natural Colour (NC)**  
 $lab^*lrij$  0.5 0.0 0.0  
 $lab^*tce$  0.5 0.0 0.0  
 $lab^*ncE$  0.5 0.0 -

relative Inform. Technology (IT)  
 $olv_i3^*$  0.0 0.0 0.0 (1.0)  
 $cmy_n3^*$  1.0 1.0 1.0 (0.0)  
 $olv_i4^*$  1.0 1.0 1.0 0.0  
 $cmy_n4^*$  0.0 0.0 0.0 1.0  
**standard and adapted CIELAB**  
 $LAB^*LAB$  18.02 0.1 0.02  
 $LAB^*LABa$  18.02 0.0 0.0  
 $LAB^*TChA$  0.01 0.01 -  
**relative CIELAB lab\***  
 $lab^*lab$  0.0 0.0 0.0  
 $lab^*tch$  0.0 0.0 -  
 $lab^*nch$  1.0 0.0 -  
**relative Natural Colour (NC)**  
 $lab^*lrij$  0.0 0.0 0.0  
 $lab^*tce$  0.0 0.0 -  
 $lab^*ncE$  1.0 0.0 -

$n^* = 1,0$



### Output: Colorimetric Reflective System NCS11

for hue  $h^* = lab^*h = 167/360 = 0.465$

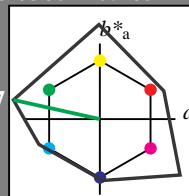
$lab^*tch$  and  $lab^*nch$

D65: hue G

LCH\*Ma: 63 117 167

olv\*Ma: 0.0 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

%Gamut

$u^*_{rel} = 92$

%Regularity

$g^*_{H,rel} = 42$

$g^*_{C,rel} = 49$

relative Inform. Technology (IT)

$olv_i3^*$  1.0 1.0 1.0 (1.0)

$cmy_n3^*$  0.0 0.0 0.0 (0.0)

$olv_i4^*$  1.0 1.0 1.0 1.0

$cmy_n4^*$  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 -

$lab^*nch$  0.0 0.0 -

**relative Natural Colour (NC)**

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)

$olv_i3^*$  0.5 1.0 0.5 (1.0)

$cmy_n3^*$  0.5 0.0 0.5 (0.0)

$olv_i4^*$  0.5 1.0 0.5 1.0

$cmy_n4^*$  0.5 0.0 0.5 0.0

**standard and adapted CIELAB**

$LAB^*LAB$  52.11 -69.86 11.28

$LAB^*LABa$  52.11 -69.92 11.26

$LAB^*TChA$  50.0 70.83 170.85

**relative CIELAB lab\***

$lab^*lab$  0.441 -0.986 0.159

$lab^*tch$  0.5 1.0 0.475

$lab^*nch$  0.0 1.0 0.475

**relative Natural Colour (NC)**

$lab^*lrij$  0.441 -0.991 -0.122

$lab^*tce$  0.5 1.0 0.52

$lab^*ncE$  0.0 1.0 g07b

$n^* = 0,00$

blackness  $n^*$

chromaticness  $c^*$

relative Inform. Technology (IT)

$olv_i3^*$  0.0 1.0 0.0 (1.0)

$cmy_n3^*$  1.0 0.0 1.0 (0.0)

$olv_i4^*$  0.0 1.0 0.0 1.0

$cmy_n4^*$  1.0 0.0 1.0 0.0

**standard and adapted CIELAB**

$LAB^*LAB$  63.07 -114.225.35

$LAB^*LABa$  63.07 -114.252.34

$LAB^*TChA$  50.0 117.04 167.5

**relative CIELAB lab\***

$lab^*lab$  0.617 -0.975 0.216

$lab^*tch$  0.5 1.0 0.465

$lab^*nch$  0.0 1.0 0.465

**relative Natural Colour (NC)**

$lab^*lrij$  0.617 -0.996 -0.074

$lab^*tce$  0.5 1.0 0.512

$lab^*ncE$  0.0 1.0 g04b

$n^* = 0,00$

blackness  $n^*$

chromaticness  $c^*$

UE100-7, 3 step scales for constant CIELAB hue 171/360 = 0.475 (left)

3 step scales for constant CIELAB hue 167/360 = 0.465 (right)

## Input: Colorimetric Reflective System NRS18

for hue  $h^* = lab^*h = 167/360 = 0.464$

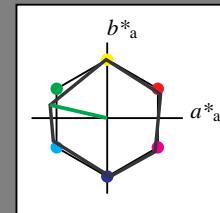
$lab^*tch$  and  $lab^*nch$

D65: hue G

LCH\*Ma: 57 77 167

olv\*Ma: 0.0 1.0 0.0

triangle lightness  $t^*$



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 0.0  
 $LAB^*LABa$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

$g^*_{H,rel} = 47$

%Gamut  
 $u^*_{rel} = 100$   
%Regularity  
 $g^*_{C,rel} = 100$

relative Inform. Technology (IT)

$olvi3^*$  0.5 1.0 0.5 (1.0)

$cmyn3^*$  0.5 0.0 0.5 (0.0)

$olvi4^*$  0.5 1.0 0.5 1.0

$cmyn4^*$  0.5 0.0 0.5 0.0

standard and adapted CIELAB

$LAB^*LAB$  76.05 -37.69 8.7

$LAB^*LABa$  76.05 -37.72 8.7

$LAB^*TChA$  75.0 38.72 167.02

relative CIELAB lab\*

$lab^*lab$  0.75 -0.486 0.112

$lab^*tch$  0.75 0.5 0.464

$lab^*nch$  0.0 0.5 0.464

relative Natural Colour (NC)

$lab^*lrij$  0.75 -0.498 -0.033

$lab^*tce$  0.75 0.2 0.511

$lab^*ncE$  0.0 0.5 g04b

$g^*_{H,rel} = 47$

$g^*_{C,rel} = 100$

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

$LAB^*LAB$  18.02 0.09 0.02

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*tce$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

## NRS18; adapted (a) CIELAB data

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

RMa	56.7	70.66	31.47	77.35	24
JMa	56.7	-1.39	77.37	77.39	91
GMa	56.7	-75.46	17.4	77.45	167
G50BMa	56.7	-71.29	-30.25	77.45	203
BMa	56.7	4.0	-77.3	77.41	273
B50RMa	56.7	63.35	-44.4	77.36	325
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	272

## Output: Colorimetric Reflective System ORS18

for hue  $h^* = lab^*h = 151/360 = 0.419$

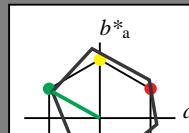
$lab^*tch$  and  $lab^*nch$

D65: hue L

LCH\*Ma: 51 72 151

olv\*Ma: 0.0 1.0 0.0

triangle lightness  $t^*$



%Gamut

$u^*_{rel} = 93$

%Regularity

$g^*_{H,rel} = 57$

$g^*_{C,rel} = 59$

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

$LAB^*LABa$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

$g^*_{H,rel} = 57$

$g^*_{C,rel} = 59$

relative Inform. Technology (IT)

$olvi3^*$  0.5 1.0 0.5 (1.0)

$cmyn3^*$  0.5 0.0 0.5 (0.0)

$olvi4^*$  0.5 1.0 0.5 1.0

$cmyn4^*$  0.5 0.0 0.5 0.0

standard and adapted CIELAB

$LAB^*LAB$  73.15 -31.94 20.73

$LAB^*LABa$  73.15 -31.38 17.47

$LAB^*TChA$  75.0 35.93 150.91

relative CIELAB lab\*

$lab^*lab$  0.712 -0.436 0.243

$lab^*tch$  0.75 0.5 0.419

$lab^*nch$  0.0 0.5 0.419

relative Natural Colour (NC)

$lab^*lrij$  0.712 -0.478 0.144

$lab^*tce$  0.75 0.5 0.453

$lab^*ncE$  0.0 0.5 j81g

$n^* = 0,00$

$n^* = 1,0$

$n^* = 0,00$

blackness  $n^*$

chromaticness  $c^*$

$n^* = 0,50$

$n^* = 1,00$

$n^* = 0,00$

$n^* = 1,00$

$n^* = 0,50$

$n^* = 1,00$

$n^* = 0,00$

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$n^* = 0,50$

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$n^* = 0,00$

$n^* = 1,00$

$n^* = 0,50$

$n^* = 1,00$

$n^* = 0,00$

$n^* = 1,00$

$n^* = 0,50$

$n^* = 1,00$

$n^* = 0,00$

## Input: Colorimetric Reflective System NRS18

for hue  $h^* = lab^*h = 167/360 = 0.464$

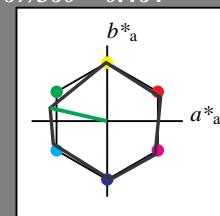
$lab^*tch$  and  $lab^*nch$

D65: hue G

LCH\*Ma: 57 77 167

olv\*Ma: 0.0 1.0 0.0

triangle lightness  $t^*$



relative Inform. Technology (IT)  
 $olv_i3^*$  1.0 1.0 1.0 (1.0)  
 $cmy_n3^*$  0.0 0.0 0.0 (0.0)  
 $olv_i4^*$  1.0 1.0 1.0 1.0  
 $cmy_n4^*$  0.0 0.0 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  95.41 0.0 0.0  
 $LAB^*LABa$  95.41 0.0 0.0  
 $LAB^*TCh_a$  99.99 0.01 -

relative CIELAB lab\*

$lab^*lab$  1.0 0.0 0.0  
 $lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0  
 $lab^*ice$  1.0 0.0 0.0  
 $lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)  
 $olv_i3^*$  0.5 0.5 0.5 (1.0)  
 $cmy_n3^*$  0.5 0.5 0.5 (0.0)  
 $olv_i4^*$  1.0 1.0 1.0 0.5  
 $cmy_n4^*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  56.72 0.05 0.0  
 $LAB^*LABa$  56.72 0.0 0.0  
 $LAB^*TCh_a$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0  
 $lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.5 0.0 0.0  
 $lab^*ice$  0.5 0.0 0.0  
 $lab^*ncE$  0.5 0.0 -

relative Inform. Technology (IT)  
 $olv_i3^*$  0.0 0.0 0.0 (1.0)  
 $cmy_n3^*$  1.0 1.0 1.0 (0.0)  
 $olv_i4^*$  1.0 1.0 1.0 0.0  
 $cmy_n4^*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.09 0.02  
 $LAB^*LABa$  18.02 0.0 0.0  
 $LAB^*TCh_a$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0  
 $lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0  
 $lab^*ice$  0.0 0.0 0.0  
 $lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

## NRS18; adapted (a) CIELAB data

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

RMa	56.7	70.66	31.47	77.35	24
JMa	56.7	-1.39	77.37	77.39	91
GMa	56.7	-75.46	17.4	77.45	167
G50BMa	56.7	-71.29	-30.25	77.45	203
BMa	56.7	4.0	-77.3	77.41	273
B50RMa	56.7	63.35	-44.4	77.36	325
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	272

%Gamut

$u^*_{rel} = 100$

%Regularity

$g^*_{H,rel} = 47$

$g^*_{C,rel} = 100$

relative Inform. Technology (IT)

$olv_i3^*$  0.5 1.0 0.5 (1.0)

$cmy_n3^*$  0.5 0.0 0.0 (0.0)

$olv_i4^*$  0.5 1.0 0.5 1.0

$cmy_n4^*$  0.5 0.0 0.5 0.0

standard and adapted CIELAB

$LAB^*LAB$  76.05 -37.69 8.7

$LAB^*LABa$  76.05 -37.72 8.7

$LAB^*TCh_a$  75.0 38.72 167.02

relative CIELAB lab\*

$lab^*lab$  0.75 -0.486 0.112

$lab^*tch$  0.75 0.5 0.464

$lab^*nch$  0.0 0.5 0.464

relative Natural Colour (NC)

$lab^*lrij$  0.75 -0.498 -0.033

$lab^*ice$  0.75 0.2 0.511

$lab^*ncE$  0.0 0.5 g04b

relative Inform. Technology (IT)

$olv_i3^*$  0.0 1.0 0.0 (1.0)

$cmy_n3^*$  0.5 0.5 0.5 (0.0)

$olv_i4^*$  1.0 1.0 1.0 0.5

$cmy_n4^*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  56.7 -75.39 17.41

$LAB^*LABa$  56.7 -75.44 17.39

$LAB^*TCh_a$  50.0 77.43 167.02

relative CIELAB lab\*

$lab^*lab$  0.5 -0.973 0.225

$lab^*tch$  0.5 1.0 0.464

$lab^*nch$  0.0 1.0 0.464

relative Natural Colour (NC)

$lab^*lrij$  0.5 -0.996 -0.067

$lab^*ice$  0.5 1.0 0.511

$lab^*ncE$  0.0 1.0 g04b

relative Inform. Technology (IT)

$olv_i3^*$  0.0 0.0 0.0 (1.0)

$cmy_n3^*$  1.0 1.0 1.0 (0.0)

$olv_i4^*$  1.0 1.0 1.0 0.0

$cmy_n4^*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  37.36 -37.64 8.72

$LAB^*LABa$  37.36 -37.72 8.7

$LAB^*TCh_a$  25.01 38.72 167.02

relative CIELAB lab\*

$lab^*lab$  0.25 -0.486 0.112

$lab^*tch$  0.25 0.5 0.464

$lab^*nch$  0.5 0.5 0.464

relative Natural Colour (NC)

$lab^*lrij$  0.25 -0.498 -0.033

$lab^*ice$  0.25 0.5 0.511

$lab^*ncE$  0.5 0.5 g04b

$n^* = 0,00$

blackness  $n^*$

chromaticness  $c^*$

## Output: Colorimetric Reflective System MRS18

for hue  $h^* = lab^*h = 172/360 = 0.479$

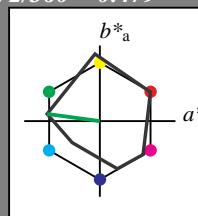
$lab^*tch$  and  $lab^*nch$

D65: hue G

LCH\*Ma: 52 70 172

olv\*Ma: 0.0 1.0 0.0

triangle lightness  $t^*$



%Gamut

$u^*_{rel} = 91$

%Regularity

$g^*_{H,rel} = 41$

$g^*_{C,rel} = 52$

relative Inform. Technology (IT)

$olv_i3^*$  1.0 1.0 1.0 (1.0)

$cmy_n3^*$  0.0 0.0 0.0 (0.0)

$olv_i4^*$  1.0 1.0 1.0 1.0

$cmy_n4^*$  0.0 0.0 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  95.41 -0.97 4.75

$LAB^*LABa$  95.41 0.0 0.0

$LAB^*TCh_a$  99.99 0.01 -

relative CIELAB lab\*

$lab^*lab$  1.0 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*ice$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)

$olv_i3^*$  0.5 1.0 0.5 (1.0)

$cmy_n3^*$  0.5 0.0 0.5 (0.0)

$olv_i4^*$  0.5 1.0 0.5 1.0

$cmy_n4^*$  0.5 0.0 0.5 0.0

standard and adapted CIELAB

$LAB^*LAB$  73.75 -35.42 8.02

$LAB^*LABa$  73.75 -34.85 4.72

$LAB^*TCh_a$  75.0 35.18 172.29

relative CIELAB lab\*

$lab^*lab$  0.72 -0.494 0.067

$lab^*tch$  0.75 0.5 0.479

$lab^*nch$  0.0 0.5 0.479

relative Natural Colour (NC)

$lab^*lrij$  0.72 -0.496 -0.056

$lab^*ice$  0.75 0.5 0.518

$lab^*ncE$  0.0 0.5 g07b

$n^* = 1,0$

3 step scales for constant CIELAB hue 172/360 = 0.479 (right)

## MRS18; adapted (a) CIELAB data

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

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)

$olv_i3^*$  0.5 1.0 0.5 (1.0)

$cmy_n3^*$  0.5 0.0 0.5 (0.0)

$olv_i4^*$  0.5 1.0 0.5 1.0

$cmy_n4^*$  0.5 0.0 0.5 0.0

standard and adapted CIELAB

$LAB^*LAB$  73.75 -35.42 8.02

$LAB^*LABa$  73.75 -34.85 4.72

$LAB^*TCh_a$  75.0 35.18 172.29

relative CIELAB lab\*

$lab^*lab$  0.72 -0.494 0.067

$lab^*tch$  0.75 0.5 0.479

$lab^*nch$  0.0 0.5 0.479

relative Natural Colour (NC)

$lab^*lrij$  0.72 -0.496 -0.056

$lab^*ice$  0.75 0.5 0.518

$lab^*ncE$  0.0 0.5 g0

## Input: Colorimetric Reflective System NRS18

for hue  $h^* = lab^*h = 167/360 = 0.464$

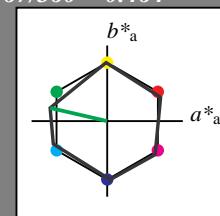
$lab^*tch$  and  $lab^*nch$

D65: hue G

LCH\*Ma: 57 77 167

olv\*Ma: 0.0 1.0 0.0

triangle lightness  $t^*$



## NRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	56.7	70.66	31.47	77.35	24
JMa	56.7	-1.39	77.37	77.39	91
GMa	56.7	-75.46	17.4	77.45	167
G50BMa	56.7	-71.29	-30.25	77.45	203
BMa	56.7	4.0	-77.3	77.41	273
B50RMa	56.7	63.35	-44.4	77.36	325
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	272

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 0.0  
 $LAB^*LABa$  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 -  
 $lab^*nch$  0.0 0.0 -  
relative Natural Colour (NC)  
 $lab^*lrij$  1.0 0.0 0.0  
 $lab^*tce$  1.0 0.0 0.0  
 $lab^*ncE$  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 0.5  
 $cmyn^4*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB  
 $LAB^*LAB$  56.72 0.05 0.0  
 $LAB^*LABa$  56.72 0.0 0.0  
 $LAB^*TChA$  50.0 0.01 -

relative CIELAB lab\*  
 $lab^*lab$  0.5 0.0 0.0  
 $lab^*tch$  0.5 0.0 -  
 $lab^*nch$  0.5 0.0 -  
relative Natural Colour (NC)  
 $lab^*lrij$  0.5 0.0 0.0  
 $lab^*tce$  0.5 0.0 0.0  
 $lab^*ncE$  0.5 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)  
 $olv^4*$  1.0 1.0 1.0 0.0  
 $cmyn^4*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB  
 $LAB^*LAB$  18.02 0.09 0.02  
 $LAB^*LABa$  18.02 0.0 0.0  
 $LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*  
 $lab^*lab$  0.0 0.0 0.0  
 $lab^*tch$  0.0 0.0 -  
 $lab^*nch$  1.0 0.0 -  
relative Natural Colour (NC)  
 $lab^*lrij$  0.0 0.0 0.0  
 $lab^*tce$  0.0 0.0 -  
 $lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

relative Inform. Technology (IT)  
 $olv^3*$  0.5 1.0 0.5 (1.0)  
 $cmyn^3*$  0.5 0.0 0.5 (0.0)  
 $olv^4*$  0.5 1.0 0.5 1.0  
 $cmyn^4*$  0.5 0.0 0.5 0.0

standard and adapted CIELAB  
 $LAB^*LAB$  76.05 -37.69 8.7  
 $LAB^*LABa$  76.05 -37.72 8.7  
 $LAB^*TChA$  75.0 38.72 167.02

relative CIELAB lab\*  
 $lab^*lab$  0.75 -0.486 0.112  
 $lab^*tch$  0.75 0.5 0.464  
 $lab^*nch$  0.0 0.5 0.464

relative Inform. Technology (IT)  
 $olv^3*$  0.0 1.0 0.0 (1.0)  
 $cmyn^3*$  1.0 0.0 1.0 (0.0)  
 $olv^4*$  0.0 1.0 0.0 1.0  
 $cmyn^4*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB  
 $LAB^*LAB$  56.72 0.05 0.0  
 $LAB^*LABa$  56.72 0.0 0.0  
 $LAB^*TChA$  50.0 0.01 -

relative CIELAB lab\*  
 $lab^*lab$  0.75 -0.498 -0.033  
 $lab^*tce$  0.75 0.5 0.511  
 $lab^*ncE$  0.0 0.5 g04b

relative Inform. Technology (IT)  
 $olv^3*$  0.0 0.5 0.0 (1.0)  
 $cmyn^3*$  1.0 0.5 1.0 (0.0)  
 $olv^4*$  0.5 1.0 0.5 0.5  
 $cmyn^4*$  0.5 0.0 0.5 0.5

standard and adapted CIELAB  
 $LAB^*LAB$  37.36 -37.64 8.72  
 $LAB^*LABa$  37.36 -37.72 8.7  
 $LAB^*TChA$  25.01 38.72 167.02

relative CIELAB lab\*  
 $lab^*lab$  0.25 -0.486 0.112  
 $lab^*tch$  0.25 0.5 0.464  
 $lab^*nch$  0.5 0.5 0.464

relative Inform. Technology (IT)  
 $olv^3*$  0.0 0.0 0.0 (1.0)  
 $cmyn^3*$  1.0 1.0 1.0 (0.0)  
 $olv^4*$  1.0 1.0 1.0 0.0  
 $cmyn^4*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB  
 $LAB^*LAB$  18.02 0.09 0.02  
 $LAB^*LABa$  18.02 0.0 0.0  
 $LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*  
 $lab^*lab$  0.25 -0.498 -0.033  
 $lab^*tce$  0.25 0.5 0.511  
 $lab^*ncE$  0.5 0.5 g04b

relative Inform. Technology (IT)  
 $olv^3*$  0.0 0.0 0.0 (1.0)  
 $cmyn^3*$  1.0 1.0 1.0 (0.0)  
 $olv^4*$  1.0 1.0 1.0 0.0  
 $cmyn^4*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB  
 $LAB^*LAB$  18.02 0.09 0.02  
 $LAB^*LABa$  18.02 0.0 0.0  
 $LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*  
 $lab^*lab$  0.25 -0.498 -0.033  
 $lab^*tce$  0.25 0.5 0.511  
 $lab^*ncE$  0.5 0.5 g04b

relative Inform. Technology (IT)  
 $olv^3*$  0.0 0.0 0.0 (1.0)  
 $cmyn^3*$  1.0 1.0 1.0 (0.0)  
 $olv^4*$  1.0 1.0 1.0 0.0  
 $cmyn^4*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB  
 $LAB^*LAB$  18.02 0.09 0.02  
 $LAB^*LABa$  18.02 0.0 0.0  
 $LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*  
 $lab^*lab$  0.25 -0.498 -0.033  
 $lab^*tce$  0.25 0.5 0.511  
 $lab^*ncE$  0.5 0.5 g04b

relative Inform. Technology (IT)  
 $olv^3*$  0.0 0.0 0.0 (1.0)  
 $cmyn^3*$  1.0 1.0 1.0 (0.0)  
 $olv^4*$  1.0 1.0 1.0 0.0  
 $cmyn^4*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB  
 $LAB^*LAB$  18.02 0.09 0.02  
 $LAB^*LABa$  18.02 0.0 0.0  
 $LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*  
 $lab^*lab$  0.25 -0.498 -0.033  
 $lab^*tce$  0.25 0.5 0.511  
 $lab^*ncE$  0.5 0.5 g04b

relative Inform. Technology (IT)  
 $olv^3*$  0.0 0.0 0.0 (1.0)  
 $cmyn^3*$  1.0 1.0 1.0 (0.0)  
 $olv^4*$  1.0 1.0 1.0 0.0  
 $cmyn^4*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB  
 $LAB^*LAB$  18.02 0.09 0.02  
 $LAB^*LABa$  18.02 0.0 0.0  
 $LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*  
 $lab^*lab$  0.25 -0.498 -0.033  
 $lab^*tce$  0.25 0.5 0.511  
 $lab^*ncE$  0.5 0.5 g04b

relative Inform. Technology (IT)  
 $olv^3*$  0.0 0.0 0.0 (1.0)  
 $cmyn^3*$  1.0 1.0 1.0 (0.0)  
 $olv^4*$  1.0 1.0 1.0 0.0  
 $cmyn^4*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB  
 $LAB^*LAB$  18.02 0.09 0.02  
 $LAB^*LABa$  18.02 0.0 0.0  
 $LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*  
 $lab^*lab$  0.25 -0.498 -0.033  
 $lab^*tce$  0.25 0.5 0.511  
 $lab^*ncE$  0.5 0.5 g04b

relative Inform. Technology (IT)  
 $olv^3*$  0.0 0.0 0.0 (1.0)  
 $cmyn^3*$  1.0 1.0 1.0 (0.0)  
 $olv^4*$  1.0 1.0 1.0 0.0  
 $cmyn^4*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB  
 $LAB^*LAB$  18.02 0.09 0.02  
 $LAB^*LABa$  18.02 0.0 0.0  
 $LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*  
 $lab^*lab$  0.25 -0.498 -0.033  
 $lab^*tce$  0.25 0.5 0.511  
 $lab^*ncE$  0.5 0.5 g04b

relative Inform. Technology (IT)  
 $olv^3*$  0.0 0.0 0.0 (1.0)  
 $cmyn^3*$  1.0 1.0 1.0 (0.0)  
 $olv^4*$  1.0 1.0 1.0 0.0  
 $cmyn^4*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB  
 $LAB^*LAB$  18.02 0.09 0.02  
 $LAB^*LABa$  18.02 0.0 0.0  
 $LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*  
 $lab^*lab$  0.25 -0.498 -0.033  
 $lab^*tce$  0.25 0.5 0.511  
 $lab^*ncE$  0.5 0.5 g04b

relative Inform. Technology (IT)  
 $olv^3*$  0.0 0.0 0.0 (1.0)  
 $cmyn^3*$  1.0 1.0 1.0 (0.0)  
 $olv^4*$  1.0 1.0 1.0 0.0  
 $cmyn^4*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB  
 $LAB^*LAB$  18.02 0.09 0.02  
 $LAB^*LABa$  18.02 0.0 0.0  
 $LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*  
 $lab^*lab$  0.25 -0.498 -0.033  
 $lab^*tce$  0.25 0.5 0.511  
 $lab^*ncE$  0.5 0.5 g04b

relative Inform. Technology (IT)  
 $olv^3*$  0.0 0.0 0.0 (1.0)  
 $cmyn^3*$  1.0 1.0 1.0 (0.0)  
 $olv^4*$  1.0 1.0 1.0 0.0  
 $cmyn^4*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB  
 $LAB^*LAB$  18.02 0.09 0.02  
 $LAB^*LABa$  18.02 0.0 0.0  
 $LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*  
 $lab^*lab$  0.25 -0.498 -0.033  
 $lab^*tce$  0.25 0.5 0.511  
 $lab^*ncE$  0.5 0.5 g04b

relative Inform. Technology (IT)  
 $olv^3*$  0.0 0.0 0.0 (1.0)  
 $cmyn^3*$  1.0 1.0 1.0 (0.0)  
 $olv^4*$  1.0 1.0 1.0 0.0  
 $cmyn^4*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB  
 $LAB^*LAB$  18.02 0.09 0.02  
 $LAB^*LABa$  18.02 0.0 0.0  
 $LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*  
 $lab^*lab$  0.25 -0.498 -0.033  
 $lab^*tce$  0.25 0.5 0.511  
 $lab^*ncE$  0.5 0.5 g04b

relative Inform. Technology (IT)  
 $olv^3*$  0.0 0.0 0.0 (1.0)  
 $cmyn^3*$  1.0 1.0 1.0 (0.0)  
 $olv^4*$  1.0 1.0 1.0 0.0  
 $cmyn^4*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB  
 $LAB^*LAB$  18.02 0.09 0.02  
 $LAB^*LABa$  18.02 0.0 0.0  
 $LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*  
 $lab^*lab$  0.25 -0.498 -0.033  
 $lab^*tce$  0.25 0.5 0.511  
 $lab^*ncE$  0.5 0.5 g04b

relative Inform. Technology (IT)  
 $olv^3*$  0.0 0.0 0.0 (1.0)  
 $cmyn^3*$  1.0 1.0 1.0 (0.0)  
 $olv^4*$  1.0 1.0 1.0 0.0  
 $cmyn^4*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB  
 $LAB^*LAB$  18.02 0.09 0.02  
 $LAB^*LABa$  18.02 0.0 0.0  
 $LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*  
 $lab^*lab$  0.25 -0.498 -0.033  
 $lab^*tce$  0.25 0.5 0.511  
 $lab^*ncE$  0.5 0.5 g04b

relative Inform. Technology (IT)  
 $olv^3*$  0.0 0.0 0.0 (1.0)  
 $cmyn^3*$  1.0 1.0 1.0 (0.0)  
 $olv^4*$  1.0 1.0 1.0 0.0  
 $cmyn^4*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB  
 $LAB^*LAB$  18.02 0.09 0.02  
 $LAB^*LABa$  18.02 0.0 0.0  
 $LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*  
 $lab^*lab$  0.25 -0.498 -0.033  
 $lab^*tce$  0.25 0.5 0.511  
 $lab^*ncE$  0.5 0.5 g04b

relative Inform. Technology (IT)  
 $olv^3*$  0.0 0.0 0.0 (1.0)  
 $cmyn^3*$  1.0 1.0 1.0 (0.0)  
 $olv^4*$  1.0 1.0 1.0 0.0  
 $cmyn^4*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB  
 $LAB^*LAB$  18.02 0.09 0.02  
 $LAB^*LABa$  18.02 0.0 0.0  
 $LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*  
 $lab^*lab$  0.25 -0.498 -0.033  
 $lab^*tce$  0.25 0.5 0.511  
 $lab^*ncE$  0.5 0.5 g04b

relative Inform. Technology (IT)  
 $olv^3*$  0.0 0.0 0.0 (1.0)  
 $cmyn^3*$  1.0 1.0 1.0 (0.0)  
 $olv^4*$  1.0 1.0 1.0 0.0  
 $cmyn^4*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB  
 $LAB^*LAB$  18.02 0.09 0.02  
 $LAB^*LABa$  18.02 0.0 0.0  
 $LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*  
 $lab^*lab$  0.25 -0.498 -0.033  
 $lab^*tce$  0.25 0.5 0.511  
 $lab^*ncE$  0.5 0.5 g04b

relative Inform. Technology (IT)  
 $olv^3*$  0.0 0.0 0.0 (1.0)  
 $cmyn^3*$  1.0 1.0 1.0 (0.0)  
 $olv^4*$  1.0 1.0 1.0 0.0  
 $cmyn^4*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB  
 $LAB^*LAB$  18.02 0.09 0.02  
 $LAB^*LABa$  18.02 0.0 0.0  
 $LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*  
 $lab^*lab$  0.25 -0.498 -0.033  
 $lab^*tce$  0.25 0.5 0.511  
 $lab^*ncE$  0.5 0.5 g04b

relative Inform. Technology (IT)  
 $olv^3*$  0.0 0.0 0.0 (1.0)  
 $cmyn^3*$  1.0 1.0 1.0 (0.0)  
 $olv^4*$  1.0 1.0 1.0 0.0

## Input: Colorimetric Reflective System NRS18

for hue  $h^* = lab^*h = 167/360 = 0.464$

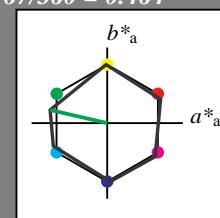
$lab^*tch$  and  $lab^*nch$

D65: hue G

LCH\*Ma: 57 77 167

olv\*Ma: 0.0 1.0 0.0

triangle lightness  $t^*$



### NRS18; adapted (a) CIELAB data

	$L^*=L_a^*$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	56.7	70.66	31.47	77.35	24
JMa	56.7	-1.39	77.37	77.39	91
GMa	56.7	-75.46	17.4	77.45	167
G50BMa	56.7	-71.29	-30.25	77.45	203
BMa	56.7	4.0	-77.3	77.41	273
B50RMa	56.7	63.35	-44.4	77.36	325
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	272

relative Inform. Technology (IT)  
 $olv_i3^*$  1.0 1.0 1.0 (1.0)  
 $cmy3^*$  0.0 0.0 0.0 (0.0)  
 $olv_i4^*$  1.0 1.0 1.0 1.0  
 $cmy4^*$  0.0 0.0 0.0 0.0

standard and adapted CIELAB  
 $LAB^*LAB$  95.41 0.0 0.0  
 $LAB^*LABa$  95.41 0.0 0.0  
 $LAB^*TCh$  99.99 0.01 -

relative CIELAB lab\*  
 $lab^*lab$  1.0 0.0 0.0  
 $lab^*tch$  1.0 0.0 -  
 $lab^*nch$  0.0 0.0 -  
relative Natural Colour (NC)  
 $lab^*lrij$  1.0 0.0 0.0  
 $lab^*tce$  1.0 0.0 0.0  
 $lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)  
 $olv_i3^*$  0.5 0.5 0.5 (1.0)  
 $cmy3^*$  0.5 0.5 0.5 (0.0)  
 $olv_i4^*$  1.0 1.0 1.0 0.5  
 $cmy4^*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB  
 $LAB^*LAB$  56.72 0.05 0.0  
 $LAB^*LABa$  56.72 0.0 0.0  
 $LAB^*TCh$  50.0 0.01 -

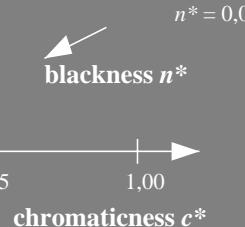
relative CIELAB lab\*  
 $lab^*lab$  0.5 0.0 0.0  
 $lab^*tch$  0.5 0.0 -  
 $lab^*nch$  0.5 0.0 -  
relative Natural Colour (NC)  
 $lab^*lrij$  0.5 0.0 0.0  
 $lab^*tce$  0.5 0.0 0.0  
 $lab^*ncE$  0.5 0.0 -

relative Inform. Technology (IT)  
 $olv_i3^*$  0.0 0.0 0.0 (1.0)  
 $cmy3^*$  1.0 1.0 1.0 (0.0)  
 $olv_i4^*$  1.0 1.0 1.0 0.0  
 $cmy4^*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB  
 $LAB^*LAB$  18.02 0.09 0.02  
 $LAB^*LABa$  18.02 0.0 0.0  
 $LAB^*TCh$  0.01 0.01 -

relative CIELAB lab\*  
 $lab^*lab$  0.0 0.0 0.0  
 $lab^*tch$  0.0 0.0 -  
 $lab^*nch$  1.0 0.0 -  
relative Natural Colour (NC)  
 $lab^*lrij$  0.0 0.0 0.0  
 $lab^*tce$  0.0 0.0 -  
 $lab^*ncE$  1.0 0.0 -

$n^* = 1,0$



## Output: Colorimetric Reflective System MRS18a

for hue  $h^* = lab^*h = 171/360 = 0.475$

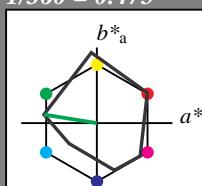
$lab^*tch$  and  $lab^*nch$

D65: hue G

LCH\*Ma: 52 71 171

olv\*Ma: 0.0 1.0 0.0

triangle lightness  $t^*$



### MRS18a; adapted (a) CIELAB data

	$L^*=L_a^*$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	49.63	66.8	40.02	77.87	31
JMa	90.7	-7.27	93.19	93.48	94
GMa	52.11	-69.93	11.26	70.85	171
G50BMa	45.03	-36.65	-27.13	45.61	217
BMa	36.65	23.26	-62.27	66.49	290
B50RMa	34.94	57.27	-43.6	71.99	323
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	272

relative Inform. Technology (IT)  
 $olv_i3^*$  1.0 1.0 1.0 (1.0)  
 $cmy3^*$  0.0 0.0 0.0 (0.0)  
 $olv_i4^*$  1.0 1.0 1.0 1.0  
 $cmy4^*$  0.0 0.0 0.0 0.0

standard and adapted CIELAB  
 $LAB^*LAB$  95.41 0.01 0.0  
 $LAB^*LABa$  95.41 0.0 0.0  
 $LAB^*TCh$  99.99 0.01 -

relative CIELAB lab\*  
 $lab^*lab$  1.0 0.0 0.0  
 $lab^*tch$  1.0 0.0 -  
 $lab^*nch$  0.0 0.0 -  
relative Natural Colour (NC)  
 $lab^*lrij$  1.0 0.0 0.0  
 $lab^*tce$  1.0 0.0 0.0  
 $lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)  
 $olv_i3^*$  0.5 0.5 0.5 (1.0)  
 $cmy3^*$  0.5 0.5 0.5 (0.0)  
 $olv_i4^*$  0.5 1.0 0.5 1.0  
 $cmy4^*$  0.5 0.0 0.5 0.0

standard and adapted CIELAB  
 $LAB^*LAB$  57.05 -37.69 8.7  
 $LAB^*LABa$  76.05 -37.72 8.7  
 $LAB^*TCh$  75.0 38.72 167.02

relative CIELAB lab\*  
 $lab^*lab$  0.75 -0.486 0.112  
 $lab^*tch$  0.75 0.5 0.464  
 $lab^*nch$  0.0 0.5 0.464

relative Natural Colour (NC)  
 $lab^*lrij$  0.75 -0.498 -0.033  
 $lab^*tce$  0.75 0.5 0.511  
 $lab^*ncE$  0.0 0.5 g04b

standard and adapted CIELAB  
 $LAB^*LAB$  56.7 -75.39 17.41  
 $LAB^*LABa$  56.7 -75.44 17.39  
 $LAB^*TCh$  50.0 77.43 167.02

relative CIELAB lab\*  
 $lab^*lab$  0.5 -0.973 0.225  
 $lab^*tch$  0.5 1.0 0.464  
 $lab^*nch$  0.0 1.0 0.464

relative Natural Colour (NC)  
 $lab^*lrij$  0.5 -0.996 -0.067  
 $lab^*tce$  0.5 1.0 0.511  
 $lab^*ncE$  0.0 1.0 g04b

standard and adapted CIELAB  
 $LAB^*LAB$  37.36 -37.64 8.72  
 $LAB^*LABa$  37.36 -37.72 8.7  
 $LAB^*TCh$  25.01 38.72 167.02

relative CIELAB lab\*  
 $lab^*lab$  0.25 -0.486 0.112  
 $lab^*tch$  0.25 0.5 0.464  
 $lab^*nch$  0.5 0.5 0.464

relative Natural Colour (NC)  
 $lab^*lrij$  0.25 -0.498 -0.033  
 $lab^*tce$  0.25 0.5 0.511  
 $lab^*ncE$  0.5 0.5 g04b

$n^* = 0,00$

relative Inform. Technology (IT)  
 $olv_i3^*$  0.0 0.0 0.0 (1.0)  
 $cmy3^*$  1.0 1.0 1.0 (0.0)  
 $olv_i4^*$  1.0 1.0 1.0 0.0  
 $cmy4^*$  0.0 0.0 0.0 1.0

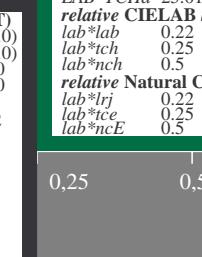
standard and adapted CIELAB  
 $LAB^*LAB$  18.02 0.09 0.02  
 $LAB^*LABa$  18.02 0.0 0.0  
 $LAB^*TCh$  0.01 0.01 -

relative CIELAB lab\*  
 $lab^*lab$  0.0 0.0 0.0  
 $lab^*tch$  0.0 0.0 -  
 $lab^*nch$  1.0 0.0 -  
relative Natural Colour (NC)  
 $lab^*lrij$  0.0 0.0 0.0  
 $lab^*tce$  0.0 0.0 -  
 $lab^*ncE$  1.0 0.0 -

relative CIELAB lab\*  
 $lab^*lab$  0.22 -0.493 0.079  
 $lab^*tch$  0.25 0.5 0.475  
 $lab^*nch$  0.5 0.5 0.475

relative Natural Colour (NC)  
 $lab^*lrij$  0.22 -0.495 -0.06  
 $lab^*tce$  0.25 0.5 0.52  
 $lab^*ncE$  0.5 0.5 g07b

$n^* = 1,0$



relative Inform. Technology (IT)  
 $olv_i3^*$  0.0 0.0 0.0 (1.0)  
 $cmy3^*$  1.0 1.0 1.0 (0.0)  
 $olv_i4^*$  1.0 1.0 1.0 0.0  
 $cmy4^*$  0.0 0.0 0.0 1.0

$n^* = 0,00$

	$L^*=L_a^*$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	49.63	66.8	40.02	77.87	31
JMa	90.7	-7.27	93.19	93.48	94
GMa	52.11	-69.93	11.26	70.85	171
G50BMa	45.03	-36.65	-27.13	45.61	217
BMa	36.65	23.26	-62.27	66.49	290
B50RMa	34.94	57.27	-43.6	71.99	323
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	272

relative Inform. Technology (IT)  
 $olv_i3^*$  1.0 1.0 1.0 (1.0)  
 $cmy3^*$  0.0 0.0 0.0 (0.0)  
 $olv_i4^*$  1.0 1.0 1.0 1.0  
 $cmy4^*$  0.0 0.0 0.0 0.0

standard and adapted CIELAB  
 $LAB^*LAB$  95.41 0.01 0.0  
 $LAB^*LABa$  95.41 0.0 0.0  
 $LAB^*TCh$  99.99 0.01 -

relative CIELAB lab\*  
 $lab^*lab$  1.0 0.0 0.0  
 $lab^*tch$  1.0 0.0 -  
 $lab^*nch$  0.0 0.0 -  
relative Natural Colour (NC)  
 $lab^*lrij$  1.0 0.0 0.0  
 $lab^*tce$  1.0 0.0 0.0  
 $lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)  
 $olv_i3^*$  0.5 0.5 0.5 (1.0)  
 $cmy3^*$  0.5 0.5 0.5 (0.0)  
 $olv_i4^*$  0.5 1.0 0.5 1.0  
 $cmy4^*$  0.5 0.0 0.5 0.0

standard and adapted CIELAB  
 $LAB^*LAB$  73.75 -34.92 5.64  
 $LAB^*LABa$  73.75 -34.96 5.63  
 $LAB^*TCh$  75.0 35.42 170.85

relative CIELAB lab\*  
 $lab^*lab$  0.72 -0.493 0.079  
 $lab^*tch$  0.75 0.5 0.475  
 $lab^*nch$  0.0 0.5 0.475

relative Natural Colour (NC)  
 $lab^*lrij$  0.72 -0.495 -0.06  
 $lab^*tce$  0.75 0.5 0.52  
 $lab^*ncE$  0.0 0.5 g07b

$n^* = 0,00$

	$L^*=L_a^*$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	49.63	66.8	40.02	77.87	31
JMa	90.7	-7.27	93.19	93.48	94
GMa	52.11	-69.93	11.26	70.85	171
G50BMa	45.03	-36.65	-27.13	45.61	217
BMa	36.65	23.26	-62.27	66.49	290
B50RMa	34.94	57.27	-43.6	71.99	323
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	272

relative Inform. Technology (IT)

$olv_i3^*$  0.0 1.0 0.0 (0.0)

$cmy3^*$  1.0 0.0 1.0 0.0

$olv_i4^*$  0.0 1.0 0.0 1.0

$cmy4^*$  0.0 0.0 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  52.11 -69.86 11.28

$LAB^*LABa$  52.11 -69.92 11.26

$LAB^*TCh$  50.0 70.83 170.85

relative CIELAB lab\*

<

## Input: Colorimetric Reflective System NRS18

for hue  $h^* = lab^*h = 167/360 = 0.464$

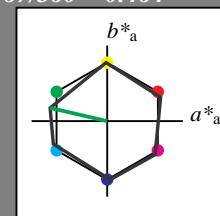
$lab^*tch$  and  $lab^*nch$

D65: hue G

LCH\*Ma: 57 77 167

olv\*Ma: 0.0 1.0 0.0

triangle lightness  $t^*$



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 0.0  
 $LAB^*LABa$  95.41 0.0 0.0  
 $LAB^*TCh$  99.99 0.01 -

relative CIELAB lab\*

$lab^*lab$  1.0 0.0 0.0  
 $lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0  
 $lab^*tce$  1.0 0.0 0.0  
 $lab^*ncE$  0.0 0.0 -

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 0.5  
 $cmyn4^*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  56.72 0.05 0.0  
 $LAB^*LABa$  56.72 0.0 0.0  
 $LAB^*TCh$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0  
 $lab^*tch$  0.5 0.0 -  
 $lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.5 0.0 0.0  
 $lab^*tce$  0.5 0.0 0.0  
 $lab^*ncE$  0.5 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

$LAB^*LAB$  18.02 0.09 0.02  
 $LAB^*LABa$  18.02 0.0 0.0  
 $LAB^*TCh$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0  
 $lab^*tch$  0.0 0.0 -  
 $lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0  
 $lab^*tce$  0.0 0.0 -  
 $lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

## NRS18; adapted (a) CIELAB data

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

RMa	56.7	70.66	31.47	77.35	24
JMa	56.7	-1.39	77.37	77.39	91
GMa	56.7	-75.46	17.4	77.45	167
G50BMa	56.7	-71.29	-30.25	77.45	203
BMa	56.7	4.0	-77.3	77.41	273
B50RMa	56.7	63.35	-44.4	77.36	325
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	272

%Gamut

$u^*_{rel} = 100$

%Regularity

$g^*_{H,rel} = 47$

$g^*_{C,rel} = 100$

relative Inform. Technology (IT)

$olvi3^*$  0.5 1.0 0.5 (1.0)

$cmyn3^*$  0.5 0.0 0.5 (0.0)

$olvi4^*$  0.5 1.0 0.5 1.0

$cmyn4^*$  0.5 0.0 0.5 0.0

standard and adapted CIELAB

$LAB^*LAB$  76.05 -37.69 8.7

$LAB^*LABa$  76.05 -37.72 8.7

$LAB^*TCh$  75.0 38.72 167.02

relative CIELAB lab\*

$lab^*lab$  0.75 -0.486 0.112

$lab^*tch$  0.75 0.5 0.464

$lab^*nch$  0.0 0.5 0.464

relative Natural Colour (NC)

$lab^*lrij$  0.75 -0.498 -0.033

$lab^*tce$  0.75 0.5 0.511

$lab^*ncE$  0.0 0.5 g04b

relative Inform. Technology (IT)

$olvi3^*$  0.0 1.0 0.0 (1.0)

$cmyn3^*$  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

$LAB^*LAB$  56.7 75.39 17.41

$LAB^*LABa$  56.7 -75.44 17.39

$LAB^*TCh$  50.0 77.43 167.02

relative CIELAB lab\*

$lab^*lab$  0.5 -0.973 0.225

$lab^*tch$  0.5 1.0 0.464

$lab^*nch$  0.0 1.0 0.464

relative Natural Colour (NC)

$lab^*lrij$  0.5 -0.996 -0.067

$lab^*tce$  0.5 1.0 0.511

$lab^*ncE$  0.0 1.0 g04b

relative Inform. Technology (IT)

$olvi3^*$  0.0 0.5 0.0 (1.0)

$cmyn3^*$  1.0 0.5 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

$LAB^*LAB$  18.02 0.09 0.02

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TCh$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.25 -0.486 0.112

$lab^*tch$  0.25 0.5 0.464

$lab^*nch$  0.5 0.5 0.464

relative Natural Colour (NC)

$lab^*lrij$  0.25 -0.498 -0.033

$lab^*tce$  0.25 0.5 0.511

$lab^*ncE$  0.5 0.5 g04b

$n^* = 0,00$

blackness  $n^*$

chromaticness  $c^*$

## Output: Colorimetric Reflective System NRS18

for hue  $h^* = lab^*h = 167/360 = 0.464$

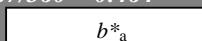
$lab^*tch$  and  $lab^*nch$

D65: hue G

LCH\*Ma: 57 77 167

olv\*Ma: 0.0 1.0 0.0

triangle lightness  $t^*$



%Gamut

$u^*_{rel} = 100$

%Regularity

$g^*_{H,rel} = 47$

$g^*_{C,rel} = 100$

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 0.0

$LAB^*LABa$  95.41 0.0 0.0

$LAB^*TCh$  99.99 0.01 -

relative CIELAB lab\*

$lab^*lab$  1.0 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)

$olvi3^*$  0.5 1.0 0.5 (1.0)

$cmyn3^*$  0.5 0.0 0.5 (0.0)

$olvi4^*$  0.5 1.0 0.5 1.0

$cmyn4^*$  0.5 0.0 0.5 0.0

standard and adapted CIELAB

$LAB^*LAB$  76.05 -37.69 8.7

$LAB^*LABa$  76.05 -37.72 8.7

$LAB^*TCh$  75.0 38.72 167.02

relative CIELAB lab\*

$lab^*lab$  0.75 -0.486 0.112

$lab^*tch$  0.75 0.5 0.464

$lab^*nch$  0.0 0.5 0.464

relative Natural Colour (NC)

$lab^*lrij$  0.75 -0.498 -0.033

$lab^*tce$  0.75 0.5 0.511

$lab^*ncE$  0.0 0.5 g04b

$n^* = 1,0$

3 step scales for constant CIELAB hue 167/360 = 0.464 (left)

3 step scales for constant CIELAB hue 167/360 = 0.464 (right)

## NRS18; adapted (a) CIELAB data

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

RMa	56.7	70.66	31.47	77.35	24
JMa	56.7	-1.39	77.37	77.39	91
GMa	56.7	-75.46	17.4	77.45	167
G50BMa	56.7	-71.29	-30.25	77.45	203
BMa	56.7	4.0	-77.3	77.41	273
B50RMa	56.7	63.35	-44.4	77.36	325
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	272

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

$LAB^*LAB$  76.05 -37.69 8.7

$LAB^*LABa$  76.05 -37.72 8.7

$LAB^*TCh$  75.0 38.72 167.02

relative CIELAB lab\*

$lab^*lab$  0.75 -0.486 0.112

$lab^*tch$  0.75 0.5 0.464

$lab^*nch$  0.0 0.5 0.464

relative Natural Colour (NC)

$lab^*lrij$  0.75 -0.498 -0.033

$lab^*tce$  0.75 0.5 0.511

$lab^*ncE$  0.0 0.5 g04b

$n^* = 0,00$

## Input: Colorimetric Reflective System NRS18

for hue  $h^* = lab^*h = 167/360 = 0.464$

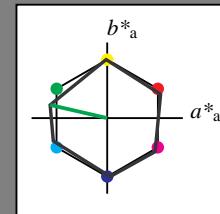
$lab^*tch$  and  $lab^*nch$

D65: hue G

LCH\*Ma: 57 77 167

olv\*Ma: 0.0 1.0 0.0

triangle lightness  $t^*$



## NRS18; adapted (a) CIELAB data

	$L^*=L_a^*$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	56.7	70.66	31.47	77.35	24
JMa	56.7	-1.39	77.37	77.39	91
GMa	56.7	-75.46	17.4	77.45	167
G50BMa	56.7	-71.29	-30.25	77.45	203
BMa	56.7	4.0	-77.3	77.41	273
B50RMa	56.7	63.35	-44.4	77.36	325
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	272

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 0.0  
 $LAB^*LABa$  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 -  
 $lab^*nch$  0.0 0.0 -  
relative Natural Colour (NC)  
 $lab^*lrij$  1.0 0.0 0.0  
 $lab^*tce$  1.0 0.0 0.0  
 $lab^*ncE$  0.0 0.0 -

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 0.5  
 $cmyn4^*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB  
 $LAB^*LAB$  56.72 0.05 0.0  
 $LAB^*LABa$  56.72 0.0 0.0  
 $LAB^*TChA$  50.0 0.01 -

relative CIELAB lab\*  
 $lab^*lab$  0.5 0.0 0.0  
 $lab^*tch$  0.5 0.0 -  
 $lab^*nch$  0.5 0.0 -  
relative Natural Colour (NC)  
 $lab^*lrij$  0.5 0.0 0.0  
 $lab^*tce$  0.5 0.0 0.0  
 $lab^*ncE$  0.5 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  
 $LAB^*LAB$  18.02 0.09 0.02  
 $LAB^*LABa$  18.02 0.0 0.0  
 $LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*  
 $lab^*lab$  0.0 0.0 0.0  
 $lab^*tch$  0.0 0.0 -  
 $lab^*nch$  1.0 0.0 -  
relative Natural Colour (NC)  
 $lab^*lrij$  0.0 0.0 0.0  
 $lab^*tce$  0.0 0.0 -  
 $lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

relative Inform. Technology (IT)

$olvi3^*$

0.5

1.0

0.5

(1.0)

$cmyn3^*$

0.5

0.5

(0.0)

$olvi4^*$

1.0

1.0

1.0

0.5

$cmyn4^*$

0.0

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## Input: Colorimetric Reflective System NRS18

for hue  $h^* = lab^*h = 167/360 = 0.464$

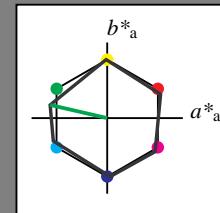
$lab^*tch$  and  $lab^*nch$

D65: hue G

LCH\*Ma: 57 77 167

olv\*Ma: 0.0 1.0 0.0

triangle lightness  $t^*$



### NRS18; adapted (a) CIELAB data

	$L^* = L^*_{ab,a}$	$a^*_{ab,a}$	$b^*_{ab,a}$	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	56.7	70.66	31.47	77.35	24
JMa	56.7	-1.39	77.37	77.39	91
GMa	56.7	-75.46	17.4	77.45	167
G50BMa	56.7	-71.29	-30.25	77.45	203
BMa	56.7	4.0	-77.3	77.41	273
B50RMa	56.7	63.35	-44.4	77.36	325
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	272

relative Inform. Technology (IT)  
 $olv_i3^*$  1.0 1.0 1.0 (1.0)  
 $cmy_n3^*$  0.0 0.0 0.0 (0.0)  
 $olv_i4^*$  1.0 1.0 1.0 1.0  
 $cmy_n4^*$  0.0 0.0 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  95.41 0.0 0.0  
 $LAB^*LABa$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0  
 $lab^*tce$  1.0 0.0 0.0  
 $lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)  
 $olv_i3^*$  0.5 0.5 0.5 (1.0)  
 $cmy_n3^*$  0.5 0.5 0.5 (0.0)  
 $olv_i4^*$  1.0 1.0 1.0 0.5  
 $cmy_n4^*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  56.72 0.05 0.0  
 $LAB^*LABa$  56.72 0.0 0.0  
 $LAB^*TChA$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0  
 $lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.5 0.0 0.0  
 $lab^*tce$  0.5 0.0 0.0  
 $lab^*ncE$  0.5 0.0 -

relative Inform. Technology (IT)  
 $olv_i3^*$  0.0 0.0 0.0 (1.0)  
 $cmy_n3^*$  1.0 1.0 1.0 (0.0)  
 $olv_i4^*$  1.0 1.0 1.0 0.0  
 $cmy_n4^*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.09 0.02  
 $LAB^*LABa$  18.02 0.0 0.0  
 $LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0  
 $lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0  
 $lab^*tce$  0.0 0.0 -  
 $lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

%Gamut

$u^*_{rel} = 100$

%Regularity

$g^*_{H,rel} = 47$

$g^*_{C,rel} = 100$

relative Inform. Technology (IT)

$olv_i3^*$  0.5 1.0 0.5 (1.0)  
 $cmy_n3^*$  0.5 0.0 0.5 (0.0)  
 $olv_i4^*$  0.5 1.0 0.5 1.0  
 $cmy_n4^*$  0.5 0.0 0.5 0.0

standard and adapted CIELAB

$LAB^*LAB$  76.05 -37.69 8.7  
 $LAB^*LABa$  76.05 -37.72 8.7  
 $LAB^*TChA$  75.0 38.72 167.02

relative CIELAB lab\*

$lab^*lab$  0.75 -0.486 0.112  
 $lab^*tch$  0.75 0.5 0.464  
 $lab^*nch$  0.0 0.5 0.464

relative Natural Colour (NC)

$lab^*lrij$  0.75 -0.498 -0.033  
 $lab^*tce$  0.75 0.5 0.511  
 $lab^*ncE$  0.0 0.5 g04b

relative Inform. Technology (IT)

$olv_i3^*$  0.0 1.0 0.0 (1.0)  
 $cmy_n3^*$  0.5 0.5 0.5 (0.0)  
 $olv_i4^*$  1.0 1.0 1.0 0.5  
 $cmy_n4^*$  1.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  56.7 -75.39 17.41  
 $LAB^*LABa$  56.7 -75.44 17.39  
 $LAB^*TChA$  50.0 77.43 167.02

relative CIELAB lab\*

$lab^*lab$  0.5 -0.973 0.225  
 $lab^*tch$  0.5 1.0 0.464  
 $lab^*nch$  0.0 1.0 0.464

relative Natural Colour (NC)

$lab^*lrij$  0.5 -0.996 -0.067  
 $lab^*tce$  0.5 1.0 0.511  
 $lab^*ncE$  0.0 1.0 g04b

relative Inform. Technology (IT)

$olv_i3^*$  0.0 0.0 0.0 (1.0)  
 $cmy_n3^*$  1.0 1.0 1.0 (0.0)  
 $olv_i4^*$  1.0 1.0 1.0 0.0  
 $cmy_n4^*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  37.36 -37.64 8.72  
 $LAB^*LABa$  37.36 -37.72 8.7  
 $LAB^*TChA$  25.01 38.72 167.02

relative CIELAB lab\*

$lab^*lab$  0.25 -0.486 0.112  
 $lab^*tch$  0.25 0.5 0.464  
 $lab^*nch$  0.5 0.5 0.464

relative Natural Colour (NC)

$lab^*lrij$  0.25 -0.498 -0.033  
 $lab^*tce$  0.25 0.5 0.511  
 $lab^*ncE$  0.5 0.5 g04b

$n^* = 0,00$

$n^* = 0,00$

blackness  $n^*$

chromaticness  $c^*$

## Output: Colorimetric Reflective System NRS11

for hue  $h^* = lab^*h = 167/360 = 0.464$

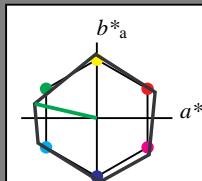
$lab^*tch$  and  $lab^*nch$

D65: hue G

LCH\*Ma: 53 84 167

olv\*Ma: 0.0 1.0 0.0

triangle lightness  $t^*$



### NRS11; adapted (a) CIELAB data

	$L^* = L^*_{ab,a}$	$a^*_{ab,a}$	$b^*_{ab,a}$	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	53.2	77.06	34.32	84.36	24
JMa	53.2	-1.51	84.38	84.39	91
GMa	53.2	-82.27	18.98	84.44	167
G50BMa	53.2	-77.72	-32.98	84.44	203
BMa	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)

$olv_i3^*$  0.5 1.0 0.5 (1.0)  
 $cmy_n3^*$  0.5 0.0 0.5 (0.0)  
 $olv_i4^*$  0.5 1.0 0.5 1.0  
 $cmy_n4^*$  0.5 0.0 0.5 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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0  
 $lab^*tce$  1.0 0.0 0.0  
 $lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)

$olv_i3^*$  0.5 0.5 0.5 (1.0)  
 $cmy_n3^*$  0.5 0.5 0.5 (0.0)  
 $olv_i4^*$  1.0 1.0 1.0 0.5  
 $cmy_n4^*$  0.5 0.0 0.5 0.5

standard and adapted CIELAB

$LAB^*LAB$  74.3 -41.1 9.49  
 $LAB^*LABa$  74.3 -41.12 9.49  
 $LAB^*TChA$  75.0 42.21 167.01

relative CIELAB lab\*

$lab^*lab$  0.75 -0.486 0.112  
 $lab^*tch$  0.75 0.5 0.464  
 $lab^*nch$  0.0 0.5 0.464

relative Natural Colour (NC)

$lab^*lrij$  0.75 -0.498 -0.033  
 $lab^*tce$  0.75 0.5 0.511  
 $lab^*ncE$  0.0 0.5 g04b

relative Inform. Technology (IT)

$olv_i3^*$  0.0 0.0 0.0 (1.0)  
 $cmy_n3^*$  1.0 1.0 1.0 (0.0)  
 $olv_i4^*$  1.0 1.0 1.0 0.0  
 $cmy_n4^*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  32.1 -41.06 9.5  
 $LAB^*LABa$  32.1 -41.12 9.49  
 $LAB^*TChA$  25.01 42.21 167.01

relative CIELAB lab\*

$lab^*lab$  0.25 -0.486 0.112  
 $lab^*tch$  0.25 0.5 0.464  
 $lab^*nch$  0.5 0.5 0.464

relative Natural Colour (NC)

$lab^*lrij$  0.25 -0.498 -0.033  
 $lab^*tce$  0.25 0.5 0.511  
 $lab^*ncE$  0.5 0.5 g04b

$n^* = 1,0$

3 step scales for constant CIELAB hue 167/360 = 0.464 (right)

$n^* = 0,00$

blackness  $n^*$

chromaticness  $c^*$

UE100-7, 3 step scales for constant CIELAB hue 167/360 = 0.464 (left)

## Input: Colorimetric Reflective System NRS18

for hue  $h^* = lab^*h = 167/360 = 0.464$

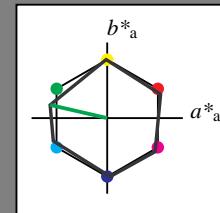
$lab^*tch$  and  $lab^*nch$

D65: hue G

LCH\*Ma: 57 77 167

olv\*Ma: 0.0 1.0 0.0

triangle lightness  $t^*$



## NRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	56.7	70.66	31.47	77.35	24
JMa	56.7	-1.39	77.37	77.39	91
GMa	56.7	-75.46	17.4	77.45	167
G50BMa	56.7	-71.29	-30.25	77.45	203
BMa	56.7	4.0	-77.3	77.41	273
B50RMa	56.7	63.35	-44.4	77.36	325
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	272

relative Inform. Technology (IT)  
 $olvi3^*$  1.0 1.0 1.0 (1.0)  
 $cmy3^*$  0.0 0.0 0.0 (0.0)  
 $olv4^*$  1.0 1.0 1.0 1.0  
 $cmy4^*$  0.0 0.0 0.0 0.0

standard and adapted CIELAB  
 $LAB^*LAB$  95.41 0.0 0.0  
 $LAB^*LABa$  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 -  
 $lab^*nch$  0.0 0.0 -  
relative Natural Colour (NC)  
 $lab^*lrij$  1.0 0.0 0.0  
 $lab^*fce$  1.0 0.0 0.0  
 $lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)  
 $olvi3^*$  0.5 0.5 0.5 (1.0)  
 $cmy3^*$  0.5 0.5 0.5 (0.0)  
 $olv4^*$  1.0 1.0 1.0 0.5  
 $cmy4^*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB  
 $LAB^*LAB$  56.72 0.05 0.0  
 $LAB^*LABa$  56.72 0.0 0.0  
 $LAB^*TChA$  50.0 0.01 -

relative CIELAB lab\*  
 $lab^*lab$  0.5 0.0 0.0  
 $lab^*tch$  0.5 0.0 -  
 $lab^*nch$  0.5 0.0 -  
relative Natural Colour (NC)  
 $lab^*lrij$  0.5 0.0 0.0  
 $lab^*fce$  0.5 0.0 0.0  
 $lab^*ncE$  0.5 0.0 -

relative Inform. Technology (IT)  
 $olvi3^*$  0.0 0.0 0.0 (1.0)  
 $cmy3^*$  1.0 1.0 1.0 (0.0)  
 $olv4^*$  1.0 1.0 1.0 0.0  
 $cmy4^*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB  
 $LAB^*LAB$  18.02 0.09 0.02  
 $LAB^*LABa$  18.02 0.0 0.0  
 $LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*  
 $lab^*lab$  0.0 0.0 0.0  
 $lab^*tch$  0.0 0.0 -  
 $lab^*nch$  1.0 0.0 -  
relative Natural Colour (NC)  
 $lab^*lrij$  0.0 0.0 0.0  
 $lab^*fce$  0.0 0.0 -  
 $lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

%Gamut  
 $u^*_{rel} = 100$   
%Regularity  
 $g^*_{H,rel} = 47$   
 $g^*_{C,rel} = 100$

relative Inform. Technology (IT)  
 $olvi3^*$  0.5 1.0 0.5 (1.0)  
 $cmy3^*$  0.5 0.0 0.5 (0.0)  
 $olv4^*$  0.5 1.0 0.5 1.0  
 $cmy4^*$  0.5 0.0 0.5 0.0

standard and adapted CIELAB  
 $LAB^*LAB$  76.05 -37.69 8.7  
 $LAB^*LABa$  76.05 -37.72 8.7  
 $LAB^*TChA$  75.0 38.72 167.02

relative CIELAB lab\*  
 $lab^*lab$  0.75 -0.486 0.112  
 $lab^*tch$  0.75 0.5 0.464  
 $lab^*nch$  0.0 0.5 0.464

relative Natural Colour (NC)  
 $lab^*lrij$  0.75 -0.498 -0.033  
 $lab^*fce$  0.75 0.2 0.511  
 $lab^*ncE$  0.0 0.5 g04b

standard and adapted CIELAB  
 $LAB^*LAB$  56.72 0.05 0.0  
 $LAB^*LABa$  56.72 0.0 0.0  
 $LAB^*TChA$  50.0 0.01 -

relative CIELAB lab\*  
 $lab^*lab$  0.75 -0.498 -0.033  
 $lab^*tch$  0.75 0.2 0.511  
 $lab^*nch$  0.0 0.5 g04b

relative Inform. Technology (IT)  
 $olvi3^*$  0.0 1.0 0.0 (1.0)  
 $cmy3^*$  1.0 0.0 1.0 (0.0)  
 $olv4^*$  0.0 1.0 0.0 1.0  
 $cmy4^*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB  
 $LAB^*LAB$  56.7 75.39 17.41  
 $LAB^*LABa$  56.7 -75.44 17.39  
 $LAB^*TChA$  50.0 77.43 167.02

relative CIELAB lab\*  
 $lab^*lab$  0.5 -0.973 0.225  
 $lab^*tch$  0.5 1.0 0.464  
 $lab^*nch$  0.0 1.0 0.464

relative Natural Colour (NC)  
 $lab^*lrij$  0.5 -0.996 -0.067  
 $lab^*fce$  0.5 1.0 0.511  
 $lab^*ncE$  0.0 1.0 g04b

standard and adapted CIELAB  
 $LAB^*LAB$  37.36 -37.64 8.72  
 $LAB^*LABa$  37.36 -37.72 8.7  
 $LAB^*TChA$  25.01 38.72 167.02

relative CIELAB lab\*  
 $lab^*lab$  0.25 -0.486 0.112  
 $lab^*tch$  0.25 0.5 0.464  
 $lab^*nch$  0.5 0.5 0.464

relative Natural Colour (NC)  
 $lab^*lrij$  0.25 -0.498 -0.033  
 $lab^*fce$  0.25 0.5 0.511  
 $lab^*ncE$  0.5 0.5 g04b

relative Inform. Technology (IT)  
 $olvi3^*$  0.0 0.0 0.0 (1.0)  
 $cmy3^*$  1.0 1.0 1.0 (0.0)  
 $olv4^*$  1.0 1.0 1.0 0.0  
 $cmy4^*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB  
 $LAB^*LAB$  18.02 0.09 0.02  
 $LAB^*LABa$  18.02 0.0 0.0  
 $LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*  
 $lab^*lab$  0.0 0.0 0.0  
 $lab^*tch$  0.0 0.0 -  
 $lab^*nch$  1.0 0.0 -  
relative Natural Colour (NC)  
 $lab^*lrij$  0.0 0.0 0.0  
 $lab^*fce$  0.0 0.0 -  
 $lab^*ncE$  1.0 0.0 -

$n^* = 0,00$   
blackness  $n^*$   
chromaticness  $c^*$

## Output: Colorimetric Reflective System NCS11

for hue  $h^* = lab^*h = 167/360 = 0.465$

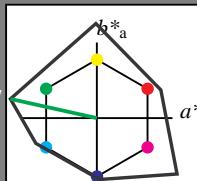
$lab^*tch$  and  $lab^*nch$

D65: hue G

LCH\*Ma: 63 117 167

olv\*Ma: 0.0 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

relative Inform. Technology (IT)  
 $olvi3^*$  1.0 1.0 1.0 (1.0)  
 $cmy3^*$  0.0 0.0 0.0 (0.0)  
 $olv4^*$  1.0 1.0 1.0 1.0  
 $cmy4^*$  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 -  
 $lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0  
 $lab^*fce$  1.0 0.0 0.0  
 $lab^*ncE$  0.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  79.24 -57.12 12.67  
 $LAB^*LABa$  79.24 -57.12 12.67  
 $LAB^*TChA$  75.0 58.52 167.5

relative CIELAB lab\*

$lab^*lab$  0.808 -0.487 0.108  
 $lab^*tch$  0.75 0.5 0.465  
 $lab^*nch$  0.0 0.5 0.465

relative Natural Colour (NC)

$lab^*lrij$  0.808 -0.497 -0.037  
 $lab^*fce$  0.75 0.5 0.512  
 $lab^*ncE$  0.0 0.5 g04b

relative Inform. Technology (IT)  
 $olvi3^*$  0.5 1.0 0.5 (1.0)  
 $cmy3^*$  0.5 0.5 0.5 (0.0)  
 $olv4^*$  0.5 1.0 0.5 0.5  
 $cmy4^*$  0.5 0.0 0.5 0.5

standard and adapted CIELAB

$LAB^*LAB$  53.21 0.04 0.0  
 $LAB^*LABa$  53.21 0.0 0.0  
 $LAB^*TChA$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0  
 $lab^*tch$  0.5 0.0 -  
 $lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.5 0.0 0.0  
 $lab^*fce$  0.5 0.0 0.0  
 $lab^*ncE$  0.5 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  37.04 -57.12 12.69  
 $LAB^*LABa$  37.04 -57.12 12.67  
 $LAB^*TChA$  25.01 58.52 167.5

relative CIELAB lab\*

$lab^*lab$  0.309 -0.487 0.108  
 $lab^*tch$  0.25 0.5 0.465  
 $lab^*nch$  0.5 0.5 0.465

relative Natural Colour (NC)

$lab^*lrij$  0.309 -0.497 -0.037  
 $lab^*fce$  0.25 0.5 0.512  
 $lab^*ncE$  0.5 0.5 g04b

$n^* = 1,0$

$n^* = 0,00$   
blackness  $n^*$   
chromaticness  $c^*$

UE100-7, 3 step scales for constant CIELAB hue 167/360 = 0.464 (left)

3 step scales for constant CIELAB hue 167/360 = 0.465 (right)

### Input: Colorimetric Reflective System NCS18

for hue  $h^* = lab^*h = 167/360 = 0.465$

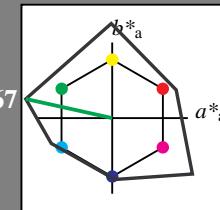
$lab^*tch$  and  $lab^*nch$

D65: hue G

LCH\*Ma: 63 117 167

olv\*Ma: 0.0 1.0 0.0

triangle lightness  $t^*$



%Gamut

$u^*_{rel} = 136$

%Regularity

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

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

relative Inform. Technology (IT)

$olv^3*$  1.0 1.0 1.0 (1.0)

$cmy^3*$  0.0 0.0 0.0 (0.0)

$olv^4*$  1.0 1.0 1.0 1.0

$cmy^4*$  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

$LAB^*TCh$  99.99 0.01 -

relative CIELAB lab\*

$lab^*lab$  1.0 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*ice$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)

$olv^3*$  0.5 0.5 0.5 (1.0)

$cmy^3*$  0.5 0.5 0.5 (0.0)

$olv^4*$  1.0 1.0 1.0 0.5

$cmy^4*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  56.72 0.05 0.0

$LAB^*LABa$  56.72 0.0 0.0

$LAB^*TCh$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.5 0.0 0.0

$lab^*ice$  0.5 0.0 0.0

$lab^*ncE$  0.5 0.0 -

relative Inform. Technology (IT)

$olv^3*$  0.0 0.0 0.0 (1.0)

$cmy^3*$  1.0 1.0 1.0 (0.0)

$olv^4*$  1.0 1.0 1.0 0.0

$cmy^4*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.09 0.02

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TCh$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*ice$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

### NCS18; adapted (a) CIELAB data

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

RMa	47.15	84.63	37.24	92.46	24
JMa	91.37	-1.27	125.03	125.03	91
GMa	63.07	-114.29	25.34	117.07	167
G50BMa	59.47	-80.61	-33.45	87.29	203
BMa	49.01	3.63	-81.2	81.29	273
B50RMa	44.06	106.07	-73.94	129.31	325
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	272

### Output: Colorimetric Reflective System ORS18

for hue  $h^* = lab^*h = 151/360 = 0.419$

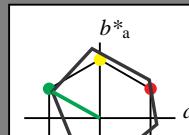
$lab^*tch$  and  $lab^*nch$

D65: hue L

LCH\*Ma: 51 72 151

olv\*Ma: 0.0 1.0 0.0

triangle lightness  $t^*$



%Gamut

$u^*_{rel} = 93$

%Regularity

$g^*_{H,rel} = 57$

$g^*_{C,rel} = 59$

relative Inform. Technology (IT)

$olv^3*$  1.0 1.0 1.0 (1.0)

$cmy^3*$  0.0 0.0 0.0 (0.0)

$olv^4*$  1.0 1.0 1.0 1.0

$cmy^4*$  0.0 0.0 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  95.41 -0.97 4.75

$LAB^*LABa$  95.41 0.0 0.0

$LAB^*TCh$  99.99 0.01 -

relative CIELAB lab\*

$lab^*lab$  1.0 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*ice$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)

$olv^3*$  0.5 1.0 0.5 (1.0)

$cmy^3*$  0.5 0.0 0.5 (0.0)

$olv^4*$  0.5 1.0 0.5 1.0

$cmy^4*$  0.5 0.0 0.5 0.0

standard and adapted CIELAB

$LAB^*LAB$  73.15 -31.94 20.73

$LAB^*LABa$  73.15 -31.38 17.47

$LAB^*TCh$  75.0 35.93 150.91

relative CIELAB lab\*

$lab^*lab$  0.712 -0.436 0.243

$lab^*tch$  0.75 0.5 0.419

$lab^*nch$  0.0 0.5 0.419

relative Natural Colour (NC)

$lab^*lrij$  0.712 -0.478 0.144

$lab^*ice$  0.75 0.5 0.453

$lab^*ncE$  0.0 0.5 0.419

$n^* = 0,00$

blackness  $n^*$

$n^* = 1,0$

3 step scales for constant CIELAB hue 151/360 = 0.419 (right)

### ORS18; adapted (a) CIELAB data

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

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)

$olv^3*$  0.5 1.0 0.5 (1.0)

$cmy^3*$  0.5 0.0 0.5 (0.0)

$olv^4*$  0.5 1.0 0.5 1.0

$cmy^4*$  0.5 0.0 0.5 0.0

standard and adapted CIELAB

$LAB^*LAB$  73.15 -31.94 20.73

$LAB^*LABa$  73.15 -31.38 17.47

$LAB^*TCh$  75.0 35.93 150.91

relative CIELAB lab\*

$lab^*lab$  0.425 -0.873 0.486

$lab^*tch$  0.5 1.0 0.419

$lab^*nch$  0.0 1.0 0.419

relative Natural Colour (NC)

$lab^*lrij$  0.425 -0.956 0.289

$lab^*ice$  0.5 1.0 0.453

$lab^*ncE$  0.0 1.0 0.419

$n^* = 0,00$

blackness  $n^*$

$n^* = 1,0$

chromaticness  $c^*$

UE100-7, 3 step scales for constant CIELAB hue 167/360 = 0.465 (left)

## Input: Colorimetric Reflective System NCS18

for hue  $h^* = lab^*h = 167/360 = 0.465$

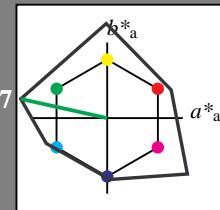
$lab^*tch$  and  $lab^*nch$

D65: hue G

LCH\*Ma: 63 117 167

olv\*Ma: 0.0 1.0 0.0

triangle lightness  $t^*$



%Gamut

$u^*_{rel} = 136$

%Regularity

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

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

relative Inform. Technology (IT)

$olv^3*$  1.0 1.0 1.0 (1.0)

$cmy^3*$  0.0 0.0 0.0 (0.0)

$olv^4*$  1.0 1.0 1.0 1.0

$cmy^4*$  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

$LAB^*TCh$  99.99 0.01 -

relative CIELAB lab\*

$lab^*lab$  1.0 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)

$olv^3*$  0.5 0.5 0.5 (1.0)

$cmy^3*$  0.5 0.5 0.5 (0.0)

$olv^4*$  1.0 1.0 1.0 0.5

$cmy^4*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  56.72 0.05 0.0

$LAB^*LABa$  56.72 0.0 0.0

$LAB^*TCh$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.5 0.0 0.0

$lab^*tce$  0.5 0.0 0.0

$lab^*ncE$  0.5 0.0 -

relative Inform. Technology (IT)

$olv^3*$  0.0 0.0 0.0 (1.0)

$cmy^3*$  1.0 1.0 1.0 (0.0)

$olv^4*$  1.0 1.0 1.0 0.0

$cmy^4*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.09 0.02

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TCh$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*tce$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

## NCS18; adapted (a) CIELAB data

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

RMa	47.15	84.63	37.24	92.46	24
JMa	91.37	-1.27	125.03	125.03	91
GMa	63.07	-114.29	25.34	117.07	167
G50BMa	59.47	-80.61	-33.45	87.29	203
BMa	49.01	3.63	-81.2	81.29	273
B50RMa	44.06	106.07	-73.94	129.31	325
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	272

## Output: Colorimetric Reflective System MRS18

for hue  $h^* = lab^*h = 172/360 = 0.479$

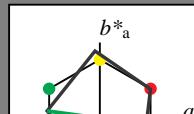
$lab^*tch$  and  $lab^*nch$

D65: hue G

LCH\*Ma: 52 70 172

olv\*Ma: 0.0 1.0 0.0

triangle lightness  $t^*$



%Gamut

$u^*_{rel} = 91$

%Regularity

$g^*_{H,rel} = 41$

$g^*_{C,rel} = 52$

relative Inform. Technology (IT)

$olv^3*$  1.0 1.0 1.0 (1.0)

$cmy^3*$  0.0 0.0 0.0 (0.0)

$olv^4*$  1.0 1.0 1.0 1.0

$cmy^4*$  0.0 0.0 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  95.41 -0.97 4.75

$LAB^*LABa$  95.41 0.0 0.0

$LAB^*TCh$  99.99 0.01 -

relative CIELAB lab\*

$lab^*lab$  1.0 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)

$olv^3*$  0.5 1.0 0.5 (1.0)

$cmy^3*$  0.5 0.0 0.5 (0.0)

$olv^4*$  0.5 1.0 0.5 1.0

$cmy^4*$  0.5 0.0 0.5 0.0

standard and adapted CIELAB

$LAB^*LAB$  73.75 -35.42 8.02

$LAB^*LABa$  73.75 -34.85 4.72

$LAB^*TCh$  75.0 35.18 172.29

relative CIELAB lab\*

$lab^*lab$  0.72 -0.494 0.067

$lab^*tch$  0.75 0.5 0.479

$lab^*nch$  0.0 0.5 0.479

relative Natural Colour (NC)

$lab^*lrij$  0.72 -0.496 -0.056

$lab^*tce$  0.75 0.5 0.518

$lab^*ncE$  0.0 0.5 g07b

relative Inform. Technology (IT)

$olv^3*$  0.0 1.0 0.0 (1.0)

$cmy^3*$  1.0 0.5 1.0 (0.0)

$olv^4*$  0.5 1.0 0.5 0.5

$cmy^4*$  0.5 0.0 0.5 0.5

standard and adapted CIELAB

$LAB^*LAB$  52.11 -69.86 11.28

$LAB^*LABa$  52.11 -69.71 9.44

$LAB^*TCh$  50.0 70.36 172.29

relative CIELAB lab\*

$lab^*lab$  0.441 -0.99 0.134

$lab^*tch$  0.5 1.0 0.479

$lab^*nch$  0.0 1.0 0.479

relative Natural Colour (NC)

$lab^*lrij$  0.441 -0.992 -0.114

$lab^*tce$  0.5 1.0 0.518

$lab^*ncE$  0.0 1.0 g07b

$n^* = 1,0$

blackness  $n^*$

$n^* = 0,00$

$blackness n^*$

$chromaticness c^*$

0,25 0,50 0,75 1,00

$n^* = 1,0$

blackness  $n^*$

$chromaticness c^*$

0,25 0,50 0,75 1,00

UE100-7, 3 step scales for constant CIELAB hue 167/360 = 0.465 (left)

3 step scales for constant CIELAB hue 172/360 = 0.479 (right)

$n^* = 0,00$

$blackness n^*$

$chromaticness c^*$

0,25 0,50 0,75 1,00

## Input: Colorimetric Reflective System NCS18

for hue  $h^* = lab^*h = 167/360 = 0.465$

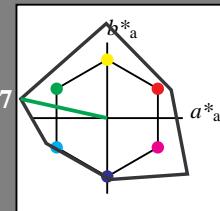
$lab^*tch$  and  $lab^*nch$

D65: hue G

LCH\*Ma: 63 117 167

olv\*Ma: 0.0 1.0 0.0

triangle lightness  $t^*$



%Gamut

$u^*_{rel} = 136$

%Regularity

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

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

relative Inform. Technology (IT)

$olv^3*$  1.0 1.0 1.0 (1.0)

$cmy^3*$  0.0 0.0 0.0 (0.0)

$olv^4*$  1.0 1.0 1.0 1.0

$cmy^4*$  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

$LAB^*TCh$  99.99 0.01 -

relative CIELAB lab\*

$lab^*lab$  1.0 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*ice$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)

$olv^3*$  0.5 0.5 0.5 (1.0)

$cmy^3*$  0.5 0.5 0.5 (0.0)

$olv^4*$  1.0 1.0 1.0 0.5

$cmy^4*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  56.72 0.05 0.0

$LAB^*LABa$  56.72 0.0 0.0

$LAB^*TCh$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.5 0.0 0.0

$lab^*ice$  0.5 0.0 0.0

$lab^*ncE$  0.5 0.0 -

relative Inform. Technology (IT)

$olv^3*$  0.0 0.0 0.0 (1.0)

$cmy^3*$  1.0 1.0 1.0 (0.0)

$olv^4*$  1.0 1.0 1.0 0.0

$cmy^4*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.09 0.02

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TCh$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*ice$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

## NCS18; adapted (a) CIELAB data

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

RMa	47.15	84.63	37.24	92.46	24
JMa	91.37	-1.27	125.03	125.03	91
GMa	63.07	-114.29	25.34	117.07	167
G50BMa	59.47	-80.61	-33.45	87.29	203
BMa	49.01	3.63	-81.2	81.29	273
B50RMa	44.06	106.07	-73.94	129.31	325
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	272

## Output: Colorimetric Reflective System TRS18

for hue  $h^* = lab^*h = 151/360 = 0.419$

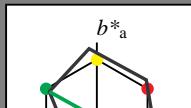
$lab^*tch$  and  $lab^*nch$

D65: hue L

LCH\*Ma: 51 72 151

olv\*Ma: 0.0 1.0 0.0

triangle lightness  $t^*$



%Gamut

$u^*_{rel} = 93$

%Regularity

$g^*_{H,rel} = 57$

$g^*_{C,rel} = 59$

relative Inform. Technology (IT)

$olv^3*$  1.0 1.0 1.0 (1.0)

$cmy^3*$  0.0 0.0 0.0 (0.0)

$olv^4*$  1.0 1.0 1.0 1.0

$cmy^4*$  0.0 0.0 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  95.41 -0.97 4.75

$LAB^*LABa$  95.41 0.0 0.0

$LAB^*TCh$  99.99 0.01 -

relative CIELAB lab\*

$lab^*lab$  1.0 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*ice$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)

$olv^3*$  0.5 1.0 0.5 (1.0)

$cmy^3*$  0.5 0.5 0.5 (0.0)

$olv^4*$  0.5 1.0 0.5 1.0

$cmy^4*$  0.5 0.0 0.5 0.0

standard and adapted CIELAB

$LAB^*LAB$  73.15 -31.94 20.73

$LAB^*LABa$  73.15 -31.38 17.47

$LAB^*TCh$  75.0 35.93 150.91

relative CIELAB lab\*

$lab^*lab$  0.712 -0.436 0.243

$lab^*tch$  0.75 0.5 0.419

$lab^*nch$  0.0 0.5 0.419

relative Natural Colour (NC)

$lab^*lrij$  0.712 -0.478 0.144

$lab^*ice$  0.75 0.5 0.453

$lab^*ncE$  0.0 0.5 0.419

$n^* = 0,00$

blackness  $n^*$

$chromaticness c^*$

$n^* = 1,0$

blackness  $n^*$

$chromaticness c^*$

UE100-7, 3 step scales for constant CIELAB hue 167/360 = 0.465 (left)

3 step scales for constant CIELAB hue 151/360 = 0.419 (right)

### Input: Colorimetric Reflective System NCS18

for hue  $h^* = lab^*h = 167/360 = 0.465$

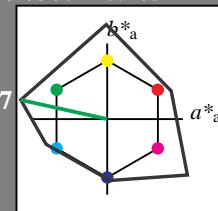
$lab^*tch$  and  $lab^*nch$

D65: hue G

LCH\*Ma: 63 117 167

olv\*Ma: 0.0 1.0 0.0

triangle lightness  $t^*$



%Gamut

$u^*_{rel} = 136$

%Regularity

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

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

relative Inform. Technology (IT)  
 $olv^3* 1.0 \quad 1.0 \quad 1.0 \quad (1.0)$   
 $cmy^3* 0.0 \quad 0.0 \quad 0.0 \quad (0.0)$   
 $olv^4* 1.0 \quad 1.0 \quad 1.0 \quad 1.0$   
 $cmy^4* 0.0 \quad 0.0 \quad 0.0 \quad 0.0$

standard and adapted CIELAB  
 $LAB^*LAB \quad 95.41 \quad 0.0 \quad -0.01$   
 $LAB^*LABa \quad 95.41 \quad 0.0 \quad 0.0$   
 $LAB^*TCh \quad 99.99 \quad 0.01 \quad -$

relative CIELAB lab\*  
 $lab^*lab \quad 1.0 \quad 0.0 \quad 0.0$   
 $lab^*tch \quad 1.0 \quad 0.0 \quad -$   
 $lab^*nch \quad 0.0 \quad 0.0 \quad -$

relative Natural Colour (NC)  
 $lab^*lrij \quad 1.0 \quad 0.0 \quad 0.0$   
 $lab^*ice \quad 1.0 \quad 0.0 \quad -$   
 $lab^*ncE \quad 0.0 \quad 0.0 \quad -$

relative Inform. Technology (IT)  
 $olv^3* 0.5 \quad 0.5 \quad 0.5 \quad (1.0)$   
 $cmy^3* 0.5 \quad 0.5 \quad 0.5 \quad (0.0)$   
 $olv^4* 1.0 \quad 1.0 \quad 1.0 \quad 0.5$   
 $cmy^4* 0.0 \quad 0.0 \quad 0.0 \quad 0.5$

standard and adapted CIELAB  
 $LAB^*LAB \quad 56.72 \quad 0.05 \quad 0.0$   
 $LAB^*LABa \quad 56.72 \quad 0.0 \quad 0.0$   
 $LAB^*TCh \quad 50.0 \quad 0.01 \quad -$

relative CIELAB lab\*  
 $lab^*lab \quad 0.5 \quad 0.0 \quad 0.0$   
 $lab^*tch \quad 0.5 \quad 0.0 \quad -$   
 $lab^*nch \quad 0.5 \quad 0.0 \quad -$

relative Natural Colour (NC)  
 $lab^*lrij \quad 0.5 \quad 0.0 \quad 0.0$   
 $lab^*ice \quad 0.5 \quad 0.0 \quad -$   
 $lab^*ncE \quad 0.5 \quad 0.0 \quad -$

relative Inform. Technology (IT)  
 $olv^3* 0.0 \quad 0.0 \quad 0.0 \quad (1.0)$   
 $cmy^3* 1.0 \quad 1.0 \quad 1.0 \quad (0.0)$   
 $olv^4* 1.0 \quad 1.0 \quad 1.0 \quad 0.0$   
 $cmy^4* 0.0 \quad 0.0 \quad 0.0 \quad 1.0$

standard and adapted CIELAB  
 $LAB^*LAB \quad 18.02 \quad 0.09 \quad 0.02$   
 $LAB^*LABa \quad 18.02 \quad 0.0 \quad 0.0$   
 $LAB^*TCh \quad 0.01 \quad 0.01 \quad -$

relative CIELAB lab\*  
 $lab^*lab \quad 0.0 \quad 0.0 \quad 0.0$   
 $lab^*tch \quad 0.0 \quad 0.0 \quad -$   
 $lab^*nch \quad 1.0 \quad 0.0 \quad -$

relative Natural Colour (NC)  
 $lab^*lrij \quad 0.0 \quad 0.0 \quad 0.0$   
 $lab^*ice \quad 0.0 \quad 0.0 \quad -$   
 $lab^*ncE \quad 1.0 \quad 0.0 \quad -$

$n^* = 1,0$

### NCS18; adapted (a) CIELAB data

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

RMa	47.15	84.63	37.24	92.46	24
JMa	91.37	-1.27	125.03	125.03	91
GMa	63.07	-114.29	25.34	117.07	167
G50BMa	59.47	-80.61	-33.45	87.29	203
BMa	49.01	3.63	-81.2	81.29	273
B50RMa	44.06	106.07	-73.94	129.31	325
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	272

### Output: Colorimetric Reflective System MRS18a

for hue  $h^* = lab^*h = 171/360 = 0.475$

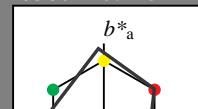
$lab^*tch$  and  $lab^*nch$

D65: hue G

LCH\*Ma: 52 71 171

olv\*Ma: 0.0 1.0 0.0

triangle lightness  $t^*$



%Gamut

$u^*_{rel} = 92$

%Regularity

$g^*_{H,rel} = 42$

$g^*_{C,rel} = 49$

relative Inform. Technology (IT)  
 $olv^3* 1.0 \quad 1.0 \quad 1.0 \quad (1.0)$   
 $cmy^3* 0.0 \quad 0.0 \quad 0.0 \quad (0.0)$   
 $olv^4* 1.0 \quad 1.0 \quad 1.0 \quad 1.0$   
 $cmy^4* 0.0 \quad 0.0 \quad 0.0 \quad 0.0$

standard and adapted CIELAB

$LAB^*LAB \quad 95.41 \quad 0.01 \quad 0.0$   
 $LAB^*LABa \quad 95.41 \quad 0.0 \quad 0.0$   
 $LAB^*TCh \quad 99.99 \quad 0.01 \quad -$

relative CIELAB lab\*  
 $lab^*lab \quad 1.0 \quad 0.0 \quad 0.0$   
 $lab^*tch \quad 1.0 \quad 0.0 \quad -$   
 $lab^*nch \quad 0.0 \quad 0.0 \quad -$

relative Natural Colour (NC)  
 $lab^*lrij \quad 1.0 \quad 0.0 \quad 0.0$   
 $lab^*ice \quad 1.0 \quad 0.0 \quad -$   
 $lab^*ncE \quad 0.0 \quad 0.0 \quad -$

relative Inform. Technology (IT)  
 $olv^3* 0.5 \quad 0.5 \quad 0.5 \quad (1.0)$   
 $cmy^3* 0.5 \quad 0.5 \quad 0.5 \quad (0.0)$   
 $olv^4* 0.5 \quad 1.0 \quad 1.0 \quad 1.0$   
 $cmy^4* 0.5 \quad 0.0 \quad 0.5 \quad 0.0$

standard and adapted CIELAB  
 $LAB^*LAB \quad 63.07 \quad -114.225.35$   
 $LAB^*LABa \quad 63.07 \quad -114.225.34$   
 $LAB^*TCh \quad 50.0 \quad 117.05 \quad 167.5$

relative CIELAB lab\*  
 $lab^*lab \quad 0.791 \quad -0.497 \quad -0.037$   
 $lab^*tch \quad 0.75 \quad 0.2 \quad 0.512$   
 $lab^*nch \quad 0.0 \quad 0.5 \quad g04b$

relative Inform. Technology (IT)  
 $olv^3* 0.0 \quad 1.0 \quad 0.0 \quad (1.0)$   
 $cmy^3* 1.0 \quad 0.0 \quad 1.0 \quad (0.0)$   
 $olv^4* 0.0 \quad 1.0 \quad 0.0 \quad 1.0$   
 $cmy^4* 1.0 \quad 0.0 \quad 1.0 \quad 0.0$

standard and adapted CIELAB  
 $LAB^*LAB \quad 63.07 \quad -114.225.35$   
 $LAB^*LABa \quad 63.07 \quad -114.225.34$   
 $LAB^*TCh \quad 50.0 \quad 117.05 \quad 167.5$

relative CIELAB lab\*  
 $lab^*lab \quad 0.582 \quad -0.975 \quad 0.216$   
 $lab^*tch \quad 0.5 \quad 1.0 \quad 0.465$   
 $lab^*nch \quad 0.0 \quad 1.0 \quad 0.465$

relative Natural Colour (NC)  
 $lab^*lrij \quad 0.582 \quad -0.996 \quad -0.074$   
 $lab^*ice \quad 0.5 \quad 1.0 \quad 0.512$   
 $lab^*ncE \quad 0.0 \quad 1.0 \quad g04b$

relative Inform. Technology (IT)  
 $olv^3* 0.0 \quad 0.0 \quad 0.0 \quad (1.0)$   
 $cmy^3* 1.0 \quad 1.0 \quad 1.0 \quad (0.0)$   
 $olv^4* 1.0 \quad 1.0 \quad 1.0 \quad 0.0$   
 $cmy^4* 0.0 \quad 0.0 \quad 0.0 \quad 1.0$

standard and adapted CIELAB  
 $LAB^*LAB \quad 18.02 \quad 0.09 \quad 0.02$   
 $LAB^*LABa \quad 18.02 \quad 0.0 \quad 0.0$   
 $LAB^*TCh \quad 0.01 \quad 0.01 \quad -$

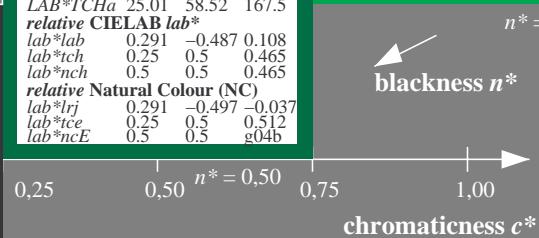
relative CIELAB lab\*  
 $lab^*lab \quad 0.0 \quad 0.0 \quad 0.0$   
 $lab^*tch \quad 0.0 \quad 0.0 \quad -$   
 $lab^*nch \quad 1.0 \quad 0.0 \quad -$

relative Natural Colour (NC)  
 $lab^*lrij \quad 0.0 \quad 0.0 \quad 0.0$   
 $lab^*ice \quad 0.0 \quad 0.0 \quad -$   
 $lab^*ncE \quad 1.0 \quad 0.0 \quad -$

$n^* = 1,0$

3 step scales for constant CIELAB hue 167/360 = 0.465 (left)

3 step scales for constant CIELAB hue 171/360 = 0.475 (right)



relative Inform. Technology (IT)  
 $olv^3* 0.0 \quad 0.0 \quad 0.0 \quad (1.0)$   
 $cmy^3* 1.0 \quad 1.0 \quad 1.0 \quad (0.0)$   
 $olv^4* 1.0 \quad 1.0 \quad 1.0 \quad 0.0$   
 $cmy^4* 0.0 \quad 0.0 \quad 0.0 \quad 1.0$

standard and adapted CIELAB  
 $LAB^*LAB \quad 18.02 \quad 0.1 \quad 0.02$   
 $LAB^*LABa \quad 18.02 \quad 0.0 \quad 0.0$   
 $LAB^*TCh \quad 0.01 \quad 0.01 \quad -$

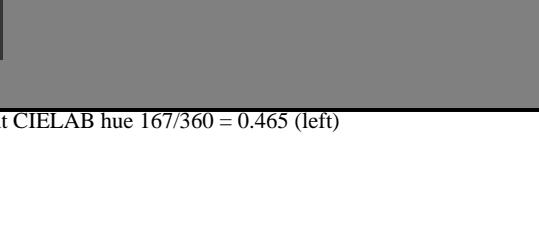
relative CIELAB lab\*  
 $lab^*lab \quad 0.0 \quad 0.0 \quad 0.0$   
 $lab^*tch \quad 0.0 \quad 0.0 \quad -$   
 $lab^*nch \quad 1.0 \quad 0.0 \quad -$

relative Natural Colour (NC)  
 $lab^*lrij \quad 0.0 \quad 0.0 \quad 0.0$   
 $lab^*ice \quad 0.0 \quad 0.0 \quad -$   
 $lab^*ncE \quad 1.0 \quad 0.0 \quad -$

$n^* = 1,0$

3 step scales for constant CIELAB hue 167/360 = 0.465 (left)

3 step scales for constant CIELAB hue 171/360 = 0.475 (right)



## Input: Colorimetric Reflective System NCS18

for hue  $h^* = lab^*h = 167/360 = 0.465$

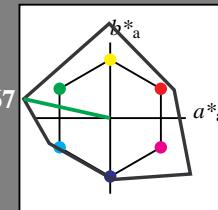
$lab^*tch$  and  $lab^*nch$

D65: hue G

LCH\*Ma: 63 117 167

olv\*Ma: 0.0 1.0 0.0

triangle lightness  $t^*$



%Gamut

$u^*_{rel} = 136$

%Regularity

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

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

relative Inform. Technology (IT)  
 $olv_i3^*$  1.0 1.0 1.0 (1.0)  
 $cmy_n3^*$  0.0 0.0 0.0 (0.0)  
 $olv_i4^*$  1.0 1.0 1.0 1.0  
 $cmy_n4^*$  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  
 $LAB^*TCh$  99.99 0.01 -

relative CIELAB lab\*

$lab^*lab$  1.0 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*ice$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)  
 $olv_i3^*$  0.5 0.5 0.5 (1.0)  
 $cmy_n3^*$  0.5 0.5 0.5 (0.0)  
 $olv_i4^*$  0.5 1.0 0.5 1.0  
 $cmy_n4^*$  0.5 0.0 0.5 0.0

standard and adapted CIELAB  
 $LAB^*LAB$  79.24 -57.1 12.67  
 $LAB^*LABa$  79.24 -57.13 12.67  
 $LAB^*TCh$  75.0 58.52 167.5

relative CIELAB lab\*

$lab^*lab$  0.791 -0.487 0.108

$lab^*tch$  0.75 0.5 0.465

$lab^*nch$  0.0 0.5 0.465

relative Natural Colour (NC)

$lab^*lrij$  0.791 -0.497 -0.037

$lab^*ice$  0.75 0.2 0.512

$lab^*ncE$  0.0 0.5 g04b

relative Inform. Technology (IT)  
 $olv_i3^*$  0.0 0.0 0.0 (1.0)  
 $cmy_n3^*$  1.0 1.0 1.0 (0.0)

$olv_i4^*$  1.0 1.0 1.0 0.0

$cmy_n4^*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.09 0.02

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TCh$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*ice$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

relative Inform. Technology (IT)  
 $olv_i3^*$  0.0 0.0 0.0 (1.0)

$cmy_n3^*$  1.0 1.0 1.0 (0.0)

$olv_i4^*$  1.0 1.0 1.0 0.0

$cmy_n4^*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.09 -0.037

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TCh$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.291 -0.487 0.108

$lab^*tch$  0.25 0.5 0.465

$lab^*nch$  0.5 0.5 0.465

relative Natural Colour (NC)

$lab^*lrij$  0.291 -0.497 -0.037

$lab^*ice$  0.25 0.5 0.512

$lab^*ncE$  0.5 0.5 g04b

relative Inform. Technology (IT)  
 $olv_i3^*$  0.0 0.0 0.0 (1.0)

$cmy_n3^*$  1.0 1.0 1.0 (0.0)

$olv_i4^*$  1.0 1.0 1.0 0.0

$cmy_n4^*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.09 0.02

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TCh$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.291 -0.487 0.108

$lab^*tch$  0.25 0.5 0.465

$lab^*nch$  0.5 0.5 0.465

relative Natural Colour (NC)

$lab^*lrij$  0.291 -0.497 -0.037

$lab^*ice$  0.25 0.5 0.512

$lab^*ncE$  0.5 0.5 g04b

relative Inform. Technology (IT)  
 $olv_i3^*$  0.0 0.0 0.0 (1.0)

$cmy_n3^*$  1.0 1.0 1.0 (0.0)

$olv_i4^*$  1.0 1.0 1.0 0.0

$cmy_n4^*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.09 0.02

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TCh$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.291 -0.487 0.108

$lab^*tch$  0.25 0.5 0.465

$lab^*nch$  0.5 0.5 0.465

relative Natural Colour (NC)

$lab^*lrij$  0.291 -0.497 -0.037

$lab^*ice$  0.25 0.5 0.512

$lab^*ncE$  0.5 0.5 g04b

relative Inform. Technology (IT)  
 $olv_i3^*$  0.0 0.0 0.0 (1.0)

$cmy_n3^*$  1.0 1.0 1.0 (0.0)

$olv_i4^*$  1.0 1.0 1.0 0.0

$cmy_n4^*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.09 0.02

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TCh$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.291 -0.487 0.108

$lab^*tch$  0.25 0.5 0.465

$lab^*nch$  0.5 0.5 0.465

relative Natural Colour (NC)

$lab^*lrij$  0.291 -0.497 -0.037

$lab^*ice$  0.25 0.5 0.512

$lab^*ncE$  0.5 0.5 g04b

relative Inform. Technology (IT)  
 $olv_i3^*$  0.0 0.0 0.0 (1.0)

$cmy_n3^*$  1.0 1.0 1.0 (0.0)

$olv_i4^*$  1.0 1.0 1.0 0.0

$cmy_n4^*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.09 0.02

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TCh$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.291 -0.487 0.108

$lab^*tch$  0.25 0.5 0.465

$lab^*nch$  0.5 0.5 0.465

relative Natural Colour (NC)

$lab^*lrij$  0.291 -0.497 -0.037

$lab^*ice$  0.25 0.5 0.512

$lab^*ncE$  0.5 0.5 g04b

relative Inform. Technology (IT)  
 $olv_i3^*$  0.0 0.0 0.0 (1.0)

$cmy_n3^*$  1.0 1.0 1.0 (0.0)

$olv_i4^*$  1.0 1.0 1.0 0.0

$cmy_n4^*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.09 0.02

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TCh$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.291 -0.487 0.108

$lab^*tch$  0.25 0.5 0.465

$lab^*nch$  0.5 0.5 0.465

relative Natural Colour (NC)

$lab^*lrij$  0.291 -0.497 -0.037

$lab^*ice$  0.25 0.5 0.512

$lab^*ncE$  0.5 0.5 g04b

relative Inform. Technology (IT)  
 $olv_i3^*$  0.0 0.0 0.0 (1.0)

$cmy_n3^*$  1.0 1.0 1.0 (0.0)

$olv_i4^*$  1.0 1.0 1.0 0.0

$cmy_n4^*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.09 0.02

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TCh$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.291 -0.487 0.108

$lab^*tch$  0.25 0.5 0.465

$lab^*nch$  0.5 0.5 0.465

relative Natural Colour (NC)

$lab^*lrij$  0.291 -0.497 -0.037

$lab^*ice$  0.25 0.5 0.512

$lab^*ncE$  0.5 0.5 g04b

relative Inform. Technology (IT)  
 $olv_i3^*$  0.0 0.0 0.0 (1.0)

$cmy_n3^*$  1.0 1.0 1.0 (0.0)

$olv_i4^*$  1.0 1.0 1.0 0.0

$cmy_n4^*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.09 0.02

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TCh$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.291 -0.487 0.108

$lab^*tch$  0.25 0.5 0.465

$lab^*nch$  0.5 0.5 0.465

relative Natural Colour (NC)

$lab^*lrij$  0.291 -0.497 -0.037

$lab^*ice$  0.25 0.5 0.512

$lab^*ncE$  0.5 0.5 g04b

relative Inform. Technology (IT)  
 $olv_i3^*$  0.0 0.0 0.0 (1.0)

$cmy_n3^*$  1.0 1.0 1.0 (0.0)

$olv_i4^*$  1.0 1.0 1.0 0.0

$cmy_n4^*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.09 0.02

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TCh$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.291 -0.487 0.108

$lab^*tch$  0.25 0.5 0.465

$lab^*nch$  0.5 0.5 0.465

relative Natural Colour (NC)

$lab^*lrij$  0.291 -0.497 -0.037

$lab^*ice$  0.25 0.5 0.512

$lab^*ncE$  0.5 0.5 g04b

relative Inform. Technology (IT)  
 $olv_i3^*$  0.0 0.0 0.0 (1.0)



## Input: Colorimetric Reflective System NCS18

for hue  $h^* = lab^*h = 167/360 = 0.465$

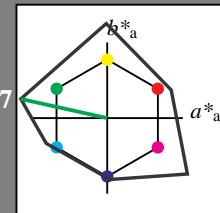
$lab^*tch$  and  $lab^*nch$

D65: hue G

LCH\*Ma: 63 117 167

olv\*Ma: 0.0 1.0 0.0

triangle lightness  $t^*$



%Gamut

$u^*_{rel} = 136$

%Regularity

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

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

relative Inform. Technology (IT)  
 $olv_i3^*$  1.0 1.0 1.0 (1.0)  
 $cmy_n3^*$  0.0 0.0 0.0 (0.0)  
 $olv_i4^*$  1.0 1.0 1.0 1.0  
 $cmy_n4^*$  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  
 $LAB^*TCh$  99.99 0.01 -

relative CIELAB lab\*

$lab^*lab$  1.0 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*ice$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)  
 $olv_i3^*$  0.5 0.5 0.5 (1.0)  
 $cmy_n3^*$  0.5 0.5 0.5 (0.0)  
 $olv_i4^*$  0.5 1.0 0.5 1.0  
 $cmy_n4^*$  0.5 0.0 0.5 0.0

standard and adapted CIELAB  
 $LAB^*LAB$  79.24 -57.1 12.67  
 $LAB^*LABa$  79.24 -57.13 12.67  
 $LAB^*TCh$  75.0 58.52 167.5

relative CIELAB lab\*

$lab^*lab$  0.791 -0.487 0.108

$lab^*tch$  0.75 0.5 0.465

$lab^*nch$  0.0 0.5 0.465

relative Natural Colour (NC)

$lab^*lrij$  0.791 -0.497 -0.037

$lab^*ice$  0.75 0.2 0.512

$lab^*ncE$  0.0 0.5 g04b

relative Inform. Technology (IT)  
 $olv_i3^*$  0.0 0.0 0.0 (1.0)  
 $cmy_n3^*$  1.0 1.0 1.0 (0.0)  
 $olv_i4^*$  1.0 1.0 1.0 0.0  
 $cmy_n4^*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB  
 $LAB^*LAB$  18.02 0.09 0.02

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TCh$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*ice$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

relative Inform. Technology (IT)  
 $olv_i3^*$  0.0 0.0 0.0 (1.0)  
 $cmy_n3^*$  1.0 1.0 1.0 (0.0)  
 $olv_i4^*$  1.0 1.0 1.0 0.0  
 $cmy_n4^*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB  
 $LAB^*LAB$  18.02 0.09 0.02

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TCh$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*ice$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

relative Inform. Technology (IT)  
 $olv_i3^*$  0.0 0.0 0.0 (1.0)  
 $cmy_n3^*$  1.0 1.0 1.0 (0.0)  
 $olv_i4^*$  1.0 1.0 1.0 0.0  
 $cmy_n4^*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB  
 $LAB^*LAB$  18.02 0.09 0.02

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TCh$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*ice$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

## NCS18; adapted (a) CIELAB data

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

RMa	47.15	84.63	37.24	92.46	24
JMa	91.37	-1.27	125.03	125.03	91
GMa	63.07	-114.29	25.34	117.07	167
G50BMa	59.47	-80.61	-33.45	87.29	203
BMa	49.01	3.63	-81.2	81.29	273
B50RMa	44.06	106.07	-73.94	129.31	325
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	272

triangle lightness  $t^*$

## Output: Colorimetric Reflective System NRS11

for hue  $h^* = lab^*h = 167/360 = 0.464$

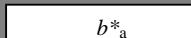
$lab^*tch$  and  $lab^*nch$

D65: hue G

LCH\*Ma: 53 84 167

olv\*Ma: 0.0 1.0 0.0

triangle lightness  $t^*$



%Gamut

$u^*_{rel} = 119$

%Regularity

$g^*_{H,rel} = 47$

$g^*_{C,rel} = 100$

relative Inform. Technology (IT)  
 $olv_i3^*$  1.0 1.0 1.0 (1.0)  
 $cmy_n3^*$  0.0 0.0 0.0 (0.0)  
 $olv_i4^*$  1.0 1.0 1.0 1.0  
 $cmy_n4^*$  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

$LAB^*TCh$  99.99 0.01 -

relative CIELAB lab\*

$lab^*lab$  1.0 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*ice$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)  
 $olv_i3^*$  0.5 1.0 0.5 (1.0)  
 $cmy_n3^*$  0.5 0.0 0.5 (0.0)  
 $olv_i4^*$  0.5 1.0 0.5 1.0  
 $cmy_n4^*$  0.5 0.0 0.5 0.0

standard and adapted CIELAB

$LAB^*LAB$  74.3 -41.1 9.49

$LAB^*LABa$  74.3 -41.12 9.49

$LAB^*TCh$  75.0 42.21 167.01

relative CIELAB lab\*

$lab^*lab$  0.75 -0.486 0.112

$lab^*tch$  0.75 0.5 0.464

$lab^*nch$  0.0 0.5 0.464

relative Natural Colour (NC)

$lab^*lrij$  0.75 -0.498 -0.033

$lab^*ice$  0.75 0.5 0.511

$lab^*ncE$  0.0 0.5 g04b

relative Inform. Technology (IT)  
 $olv_i3^*$  0.0 0.5 0.0 (1.0)  
 $cmy_n3^*$  1.0 0.5 1.0 (0.0)  
 $olv_i4^*$  0.5 1.0 0.5 0.5  
 $cmy_n4^*$  0.5 0.0 0.5 0.5

standard and adapted CIELAB

$LAB^*LAB$  32.1 -41.06 9.5

$LAB^*LABa$  32.1 -41.12 9.49

$LAB^*TCh$  25.01 42.21 167.01

relative CIELAB lab\*

$lab^*lab$  0.25 -0.486 0.112

$lab^*tch$  0.25 0.5 0.464

$lab^*nch$  0.5 0.5 0.464

relative Natural Colour (NC)

$lab^*lrij$  0.25 -0.498 -0.033

$lab^*ice$  0.25 0.5 0.511

$lab^*ncE$  0.5 0.5 g04b

$n^* = 1,0$

$n^* = 0,00$

blackness  $n^*$

chromaticness  $c^*$

## NRS11; adapted (a) CIELAB data

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

RMa	53.2	77.06	34.32	84.36	24
JMa	53.2	-1.51	84.38	84.39	91
GMa	53.2	-82.27	18.98	84.44	167
G50BMa	53.2	-77.72	-32.98	84.44	203
BMa	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

triangle lightness  $t^*$

%Gamut

$u^*_{rel} = 119$

%Regularity

$g^*_{H,rel} = 47$

$g^*_{C,rel} = 100$

relative Inform. Technology (IT)  
 $olv_i3^*$  1.0 1.0 0.5 (1.0)  
 $cmy_n3^*$  0.0 0.0 0.5 (0.0)  
 $olv_i4^*$  1.0 1.0 0.5 1.0  
 $cmy_n4^*$  0.0 0.0 0.5 0.0

standard and adapted CIELAB

$LAB^*LAB$  95.41 0.0 -0.01

$LAB^*LABa$  95.41 0.0 0.0

$LAB^*TCh$  99.99 0.01 -

relative CIELAB lab\*

$lab^*lab$  1.0 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*ice$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)  
 $olv_i3^*$  0.5 1.0 0.5 (1.0)  
 $cmy_n3^*$  0.5 0.0 0.5 (0.0)  
 $olv_i4^*$  0.5 1.0 0.5 1.0  
 $cmy_n4^*$  0.5 0.0 0.5 0.5

standard and adapted CIELAB

$LAB^*LAB$  74.3 -41.1 9.49

$LAB^*LABa$  74.3 -41.12 9.49

$LAB^*TCh$  75.0 42.21 167.01

relative CIELAB lab

## Input: Colorimetric Reflective System NCS18

for hue  $h^* = lab^*h = 167/360 = 0.465$

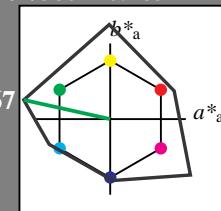
$lab^*tch$  and  $lab^*nch$

D65: hue G

LCH\*Ma: 63 117 167

olv\*Ma: 0.0 1.0 0.0

triangle lightness  $t^*$



%Gamut

$u^*_{rel} = 136$

%Regularity

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

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

relative Inform. Technology (IT)

$olv^3*$  1.0 1.0 1.0 (1.0)

$cmy^3*$  0.0 0.0 0.0 (0.0)

$olv^4*$  1.0 1.0 1.0 1.0

$cmy^4*$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*ice$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)

$olv^3*$  0.5 0.5 0.5 (1.0)

$cmy^3*$  0.5 0.5 0.5 (0.0)

$olv^4*$  1.0 1.0 1.0 0.5

$cmy^4*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  56.72 0.05 0.0

$LAB^*LABa$  56.72 0.0 0.0

$LAB^*TChA$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.5 0.0 0.0

$lab^*ice$  0.5 0.0 0.0

$lab^*ncE$  0.5 0.0 -

relative Inform. Technology (IT)

$olv^3*$  0.0 0.0 0.0 (1.0)

$cmy^3*$  1.0 1.0 1.0 (0.0)

$olv^4*$  1.0 1.0 1.0 0.0

$cmy^4*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.09 0.02

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*ice$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

## NCS18; adapted (a) CIELAB data

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

RMa	47.15	84.63	37.24	92.46	24
JMa	91.37	-1.27	125.03	125.03	91
GMa	63.07	-114.29	25.34	117.07	167
G50BMa	59.47	-80.61	-33.45	87.29	203
BMa	49.01	3.63	-81.2	81.29	273
B50RMa	44.06	106.07	-73.94	129.31	325
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	272

## Output: Colorimetric Reflective System NCS11

for hue  $h^* = lab^*h = 167/360 = 0.465$

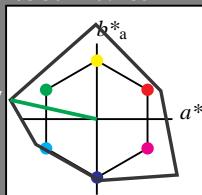
$lab^*tch$  and  $lab^*nch$

D65: hue G

LCH\*Ma: 63 117 167

olv\*Ma: 0.0 1.0 0.0

triangle lightness  $t^*$



%Gamut

$u^*_{rel} = 149$

%Regularity

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

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

relative Inform. Technology (IT)

$olv^3*$  1.0 1.0 1.0 (1.0)

$cmy^3*$  0.0 0.0 0.0 (0.0)

$olv^4*$  1.0 1.0 1.0 1.0

$cmy^4*$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*ice$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)

$olv^3*$  0.5 0.5 0.5 (1.0)

$cmy^3*$  0.5 0.5 0.5 (0.0)

$olv^4*$  0.5 1.0 1.0 1.0

$cmy^4*$  0.5 0.0 0.5 0.0

standard and adapted CIELAB

$LAB^*LAB$  56.72 0.05 0.0

$LAB^*LABa$  56.72 0.0 0.0

$LAB^*TChA$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.791 -0.497 -0.037

$lab^*tch$  0.75 0.5 0.465

$lab^*nch$  0.0 0.5 0.465

relative Natural Colour (NC)

$lab^*lrij$  0.791 -0.497 -0.037

$lab^*ice$  0.75 0.5 0.512

$lab^*ncE$  0.0 1.0 g04b

$n^* = 0,00$

relative Inform. Technology (IT)

$olv^3*$  0.0 0.0 0.0 (1.0)

$cmy^3*$  1.0 1.0 1.0 (0.0)

$olv^4*$  1.0 1.0 1.0 0.0

$cmy^4*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  63.07 -114.225 35

$LAB^*LABa$  63.07 -114.225 34

$LAB^*TChA$  50.0 117.05 167.5

relative CIELAB lab\*

$lab^*lab$  0.582 -0.975 0.216

$lab^*tch$  0.5 1.0 0.465

$lab^*nch$  0.0 1.0 0.465

relative Natural Colour (NC)

$lab^*lrij$  0.582 -0.996 -0.074

$lab^*ice$  0.5 1.0 0.512

$lab^*ncE$  0.0 1.0 g04b

$n^* = 0,00$

blackness  $n^*$

$n^* = 0,50$

$n^* = 1,00$

chromaticness  $c^*$

$n^* = 1,0$

3 step scales for constant CIELAB hue 167/360 = 0.465 (right)

## NCS11; adapted (a) CIELAB data

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

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	-81.2	81.28	273
B50RMa	44.06	106.07	-73.94	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)

$olv^3*$  1.0 1.0 1.0 (0.0)

$cmy^3*$  0.5 0.5 0.5 (0.0)

$olv^4*$  1.0 1.0 1.0 0.5

$cmy^4*$  0.5 0.0 0.5 0.5

standard and adapted CIELAB

$LAB^*LAB$  79.24 -57.1 12.67

$LAB^*LABa$  79.24 -57.12 12.67

$LAB^*TChA$  75.0 58.52 167.5

relative CIELAB lab\*

$lab^*lab$  0.808 -0.487 0.108

$lab^*tch$  0.75 0.5 0.465

$lab^*nch$  0.0 0.5 0.465

relative Natural Colour (NC)

$lab^*lrij$  0.808 -0.497 -0.037

$lab^*ice$  0.75 0.5 0.512

$lab^*ncE$  0.0 0.5 g04b

$n^* = 0,00$

blackness  $n^*$

$n^* = 0,50$

$n^* = 1,00$

chromaticness  $c^*$

$n^* = 1,00$

3 step scales for constant CIELAB hue 167/360 = 0.465 (left)

## Input: Colorimetric Reflective System NRS11

for hue  $h^* = lab^*h = 167/360 = 0.464$

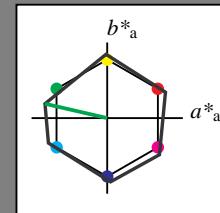
$lab^*tch$  and  $lab^*nch$

D65: hue G

LCH\*Ma: 53 84 167

olv\*Ma: 0.0 1.0 0.0

triangle lightness  $t^*$



## NRS11; adapted (a) CIELAB data

	$L^*=L_a^*$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	53.2	77.06	34.32	84.36	24
JMa	53.2	-1.51	84.38	84.39	91
GMa	53.2	-82.27	18.98	84.44	167
G50BMa	53.2	-77.72	-32.98	84.44	203
BMa	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)

$olv_i3^*$  1.0 1.0 1.0 (1.0)

$cmyn3^*$  0.0 0.0 0.0 (0.0)

$olv_i4^*$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  74.3 -41.1 9.49

$LAB^*LABa$  74.3 -41.12 9.49

$LAB^*TChA$  75.0 42.21 167.01

relative CIELAB lab\*

$lab^*lab$  0.75 -0.486 0.112

$lab^*tch$  0.75 0.5 0.464

$lab^*nch$  0.0 0.5 0.464

relative Natural Colour (NC)

$lab^*lrij$  0.75 -0.498 -0.033

$lab^*tce$  0.75 0.2 0.511

$lab^*ncE$  0.0 0.5 g04b

relative Inform. Technology (IT)

$olv_i3^*$  0.5 0.5 0.5 (1.0)

$cmyn3^*$  0.5 0.5 0.5 (0.0)

$olv_i4^*$  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

$LAB^*LABa$  53.21 0.0 0.0

$LAB^*TChA$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.5 0.0 0.0

$lab^*tce$  0.5 0.0 0.0

$lab^*ncE$  0.5 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  32.1 -41.06 9.5

$LAB^*LABa$  32.1 -41.12 9.49

$LAB^*TChA$  25.01 42.21 167.01

relative CIELAB lab\*

$lab^*lab$  0.25 -0.486 0.112

$lab^*tch$  0.25 0.5 0.464

$lab^*nch$  0.5 0.5 0.464

relative Natural Colour (NC)

$lab^*lrij$  0.25 -0.498 -0.033

$lab^*tce$  0.25 0.5 0.511

$lab^*ncE$  0.5 0.5 g04b

$n^* = 1,0$

relative Inform. Technology (IT)

$olv_i3^*$  0.0 0.0 0.0 (1.0)

$cmyn3^*$  1.0 1.0 1.0 (0.0)

$olv_i4^*$  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 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*tce$  0.0 0.0 0.0

$lab^*ncE$  1.0 0.0 -

$n^* = 0,00$

relative Inform. Technology (IT)

$olv_i3^*$  0.25 0.25 0.25 (1.0)

$cmyn3^*$  0.5 0.5 0.5 (0.0)

$olv_i4^*$  0.5 0.5 0.5 0.5

$cmyn4^*$  0.5 0.5 0.5 0.5

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.5 -0.46

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*tce$  0.0 0.0 0.0

$lab^*ncE$  1.0 0.0 -

$n^* = 0,50$

$n^* = 0,50$

$n^* = 1,00$

chromaticness  $c^*$

## Output: Colorimetric Reflective System ORS18

for hue  $h^* = lab^*h = 151/360 = 0.419$

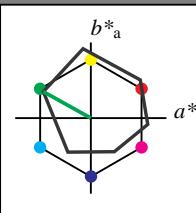
$lab^*tch$  and  $lab^*nch$

D65: hue L

LCH\*Ma: 51 72 151

olv\*Ma: 0.0 1.0 0.0

triangle lightness  $t^*$



## ORS18; adapted (a) CIELAB data

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

$olv_i3^*$  1.0 1.0 1.0 (1.0)

$cmyn3^*$  0.0 0.0 0.0 (0.0)

$olv_i4^*$  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

$LAB^*LABa$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)

$olv_i3^*$  0.5 0.5 0.5 (1.0)

$cmyn3^*$  0.5 0.5 0.5 (0.0)

$olv_i4^*$  0.5 1.0 0.5 1.0

$cmyn4^*$  0.5 0.0 0.5 0.5

standard and adapted CIELAB

$LAB^*LAB$  73.15 -31.94 20.73

$LAB^*LABa$  73.15 -31.38 17.47

$LAB^*TChA$  75.0 35.93 150.91

relative CIELAB lab\*

$lab^*lab$  0.712 -0.436 0.243

$lab^*tch$  0.75 0.5 0.419

$lab^*nch$  0.0 0.5 0.419

relative Natural Colour (NC)

$lab^*lrij$  0.712 -0.478 0.144

$lab^*tce$  0.75 0.5 0.453

$lab^*ncE$  0.0 0.5 0.453

$n^* = 0,00$

$n^* = 0,50$

$n^* = 1,00$

chromaticness  $c^*$

3 step scales for constant CIELAB hue 151/360 = 0.419 (right)

UE100-7, 3 step scales for constant CIELAB hue 167/360 = 0.464 (left)

## Input: Colorimetric Reflective System NRS11

for hue  $h^* = lab^*h = 167/360 = 0.464$

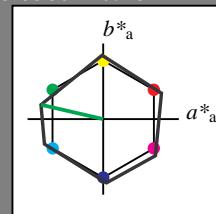
$lab^*tch$  and  $lab^*nch$

D65: hue G

LCH\*Ma: 53 84 167

olv\*Ma: 0.0 1.0 0.0

triangle lightness  $t^*$



## NRS11; adapted (a) CIELAB data

	$L^* = L^*_{ab}$	$a^*_{ab}$	$b^*_{ab}$	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	53.2	77.06	34.32	84.36	24
JMa	53.2	-1.51	84.38	84.39	91
GMa	53.2	-82.27	18.98	84.44	167
G50BMa	53.2	-77.72	-32.98	84.44	203
BMa	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)

$olv^3*$  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

$LAB^*LABa$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  74.3 -41.1 9.49

$LAB^*LABa$  74.3 -41.12 9.49

$LAB^*TChA$  75.0 42.21 167.01

relative CIELAB  $lab^*$

$lab^*lab$  0.75 -0.486 0.112

$lab^*tch$  0.75 0.5 0.464

$lab^*nch$  0.0 0.5 0.464

relative Natural Colour (NC)

$lab^*lrij$  0.75 -0.498 -0.033

$lab^*tce$  0.75 0.2 0.511

$lab^*ncE$  0.0 0.5 g04b

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 0.5

$cmyn^4*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  53.21 0.04 0.0

$LAB^*LABa$  53.21 0.0 0.0

$LAB^*TChA$  50.0 0.01 -

relative CIELAB  $lab^*$

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.5 0.0 0.0

$lab^*tce$  0.5 0.0 0.0

$lab^*ncE$  0.5 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  32.1 -41.06 9.5

$LAB^*LABa$  32.1 -41.12 9.49

$LAB^*TChA$  25.01 42.21 167.01

relative CIELAB  $lab^*$

$lab^*lab$  0.25 -0.486 0.112

$lab^*tch$  0.25 0.5 0.464

$lab^*nch$  0.5 0.5 0.464

relative Natural Colour (NC)

$lab^*lrij$  0.25 -0.498 -0.033

$lab^*tce$  0.25 0.5 0.511

$lab^*ncE$  0.5 0.5 g04b

$n^* = 1,0$

relative Inform. Technology (IT)

$olv^3*$  0.0 0.0 0.0 (1.0)

$cmyn^3*$  1.0 1.0 1.0 (0.0)

$olv^4*$  1.0 1.0 1.0 0.0

$cmyn^4*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  11.01 0.07 0.01

$LAB^*LABa$  11.01 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB  $lab^*$

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*tce$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  11.01 0.07 0.01

$LAB^*LABa$  11.01 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB  $lab^*$

$lab^*lab$  0.25 -0.486 0.112

$lab^*tch$  0.25 0.5 0.464

$lab^*nch$  0.5 0.5 0.464

relative Natural Colour (NC)

$lab^*lrij$  0.25 -0.498 -0.033

$lab^*tce$  0.25 0.5 0.511

$lab^*ncE$  0.5 0.5 g04b

$n^* = 1,0$

relative Inform. Technology (IT)

$olv^3*$  0.0 0.0 0.0 (1.0)

$cmyn^3*$  1.0 1.0 1.0 (0.0)

$olv^4*$  1.0 1.0 1.0 0.5

$cmyn^4*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  11.01 0.07 0.01

$LAB^*LABa$  11.01 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB  $lab^*$

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*tce$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  11.01 0.07 0.01

$LAB^*LABa$  11.01 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB  $lab^*$

$lab^*lab$  0.25 -0.486 0.112

$lab^*tch$  0.25 0.5 0.464

$lab^*nch$  0.5 0.5 0.464

relative Natural Colour (NC)

$lab^*lrij$  0.25 -0.498 -0.033

$lab^*tce$  0.25 0.5 0.511

$lab^*ncE$  0.5 0.5 g04b

$n^* = 1,0$

## Output: Colorimetric Reflective System MRS18

for hue  $h^* = lab^*h = 172/360 = 0.479$

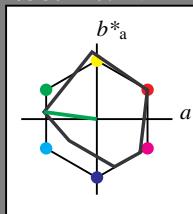
$lab^*tch$  and  $lab^*nch$

D65: hue G

LCH\*Ma: 52 70 172

olv\*Ma: 0.0 1.0 0.0

triangle lightness  $t^*$



## MRS18; adapted (a) CIELAB data

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

$olv^3*$  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

$LAB^*LABa$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  73.75 -35.42 8.02

$LAB^*LABa$  73.75 -34.85 4.72

$LAB^*TChA$  75.0 35.18 172.29

relative CIELAB  $lab^*$

$lab^*lab$  0.72 -0.494 0.067

$lab^*tch$  0.75 0.5 0.479

$lab^*nch$  0.0 0.5 0.479

relative Natural Colour (NC)

$lab^*lrij$  0.72 -0.496 -0.056

$lab^*tce$  0.75 0.5 0.518

$lab^*ncE$  0.0 0.5 g07b

relative Inform. Technology (IT)

$olv^3*$  0.0 1.0 0.0 (1.0)

$cmyn^3*$  0.5 0.5 0.5 (0.0)

## Input: Colorimetric Reflective System NRS11

for hue  $h^* = lab^*h = 167/360 = 0.464$

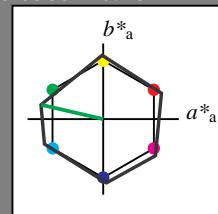
$lab^*tch$  and  $lab^*nch$

D65: hue G

LCH\*Ma: 53 84 167

olv\*Ma: 0.0 1.0 0.0

triangle lightness  $t^*$



## NRS11; adapted (a) CIELAB data

	$L^*=L_a^*$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	53.2	77.06	34.32	84.36	24
JMa	53.2	-1.51	84.38	84.39	91
GMa	53.2	-82.27	18.98	84.44	167
G50BMa	53.2	-77.72	-32.98	84.44	203
BMa	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)

$olv_i3^*$  1.0 1.0 1.0 (1.0)

$cmyn3^*$  0.0 0.0 0.0 (0.0)

$olv_i4^*$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  74.3 -41.1 9.49

$LAB^*LABa$  74.3 -41.12 9.49

$LAB^*TChA$  75.0 42.21 167.01

relative CIELAB lab\*

$lab^*lab$  0.75 -0.486 0.112

$lab^*tch$  0.75 0.5 0.464

$lab^*nch$  0.0 0.5 0.464

relative Natural Colour (NC)

$lab^*lrij$  0.75 -0.498 -0.033

$lab^*tce$  0.75 0.2 0.511

$lab^*ncE$  0.0 0.5 g04b

relative Inform. Technology (IT)

$olv_i3^*$  0.5 0.5 0.5 (1.0)

$cmyn3^*$  0.5 0.5 0.5 (0.0)

$olv_i4^*$  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

$LAB^*LABa$  53.21 0.0 0.0

$LAB^*TChA$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.5 0.0 0.0

$lab^*tce$  0.5 0.0 0.0

$lab^*ncE$  0.5 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  32.1 -41.06 9.5

$LAB^*LABa$  32.1 -41.12 9.49

$LAB^*TChA$  25.01 42.21 167.01

relative CIELAB lab\*

$lab^*lab$  0.25 -0.486 0.112

$lab^*tch$  0.25 0.5 0.464

$lab^*nch$  0.5 0.5 0.464

relative Natural Colour (NC)

$lab^*lrij$  0.25 -0.498 -0.033

$lab^*tce$  0.25 0.5 0.511

$lab^*ncE$  0.5 0.5 g04b

$n^* = 1,0$

$n^* = 0,00$

$n^* = 0,50$

$n^* = 1,00$

$chromaticness c^*$

## Output: Colorimetric Reflective System TRS18

for hue  $h^* = lab^*h = 151/360 = 0.419$

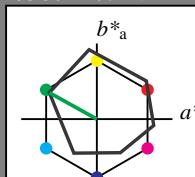
$lab^*tch$  and  $lab^*nch$

D65: hue L

LCH\*Ma: 51 72 151

olv\*Ma: 0.0 1.0 0.0

triangle lightness  $t^*$



## TRS18; adapted (a) CIELAB data

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

%Gamut

$u^*_{rel} = 119$

%Regularity

$g^*_{H,rel} = 47$

$g^*_{C,rel} = 100$

relative Inform. Technology (IT)

$olv_i3^*$  1.0 1.0 1.0 (1.0)

$cmyn3^*$  0.0 0.0 0.0 (0.0)

$olv_i4^*$  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

$LAB^*LABa$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)

$olv_i3^*$  0.5 1.0 0.5 (1.0)

$cmyn3^*$  0.5 0.5 0.5 (0.0)

$olv_i4^*$  0.5 1.0 0.5 1.0

$cmyn4^*$  0.5 0.0 0.5 0.5

standard and adapted CIELAB

$LAB^*LAB$  73.15 -31.94 20.73

$LAB^*LABa$  73.15 -31.38 17.47

$LAB^*TChA$  75.0 35.93 150.91

relative CIELAB lab\*

$lab^*lab$  0.712 -0.436 0.243

$lab^*tch$  0.75 0.5 0.419

$lab^*nch$  0.0 0.5 0.419

relative Natural Colour (NC)

$lab^*lrij$  0.712 -0.478 0.144

$lab^*tce$  0.75 0.5 0.453

$lab^*ncE$  0.0 0.5 j81g

$n^* = 0,00$

relative Inform. Technology (IT)

$olv_i3^*$  0.0 1.0 0.0 (1.0)

$cmyn3^*$  1.0 0.0 1.0 (0.0)

$olv_i4^*$  0.0 1.0 0.0 1.0

$cmyn4^*$  1.0 0.0 1.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  50.9 -62.91 36.69

$LAB^*LABa$  50.9 -62.78 34.94

$LAB^*TChA$  50.0 71.86 150.91

relative CIELAB lab\*

$lab^*lab$  0.425 -0.873 0.486

$lab^*tch$  0.5 1.0 0.419

$lab^*nch$  0.0 1.0 0.419

relative Natural Colour (NC)

$lab^*lrij$  0.425 -0.956 0.289

$lab^*tce$  0.5 1.0 0.453

$lab^*ncE$  0.0 1.0 j81g

$n^* = 0,00$

$n^* = 0,50$

$n^* = 1,00$

$chromaticness c^*$

UE100-7, 3 step scales for constant CIELAB hue 167/360 = 0.464 (left)

3 step scales for constant CIELAB hue 151/360 = 0.419 (right)

## Input: Colorimetric Reflective System NRS11

for hue  $h^* = lab^*h = 167/360 = 0.464$

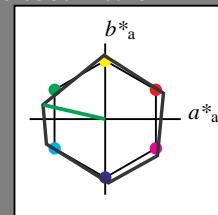
$lab^*tch$  and  $lab^*nch$

D65: hue G

LCH\*Ma: 53 84 167

olv\*Ma: 0.0 1.0 0.0

triangle lightness  $t^*$



## NRS11; adapted (a) CIELAB data

	$L^*=L^*_{a,a}$	$a^*_{a,a}$	$b^*_{a,a}$	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	53.2	77.06	34.32	84.36	24
JMa	53.2	-1.51	84.38	84.39	91
GMa	53.2	-82.27	18.98	84.44	167
G50BMa	53.2	-77.72	-32.98	84.44	203
BMa	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)

$olv_i3^*$  1.0 1.0 1.0 (1.0)

$cmy_n3^*$  0.0 0.0 0.0 (0.0)

$olv_i4^*$  1.0 1.0 1.0 1.0

$cmy_n4^*$  0.0 0.0 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  95.41 0.0 -0.01

$LAB^*LAB_a$  95.41 0.0 0.0

$LAB^*TCh_a$  99.99 0.01 -

relative CIELAB  $lab^*$

$lab^*lab$  1.0 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  74.3 -41.1 9.49

$LAB^*LAB_a$  74.3 -41.12 9.49

$LAB^*TCh_a$  75.0 42.21 167.01

relative CIELAB  $lab^*$

$lab^*lab$  0.75 -0.486 0.112

$lab^*tch$  0.75 0.5 0.464

$lab^*nch$  0.0 0.5 0.464

relative Natural Colour (NC)

$lab^*lrij$  0.75 -0.498 -0.033

$lab^*tce$  0.75 0.2 0.511

$lab^*ncE$  0.0 0.5 g04b

relative Inform. Technology (IT)

$olv_i3^*$  0.5 0.5 0.5 (1.0)

$cmy_n3^*$  0.5 0.5 0.5 (0.0)

$olv_i4^*$  1.0 1.0 1.0 0.5

$cmy_n4^*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  53.21 0.04 0.0

$LAB^*LAB_a$  53.21 0.0 0.0

$LAB^*TCh_a$  50.0 0.01 -

relative CIELAB  $lab^*$

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.5 0.0 0.0

$lab^*tce$  0.5 0.0 0.0

$lab^*ncE$  0.5 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  32.1 -41.06 9.5

$LAB^*LAB_a$  32.1 -41.12 9.49

$LAB^*TCh_a$  25.01 42.21 167.01

relative CIELAB  $lab^*$

$lab^*lab$  0.25 -0.486 0.112

$lab^*tch$  0.25 0.5 0.464

$lab^*nch$  0.5 0.5 0.464

relative Natural Colour (NC)

$lab^*lrij$  0.25 -0.498 -0.033

$lab^*tce$  0.25 0.5 0.511

$lab^*ncE$  0.5 0.5 g04b

$n^* = 1,0$

relative Inform. Technology (IT)

$olv_i3^*$  0.5 1.0 0.5 (1.0)

$cmy_n3^*$  0.5 0.0 0.0 (0.0)

$olv_i4^*$  0.5 1.0 0.5 1.0

$cmy_n4^*$  0.5 0.0 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  73.75 -34.92 5.64

$LAB^*LAB_a$  73.75 -34.96 5.63

$LAB^*TCh_a$  75.0 35.42 170.85

relative CIELAB  $lab^*$

$lab^*lab$  0.72 -0.493 0.079

$lab^*tch$  0.75 0.5 0.475

$lab^*nch$  0.0 0.5 0.475

relative Natural Colour (NC)

$lab^*lrij$  0.72 -0.495 -0.06

$lab^*tce$  0.75 0.5 0.52

$lab^*ncE$  0.0 0.5 g07b

relative Inform. Technology (IT)

$olv_i3^*$  0.5 1.0 0.5 (1.0)

$cmy_n3^*$  0.5 0.0 0.0 (0.0)

$olv_i4^*$  0.5 1.0 0.5 1.0

$cmy_n4^*$  0.5 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  52.11 -69.86 11.28

$LAB^*LAB_a$  52.11 -69.92 11.26

$LAB^*TCh_a$  50.0 70.83 170.85

relative CIELAB  $lab^*$

$lab^*lab$  0.441 -0.986 0.159

$lab^*tch$  0.5 1.0 0.475

$lab^*nch$  0.0 1.0 0.475

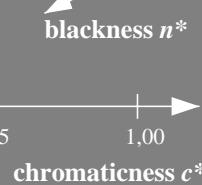
relative Natural Colour (NC)

$lab^*lrij$  0.441 -0.991 -0.122

$lab^*tce$  0.5 1.0 0.52

$lab^*ncE$  0.0 1.0 g07b

$n^* = 0,00$



## Output: Colorimetric Reflective System MRS18a

for hue  $h^* = lab^*h = 171/360 = 0.475$

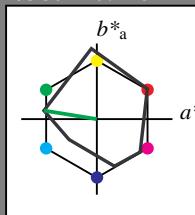
$lab^*tch$  and  $lab^*nch$

D65: hue G

LCH\*Ma: 52 71 171

olv\*Ma: 0.0 1.0 0.0

triangle lightness  $t^*$



## MRS18a; adapted (a) CIELAB data

	$L^*=L^*_{a,a}$	$a^*_{a,a}$	$b^*_{a,a}$	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	49.63	66.8	40.02	77.87	31
JMa	90.7	-7.27	93.19	93.48	94
GMa	52.11	-69.93	11.26	70.85	171
G50BMa	45.03	-36.65	-27.13	45.61	217
BMa	36.65	23.26	-62.27	66.49	290
B50RMa	34.94	57.27	-43.6	71.99	323
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	272

relative Inform. Technology (IT)

$olv_i3^*$  1.0 1.0 1.0 (1.0)

$cmy_n3^*$  0.0 0.0 0.0 (0.0)

$olv_i4^*$  1.0 1.0 1.0 1.0

$cmy_n4^*$  0.0 0.0 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  95.41 0.0 0.01

$LAB^*LAB_a$  95.41 0.0 0.0

$LAB^*TCh_a$  99.99 0.01 -

relative CIELAB  $lab^*$

$lab^*lab$  1.0 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  73.75 -34.92 5.64

$LAB^*LAB_a$  73.75 -34.96 5.63

$LAB^*TCh_a$  75.0 35.42 170.85

relative CIELAB  $lab^*$

$lab^*lab$  0.72 -0.493 0.079

$lab^*tch$  0.75 0.5 0.475

$lab^*nch$  0.0 0.5 0.475

relative Natural Colour (NC)

$lab^*lrij$  0.72 -0.495 -0.06

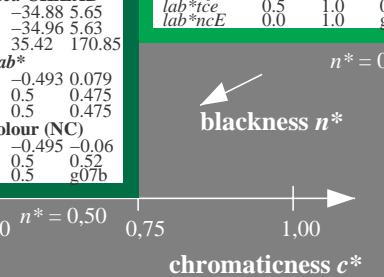
$lab^*tce$  0.75 0.5 0.52

$lab^*ncE$  0.0 0.5 g07b

$n^* = 0,00$

$n^* = 0,50$

$n^* = 1,00$



3 step scales for constant CIELAB hue 171/360 = 0.475 (right)

UE100-7, 3 step scales for constant CIELAB hue 167/360 = 0.464 (left)

## Input: Colorimetric Reflective System NRS11

for hue  $h^* = lab^*h = 167/360 = 0.464$

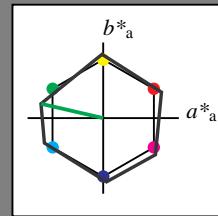
$lab^*tch$  and  $lab^*nch$

D65: hue G

LCH\*Ma: 53 84 167

olv\*Ma: 0.0 1.0 0.0

triangle lightness  $t^*$



## NRS11; adapted (a) CIELAB data

	$L^*=L_a^*$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	53.2	77.06	34.32	84.36	24
JMa	53.2	-1.51	84.38	84.39	91
GMa	53.2	-82.27	18.98	84.44	167
G50BMa	53.2	-77.72	-32.98	84.44	203
BMa	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)

$olv_i3^*$  1.0 1.0 1.0 (1.0)

$cmyn3^*$  0.0 0.0 0.0 (0.0)

$olv_i4^*$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  74.3 -41.1 9.49

$LAB^*LABa$  74.3 -41.12 9.49

$LAB^*TChA$  75.0 42.21 167.01

relative CIELAB lab\*

$lab^*lab$  0.75 -0.486 0.112

$lab^*tch$  0.75 0.5 0.464

$lab^*nch$  0.0 0.5 0.464

relative Natural Colour (NC)

$lab^*lrij$  0.75 -0.498 -0.033

$lab^*tce$  0.75 0.2 0.511

$lab^*ncE$  0.0 0.5 g04b

relative Inform. Technology (IT)

$olv_i3^*$  0.5 0.5 0.5 (1.0)

$cmyn3^*$  0.5 0.5 0.5 (0.0)

$olv_i4^*$  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

$LAB^*LABa$  53.21 0.0 0.0

$LAB^*TChA$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.5 0.0 0.0

$lab^*tce$  0.5 0.0 0.0

$lab^*ncE$  0.5 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  11.01 0.07 0.01

$LAB^*LABa$  11.01 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*tce$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

relative Inform. Technology (IT)

$olv_i3^*$  0.5 1.0 0.5 (1.0)

$cmyn3^*$  0.5 0.0 0.5 (0.0)

$olv_i4^*$  0.5 1.0 0.5 1.0

$cmyn4^*$  0.5 0.0 0.5 0.0

standard and adapted CIELAB

$LAB^*LAB$  74.3 -41.1 9.49

$LAB^*LABa$  74.3 -41.12 9.49

$LAB^*TChA$  75.0 42.21 167.01

relative CIELAB lab\*

$lab^*lab$  0.75 -0.486 0.112

$lab^*tch$  0.75 0.5 0.464

$lab^*nch$  0.0 0.5 0.464

relative Natural Colour (NC)

$lab^*lrij$  0.75 -0.498 -0.033

$lab^*tce$  0.75 0.2 0.511

$lab^*ncE$  0.0 0.5 g04b

standard and adapted CIELAB

$LAB^*LAB$  53.2 -82.21 18.98

$LAB^*LABa$  53.2 -82.25 18.97

$LAB^*TChA$  50.0 84.42 167.01

relative CIELAB lab\*

$lab^*lab$  0.5 -0.973 0.225

$lab^*tch$  0.5 1.0 0.464

$lab^*nch$  0.0 1.0 0.464

relative Natural Colour (NC)

$lab^*lrij$  0.5 -0.996 -0.067

$lab^*tce$  0.5 1.0 0.511

$lab^*ncE$  0.0 1.0 g04b

standard and adapted CIELAB

$LAB^*LAB$  32.1 -41.06 9.5

$LAB^*LABa$  32.1 -41.12 9.49

$LAB^*TChA$  25.01 42.21 167.01

relative CIELAB lab\*

$lab^*lab$  0.25 -0.486 0.112

$lab^*tch$  0.25 0.5 0.464

$lab^*nch$  0.5 0.5 0.464

relative Natural Colour (NC)

$lab^*lrij$  0.25 -0.498 -0.033

$lab^*tce$  0.25 0.5 0.511

$lab^*ncE$  0.5 0.5 g04b

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.09 0.02

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*tce$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  11.01 0.07 0.01

$LAB^*LABa$  11.01 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*tce$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  11.01 0.07 0.01

$LAB^*LABa$  11.01 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*tce$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  11.01 0.07 0.01

$LAB^*LABa$  11.01 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*tce$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  11.01 0.07 0.01

$LAB^*LABa$  11.01 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*tce$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  11.01 0.07 0.01

$LAB^*LABa$  11.01 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*tce$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  11.01 0.07 0.01

$LAB^*LABa$  11.01 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

## Input: Colorimetric Reflective System NRS11

for hue  $h^* = lab^*h = 167/360 = 0.464$

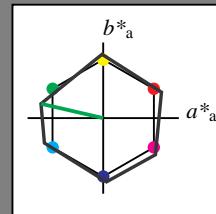
$lab^*tch$  and  $lab^*nch$

D65: hue G

LCH\*Ma: 53 84 167

olv\*Ma: 0.0 1.0 0.0

triangle lightness  $t^*$



### NRS11; adapted (a) CIELAB data

	$L^*=L_a^*$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	53.2	77.06	34.32	84.36	24
JMa	53.2	-1.51	84.38	84.39	91
GMa	53.2	-82.27	18.98	84.44	167
G50BMa	53.2	-77.72	-32.98	84.44	203
BMa	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)

$olv_i3^*$  1.0 1.0 1.0 (1.0)

$cmyn3^*$  0.0 0.0 0.0 (0.0)

$olv_i4^*$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  74.3 -41.1 9.49

$LAB^*LABa$  74.3 -41.12 9.49

$LAB^*TChA$  75.0 42.21 167.01

relative CIELAB lab\*

$lab^*lab$  0.75 -0.486 0.112

$lab^*tch$  0.75 0.5 0.464

$lab^*nch$  0.0 0.5 0.464

relative Natural Colour (NC)

$lab^*lrij$  0.75 -0.498 -0.033

$lab^*tce$  0.75 0.2 0.511

$lab^*ncE$  0.0 0.5 g04b

relative Inform. Technology (IT)

$olv_i3^*$  0.5 0.5 0.5 (1.0)

$cmyn3^*$  0.5 0.5 0.5 (0.0)

$olv_i4^*$  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

$LAB^*LABa$  53.21 0.0 0.0

$LAB^*TChA$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.5 0.0 0.0

$lab^*tce$  0.5 0.0 0.0

$lab^*ncE$  0.5 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  32.1 -41.06 9.5

$LAB^*LABa$  32.1 -41.12 9.49

$LAB^*TChA$  25.01 42.21 167.01

relative CIELAB lab\*

$lab^*lab$  0.25 -0.486 0.112

$lab^*tch$  0.25 0.5 0.464

$lab^*nch$  0.5 0.5 0.464

relative Natural Colour (NC)

$lab^*lrij$  0.25 -0.498 -0.033

$lab^*tce$  0.25 0.5 0.511

$lab^*ncE$  0.5 0.5 g04b

$n^* = 1,0$

$n^* = 0,00$

$n^* = 0,50$

$n^* = 1,00$

## Output: Colorimetric Reflective System NCS18

for hue  $h^* = lab^*h = 167/360 = 0.465$

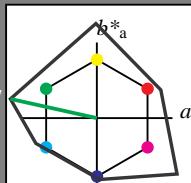
$lab^*tch$  and  $lab^*nch$

D65: hue G

LCH\*Ma: 63 117 167

olv\*Ma: 0.0 1.0 0.0

triangle lightness  $t^*$



### NCS18; adapted (a) CIELAB data

	$L^*=L_a^*$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	47.15	84.63	37.24	92.46	24
JMa	91.37	-1.27	125.03	125.03	91
GMa	63.07	-114.29	25.34	117.07	167
G50BMa	59.47	-80.61	-33.45	87.29	203
BMa	49.01	3.63	-81.2	81.29	273
B50RMa	44.06	106.07	-73.94	129.31	325
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	272

relative Inform. Technology (IT)

$olv_i3^*$  1.0 1.0 1.0 (1.0)

$cmyn3^*$  0.0 0.0 0.0 (0.0)

$olv_i4^*$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  79.24 -57.1 12.67

$LAB^*LABa$  79.24 -57.13 12.67

$LAB^*TChA$  75.0 58.52 167.5

relative CIELAB lab\*

$lab^*lab$  0.791 -0.487 0.108

$lab^*tch$  0.75 0.5 0.465

$lab^*nch$  0.0 0.5 0.465

relative Natural Colour (NC)

$lab^*lrij$  0.791 -0.497 -0.037

$lab^*tce$  0.75 0.5 0.512

$lab^*ncE$  0.0 0.5 g04b

relative Inform. Technology (IT)

$olv_i3^*$  0.5 1.0 0.0 (1.0)

$cmyn3^*$  0.5 0.5 0.5 (0.0)

$olv_i4^*$  0.5 1.0 0.5 1.0

$cmyn4^*$  0.5 0.0 0.5 0.5

standard and adapted CIELAB

$LAB^*LAB$  63.07 -114.225.35

$LAB^*LABa$  63.07 -114.262.34

$LAB^*TChA$  50.0 117.05 167.5

relative CIELAB lab\*

$lab^*lab$  0.582 -0.975 0.216

$lab^*tch$  0.5 1.0 0.465

$lab^*nch$  0.0 1.0 0.465

relative Natural Colour (NC)

$lab^*lrij$  0.582 -0.996 -0.074

$lab^*tce$  0.5 1.0 0.512

$lab^*ncE$  0.0 1.0 g04b

$n^* = 0,00$

$n^* = 0,50$

$n^* = 1,00$

UE100-7, 3 step scales for constant CIELAB hue 167/360 = 0.464 (left)

3 step scales for constant CIELAB hue 167/360 = 0.465 (right)

## Input: Colorimetric Reflective System NRS11

for hue  $h^* = lab^*h = 167/360 = 0.464$

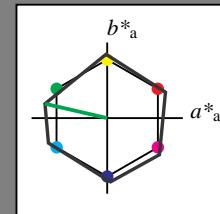
$lab^*tch$  and  $lab^*nch$

D65: hue G

LCH\*Ma: 53 84 167

olv\*Ma: 0.0 1.0 0.0

triangle lightness  $t^*$



### NRS11; adapted (a) CIELAB data

	$L^*=L_a^*$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	53.2	77.06	34.32	84.36	24
JMa	53.2	-1.51	84.38	84.39	91
GMa	53.2	-82.27	18.98	84.44	167
G50BMa	53.2	-77.72	-32.98	84.44	203
BMa	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)

$olv_i3^*$  1.0 1.0 1.0 (1.0)

$cmyn3^*$  0.0 0.0 0.0 (0.0)

$olv_i4^*$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  74.3 -41.1 9.49

$LAB^*LABa$  74.3 -41.12 9.49

$LAB^*TChA$  75.0 42.21 167.01

relative CIELAB lab\*

$lab^*lab$  0.75 -0.486 0.112

$lab^*tch$  0.75 0.5 0.464

$lab^*nch$  0.0 0.5 0.464

relative Natural Colour (NC)

$lab^*lrij$  0.75 -0.498 -0.033

$lab^*tce$  0.75 0.2 0.511

$lab^*ncE$  0.0 0.5 g04b

relative Inform. Technology (IT)

$olv_i3^*$  0.5 0.5 0.5 (1.0)

$cmyn3^*$  0.5 0.5 0.5 (0.0)

$olv_i4^*$  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

$LAB^*LABa$  53.21 0.0 0.0

$LAB^*TChA$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.5 0.0 0.0

$lab^*tce$  0.5 0.0 0.0

$lab^*ncE$  0.5 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  32.1 -41.06 9.5

$LAB^*LABa$  32.1 -41.12 9.49

$LAB^*TChA$  25.01 42.21 167.01

relative CIELAB lab\*

$lab^*lab$  0.25 -0.486 0.112

$lab^*tch$  0.25 0.5 0.464

$lab^*nch$  0.5 0.5 0.464

relative Natural Colour (NC)

$lab^*lrij$  0.25 -0.498 -0.033

$lab^*tce$  0.25 0.5 0.511

$lab^*ncE$  0.5 0.5 g04b

$n^* = 1,0$

$n^* = 0,00$

$n^* = 0,50$

1,00

chromaticness  $c^*$

## Output: Colorimetric Reflective System NRS11

for hue  $h^* = lab^*h = 167/360 = 0.464$

$lab^*tch$  and  $lab^*nch$

D65: hue G

LCH\*Ma: 53 84 167

olv\*Ma: 0.0 1.0 0.0

triangle lightness  $t^*$

### NRS11; adapted (a) CIELAB data

	$L^*=L_a^*$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	53.2	77.06	34.32	84.36	24
JMa	53.2	-1.51	84.38	84.39	91
GMa	53.2	-82.27	18.98	84.44	167
G50BMa	53.2	-77.72	-32.98	84.44	203
BMa	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)

$olv_i3^*$  1.0 1.0 1.0 (1.0)

$cmyn3^*$  0.0 0.0 0.0 (0.0)

$olv_i4^*$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  74.3 -41.1 9.49

$LAB^*LABa$  74.3 -41.12 9.49

$LAB^*TChA$  75.0 42.21 167.01

relative CIELAB lab\*

$lab^*lab$  0.75 -0.486 0.112

$lab^*tch$  0.75 0.5 0.464

$lab^*nch$  0.0 0.5 0.464

relative Natural Colour (NC)

$lab^*lrij$  0.75 -0.498 -0.033

$lab^*tce$  0.75 0.5 0.511

$lab^*ncE$  0.0 0.5 g04b

$n^* = 1,0$

### NRS11; adapted (a) CIELAB data

	$L^*=L_a^*$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	53.2	77.06	34.32	84.36	24
JMa	53.2	-1.51	84.38	84.39	91
GMa	53.2	-82.27	18.98	84.44	167
G50BMa	53.2	-77.72	-32.98	84.44	203
BMa	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)

$olv_i3^*$  0.5 1.0 0.5 (1.0)

$cmyn3^*$  0.5 0.0 0.5 (0.0)

$olv_i4^*$  0.5 1.0 0.5 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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.5 0.0 0.0

$lab^*tce$  0.5 0.0 0.0

$lab^*ncE$  0.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  74.3 -41.1 9.49

$LAB^*LABa$  74.3 -41.12 9.49

$LAB^*TChA$  75.0 42.21 167.01

relative CIELAB lab\*

$lab^*lab$  0.75 -0.486 0.112

$lab^*tch$  0.75 0.5 0.464

$lab^*nch$  0.0 0.5 0.464

relative Natural Colour (NC)

$lab^*lrij$  0.75 -0.498 -0.033

$lab^*tce$  0.75 0.5 0.511

$lab^*ncE$  0.0 0.5 g04b

$n^* = 1,0$

	$L^*=L_a^*$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	53.2	77.06	34.32	84.36	24
JMa	53.2	-1.51	84.38	84.39	91
GMa	53.2	-82.27	18.98	84.44	167
G50BMa	53.2	-77.72	-32.98	84.44	203
BMa	53.2	4.37	-84.28	84.41	273

## Input: Colorimetric Reflective System NRS11

for hue  $h^* = lab^*h = 167/360 = 0.464$

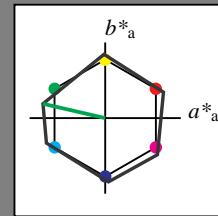
$lab^*tch$  and  $lab^*nch$

D65: hue G

LCH\*Ma: 53 84 167

olv\*Ma: 0.0 1.0 0.0

triangle lightness  $t^*$



### NRS11; adapted (a) CIELAB data

	$L^*=L_a^*$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	53.2	77.06	34.32	84.36	24
JMa	53.2	-1.51	84.38	84.39	91
GMa	53.2	-82.27	18.98	84.44	167
G50BMa	53.2	-77.72	-32.98	84.44	203
BMa	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)

$olv_i3^*$  1.0 1.0 1.0 (1.0)

$cmyn3^*$  0.0 0.0 0.0 (0.0)

$olv_i4^*$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*ice$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  74.3 -41.1 9.49

$LAB^*LABa$  74.3 -41.12 9.49

$LAB^*TChA$  75.0 42.21 167.01

relative CIELAB  $lab^*$

$lab^*lab$  0.75 -0.486 0.112

$lab^*tch$  0.75 0.5 0.464

$lab^*nch$  0.0 0.5 0.464

relative Natural Colour (NC)

$lab^*lrij$  0.75 -0.498 -0.033

$lab^*ice$  0.75 0.2 0.511

$lab^*ncE$  0.0 0.5 g04b

relative Inform. Technology (IT)

$olv_i3^*$  0.5 0.5 0.5 (1.0)

$cmyn3^*$  0.5 0.5 0.5 (0.0)

$olv_i4^*$  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

$LAB^*LABa$  53.21 0.0 0.0

$LAB^*TChA$  50.0 0.01 -

relative CIELAB  $lab^*$

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.5 0.0 0.0

$lab^*ice$  0.5 0.0 0.0

$lab^*ncE$  0.5 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  32.1 -41.06 9.5

$LAB^*LABa$  32.1 -41.12 9.49

$LAB^*TChA$  25.01 42.21 167.01

$n^* = 1,0$

relative Inform. Technology (IT)					
$olv_i3^*$	1.0	1.0	1.0	(1.0)	
$cmyn3^*$	0.0	0.0	0.0	(0.0)	
$olv_i4^*$	1.0	1.0	1.0	1.0	
$cmyn4^*$	0.0	0.0	0.0	0.0	

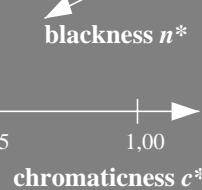
relative Inform. Technology (IT)					
$olv_i3^*$	0.0	0.5	0.5	(1.0)	
$cmyn3^*$	1.0	0.5	0.5	(0.0)	
$olv_i4^*$	0.5	1.0	0.5	0.5	
$cmyn4^*$	0.5	0.0	0.5	0.5	

relative Inform. Technology (IT)					
$olv_i3^*$	0.5	0.5	0.5	(1.0)	
$cmyn3^*$	1.0	0.0	1.0	(0.0)	
$olv_i4^*$	0.0	1.0	0.0	1.0	
$cmyn4^*$	1.0	0.0	1.0	0.0	

relative Inform. Technology (IT)					
$olv_i3^*$	0.0	0.0	0.0	(1.0)	
$cmyn3^*$	1.0	1.0	1.0	(0.0)	
$olv_i4^*$	1.0	1.0	1.0	0.0	
$cmyn4^*$	0.0	0.0	0.0	1.0	

relative Inform. Technology (IT)					
$olv_i3^*$	0.0	0.0	0.0	(1.0)	
$cmyn3^*$	1.0	1.0	1.0	(0.0)	
$olv_i4^*$	1.0	1.0	1.0	0.0	
$cmyn4^*$	0.0	0.0	0.0	1.0	

$n^* = 0,00$



## Output: Colorimetric Reflective System NCS11

for hue  $h^* = lab^*h = 167/360 = 0.465$

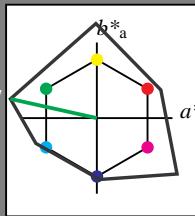
$lab^*tch$  and  $lab^*nch$

D65: hue G

LCH\*Ma: 63 117 167

olv\*Ma: 0.0 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

relative Inform. Technology (IT)

$olv_i3^*$  1.0 1.0 1.0 (1.0)

$cmyn3^*$  0.0 0.0 0.0 (0.0)

$olv_i4^*$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*ice$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  79.24 -57.11 12.67

$LAB^*LABa$  79.24 -57.12 12.67

$LAB^*TChA$  75.0 58.52 167.5

relative CIELAB  $lab^*$

$lab^*lab$  0.808 -0.487 0.108

$lab^*tch$  0.75 0.5 0.465

$lab^*nch$  0.0 0.5 0.465

relative Natural Colour (NC)

$lab^*lrij$  0.808 -0.497 -0.037

$lab^*ice$  0.75 0.5 0.512

$lab^*ncE$  0.0 0.5 g04b

relative Inform. Technology (IT)

$olv_i3^*$  0.0 0.5 0.0 (1.0)

$cmyn3^*$  1.0 0.5 0.0 (0.0)

$olv_i4^*$  0.5 1.0 0.5 0.5

$cmyn4^*$  0.5 0.0 0.5 0.5

standard and adapted CIELAB

$LAB^*LAB$  63.07 -114.225 35

$LAB^*LABa$  63.07 -114.252 34

$LAB^*TChA$  50.0 117.04 167.5

relative CIELAB  $lab^*$

$lab^*lab$  0.617 -0.975 0.216

$lab^*tch$  0.5 1.0 0.465

$lab^*nch$  0.0 1.0 0.465

relative Natural Colour (NC)

$lab^*lrij$  0.617 -0.996 -0.074

$lab^*ice$  0.5 1.0 0.512

$lab^*ncE$  0.0 1.0 g04b

$n^* = 1,0$

## Input: Colorimetric Reflective System NCS11

for hue  $h^* = lab^*h = 167/360 = 0.465$

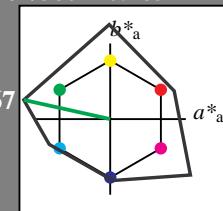
$lab^*tch$  and  $lab^*nch$

D65: hue G

LCH\*Ma: 63 117 167

olv\*Ma: 0.0 1.0 0.0

triangle lightness  $t^*$



relative Inform. Technology (IT)

$olv_i3^*$  1.0 1.0 1.0 (1.0)

$cmy_n3^*$  0.0 0.0 0.0 (0.0)

$olv_i4^*$  1.0 1.0 1.0 1.0

$cmy_n4^*$  0.0 0.0 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  95.41 0.0 -0.01

$LAB^*LAB_a$  95.41 0.0 0.0

$LAB^*TCh_a$  99.99 0.01 -

relative CIELAB lab\*

$lab^*lab$  1.0 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*ice$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)

$olv_i3^*$  0.5 0.5 0.5 (1.0)

$cmy_n3^*$  0.5 0.5 0.5 (0.0)

$olv_i4^*$  1.0 1.0 1.0 0.5

$cmy_n4^*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  53.21 0.04 0.0

$LAB^*LAB_a$  53.21 0.0 0.0

$LAB^*TCh_a$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.5 0.0 0.0

$lab^*ice$  0.5 0.0 0.0

$lab^*ncE$  0.5 0.0 -

relative Inform. Technology (IT)

$olv_i3^*$  0.0 0.0 0.0 (1.0)

$cmy_n3^*$  1.0 1.0 1.0 (0.0)

$olv_i4^*$  1.0 1.0 1.0 0.0

$cmy_n4^*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  11.01 0.07 0.01

$LAB^*LAB_a$  11.01 0.0 0.0

$LAB^*TCh_a$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*ice$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

## NCS11; adapted (a) CIELAB data

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

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

%Gamut

$u^*_{rel} = 149$

%Regularity

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

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

relative Inform. Technology (IT)

$olv_i3^*$  0.5 1.0 0.5 (1.0)

$cmy_n3^*$  0.5 0.0 0.5 (0.0)

$olv_i4^*$  0.5 1.0 0.5 1.0

$cmy_n4^*$  0.5 0.0 0.5 0.0

standard and adapted CIELAB

$LAB^*LAB$  79.24 -57.1 12.67

$LAB^*LAB_a$  79.24 -57.12 12.67

$LAB^*TCh_a$  75.0 58.52 167.5

relative CIELAB lab\*

$lab^*lab$  0.808 -0.487 0.108

$lab^*tch$  0.75 0.5 0.465

$lab^*nch$  0.0 0.5 0.465

relative Natural Colour (NC)

$lab^*lrij$  0.808 -0.497 -0.037

$lab^*ice$  0.75 0.5 0.512

$lab^*ncE$  0.0 0.5 g04b

relative Inform. Technology (IT)

$olv_i3^*$  0.0 1.0 0.0 (1.0)

$cmy_n3^*$  0.5 0.5 0.5 (0.0)

$olv_i4^*$  1.0 1.0 1.0 0.5

$cmy_n4^*$  1.0 0.0 1.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  63.07 -114.225 35

$LAB^*LAB_a$  63.07 -114.225 34

$LAB^*TCh_a$  50.0 117.04 167.5

relative CIELAB lab\*

$lab^*lab$  0.617 -0.975 0.216

$lab^*tch$  0.5 1.0 0.465

$lab^*nch$  0.0 1.0 0.465

relative Natural Colour (NC)

$lab^*lrij$  0.617 -0.996 -0.074

$lab^*ice$  0.5 1.0 0.512

$lab^*ncE$  0.0 1.0 g04b

relative Inform. Technology (IT)

$olv_i3^*$  0.0 0.0 0.0 (1.0)

$cmy_n3^*$  1.0 1.0 1.0 (0.0)

$olv_i4^*$  1.0 1.0 1.0 0.0

$cmy_n4^*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  11.01 0.07 0.01

$LAB^*LAB_a$  11.01 0.0 0.0

$LAB^*TCh_a$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*ice$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 0,50$

chromaticness  $c^*$

$n^* = 1,00$

blackness  $n^*$

## Output: Colorimetric Reflective System ORS18

for hue  $h^* = lab^*h = 151/360 = 0.419$

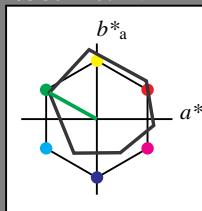
$lab^*tch$  and  $lab^*nch$

D65: hue L

LCH\*Ma: 51 72 151

olv\*Ma: 0.0 1.0 0.0

triangle lightness  $t^*$



%Gamut

$u^*_{rel} = 93$

%Regularity

$g^*_{H,rel} = 57$

$g^*_{C,rel} = 59$

relative Inform. Technology (IT)

$olv_i3^*$  0.5 1.0 0.5 (1.0)

$cmy_n3^*$  0.5 0.0 0.5 (0.0)

$olv_i4^*$  0.5 1.0 0.5 1.0

$cmy_n4^*$  0.5 0.0 0.5 0.0

standard and adapted CIELAB

$LAB^*LAB$  95.41 -0.97 4.75

$LAB^*LAB_a$  95.41 0.0 0.0

$LAB^*TCh_a$  99.99 0.01 -

relative CIELAB lab\*

$lab^*lab$  1.0 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*ice$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)

$olv_i3^*$  0.0 0.0 0.0 (1.0)

$cmy_n3^*$  1.0 1.0 1.0 (0.0)

$olv_i4^*$  1.0 1.0 1.0 0.0

$cmy_n4^*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  73.15 -31.94 20.73

$LAB^*LAB_a$  73.15 -31.38 17.47

$LAB^*TCh_a$  75.0 35.93 150.91

relative CIELAB lab\*

$lab^*lab$  0.712 -0.436 0.243

$lab^*tch$  0.75 0.5 0.419

$lab^*nch$  0.0 0.5 0.419

relative Natural Colour (NC)

$lab^*lrij$  0.712 -0.478 0.144

$lab^*ice$  0.75 0.5 0.453

$lab^*ncE$  0.0 0.5 j81g

relative CIELAB lab\*

$lab^*lab$  0.213 -0.436 0.243

$lab^*tch$  0.25 0.5 0.419

$lab^*nch$  0.5 0.5 0.419

relative Natural Colour (NC)

$lab^*lrij$  0.213 -0.478 0.144

$lab^*ice$  0.25 0.5 0.453

$lab^*ncE$  0.5 0.5 j81g

$n^* = 0,00$

blackness  $n^*$

$n^* = 1,00$

chromaticness  $c^*$

UE100-7, 3 step scales for constant CIELAB hue 167/360 = 0.465 (left)

3 step scales for constant CIELAB hue 151/360 = 0.419 (right)

## Input: Colorimetric Reflective System NCS11

for hue  $h^* = lab^*h = 167/360 = 0.465$

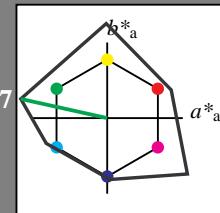
$lab^*tch$  and  $lab^*nch$

D65: hue G

LCH\*Ma: 63 117 167

olv\*Ma: 0.0 1.0 0.0

triangle lightness  $t^*$



%Gamut

$u^*_{rel} = 149$

%Regularity

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

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

relative Inform. Technology (IT)

$olv^3*$  1.0 1.0 1.0 (1.0)

$cmy^3*$  0.0 0.0 0.0 (0.0)

$olv^4*$  1.0 1.0 1.0 1.0

$cmy^4*$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)

$olv^3*$  0.5 0.5 0.5 (1.0)

$cmy^3*$  0.5 0.5 0.5 (0.0)

$olv^4*$  1.0 1.0 1.0 0.5

$cmy^4*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  53.21 0.04 0.0

$LAB^*LABa$  53.21 0.0 0.0

$LAB^*TChA$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.5 0.0 0.0

$lab^*tce$  0.5 0.0 0.0

$lab^*ncE$  0.5 0.0 -

relative Inform. Technology (IT)

$olv^3*$  0.0 0.0 0.0 (1.0)

$cmy^3*$  1.0 1.0 1.0 (0.0)

$olv^4*$  1.0 1.0 1.0 0.0

$cmy^4*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  11.01 0.07 0.01

$LAB^*LABa$  11.01 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*tce$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

$n^* = 0,00$

$n^* = 0,50$

$n^* = 1,00$

chromaticness  $c^*$

$n^* = 0,00$

blackness  $n^*$

$n^* = 0,50$

$n^* = 1,00$

chromaticness  $c^*$

## Output: Colorimetric Reflective System MRS18

for hue  $h^* = lab^*h = 172/360 = 0.479$

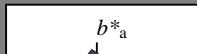
$lab^*tch$  and  $lab^*nch$

D65: hue G

LCH\*Ma: 52 70 172

olv\*Ma: 0.0 1.0 0.0

triangle lightness  $t^*$



%Gamut

$u^*_{rel} = 91$

%Regularity

$g^*_{H,rel} = 41$

$g^*_{C,rel} = 52$

relative Inform. Technology (IT)

$olv^3*$  1.0 1.0 1.0 (1.0)

$cmy^3*$  0.0 0.0 0.0 (0.0)

$olv^4*$  1.0 1.0 1.0 1.0

$cmy^4*$  0.0 0.0 0.0 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 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)

$olv^3*$  0.5 1.0 0.5 (1.0)

$cmy^3*$  0.5 0.0 0.5 (0.0)

$olv^4*$  0.5 1.0 0.5 1.0

$cmy^4*$  0.5 0.0 0.5 0.0

standard and adapted CIELAB

$LAB^*LAB$  79.24 -57.1 12.67

$LAB^*LABa$  79.24 -57.12 12.67

$LAB^*TChA$  75.0 58.52 167.5

relative CIELAB lab\*

$lab^*lab$  0.808 -0.487 0.108

$lab^*tch$  0.75 0.5 0.465

$lab^*nch$  0.0 0.5 0.465

relative Natural Colour (NC)

$lab^*lrij$  0.808 -0.497 -0.037

$lab^*tce$  0.75 0.5 0.512

$lab^*ncE$  0.0 0.5 g04b

relative Inform. Technology (IT)

$olv^3*$  0.0 1.0 0.0 (1.0)

$cmy^3*$  0.5 0.5 0.5 (0.0)

$olv^4*$  1.0 1.0 1.0 0.5

$cmy^4*$  0.0 0.0 0.5 0.5

standard and adapted CIELAB

$LAB^*LAB$  63.07 -114.225 35

$LAB^*LABa$  63.07 -114.255 34

$LAB^*TChA$  50.0 117.04 167.5

relative CIELAB lab\*

$lab^*lab$  0.617 -0.975 0.216

$lab^*tch$  0.5 1.0 0.465

$lab^*nch$  0.0 1.0 0.465

relative Natural Colour (NC)

$lab^*lrij$  0.617 -0.996 -0.074

$lab^*tce$  0.5 1.0 0.512

$lab^*ncE$  0.0 1.0 g04b

$n^* = 1,0$

blackness  $n^*$

$n^* = 0,50$

$n^* = 1,00$

chromaticness  $c^*$

MRS18; adapted (a) CIELAB data

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

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)

$olv^3*$  0.0 1.0 0.0 (1.0)

$cmy^3*$  1.0 0.0 1.0 (0.0)

$olv^4*$  0.0 1.0 0.5 1.0

$cmy^4*$  0.0 0.0 0.5 0.0

standard and adapted CIELAB

$LAB^*LAB$  73.75 -35.42 8.02

$LAB^*LABa$  73.75 -34.85 4.72

$LAB^*TChA$  75.0 35.18 172.29

relative CIELAB lab\*

$lab^*lab$  0.72 -0.494 0.067

$lab^*tch$  0.75 0.5 0.479

$lab^*nch$  0.0 0.5 0.479

relative Natural Colour (NC)

$lab^*lrij$  0.72 -0.496 -0.056

$lab^*tce$  0.75 0.5 0.518

$lab^*ncE$  0.0 0.5 g07b

$n^* = 0,00$

blackness  $n^*$

$n^* = 0,50$

$n^* = 1,00$

chromaticness  $c^*$

UE100-7, 3 step scales for constant CIELAB hue 167/360 = 0.465 (left)

3 step scales for constant CIELAB hue 172/360 = 0.479 (right)

## Input: Colorimetric Reflective System NCS11

for hue  $h^* = lab^*h = 167/360 = 0.465$

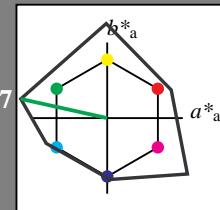
$lab^*tch$  and  $lab^*nch$

D65: hue G

LCH\*Ma: 63 117 167

olv\*Ma: 0.0 1.0 0.0

triangle lightness  $t^*$



relative Inform. Technology (IT)

$olv^3*$  1.0 1.0 1.0 (1.0)

$cmy^3*$  0.0 0.0 0.0 (0.0)

$olv^4*$  1.0 1.0 1.0 1.0

$cmy^4*$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*ice$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)

$olv^3*$  0.5 0.5 0.5 (1.0)

$cmy^3*$  0.5 0.5 0.5 (0.0)

$olv^4*$  1.0 1.0 1.0 0.5

$cmy^4*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  53.21 0.04 0.0

$LAB^*LABa$  53.21 0.0 0.0

$LAB^*TChA$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.5 0.0 0.0

$lab^*ice$  0.5 0.0 0.0

$lab^*ncE$  0.5 0.0 -

relative Inform. Technology (IT)

$olv^3*$  0.0 0.0 0.0 (1.0)

$cmy^3*$  1.0 1.0 1.0 (0.0)

$olv^4*$  1.0 1.0 1.0 0.0

$cmy^4*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  11.01 0.07 0.01

$LAB^*LABa$  11.01 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*ice$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

## NCS11; adapted (a) CIELAB data

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

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

%Gamut

$u^*_{rel} = 149$

%Regularity

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

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

relative Inform. Technology (IT)

$olv^3*$  0.5 1.0 0.5 (1.0)

$cmy^3*$  0.5 0.0 0.5 (0.0)

$olv^4*$  0.5 1.0 0.5 1.0

$cmy^4*$  0.5 0.0 0.5 0.0

standard and adapted CIELAB

$LAB^*LAB$  79.24 -57.1 12.67

$LAB^*LABa$  79.24 -57.12 12.67

$LAB^*TChA$  75.0 58.52 167.5

relative CIELAB lab\*

$lab^*lab$  0.808 -0.487 0.108

$lab^*tch$  0.75 0.5 0.465

$lab^*nch$  0.0 0.5 0.465

relative Natural Colour (NC)

$lab^*lrij$  0.808 -0.497 -0.037

$lab^*ice$  0.75 0.5 0.512

$lab^*ncE$  0.0 0.5 g04b

relative Inform. Technology (IT)

$olv^3*$  0.0 1.0 0.0 (1.0)

$cmy^3*$  0.5 0.5 0.5 (0.0)

$olv^4*$  1.0 1.0 1.0 0.5

$cmy^4*$  1.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  63.07 -114.225 35

$LAB^*LABa$  63.07 -114.225 34

$LAB^*TChA$  50.0 117.04 167.5

relative CIELAB lab\*

$lab^*lab$  0.617 -0.975 0.216

$lab^*tch$  0.5 1.0 0.465

$lab^*nch$  0.0 1.0 0.465

relative Natural Colour (NC)

$lab^*lrij$  0.617 -0.996 -0.074

$lab^*ice$  0.5 1.0 0.512

$lab^*ncE$  0.0 1.0 g04b

relative Inform. Technology (IT)

$olv^3*$  0.0 0.0 0.0 (1.0)

$cmy^3*$  1.0 1.0 1.0 (0.0)

$olv^4*$  1.0 1.0 1.0 0.0

$cmy^4*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  11.01 0.07 0.01

$LAB^*LABa$  11.01 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*ice$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 0,00$

blackness  $n^*$

chromaticness  $c^*$

## Output: Colorimetric Reflective System TRS18

for hue  $h^* = lab^*h = 151/360 = 0.419$

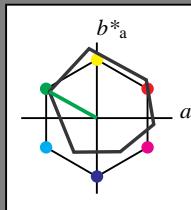
$lab^*tch$  and  $lab^*nch$

D65: hue L

LCH\*Ma: 51 72 151

olv\*Ma: 0.0 1.0 0.0

triangle lightness  $t^*$



%Gamut

$u^*_{rel} = 93$

%Regularity

$g^*_{H,rel} = 57$

$g^*_{C,rel} = 59$

relative Inform. Technology (IT)

$olv^3*$  1.0 1.0 1.0 (1.0)

$cmy^3*$  0.0 0.0 0.0 (0.0)

$olv^4*$  1.0 1.0 1.0 1.0

$cmy^4*$  0.0 0.0 0.0 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 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*ice$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)

$olv^3*$  0.5 0.5 0.5 (1.0)

$cmy^3*$  0.5 0.5 0.5 (0.0)

$olv^4*$  1.0 1.0 1.0 0.5

$cmy^4*$  0.5 0.5 0.5 0.5

standard and adapted CIELAB

$LAB^*LAB$  73.15 -31.94 20.73

$LAB^*LABa$  73.15 -31.38 17.47

$LAB^*TChA$  75.0 35.93 150.91

relative CIELAB lab\*

$lab^*lab$  0.712 -0.436 0.243

$lab^*tch$  0.75 0.5 0.419

$lab^*nch$  0.0 0.5 0.419

relative Natural Colour (NC)

$lab^*lrij$  0.712 -0.478 0.144

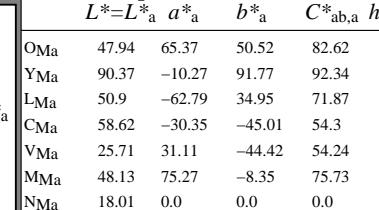
$lab^*ice$  0.75 0.5 0.453

$lab^*ncE$  0.0 0.5 0.453

$n^* = 0,00$

blackness  $n^*$

chromaticness  $c^*$



%Gamut

$u^*_{rel} = 93$

%Regularity

$g^*_{H,rel} = 57$

$g^*_{C,rel} = 59$

relative Inform. Technology (IT)

$olv^3*$  1.0 1.0 1.0 (1.0)

$cmy^3*$  0.5 0.5 0.5 (0.0)

$olv^4*$  1.0 1.0 1.0 1.0

$cmy^4*$  0.5 0.5 0.5 0.5

standard and adapted CIELAB

$LAB^*LAB$  73.15 -31.94 20.73

$LAB^*LABa$  73.15 -31.38 17.47

$LAB^*TChA$  75.0 35.93 150.91

relative CIELAB lab\*

$lab^*lab$  0.712 -0.436 0.243

$lab^*tch</math$

## Input: Colorimetric Reflective System NCS11

for hue  $h^* = lab^*h = 167/360 = 0.465$

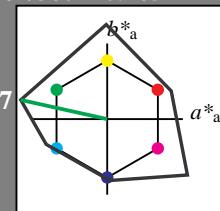
$lab^*tch$  and  $lab^*nch$

D65: hue G

LCH\*Ma: 63 117 167

olv\*Ma: 0.0 1.0 0.0

triangle lightness  $t^*$



relative Inform. Technology (IT)

olv13\* 1.0 1.0 1.0 (1.0)

cmyn3\* 0.0 0.0 0.0 (0.0)

olv14\* 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 0.0 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 -

standard and adapted CIELAB

LAB\*LAB 79.24 -57.1 12.67

LAB\*LABa 79.24 -57.12 12.67

LAB\*TChA 75.0 58.52 167.5

relative CIELAB lab\*

lab\*lab 0.808 -0.487 0.108

lab\*tch 0.75 0.5 0.465

lab\*nch 0.0 0.5 0.465

relative Natural Colour (NC)

lab\*lrj 0.808 -0.497 -0.037

lab\*tce 0.75 0.5 0.512

lab\*ncE 0.0 0.5 g04b

relative Inform. Technology (IT)

olv13\* 0.5 0.5 0.5 (1.0)

cmyn3\* 0.5 0.5 0.5 (0.0)

olv14\* 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\*LABa 53.21 0.0 0.0

LAB\*TChA 50.0 0.01 -

relative CIELAB lab\*

lab\*lab 0.5 0.0 0.0

lab\*tch 0.5 0.0 -

lab\*nch 0.5 0.0 -

relative Natural Colour (NC)

lab\*lrj 0.5 0.0 0.0

lab\*tce 0.5 0.0 0.0

lab\*ncE 0.5 0.0 -

relative Inform. Technology (IT)

olv13\* 0.0 0.0 0.0 (1.0)

cmyn3\* 1.0 1.0 1.0 (0.0)

olv14\* 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 0.0 0.0

LAB\*TChA 0.01 0.01 -

relative CIELAB lab\*

lab\*lab 0.0 0.0 0.0

lab\*tch 0.0 0.0 -

lab\*nch 1.0 0.0 -

relative Natural Colour (NC)

lab\*lrj 0.0 0.0 0.0

lab\*tce 0.0 0.0 -

lab\*ncE 1.0 0.0 -

$n^* = 1,0$

## NCS11; adapted (a) CIELAB data

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

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

%Gamut

$u^*_{rel} = 149$

%Regularity

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

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

relative Inform. Technology (IT)

olv13\* 0.5 1.0 0.5 (1.0)

cmyn3\* 0.5 0.0 0.5 (0.0)

olv14\* 0.5 1.0 0.5 1.0

cmyn4\* 0.5 0.0 0.5 0.0

standard and adapted CIELAB

LAB\*LAB 79.24 -57.1 12.67

LAB\*LABa 79.24 -57.12 12.67

LAB\*TChA 75.0 58.52 167.5

relative CIELAB lab\*

lab\*lab 0.808 -0.487 0.108

lab\*tch 0.75 0.5 0.465

lab\*nch 0.0 0.5 0.465

relative Natural Colour (NC)

lab\*lrj 0.808 -0.497 -0.037

lab\*tce 0.75 0.5 0.512

lab\*ncE 0.0 0.5 g04b

relative Inform. Technology (IT)

olv13\* 0.0 0.5 0.5 (1.0)

cmyn3\* 0.5 0.5 0.5 (0.0)

olv14\* 1.0 1.0 1.0 0.5

cmyn4\* 0.0 0.0 0.0 0.5

standard and adapted CIELAB

LAB\*LAB 63.07 -114.225 35

LAB\*LABa 63.07 -114.225 34

LAB\*TChA 50.0 117.04 167.5

relative CIELAB lab\*

lab\*lab 0.617 -0.975 0.216

lab\*tch 0.5 1.0 0.465

lab\*nch 0.0 1.0 0.465

relative Natural Colour (NC)

lab\*lrj 0.617 -0.996 -0.074

lab\*tce 0.5 1.0 0.512

lab\*ncE 0.0 1.0 g04b

relative Inform. Technology (IT)

olv13\* 0.0 0.0 0.0 (1.0)

cmyn3\* 1.0 1.0 1.0 (0.0)

olv14\* 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 0.0 0.0

LAB\*TChA 0.01 0.01 -

relative CIELAB lab\*

lab\*lab 0.0 0.0 0.0

lab\*tch 0.0 0.0 -

lab\*nch 1.0 0.0 -

relative Natural Colour (NC)

lab\*lrj 0.0 0.0 0.0

lab\*tce 0.0 0.0 -

lab\*ncE 1.0 0.0 -

$n^* = 0,00$

blackness  $n^*$

chromaticness  $c^*$

## Output: Colorimetric Reflective System MRS18a

for hue  $h^* = lab^*h = 171/360 = 0.475$

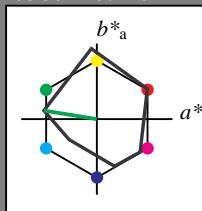
$lab^*tch$  and  $lab^*nch$

D65: hue G

LCH\*Ma: 52 71 171

olv\*Ma: 0.0 1.0 0.0

triangle lightness  $t^*$



%Gamut

$u^*_{rel} = 92$

%Regularity

$g^*_{H,rel} = 42$

$g^*_{C,rel} = 49$

relative Inform. Technology (IT)

olv13\* 1.0 1.0 1.0 (1.0)

cmyn3\* 0.0 0.0 0.0 (0.0)

olv14\* 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 0.01 0.0

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 0.0 0.0 -

relative Natural Colour (NC)

lab\*lrj 1.0 0.0 0.0

lab\*tce 1.0 0.0 -

lab\*ncE 0.0 0.0 -

relative Inform. Technology (IT)

olv13\* 0.5 1.0 0.5 (1.0)

cmyn3\* 0.5 0.0 0.5 (0.0)

olv14\* 0.5 1.0 0.5 1.0

cmyn4\* 0.5 0.0 0.5 0.0

standard and adapted CIELAB

LAB\*LAB 73.75 -34.92 5.64

LAB\*LABa 73.75 -34.96 5.63

LAB\*TChA 75.0 35.42 170.85

relative CIELAB lab\*

lab\*lab 0.72 -0.493 0.079

lab\*tch 0.75 0.5 0.475

lab\*nch 0.0 0.5 0.475

relative Natural Colour (NC)

lab\*lrj 0.72 -0.495 -0.06

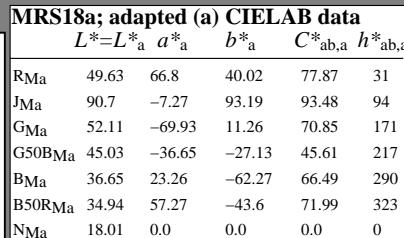
lab\*tce 0.75 0.5 0.52

lab\*ncE 0.0 0.5 g07b

$n^* = 0,00$

blackness  $n^*$

chromaticness  $c^*$



%Gamut

$u^*_{rel} = 92$

%Regularity

$g^*_{H,rel} = 42$

$g^*_{C,rel} = 49$

relative Inform. Technology (IT)

olv13\* 1.0 1.0 1.0 (1.0)

cmyn3\* 0.5 0.0 0.5 (0.0)

olv14\* 0.5 1.0 0.5 1.0

cmyn4\* 0.5 0.0 0.5 0.0

standard and adapted CIELAB

LAB\*LAB 73.75 -34.92 5.64

LAB\*LABa 73.75 -34.96 5.63

LAB\*TChA 75.0 35.42 170.85

relative CIELAB lab\*

lab\*lab 0.72 -0.493 0.079

lab\*tch 0.75 0.5 0.475

lab\*nch 0.0 0.5 0.475

relative Natural Colour (NC)

lab\*lrj 0.72 -0.495 -0.06

lab\*tce 0.75 0.5 0.52

lab\*ncE 0.0 0.5 g07b

$n^* = 0,00$

blackness  $n^*$

## Input: Colorimetric Reflective System NCS11

for hue  $h^* = lab^*h = 167/360 = 0.465$

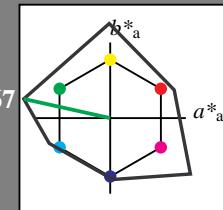
$lab^*tch$  and  $lab^*nch$

D65: hue G

LCH\*Ma: 63 117 167

olv\*Ma: 0.0 1.0 0.0

triangle lightness  $t^*$



%Gamut

$u^*_{rel} = 149$

%Regularity

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

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

relative Inform. Technology (IT)

$olv13^*$  1.0 1.0 1.0 (1.0)

$cmy3^*$  0.0 0.0 0.0 (0.0)

$olv4^*$  1.0 1.0 1.0 1.0

$cmy4^*$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)

$olv13^*$  0.5 0.5 0.5 (1.0)

$cmy3^*$  0.5 0.5 0.5 (0.0)

$olv4^*$  1.0 1.0 1.0 0.5

$cmy4^*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  53.21 0.04 0.0

$LAB^*LABa$  53.21 0.0 0.0

$LAB^*TChA$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.5 0.0 0.0

$lab^*tce$  0.5 0.0 0.0

$lab^*ncE$  0.5 0.0 -

relative Inform. Technology (IT)

$olv13^*$  0.0 0.0 0.0 (1.0)

$cmy3^*$  1.0 1.0 1.0 (0.0)

$olv4^*$  1.0 1.0 1.0 0.0

$cmy4^*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  11.01 0.07 0.01

$LAB^*LABa$  11.01 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*tce$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

$n^* = 0,00$

$n^* = 0,50$

$n^* = 1,00$

chromaticness  $c^*$

## Output: Colorimetric Reflective System NRS18

for hue  $h^* = lab^*h = 167/360 = 0.464$

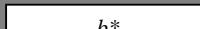
$lab^*tch$  and  $lab^*nch$

D65: hue G

LCH\*Ma: 57 77 167

olv\*Ma: 0.0 1.0 0.0

triangle lightness  $t^*$



%Gamut

$u^*_{rel} = 100$

%Regularity

$g^*_{H,rel} = 47$

$g^*_{C,rel} = 100$

relative Inform. Technology (IT)

$olv13^*$  1.0 1.0 1.0 (1.0)

$cmy3^*$  0.0 0.0 0.0 (0.0)

$olv4^*$  1.0 1.0 1.0 1.0

$cmy4^*$  0.0 0.0 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  95.41 0.0 0.0

$LAB^*LABa$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)

$olv13^*$  0.5 1.0 0.5 (1.0)

$cmy3^*$  0.5 0.0 0.5 (0.0)

$olv4^*$  0.5 1.0 0.5 1.0

$cmy4^*$  0.5 0.0 0.5 0.0

standard and adapted CIELAB

$LAB^*LAB$  79.24 -57.1 12.67

$LAB^*LABa$  79.24 -57.12 12.67

$LAB^*TChA$  75.0 58.52 167.5

relative CIELAB lab\*

$lab^*lab$  0.808 -0.487 0.108

$lab^*tch$  0.75 0.5 0.465

$lab^*nch$  0.0 0.5 0.465

relative Natural Colour (NC)

$lab^*lrij$  0.808 -0.497 -0.037

$lab^*tce$  0.75 0.5 0.512

$lab^*ncE$  0.0 0.5 g04b

relative Inform. Technology (IT)

$olv13^*$  0.0 1.0 0.0 (1.0)

$cmy3^*$  1.0 0.0 1.0 (0.0)

$olv4^*$  1.0 1.0 1.0 0.0

$cmy4^*$  1.0 0.0 1.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  63.07 -114.225 35

$LAB^*LABa$  63.07 -114.255 34

$LAB^*TChA$  50.0 117.04 167.5

relative CIELAB lab\*

$lab^*lab$  0.617 -0.975 0.216

$lab^*tch$  0.5 1.0 0.465

$lab^*nch$  0.0 1.0 0.465

relative Natural Colour (NC)

$lab^*lrij$  0.617 -0.996 -0.074

$lab^*tce$  0.5 1.0 0.512

$lab^*ncE$  0.0 1.0 g04b

relative Inform. Technology (IT)

$olv13^*$  0.0 0.0 0.0 (1.0)

$cmy3^*$  1.0 1.0 1.0 (0.0)

$olv4^*$  1.0 1.0 1.0 0.0

$cmy4^*$  1.0 0.0 1.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.09 0.02

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*tce$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

blackness  $n^*$

$n^* = 0,50$

$n^* = 1,00$

chromaticness  $c^*$

$n^* = 0,00$

blackness  $n^*$

$n^* = 0,50$

$n^* = 1,00$

chromaticness  $c^*$

UE100-7, 3 step scales for constant CIELAB hue 167/360 = 0.465 (left)

3 step scales for constant CIELAB hue 167/360 = 0.464 (right)

## Input: Colorimetric Reflective System NCS11

for hue  $h^* = lab^*h = 167/360 = 0.465$

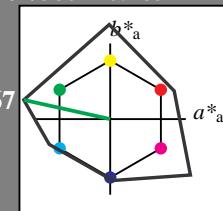
$lab^*tch$  and  $lab^*nch$

D65: hue G

LCH\*Ma: 63 117 167

olv\*Ma: 0.0 1.0 0.0

triangle lightness  $t^*$



%Gamut

$u^*_{rel} = 149$

%Regularity

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

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

relative Inform. Technology (IT)

$olv^3* 1.0 \quad 1.0 \quad 1.0 \quad (1.0)$

$cmy^3* 0.0 \quad 0.0 \quad 0.0 \quad (0.0)$

$olv^4* 1.0 \quad 1.0 \quad 1.0 \quad 1.0$

$cmy^4* 0.0 \quad 0.0 \quad 0.0 \quad 0.0$

standard and adapted CIELAB

$LAB^*LAB \quad 95.41 \quad 0.0 \quad -0.01$

$LAB^*LABa \quad 95.41 \quad 0.0 \quad 0.0$

$LAB^*TCh \quad 99.99 \quad 0.01 \quad -$

relative CIELAB lab\*

$lab^*lab \quad 1.0 \quad 0.0 \quad 0.0$

$lab^*tch \quad 1.0 \quad 0.0 \quad -$

$lab^*nch \quad 0.0 \quad 0.0 \quad -$

relative Natural Colour (NC)

$lab^*lrj \quad 1.0 \quad 0.0 \quad 0.0$

$lab^*ice \quad 1.0 \quad 0.0 \quad -$

$lab^*ncE \quad 0.0 \quad 0.0 \quad -$

relative Inform. Technology (IT)

$olv^3* 0.5 \quad 0.5 \quad 0.5 \quad (1.0)$

$cmy^3* 0.5 \quad 0.5 \quad 0.5 \quad (0.0)$

$olv^4* 1.0 \quad 1.0 \quad 1.0 \quad 0.5$

$cmy^4* 0.0 \quad 0.0 \quad 0.0 \quad 0.5$

standard and adapted CIELAB

$LAB^*LAB \quad 53.21 \quad 0.04 \quad 0.0$

$LAB^*LABa \quad 53.21 \quad 0.0 \quad 0.0$

$LAB^*TCh \quad 50.0 \quad 0.01 \quad -$

relative CIELAB lab\*

$lab^*lab \quad 0.5 \quad 0.0 \quad 0.0$

$lab^*tch \quad 0.5 \quad 0.0 \quad -$

$lab^*nch \quad 0.5 \quad 0.0 \quad -$

relative Natural Colour (NC)

$lab^*lrj \quad 0.5 \quad 0.0 \quad 0.0$

$lab^*ice \quad 0.5 \quad 0.0 \quad -$

$lab^*ncE \quad 0.5 \quad 0.0 \quad -$

relative Inform. Technology (IT)

$olv^3* 0.0 \quad 0.0 \quad 0.0 \quad (1.0)$

$cmy^3* 1.0 \quad 1.0 \quad 1.0 \quad (0.0)$

$olv^4* 1.0 \quad 1.0 \quad 1.0 \quad 0.0$

$cmy^4* 0.0 \quad 0.0 \quad 0.0 \quad 1.0$

standard and adapted CIELAB

$LAB^*LAB \quad 11.01 \quad 0.07 \quad 0.01$

$LAB^*LABa \quad 11.01 \quad 0.0 \quad 0.0$

$LAB^*TCh \quad 0.01 \quad 0.01 \quad -$

relative CIELAB lab\*

$lab^*lab \quad 0.0 \quad 0.0 \quad 0.0$

$lab^*tch \quad 0.0 \quad 0.0 \quad -$

$lab^*nch \quad 1.0 \quad 0.0 \quad -$

relative Natural Colour (NC)

$lab^*lrj \quad 0.0 \quad 0.0 \quad 0.0$

$lab^*ice \quad 0.0 \quad 0.0 \quad -$

$lab^*ncE \quad 1.0 \quad 0.0 \quad -$

$n^* = 1,0$

## NCS11; adapted (a) CIELAB data

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

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

## Output: Colorimetric Reflective System NCS18

for hue  $h^* = lab^*h = 167/360 = 0.465$

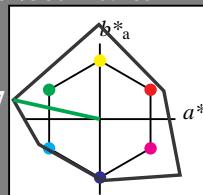
$lab^*tch$  and  $lab^*nch$

D65: hue G

LCH\*Ma: 63 117 167

olv\*Ma: 0.0 1.0 0.0

triangle lightness  $t^*$



%Gamut

$u^*_{rel} = 136$

%Regularity

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

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

relative Inform. Technology (IT)

$olv^3* 1.0 \quad 1.0 \quad 1.0 \quad (1.0)$

$cmy^3* 0.0 \quad 0.0 \quad 0.0 \quad (0.0)$

$olv^4* 1.0 \quad 1.0 \quad 1.0 \quad 1.0$

$cmy^4* 0.0 \quad 0.0 \quad 0.0 \quad 0.0$

standard and adapted CIELAB

$LAB^*LAB \quad 95.41 \quad 0.0 \quad -0.01$

$LAB^*LABa \quad 95.41 \quad 0.0 \quad 0.0$

$LAB^*TCh \quad 99.99 \quad 0.01 \quad -$

relative CIELAB lab\*

$lab^*lab \quad 1.0 \quad 0.0 \quad 0.0$

$lab^*tch \quad 1.0 \quad 0.0 \quad -$

$lab^*nch \quad 0.0 \quad 0.0 \quad -$

relative Natural Colour (NC)

$lab^*lrj \quad 1.0 \quad 0.0 \quad 0.0$

$lab^*ice \quad 1.0 \quad 0.0 \quad -$

$lab^*ncE \quad 0.0 \quad 0.0 \quad -$

relative Inform. Technology (IT)

$olv^3* 0.5 \quad 1.0 \quad 1.0 \quad (1.0)$

$cmy^3* 0.5 \quad 0.5 \quad 0.5 \quad (0.0)$

$olv^4* 0.5 \quad 1.0 \quad 1.0 \quad 1.0$

$cmy^4* 0.5 \quad 0.5 \quad 0.5 \quad 0.5$

standard and adapted CIELAB

$LAB^*LAB \quad 63.07 \quad -114.225.35$

$LAB^*LABa \quad 63.07 \quad -114.225.34$

$LAB^*TCh \quad 50.0 \quad 117.04 \quad 167.5$

relative CIELAB lab\*

$lab^*lab \quad 0.617 \quad -0.975 \quad 0.216$

$lab^*tch \quad 0.5 \quad 1.0 \quad 0.465$

$lab^*nch \quad 0.0 \quad 1.0 \quad 0.465$

relative Natural Colour (NC)

$lab^*lrj \quad 0.617 \quad -0.996 \quad -0.074$

$lab^*ice \quad 0.5 \quad 1.0 \quad 0.512$

$lab^*ncE \quad 0.0 \quad 1.0 \quad g04b$

$n^* = 0,00$

blackness  $n^*$

$chromaticness c^*$

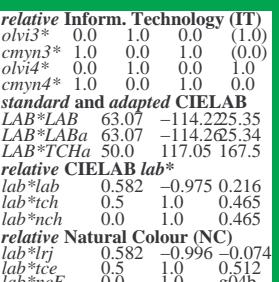
$n^* = 1,0$

3 step scales for constant CIELAB hue 167/360 = 0.465 (right)

## NCS18; adapted (a) CIELAB data

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

RMa	47.15	84.63	37.24	92.46	24
JMa	91.37	-1.27	125.03	125.03	91
GMa	63.07	-114.29	25.34	117.07	167
G50BMa	59.47	-80.61	-33.45	87.29	203
BMa	49.01	3.63	-81.2	81.29	273
B50RMa	44.06	106.07	-73.94	129.31	325
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	272



$n^* = 0,00$

blackness  $n^*$

$chromaticness c^*$

UE100-7, 3 step scales for constant CIELAB hue 167/360 = 0.465 (left)

## Input: Colorimetric Reflective System NCS11

for hue  $h^* = lab^*h = 167/360 = 0.465$

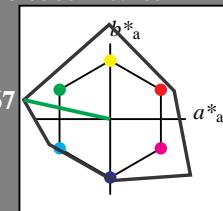
$lab^*tch$  and  $lab^*nch$

D65: hue G

LCH\*Ma: 63 117 167

olv\*Ma: 0.0 1.0 0.0

triangle lightness  $t^*$



%Gamut

$u^*_{rel} = 149$

%Regularity

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

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

relative Inform. Technology (IT)

$olv^3*$  1.0 1.0 1.0 (1.0)

$cmy^3*$  0.0 0.0 0.0 (0.0)

$olv^4*$  1.0 1.0 1.0 1.0

$cmy^4*$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)

$olv^3*$  0.5 0.5 0.5 (1.0)

$cmy^3*$  0.5 0.5 0.5 (0.0)

$olv^4*$  1.0 1.0 1.0 0.5

$cmy^4*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  53.21 0.04 0.0

$LAB^*LABa$  53.21 0.0 0.0

$LAB^*TChA$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.5 0.0 0.0

$lab^*tce$  0.5 0.0 0.0

$lab^*ncE$  0.5 0.0 -

relative Inform. Technology (IT)

$olv^3*$  0.0 0.0 0.0 (1.0)

$cmy^3*$  1.0 1.0 1.0 (0.0)

$olv^4*$  1.0 1.0 1.0 0.0

$cmy^4*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  11.01 0.07 0.01

$LAB^*LABa$  11.01 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*tce$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

$n^* = 0,00$

$n^* = 0,50$

$n^* = 1,00$

$n^* = 0,50$

$n^* = 0,00$

blackness  $n^*$

chromaticness  $c^*$

UE100-7, 3 step scales for constant CIELAB hue 167/360 = 0.465 (left)

## Output: Colorimetric Reflective System NRS11

for hue  $h^* = lab^*h = 167/360 = 0.464$

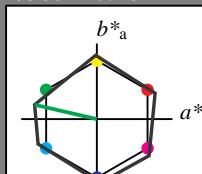
$lab^*tch$  and  $lab^*nch$

D65: hue G

LCH\*Ma: 53 84 167

olv\*Ma: 0.0 1.0 0.0

triangle lightness  $t^*$



%Gamut

$u^*_{rel} = 119$

%Regularity

$g^*_{H,rel} = 47$

$g^*_{C,rel} = 100$

relative Inform. Technology (IT)

$olv^3*$  1.0 1.0 1.0 (1.0)

$cmy^3*$  0.0 0.0 0.0 (0.0)

$olv^4*$  1.0 1.0 1.0 1.0

$cmy^4*$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)

$olv^3*$  0.5 1.0 0.5 (1.0)

$cmy^3*$  0.5 0.0 0.5 (0.0)

$olv^4*$  0.5 1.0 0.5 1.0

$cmy^4*$  0.5 0.0 0.5 0.0

standard and adapted CIELAB

$LAB^*LAB$  79.24 -57.1 12.67

$LAB^*LABa$  79.24 -57.12 12.67

$LAB^*TChA$  75.0 58.52 167.5

relative CIELAB lab\*

$lab^*lab$  0.808 -0.487 0.108

$lab^*tch$  0.75 0.5 0.465

$lab^*nch$  0.0 0.5 0.465

relative Natural Colour (NC)

$lab^*lrij$  0.808 -0.497 -0.037

$lab^*tce$  0.75 0.5 0.512

$lab^*ncE$  0.0 0.5 g04b

relative Inform. Technology (IT)

$olv^3*$  0.0 1.0 0.0 (1.0)

$cmy^3*$  1.0 0.0 1.0 (0.0)

$olv^4*$  1.0 1.0 1.0 0.5

$cmy^4*$  1.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  63.07 -114.225 35

$LAB^*LABa$  63.07 -114.255 34

$LAB^*TChA$  50.0 117.04 167.5

relative CIELAB lab\*

$lab^*lab$  0.617 -0.975 0.216

$lab^*tch$  0.5 1.0 0.465

$lab^*nch$  0.0 1.0 0.465

relative Natural Colour (NC)

$lab^*lrij$  0.617 -0.996 -0.074

$lab^*tce$  0.5 1.0 0.512

$lab^*ncE$  0.0 1.0 g04b

$n^* = 1,0$

$n^* = 0,00$

$n^* = 0,50$

$n^* = 1,00$

$n^* = 0,50$

$n^* = 0,00$

$n^* = 1,0$

$n^* = 0,50$

$n^* = 0,00$

$n^* = 1,0$

$n^* = 0,50$

$n^* = 0,00$

$n^* = 1,0$

$n^* = 0,50$

$n^* = 0,00$

$n^* = 1,0$

$n^* = 0,50$

$n^* = 0,00$

$n^* = 1,0$

$n^* = 0,50$

$n^* = 0,00$

$n^* = 1,0$

$n^* = 0,50$

$n^* = 0,00$

$n^* = 1,0$

$n^* = 0,50$

$n^* = 0,00$

$n^* = 1,0$

$n^* = 0,50$

$n^* = 0,00$

$n^* = 1,0$

$n^* = 0,50$

$n^* = 0,00$

$n^* = 1,0$

$n^* = 0,50$

$n^* = 0,00$

$n^* = 1,0$

$n^* = 0,50$

$n^* = 0,00$

$n^* = 1,0$

$n^* = 0,50$

$n^* = 0,00$

$n^* = 1,0$

$n^* = 0,50$

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$n^* = 1,0$

$n^* = 0,50$

$n^* = 0,00$

$n^* = 1,0$

$n^* = 0,50$

$n^* = 0,00$

$n^* = 1,0$

$n^* = 0,50$

$n^* = 0,00$

$n^* = 1,0$

$n^* = 0,50$

$n^* = 0,00$

$n^* = 1,0$

$n^* = 0,50$

$n^* = 0,00$

$n^* = 1,0$

$n^* = 0,50$

$n^* = 0,00$

$n^* = 1,0$

$n^* = 0,50$

$n^* = 0,00$

$n^* = 1,0$

$n^* = 0,50$

$n^* = 0,00$

$n^* = 1,0$

$n^* = 0,50$

$n^* = 0,00$

$n^* = 1,0$

$n^* = 0,50$

$n^* = 0,00$

$n^* = 1,0$

$n^* = 0,50$

$n^* = 0,00$

$n^* = 1,0$

$n^* = 0,50$

$n^* = 0,00$

$n^* = 1,0$

$n^* = 0,50$

$n^* = 0,00$

$n^* = 1,0$

$n^* = 0,50$

## Input: Colorimetric Reflective System NCS11

for hue  $h^* = lab^*h = 167/360 = 0.465$

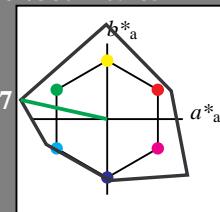
$lab^*tch$  and  $lab^*nch$

D65: hue G

LCH\*Ma: 63 117 167

olv\*Ma: 0.0 1.0 0.0

triangle lightness  $t^*$



relative Inform. Technology (IT)

olv13\* 1.0 1.0 1.0 (1.0)

cmyn3\* 0.0 0.0 0.0 (0.0)

olv14\* 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 0.0 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)

olv13\* 0.5 0.5 0.5 (1.0)

cmyn3\* 0.5 0.5 0.5 (0.0)

olv14\* 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\*LABa 53.21 0.0 0.0

LAB\*TChA 50.0 0.01 -

relative CIELAB lab\*

lab\*lab 0.5 0.0 0.0

lab\*tch 0.5 0.0 -

lab\*nch 0.5 0.0 -

relative Natural Colour (NC)

lab\*lrj 0.5 0.0 0.0

lab\*tce 0.5 0.0 0.0

lab\*ncE 0.5 0.0 -

relative Inform. Technology (IT)

olv13\* 0.0 0.0 0.0 (1.0)

cmyn3\* 1.0 1.0 1.0 (0.0)

olv14\* 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 0.0 0.0

LAB\*TChA 0.01 0.01 -

relative CIELAB lab\*

lab\*lab 0.0 0.0 0.0

lab\*tch 0.0 0.0 -

lab\*nch 1.0 0.0 -

relative Natural Colour (NC)

lab\*lrj 0.0 0.0 0.0

lab\*tce 0.0 0.0 -

lab\*ncE 1.0 0.0 -

$n^* = 1,0$

## NCS11; adapted (a) CIELAB data

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

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

%Gamut

$u^*_{rel} = 149$

%Regularity

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

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

relative Inform. Technology (IT)

olv13\* 0.5 1.0 0.5 (1.0)

cmyn3\* 0.5 0.0 0.5 (0.0)

olv14\* 0.5 1.0 0.5 1.0

cmyn4\* 0.5 0.0 0.5 0.0

standard and adapted CIELAB

LAB\*LAB 79.24 -57.1 12.67

LAB\*LABa 79.24 -57.12 12.67

LAB\*TChA 75.0 58.52 167.5

relative CIELAB lab\*

lab\*lab 0.808 -0.487 0.108

lab\*tch 0.75 0.5 0.465

lab\*nch 0.0 0.5 0.465

relative Natural Colour (NC)

lab\*lrj 0.808 -0.497 -0.037

lab\*tce 0.75 0.5 0.512

lab\*ncE 0.0 0.5 g04b

relative Inform. Technology (IT)

olv13\* 0.0 0.5 0.5 (1.0)

cmyn3\* 0.5 0.5 0.5 (0.0)

olv14\* 1.0 1.0 1.0 0.5

cmyn4\* 0.0 0.0 0.0 0.5

standard and adapted CIELAB

LAB\*LAB 63.07 -114.225.35

LAB\*LABa 63.07 -114.252.34

LAB\*TChA 50.0 117.04 167.5

relative CIELAB lab\*

lab\*lab 0.617 -0.975 0.216

lab\*tch 0.5 1.0 0.465

lab\*nch 0.0 1.0 0.465

relative Natural Colour (NC)

lab\*lrj 0.617 -0.996 -0.074

lab\*tce 0.5 1.0 0.512

lab\*ncE 0.0 1.0 g04b

relative Inform. Technology (IT)

olv13\* 0.0 0.0 0.0 (1.0)

cmyn3\* 1.0 1.0 1.0 (0.0)

olv14\* 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 0.0 0.0

LAB\*TChA 0.01 0.01 -

relative CIELAB lab\*

lab\*lab 0.0 0.0 0.0

lab\*tch 0.0 0.0 -

lab\*nch 1.0 0.0 -

relative Natural Colour (NC)

lab\*lrj 0.0 0.0 0.0

lab\*tce 0.0 0.0 -

lab\*ncE 1.0 0.0 -

$n^* = 0,00$

blackness  $n^*$

chromaticness  $c^*$

## Output: Colorimetric Reflective System NCS11

for hue  $h^* = lab^*h = 167/360 = 0.465$

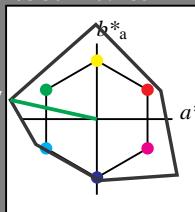
$lab^*tch$  and  $lab^*nch$

D65: hue G

LCH\*Ma: 63 117 167

olv\*Ma: 0.0 1.0 0.0

triangle lightness  $t^*$



%Gamut

$u^*_{rel} = 149$

%Regularity

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

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

relative Inform. Technology (IT)

olv13\* 1.0 1.0 1.0 (1.0)

cmyn3\* 0.0 0.0 0.0 (0.0)

olv14\* 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 0.0 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)

olv13\* 0.5 1.0 0.5 (1.0)

cmyn3\* 0.5 0.0 0.5 (0.0)

olv14\* 0.5 1.0 0.5 1.0

cmyn4\* 0.5 0.0 0.5 0.0

standard and adapted CIELAB

LAB\*LAB 79.24 -57.1 12.67

LAB\*LABa 79.24 -57.12 12.67

LAB\*TChA 75.0 58.52 167.5

relative CIELAB lab\*

lab\*lab 0.808 -0.487 0.108

lab\*tch 0.75 0.5 0.465

lab\*nch 0.0 0.5 0.465

relative Natural Colour (NC)

lab\*lrj 0.808 -0.497 -0.037

lab\*tce 0.75 0.5 0.512

lab\*ncE 0.0 0.5 g04b

relative Inform. Technology (IT)

olv13\* 0.0 0.5 0.5 (1.0)

cmyn3\* 1.0 1.0 1.0 (0.0)

olv14\* 1.0 1.0 1.0 0.0

cmyn4\* 1.0 1.0 1.0 1.0

standard and adapted CIELAB

LAB\*LAB 63.07 -114.225.35

LAB\*LABa 63.07 -114.252.34

LAB\*TChA 50.0 117.04 167.5

relative CIELAB lab\*

lab\*lab 0.617 -0.975 0.216

lab\*tch 0.5 1.0 0.465

lab\*nch 0.0 1.0 0.465

relative Natural Colour (NC)

lab\*lrj 0.617 -0.996 -0.074

lab\*tce 0.5 1.0 0.512

lab\*ncE 0.0 1.0 g04b

relative Inform. Technology (IT)

olv13\* 0.0 0.0 0.0 (1.0)

cmyn3\* 1.0 1.0 1.0 (0.0)

olv14\* 1.0 1.0 1.0 0.0

cmyn4\* 1.0 1.0 1.0 1.0

standard and adapted CIELAB

LAB\*LAB 11.01 0.07 0.01

LAB\*LABa 11.01 0.0 0.0

LAB\*TChA 0.01 0.01 -

relative CIELAB lab\*

lab\*lab 0.0 0.0 0.0

lab\*tch 0.0 0.0 -

lab\*nch 1.0 0.0 -

relative Natural Colour (NC)

lab\*lrj 0.0 0.0 0.0

lab\*tce 0.0 0.0 -

lab\*ncE 1.0 0.0 -

$n^* = 1,0$

blackness  $n^*$

chromaticness  $c^*$

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



<tbl\_r cells="6" ix

### Input: Colorimetric Reflective System ORS18

for hue  $h^* = lab^*h = 236/360 = 0.656$

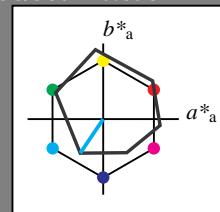
$lab^*tch$  and  $lab^*nch$

D65: hue C

LCH\*Ma: 59 54 236

olv\*Ma: 0.0 1.0 1.0

triangle lightness  $t^*$



### ORS18; adapted (a) CIELAB data

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

$olv^3*$  1.0 1.0 1.0 (1.0)

$cmy^3*$  0.0 0.0 0.0 (0.0)

$olv^4*$  1.0 1.0 1.0 1.0

$cmy^4*$  0.0 0.0 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  95.41 -0.97 4.75

$LAB^*LABa$  95.41 0.0 0.0

$LAB^*TCh$  99.99 0.01 -

relative CIELAB lab\*

$lab^*lab$  1.0 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  1.0 0.0 0.0

$lab^*ice$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  77.01 -15.79 -18.98

$LAB^*LABa$  77.01 -15.16 -22.5

$LAB^*TCh$  75.0 27.15 236.01

relative CIELAB lab\*

$lab^*lab$  0.762 -0.278 -0.413

$lab^*tch$  0.75 0.5 0.656

$lab^*nch$  0.0 0.5 0.656

relative Natural Colour (NC)

$lab^*lrj$  0.762 -0.247 -0.433

$lab^*ice$  0.75 0.2 0.667

$lab^*ncE$  0.0 0.5 g66b

relative Inform. Technology (IT)

$olv^3*$  0.5 0.5 0.5 (1.0)

$cmy^3*$  0.5 0.5 0.5 (0.0)

$olv^4*$  1.0 1.0 1.0 0.5

$cmy^4*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  56.71 -0.23 2.14

$LAB^*LABa$  56.71 0.0 0.0

$LAB^*TCh$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  0.5 0.0 0.0

$lab^*ice$  0.5 0.0 0.0

$lab^*ncE$  0.5 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.5 -0.46

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TCh$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

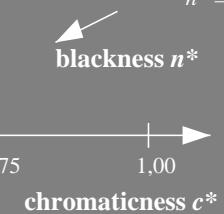
$lab^*lrj$  0.0 0.0 0.0

$lab^*ice$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

$n^* = 0,00$



UE100-7, 3 step scales for constant CIELAB hue 236/360 = 0.656 (left)

### Output: Colorimetric Reflective System ORS18

for hue  $h^* = lab^*h = 236/360 = 0.656$

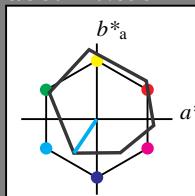
$lab^*tch$  and  $lab^*nch$

D65: hue C

LCH\*Ma: 59 54 236

olv\*Ma: 0.0 1.0 1.0

triangle lightness  $t^*$



### ORS18; adapted (a) CIELAB data

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

$olv^3*$  1.0 1.0 1.0 (1.0)

$cmy^3*$  0.0 0.0 0.0 (0.0)

$olv^4*$  1.0 1.0 1.0 1.0

$cmy^4*$  0.0 0.0 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  95.41 -0.97 4.75

$LAB^*LABa$  95.41 0.0 0.0

$LAB^*TCh$  99.99 0.01 -

relative CIELAB lab\*

$lab^*lab$  1.0 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  1.0 0.0 0.0

$lab^*ice$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)

$olv^3*$  0.5 0.5 0.5 (1.0)

$cmy^3*$  0.5 0.5 0.5 (0.0)

$olv^4*$  1.0 1.0 1.0 0.5

$cmy^4*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  56.71 -30.62 -42.73

$LAB^*LABa$  56.71 -30.34 -45.01

$LAB^*TCh$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.525 -0.558 -0.828

$lab^*tch$  0.5 1.0 0.656

$lab^*nch$  0.0 1.0 0.656

relative Natural Colour (NC)

$lab^*lrj$  0.525 -0.496 -0.867

$lab^*ice$  0.5 1.0 0.667

$lab^*ncE$  0.0 1.0 g66b

relative Inform. Technology (IT)

$olv^3*$  0.0 0.0 0.0 (1.0)

$cmy^3*$  1.0 1.0 1.0 (0.0)

$olv^4*$  1.0 1.0 1.0 0.0

$cmy^4*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.5 -0.46

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TCh$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

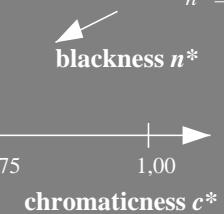
$lab^*lrj$  0.0 0.0 0.0

$lab^*ice$  0.0 0.0 -

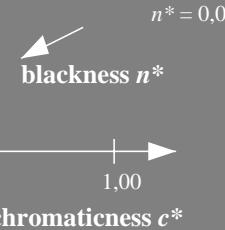
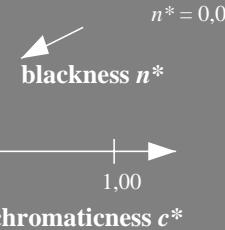
$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

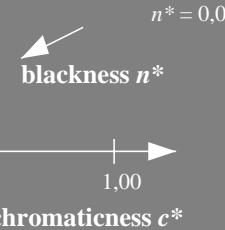
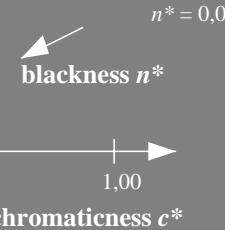
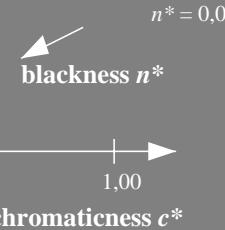
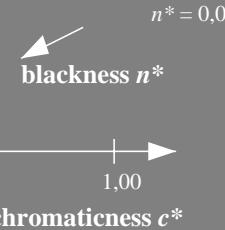
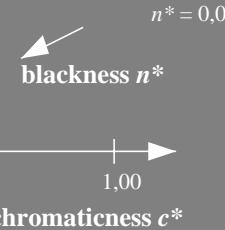
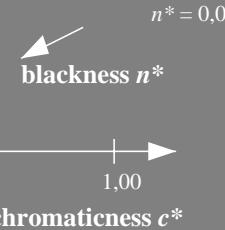
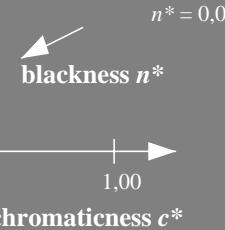
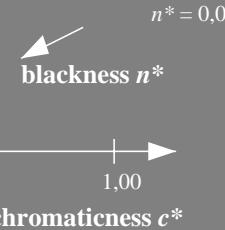
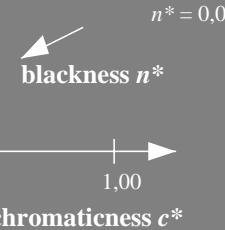
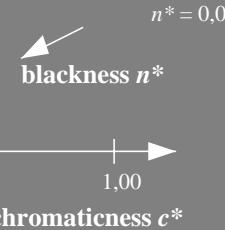
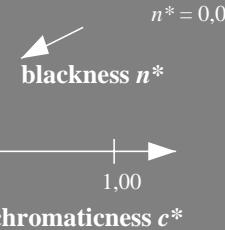
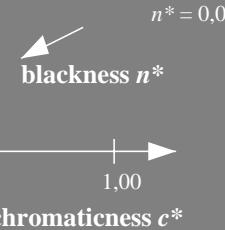
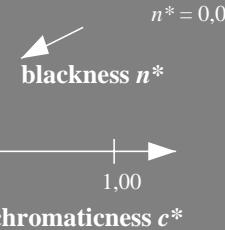
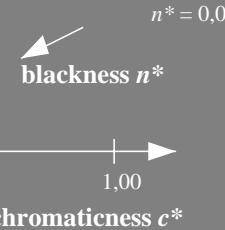
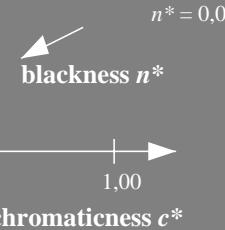
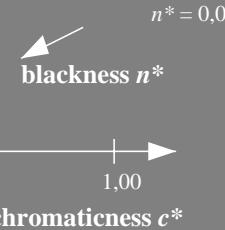
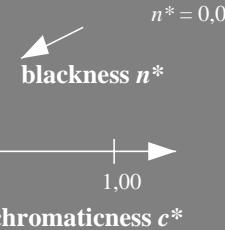
$n^* = 0,50$



3 step scales for constant CIELAB hue 236/360 = 0.656 (right)



$n^* = 0,00$



## Input: Colorimetric Reflective System ORS18

for hue  $h^* = lab^*h = 236/360 = 0.656$

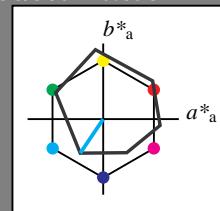
$lab^*tch$  and  $lab^*nch$

D65: hue C

LCH\*Ma: 59 54 236

olv\*Ma: 0.0 1.0 1.0

triangle lightness  $t^*$



relative Inform. Technology (IT)

$olv^3*$  1.0 1.0 1.0 (1.0)

$cmy^3*$  0.0 0.0 0.0 (0.0)

$olv^4*$  1.0 1.0 1.0 1.0

$cmy^4*$  0.0 0.0 0.0 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 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  1.0 0.0 0.0

$lab^*ice$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)

$olv^3*$  0.5 0.5 0.5 (1.0)

$cmy^3*$  0.5 0.5 0.5 (0.0)

$olv^4*$  1.0 1.0 1.0 0.5

$cmy^4*$  0.0 0.0 0.0 0.5

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 CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  0.5 0.0 0.0

$lab^*ice$  0.5 0.0 0.0

$lab^*ncE$  0.5 0.0 -

relative Inform. Technology (IT)

$olv^3*$  0.0 0.0 0.0 (1.0)

$cmy^3*$  1.0 1.0 1.0 (0.0)

$olv^4*$  1.0 1.0 1.0 0.0

$cmy^4*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.5 -0.46

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  0.0 0.0 0.0

$lab^*ice$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

## ORS18; adapted (a) CIELAB data

	$L^*=L^*_a$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
O Ma	47.94	65.37	50.52	82.62	38
Y Ma	90.37	-10.27	91.77	92.34	96
L Ma	50.9	-62.79	34.95	71.87	151
C Ma	58.62	-30.35	-45.01	54.3	236
V Ma	25.71	31.11	-44.42	54.24	305
M Ma	48.13	75.27	-8.35	75.73	354
N Ma	18.01	0.0	0.0	0.0	0
W Ma	95.41	0.0	0.0	0.0	0
R CIE	39.92	58.66	26.98	64.56	25
J CIE	81.26	-2.17	67.76	67.79	92
G CIE	52.23	-42.26	11.75	43.87	164
B CIE	30.57	1.15	-46.84	46.87	271

%Gamut

$u^*_{rel} = 93$

%Regularity

$g^*_{H,rel} = 57$

$g^*_{C,rel} = 59$

relative Inform. Technology (IT)

$olv^3*$  0.5 1.0 1.0 (1.0)

$cmy^3*$  0.5 0.0 0.0 (0.0)

$olv^4*$  0.5 1.0 1.0 1.0

$cmy^4*$  0.5 0.0 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  77.01 -15.79 -18.98

$LAB^*LABa$  77.01 -15.16 -22.5

$LAB^*TChA$  75.0 27.15 236.01

relative CIELAB lab\*

$lab^*lab$  0.762 -0.278 -0.413

$lab^*tch$  0.75 0.5 0.656

$lab^*nch$  0.0 0.5 0.656

relative Natural Colour (NC)

$lab^*lrj$  0.762 -0.247 -0.433

$lab^*ice$  0.75 0.2 0.667

$lab^*ncE$  0.0 0.5 g66b

relative Inform. Technology (IT)

$olv^3*$  0.0 1.0 1.0 (1.0)

$cmy^3*$  0.5 0.0 0.0 (0.0)

$olv^4*$  1.0 1.0 1.0 0.5

$cmy^4*$  1.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  58.62 -30.62 -42.73

$LAB^*LABa$  58.62 -30.34 -45.01

$LAB^*TChA$  50.0 54.29 236.01

relative CIELAB lab\*

$lab^*lab$  0.525 -0.558 -0.828

$lab^*tch$  0.5 1.0 0.656

$lab^*nch$  0.0 1.0 0.656

relative Natural Colour (NC)

$lab^*lrj$  0.525 -0.496 -0.867

$lab^*ice$  0.5 1.0 0.667

$lab^*ncE$  0.0 1.0 g66b

relative Inform. Technology (IT)

$olv^3*$  0.0 0.0 0.0 (1.0)

$cmy^3*$  1.0 1.0 1.0 (0.0)

$olv^4*$  1.0 1.0 1.0 0.0

$cmy^4*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.5 -0.46

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  0.0 0.0 0.0

$lab^*ice$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 0,00$

blackness  $n^*$

chromaticness  $c^*$

## Output: Colorimetric Reflective System MRS18

for hue  $h^* = lab^*h = 218/360 = 0.605$

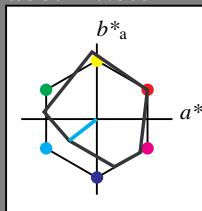
$lab^*tch$  and  $lab^*nch$

D65: hue G50B

LCH\*Ma: 45 46 218

olv\*Ma: 0.0 1.0 1.0

triangle lightness  $t^*$



%Gamut

$u^*_{rel} = 91$

%Regularity

$g^*_{H,rel} = 41$

$g^*_{C,rel} = 52$

relative Inform. Technology (IT)

$olv^3*$  1.0 1.0 1.0 (1.0)

$cmy^3*$  0.0 0.0 0.0 (0.0)

$olv^4*$  0.5 1.0 1.0 1.0

$cmy^4*$  0.0 0.0 0.0 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 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  1.0 0.0 0.0

$lab^*ice$  1.0 0.0 -

$lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)

$olv^3*$  0.5 1.0 1.0 (1.0)

$cmy^3*$  0.5 0.0 0.0 (0.0)

$olv^4*$  0.5 1.0 1.0 0.5

$cmy^4*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  70.21 -18.77 -11.17

$LAB^*LABa$  70.21 -18.27 -14.23

$LAB^*TChA$  75.0 23.17 217.91

relative CIELAB lab\*

$lab^*lab$  0.674 -0.393 -0.306

$lab^*tch$  0.75 0.5 0.605

$lab^*nch$  0.0 0.5 0.605

relative Natural Colour (NC)

$lab^*lrj$  0.674 -0.353 -0.352

$lab^*ice$  0.75 0.5 0.625

$lab^*ncE$  0.0 0.5 0.625

$n^* = 1,0$

blackness  $n^*$

chromaticness  $c^*$

UE100-7, 3 step scales for constant CIELAB hue 236/360 = 0.656 (left)

3 step scales for constant CIELAB hue 218/360 = 0.605 (right)

## Input: Colorimetric Reflective System ORS18

for hue  $h^* = lab^*h = 236/360 = 0.656$

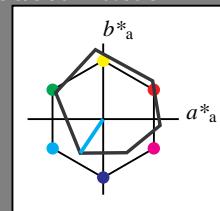
$lab^*tch$  and  $lab^*nch$

D65: hue C

LCH\*Ma: 59 54 236

olv\*Ma: 0.0 1.0 1.0

triangle lightness  $t^*$



### ORS18; adapted (a) CIELAB data

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

$olv^3*$  1.0 1.0 1.0 (1.0)

$cmy3*$  0.0 0.0 0.0 (0.0)

$olv^4*$  1.0 1.0 1.0 1.0

$cmy4*$  0.0 0.0 0.0 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 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  1.0 0.0 0.0

$lab^*ice$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  77.01 -15.79 -18.98

$LAB^*LABa$  77.01 -15.16 -22.5

$LAB^*TChA$  75.0 27.15 236.01

relative CIELAB lab\*

$lab^*lab$  0.762 -0.278 -0.413

$lab^*tch$  0.75 0.5 0.656

$lab^*nch$  0.0 0.5 0.656

relative Natural Colour (NC)

$lab^*lrj$  0.762 -0.247 -0.433

$lab^*ice$  0.75 0.2 0.667

$lab^*ncE$  0.0 0.5 g66b

relative Inform. Technology (IT)

$olv^3*$  0.5 0.5 0.5 (1.0)

$cmy3*$  0.5 0.5 0.5 (0.0)

$olv^4*$  1.0 1.0 1.0 0.5

$cmy4*$  0.0 0.0 0.0 0.5

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 CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  0.5 0.0 0.0

$lab^*ice$  0.5 0.0 0.0

$lab^*ncE$  0.5 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.5 -0.46

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  0.0 0.0 0.0

$lab^*ice$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

relative Inform. Technology (IT)

$olv^3*$  0.0 0.0 0.0 (1.0)

$cmy3*$  1.0 1.0 1.0 (0.0)

$olv^4*$  1.0 1.0 1.0 0.0

$cmy4*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.5 -0.46

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  0.0 0.0 0.0

$lab^*ice$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.5 -0.46

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  0.0 0.0 0.0

$lab^*ice$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

## Output: Colorimetric Reflective System TRS18

for hue  $h^* = lab^*h = 236/360 = 0.656$

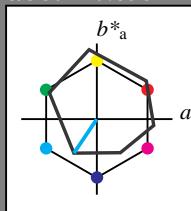
$lab^*tch$  and  $lab^*nch$

D65: hue C

LCH\*Ma: 59 54 236

olv\*Ma: 0.0 1.0 1.0

triangle lightness  $t^*$



### TRS18; adapted (a) CIELAB data

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

$olv^3*$  1.0 1.0 1.0 (1.0)

$cmy3*$  0.0 0.0 0.0 (0.0)

$olv^4*$  1.0 1.0 1.0 1.0

$cmy4*$  0.0 0.0 0.0 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 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  1.0 0.0 0.0

$lab^*ice$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  77.01 -15.79 -18.98

$LAB^*LABa$  77.01 -15.16 -22.5

$LAB^*TChA$  75.0 27.15 236.01

relative CIELAB lab\*

$lab^*lab$  0.762 -0.278 -0.413

$lab^*tch$  0.75 0.5 0.656

$lab^*nch$  0.0 0.5 0.656

relative Natural Colour (NC)

$lab^*lrj$  0.762 -0.247 -0.433

$lab^*ice$  0.75 0.2 0.667

$lab^*ncE$  0.0 0.5 g66b

$n^* = 0,00$

blackness  $n^*$

$n^* = 1,0$

relative Inform. Technology (IT)

$olv^3*$  0.5 0.5 0.5 (1.0)

$cmy3*$  0.5 0.5 0.5 (0.0)

$olv^4*$  0.5 1.0 1.0 1.0

$cmy4*$  0.5 0.0 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  58.62 -30.62 -42.73

$LAB^*LABa$  58.62 -30.34 -45.01

$LAB^*TChA$  50.0 54.29 236.01

relative CIELAB lab\*

$lab^*lab$  0.525 -0.558 -0.828

$lab^*tch$  0.75 0.5 0.656

$lab^*nch$  0.0 0.5 0.656

relative Natural Colour (NC)

$lab^*lrj$  0.525 -0.496 -0.867

$lab^*ice$  0.5 0.0 0.0

$lab^*ncE$  0.0 0.5 g66b

$n^* = 0,00$

blackness  $n^*$

$n^* = 1,0$

	$L^* = L_a^*$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
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	9				

## Input: Colorimetric Reflective System ORS18

for hue  $h^* = lab^*h = 236/360 = 0.656$

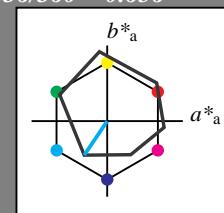
$lab^*tch$  and  $lab^*nch$

D65: hue C

LCH\*Ma: 59 54 236

olv\*Ma: 0.0 1.0 1.0

triangle lightness  $t^*$



### ORS18; adapted (a) CIELAB data

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

$olv_i3^*$  1.0 1.0 1.0 (1.0)

$cmyn3^*$  0.0 0.0 0.0 (0.0)

$olv_i4^*$  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

$LAB^*LABa$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  77.01 -15.79 -18.98

$LAB^*LABa$  77.01 -15.16 -22.5

$LAB^*TChA$  75.0 27.15 236.01

relative CIELAB lab\*

$lab^*lab$  0.762 -0.278 -0.413

$lab^*tch$  0.75 0.5 0.656

$lab^*nch$  0.0 0.5 0.656

relative Natural Colour (NC)

$lab^*lrij$  0.762 -0.247 -0.433

$lab^*tce$  0.75 0.2 0.667

$lab^*ncE$  0.0 0.5 g66b

relative Inform. Technology (IT)

$olv_i3^*$  0.5 0.5 0.5 (1.0)

$cmyn3^*$  0.5 0.5 0.5 (0.0)

$olv_i4^*$  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

$LAB^*LABa$  56.71 0.0 0.0

$LAB^*TChA$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.5 0.0 0.0

$lab^*tce$  0.5 0.0 0.0

$lab^*ncE$  0.5 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.5 -0.46

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*tce$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

relative Inform. Technology (IT)

$olv_i3^*$  0.0 0.0 0.0 (1.0)

$cmyn3^*$  1.0 1.0 1.0 (0.0)

$olv_i4^*$  1.0 1.0 1.0 0.0

$cmyn4^*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.5 -0.46

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*tce$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.5 -0.46

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*tce$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

## Output: Colorimetric Reflective System MRS18a

for hue  $h^* = lab^*h = 217/360 = 0.601$

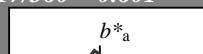
$lab^*tch$  and  $lab^*nch$

D65: hue G50B

LCH\*Ma: 45 46 217

olv\*Ma: 0.0 1.0 1.0

triangle lightness  $t^*$



### MRS18a; adapted (a) CIELAB data

	$L^* = L_a^*$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	49.63	66.8	40.02	77.87	31
JMa	90.7	-7.27	93.19	93.48	94
GMa	52.11	-69.93	11.26	70.85	171
G50BMa	45.03	-36.65	-27.13	45.61	217
BMa	36.65	23.26	-62.27	66.49	290
B50RMa	34.94	57.27	-43.6	71.99	323
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	272

relative Inform. Technology (IT)

$olv_i3^*$  1.0 1.0 1.0 (1.0)

$cmyn3^*$  0.0 0.0 0.0 (0.0)

$olv_i4^*$  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 0.01 0.0

$LAB^*LABa$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  77.01 -15.79 -18.98

$LAB^*LABa$  77.01 -15.16 -22.5

$LAB^*TChA$  75.0 27.15 236.01

relative CIELAB lab\*

$lab^*lab$  0.762 -0.278 -0.413

$lab^*tch$  0.75 0.5 0.656

$lab^*nch$  0.0 0.5 0.656

relative Natural Colour (NC)

$lab^*lrij$  0.762 -0.247 -0.433

$lab^*tce$  0.75 0.2 0.667

$lab^*ncE$  0.0 0.5 g66b

relative Inform. Technology (IT)

$olv_i3^*$  0.0 0.0 0.0 (1.0)

$cmyn3^*$  0.5 0.5 0.5 (0.0)

$olv_i4^*$  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 -30.62 -42.73

$LAB^*LABa$  56.71 -30.34 -45.01

$LAB^*TChA$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.525 -0.558 -0.828

$lab^*tch$  0.5 1.0 0.656

$lab^*nch$  0.0 1.0 0.656

relative Natural Colour (NC)

$lab^*lrij$  0.525 -0.496 -0.867

$lab^*tce$  0.5 1.0 0.667

$lab^*ncE$  0.0 1.0 g66b

relative CIELAB lab\*

$lab^*lab$  0.262 -0.278 -0.413

$lab^*tch$  0.25 0.5 0.656

$lab^*nch$  0.5 0.5 0.656

relative Natural Colour (NC)

$lab^*lrij$  0.262 -0.247 -0.433

$lab^*tce$  0.25 0.5 0.667

$lab^*ncE$  0.5 0.5 g66b

relative CIELAB lab\*

$lab^*lab$  0.175 -0.401 -0.296

$lab^*tch$  0.175 0.5 0.601

$lab^*nch$  0.0 0.5 0.601

relative Natural Colour (NC)

$lab^*lrij$  0.175 -0.355 -0.35

$lab^*tce$  0.175 0.5 0.624

$lab^*ncE$  0.5 0.5 g49b

relative CIELAB lab\*

$lab^*lab$  0.175 -0.401 -0.296

$$

### Input: Colorimetric Reflective System ORS18

for hue  $h^* = lab^*h = 236/360 = 0.656$

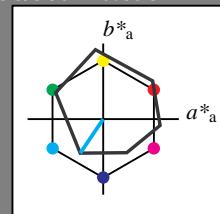
$lab^*tch$  and  $lab^*nch$

D65: hue C

LCH\*Ma: 59 54 236

olv\*Ma: 0.0 1.0 1.0

triangle lightness  $t^*$



relative Inform. Technology (IT)

olv13\* 1.0 1.0 1.0 (1.0)

cmyn3\* 0.0 0.0 0.0 (0.0)

olv14\* 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\*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 0.0 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 -

standard and adapted CIELAB

LAB\*LAB 77.01 -15.79 -18.98

LAB\*LABa 77.01 -15.16 -22.5

LAB\*TChA 75.00 27.15 236.01

relative CIELAB lab\*

lab\*lab 0.762 -0.278 -0.413

lab\*tch 0.75 0.5 0.656

lab\*nch 0.0 0.5 0.656

relative Natural Colour (NC)

lab\*lrj 0.762 -0.247 -0.433

lab\*tce 0.75 0.2 0.667

lab\*ncE 0.0 0.5 g66b

relative Inform. Technology (IT)

olv13\* 0.5 0.5 0.5 (1.0)

cmyn3\* 0.5 0.5 0.5 (0.0)

olv14\* 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\*LABa 56.71 0.0 0.0

LAB\*TChA 50.00 0.01 -

relative CIELAB lab\*

lab\*lab 0.5 0.0 0.0

lab\*tch 0.5 0.0 -

lab\*nch 0.5 0.0 -

relative Natural Colour (NC)

lab\*lrj 0.5 0.0 0.0

lab\*tce 0.5 0.0 0.0

lab\*ncE 0.5 0.0 -

standard and adapted CIELAB

LAB\*LAB 18.02 0.5 -0.46

LAB\*LABa 18.02 0.0 0.0

LAB\*TChA 0.01 0.01 -

relative CIELAB lab\*

lab\*lab 0.0 0.0 0.0

lab\*tch 0.0 0.0 -

lab\*nch 1.0 0.0 -

relative Natural Colour (NC)

lab\*lrj 0.0 0.0 0.0

lab\*tce 0.0 0.0 -

lab\*ncE 1.0 0.0 -

$n^* = 1,0$

### ORS18; adapted (a) CIELAB data

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

%Gamut

$u^*_{rel} = 93$

%Regularity

$g^*_{H,rel} = 57$

$g^*_{C,rel} = 59$

relative Inform. Technology (IT)

olv13\* 0.5 1.0 1.0 (1.0)

cmyn3\* 0.5 0.0 0.0 (0.0)

olv14\* 0.5 1.0 1.0 1.0

cmyn4\* 0.5 0.0 0.0 0.0

standard and adapted CIELAB

LAB\*LAB 77.01 -15.79 -18.98

LAB\*LABa 77.01 -15.16 -22.5

LAB\*TChA 75.00 27.15 236.01

relative CIELAB lab\*

lab\*lab 0.762 -0.278 -0.413

lab\*tch 0.75 0.5 0.656

lab\*nch 0.0 0.5 0.656

relative Natural Colour (NC)

lab\*lrj 0.762 -0.247 -0.433

lab\*tce 0.75 0.2 0.667

lab\*ncE 0.0 0.5 g66b

relative Inform. Technology (IT)

olv13\* 0.0 0.5 0.5 (1.0)

cmyn3\* 0.5 0.5 0.5 (0.0)

olv14\* 0.5 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\*LABa 56.71 0.0 0.0

LAB\*TChA 50.00 0.01 -

relative CIELAB lab\*

lab\*lab 0.262 -0.278 -0.413

lab\*tch 0.25 0.5 0.656

lab\*nch 0.5 0.5 0.656

relative Natural Colour (NC)

lab\*lrj 0.262 -0.247 -0.433

lab\*tce 0.25 0.5 0.667

lab\*ncE 0.5 0.5 g66b

relative Inform. Technology (IT)

olv13\* 0.0 0.0 0.0 (1.0)

cmyn3\* 1.0 1.0 1.0 (0.0)

olv14\* 1.0 1.0 1.0 0.0

cmyn4\* 0.0 0.0 0.0 1.0

standard and adapted CIELAB

LAB\*LAB 18.02 0.5 -0.46

LAB\*LABa 18.02 0.0 0.0

LAB\*TChA 0.01 0.01 -

relative CIELAB lab\*

lab\*lab 0.0 0.0 0.0

lab\*tch 0.0 0.0 -

lab\*nch 1.0 0.0 -

relative Natural Colour (NC)

lab\*lrj 0.0 0.0 0.0

lab\*tce 0.0 0.0 -

lab\*ncE 1.0 0.0 -

$n^* = 0,00$

blackness  $n^*$

chromaticness  $c^*$

### Output: Colorimetric Reflective System NRS18

for hue  $h^* = lab^*h = 203/360 = 0.564$

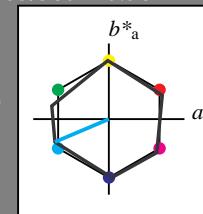
$lab^*tch$  and  $lab^*nch$

D65: hue G50B

LCH\*Ma: 57 77 203

olv\*Ma: 0.0 1.0 1.0

triangle lightness  $t^*$



%Gamut

$u^*_{rel} = 100$

%Regularity

$g^*_{H,rel} = 47$

$g^*_{C,rel} = 100$

relative Inform. Technology (IT)

olv13\* 1.0 1.0 1.0 (1.0)

cmyn3\* 0.0 0.0 0.0 (0.0)

olv14\* 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 0.0

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 0.0 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)

olv13\* 0.5 1.0 1.0 (1.0)

cmyn3\* 0.5 0.5 0.5 (0.0)

olv14\* 0.5 1.0 1.0 0.5

cmyn4\* 0.5 0.0 0.0 0.5

standard and adapted CIELAB

LAB\*LAB 76.05 -35.6 -15.11

LAB\*LABa 76.05 -35.63 -15.11

LAB\*TChA 75.00 38.72 202.99

relative CIELAB lab\*

lab\*lab 0.75 -0.459 -0.194

lab\*tch 0.75 0.5 0.564

lab\*nch 0.0 0.5 0.564

relative Natural Colour (NC)

lab\*lrj 0.75 0.416 -0.275

lab\*tce 0.75 0.5 0.593

lab\*ncE 0.5 0.5 g37b

	$L^*=L^*_{a,a}$	$a^*_{a,a}$	$b^*_{a,a}$	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	56.7	70.66	31.47	77.35	24
JMa	56.7	-1.39	77.37	77.39	91
GMa	56.7	-75.46	17.4	77.45	167
G50BMa	56.7	-71.29	-30.25	77.45	203
BMa	56.7	4.0	-77.3	77.41	273
B50RMa	56.7	63.35	-44.4	77.36	325
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	272

relative Inform. Technology (IT)

olv13\* 0.0 1.0 1.0 (1.0)

cmyn3\* 0.0 0.0 0.0 (0.0)

olv14\* 0.0 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 0.0

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 0.0 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)

olv13\* 0.0 0.0 0.0 (1.0)

cmyn3\* 1.0 1.0 1.0 (0.0)

olv14\* 1.0 1.0 1.0 0.0

cmyn4\* 0.0 0.0 0.0 1.0

standard and adapted CIELAB

## Input: Colorimetric Reflective System ORS18

for hue  $h^* = lab^*h = 236/360 = 0.656$

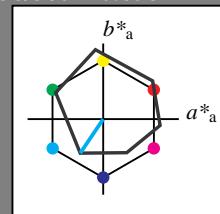
$lab^*tch$  and  $lab^*nch$

D65: hue C

LCH\*Ma: 59 54 236

olv\*Ma: 0.0 1.0 1.0

triangle lightness  $t^*$



## ORS18; adapted (a) CIELAB data

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

$olv^3*$  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

$LAB^*LABa$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  77.01 -15.79 -18.98

$LAB^*LABa$  77.01 -15.16 -22.5

$LAB^*TChA$  75.0 27.15 236.01

relative CIELAB lab\*

$lab^*lab$  0.762 -0.278 -0.413

$lab^*tch$  0.75 0.5 0.656

$lab^*nch$  0.0 0.5 0.656

relative Natural Colour (NC)

$lab^*lrij$  0.762 -0.247 -0.433

$lab^*tce$  0.75 0.2 0.667

$lab^*ncE$  0.0 0.5 g66b

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 0.5

$cmyn^4*$  0.0 0.0 0.5

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 CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.5 0.0 0.0

$lab^*tce$  0.5 0.0 0.0

$lab^*ncE$  0.5 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.5 -0.46

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*tce$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

	$L^* = L^*_{ab}$	$a^*_{ab}$	$b^*_{ab}$	$C^*_{ab,a}$	$h^*_{ab,a}$
OLV	0.0	0.0	0.0	(1.0)	
CMYN	1.0	1.0	1.0	(0.0)	
OLVI	1.0	1.0	1.0	0.0	
CMYN	0.0	0.0	0.0	1.0	
OLVI3*	0.0	0.5	0.5	(1.0)	
CMYN3*	1.0	0.5	0.5	(0.0)	
OLVI4*	0.5	1.0	1.0	0.5	
CMYN4*	0.5	0.0	0.0	0.5	
OLVI3*	0.5	1.0	1.0	1.0	
CMYN3*	0.5	0.5	0.5	0.5	
OLVI4*	0.5	1.0	1.0	0.5	
CMYN4*	0.5	0.0	0.0	0.5	
OLVI3*	0.5	1.0	1.0	1.0	
CMYN3*	0.5	0.5	0.5	0.5	
OLVI4*	0.5	1.0	1.0	0.5	
CMYN4*	0.5	0.0	0.0	0.5	
OLVI3*	0.5	1.0	1.0	1.0	
CMYN3*	0.5	0.5	0.5	0.5	
OLVI4*	0.5	1.0	1.0	0.5	
CMYN4*	0.5	0.0	0.0	0.5	
OLVI3*	0.5	1.0	1.0	1.0	
CMYN3*	0.5	0.5	0.5	0.5	
OLVI4*	0.5	1.0	1.0	0.5	
CMYN4*	0.5	0.0	0.0	0.5	
OLVI3*	0.5	1.0	1.0	1.0	
CMYN3*	0.5	0.5	0.5	0.5	
OLVI4*	0.5	1.0	1.0	0.5	
CMYN4*	0.5	0.0	0.0	0.5	
OLVI3*	0.5	1.0	1.0	1.0	
CMYN3*	0.5	0.5	0.5	0.5	
OLVI4*	0.5	1.0	1.0	0.5	
CMYN4*	0.5	0.0	0.0	0.5	
OLVI3*	0.5	1.0	1.0	1.0	
CMYN3*	0.5	0.5	0.5	0.5	
OLVI4*	0.5	1.0	1.0	0.5	
CMYN4*	0.5	0.0	0.0	0.5	
OLVI3*	0.5	1.0	1.0	1.0	
CMYN3*	0.5	0.5	0.5	0.5	
OLVI4*	0.5	1.0	1.0	0.5	
CMYN4*	0.5	0.0	0.0	0.5	
OLVI3*	0.5	1.0	1.0	1.0	
CMYN3*	0.5	0.5	0.5	0.5	
OLVI4*	0.5	1.0	1.0	0.5	
CMYN4*	0.5	0.0	0.0	0.5	
OLVI3*	0.5	1.0	1.0	1.0	
CMYN3*	0.5	0.5	0.5	0.5	
OLVI4*	0.5	1.0	1.0	0.5	
CMYN4*	0.5	0.0	0.0	0.5	
OLVI3*	0.5	1.0	1.0	1.0	
CMYN3*	0.5	0.5	0.5	0.5	
OLVI4*	0.5	1.0	1.0	0.5	
CMYN4*	0.5	0.0	0.0	0.5	
OLVI3*	0.5	1.0	1.0	1.0	
CMYN3*	0.5	0.5	0.5	0.5	
OLVI4*	0.5	1.0	1.0	0.5	
CMYN4*	0.5	0.0	0.0	0.5	
OLVI3*	0.5	1.0	1.0	1.0	
CMYN3*	0.5	0.5	0.5	0.5	
OLVI4*	0.5	1.0	1.0	0.5	
CMYN4*	0.5	0.0	0.0	0.5	
OLVI3*	0.5	1.0	1.0	1.0	
CMYN3*	0.5	0.5	0.5	0.5	
OLVI4*	0.5	1.0	1.0	0.5	
CMYN4*	0.5	0.0	0.0	0.5	
OLVI3*	0.5	1.0	1.0	1.0	
CMYN3*	0.5	0.5	0.5	0.5	
OLVI4*	0.5	1.0	1.0	0.5	
CMYN4*	0.5	0.0	0.0	0.5	
OLVI3*	0.5	1.0	1.0	1.0	
CMYN3*	0.5	0.5	0.5	0.5	
OLVI4*	0.5	1.0	1.0	0.5	
CMYN4*	0.5	0.0	0.0	0.5	
OLVI3*	0.5	1.0	1.0	1.0	
CMYN3*	0.5	0.5	0.5	0.5	
OLVI4*	0.5	1.0	1.0	0.5	
CMYN4*	0.5	0.0	0.0	0.5	
OLVI3*	0.5	1.0	1.0	1.0	
CMYN3*	0.5	0.5	0.5	0.5	
OLVI4*	0.5	1.0	1.0	0.5	
CMYN4*	0.5	0.0	0.0	0.5	
OLVI3*	0.5	1.0	1.0	1.0	
CMYN3*	0.5	0.5	0.5	0.5	
OLVI4*	0.5	1.0	1.0	0.5	
CMYN4*	0.5	0.0	0.0	0.5	
OLVI3*	0.5	1.0	1.0	1.0	
CMYN3*	0.5	0.5	0.5	0.5	
OLVI4*	0.5	1.0	1.0	0.5	
CMYN4*	0.5	0.0	0.0	0.5	
OLVI3*	0.5	1.0	1.0	1.0	
CMYN3*	0.5	0.5	0.5	0.5	
OLVI4*	0.5	1.0	1.0	0.5	
CMYN4*	0.5	0.0	0.0	0.5	
OLVI3*	0.5	1.0	1.0	1.0	
CMYN3*	0.5	0.5	0.5	0.5	
OLVI4*	0.5	1.0	1.0	0.5	
CMYN4*	0.5	0.0	0.0	0.5	
OLVI3*	0.5	1.0	1.0	1.0	
CMYN3*	0.5	0.5	0.5	0.5	
OLVI4*	0.5	1.0	1.0	0.5	
CMYN4*	0.5	0.0	0.0	0.5	
OLVI3*	0.5	1.0	1.0	1.0	
CMYN3*	0.5	0.5	0.5	0.5	
OLVI4*	0.5	1.0	1.0	0.5	
CMYN4*	0.5	0.0	0.0	0.5	
OLVI3*	0.5	1.0	1.0	1.0	
CMYN3*	0.5	0.5	0.5	0.5	
OLVI4*	0.5	1.0	1.0	0.5	
CMYN4*	0.5	0.0	0.0	0.5	
OLVI3*	0.5	1.0	1.0	1.0	
CMYN3*	0.5	0.5	0.5	0.5	
OLVI4*	0.5	1.0	1.0	0.5	
CMYN4*	0.5	0.0	0.0	0.5	
OLVI3*	0.5	1.0	1.0	1.0	
CMYN3*	0.5	0.5	0.5	0.5	
OLVI4*	0.5	1.0	1.0	0.5	
CMYN4*	0.5	0.0	0.0	0.5	
OLVI3*	0.5	1.0	1.0	1.0	
CMYN3*	0.5	0.5	0.5	0.5	
OLVI4*	0.5	1.0	1.0	0.5	
CMYN4*	0.5	0.0	0.0	0.5	
OLVI3*	0.5	1.0	1.0	1.0	
CMYN3*	0.5	0.5	0.5	0.5	
OLVI4*	0.5	1.0	1.0	0.5	
CMYN4*	0.5	0.0	0.0	0.5	
OLVI3*	0.5	1.0	1.0	1.0	
CMYN3*	0.5	0.5	0.5	0.5	
OLVI4*	0.5	1.0	1.0	0.5	
CMYN4*	0.5	0.0	0.0	0.5	
OLVI3*	0.5	1.0	1.0	1.0	
CMYN3*	0.5	0.5			

## Input: Colorimetric Reflective System ORS18

for hue  $h^* = lab^*h = 236/360 = 0.656$

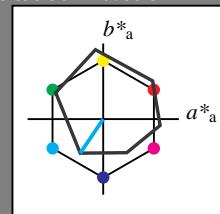
$lab^*tch$  and  $lab^*nch$

D65: hue C

LCH\*Ma: 59 54 236

olv\*Ma: 0.0 1.0 1.0

triangle lightness  $t^*$



### ORS18; adapted (a) CIELAB data

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

$olv^3*$  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

$LAB^*LABa$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  77.01 -15.79 -18.98

$LAB^*LABa$  77.01 -15.16 -22.5

$LAB^*TChA$  75.0 27.15 236.01

relative CIELAB lab\*

$lab^*lab$  0.762 -0.278 -0.413

$lab^*tch$  0.75 0.5 0.656

$lab^*nch$  0.0 0.5 0.656

relative Natural Colour (NC)

$lab^*lrij$  0.762 -0.247 -0.433

$lab^*tce$  0.75 0.2 0.667

$lab^*ncE$  0.0 0.5 g66b

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 0.5

$cmyn^4*$  0.0 0.0 0.0 0.5

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 CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.5 0.0 0.0

$lab^*tce$  0.5 0.0 0.0

$lab^*ncE$  0.5 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.5 -0.46

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*tce$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

relative Inform. Technology (IT)

$olv^3*$  0.0 0.0 0.0 (1.0)

$cmyn^3*$  1.0 1.0 1.0 (0.0)

$olv^4*$  1.0 1.0 1.0 0.0

$cmyn^4*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.5 -0.46

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*tce$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.5 -0.46

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*tce$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

## Output: Colorimetric Reflective System NRS11

for hue  $h^* = lab^*h = 203/360 = 0.564$

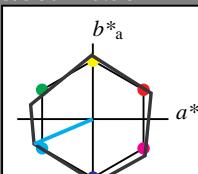
$lab^*tch$  and  $lab^*nch$

D65: hue G50B

LCH\*Ma: 53 84 203

olv\*Ma: 0.0 1.0 1.0

triangle lightness  $t^*$



### NRS11; adapted (a) CIELAB data

	$L^* = L_a^*$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	53.2	77.06	34.32	84.36	24
JMa	53.2	-1.51	84.38	84.39	91
GMa	53.2	-82.27	18.98	84.44	167
G50BMa	53.2	-77.72	-32.98	84.44	203
BMa	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)

$olv^3*$  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

$LAB^*LABa$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  74.3 -38.82 -16.48

$LAB^*LABa$  74.3 -38.85 -16.48

$LAB^*TChA$  75.0 42.21 203.0

relative CIELAB lab\*

$lab^*lab$  0.75 -0.459 -0.194

$lab^*tch$  0.75 0.5 0.564

$lab^*nch$  0.0 0.5 0.564

relative Natural Colour (NC)

$lab^*lrij$  0.75 0.416 -0.275

$lab^*tce$  0.75 0.5 0.593

$lab^*ncE$  0.0 0.5 g37b

$n^* = 0,00$

blackness  $n^*$

$n^* = 1,00$

relative Inform. Technology (IT)

$olv^3*$  0.0 0.0 0.0 (1.0)

$cmyn^3*$  1.0 1.0 1.0 (0.0)

$olv^4*$  1.0 1.0 1.0 0.5

$cmyn^4*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  11.01 0.07 0.01

$LAB^*LABa$  11.01 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*tce$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.5 -0.46

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*tce$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

blackness  $n^*$

$n^* = 1,00$

$n^* = 0,00$

UE100-7, 3 step scales for constant CIELAB hue 236/360 = 0.656 (left)

3 step scales for constant CIELAB hue 203/360 = 0.564 (right)

## Input: Colorimetric Reflective System ORS18

for hue  $h^* = lab^*h = 236/360 = 0.656$

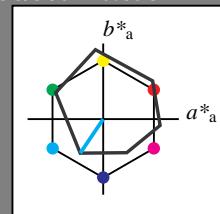
$lab^*tch$  and  $lab^*nch$

D65: hue C

LCH\*Ma: 59 54 236

olv\*Ma: 0.0 1.0 1.0

triangle lightness  $t^*$



### ORS18; adapted (a) CIELAB data

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

$olv^3*$  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

$LAB^*LABa$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  77.01 -15.79 -18.98

$LAB^*LABa$  77.01 -15.16 -22.5

$LAB^*TChA$  75.0 27.15 236.01

relative CIELAB lab\*

$lab^*lab$  0.762 -0.278 -0.413

$lab^*tch$  0.75 0.5 0.656

$lab^*nch$  0.0 0.5 0.656

relative Natural Colour (NC)

$lab^*lrij$  0.762 -0.247 -0.433

$lab^*tce$  0.75 0.2 0.667

$lab^*ncE$  0.0 0.5 g66b

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 0.5

$cmyn^4*$  0.0 0.0 0.0 0.5

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 CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.5 0.0 0.0

$lab^*tce$  0.5 0.0 0.0

$lab^*ncE$  0.5 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.5 -0.46

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*tce$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

relative Inform. Technology (IT)

$olv^3*$  0.5 1.0 1.0 (1.0)

$cmyn^3*$  0.5 0.0 0.0 (0.0)

$olv^4*$  0.5 1.0 1.0 1.0

$cmyn^4*$  0.5 0.0 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  77.01 -15.79 -18.98

$LAB^*LABa$  77.01 -15.16 -22.5

$LAB^*TChA$  75.0 27.15 236.01

relative CIELAB lab\*

$lab^*lab$  0.762 -0.278 -0.413

$lab^*tch$  0.75 0.5 0.656

$lab^*nch$  0.0 0.5 0.656

relative Natural Colour (NC)

$lab^*lrij$  0.762 -0.247 -0.433

$lab^*tce$  0.75 0.2 0.667

$lab^*ncE$  0.0 0.5 g66b

relative Inform. Technology (IT)

$olv^3*$  0.0 0.5 0.5 (1.0)

$cmyn^3*$  0.5 0.5 0.5 (0.0)

$olv^4*$  1.0 1.0 1.0 0.5

$cmyn^4*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  58.62 -30.62 -42.73

$LAB^*LABa$  58.62 -30.34 -45.01

$LAB^*TChA$  50.0 54.29 236.01

relative CIELAB lab\*

$lab^*lab$  0.525 -0.558 -0.828

$lab^*tch$  0.5 1.0 0.656

$lab^*nch$  0.0 1.0 0.656

relative Natural Colour (NC)

$lab^*lrij$  0.525 -0.496 -0.867

$lab^*tce$  0.5 1.0 0.667

$lab^*ncE$  0.0 1.0 g66b

relative Inform. Technology (IT)

$olv^3*$  0.0 0.0 0.0 (1.0)

$cmyn^3*$  1.0 1.0 1.0 (0.0)

$olv^4*$  1.0 1.0 1.0 0.0

$cmyn^4*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  11.01 0.07 0.01

$LAB^*LABa$  11.01 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*tce$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 0,00$

blackness  $n^*$

chromaticness  $c^*$

## Output: Colorimetric Reflective System NCS11

for hue  $h^* = lab^*h = 203/360 = 0.563$

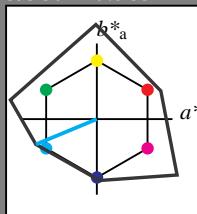
$lab^*tch$  and  $lab^*nch$

D65: hue G50B

LCH\*Ma: 59 87 203

olv\*Ma: 0.0 1.0 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

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

$LAB^*LABa$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 -

$lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)

$olv^3*$  0.0 0.5 0.5 (1.0)

$cmyn^3*$  0.5 0.5 0.5 (0.0)

$olv^4*$  1.0 1.0 1.0 0.5

$cmyn^4*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  59.47 -40.26 -16.71

$LAB^*LABa$  77.43 -40.29 -16.72

$LAB^*TChA$  75.0 43.63 202.54

relative CIELAB lab\*

$lab^*lab$  0.787 -0.461 -0.191

$lab^*tch$  0.75 0.5 0.563

$lab^*nch$  0.0 0.5 0.563

relative Natural Colour (NC)

$lab^*lrij$  0.787 -0.418 -0.272

$lab^*tce$  0.75 0.5 0.592

$lab^*ncE$  0.5 0.5 g36b

$n^* = 0,00$

blackness  $n^*$

chromaticness  $c^*$

3 step scales for constant CIELAB hue 236/360 = 0.656 (left)

3 step scales for constant CIELAB hue 203/360 = 0.563 (right)

## Input: Colorimetric Reflective System MRS18

for hue  $h^* = lab^*h = 218/360 = 0.605$

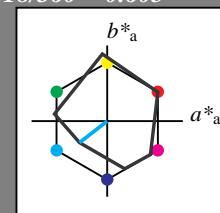
$lab^*tch$  and  $lab^*nch$

D65: hue G50B

LCH\*Ma: 45 46 218

olv\*Ma: 0.0 1.0 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

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

$LAB^*LABa$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 0.0

$lab^*ncE$  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 0.5

$cmyn^4*$  0.0 0.0 0.0 0.5

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 CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.5 0.0 0.0

$lab^*tce$  0.5 0.0 0.0

$lab^*ncE$  0.5 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)

$olv^4*$  1.0 1.0 1.0 0.0

$cmyn^4*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.5 -0.46

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*tce$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

## 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

%Gamut

$u^*_{rel} = 91$

%Regularity

$g^*_{H,rel} = 41$

$g^*_{C,rel} = 52$

relative Inform. Technology (IT)

$olv^3*$  0.5 1.0 1.0 (1.0)

$cmyn^3*$  0.5 0.0 0.0 (0.0)

$olv^4*$  0.5 1.0 1.0 1.0

$cmyn^4*$  0.5 0.0 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  70.21 -18.77 -11.17

$LAB^*LABa$  70.21 -18.27 -14.23

$LAB^*TChA$  75.0 23.17 217.91

relative CIELAB lab\*

$lab^*lab$  0.674 -0.393 -0.306

$lab^*tch$  0.75 0.5 0.605

$lab^*nch$  0.0 0.5 0.605

relative Natural Colour (NC)

$lab^*lrij$  0.674 -0.353 -0.352

$lab^*tce$  0.75 0.2 0.625

$lab^*ncE$  0.0 0.5 g49b

relative Inform. Technology (IT)

$olv^3*$  0.0 1.0 1.0 (1.0)

$cmyn^3*$  0.5 0.5 0.5 (0.0)

$olv^4*$  1.0 1.0 1.0 0.5

$cmyn^4*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  45.03 -36.57 -27.11

$LAB^*LABa$  45.03 -36.56 -28.47

$LAB^*TChA$  50.0 46.35 217.91

relative CIELAB lab\*

$lab^*lab$  0.349 -0.788 -0.613

$lab^*tch$  0.5 1.0 0.605

$lab^*nch$  0.0 1.0 0.605

relative Natural Colour (NC)

$lab^*lrij$  0.349 -0.706 -0.706

$lab^*tce$  0.5 1.0 0.625

$lab^*ncE$  0.0 1.0 g49b

relative Inform. Technology (IT)

$olv^3*$  0.0 0.0 0.0 (1.0)

$cmyn^3*$  1.0 1.0 1.0 (0.0)

$olv^4*$  1.0 1.0 1.0 0.0

$cmyn^4*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.5 -0.46

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*tce$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 0,00$

blackness  $n^*$

chromaticness  $c^*$

## Output: Colorimetric Reflective System ORS18

for hue  $h^* = lab^*h = 236/360 = 0.656$

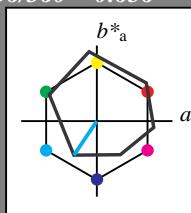
$lab^*tch$  and  $lab^*nch$

D65: hue C

LCH\*Ma: 59 54 236

olv\*Ma: 0.0 1.0 1.0

triangle lightness  $t^*$



%Gamut

$u^*_{rel} = 93$

%Regularity

$g^*_{H,rel} = 57$

$g^*_{C,rel} = 59$

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

$LAB^*LABa$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 0.0

$lab^*ncE$  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 0.5

$cmyn^4*$  0.5 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  77.01 -15.79 -18.98

$LAB^*LABa$  77.01 -15.16 -22.5

$LAB^*TChA$  75.0 27.15 236.01

relative CIELAB lab\*

$lab^*lab$  0.762 -0.278 -0.413

$lab^*tch$  0.75 0.5 0.656

$lab^*nch$  0.0 0.5 0.656

relative Natural Colour (NC)

$lab^*lrij$  0.762 -0.247 -0.433

$lab^*tce$  0.75 0.5 0.667

$lab^*ncE$  0.0 0.5 0.667

$n^* = 1,0$

blackness  $n^*$

chromaticness  $c^*$

UE100-7, 3 step scales for constant CIELAB hue 218/360 = 0.605 (left)

3 step scales for constant CIELAB hue 236/360 = 0.656 (right)

## Input: Colorimetric Reflective System MRS18

for hue  $h^* = lab^*h = 218/360 = 0.605$

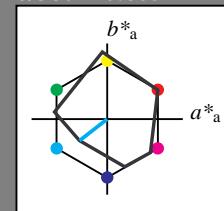
$lab^*tch$  and  $lab^*nch$

D65: hue G50B

LCH\*Ma: 45 46 218

olv\*Ma: 0.0 1.0 1.0

triangle lightness  $t^*$



### MRS18; adapted (a) CIELAB data

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

$olv^3*$  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

$LAB^*LABa$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  70.21 -18.77 -11.17

$LAB^*LABa$  70.21 -18.27 -14.23

$LAB^*TChA$  75.0 23.17 217.91

relative CIELAB lab\*

$lab^*lab$  0.674 -0.393 -0.306

$lab^*tch$  0.75 0.5 0.605

$lab^*nch$  0.0 0.5 0.605

relative Natural Colour (NC)

$lab^*lrij$  0.674 -0.353 -0.352

$lab^*tce$  0.75 0.2 0.625

$lab^*ncE$  0.0 0.5 g49b

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 0.5

$cmyn^4*$  0.0 0.0 0.0 0.5

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 CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.5 0.0 0.0

$lab^*tce$  0.5 0.0 0.0

$lab^*ncE$  0.5 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  31.52 -18.03 -13.78

$LAB^*LABa$  31.52 -18.27 -14.23

$LAB^*TChA$  25.01 23.17 217.91

relative CIELAB lab\*

$lab^*lab$  0.175 -0.393 -0.306

$lab^*tch$  0.25 0.5 0.605

$lab^*nch$  0.5 0.5 0.605

relative Natural Colour (NC)

$lab^*lrij$  0.175 -0.353 -0.352

$lab^*tce$  0.25 0.5 0.625

$lab^*ncE$  0.5 0.5 g49b

$n^* = 1,0$

$n^* = 0,00$

$n^* = 0,50$

$n^* = 1,00$

$chromaticness c^*$

## Output: Colorimetric Reflective System MRS18

for hue  $h^* = lab^*h = 218/360 = 0.605$

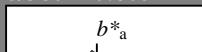
$lab^*tch$  and  $lab^*nch$

D65: hue G50B

LCH\*Ma: 45 46 218

olv\*Ma: 0.0 1.0 1.0

triangle lightness  $t^*$



### MRS18; adapted (a) CIELAB data

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

$olv^3*$  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

$LAB^*LABa$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  70.21 -18.77 -11.17

$LAB^*LABa$  70.21 -18.27 -14.23

$LAB^*TChA$  75.0 23.17 217.91

relative CIELAB lab\*

$lab^*lab$  0.674 -0.393 -0.306

$lab^*tch$  0.75 0.5 0.605

$lab^*nch$  0.0 0.5 0.605

relative Natural Colour (NC)

$lab^*lrij$  0.674 -0.353 -0.352

$lab^*tce$  0.75 0.5 0.625

$lab^*ncE$  0.0 0.5 g49b

relative Inform. Technology (IT)

$olv^3*$  0.0 0.0 0.0 (1.0)

$cmyn^3*$  1.0 1.0 1.0 (0.0)

$olv^4*$  1.0 1.0 1.0 0.5

$cmyn^4*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.5 -0.46

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.175 -0.393 -0.306

$lab^*tch$  0.25 0.5 0.605

$lab^*nch$  0.5 0.5 0.605

relative Natural Colour (NC)

$lab^*lrij$  0.175 -0.353 -0.352

$lab^*tce$  0.25 0.5 0.625

$lab^*ncE$  0.5 0.5 g49b

$n^* = 1,0$

$n^* = 0,50$

$n^* = 1,00$

$chromaticness c^*$

$n^* = 0,00$

$n^* = 0,50$

$n^* = 1,00$

$chromaticness c^*$

UE100-7, 3 step scales for constant CIELAB hue 218/360 = 0.605 (left)

3 step scales for constant CIELAB hue 218/360 = 0.605 (right)

## Input: Colorimetric Reflective System MRS18

for hue  $h^* = lab^*h = 218/360 = 0.605$

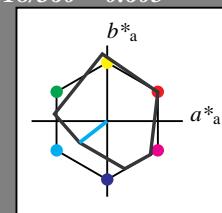
$lab^*tch$  and  $lab^*nch$

D65: hue G50B

LCH\*Ma: 45 46 218

olv\*Ma: 0.0 1.0 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

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

$LAB^*LABa$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 0.0

$lab^*ncE$  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 0.5

$cmyn^4*$  0.0 0.0 0.0 0.5

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 CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.5 0.0 0.0

$lab^*tce$  0.5 0.0 0.0

$lab^*ncE$  0.5 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)

$olv^4*$  1.0 1.0 1.0 0.0

$cmyn^4*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.5 -0.46

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

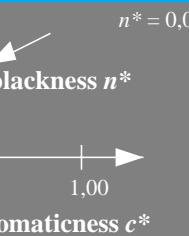
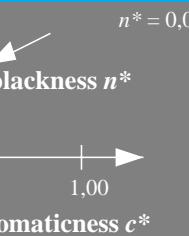
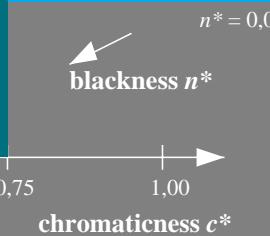
relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*tce$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$



## Output: Colorimetric Reflective System TRS18

for hue  $h^* = lab^*h = 236/360 = 0.656$

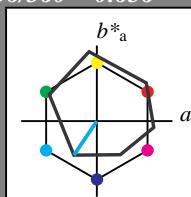
$lab^*tch$  and  $lab^*nch$

D65: hue C

LCH\*Ma: 59 54 236

olv\*Ma: 0.0 1.0 1.0

triangle lightness  $t^*$



### TRS18; adapted (a) CIELAB data

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

$olv^3*$  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

$cmynd*$  0.0 0.0 0.0 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 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 0.0

$lab^*ncE$  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)

$olv^4*$  0.5 1.0 1.0 1.0

$cmyn^4*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  77.01 -15.79 -18.98

$LAB^*LABa$  77.01 -15.16 -22.5

$LAB^*TChA$  75.0 27.15 236.01

relative CIELAB lab\*

$lab^*lab$  0.762 -0.278 -0.413

$lab^*tch$  0.75 0.5 0.656

$lab^*nch$  0.0 0.5 0.656

relative Natural Colour (NC)

$lab^*lrij$  0.762 -0.247 -0.433

$lab^*tce$  0.75 0.5 0.667

$lab^*ncE$  0.0 0.5 0.667

relative Inform. Technology (IT)

$olv^3*$  0.0 0.5 0.5 (1.0)

$cmyn^3*$  1.0 0.5 0.5 (0.0)

$olv^4*$  0.5 1.0 1.0 0.5

$cmyn^4*$  0.5 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  58.62 -30.62 -42.73

$LAB^*LABa$  58.62 -30.34 -45.01

$LAB^*TChA$  50.0 54.29 236.01

relative CIELAB lab\*

$lab^*lab$  0.525 -0.558 -0.828

$lab^*tch$  0.5 1.0 0.656

$lab^*nch$  0.0 1.0 0.656

relative Natural Colour (NC)

$lab^*lrij$  0.525 -0.496 -0.867

$lab^*tce$  0.5 1.0 0.667

$lab^*ncE$  0.0 1.0 0.667

$n^* = 1,0$



UE100-7, 3 step scales for constant CIELAB hue 218/360 = 0.605 (left)

3 step scales for constant CIELAB hue 236/360 = 0.656 (right)



## Input: Colorimetric Reflective System MRS18

for hue  $h^* = lab^*h = 218/360 = 0.605$

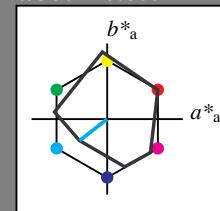
$lab^*tch$  and  $lab^*nch$

D65: hue G50B

LCH\*Ma: 45 46 218

olv\*Ma: 0.0 1.0 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

relative Inform. Technology (IT)

$olv^3*$  1.0 1.0 1.0 (1.0)

$cmy^3*$  0.0 0.0 0.0 (0.0)

$olv^4*$  1.0 1.0 1.0 1.0

$cmy^4*$  0.0 0.0 0.0 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 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  70.21 -18.77 -11.17

$LAB^*LABa$  70.21 -18.27 -14.23

$LAB^*TChA$  75.0 23.17 217.91

relative CIELAB lab\*

$lab^*lab$  0.674 -0.393 -0.306

$lab^*tch$  0.75 0.5 0.605

$lab^*nch$  0.0 0.5 0.605

relative Natural Colour (NC)

$lab^*lrij$  0.674 -0.353 -0.252

$lab^*tce$  0.75 0.2 0.625

$lab^*ncE$  0.0 0.5 g49b

relative Inform. Technology (IT)

$olv^3*$  0.5 0.5 0.5 (1.0)

$cmy^3*$  0.5 0.5 0.5 (0.0)

$olv^4*$  1.0 1.0 1.0 0.5

$cmy^4*$  0.0 0.0 0.0 0.5

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 CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.5 0.0 0.0

$lab^*tce$  0.5 0.0 0.0

$lab^*ncE$  0.5 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  31.52 -18.03 -13.78

$LAB^*LABa$  31.52 -18.27 -14.23

$LAB^*TChA$  25.01 23.17 217.91

relative CIELAB lab\*

$lab^*lab$  0.175 -0.393 -0.306

$lab^*tch$  0.25 0.5 0.605

$lab^*nch$  0.5 0.5 0.605

relative Natural Colour (NC)

$lab^*lrij$  0.175 -0.353 -0.352

$lab^*tce$  0.25 0.5 0.625

$lab^*ncE$  0.5 0.5 g49b

$n^* = 1,0$

0,25 0,50  $n^* = 0,50$

0,75 1,00

chromaticness  $c^*$

blackness  $n^*$

## Output: Colorimetric Reflective System MRS18a

for hue  $h^* = lab^*h = 217/360 = 0.601$

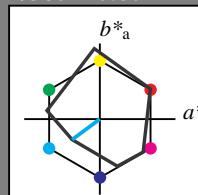
$lab^*tch$  and  $lab^*nch$

D65: hue G50B

LCH\*Ma: 45 46 217

olv\*Ma: 0.0 1.0 1.0

triangle lightness  $t^*$



### MRS18a; 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)

$olv^3*$  1.0 1.0 1.0 (1.0)

$cmy^3*$  0.0 0.0 0.0 (0.0)

$olv^4*$  1.0 1.0 1.0 1.0

$cmy^4*$  0.0 0.0 0.0 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\*

$lab^*lab$  0.674 -0.393 -0.306

$lab^*tch$  0.75 0.5 0.605

$lab^*nch$  0.0 0.5 0.605

relative Natural Colour (NC)

$lab^*lrij$  0.674 -0.353 -0.252

$lab^*tce$  0.75 0.2 0.625

$lab^*ncE$  0.0 0.5 g49b

standard and adapted CIELAB

$LAB^*LAB$  70.21 -18.77 -11.17

$LAB^*LABa$  70.21 -18.27 -14.23

$LAB^*TChA$  75.0 23.17 217.91

relative CIELAB lab\*

$lab^*lab$  0.674 -0.393 -0.306

$lab^*tch$  0.75 0.5 0.605

$lab^*nch$  0.0 0.5 0.605

relative Natural Colour (NC)

$lab^*lrij$  0.674 -0.353 -0.252

$lab^*tce$  0.75 0.2 0.625

$lab^*ncE$  0.0 0.5 g49b

relative Inform. Technology (IT)

$olv^3*$  0.5 0.5 0.5 (1.0)

$cmy^3*$  0.5 0.5 0.5 (0.0)

$olv^4*$  1.0 1.0 1.0 0.5

$cmy^4*$  0.0 0.0 0.0 0.5

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 CIELAB lab\*

$lab^*lab$  0.674 -0.393 -0.306

$lab^*tch$  0.75 0.5 0.605

$lab^*nch$  0.0 0.5 0.605

relative Natural Colour (NC)

$lab^*lrij$  0.674 -0.353 -0.252

$lab^*tce$  0.75 0.2 0.625

$lab^*ncE$  0.0 0.5 g49b

$n^* = 1,0$

0,25 0,50  $n^* = 0,50$

0,75 1,00

chromaticness  $c^*$

blackness  $n^*$

$n^* = 1,0$

0,25 0,50  $n^* = 0,50$

0,75 1,00

chromaticness  $c^*$

blackness  $n^*$

UE100-7, 3 step scales for constant CIELAB hue 218/360 = 0.605 (left)

3 step scales for constant CIELAB hue 217/360 = 0.601 (right)

## Input: Colorimetric Reflective System MRS18

for hue  $h^* = lab^*h = 218/360 = 0.605$

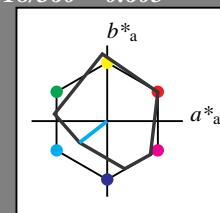
$lab^*tch$  and  $lab^*nch$

D65: hue G50B

LCH\*Ma: 45 46 218

olv\*Ma: 0.0 1.0 1.0

triangle lightness  $t^*$



relative Inform. Technology (IT)  
 $olv13^*$  1.0 1.0 1.0 (1.0)  
 $cmyn3^*$  0.0 0.0 0.0 (0.0)

$olv14^*$  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  
 $LAB^*LABa$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)  
 $olv13^*$  0.5 0.5 0.5 (1.0)  
 $cmyn3^*$  0.5 0.5 0.5 (0.0)

$olv14^*$  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  
 $LAB^*LABa$  56.71 0.0 0.0

$LAB^*TChA$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0  
 $lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.5 0.0 0.0

$lab^*tce$  0.5 0.0 0.0

$lab^*ncE$  0.5 0.0 -

relative Inform. Technology (IT)  
 $olv13^*$  0.0 0.0 0.0 (1.0)  
 $cmyn3^*$  1.0 1.0 1.0 (0.0)

$olv14^*$  1.0 1.0 1.0 0.0  
 $cmyn4^*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.5 -0.46  
 $LAB^*LABa$  18.02 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0  
 $lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*tce$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

## 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

%Gamut

$u^*_{rel} = 91$

%Regularity

$g^*_{H,rel} = 41$

$g^*_{C,rel} = 52$

relative Inform. Technology (IT)

$olv13^*$  0.5 1.0 1.0 (1.0)

$cmyn3^*$  0.5 0.0 0.0 (0.0)

$olv14^*$  0.5 1.0 1.0 1.0

$cmyn4^*$  0.5 0.0 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  70.21 -18.77 -11.17  
 $LAB^*LABa$  70.21 -18.27 -14.23

$LAB^*TChA$  75.0 23.17 217.91

relative CIELAB lab\*

$lab^*lab$  0.674 -0.393 -0.306

$lab^*tch$  0.75 0.5 0.605

$lab^*nch$  0.0 0.5 0.605

relative Natural Colour (NC)

$lab^*lrij$  0.674 -0.353 -0.352

$lab^*tce$  0.75 0.2 0.625

$lab^*ncE$  0.0 0.5 g49b

relative Inform. Technology (IT)

$olv13^*$  0.0 0.5 0.5 (1.0)

$cmyn3^*$  0.5 0.5 0.5 (0.0)

$olv14^*$  1.0 1.0 1.0 0.5

$cmyn4^*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  45.03 -36.57 -27.11  
 $LAB^*LABa$  45.03 -36.56 -28.47

$LAB^*TChA$  50.0 46.35 217.91

relative CIELAB lab\*

$lab^*lab$  0.349 -0.788 -0.613

$lab^*tch$  0.5 1.0 0.605

$lab^*nch$  0.0 1.0 0.605

relative Natural Colour (NC)

$lab^*lrij$  0.349 -0.706 -0.706

$lab^*tce$  0.5 1.0 0.625

$lab^*ncE$  0.0 1.0 g49b

relative Inform. Technology (IT)

$olv13^*$  0.0 0.0 0.0 (1.0)

$cmyn3^*$  1.0 1.0 1.0 (0.0)

$olv14^*$  1.0 1.0 1.0 0.0

$cmyn4^*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.09 -0.02  
 $LAB^*LABa$  18.02 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*tce$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 0,00$



chromaticness  $c^*$

0,25 0,50 0,75 1,00

## Output: Colorimetric Reflective System NRS18

for hue  $h^* = lab^*h = 203/360 = 0.564$

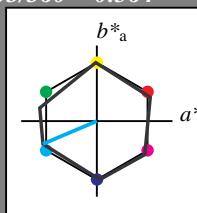
$lab^*tch$  and  $lab^*nch$

D65: hue G50B

LCH\*Ma: 57 77 203

olv\*Ma: 0.0 1.0 1.0

triangle lightness  $t^*$



%Gamut

$u^*_{rel} = 100$

%Regularity

$g^*_{H,rel} = 47$

$g^*_{C,rel} = 100$

relative Inform. Technology (IT)

$olv13^*$  1.0 1.0 1.0 (1.0)

$cmyn3^*$  0.0 0.0 0.0 (0.0)

$olv14^*$  1.0 1.0 1.0 1.0

$cmyn4^*$  0.0 0.0 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  76.05 -35.6 -15.11  
 $LAB^*LABa$  76.05 -35.63 -15.11

$LAB^*TChA$  75.0 38.72 202.99

relative CIELAB lab\*

$lab^*lab$  0.75 -0.459 -0.194

$lab^*tch$  0.75 0.5 0.564

$lab^*nch$  0.0 0.5 0.564

relative Natural Colour (NC)

$lab^*lrij$  0.75 0.416 -0.275

$lab^*tce$  0.75 0.5 0.593

$lab^*ncE$  0.0 0.5 g37b

relative Inform. Technology (IT)

$olv13^*$  0.0 0.5 0.5 (1.0)

$cmyn3^*$  1.0 1.0 1.0 (0.0)

$olv14^*$  1.0 1.0 1.0 0.5

$cmyn4^*$  0.5 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  37.36 -35.56 -15.09  
 $LAB^*LABa$  37.36 -35.63 -15.11

$LAB^*TChA$  25.01 38.72 202.99

relative CIELAB lab\*

$lab^*lab$  0.25 -0.459 -0.194

$lab^*tch$  0.25 0.5 0.564

$lab^*nch$  0.5 0.5 0.564

relative Natural Colour (NC)

$lab^*lrij$  0.25 -0.416 -0.275

$lab^*tce$  0.25 0.5 0.593

$lab^*ncE$  0.5 0.5 g37b

$n^* = 1,0$

3 step scales for constant CIELAB hue 203/360 = 0.564 (right)

## NRS18; adapted (a) CIELAB data

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

RMa	56.7	70.66	31.47	77.35	24
JMa	56.7	-1.39	77.37	77.39	91
GMa	56.7	-75.46	17.4	77.45	167
G50BMa	56.7	-71.29	-30.25	77.45	203
BMa	56.7	4.0	-77.3	77.41	273
B50RMa	56.7	63.35	-44.4	77.36	325
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	272

relative Inform. Technology (IT)

$olv13^*$  0.0 1.0 1.0 (1.0)

$cmyn3^*$  1.0 0.0 0.0 (0.0)

$olv14^*$  0.0 1.0 1.0 1.0

$cmyn4^*$  0.0 0.0 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  56.7 -71.22 -30.23  
 $LAB^*LABa$  56.7 -71.28 -30.24

$LAB^*TChA$  50.0 77.44 202.99

relative CIELAB lab\*

$lab^*lab$  0.5 -0.919 -0.39

$lab^*tch$  0.5 1.0 0.564

$lab^*nch$  0.0 1.0 0.564

## Input: Colorimetric Reflective System MRS18

for hue  $h^* = lab^*h = 218/360 = 0.605$

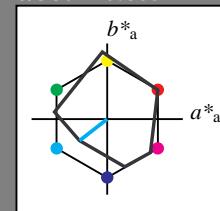
$lab^*tch$  and  $lab^*nch$

D65: hue G50B

LCH\*Ma: 45 46 218

olv\*Ma: 0.0 1.0 1.0

triangle lightness  $t^*$



## MRS18; adapted (a) CIELAB data

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

%Gamut

$u^*_{rel} = 91$

%Regularity

$g^*_{H,rel} = 41$

$g^*_{C,rel} = 52$

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

$LAB^*LABa$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 0.0

$lab^*ncE$  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 0.5

$cmyn^4*$  0.0 0.0 0.0 0.5

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 CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.5 0.0 0.0

$lab^*tce$  0.5 0.0 0.0

$lab^*ncE$  0.5 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)

$olv^4*$  1.0 1.0 1.0 0.0

$cmyn^4*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.5 -0.46

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*tce$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

## Output: Colorimetric Reflective System NCS18

for hue  $h^* = lab^*h = 203/360 = 0.563$

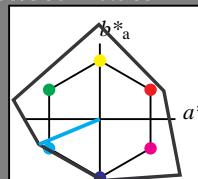
$lab^*tch$  and  $lab^*nch$

D65: hue G50B

LCH\*Ma: 59 87 203

olv\*Ma: 0.0 1.0 1.0

triangle lightness  $t^*$



## NCS18; adapted (a) CIELAB data

	$L^* = L^*_{ab}$	$a^*_{ab}$	$b^*_{ab}$	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	47.15	84.63	37.24	92.46	24
JMa	91.37	-1.27	125.03	125.03	91
GMa	63.07	-114.29	25.34	117.07	167
G50BMa	59.47	-80.61	-33.45	87.29	203
BMa	49.01	3.63	-81.2	81.29	273
B50RMa	44.06	106.07	-73.94	129.31	325
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	272

%Gamut

$u^*_{rel} = 136$

%Regularity

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

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

relative Inform. Technology (IT)

$olv^3*$  0.5 1.0 1.0 (1.0)

$cmyn^3*$  0.5 0.0 0.0 (0.0)

$olv^4*$  0.5 1.0 1.0 1.0

$cmyn^4*$  0.5 0.0 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  77.43 -40.26 -16.71

$LAB^*LABa$  77.43 -40.29 -16.72

$LAB^*TChA$  75.0 43.64 202.54

relative CIELAB lab\*

$lab^*lab$  0.768 -0.461 -0.191

$lab^*tch$  0.75 0.5 0.563

$lab^*nch$  0.0 0.5 0.563

relative Natural Colour (NC)

$lab^*lrij$  0.768 -0.418 -0.272

$lab^*tce$  0.75 0.5 0.592

$lab^*ncE$  0.0 0.5 g36b

relative Inform. Technology (IT)

$olv^3*$  0.0 1.0 1.0 (1.0)

$cmyn^3*$  0.5 0.0 0.0 (0.0)

$olv^4*$  0.5 1.0 1.0 0.5

$cmyn^4*$  0.5 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  59.47 -80.55 -33.44

$LAB^*LABa$  59.47 -80.6 -33.45

$LAB^*TChA$  50.0 87.28 202.54

relative CIELAB lab\*

$lab^*lab$  0.536 -0.922 -0.382

$lab^*tch$  0.5 1.0 0.563

$lab^*nch$  0.0 1.0 0.563

relative Natural Colour (NC)

$lab^*lrij$  0.536 -0.836 -0.546

$lab^*tce$  0.5 1.0 0.592

$lab^*ncE$  0.0 1.0 g36b

$n^* = 0,00$

blackness  $n^*$

$n^* = 0,00$

blackness  $n^*$

$n^* = 0,50$

chromaticness  $c^*$

3 step scales for constant CIELAB hue 203/360 = 0.563 (right)

UE100-7, 3 step scales for constant CIELAB hue 218/360 = 0.605 (left)

## Input: Colorimetric Reflective System MRS18

for hue  $h^* = lab^*h = 218/360 = 0.605$

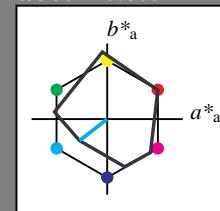
$lab^*tch$  and  $lab^*nch$

D65: hue G50B

LCH\*Ma: 45 46 218

olv\*Ma: 0.0 1.0 1.0

triangle lightness  $t^*$



relative Inform. Technology (IT)

$olv_i3^*$  1.0 1.0 1.0 (1.0)

$cmyn3^*$  0.0 0.0 0.0 (0.0)

$olv_i4^*$  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

$LAB^*LABa$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 -

$lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)

$olv_i3^*$  0.5 0.5 0.5 (1.0)

$cmyn3^*$  0.5 0.5 0.5 (0.0)

$olv_i4^*$  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

$LAB^*LABa$  56.71 0.0 0.0

$LAB^*TChA$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.5 0.0 0.0

$lab^*tce$  0.5 0.0 -

$lab^*ncE$  0.5 0.0 -

relative Inform. Technology (IT)

$olv_i3^*$  0.0 0.0 0.0 (1.0)

$cmyn3^*$  1.0 1.0 1.0 (0.0)

$olv_i4^*$  1.0 1.0 1.0 0.0

$cmyn4^*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.5 -0.46

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*tce$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

## 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

%Gamut

$u^*_{rel} = 91$

%Regularity

$g^*_{H,rel} = 41$

$g^*_{C,rel} = 52$

relative Inform. Technology (IT)

$olv_i3^*$  0.5 1.0 1.0 (1.0)

$cmyn3^*$  0.5 0.0 0.0 (0.0)

$olv_i4^*$  0.5 1.0 1.0 1.0

$cmyn4^*$  0.5 0.0 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  70.21 -18.77 -11.17

$LAB^*LABa$  70.21 -18.27 -14.23

$LAB^*TChA$  75.0 23.17 217.91

relative CIELAB lab\*

$lab^*lab$  0.674 -0.393 -0.306

$lab^*tch$  0.75 0.5 0.605

$lab^*nch$  0.0 0.5 0.605

relative Natural Colour (NC)

$lab^*lrij$  0.674 -0.353 -0.352

$lab^*tce$  0.75 0.2 0.625

$lab^*ncE$  0.0 0.5 g49b

relative Inform. Technology (IT)

$olv_i3^*$  0.0 1.0 1.0 (1.0)

$cmyn3^*$  0.5 0.0 0.0 (0.0)

$olv_i4^*$  1.0 1.0 1.0 0.5

$cmyn4^*$  1.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  45.03 -36.57 -27.11

$LAB^*LABa$  45.03 -36.56 -28.47

$LAB^*TChA$  50.0 46.35 217.91

relative CIELAB lab\*

$lab^*lab$  0.349 -0.788 -0.613

$lab^*tch$  0.5 1.0 0.605

$lab^*nch$  0.0 1.0 0.605

relative Natural Colour (NC)

$lab^*lrij$  0.349 -0.706 -0.706

$lab^*tce$  0.5 1.0 0.625

$lab^*ncE$  0.0 1.0 g49b

relative Inform. Technology (IT)

$olv_i3^*$  0.0 0.0 0.0 (1.0)

$cmyn3^*$  1.0 1.0 1.0 (0.0)

$olv_i4^*$  1.0 1.0 1.0 0.0

$cmyn4^*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.5 -0.46

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*tce$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 0,00$

blackness  $n^*$

chromaticness  $c^*$

## Output: Colorimetric Reflective System NRS11

for hue  $h^* = lab^*h = 203/360 = 0.564$

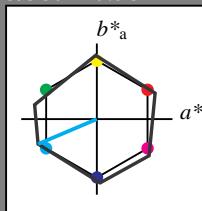
$lab^*tch$  and  $lab^*nch$

D65: hue G50B

LCH\*Ma: 53 84 203

olv\*Ma: 0.0 1.0 1.0

triangle lightness  $t^*$



%Gamut

$u^*_{rel} = 119$

%Regularity

$g^*_{H,rel} = 47$

$g^*_{C,rel} = 100$

relative Inform. Technology (IT)

$olv_i3^*$  1.0 1.0 1.0 (1.0)

$cmyn3^*$  0.0 0.0 0.0 (0.0)

$olv_i4^*$  0.5 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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 -

$lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)

$olv_i3^*$  0.5 0.5 0.5 (1.0)

$cmyn3^*$  0.5 0.5 0.5 (0.0)

$olv_i4^*$  0.5 1.0 1.0 0.5

$cmyn4^*$  0.5 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  74.3 -38.82 -16.48

$LAB^*LABa$  74.3 -38.85 -16.48

$LAB^*TChA$  75.0 42.21 203.0

relative CIELAB lab\*

$lab^*lab$  0.75 -0.459 -0.194

$lab^*tch$  0.75 0.5 0.564

$lab^*nch$  0.0 0.5 0.564

relative Natural Colour (NC)

$lab^*lrij$  0.5 -0.833 -0.551

$lab^*tce$  0.5 1.0 0.593

$lab^*ncE$  0.0 1.0 g37b

## NRS11; adapted (a) CIELAB data

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

RMa	53.2	77.06	34.32	84.36	24
JMa	53.2	-1.51	84.38	84.39	91
GMa	53.2	-82.27	18.98	84.44	167
G50BMa	53.2	-77.72	-32.98	84.44	203
BMa	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

$n^* = 0,00$

blackness  $n^*$

chromaticness  $c^*$

3 step scales for constant CIELAB hue 218/360 = 0.605 (left)

3 step scales for constant CIELAB hue 203/360 = 0.564 (right)

## Input: Colorimetric Reflective System MRS18

for hue  $h^* = lab^*h = 218/360 = 0.605$

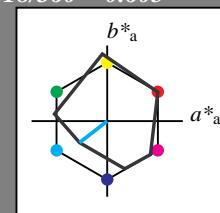
$lab^*tch$  and  $lab^*nch$

D65: hue G50B

LCH\*Ma: 45 46 218

olv\*Ma: 0.0 1.0 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

%Gamut

$u^*_{rel} = 91$

%Regularity

$g^*_{H,rel} = 41$

$g^*_{C,rel} = 52$

relative Inform. Technology (IT)

$olv^3*$  1.0 1.0 1.0 (1.0)

$cmy^3*$  0.0 0.0 0.0 (0.0)

$olv^4*$  1.0 1.0 1.0 1.0

$cmy^4*$  0.0 0.0 0.0 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 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 -

$lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)

$olv^3*$  0.5 1.0 1.0 (1.0)

$cmy^3*$  0.5 0.0 0.0 (0.0)

$olv^4*$  0.5 1.0 1.0 1.0

$cmy^4*$  0.5 0.0 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  70.21 -18.77 -11.17

$LAB^*LABa$  70.21 -18.27 -14.23

$LAB^*TChA$  75.0 23.17 217.91

relative CIELAB lab\*

$lab^*lab$  0.674 -0.393 -0.306

$lab^*tch$  0.75 0.5 0.605

$lab^*nch$  0.0 0.5 0.605

relative Natural Colour (NC)

$lab^*lrij$  0.674 -0.353 -0.252

$lab^*tce$  0.75 0.2 0.625

$lab^*ncE$  0.0 0.5 g49b

relative Inform. Technology (IT)

$olv^3*$  0.5 0.5 0.5 (1.0)

$cmy^3*$  0.5 0.5 0.5 (0.0)

$olv^4*$  1.0 1.0 1.0 0.5

$cmy^4*$  0.0 0.0 0.5

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 CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.5 0.0 0.0

$lab^*tce$  0.5 0.0 -

$lab^*ncE$  0.5 0.0 -

relative Inform. Technology (IT)

$olv^3*$  0.0 0.0 0.0 (1.0)

$cmy^3*$  1.0 1.0 1.0 (0.0)

$olv^4*$  1.0 1.0 1.0 0.0

$cmy^4*$  0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.5 -0.46

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*tce$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

relative Inform. Technology (IT)

$olv^3*$  0.0 0.0 0.0 (1.0)

$cmy^3*$  1.0 1.0 1.0 (0.0)

$olv^4*$  1.0 1.0 1.0 0.5

$cmy^4*$  0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.5 -0.46

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*tce$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

relative Inform. Technology (IT)

$olv^3*$  0.0 0.0 0.0 (1.0)

$cmy^3*$  1.0 1.0 1.0 (0.0)

$olv^4*$  1.0 1.0 1.0 0.5

$cmy^4*$  0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.5 -0.46

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*tce$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

## Output: Colorimetric Reflective System NCS11

for hue  $h^* = lab^*h = 203/360 = 0.563$

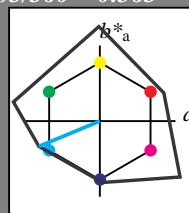
$lab^*tch$  and  $lab^*nch$

D65: hue G50B

LCH\*Ma: 59 87 203

olv\*Ma: 0.0 1.0 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

%Gamut

$u^*_{rel} = 149$

%Regularity

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

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

relative Inform. Technology (IT)

$olv^3*$  1.0 1.0 1.0 (1.0)

$cmy^3*$  0.0 0.0 0.0 (0.0)

$olv^4*$  1.0 1.0 1.0 1.0

$cmy^4*$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 -

$lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)

$olv^3*$  0.0 0.5 0.5 (1.0)

$cmy^3*$  1.0 0.5 0.5 (0.0)

$olv^4*$  1.0 1.0 1.0 0.5

$cmy^4*$  0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  59.47 -40.26 -16.71

$LAB^*LABa$  77.43 -40.29 -16.72

$LAB^*TChA$  75.0 43.63 202.54

relative CIELAB lab\*

$lab^*lab$  0.787 -0.461 -0.191

$lab^*tch$  0.75 0.5 0.563

$lab^*nch$  0.0 0.5 0.563

relative Natural Colour (NC)

$lab^*lrij$  0.787 -0.418 -0.272

$lab^*tce$  0.75 0.5 0.592

$lab^*ncE$  0.5 0.5 g36b

$n^* = 0,00$

blackness  $n^*$

$n^* = 1,0$

blackness  $n^*$

$n^* = 0,50$

chromaticness  $c^*$

$n^* = 1,00$

UE100-7, 3 step scales for constant CIELAB hue 218/360 = 0.605

### Input: Colorimetric Reflective System TRS18

for hue  $h^* = lab^*h = 236/360 = 0.656$

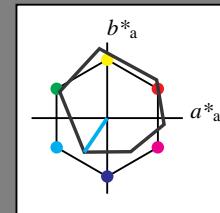
$lab^*tch$  and  $lab^*nch$

D65: hue C

LCH\*Ma: 59 54 236

olv\*Ma: 0.0 1.0 1.0

triangle lightness  $t^*$



### TRS18; adapted (a) CIELAB data

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

$olv^3*$  1.0 1.0 1.0 (1.0)

$cmy^3*$  0.0 0.0 0.0 (0.0)

$olv^4*$  1.0 1.0 1.0 1.0

$cmy^4*$  0.0 0.0 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  95.41 -0.97 4.75

$LAB^*LABa$  95.41 0.0 0.0

$LAB^*TCh$  99.99 0.01 -

relative CIELAB lab\*

$lab^*lab$  1.0 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  1.0 0.0 0.0

$lab^*ice$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  77.01 -15.79 -18.98

$LAB^*LABa$  77.01 -15.16 -22.5

$LAB^*TCh$  75.0 27.15 236.01

relative CIELAB lab\*

$lab^*lab$  0.762 -0.278 -0.413

$lab^*tch$  0.75 0.5 0.656

$lab^*nch$  0.0 0.5 0.656

relative Natural Colour (NC)

$lab^*lrj$  0.762 -0.247 -0.433

$lab^*ice$  0.75 0.2 0.667

$lab^*ncE$  0.0 0.5 g66b

relative Inform. Technology (IT)

$olv^3*$  0.5 0.5 0.5 (1.0)

$cmy^3*$  0.5 0.5 0.5 (0.0)

$olv^4*$  1.0 1.0 1.0 0.5

$cmy^4*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  56.71 -0.23 2.14

$LAB^*LABa$  56.71 0.0 0.0

$LAB^*TCh$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  0.5 0.0 0.0

$lab^*ice$  0.5 0.0 0.0

$lab^*ncE$  0.5 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.5 -0.46

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TCh$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  0.0 0.0 0.0

$lab^*ice$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

$n^* = 0,00$

$n^* = 0,50$

$1,00$

$chromaticness c^*$

### Output: Colorimetric Reflective System ORS18

for hue  $h^* = lab^*h = 236/360 = 0.656$

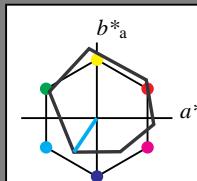
$lab^*tch$  and  $lab^*nch$

D65: hue C

LCH\*Ma: 59 54 236

olv\*Ma: 0.0 1.0 1.0

triangle lightness  $t^*$



### ORS18; adapted (a) CIELAB data

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

$olv^3*$  0.5 1.0 1.0 (1.0)

$cmy^3*$  0.5 0.0 0.0 (0.0)

$olv^4*$  0.5 1.0 1.0 1.0

$cmy^4*$  0.5 0.0 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  95.41 -0.97 4.75

$LAB^*LABa$  95.41 0.0 0.0

$LAB^*TCh$  99.99 0.01 -

relative CIELAB lab\*

$lab^*lab$  1.0 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  1.0 0.0 0.0

$lab^*ice$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)

$olv^3*$  0.5 0.5 0.5 (1.0)

$cmy^3*$  1.0 0.5 0.5 (0.0)

$olv^4*$  1.0 1.0 1.0 0.5

$cmy^4*$  0.5 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  56.71 -30.62 -42.73

$LAB^*LABa$  56.71 0.0 0.0

$LAB^*TCh$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.525 -0.558 -0.828

$lab^*tch$  0.5 1.0 0.656

$lab^*nch$  0.0 1.0 0.656

relative Natural Colour (NC)

$lab^*lrj$  0.525 -0.496 -0.867

$lab^*ice$  0.5 1.0 0.667

$lab^*ncE$  0.0 1.0 g66b

relative Inform. Technology (IT)

$olv^3*$  0.0 0.0 0.0 (1.0)

$cmy^3*$  1.0 1.0 1.0 (0.0)

$olv^4*$  1.0 1.0 1.0 0.0

$cmy^4*$  0.0 0.0 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.5 -0.46

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TCh$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.262 -0.278 -0.413

$lab^*tch$  0.25 0.5 0.656

$lab^*nch$  0.5 0.5 0.656

relative Natural Colour (NC)

$lab^*lrj$  0.262 -0.247 -0.433

$lab^*ice$  0.25 0.5 0.667

$lab^*ncE$  0.5 0.5 g66b

relative Inform. Technology (IT)

$olv^3*$  0.0 1.0 1.0 (1.0)

$cmy^3*$  1.0 0.0 0.0 (0.0)

$olv^4*$  0.0 1.0 1.0 1.0

$cmy^4*$  1.0 0.0 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  58.62 -30.62 -42.73

$LAB^*LABa$  58.62 -30.34 -45.01

$LAB^*TCh$  50.0 0.0 54.29 236.01

relative CIELAB lab\*

$lab^*lab$  0.525 -0.558 -0.828

$lab^*tch$  0.5 1.0 0.656

$lab^*nch$  0.0 1.0 0.656

relative Natural Colour (NC)

$lab^*lrj$  0.525 -0.496 -0.867

$lab^*ice$  0.5 1.0 0.667

$lab^*ncE$  0.0 1.0 g66b

$n^* = 0,00$

$n^* = 0,50$

$1,00$

$n^* = 0,50$

$1,00$

$chromaticness c^*$

UE100-7, 3 step scales for constant CIELAB hue 236/360 = 0.656 (left)

3 step scales for constant CIELAB hue 236/360 = 0.656 (right)

## Input: Colorimetric Reflective System TRS18

for hue  $h^* = lab^*h = 236/360 = 0.656$

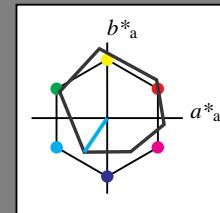
$lab^*tch$  and  $lab^*nch$

D65: hue C

LCH\*Ma: 59 54 236

olv\*Ma: 0.0 1.0 1.0

triangle lightness  $t^*$



%Gamut

$u^*_{rel} = 93$

%Regularity

$g^*_{H,rel} = 57$

$g^*_{C,rel} = 59$

relative Inform. Technology (IT)

$olv^3*$  1.0 1.0 1.0 (1.0)

$cmy^3*$  0.0 0.0 0.0 (0.0)

$olv^4*$  1.0 1.0 1.0 1.0

$cmy^4*$  0.0 0.0 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  95.41 -0.97 4.75

$LAB^*LABa$  95.41 0.0 0.0

$LAB^*TCh$  99.99 0.01 -

relative CIELAB lab\*

$lab^*lab$  1.0 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  1.0 0.0 0.0

$lab^*ice$  1.0 0.0 -

$lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)

$olv^3*$  0.5 0.5 0.5 (1.0)

$cmy^3*$  0.5 0.5 0.5 (0.0)

$olv^4*$  1.0 1.0 1.0 0.5

$cmy^4*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  56.71 -0.23 2.14

$LAB^*LABa$  56.71 0.0 0.0

$LAB^*TCh$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  0.5 0.0 0.0

$lab^*ice$  0.5 0.0 -

$lab^*ncE$  0.5 0.0 -

relative Inform. Technology (IT)

$olv^3*$  0.0 0.0 0.0 (1.0)

$cmy^3*$  1.0 1.0 1.0 (0.0)

$olv^4*$  1.0 1.0 1.0 0.0

$cmy^4*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.5 -0.46

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TCh$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  0.0 0.0 0.0

$lab^*ice$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

## TRS18; adapted (a) CIELAB data

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

## Output: Colorimetric Reflective System MRS18

for hue  $h^* = lab^*h = 218/360 = 0.605$

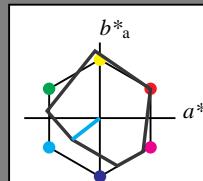
$lab^*tch$  and  $lab^*nch$

D65: hue G50B

LCH\*Ma: 45 46 218

olv\*Ma: 0.0 1.0 1.0

triangle lightness  $t^*$



%Gamut

$u^*_{rel} = 91$

%Regularity

$g^*_{H,rel} = 41$

$g^*_{C,rel} = 52$

relative Inform. Technology (IT)

$olv^3*$  1.0 1.0 1.0 (1.0)

$cmy^3*$  0.0 0.0 0.0 (0.0)

$olv^4*$  1.0 1.0 1.0 1.0

$cmy^4*$  0.0 0.0 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  95.41 -0.97 4.75

$LAB^*LABa$  95.41 0.0 0.0

$LAB^*TCh$  99.99 0.01 -

relative CIELAB lab\*

$lab^*lab$  1.0 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  1.0 0.0 0.0

$lab^*ice$  1.0 0.0 -

$lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)

$olv^3*$  0.5 0.5 0.5 (1.0)

$cmy^3*$  0.5 0.5 0.5 (0.0)

$olv^4*$  1.0 1.0 1.0 0.5

$cmy^4*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  57.01 -15.79 -18.98

$LAB^*LABa$  77.01 -15.16 -22.5

$LAB^*TCh$  75.0 27.15 236.01

relative CIELAB lab\*

$lab^*lab$  0.762 -0.278 -0.413

$lab^*tch$  0.75 0.5 0.656

$lab^*nch$  0.0 0.5 0.656

relative Natural Colour (NC)

$lab^*lrj$  0.762 -0.247 -0.433

$lab^*ice$  0.75 0.2 0.667

$lab^*ncE$  0.0 0.5 g66b

relative Inform. Technology (IT)

$olv^3*$  0.0 0.0 0.0 (1.0)

$cmy^3*$  1.0 1.0 1.0 (0.0)

$olv^4*$  1.0 1.0 1.0 0.0

$cmy^4*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  58.62 -30.62 -42.73

$LAB^*LABa$  58.62 -30.34 -45.01

$LAB^*TCh$  50.0 54.29 236.01

relative CIELAB lab\*

$lab^*lab$  0.525 -0.558 -0.828

$lab^*tch$  0.5 1.0 0.656

$lab^*nch$  0.0 1.0 0.656

relative Natural Colour (NC)

$lab^*lrj$  0.525 -0.496 -0.867

$lab^*ice$  0.5 1.0 0.667

$lab^*ncE$  0.0 1.0 g66b

relative Inform. Technology (IT)

$olv^3*$  0.0 0.0 0.0 (1.0)

$cmy^3*$  1.0 1.0 1.0 (0.0)

$olv^4*$  1.0 1.0 1.0 0.5

$cmy^4*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.5 -0.46

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TCh$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  0.0 0.0 0.0

$lab^*ice$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

blackness  $n^*$

$n^* = 0,00$

blackness  $n^*$

$n^* = 0,50$

blackness  $n^*$

$chromaticness c^*$

chromaticness  $c^*$

## 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)

$olv^3*$  0.0 1.0 1.0 (1.0)

$cmy^3*$  1.0 0.0 0.0 (0.0)

$olv^4*$  0.0 1.0 1.0 1.0

$cmy^4*$  0.0 0.0 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  70.21 -18.77 -11.17

$LAB^*LABa$  70.21 -18.27 -14.23

$LAB^*TCh$  75.0 23.17 217.91

relative CIELAB lab\*

$lab^*lab$  0.674 -0.393 -0.306

$lab^*tch$  0.75 0.5 0.605

$lab^*nch$  0.0 0.5 0.605

relative Natural Colour (NC)

$lab^*lrj$  0.674 -0.353 -0.352

$lab^*ice$  0.75 0.5 0.625

$$

### Input: Colorimetric Reflective System TRS18

for hue  $h^* = lab^*h = 236/360 = 0.656$

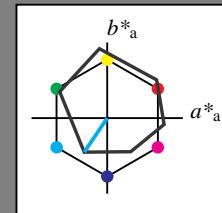
$lab^*tch$  and  $lab^*nch$

D65: hue C

LCH\*Ma: 59 54 236

olv\*Ma: 0.0 1.0 1.0

triangle lightness  $t^*$



### TRS18; adapted (a) CIELAB data

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

relative Inform. Technology (IT)

$olv_i3^*$  1.0 1.0 1.0 (1.0)

$cmy_n3^*$  0.0 0.0 0.0 (0.0)

$olv_i4^*$  1.0 1.0 1.0 1.0

$cmy_n4^*$  0.0 0.0 0.0 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 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  1.0 0.0 0.0

$lab^*ice$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)

$olv_i3^*$  0.5 0.5 0.5 (1.0)

$cmy_n3^*$  0.5 0.5 0.5 (0.0)

$olv_i4^*$  1.0 1.0 1.0 0.5

$cmy_n4^*$  0.0 0.0 0.0 0.5

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 CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  0.5 0.0 0.0

$lab^*ice$  0.5 0.0 0.0

$lab^*ncE$  0.5 0.0 -

relative Inform. Technology (IT)

$olv_i3^*$  0.0 0.0 0.0 (1.0)

$cmy_n3^*$  1.0 1.0 1.0 (0.0)

$olv_i4^*$  1.0 1.0 1.0 0.0

$cmy_n4^*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.5 -0.46

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  0.0 0.0 0.0

$lab^*ice$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

%Gamut

$u^*_{rel} = 93$

%Regularity

$g^*_{H,rel} = 57$

$g^*_{C,rel} = 59$

relative Inform. Technology (IT)

$olv_i3^*$  0.5 1.0 1.0 (1.0)

$cmy_n3^*$  0.5 0.0 0.0 (0.0)

$olv_i4^*$  0.5 1.0 1.0 1.0

$cmy_n4^*$  0.5 0.0 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  77.01 -15.79 -18.98

$LAB^*LABa$  77.01 -15.16 -22.5

$LAB^*TChA$  75.0 27.15 236.01

relative CIELAB lab\*

$lab^*lab$  0.762 -0.278 -0.413

$lab^*tch$  0.75 0.5 0.656

$lab^*nch$  0.0 0.5 0.656

relative Natural Colour (NC)

$lab^*lrj$  0.762 -0.247 -0.423

$lab^*ice$  0.75 0.2 0.667

$lab^*ncE$  0.0 0.5 g66b

relative Inform. Technology (IT)

$olv_i3^*$  0.0 1.0 1.0 (1.0)

$cmy_n3^*$  0.5 0.0 0.0 (0.0)

$olv_i4^*$  1.0 1.0 1.0 1.0

$cmy_n4^*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  58.62 -30.62 -42.73

$LAB^*LABa$  58.62 -30.34 -45.01

$LAB^*TChA$  50.0 54.29 236.01

relative CIELAB lab\*

$lab^*lab$  0.525 -0.558 -0.828

$lab^*tch$  0.5 1.0 0.656

$lab^*nch$  0.0 1.0 0.656

relative Natural Colour (NC)

$lab^*lrj$  0.525 -0.496 -0.867

$lab^*ice$  0.5 1.0 0.667

$lab^*ncE$  0.0 1.0 g66b

relative Inform. Technology (IT)

$olv_i3^*$  0.0 0.0 0.0 (1.0)

$cmy_n3^*$  1.0 1.0 1.0 (0.0)

$olv_i4^*$  1.0 1.0 1.0 0.0

$cmy_n4^*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.5 -0.46

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.262 -0.278 -0.413

$lab^*tch$  0.25 0.5 0.656

$lab^*nch$  0.5 0.5 0.656

relative Natural Colour (NC)

$lab^*lrj$  0.262 -0.247 -0.433

$lab^*ice$  0.25 0.5 0.667

$lab^*ncE$  0.5 0.5 g66b

relative Inform. Technology (IT)

$olv_i3^*$  0.0 0.0 0.0 (1.0)

$cmy_n3^*$  1.0 1.0 1.0 (0.0)

$olv_i4^*$  1.0 1.0 1.0 0.0

$cmy_n4^*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.5 -0.46

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.262 -0.278 -0.413

$lab^*tch$  0.25 0.5 0.656

$lab^*nch$  0.5 0.5 0.656

relative Natural Colour (NC)

$lab^*lrj$  0.262 -0.247 -0.433

$lab^*ice$  0.25 0.5 0.667

$lab^*ncE$  0.5 0.5 g66b

relative Inform. Technology (IT)

$olv_i3^*$  0.0 0.0 0.0 (1.0)

$cmy_n3^*$  1.0 1.0 1.0 (0.0)

$olv_i4^*$  1.0 1.0 1.0 0.0

$cmy_n4^*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.5 -0.46

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.262 -0.278 -0.413

$lab^*tch$  0.25 0.5 0.656

$lab^*nch$  0.5 0.5 0.656

relative Natural Colour (NC)

$lab^*lrj$  0.262 -0.247 -0.433

$lab^*ice$  0.25 0.5 0.667

$lab^*ncE$  0.5 0.5 g66b

relative Inform. Technology (IT)

$olv_i3^*$  0.0 0.0 0.0 (1.0)

$cmy_n3^*$  1.0 1.0 1.0 (0.0)

$olv_i4^*$  1.0 1.0 1.0 0.0

$cmy_n4^*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.5 -0.46

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.262 -0.278 -0.413

$lab^*tch$  0.25 0.5 0.656

$lab^*nch$  0.5 0.5 0.656

relative Natural Colour (NC)

$lab^*lrj$  0.262 -0.247 -0.433

$lab^*ice$  0.25 0.5 0.667

$lab^*ncE$  0.5 0.5 g66b

relative Inform. Technology (IT)

$olv_i3^*$  0.0 0.0 0.0 (1.0)

$cmy_n3^*$  1.0 1.0 1.0 (0.0)

$olv_i4^*$  1.0 1.0 1.0 0.0

$cmy_n4^*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.5 -0.46

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.262 -0.278 -0.413

$lab^*tch$  0.25 0.5 0.656

$lab^*nch$  0.5 0.5 0.656

relative Natural Colour (NC)

$lab^*lrj$  0.262 -0.247 -0.433

$lab^*ice$  0.25 0.5 0.667

$lab^*ncE$  0.5 0.5 g66b

relative Inform. Technology (IT)

$olv_i3^*$  0.0 0.0 0.0 (1.0)

$cmy_n3^*$  1.0 1.0 1.0 (0.0)

$olv_i4^*$  1.0 1.0 1.0 0.0

$cmy_n4^*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.5 -0.46

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.262 -0.278 -0.413

$lab^*tch$  0.25 0.5 0.656

$lab^*nch$  0.5 0.5 0.656

relative Natural Colour (NC)

$lab^*lrj$  0.262 -0.247 -0.433

$lab^*ice$  0.25 0.5 0.667

$lab^*ncE$  0.5 0.5 g66b

relative Inform. Technology (IT)

$olv_i3^*$  0.0 0.0 0.0 (1.0)

$cmy_n3^*$  1.0 1.0 1.0 (0.0)

### Input: Colorimetric Reflective System TRS18

for hue  $h^* = lab^*h = 236/360 = 0.656$

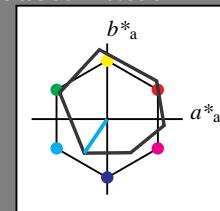
$lab^*tch$  and  $lab^*nch$

D65: hue C

LCH\*Ma: 59 54 236

olv\*Ma: 0.0 1.0 1.0

triangle lightness  $t^*$



### TRS18; adapted (a) CIELAB data

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

$olv_i3^*$  1.0 1.0 1.0 (1.0)

$cmyn3^*$  0.0 0.0 0.0 (0.0)

$olv_i4^*$  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

$LAB^*LABa$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  1.0 0.0 0.0

$lab^*ice$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  77.01 -15.79 -18.98

$LAB^*LABa$  77.01 -15.16 -22.5

$LAB^*TChA$  75.0 27.15 236.01

relative CIELAB lab\*

$lab^*lab$  0.762 -0.278 -0.413

$lab^*tch$  0.75 0.5 0.656

$lab^*nch$  0.0 0.5 0.656

relative Natural Colour (NC)

$lab^*lrj$  0.762 -0.247 -0.433

$lab^*ice$  0.75 0.2 0.667

$lab^*ncE$  0.0 0.5 g66b

relative Inform. Technology (IT)

$olv_i3^*$  0.5 0.5 0.5 (1.0)

$cmyn3^*$  0.5 0.5 0.5 (0.0)

$olv_i4^*$  1.0 1.0 1.0 0.5

$cmyn4^*$  0.0 0.0 0.5

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 CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  0.5 0.0 0.0

$lab^*ice$  0.5 0.0 0.0

$lab^*ncE$  0.5 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.5 -0.46

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  0.0 0.0 0.0

$lab^*ice$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

relative Inform. Technology (IT)

$olv_i3^*$  0.0 0.0 0.0 (1.0)

$cmyn3^*$  1.0 1.0 1.0 (0.0)

$olv_i4^*$  1.0 1.0 1.0 0.0

$cmyn4^*$  0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.5 -0.46

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  0.262 -0.247 -0.433

$lab^*ice$  0.25 0.5 0.667

$lab^*ncE$  0.5 0.5 g66b

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.5 -0.46

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  0.0 0.0 0.0

$lab^*ice$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.5 -0.46

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  0.0 0.0 0.0

$lab^*ice$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

relative Inform. Technology (IT)

$olv_i3^*$  0.0 0.0 0.0 (1.0)

$cmyn3^*$  1.0 1.0 1.0 (0.0)

$olv_i4^*$  1.0 1.0 1.0 0.0

$cmyn4^*$  0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.5 -0.46

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  0.0 0.0 0.0

$lab^*ice$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.5 -0.46

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  0.0 0.0 0.0

$lab^*ice$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.5 -0.46

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  0.0 0.0 0.0

$lab^*ice$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.5 -0.46

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  0.0 0.0 0.0

$lab^*ice$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.5 -0.46

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  0.0 0.0 0.0

$lab^*ice$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.5 -0.46

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  0.0 0.0 0.0

$lab^*ice$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.5 -0.46

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  0.0 0.0 0.0

## Input: Colorimetric Reflective System TRS18

for hue  $h^* = lab^*h = 236/360 = 0.656$

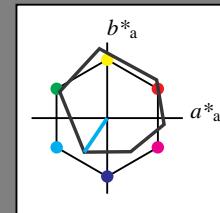
$lab^*tch$  and  $lab^*nch$

D65: hue C

LCH\*Ma: 59 54 236

olv\*Ma: 0.0 1.0 1.0

triangle lightness  $t^*$



%Gamut

$u^*_{rel} = 93$

%Regularity

$g^*_{H,rel} = 57$

$g^*_{C,rel} = 59$

## TRS18; adapted (a) CIELAB data

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

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)

$olv^3*$  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

$LAB^*LABa$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  1.0 0.0 0.0

$lab^*ice$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  77.01 -15.79 -18.98

$LAB^*LABa$  77.01 -15.16 -22.5

$LAB^*TChA$  75.0 27.15 236.01

relative CIELAB lab\*

$lab^*lab$  0.762 -0.278 -0.413

$lab^*tch$  0.75 0.5 0.656

$lab^*nch$  0.0 0.5 0.656

relative Natural Colour (NC)

$lab^*lrj$  0.762 -0.247 -0.433

$lab^*ice$  0.75 0.2 0.667

$lab^*ncE$  0.0 0.5 g66b

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 0.5

$cmyn^4*$  0.0 0.0 0.0 0.5

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 CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  0.5 0.0 0.0

$lab^*ice$  0.5 0.0 0.0

$lab^*ncE$  0.5 0.0 -

$n^* = 1,0$

relative Inform. Technology (IT)

$olv^3*$  0.5 1.0 1.0 (1.0)

$cmyn^3*$  0.5 0.0 0.0 (0.0)

$olv^4*$  0.5 1.0 1.0 1.0

$cmyn^4*$  0.5 0.0 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  77.01 -15.79 -18.98

$LAB^*LABa$  77.01 -15.16 -22.5

$LAB^*TChA$  75.0 27.15 236.01

relative CIELAB lab\*

$lab^*lab$  0.762 -0.278 -0.413

$lab^*tch$  0.75 0.5 0.656

$lab^*nch$  0.0 0.5 0.656

relative Natural Colour (NC)

$lab^*lrj$  0.762 -0.247 -0.433

$lab^*ice$  0.75 0.2 0.667

$lab^*ncE$  0.0 0.5 g66b

relative Inform. Technology (IT)

$olv^3*$  0.0 0.5 0.5 (1.0)

$cmyn^3*$  1.0 0.0 0.0 (0.0)

$olv^4*$  0.0 1.0 1.0 0.5

$cmyn^4*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  38.32 -15.05 -21.59

$LAB^*LABa$  38.32 -15.16 -22.5

$LAB^*TChA$  25.01 27.15 236.01

relative CIELAB lab\*

$lab^*lab$  0.262 -0.278 -0.413

$lab^*tch$  0.25 0.5 0.656

$lab^*nch$  0.5 0.5 0.656

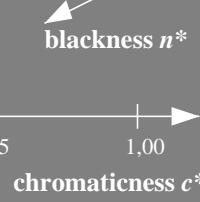
relative Natural Colour (NC)

$lab^*lrj$  0.262 -0.247 -0.433

$lab^*ice$  0.25 0.5 0.667

$lab^*ncE$  0.5 0.5 g66b

$n^* = 0,00$



$n^* = 0,00$

blackness  $n^*$

chromaticness  $c^*$

## Output: Colorimetric Reflective System NRS18

for hue  $h^* = lab^*h = 203/360 = 0.564$

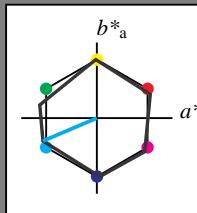
$lab^*tch$  and  $lab^*nch$

D65: hue G50B

LCH\*Ma: 57 77 203

olv\*Ma: 0.0 1.0 1.0

triangle lightness  $t^*$



%Gamut

$u^*_{rel} = 100$

%Regularity

$g^*_{H,rel} = 47$

$g^*_{C,rel} = 100$

## NRS18; adapted (a) CIELAB data

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

RMa	56.7	70.66	31.47	77.35	24
JMa	56.7	-1.39	77.37	77.39	91
GMa	56.7	-75.46	17.4	77.45	167
G50BMa	56.7	-71.29	-30.25	77.45	203
BMa	56.7	4.0	-77.3	77.41	273
B50RMa	56.7	63.35	-44.4	77.36	325
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	272

relative Inform. Technology (IT)

$olv^3*$  0.5 1.0 1.0 (1.0)

$cmyn^3*$  0.5 0.0 0.0 (0.0)

$olv^4*$  0.5 1.0 1.0 1.0

$cmyn^4*$  0.5 0.0 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  76.05 -35.6 -15.11

$LAB^*LABa$  76.05 -35.63 -15.11

$LAB^*TChA$  75.0 38.72 202.99

relative CIELAB lab\*

$lab^*lab$  0.75 -0.459 -0.194

$lab^*tch$  0.75 0.5 0.564

$lab^*nch$  0.0 0.5 0.564

relative Natural Colour (NC)

$lab^*lrj$  0.75 0.416 -0.275

$lab^*ice$  0.75 0.5 0.593

$lab^*ncE$  0.0 0.5 g37b

relative Inform. Technology (IT)

$olv^3*$  0.0 0.5 0.5 (1.0)

$cmyn^3*$  1.0 1.0 1.0 (0.0)

$olv^4*$  1.0 1.0 1.0 0.5

$cmyn^4*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  37.36 -35.56 -15.09

$LAB^*LABa$  37.36 -35.63 -15.11

$LAB^*TChA$  25.01 38.72 202.99

relative CIELAB lab\*

$lab^*lab$  0.25 -0.459 -0.194

$lab^*tch$  0.25 0.5 0.564

$lab^*nch$  1.0 0.0 0.564

relative Natural Colour (NC)

$lab^*lrj$  0.0 0.0 0.0

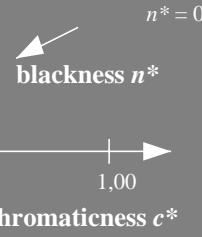
$lab^*ice$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

3 step scales for constant CIELAB hue 236/360 = 0.656 (left)

3 step scales for constant CIELAB hue 203/360 = 0.564 (right)



$n^* = 0,00$

blackness  $n^*$

chromaticness  $c^*$

### Input: Colorimetric Reflective System TRS18

for hue  $h^* = lab^*h = 236/360 = 0.656$

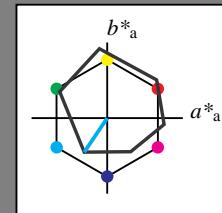
$lab^*tch$  and  $lab^*nch$

D65: hue C

LCH\*Ma: 59 54 236

olv\*Ma: 0.0 1.0 1.0

triangle lightness  $t^*$



%Gamut

$u^*_{rel} = 93$

%Regularity

$g^*_{H,rel} = 57$

$g^*_{C,rel} = 59$

relative Inform. Technology (IT)

$olv13^*$  1.0 1.0 1.0 (1.0)

$cmy3^*$  0.0 0.0 0.0 (0.0)

$olv4^*$  1.0 1.0 1.0 1.0

$cmy4^*$  0.0 0.0 0.0 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 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*ice$  1.0 0.0 -

$lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)

$olv13^*$  0.5 0.5 0.5 (1.0)

$cmy3^*$  0.5 0.5 0.5 (0.0)

$olv4^*$  1.0 1.0 1.0 0.5

$cmy4^*$  0.0 0.0 0.0 0.5

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 CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.5 0.0 0.0

$lab^*ice$  0.5 0.0 -

$lab^*ncE$  0.5 0.0 -

relative Inform. Technology (IT)

$olv13^*$  0.0 0.0 0.0 (1.0)

$cmy3^*$  1.0 1.0 1.0 (0.0)

$olv4^*$  1.0 1.0 1.0 0.0

$cmy4^*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.5 -0.46

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*ice$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

### TRS18; adapted (a) CIELAB data

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

	$O_{Ma}$	$Y_{Ma}$	$L_{Ma}$	$C_{Ma}$	$V_{Ma}$	$M_{Ma}$	$N_{Ma}$	$W_{Ma}$	$R_{CIE}$	$J_{CIE}$	$G_{CIE}$	$B_{CIE}$
	47.94	65.37	50.52	82.62	38							
	90.37	-10.27	91.77	92.34	96							
	50.9	-62.79	34.95	71.87	151							
	58.62	-30.35	-45.01	54.3	236							
	25.71	31.11	-44.42	54.24	305							
	48.13	75.27	-8.35	75.73	354							
	18.01	0.0	0.0	0.0	0							
	95.41	0.0	0.0	0.0	0							
	39.92	58.66	26.98	64.56	25							
	81.26	-2.17	67.76	67.79	92							
	52.23	-42.26	11.75	43.87	164							
	30.57	1.15	-46.84	46.87	271							

triangle lightness  $t^*$

↑

relative Inform. Technology (IT)

$olv13^*$  0.5 1.0 1.0 (1.0)

$cmy3^*$  0.5 0.0 0.0 (0.0)

$olv4^*$  0.5 1.0 1.0 1.0

$cmy4^*$  0.5 0.0 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  77.01 -15.79 -18.98

$LAB^*LABa$  77.01 -15.16 -22.5

$LAB^*TChA$  75.0 27.15 236.01

relative CIELAB lab\*

$lab^*lab$  0.762 -0.278 -0.413

$lab^*tch$  0.75 0.5 0.656

$lab^*nch$  0.0 0.5 0.656

relative Natural Colour (NC)

$lab^*lrij$  0.762 -0.247 -0.433

$lab^*ice$  0.75 0.2 0.667

$lab^*ncE$  0.0 0.5 g66b

relative Inform. Technology (IT)

$olv13^*$  0.0 0.5 0.5 (1.0)

$cmy3^*$  1.0 0.0 0.0 (0.0)

$olv4^*$  0.0 1.0 1.0 0.5

$cmy4^*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  58.62 -30.62 -42.73

$LAB^*LABa$  58.62 -30.34 -45.01

$LAB^*TChA$  50.0 54.29 236.01

relative CIELAB lab\*

$lab^*lab$  0.525 -0.558 -0.828

$lab^*tch$  0.5 1.0 0.656

$lab^*nch$  0.0 1.0 0.656

relative Natural Colour (NC)

$lab^*lrij$  0.525 -0.496 -0.867

$lab^*ice$  0.5 1.0 0.667

$lab^*ncE$  0.0 1.0 g66b

relative Inform. Technology (IT)

$olv13^*$  0.0 0.0 0.0 (1.0)

$cmy3^*$  1.0 1.0 1.0 (0.0)

$olv4^*$  1.0 1.0 1.0 0.5

$cmy4^*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.09 0.02

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*ice$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 0,00$

blackness  $n^*$

↑

chromaticness  $c^*$

↑

$n^* = 1,00$

blackness  $n^*$

↑

chromaticness  $c^*$

↑

### Output: Colorimetric Reflective System NCS18

for hue  $h^* = lab^*h = 203/360 = 0.563$

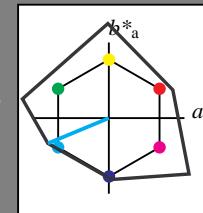
$lab^*tch$  and  $lab^*nch$

D65: hue G50B

LCH\*Ma: 59 87 203

olv\*Ma: 0.0 1.0 1.0

triangle lightness  $t^*$



%Gamut

$u^*_{rel} = 136$

%Regularity

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

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

relative Inform. Technology (IT)

$olv13^*$  1.0 1.0 1.0 (1.0)

$cmy3^*$  0.0 0.0 0.0 (0.0)

$olv4^*$  0.5 1.0 1.0 1.0

$cmy4^*$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*ice$  1.0 0.0 -

$lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)

$olv13^*$  0.5 0.5 0.5 (1.0)

$cmy3^*$  0.5 0.5 0.5 (0.0)

$olv4^*$  0.5 1.0 1.0 0.5

$cmy4^*$  0.5 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  77.43 -40.26 -16.71

$LAB^*LABa$  77.43 -40.29 -16.72

$LAB^*TChA$  75.0 43.64 202.54

relative CIELAB lab\*

$lab^*lab$  0.768 -0.461 -0.191

$lab^*tch$  0.75 0.5 0.563

$lab^*nch$  0.0 0.5 0.563

relative Natural Colour (NC)

$lab^*lrij$  0.768 -0.418 -0.272

$lab^*ice$  0.75 0.5 0.592

$lab^*ncE$  0.5 0.5 g36b

$n^* = 0,00$

blackness  $n^*$

↑

chromaticness  $c^*$

↑

$n^* = 1,00$

blackness  $n^*$

↑

chromaticness  $c^*$

↑

### Input: Colorimetric Reflective System TRS18

for hue  $h^* = lab^*h = 236/360 = 0.656$

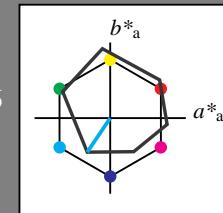
$lab^*tch$  and  $lab^*nch$

D65: hue C

LCH\*Ma: 59 54 236

olv\*Ma: 0.0 1.0 1.0

triangle lightness  $t^*$



### TRS18; adapted (a) CIELAB data

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

$olv^3*$  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

$LAB^*LABa$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  1.0 0.0 0.0

$lab^*ice$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  77.01 -15.79 -18.98

$LAB^*LABa$  77.01 -15.16 -22.5

$LAB^*TChA$  75.0 27.15 236.01

relative CIELAB lab\*

$lab^*lab$  0.762 -0.278 -0.413

$lab^*tch$  0.75 0.5 0.656

$lab^*nch$  0.0 0.5 0.656

relative Natural Colour (NC)

$lab^*lrj$  0.762 -0.247 -0.433

$lab^*ice$  0.75 0.2 0.667

$lab^*ncE$  0.0 0.5 g66b

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 0.5

$cmyn^4*$  0.0 0.0 0.0 0.5

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 CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  0.5 0.0 0.0

$lab^*ice$  0.5 0.0 0.0

$lab^*ncE$  0.5 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.5 -0.46

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  0.0 0.0 0.0

$lab^*ice$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

$n^* = 0,00$

$n^* = 0,50$

$n^* = 1,00$

chromaticness  $c^*$

### Output: Colorimetric Reflective System NRS11

for hue  $h^* = lab^*h = 203/360 = 0.564$

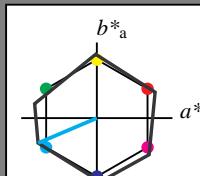
$lab^*tch$  and  $lab^*nch$

D65: hue G50B

LCH\*Ma: 53 84 203

olv\*Ma: 0.0 1.0 1.0

triangle lightness  $t^*$



### NRS11; adapted (a) CIELAB data

	$L^*=L_a^*$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	53.2	77.06	34.32	84.36	24
JMa	53.2	-1.51	84.38	84.39	91
GMa	53.2	-82.27	18.98	84.44	167
G50BMa	53.2	-77.72	-32.98	84.44	203
BMa	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

%Gamut

$u^*_{rel} = 93$

%Regularity

$g^*_{H,rel} = 57$

$g^*_{C,rel} = 59$

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

$LAB^*LABa$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  1.0 0.0 0.0

$lab^*ice$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)

$olv^3*$  0.5 1.0 1.0 (1.0)

$cmyn^3*$  0.5 0.5 0.5 (0.0)

$olv^4*$  0.5 1.0 1.0 0.5

$cmyn^4*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  53.21 0.04 0.0

$LAB^*LABa$  53.21 0.0 0.0

$LAB^*TChA$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.525 -0.558 -0.828

$lab^*tch$  0.5 1.0 0.656

$lab^*nch$  0.0 1.0 0.656

relative Natural Colour (NC)

$lab^*lrj$  0.525 -0.496 -0.867

$lab^*ice$  0.5 1.0 0.667

$lab^*ncE$  0.0 1.0 g66b

$n^* = 0,00$

blackness  $n^*$

$n^* = 0,50$

$n^* = 1,00$

chromaticness  $c^*$

$n^* = 1,0$

blackness  $n^*$

$n^* = 0,00$

chromaticness  $c^*$

UE100-7, 3 step scales for constant CIELAB hue 236/360 = 0.656 (left)

3 step scales for constant CIELAB hue 203/360 = 0.564 (right)

### Input: Colorimetric Reflective System TRS18

for hue  $h^* = lab^*h = 236/360 = 0.656$

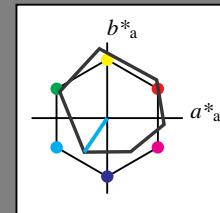
$lab^*tch$  and  $lab^*nch$

D65: hue C

LCH\*Ma: 59 54 236

olv\*Ma: 0.0 1.0 1.0

triangle lightness  $t^*$



### TRS18; adapted (a) CIELAB data

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

$olv_i3^*$  1.0 1.0 1.0 (1.0)

$cmyn3^*$  0.0 0.0 0.0 (0.0)

$olv_i4^*$  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

$LAB^*LABa$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  77.01 -15.79 -18.98

$LAB^*LABa$  77.01 -15.16 -22.5

$LAB^*TChA$  75.0 27.15 236.01

relative CIELAB lab\*

$lab^*lab$  0.762 -0.278 -0.413

$lab^*tch$  0.75 0.5 0.656

$lab^*nch$  0.0 0.5 0.656

relative Natural Colour (NC)

$lab^*lrij$  0.762 -0.247 -0.433

$lab^*tce$  0.75 0.2 0.667

$lab^*ncE$  0.0 0.5 g66b

relative Inform. Technology (IT)

$olv_i3^*$  0.5 0.5 0.5 (1.0)

$cmyn3^*$  0.5 0.5 0.5 (0.0)

$olv_i4^*$  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

$LAB^*LABa$  56.71 0.0 0.0

$LAB^*TChA$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.5 0.0 0.0

$lab^*tce$  0.5 0.0 0.0

$lab^*ncE$  0.5 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.5 -0.46

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*tce$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

$n^* = 0,00$

$n^* = 0,50$

$1,00$

chromaticness  $c^*$

### Output: Colorimetric Reflective System NCS11

for hue  $h^* = lab^*h = 203/360 = 0.563$

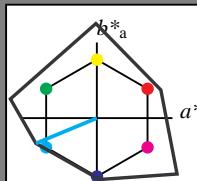
$lab^*tch$  and  $lab^*nch$

D65: hue G50B

LCH\*Ma: 59 87 203

olv\*Ma: 0.0 1.0 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

relative Inform. Technology (IT)

$olv_i3^*$  1.0 1.0 1.0 (1.0)

$cmyn3^*$  0.0 0.0 0.0 (0.0)

$olv_i4^*$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)

$olv_i3^*$  0.5 0.5 0.5 (1.0)

$cmyn3^*$  0.5 0.5 0.5 (0.0)

$olv_i4^*$  0.5 1.0 1.0 0.5

$cmyn4^*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  59.47 -40.26 -16.71

$LAB^*LABa$  77.43 -40.29 -16.72

$LAB^*TChA$  75.0 43.63 202.54

relative CIELAB lab\*

$lab^*lab$  0.787 -0.461 -0.191

$lab^*tch$  0.75 0.5 0.563

$lab^*nch$  0.0 0.5 0.563

relative Natural Colour (NC)

$lab^*lrij$  0.787 -0.418 -0.272

$lab^*tce$  0.75 0.5 0.592

$lab^*ncE$  0.0 0.5 g36b

relative Inform. Technology (IT)

$olv_i3^*$  0.0 1.0 1.0 (1.0)

$cmyn3^*$  1.0 0.0 0.0 (0.0)

$olv_i4^*$  0.0 1.0 1.0 1.0

$cmyn4^*$  1.0 0.0 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  59.47 -80.55 -33.44

$LAB^*LABa$  59.47 -80.59 -33.44

$LAB^*TChA$  50.0 87.26 202.54

relative CIELAB lab\*

$lab^*lab$  0.574 -0.922 -0.382

$lab^*tch$  0.5 1.0 0.563

$lab^*nch$  0.0 1.0 0.563

relative Natural Colour (NC)

$lab^*lrij$  0.574 -0.836 -0.546

$lab^*tce$  0.5 1.0 0.592

$lab^*ncE$  0.0 1.0 g36b

$n^* = 0,00$

$n^* = 1,0$

$n^* = 0,50$

$n^* = 0,50$

$1,00$

$1,00$

chromaticness  $c^*$

chromaticness  $c^*$

UE100-7, 3 step scales for constant CIELAB hue 236/360 = 0.656 (left)

3 step scales for constant CIELAB hue 203/360 = 0.563 (right)

### Input: Colorimetric Reflective System MRS18a

for hue  $h^* = lab^*h = 217/360 = 0.601$

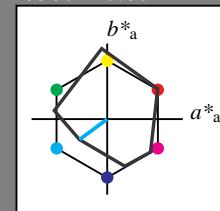
$lab^*tch$  and  $lab^*nch$

D65: hue G50B

LCH\*Ma: 45 46 217

olv\*Ma: 0.0 1.0 1.0

triangle lightness  $t^*$



### MRS18a; adapted (a) CIELAB data

	$L^*=L^*_a$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	49.63	66.8	40.02	77.87	31
JMa	90.7	-7.27	93.19	93.48	94
GMa	52.11	-69.93	11.26	70.85	171
G50BMa	45.03	-36.65	-27.13	45.61	217
BMa	36.65	23.26	-62.27	66.49	290
B50RMa	34.94	57.27	-43.6	71.99	323
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	272

relative Inform. Technology (IT)  
 $olv_i3^*$  1.0 1.0 1.0 (1.0)  
 $cmyn3^*$  0.0 0.0 0.0 (0.0)  
 $olv_i4^*$  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 0.01 0.0  
 $LAB^*LABa$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0  
 $lab^*tce$  1.0 0.0 0.0  
 $lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)  
 $olv_i3^*$  0.5 0.5 0.5 (1.0)  
 $cmyn3^*$  0.5 0.5 0.5 (0.0)  
 $olv_i4^*$  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 0.05 0.0  
 $LAB^*LABa$  56.71 0.0 0.0  
 $LAB^*TChA$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0  
 $lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.5 0.0 0.0  
 $lab^*tce$  0.5 0.0 0.0  
 $lab^*ncE$  0.5 0.0 -

relative Inform. Technology (IT)  
 $olv_i3^*$  0.0 0.0 0.0 (1.0)  
 $cmyn3^*$  1.0 1.0 1.0 (0.0)  
 $olv_i4^*$  1.0 1.0 1.0 0.0  
 $cmyn4^*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.1 0.02  
 $LAB^*LABa$  18.02 0.0 0.0  
 $LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0  
 $lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0  
 $lab^*tce$  0.0 0.0 -  
 $lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

### MRS18a; adapted (a) CIELAB data

	$L^*=L^*_a$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
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RMa	49.63	66.8	40.02	77.87	31
JMa	90.7	-7.27	93.19	93.48	94
GMa	52.11	-69.93	11.26	70.85	171
G50BMa	45.03	-36.65	-27.13	45.61	217
BMa	36.65	23.26	-62.27	66.49	290
B50RMa	34.94	57.27	-43.6	71.99	323
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	272

%Gamut

$u^*_{rel} = 92$

%Regularity

$g^*_{H,rel} = 42$

$g^*_{C,rel} = 49$

relative Inform. Technology (IT)

$olv_i3^*$  0.5 1.0 1.0 (1.0)

$cmyn3^*$  0.5 0.0 0.0 (0.0)

$olv_i4^*$  0.5 1.0 1.0 1.0

$cmyn4^*$  0.5 0.0 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  70.21 -18.28 -13.55

$LAB^*LABa$  70.21 -18.31 -13.56

$LAB^*TChA$  75.0 22.8 216.52

relative CIELAB lab\*

$lab^*lab$  0.674 -0.401 -0.296

$lab^*tch$  0.75 0.5 0.601

$lab^*nch$  0.0 0.5 0.601

relative Natural Colour (NC)

$lab^*lrij$  0.674 -0.355 -0.35

$lab^*tce$  0.75 0.2 0.624

$lab^*ncE$  0.0 0.5 g49b

relative Inform. Technology (IT)

$olv_i3^*$  0.0 1.0 1.0 (1.0)

$cmyn3^*$  0.5 0.0 0.0 (0.0)

$olv_i4^*$  1.0 1.0 1.0 0.5

$cmyn4^*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  45.03 -36.57 -27.11

$LAB^*LABa$  45.03 -36.64 -27.13

$LAB^*TChA$  50.0 45.6 216.52

relative CIELAB lab\*

$lab^*lab$  0.349 -0.803 -0.594

$lab^*tch$  0.5 1.0 0.601

$lab^*nch$  0.0 1.0 0.601

relative Natural Colour (NC)

$lab^*lrij$  0.349 -0.71 -0.702

$lab^*tce$  0.5 1.0 0.624

$lab^*ncE$  0.0 1.0 g49b

relative Inform. Technology (IT)

$olv_i3^*$  0.0 0.0 0.0 (1.0)

$cmyn3^*$  1.0 1.0 1.0 (0.0)

$olv_i4^*$  1.0 1.0 1.0 0.0

$cmyn4^*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.5 0.02

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*tce$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 0,00$

blackness  $n^*$

chromaticness  $c^*$

### Output: Colorimetric Reflective System ORS18

for hue  $h^* = lab^*h = 236/360 = 0.656$

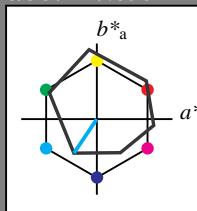
$lab^*tch$  and  $lab^*nch$

D65: hue C

LCH\*Ma: 59 54 236

olv\*Ma: 0.0 1.0 1.0

triangle lightness  $t^*$



%Gamut

$u^*_{rel} = 93$

%Regularity

$g^*_{H,rel} = 57$

$g^*_{C,rel} = 59$

relative Inform. Technology (IT)

$olv_i3^*$  1.0 1.0 1.0 (1.0)

$cmyn3^*$  0.5 0.0 0.0 (0.0)

$olv_i4^*$  0.5 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

$LAB^*LABa$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 -

$lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)

$olv_i3^*$  0.5 1.0 1.0 (1.0)

$cmyn3^*$  0.5 0.0 0.0 (0.0)

$olv_i4^*$  0.5 1.0 1.0 1.0

$cmyn4^*$  0.0 0.0 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  77.01 -15.79 -18.98

$LAB^*LABa$  77.01 -15.16 -22.5

$LAB^*TChA$  75.0 27.15 236.01

relative CIELAB lab\*

$lab^*lab$  0.762 -0.278 -0.413

$lab^*tch$  0.75 0.5 0.656

$lab^*nch$  0.0 0.5 0.656

relative Natural Colour (NC)

$lab^*lrij$  0.762 -0.247 -0.433

$lab^*tce$  0.75 0.5 0.667

$lab^*ncE$  0.0 0.5 0.667

$n^* = 0,00$

blackness  $n^*$

chromaticness  $c^*$

$n^* = 1,0$

blackness  $n^*$

chromaticness  $c^*$

UE100-7, 3 step scales for constant CIELAB hue 217/360 = 0.601 (left)

3 step scales for constant CIELAB hue 236/360 = 0.656 (right)

### Input: Colorimetric Reflective System MRS18a

for hue  $h^* = lab^*h = 217/360 = 0.601$

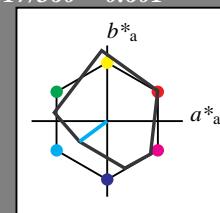
$lab^*tch$  and  $lab^*nch$

D65: hue G50B

LCH\*Ma: 45 46 217

olv\*Ma: 0.0 1.0 1.0

triangle lightness  $t^*$



### MRS18a; adapted (a) CIELAB data

	$L^* = L^*_{ab}$	$a^*_{ab}$	$b^*_{ab}$	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	49.63	66.8	40.02	77.87	31
JMa	90.7	-7.27	93.19	93.48	94
GMa	52.11	-69.93	11.26	70.85	171
G50BMa	45.03	-36.65	-27.13	45.61	217
BMa	36.65	23.26	-62.27	66.49	290
B50RMa	34.94	57.27	-43.6	71.99	323
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	272

relative Inform. Technology (IT)  
 $olv^3*$  1.0 1.0 1.0 (1.0)  
 $cmy^3*$  0.0 0.0 0.0 (0.0)  
 $olv^4*$  1.0 1.0 1.0 1.0  
 $cmy^4*$  0.0 0.0 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  95.41 0.01 0.0

$LAB^*LABa$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)  
 $olv^3*$  0.5 0.5 0.5 (1.0)  
 $cmy^3*$  0.5 0.5 0.5 (0.0)  
 $olv^4*$  0.5 1.0 1.0 1.0  
 $cmy^4*$  0.5 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  56.71 0.05 0.0

$LAB^*LABa$  56.71 0.0 0.0

$LAB^*TChA$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.5 0.0 0.0

$lab^*tce$  0.5 0.0 0.0

$lab^*ncE$  0.5 0.0 -

relative Inform. Technology (IT)  
 $olv^3*$  0.0 0.0 0.0 (1.0)  
 $cmy^3*$  1.0 1.0 1.0 (0.0)  
 $olv^4*$  1.0 1.0 1.0 0.0  
 $cmy^4*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.1 0.02

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*tce$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

### MRS18a; adapted (a) CIELAB data

	$L^* = L^*_{ab}$	$a^*_{ab}$	$b^*_{ab}$	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	49.63	66.8	40.02	77.87	31
JMa	90.7	-7.27	93.19	93.48	94
GMa	52.11	-69.93	11.26	70.85	171
G50BMa	45.03	-36.65	-27.13	45.61	217
BMa	36.65	23.26	-62.27	66.49	290
B50RMa	34.94	57.27	-43.6	71.99	323
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	272

%Gamut  
 $u^*_{rel} = 92$   
%Regularity  
 $g^*_{H,rel} = 42$   
 $g^*_{C,rel} = 49$

relative Inform. Technology (IT)  
 $olv^3*$  0.5 1.0 1.0 (1.0)  
 $cmy^3*$  0.5 0.0 0.0 (0.0)  
 $olv^4*$  0.5 1.0 1.0 1.0  
 $cmy^4*$  0.5 0.0 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  70.21 -18.28 -13.55

$LAB^*LABa$  70.21 -18.31 -13.56

$LAB^*TChA$  75.0 22.8 216.52

relative CIELAB lab\*

$lab^*lab$  0.674 -0.401 -0.296

$lab^*tch$  0.75 0.5 0.601

$lab^*nch$  0.0 0.5 0.601

relative Natural Colour (NC)

$lab^*lrij$  0.674 -0.355 -0.35

$lab^*tce$  0.75 0.2 0.624

$lab^*ncE$  0.0 0.5 g49b

relative Inform. Technology (IT)  
 $olv^3*$  0.0 0.5 0.5 (1.0)  
 $cmy^3*$  1.0 0.0 0.0 (0.0)  
 $olv^4*$  0.0 1.0 1.0 1.0  
 $cmy^4*$  1.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  45.03 -36.57 -27.11

$LAB^*LABa$  45.03 -36.64 -27.13

$LAB^*TChA$  50.0 45.6 216.52

relative CIELAB lab\*

$lab^*lab$  0.349 -0.803 -0.594

$lab^*tch$  0.5 1.0 0.601

$lab^*nch$  0.0 1.0 0.601

relative Natural Colour (NC)

$lab^*lrij$  0.349 -0.71 -0.702

$lab^*tce$  0.5 1.0 0.624

$lab^*ncE$  0.0 1.0 g49b

$n^* = 0,00$

relative Inform. Technology (IT)  
 $olv^3*$  0.0 0.5 0.5 (1.0)  
 $cmy^3*$  1.0 0.5 0.5 (0.0)  
 $olv^4*$  0.0 1.0 1.0 0.5  
 $cmy^4*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  56.71 -36.57 -27.11

$LAB^*LABa$  56.71 0.0 0.0

$LAB^*TChA$  50.0 0.0 0.01

relative CIELAB lab\*

$lab^*lab$  0.349 -0.353 -0.352

$lab^*tce$  0.75 0.5 0.625

$lab^*ncE$  0.0 0.5 g49b

$n^* = 0,50$

blackness  $n^*$

chromaticness  $c^*$

$n^* = 0,50$

1,00

0,75

0,25

$n^* = 1,00$

1,00

0,75

0,50

0,25

0,00

### Output: Colorimetric Reflective System MRS18

for hue  $h^* = lab^*h = 218/360 = 0.605$

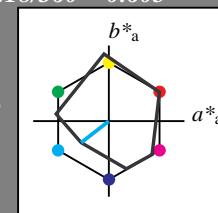
$lab^*tch$  and  $lab^*nch$

D65: hue G50B

LCH\*Ma: 45 46 218

olv\*Ma: 0.0 1.0 1.0

triangle lightness  $t^*$



### MRS18; adapted (a) CIELAB data

	$L^* = L^*_{ab}$	$a^*_{ab}$	$b^*_{ab}$	$C^*_{ab,a}$	$h^*_{ab,a}$
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)  
 $olv^3*$  1.0 1.0 1.0 (1.0)  
 $cmy^3*$  0.0 0.0 0.0 (0.0)  
 $olv^4*$  1.0 1.0 1.0 1.0  
 $cmy^4*$  0.0 0.0 0.0 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 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tce$  0.5 0.0 0.0

$lab^*ncE$  0.0 0.0 -

relative CIELAB lab\*

$lab^*lab$  0.5 0.5 0.5 (1.0)

$cmy^3*$  1.0 0.5 0.5 (0.0)

$olv^4*$  1.0 1.0 1.0 0.5

$cmy^4*$  0.5 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  70.21 -18.77 -11.17

$LAB^*LABa$  70.21 -18.27 -14.23

$LAB^*TChA$  75.0 23.17 217.91

relative CIELAB lab\*

$lab^*lab$  0.674 -0.393 -0.306

$lab^*tch$  0.75 0.5 0.605

$lab^*nch$  0.0 0.5 0.605

relative Natural Colour (NC)

$lab^*lrij$  0.674 -0.353 -0.352

$lab^*tce$  0.75 0.5 0.625

$lab^*ncE$  0.0 0.5 g49b

$n^* = 0,00$

blackness  $n^*$

### Input: Colorimetric Reflective System MRS18a

for hue  $h^* = lab^*h = 217/360 = 0.601$

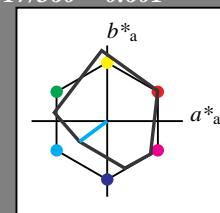
$lab^*tch$  and  $lab^*nch$

D65: hue G50B

LCH\*Ma: 45 46 217

olv\*Ma: 0.0 1.0 1.0

triangle lightness  $t^*$



### MRS18a; adapted (a) CIELAB data

	$L^* = L^*_{ab}$	$a^*_{ab}$	$b^*_{ab}$	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	49.63	66.8	40.02	77.87	31
JMa	90.7	-7.27	93.19	93.48	94
GMa	52.11	-69.93	11.26	70.85	171
G50BMa	45.03	-36.65	-27.13	45.61	217
BMa	36.65	23.26	-62.27	66.49	290
B50RMa	34.94	57.27	-43.6	71.99	323
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	272

relative Inform. Technology (IT)  
 $olv^3*$  1.0 1.0 1.0 (1.0)  
 $cmy^3*$  0.0 0.0 0.0 (0.0)  
 $olv^4*$  1.0 1.0 1.0 1.0  
 $cmy^4*$  0.0 0.0 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  95.41 0.01 0.0  
 $LAB^*LABa$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0  
 $lab^*tce$  1.0 0.0 0.0  
 $lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)  
 $olv^3*$  0.5 0.5 0.5 (1.0)  
 $cmy^3*$  0.5 0.5 0.5 (0.0)  
 $olv^4*$  1.0 1.0 1.0 0.5  
 $cmy^4*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  56.71 0.05 0.0  
 $LAB^*LABa$  56.71 0.0 0.0  
 $LAB^*TChA$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0  
 $lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.5 0.0 0.0  
 $lab^*tce$  0.5 0.0 0.0  
 $lab^*ncE$  0.5 0.0 -

relative Inform. Technology (IT)  
 $olv^3*$  0.0 0.0 0.0 (1.0)  
 $cmy^3*$  1.0 1.0 1.0 (0.0)  
 $olv^4*$  1.0 1.0 1.0 0.0  
 $cmy^4*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.1 0.02  
 $LAB^*LABa$  18.02 0.0 0.0  
 $LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0  
 $lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0  
 $lab^*tce$  0.0 0.0 -  
 $lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

### MRS18a; adapted (a) CIELAB data

	$L^* = L^*_{ab}$	$a^*_{ab}$	$b^*_{ab}$	$C^*_{ab,a}$	$h^*_{ab,a}$
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RMa	49.63	66.8	40.02	77.87	31
JMa	90.7	-7.27	93.19	93.48	94
GMa	52.11	-69.93	11.26	70.85	171
G50BMa	45.03	-36.65	-27.13	45.61	217
BMa	36.65	23.26	-62.27	66.49	290
B50RMa	34.94	57.27	-43.6	71.99	323
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	272

%Gamut

$u^*_{rel} = 92$

%Regularity

$g^*_{H,rel} = 42$

$g^*_{C,rel} = 49$

relative Inform. Technology (IT)

$olv^3*$  0.5 1.0 1.0 (1.0)

$cmy^3*$  0.5 0.0 0.0 (0.0)

$olv^4*$  0.5 1.0 1.0 1.0

$cmy^4*$  0.5 0.0 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  70.21 -18.28 -13.55

$LAB^*LABa$  70.21 -18.31 -13.56

$LAB^*TChA$  75.0 22.8 216.52

relative CIELAB lab\*

$lab^*lab$  0.674 -0.401 -0.296

$lab^*tch$  0.75 0.5 0.601

$lab^*nch$  0.0 0.5 0.601

relative Natural Colour (NC)

$lab^*lrij$  0.674 -0.355 -0.35

$lab^*tce$  0.75 0.2 0.624

$lab^*ncE$  0.0 0.5 g49b

relative Inform. Technology (IT)

$olv^3*$  0.0 1.0 1.0 (1.0)

$cmy^3*$  0.5 0.5 0.5 (0.0)

$olv^4*$  1.0 1.0 1.0 0.5

$cmy^4*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  45.03 -36.57 -27.11

$LAB^*LABa$  45.03 -36.64 -27.13

$LAB^*TChA$  50.0 45.6 216.52

relative CIELAB lab\*

$lab^*lab$  0.349 -0.803 -0.594

$lab^*tch$  0.5 1.0 0.601

$lab^*nch$  0.0 1.0 0.601

relative Natural Colour (NC)

$lab^*lrij$  0.349 -0.71 -0.702

$lab^*tce$  0.5 1.0 0.624

$lab^*ncE$  0.0 1.0 g49b

relative Inform. Technology (IT)

$olv^3*$  0.0 0.5 0.5 (1.0)

$cmy^3*$  1.0 0.5 0.5 (0.0)

$olv^4*$  1.0 1.0 1.0 0.5

$cmy^4*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.5 -0.46

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*tce$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 0,00$

blackness  $n^*$

chromaticness  $c^*$

### Output: Colorimetric Reflective System TRS18

for hue  $h^* = lab^*h = 236/360 = 0.656$

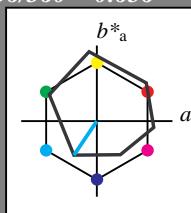
$lab^*tch$  and  $lab^*nch$

D65: hue C

LCH\*Ma: 59 54 236

olv\*Ma: 0.0 1.0 1.0

triangle lightness  $t^*$



### TRS18; adapted (a) CIELAB data

	$L^* = L^*_{ab}$	$a^*_{ab}$	$b^*_{ab}$	$C^*_{ab,a}$	$h^*_{ab,a}$
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)  
 $olv^3*$  1.0 1.0 1.0 (1.0)  
 $cmy^3*$  0.0 0.0 0.0 (0.0)  
 $olv^4*$  1.0 1.0 1.0 1.0  
 $cmy^4*$  0.0 0.0 0.0 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 0.0 0.0  
 $lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0  
 $lab^*tce$  1.0 0.0 0.0  
 $lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)  
 $olv^3*$  0.5 1.0 1.0 (1.0)  
 $cmy^3*$  0.5 0.0 0.0 (0.0)  
 $olv^4*$  0.5 1.0 1.0 1.0  
 $cmy^4*$  0.5 0.0 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  77.01 -15.79 -18.98  
 $LAB^*LABa$  77.01 -15.16 -22.5  
 $LAB^*TChA$  75.0 27.15 236.01

relative CIELAB lab\*

$lab^*lab$  0.762 -0.278 -0.413

$lab^*tch$  0.75 0.5 0.656

$lab^*nch$  0.0 0.5 0.656

relative Natural Colour (NC)

$lab^*lrij$  0.762 -0.247 -0.433

$lab^*tce$  0.75 0.5 0.667

$lab^*ncE$  0.0 0.5 g66b

$n^* = 0,00$

blackness  $n^*$

chromaticness  $c^*$

relative Inform. Technology (IT)  
 $olv^3*$  0.0 1.0 1.0 (1.0)  
 $cmy^3*$  0.5 0.0 0.0 (0.0)  
 $olv^4*$  0.0 1.0 1.0 1.0  
 $cmy^4*$  0.0 0.0 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  58.62 -30.62 -42.73  
 $LAB^*LABa$  58.62 -30.34 -45.01  
 $LAB^*TChA$  50.0 54.29 236.01

relative CIELAB lab\*

$lab$

### Input: Colorimetric Reflective System MRS18a

for hue  $h^* = lab^*h = 217/360 = 0.601$

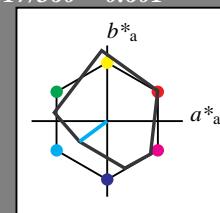
$lab^*tch$  and  $lab^*nch$

D65: hue G50B

LCH\*Ma: 45 46 217

olv\*Ma: 0.0 1.0 1.0

triangle lightness  $t^*$



relative Inform. Technology (IT)  
 $olvi3^*$  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  
 $cmy4^*$  0.0 0.0 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  95.41 0.01 0.0  
 $LAB^*LABa$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 -

$lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)  
 $olvi3^*$  0.5 0.5 0.5 (1.0)  
 $cmyn3^*$  0.5 0.5 0.5 (0.0)  
 $olv4^*$  1.0 1.0 1.0 0.5  
 $cmy4^*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  56.71 0.05 0.0  
 $LAB^*LABa$  56.71 0.0 0.0  
 $LAB^*TChA$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.5 0.0 0.0

$lab^*tce$  0.5 0.0 -

$lab^*ncE$  0.5 0.0 -

relative Inform. Technology (IT)  
 $olvi3^*$  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  
 $cmy4^*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.01 0.02  
 $LAB^*LABa$  18.02 0.0 0.0  
 $LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*tce$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

### MRS18a; adapted (a) CIELAB data

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

RMa	49.63	66.8	40.02	77.87	31
JMa	90.7	-7.27	93.19	93.48	94
GMa	52.11	-69.93	11.26	70.85	171
G50BMa	45.03	-36.65	-27.13	45.61	217
BMa	36.65	23.26	-62.27	66.49	290
B50RMa	34.94	57.27	-43.6	71.99	323
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	272

%Gamut

$u^*_{rel} = 92$

%Regularity

$g^*_{H,rel} = 42$

$g^*_{C,rel} = 49$

relative Inform. Technology (IT)

$olvi3^*$  0.5 1.0 1.0 (1.0)

$cmyn3^*$  0.5 0.0 0.0 (0.0)

$olv4^*$  0.5 1.0 1.0 1.0

$cmy4^*$  0.5 0.0 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  70.21 -18.28 -13.55

$LAB^*LABa$  70.21 -18.31 -13.56

$LAB^*TChA$  75.0 22.8 216.52

relative CIELAB lab\*

$lab^*lab$  0.674 -0.401 -0.296

$lab^*tch$  0.75 0.5 0.601

$lab^*nch$  0.0 0.5 0.601

relative Natural Colour (NC)

$lab^*lrij$  0.674 -0.355 -0.35

$lab^*tce$  0.75 0.2 0.624

$lab^*ncE$  0.0 0.5 g49b

relative Inform. Technology (IT)

$olvi3^*$  0.0 1.0 1.0 (1.0)

$cmyn3^*$  0.5 0.0 0.0 (0.0)

$olv4^*$  1.0 1.0 1.0 1.0

$cmy4^*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  45.03 -36.57 -27.11

$LAB^*LABa$  45.03 -36.64 -27.13

$LAB^*TChA$  50.0 45.6 216.52

relative CIELAB lab\*

$lab^*lab$  0.349 -0.803 -0.594

$lab^*tch$  0.5 1.0 0.601

$lab^*nch$  0.0 1.0 0.601

relative Natural Colour (NC)

$lab^*lrij$  0.349 -0.71 -0.702

$lab^*tce$  0.5 1.0 0.624

$lab^*ncE$  0.0 1.0 g49b

$n^* = 0,00$

relative Inform. Technology (IT)

$olvi3^*$  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

$cmy4^*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.1 0.02

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*tce$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 0,50$

blackness  $n^*$

$n^* = 1,00$

chromaticness  $c^*$

### Output: Colorimetric Reflective System MRS18a

for hue  $h^* = lab^*h = 217/360 = 0.601$

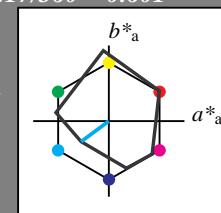
$lab^*tch$  and  $lab^*nch$

D65: hue G50B

LCH\*Ma: 45 46 217

olv\*Ma: 0.0 1.0 1.0

triangle lightness  $t^*$



%Gamut

$u^*_{rel} = 92$

%Regularity

$g^*_{H,rel} = 42$

$g^*_{C,rel} = 49$

relative Inform. Technology (IT)

$olvi3^*$  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

$cmy4^*$  0.0 0.0 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  95.41 0.01 0.0

$LAB^*LABa$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 -

$lab^*ncE$  0.0 0.0 -

$n^* = 0,00$

blackness  $n^*$

$n^* = 1,00$

chromaticness  $c^*$

### MRS18a; adapted (a) CIELAB data

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

RMa	49.63	66.8	40.02	77.87	31
JMa	90.7	-7.27	93.19	93.48	94
GMa	52.11	-69.93	11.26	70.85	171
G50BMa	45.03	-36.65	-27.13	45.61	217
BMa	36.65	23.26	-62.27	66.49	290
B50RMa	34.94	57.27	-43.6	71.99	323
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	272

%Gamut

$u^*_{rel} = 92$

%Regularity

$g^*_{H,rel} = 42$

$g^*_{C,rel} = 49$

relative Inform. Technology (IT)

$olvi3^*$  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

$cmy4^*$  0.0 0.0 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  70.21 -18.28 -13.55

$LAB^*LABa$  70.21 -18.31 -13.56

$LAB^*TChA$  75.0 22.8 216.52

relative CIELAB lab\*

$lab^*lab$  0.674 -0.401 -0.296

$lab^*tch$  0.75 0.5 0.601

$lab^*nch$  0.0 0.5 0.601

relative Natural Colour (NC)

$lab^*lrij$  0.674 -0.355 -0.35

$lab^*tce$  0.75 0.2 0.624

$lab^*ncE$  0.0 0.5 g49b

$n^* = 0,50$

blackness  $n^*$

$n^* = 1,00$

chromaticness  $c^*$

$n^* = 0,00$

blackness  $n^*$

$n^* = 1,00$

chromaticness  $c^*$

UE100-7, 3 step scales for constant CIELAB hue 217/360 = 0.601 (left)</p

### Input: Colorimetric Reflective System MRS18a

for hue  $h^* = lab^*h = 217/360 = 0.601$

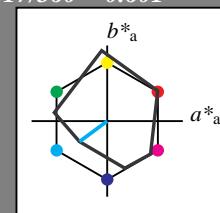
$lab^*tch$  and  $lab^*nch$

D65: hue G50B

LCH\*Ma: 45 46 217

olv\*Ma: 0.0 1.0 1.0

triangle lightness  $t^*$



### MRS18a; adapted (a) CIELAB data

	$L^* = L^*_a$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	49.63	66.8	40.02	77.87	31
JMa	90.7	-7.27	93.19	93.48	94
GMa	52.11	-69.93	11.26	70.85	171
G50BMa	45.03	-36.65	-27.13	45.61	217
BMa	36.65	23.26	-62.27	66.49	290
B50RMa	34.94	57.27	-43.6	71.99	323
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	272

relative Inform. Technology (IT)  
 $olv_i3^*$  1.0 1.0 1.0 (1.0)  
 $cmyn3^*$  0.0 0.0 0.0 (0.0)  
 $olv_i4^*$  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 0.01 0.0  
 $LAB^*LABa$  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 -  
 $lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0  
 $lab^*tce$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)  
 $olv_i3^*$  0.5 0.5 0.5 (1.0)  
 $cmyn3^*$  0.5 0.5 0.5 (0.0)  
 $olv_i4^*$  1.0 1.0 1.0 0.5  
 $cmyn4^*$  0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  56.71 0.05 0.0  
 $LAB^*LABa$  56.71 0.0 0.0  
 $LAB^*TChA$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0  
 $lab^*tch$  0.5 0.0 -  
 $lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.5 0.0 0.0  
 $lab^*tce$  0.5 0.0 0.0

$lab^*ncE$  0.5 0.0 -

relative Inform. Technology (IT)  
 $olv_i3^*$  0.0 0.0 0.0 (1.0)  
 $cmyn3^*$  1.0 1.0 1.0 (0.0)  
 $olv_i4^*$  1.0 1.0 1.0 0.0  
 $cmyn4^*$  0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.1 0.02  
 $LAB^*LABa$  18.02 0.0 0.0  
 $LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0  
 $lab^*tch$  0.0 0.0 -  
 $lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0  
 $lab^*tce$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

### relative Inform. Technology (IT)

$olv_i3^*$  0.5 1.0 1.0 (1.0)  
 $cmyn3^*$  0.5 0.0 0.0 (0.0)

$olv_i4^*$  1.0 1.0 1.0 1.0  
 $cmyn4^*$  0.5 0.0 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  70.21 -18.28 -13.55  
 $LAB^*LABa$  70.21 -18.31 -13.56  
 $LAB^*TChA$  75.0 22.8 216.52

relative CIELAB lab\*

$lab^*lab$  0.674 -0.401 -0.296  
 $lab^*tch$  0.75 0.5 0.601  
 $lab^*nch$  0.0 0.5 0.601

relative Natural Colour (NC)

$lab^*lrij$  0.674 -0.355 -0.35  
 $lab^*tce$  0.75 0.2 0.624

$lab^*ncE$  0.0 0.5 g49b

### relative Inform. Technology (IT)

$olv_i3^*$  0.0 0.5 0.5 (1.0)  
 $cmyn3^*$  0.5 0.5 0.5 (0.0)

$olv_i4^*$  1.0 1.0 1.0 0.5  
 $cmyn4^*$  0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  45.03 -36.57 -27.11  
 $LAB^*LABa$  45.03 -36.64 -27.13  
 $LAB^*TChA$  50.0 45.6 216.52

relative CIELAB lab\*

$lab^*lab$  0.349 -0.803 -0.594  
 $lab^*tch$  0.5 1.0 0.601  
 $lab^*nch$  0.0 1.0 0.601

relative Natural Colour (NC)

$lab^*lrij$  0.349 -0.71 -0.702

$lab^*tce$  0.5 1.0 0.624

$lab^*ncE$  0.0 1.0 g49b

### relative Inform. Technology (IT)

$olv_i3^*$  0.0 0.0 0.0 (1.0)  
 $cmyn3^*$  1.0 1.0 1.0 (0.0)

$olv_i4^*$  1.0 1.0 1.0 0.0  
 $cmyn4^*$  0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  31.52 -18.23 -13.53  
 $LAB^*LABa$  31.52 -18.31 -13.56  
 $LAB^*TChA$  25.01 22.8 216.52

relative CIELAB lab\*

$lab^*lab$  0.175 -0.401 -0.296  
 $lab^*tch$  0.25 0.5 0.601  
 $lab^*nch$  0.5 0.5 0.601

relative Natural Colour (NC)

$lab^*lrij$  0.175 -0.355 -0.35

$lab^*tce$  0.25 0.5 0.624

$lab^*ncE$  0.5 0.5 g49b

$n^* = 0,00$

### relative Inform. Technology (IT)

$olv_i3^*$  0.0 1.0 1.0 (1.0)  
 $cmyn3^*$  0.5 0.0 0.0 (0.0)

$olv_i4^*$  1.0 1.0 1.0 1.0  
 $cmyn4^*$  0.5 0.0 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  56.72 0.05 0.0  
 $LAB^*LABa$  56.72 0.0 0.0  
 $LAB^*TChA$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.572 0.05 0.0  
 $lab^*tch$  0.572 0.0 0.0  
 $lab^*nch$  0.0 0.5 0.564

relative Natural Colour (NC)

$lab^*lrij$  0.572 0.01 0.0

$lab^*tce$  0.572 0.0 0.0

$lab^*ncE$  0.0 0.5 g37b

### relative Inform. Technology (IT)

$olv_i3^*$  0.5 1.0 1.0 (1.0)  
 $cmyn3^*$  1.0 0.5 0.5 (0.0)

$olv_i4^*$  0.5 1.0 1.0 0.5  
 $cmyn4^*$  0.5 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  37.36 -35.56 -15.09  
 $LAB^*LABa$  37.36 -35.63 -15.11  
 $LAB^*TChA$  25.01 38.72 202.99

relative CIELAB lab\*

$lab^*lab$  0.572 0.416 0.275  
 $lab^*tch$  0.572 0.5 0.593  
 $lab^*nch$  0.0 0.5 0.564

relative Natural Colour (NC)

$lab^*lrij$  0.572 0.416 0.275

$lab^*tce$  0.572 0.5 0.593

$lab^*ncE$  0.0 0.5 g37b

$n^* = 0,00$

### relative Inform. Technology (IT)

$olv_i3^*$  0.0 1.0 1.0 (1.0)  
 $cmyn3^*$  1.0 1.0 1.0 (0.0)

$olv_i4^*$  1.0 1.0 1.0 0.0  
 $cmyn4^*$  1.0 1.0 1.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.09 0.02  
 $LAB^*LABa$  18.02 0.0 0.0  
 $LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0  
 $lab^*tch$  0.0 0.0 -  
 $lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*tce$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

### 3 step scales for constant CIELAB hue 217/360 = 0.601 (left)

### Output: Colorimetric Reflective System NRS18

for hue  $h^* = lab^*h = 203/360 = 0.564$

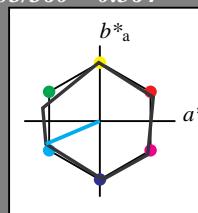
$lab^*tch$  and  $lab^*nch$

D65: hue G50B

LCH\*Ma: 57 77 203

olv\*Ma: 0.0 1.0 1.0

triangle lightness  $t^*$



	$L^* = L^*_a$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	56.7	70.66	31.47	77.35	24
JMa	56.7	-1.39	77.37	77.39	91
GMa	56.7	-75.46	17.4	77.45	167
G50BMa	56.7	-71.29	-30.25	77.45	203
BMa	56.7	4.0	-77.3	77.41	273
B50RMa	56.7	63.35	-44.4	77.36	325
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	272

%Gamut  
 $u^*_{rel} = 92$

%Regularity  
 $g^*_{H,rel} = 42$

$g^*_{C,rel} = 49$

$g^*_{C,rel} = 100$

$n^* = 0,00$

relative Inform. Technology (IT)  
 $olv_i3^*$  1.0 1.0 1.0 (1.0)  
 $cmyn3^*$  0.0 0.0 0.0 (0.0)

$olv_i4^*$  0.5 1.0 1.0 1.0  
 $cmyn4^*$  0.0 0.0 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  76.05 -35.6 -15.11  
 $LAB^*LABa$  76.05 -35.63 -15.11  
 $LAB^*TChA$  75.0 38.72 202.99

relative CIELAB lab\*

$lab^*lab$  0.75 -0.459 -0.194  
 $lab^*tch$  0.75 0.5 0.564  
 $lab^*nch$  0.0 0.5 0.564

relative Natural Colour (NC)

$lab^*lrij$  0.75 -0.416 -0.275  
 $lab^*tce$  0.75 0.5 0.593

$lab^*ncE$  0.0 0.5 g37b

$n^* = 0,00$

relative Inform. Technology (IT)  
 $olv_i3^*$  0.0 0.0 0.0 (1.0)  
 $cmyn3^*$  1.0 0.5 0.5 (0.0)

$olv_i4^*$  0.5 1.0 1.0 0.5  
 $cmyn4^*$  0.5 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  37.36 -35.56 -15.09  
 $LAB^*LABa$  37.36 -35.63 -15.11  
 $LAB^*TChA$  25.01 38.72 202.99

relative CIELAB lab\*

$lab^*lab$  0.75 -0.459 -0.194  
 $lab^*tch$  0.75 0.5 0.564  
 $lab^*nch$  0.0 0.5 0.564

relative Natural Colour (NC)

$lab^*lrij$  0.75 -0.416 -0.275

$lab^*tce$  0

### Input: Colorimetric Reflective System MRS18a

for hue  $h^* = lab^*h = 217/360 = 0.601$

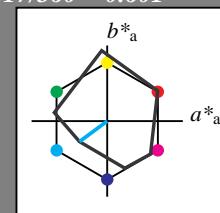
$lab^*tch$  and  $lab^*nch$

D65: hue G50B

LCH\*Ma: 45 46 217

olv\*Ma: 0.0 1.0 1.0

triangle lightness  $t^*$



### MRS18a; adapted (a) CIELAB data

	$L^* = L^*_{ab}$	$a^*_{ab}$	$b^*_{ab}$	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	49.63	66.8	40.02	77.87	31
JMa	90.7	-7.27	93.19	93.48	94
GMa	52.11	-69.93	11.26	70.85	171
G50BMa	45.03	-36.65	-27.13	45.61	217
BMa	36.65	23.26	-62.27	66.49	290
B50RMa	34.94	57.27	-43.6	71.99	323
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	272

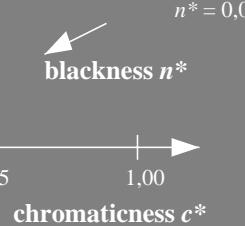
relative Inform. Technology (IT)  
 $olv^3*$  1.0 1.0 1.0 (1.0)  
 $cmy^3*$  0.0 0.0 0.0 (0.0)  
 $olv^4*$  1.0 1.0 1.0 1.0  
 $cmy^4*$  0.0 0.0 0.0 0.0  
**standard and adapted CIELAB**  
 $LAB^*LAB$  95.41 0.01 0.0  
 $LAB^*LABa$  95.41 0.0 0.0  
 $LAB^*TChA$  99.99 0.01 -

relative CIELAB lab\*  
 $lab^*lab$  1.0 0.0 0.0  
 $lab^*tch$  1.0 0.0 -  
 $lab^*nch$  0.0 0.0 -  
**relative Natural Colour (NC)**  
 $lab^*lrij$  1.0 0.0 0.0  
 $lab^*tce$  1.0 0.0 -  
 $lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)  
 $olv^3*$  0.5 0.5 0.5 (1.0)  
 $cmy^3*$  0.5 0.5 0.5 (0.0)  
 $olv^4*$  1.0 1.0 1.0 0.5  
 $cmy^4*$  0.0 0.0 0.5  
**standard and adapted CIELAB**  
 $LAB^*LAB$  56.71 0.05 0.0  
 $LAB^*LABa$  56.71 0.0 0.0  
 $LAB^*TChA$  50.0 0.01 -  
**relative CIELAB lab\***  
 $lab^*lab$  0.5 0.0 0.0  
 $lab^*tch$  0.5 0.0 -  
 $lab^*nch$  0.5 0.0 -  
**relative Natural Colour (NC)**  
 $lab^*lrij$  0.5 0.0 0.0  
 $lab^*tce$  0.5 0.0 -  
 $lab^*ncE$  0.5 0.0 -

relative Inform. Technology (IT)  
 $olv^3*$  0.0 0.0 0.0 (1.0)  
 $cmy^3*$  1.0 1.0 1.0 (0.0)  
 $olv^4*$  1.0 1.0 1.0 0.0  
 $cmy^4*$  0.0 0.0 0.0 1.0  
**standard and adapted CIELAB**  
 $LAB^*LAB$  18.02 0.01 0.02  
 $LAB^*LABa$  18.02 0.0 0.0  
 $LAB^*TChA$  0.01 0.01 -  
**relative CIELAB lab\***  
 $lab^*lab$  0.0 0.0 0.0  
 $lab^*tch$  0.0 0.0 -  
 $lab^*nch$  1.0 0.0 -  
**relative Natural Colour (NC)**  
 $lab^*lrij$  0.0 0.0 0.0  
 $lab^*tce$  0.0 0.0 -  
 $lab^*ncE$  1.0 0.0 -

$n^* = 1,0$



chromaticness  $c^*$

### Output: Colorimetric Reflective System NCS18

for hue  $h^* = lab^*h = 203/360 = 0.563$

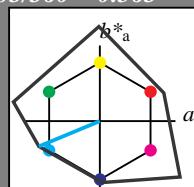
$lab^*tch$  and  $lab^*nch$

D65: hue G50B

LCH\*Ma: 59 87 203

olv\*Ma: 0.0 1.0 1.0

triangle lightness  $t^*$



### NCS18; adapted (a) CIELAB data

	$L^* = L^*_{ab}$	$a^*_{ab}$	$b^*_{ab}$	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	47.15	84.63	37.24	92.46	24
JMa	91.37	-1.27	125.03	125.03	91
GMa	63.07	-114.29	25.34	117.07	167
G50BMa	59.47	-80.61	-33.45	87.29	203
BMa	49.01	3.63	-81.2	81.29	273
B50RMa	44.06	106.07	-73.94	129.31	325
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	272

relative Inform. Technology (IT)  
 $olv^3*$  1.0 1.0 1.0 (1.0)  
 $cmy^3*$  0.0 0.0 0.0 (0.0)  
 $olv^4*$  1.0 1.0 1.0 1.0  
 $cmy^4*$  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 -  
 $lab^*nch$  0.0 0.0 -  
**relative Natural Colour (NC)**  
 $lab^*lrij$  1.0 0.0 0.0  
 $lab^*tce$  1.0 0.0 -  
 $lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)  
 $olv^3*$  0.5 1.0 1.0 (1.0)  
 $cmy^3*$  0.5 0.0 0.0 (0.0)  
 $olv^4*$  0.5 1.0 1.0 1.0  
 $cmy^4*$  0.5 0.0 0.0 0.0  
**standard and adapted CIELAB**  
 $LAB^*LAB$  77.43 -40.26 -16.71  
 $LAB^*LABa$  77.43 -40.29 -16.72  
 $LAB^*TChA$  75.0 43.64 202.54  
**relative CIELAB lab\***  
 $lab^*lab$  0.768 -0.461 -0.191  
 $lab^*tch$  0.75 0.5 0.563  
 $lab^*nch$  0.0 0.5 0.563  
**relative Natural Colour (NC)**  
 $lab^*lrij$  0.768 -0.418 -0.272  
 $lab^*tce$  0.75 0.5 0.592  
 $lab^*ncE$  0.0 0.5 g36b

relative Inform. Technology (IT)  
 $olv^3*$  0.0 1.0 1.0 (1.0)  
 $cmy^3*$  1.0 0.0 0.0 (0.0)  
 $olv^4*$  0.5 1.0 1.0 0.5  
 $cmy^4*$  0.0 0.0 0.0 0.5  
**standard and adapted CIELAB**  
 $LAB^*LAB$  56.72 0.05 0.0  
 $LAB^*LABa$  56.72 0.0 0.0  
 $LAB^*TChA$  50.0 0.01 -  
**relative CIELAB lab\***  
 $lab^*lab$  0.349 -0.803 -0.594  
 $lab^*tch$  0.5 1.0 0.601  
 $lab^*nch$  0.0 1.0 0.601  
**relative Natural Colour (NC)**  
 $lab^*lrij$  0.349 -0.71 -0.702  
 $lab^*tce$  0.5 1.0 0.624  
 $lab^*ncE$  0.0 1.0 g49b

$n^* = 0,00$

relative Inform. Technology (IT)  
 $olv^3*$  0.0 1.0 1.0 (1.0)  
 $cmy^3*$  1.0 0.0 0.0 (0.0)  
 $olv^4*$  0.0 1.0 1.0 1.0  
 $cmy^4*$  1.0 0.0 0.0 0.0  
**standard and adapted CIELAB**  
 $LAB^*LAB$  59.47 -80.55 -33.44  
 $LAB^*LABa$  59.47 -80.6 -33.45  
 $LAB^*TChA$  50.0 87.28 202.54  
**relative CIELAB lab\***  
 $lab^*lab$  0.536 -0.922 -0.382  
 $lab^*tch$  0.5 1.0 0.563  
 $lab^*nch$  0.0 1.0 0.563  
**relative Natural Colour (NC)**  
 $lab^*lrij$  0.536 -0.836 -0.546  
 $lab^*tce$  0.5 1.0 0.592  
 $lab^*ncE$  0.0 1.0 g36b

relative Inform. Technology (IT)  
 $olv^3*$  0.0 0.5 0.5 (1.0)  
 $cmy^3*$  1.0 0.5 0.5 (0.0)  
 $olv^4*$  0.5 1.0 1.0 0.5  
 $cmy^4*$  0.5 0.0 0.0 0.5  
**standard and adapted CIELAB**  
 $LAB^*LAB$  38.74 -40.22 -16.7  
 $LAB^*LABa$  38.74 -40.29 -16.72  
 $LAB^*TChA$  25.01 43.64 202.54  
**relative CIELAB lab\***  
 $lab^*lab$  0.268 -0.461 -0.191  
 $lab^*tch$  0.25 0.5 0.563  
 $lab^*nch$  0.5 0.5 0.563  
**relative Natural Colour (NC)**  
 $lab^*lrij$  0.268 -0.418 -0.272  
 $lab^*tce$  0.25 0.5 0.592  
 $lab^*ncE$  0.5 0.5 g36b

$n^* = 0,00$

blackness  $n^*$

chromaticness  $c^*$

UE100-7, 3 step scales for constant CIELAB hue 217/360 = 0.601 (left)

3 step scales for constant CIELAB hue 203/360 = 0.563 (right)

### Input: Colorimetric Reflective System MRS18a

for hue  $h^* = lab^*h = 217/360 = 0.601$

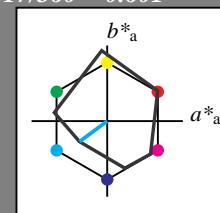
$lab^*tch$  and  $lab^*nch$

D65: hue G50B

LCH\*Ma: 45 46 217

olv\*Ma: 0.0 1.0 1.0

triangle lightness  $t^*$



### MRS18a; adapted (a) CIELAB data

	$L^*=L^*_a$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	49.63	66.8	40.02	77.87	31
JMa	90.7	-7.27	93.19	93.48	94
GMa	52.11	-69.93	11.26	70.85	171
G50BMa	45.03	-36.65	-27.13	45.61	217
BMa	36.65	23.26	-62.27	66.49	290
B50RMa	34.94	57.27	-43.6	71.99	323
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	272

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 0.01 0.0

$LAB^*LABa$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 0.0

$lab^*ncE$  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)  
 $olv^4*$  0.5 1.0 1.0 1.0  
 $cmyn^4*$  0.5 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  56.71 0.05 0.0

$LAB^*LABa$  56.71 0.0 0.0

$LAB^*TChA$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.5 0.0 0.0

$lab^*tce$  0.5 0.0 0.0

$lab^*ncE$  0.5 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)  
 $olv^4*$  1.0 1.0 1.0 0.0  
 $cmyn^4*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.1 0.02

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*tce$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

### MRS18a; adapted (a) CIELAB data

	$L^*=L^*_a$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	49.63	66.8	40.02	77.87	31
JMa	90.7	-7.27	93.19	93.48	94
GMa	52.11	-69.93	11.26	70.85	171
G50BMa	45.03	-36.65	-27.13	45.61	217
BMa	36.65	23.26	-62.27	66.49	290
B50RMa	34.94	57.27	-43.6	71.99	323
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	272

%Gamut  
 $u^*_{rel} = 92$   
%Regularity  
 $g^*_{H,rel} = 42$   
 $g^*_{C,rel} = 49$

relative Inform. Technology (IT)  
 $olv^3*$  0.5 1.0 1.0 (1.0)  
 $cmyn^3*$  0.5 0.0 0.0 (0.0)  
 $olv^4*$  0.5 1.0 1.0 1.0  
 $cmyn^4*$  0.5 0.0 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  70.21 -18.28 -13.55

$LAB^*LABa$  70.21 -18.31 -13.56

$LAB^*TChA$  75.0 22.8 216.52

relative CIELAB lab\*

$lab^*lab$  0.674 -0.401 -0.296

$lab^*tch$  0.75 0.5 0.601

$lab^*nch$  0.0 0.5 0.601

relative Natural Colour (NC)

$lab^*lrij$  0.674 -0.355 -0.35

$lab^*tce$  0.75 0.2 0.624

$lab^*ncE$  0.0 0.5 g49b

relative Inform. Technology (IT)  
 $olv^3*$  0.0 0.5 0.5 (1.0)  
 $cmyn^3*$  1.0 0.0 0.0 (0.0)  
 $olv^4*$  1.0 1.0 1.0 0.5  
 $cmyn^4*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  45.03 -36.57 -27.11

$LAB^*LABa$  45.03 -36.64 -27.13

$LAB^*TChA$  50.0 45.6 216.52

relative CIELAB lab\*

$lab^*lab$  0.349 -0.803 -0.594

$lab^*tch$  0.5 1.0 0.601

$lab^*nch$  0.0 1.0 0.601

relative Natural Colour (NC)

$lab^*lrij$  0.349 -0.71 -0.702

$lab^*tce$  0.5 1.0 0.624

$lab^*ncE$  0.0 1.0 g49b

$n^* = 0,00$

relative Inform. Technology (IT)  
 $olv^3*$  0.0 1.0 1.0 (1.0)  
 $cmyn^3*$  0.5 0.5 0.5 (0.0)  
 $olv^4*$  1.0 1.0 1.0 1.0  
 $cmyn^4*$  1.0 0.0 0.0 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 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.349 -0.803 -0.594

$lab^*tch$  0.5 1.0 0.601

$lab^*nch$  0.0 1.0 0.601

relative Natural Colour (NC)

$lab^*lrij$  0.349 -0.71 -0.702

$lab^*tce$  0.5 1.0 0.624

$lab^*ncE$  0.0 1.0 g49b

relative Inform. Technology (IT)  
 $olv^3*$  0.0 0.0 0.0 (1.0)  
 $cmyn^3*$  1.0 1.0 1.0 (0.0)  
 $olv^4*$  1.0 1.0 1.0 0.5  
 $cmyn^4*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  11.01 0.07 0.01

$LAB^*LABa$  11.01 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.175 -0.401 -0.296

$lab^*tch$  0.25 0.5 0.601

$lab^*nch$  0.5 0.5 0.601

relative Natural Colour (NC)

$lab^*lrij$  0.175 -0.355 -0.35

$lab^*tce$  0.25 0.5 0.624

$lab^*ncE$  0.5 0.5 g49b

$n^* = 0,50$

blackness  $n^*$   
 $n^* = 0,00$

chromaticness  $c^*$

### Output: Colorimetric Reflective System NRS11

for hue  $h^* = lab^*h = 203/360 = 0.564$

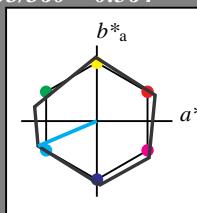
$lab^*tch$  and  $lab^*nch$

D65: hue G50B

LCH\*Ma: 53 84 203

olv\*Ma: 0.0 1.0 1.0

triangle lightness  $t^*$



%Gamut  
 $u^*_{rel} = 119$   
%Regularity  
 $g^*_{H,rel} = 47$   
 $g^*_{C,rel} = 100$

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

$LAB^*LABa$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 -

$lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)  
 $olv^3*$  0.0 0.5 0.5 (1.0)  
 $cmyn^3*$  1.0 0.5 0.5 (0.0)  
 $olv^4*$  1.0 1.0 1.0 0.5  
 $cmyn^4*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  74.3 -38.82 -16.48

$LAB^*LABa$  74.3 -38.85 -16.48

$LAB^*TChA$  75.0 42.21 203.0

relative CIELAB lab\*

$lab^*lab$  0.75 -0.459 -0.194

$lab^*tch$  0.75 0.5 0.564

$lab^*nch$  0.0 0.5 0.564

relative Natural Colour (NC)

$lab^*lrij$  0.75 -0.416 -0.275

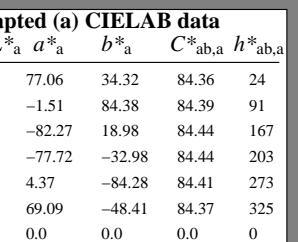
$lab^*tce$  0.75 0.5 0.593

$lab^*ncE$  0.0 0.5 g37b

$n^* = 0,00$

blackness  $n^*$

$n^* = 1,0$



%Gamut  
 $u^*_{rel} = 119$   
%Regularity  
 $g^*_{H,rel} = 47$   
 $g^*_{C,rel} = 100$

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

$LAB^*LAB$  74.3 -38.82 -16.48

$LAB^*LABa$  74

### Input: Colorimetric Reflective System MRS18a

for hue  $h^* = lab^*h = 217/360 = 0.601$

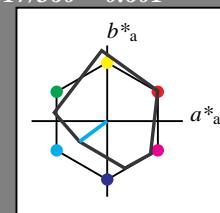
$lab^*tch$  and  $lab^*nch$

D65: hue G50B

LCH\*Ma: 45 46 217

olv\*Ma: 0.0 1.0 1.0

triangle lightness  $t^*$



### MRS18a; adapted (a) CIELAB data

	$L^*=L^*_a$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	49.63	66.8	40.02	77.87	31
JMa	90.7	-7.27	93.19	93.48	94
GMa	52.11	-69.93	11.26	70.85	171
G50BMa	45.03	-36.65	-27.13	45.61	217
BMa	36.65	23.26	-62.27	66.49	290
B50RMa	34.94	57.27	-43.6	71.99	323
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	272

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 0.01 0.0  
 $LAB^*LABa$  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 -  
 $lab^*nch$  0.0 0.0 -  
**relative Natural Colour (NC)**  
 $lab^*lrij$  1.0 0.0 0.0  
 $lab^*tce$  1.0 0.0 -  
 $lab^*ncE$  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 0.5  
 $cmyn^4*$  0.0 0.0 0.5  
**standard and adapted CIELAB**  
 $LAB^*LAB$  56.71 0.05 0.0  
 $LAB^*LABa$  56.71 0.0 0.0  
 $LAB^*TChA$  50.0 0.01 -  
**relative CIELAB  $lab^*$**   
 $lab^*lab$  0.674 -0.401 -0.296  
 $lab^*tch$  0.75 0.5 0.601  
 $lab^*nch$  0.0 0.5 0.601  
**relative Natural Colour (NC)**  
 $lab^*lrij$  0.674 -0.355 -0.35  
 $lab^*tce$  0.75 0.2 0.624  
 $lab^*ncE$  0.0 0.5 g49b

relative Inform. Technology (IT)  
 $olv^3*$  0.0 0.0 0.0 (1.0)  
 $cmyn^3*$  1.0 1.0 1.0 (0.0)  
 $olv^4*$  1.0 1.0 1.0 0.0  
 $cmyn^4*$  0.0 0.0 0.0 1.0  
**standard and adapted CIELAB**  
 $LAB^*LAB$  18.02 0.01 0.02  
 $LAB^*LABa$  18.02 0.0 0.0  
 $LAB^*TChA$  0.01 0.01 -  
**relative CIELAB  $lab^*$**   
 $lab^*lab$  0.0 0.0 0.0  
 $lab^*tch$  0.0 0.0 -  
 $lab^*nch$  1.0 0.0 -  
**relative Natural Colour (NC)**  
 $lab^*lrij$  0.0 0.0 0.0  
 $lab^*tce$  0.0 0.0 -  
 $lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

### MRS18a; adapted (a) CIELAB data

	$L^*=L^*_a$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	49.63	66.8	40.02	77.87	31
JMa	90.7	-7.27	93.19	93.48	94
GMa	52.11	-69.93	11.26	70.85	171
G50BMa	45.03	-36.65	-27.13	45.61	217
BMa	36.65	23.26	-62.27	66.49	290
B50RMa	34.94	57.27	-43.6	71.99	323
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	272

### Output: Colorimetric Reflective System NCS11

for hue  $h^* = lab^*h = 203/360 = 0.563$

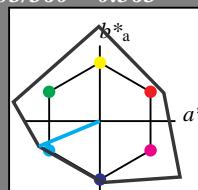
$lab^*tch$  and  $lab^*nch$

D65: hue G50B

LCH\*Ma: 59 87 203

olv\*Ma: 0.0 1.0 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

%Gamut

$u^*_{rel} = 92$

%Regularity

$g^*_{H,rel} = 42$

$g^*_{C,rel} = 49$

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

$LAB^*LABa$  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 -

$lab^*nch$  0.0 0.0 -

**relative Natural Colour (NC)**

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 -

$lab^*ncE$  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 0.5

$cmyn^4*$  0.0 0.0 0.0 0.5

**standard and adapted CIELAB**

$LAB^*LAB$  53.21 0.04 0.0

$LAB^*LABa$  53.21 0.0 0.0

$LAB^*TChA$  50.0 0.01 -

**relative CIELAB  $lab^*$**

$lab^*lab$  0.349 -0.803 -0.594

$lab^*tch$  0.5 1.0 0.601

$lab^*nch$  0.0 1.0 0.601

**relative Natural Colour (NC)**

$lab^*lrij$  0.349 -0.71 -0.702

$lab^*tce$  0.5 1.0 0.624

$lab^*ncE$  0.0 1.0 g49b

$n^* = 0,00$

blackness  $n^*$

$chromaticness c^*$

relative Inform. Technology (IT)

$olv^3*$  0.0 1.0 1.0 (1.0)

$cmyn^3*$  1.0 0.0 0.0 (0.0)

$olv^4*$  0.0 1.0 1.0 1.0

$cmyn^4*$  1.0 0.0 0.0 0.0

**standard and adapted CIELAB**

$LAB^*LAB$  59.47 -40.55 -33.44

$LAB^*LABa$  59.47 -80.59 -33.44

$LAB^*TChA$  50.0 0.0 87.26 202.54

**relative CIELAB  $lab^*$**

$lab^*lab$  0.574 -0.922 -0.382

$lab^*tch$  0.5 1.0 0.563

$lab^*nch$  0.0 1.0 0.563

**relative Natural Colour (NC)**

$lab^*lrij$  0.574 -0.836 -0.546

$lab^*tce$  0.5 1.0 0.592

$lab^*ncE$  0.0 1.0 g36b

$n^* = 0,00$

blackness  $n^*$

$chromaticness c^*$

UE100-7, 3 step scales for constant CIELAB hue 217/360 = 0.601 (left)

3 step scales for constant CIELAB hue 203/360 = 0.563 (right)



## Input: Colorimetric Reflective System NRS18

for hue  $h^* = lab^*h = 203/360 = 0.564$

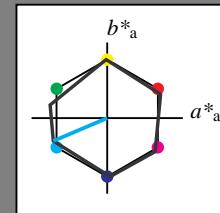
$lab^*tch$  and  $lab^*nch$

D65: hue G50B

LCH\*Ma: 57 77 203

olv\*Ma: 0.0 1.0 1.0

triangle lightness  $t^*$



%Gamut

$u^*_{rel} = 100$

%Regularity

$g^*_{H,rel} = 47$

$g^*_{C,rel} = 100$

relative Inform. Technology (IT)

olv*i*3\* 1.0 1.0 1.0 (1.0)

cmy*n*3\* 0.0 0.0 0.0 (0.0)

olv*i*4\* 1.0 1.0 1.0 1.0

cmy*n*4\* 0.0 0.0 0.0 0.0

standard and adapted CIELAB

LAB\*LAB 95.41 0.0 0.0

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 0.0 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 -

standard and adapted CIELAB

LAB\*LAB 76.05 -35.6 -15.11

LAB\*LABa 76.05 -35.63 -15.11

LAB\*TChA 75.0 38.72 202.99

relative CIELAB lab\*

lab\*lab 0.75 -0.459 -0.194

lab\*tch 0.75 0.5 0.564

lab\*nch 0.0 0.5 0.564

relative Natural Colour (NC)

lab\*lrj 0.75 -0.416 -0.275

lab\*tce 0.75 0.2 0.593

lab\*ncE 0.0 0.5 g37b

relative Inform. Technology (IT)

olv*i*3\* 0.5 0.5 0.5 (1.0)

cmy*n*3\* 0.5 0.5 0.5 (0.0)

olv*i*4\* 1.0 1.0 1.0 0.5

cmy*n*4\* 0.0 0.0 0.0 0.5

standard and adapted CIELAB

LAB\*LAB 56.72 0.05 0.0

LAB\*LABa 56.72 0.0 0.0

LAB\*TChA 50.0 0.01 -

relative CIELAB lab\*

lab\*lab 0.5 0.0 0.0

lab\*tch 0.5 0.0 -

lab\*nch 0.5 0.0 -

relative Natural Colour (NC)

lab\*lrj 0.5 0.0 0.0

lab\*tce 0.5 0.0 0.0

lab\*ncE 0.5 0.0 -

$n^* = 1,0$

relative Inform. Technology (IT)

olv*i*3\* 0.0 0.5 0.5 (1.0)

cmy*n*3\* 1.0 0.5 0.5 (0.0)

olv*i*4\* 0.5 1.0 1.0 0.5

cmy*n*4\* 0.5 0.0 0.0 0.5

standard and adapted CIELAB

LAB\*LAB 37.36 -35.56 -15.09

LAB\*LABa 37.36 -35.63 -15.11

LAB\*TChA 25.01 38.72 202.99

relative CIELAB lab\*

lab\*lab 0.25 -0.459 -0.194

lab\*tch 0.25 0.5 0.564

lab\*nch 0.5 0.5 0.564

relative Natural Colour (NC)

lab\*lrj 0.25 -0.416 -0.275

lab\*tce 0.25 0.5 0.593

lab\*ncE 0.5 0.5 g37b

relative Inform. Technology (IT)

olv*i*3\* 0.0 0.0 0.0 (1.0)

cmy*n*3\* 1.0 1.0 1.0 (0.0)

olv*i*4\* 1.0 1.0 1.0 0.0

cmy*n*4\* 0.0 0.0 0.0 1.0

standard and adapted CIELAB

LAB\*LAB 18.02 0.09 0.02

LAB\*LABa 18.02 0.0 0.0

LAB\*TChA 0.01 0.01 -

relative CIELAB lab\*

lab\*lab 0.0 0.0 0.0

lab\*tch 0.0 0.0 -

lab\*nch 1.0 0.0 -

relative Natural Colour (NC)

lab\*lrj 0.0 0.0 0.0

lab\*tce 0.0 0.0 0.0

lab\*ncE 1.0 0.0 -

$n^* = 1,0$

relative Inform. Technology (IT)

olv*i*3\* 0.0 0.0 0.0 (1.0)

cmy*n*3\* 1.0 0.0 0.0 (0.0)

olv*i*4\* 0.0 0.0 0.0 0.0

cmy*n*4\* 0.0 0.0 0.0 0.0

standard and adapted CIELAB

LAB\*LAB 18.02 0.09 0.02

LAB\*LABa 18.02 0.0 0.0

LAB\*TChA 0.01 0.01 -

relative CIELAB lab\*

lab\*lab 0.0 0.0 0.0

lab\*tch 0.0 0.0 -

lab\*nch 1.0 0.0 -

relative Natural Colour (NC)

lab\*lrj 0.0 0.0 0.0

lab\*tce 0.0 0.0 0.0

lab\*ncE 1.0 0.0 -

$n^* = 1,0$

relative Inform. Technology (IT)

olv*i*3\* 0.0 0.0 0.0 (1.0)

cmy*n*3\* 1.0 0.0 0.0 (0.0)

olv*i*4\* 0.0 0.0 0.0 0.0

cmy*n*4\* 0.0 0.0 0.0 0.0

standard and adapted CIELAB

LAB\*LAB 18.02 0.09 0.02

LAB\*LABa 18.02 0.0 0.0

LAB\*TChA 0.01 0.01 -

relative CIELAB lab\*

lab\*lab 0.0 0.0 0.0

lab\*tch 0.0 0.0 -

lab\*nch 1.0 0.0 -

relative Natural Colour (NC)

lab\*lrj 0.0 0.0 0.0

lab\*tce 0.0 0.0 0.0

lab\*ncE 1.0 0.0 -

$n^* = 1,0$

relative Inform. Technology (IT)

olv*i*3\* 0.0 0.0 0.0 (1.0)

cmy*n*3\* 1.0 0.0 0.0 (0.0)

olv*i*4\* 0.0 0.0 0.0 0.0

cmy*n*4\* 0.0 0.0 0.0 0.0

standard and adapted CIELAB

LAB\*LAB 18.02 0.09 0.02

LAB\*LABa 18.02 0.0 0.0

LAB\*TChA 0.01 0.01 -

relative CIELAB lab\*

lab\*lab 0.0 0.0 0.0

lab\*tch 0.0 0.0 -

lab\*nch 1.0 0.0 -

relative Natural Colour (NC)

lab\*lrj 0.0 0.0 0.0

lab\*tce 0.0 0.0 0.0

lab\*ncE 1.0 0.0 -

$n^* = 1,0$

relative Inform. Technology (IT)

olv*i*3\* 0.0 0.0 0.0 (1.0)

cmy*n*3\* 1.0 0.0 0.0 (0.0)

olv*i*4\* 0.0 0.0 0.0 0.0

cmy*n*4\* 0.0 0.0 0.0 0.0

standard and adapted CIELAB

LAB\*LAB 18.02 0.09 0.02

LAB\*LABa 18.02 0.0 0.0

LAB\*TChA 0.01 0.01 -

relative CIELAB lab\*

lab\*lab 0.0 0.0 0.0

lab\*tch 0.0 0.0 -

lab\*nch 1.0 0.0 -

relative Natural Colour (NC)

lab\*lrj 0.0 0.0 0.0

lab\*tce 0.0 0.0 0.0

lab\*ncE 1.0 0.0 -

$n^* = 1,0$

relative Inform. Technology (IT)

olv*i*3\* 0.0 0.0 0.0 (1.0)

cmy*n*3\* 1.0 0.0 0.0 (0.0)

olv*i*4\* 0.0 0.0 0.0 0.0

cmy*n*4\* 0.0 0.0 0.0 0.0

standard and adapted CIELAB

LAB\*LAB 18.02 0.09 0.02

LAB\*LABa 18.02 0.0 0.0

LAB\*TChA 0.01 0.01 -

relative CIELAB lab\*

lab\*lab 0.0 0.0 0.0

lab\*tch 0.0 0.0 -

lab\*nch 1.0 0.0 -

relative Natural Colour (NC)

lab\*lrj 0.0 0.0 0.0

lab\*tce 0.0 0.0 0.0

lab\*ncE 1.0 0.0 -

$n^* = 1,0$

relative Inform. Technology (IT)

olv*i*3\* 0.0 0.0 0.0 (1.0)

cmy*n*3\* 1.0 0.0 0.0 (0.0)

olv*i*4\* 0.0 0.0 0.0 0.0

cmy*n*4\* 0.0 0.0 0.0 0.0

standard and adapted CIELAB

LAB\*LAB 18.02 0.09 0.02

LAB\*LABa 18.02 0.0 0.0

LAB\*TChA 0.01 0.01 -

relative CIELAB lab\*

lab\*lab 0.0 0.0 0.0

lab\*tch 0.0 0.0 -

lab\*nch 1.0 0.0 -

relative Natural Colour (NC)

lab\*lrj 0.0 0.0 0.0

lab\*tce 0.0 0.0 0.0

lab\*ncE 1.0 0.0 -

$n^* = 1,0$

relative Inform. Technology (IT)

olv*i*3\* 0.0 0.0 0.0 (1.0)

cmy*n*3\* 1.0 0.0 0.0 (0.0)

olv*i*4\* 0.0 0.0 0.0 0.0

cmy*n*4\* 0.0 0.0 0.0 0.0

standard and adapted CIELAB

LAB\*LAB 18.02 0.09 0.02

LAB\*LABa 18.02 0.0 0.0

LAB\*TChA 0.01 0.01 -

relative CIELAB lab\*

lab\*lab 0.0 0.0 0.0

lab\*tch 0.0 0.0 -

lab\*nch 1.0 0.0 -

relative Natural Colour (NC)

lab\*lrj 0.0 0.0 0.0

lab\*tce 0.0 0.0 0.0

lab\*ncE 1.0 0.0 -

$n^* = 1,0$

relative Inform. Technology (IT)

olv*i*3\* 0.0 0.0 0.0 (1.0)

cmy*n*3\* 1.0 0.0 0.0 (0.0)

olv*i*4\* 0.0 0.0 0.0 0.0

cmy*n*4\* 0.0 0.0 0.0 0.0

standard and adapted CIELAB

LAB\*LAB 18.02 0.09 0.02

## Input: Colorimetric Reflective System NRS18

for hue  $h^* = lab^*h = 203/360 = 0.564$

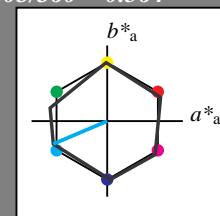
$lab^*tch$  and  $lab^*nch$

D65: hue G50B

LCH\*Ma: 57 77 203

olv\*Ma: 0.0 1.0 1.0

triangle lightness  $t^*$



## NRS18; adapted (a) CIELAB data

	$L^* = L^*_{ab}$	$a^*_{ab}$	$b^*_{ab}$	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	56.7	70.66	31.47	77.35	24
JMa	56.7	-1.39	77.37	77.39	91
GMa	56.7	-75.46	17.4	77.45	167
G50BMa	56.7	-71.29	-30.25	77.45	203
BMa	56.7	4.0	-77.3	77.41	273
B50RMa	56.7	63.35	-44.4	77.36	325
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	272

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 0.0  
 $LAB^*LABa$  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 -  
 $lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)  
 $lab^*lrij$  1.0 0.0 0.0  
 $lab^*tce$  1.0 0.0 0.0  
 $lab^*ncE$  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 0.5  
 $cmyn^4*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB  
 $LAB^*LAB$  56.72 0.05 0.0  
 $LAB^*LABa$  56.72 0.0 0.0  
 $LAB^*TChA$  50.0 0.01 -

relative CIELAB lab\*  
 $lab^*lab$  0.5 0.0 0.0  
 $lab^*tch$  0.5 0.0 -  
 $lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)  
 $lab^*lrij$  0.5 0.0 0.0  
 $lab^*tce$  0.5 0.0 0.0  
 $lab^*ncE$  0.5 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)  
 $olv^4*$  1.0 1.0 1.0 0.0  
 $cmyn^4*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB  
 $LAB^*LAB$  18.02 0.09 0.02  
 $LAB^*LABa$  18.02 0.0 0.0  
 $LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*  
 $lab^*lab$  0.0 0.0 0.0  
 $lab^*tch$  0.0 0.0 -  
 $lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)  
 $lab^*lrij$  0.0 0.0 0.0  
 $lab^*tce$  0.0 0.0 -  
 $lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

## relative Inform. Technology (IT)

$olv^3*$  0.5 1.0 1.0 (1.0)  
 $cmyn^3*$  0.5 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  
 $LAB^*LAB$  76.05 -35.6 -15.11  
 $LAB^*LABa$  76.05 -35.63 -15.11  
 $LAB^*TChA$  75.0 38.72 202.99

relative CIELAB lab\*

$lab^*lab$  0.75 -0.459 -0.194  
 $lab^*tch$  0.75 0.5 0.564  
 $lab^*nch$  0.0 0.5 0.564

relative Natural Colour (NC)

$lab^*lrij$  0.75 -0.416 -0.275  
 $lab^*tce$  0.75 0.2 0.593  
 $lab^*ncE$  0.0 0.5 g37b

relative Inform. Technology (IT)  
 $olv^3*$  0.0 1.0 1.0 (1.0)  
 $cmyn^3*$  0.5 0.0 0.0 (0.0)  
 $olv^4*$  1.0 1.0 1.0 1.0  
 $cmyn^4*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB  
 $LAB^*LAB$  56.7 -71.22 -30.23  
 $LAB^*LABa$  56.7 -71.28 -30.24  
 $LAB^*TChA$  50.0 77.44 202.99

relative CIELAB lab\*

$lab^*lab$  0.5 -0.919 -0.39  
 $lab^*tch$  0.5 1.0 0.564  
 $lab^*nch$  0.0 1.0 0.564

relative Natural Colour (NC)

$lab^*lrij$  0.5 -0.833 -0.551  
 $lab^*tce$  0.5 1.0 0.593  
 $lab^*ncE$  0.0 1.0 g37b

relative Inform. Technology (IT)  
 $olv^3*$  0.0 0.5 0.5 (1.0)  
 $cmyn^3*$  0.5 0.5 0.5 (0.0)  
 $olv^4*$  1.0 1.0 1.0 0.5  
 $cmyn^4*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB  
 $LAB^*LAB$  37.36 -35.56 -15.09  
 $LAB^*LABa$  37.36 -35.63 -15.11  
 $LAB^*TChA$  25.01 38.72 202.99

relative CIELAB lab\*

$lab^*lab$  0.25 -0.459 -0.194  
 $lab^*tch$  0.25 0.5 0.564  
 $lab^*nch$  0.5 0.5 0.564

relative Natural Colour (NC)

$lab^*lrij$  0.25 -0.416 -0.275  
 $lab^*tce$  0.25 0.5 0.593  
 $lab^*ncE$  0.5 0.5 g37b

$n^* = 0,00$

blackness  $n^*$

$n^* = 0,50$

1,00

chromaticness  $c^*$

## Output: Colorimetric Reflective System TRS18

for hue  $h^* = lab^*h = 236/360 = 0.656$

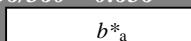
$lab^*tch$  and  $lab^*nch$

D65: hue C

LCH\*Ma: 59 54 236

olv\*Ma: 0.0 1.0 1.0

triangle lightness  $t^*$



## TRS18; adapted (a) CIELAB data

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

%Gamut

$u^*_{rel} = 100$

%Regularity

$g^*_{H,rel} = 47$

$g^*_{C,rel} = 100$

## 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  
 $LAB^*LABa$  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 -  
 $lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0  
 $lab^*tce$  1.0 0.0 0.0  
 $lab^*ncE$  0.0 0.0 -

## relative Inform. Technology (IT)

$olv^3*$  0.5 1.0 1.0 (1.0)  
 $cmyn^3*$  0.5 0.0 0.0 (0.0)  
 $olv^4*$  0.5 1.0 1.0 1.0  
 $cmyn^4*$  0.5 0.0 0.0 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 CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0  
 $lab^*tch$  0.5 0.0 -  
 $lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.5 0.0 0.0  
 $lab^*tce$  0.5 0.0 0.0  
 $lab^*ncE$  0.5 0.0 -

## relative Inform. Technology (IT)

$olv^3*$  0.0 0.5 0.5 (1.0)  
 $cmyn^3*$  1.0 0.5 0.5 (0.0)  
 $olv^4*$  0.5 1.0 1.0 0.5  
 $cmyn^4*$  0.5 0.0 0.0 0.5

standard and adapted CIELAB  
 $LAB^*LAB$  18.02 0.5 -0.46  
 $LAB^*LABa$  18.02 0.0 0.0  
 $LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0  
 $lab^*tch$  0.0 0.0 -  
 $lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0  
 $lab^*tce$  0.0 0.0 -  
 $lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

relative Inform. Technology (IT)  
 $olv^3*$  0.0 1.0 1.0 (1.0)  
 $cmyn^3*$  1.0 0.0 0.0 (0.0)  
 $olv^4*$  0.0 1.0 1.0 1.0  
 $cmyn^4*$  1.0 0.0 0.0 0.0

standard and adapted CIELAB  
 $LAB^*LAB$  58.62 -30.62 -42.73  
 $LAB^*LABa$  58.62 -30.34 -45.01  
 $LAB^*TChA$  50.0 54.29 236.01

relative CIELAB lab\*

$lab^*lab$  0.525 -0.558 -0.828  
 $lab^*tch$  0.5 1.0 0.656  
 $lab^*nch$  0.0 1.0 0.656

relative Natural Colour (NC)

$lab^*lrij$  0.525 -0.496 -0.867  
 $lab^*tce$  0.5 1.0 0.667  
 $lab^*ncE$  0.0 1.0 g66b

$n^* = 0,00$

blackness  $n^*$

$n^* = 0,50$

1,00

chromaticness  $c^*$

UE100-7, 3 step scales for constant CIELAB hue 203/360 = 0.564 (left)

3 step scales for constant CIELAB hue 236/360 = 0.656 (right)

## Input: Colorimetric Reflective System NRS18

for hue  $h^* = lab^*h = 203/360 = 0.564$

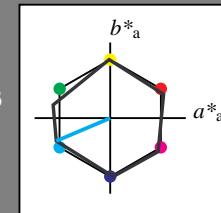
$lab^*tch$  and  $lab^*nch$

D65: hue G50B

LCH\*Ma: 57 77 203

olv\*Ma: 0.0 1.0 1.0

triangle lightness  $t^*$



%Gamut

$u^*_{rel} = 100$

%Regularity

$g^*_{H,rel} = 47$

$g^*_{C,rel} = 100$

relative Inform. Technology (IT)  
 $olv_i3^*$  1.0 1.0 1.0 (1.0)  
 $cmy_n3^*$  0.0 0.0 0.0 (0.0)  
 $olv_i4^*$  1.0 1.0 1.0 1.0  
 $cmy_n4^*$  0.0 0.0 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  95.41 0.0 0.0

$LAB^*LABa$  95.41 0.0 0.0

$LAB^*TCh_a$  99.99 0.01 -

relative CIELAB lab\*

$lab^*lab$  1.0 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  76.05 -35.6 -15.11

$LAB^*LABa$  76.05 -35.63 -15.11

$LAB^*TCh_a$  75.0 38.72 202.99

relative CIELAB lab\*

$lab^*lab$  0.75 -0.459 -0.194

$lab^*tch$  0.75 0.5 0.564

$lab^*nch$  0.0 0.5 0.564

relative Natural Colour (NC)

$lab^*lrij$  0.75 -0.416 -0.275

$lab^*tce$  0.75 0.2 0.593

$lab^*ncE$  0.0 0.5 g37b

relative Inform. Technology (IT)

$olv_i3^*$  0.5 0.5 0.5 (1.0)

$cmy_n3^*$  0.5 0.5 0.5 (0.0)

$olv_i4^*$  1.0 1.0 1.0 0.5

$cmy_n4^*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  56.72 0.05 0.0

$LAB^*LABa$  56.72 0.0 0.0

$LAB^*TCh_a$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.5 0.0 0.0

$lab^*tce$  0.5 0.0 0.0

$lab^*ncE$  0.5 0.0 -

$n^* = 1,0$

## NRS18; adapted (a) CIELAB data

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

RMa	56.7	70.66	31.47	77.35	24
JMa	56.7	-1.39	77.37	77.39	91
GMa	56.7	-75.46	17.4	77.45	167
G50BMa	56.7	-71.29	-30.25	77.45	203
BMa	56.7	4.0	-77.3	77.41	273
B50RMa	56.7	63.35	-44.4	77.36	325
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	272

## Output: Colorimetric Reflective System MRS18a

for hue  $h^* = lab^*h = 217/360 = 0.601$

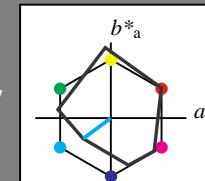
$lab^*tch$  and  $lab^*nch$

D65: hue G50B

LCH\*Ma: 45 46 217

olv\*Ma: 0.0 1.0 1.0

triangle lightness  $t^*$



%Gamut

$u^*_{rel} = 92$

%Regularity

$g^*_{H,rel} = 42$

$g^*_{C,rel} = 49$

relative Inform. Technology (IT)  
 $olv_i3^*$  1.0 1.0 1.0 (1.0)  
 $cmy_n3^*$  0.0 0.0 0.0 (0.0)  
 $olv_i4^*$  1.0 1.0 1.0 1.0  
 $cmy_n4^*$  0.0 0.0 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  95.41 0.01 0.0

$LAB^*LABa$  95.41 0.0 0.0

$LAB^*TCh_a$  99.99 0.01 -

relative CIELAB lab\*

$lab^*lab$  1.0 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  76.05 -35.6 -15.11

$LAB^*LABa$  76.05 -35.63 -15.11

$LAB^*TCh_a$  75.0 38.72 202.99

relative CIELAB lab\*

$lab^*lab$  0.75 -0.459 -0.194

$lab^*tch$  0.75 0.5 0.564

$lab^*nch$  0.0 0.5 0.564

relative Natural Colour (NC)

$lab^*lrij$  0.75 -0.416 -0.275

$lab^*tce$  0.75 0.2 0.593

$lab^*ncE$  0.0 0.5 g37b

relative Inform. Technology (IT)

$olv_i3^*$  0.5 0.5 0.5 (1.0)

$cmy_n3^*$  0.5 0.5 0.5 (0.0)

$olv_i4^*$  1.0 1.0 1.0 0.5

$cmy_n4^*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  56.72 0.05 0.0

$LAB^*LABa$  56.72 0.0 0.0

$LAB^*TCh_a$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

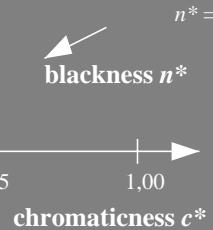
$lab^*lrij$  0.5 0.0 0.0

$lab^*tce$  0.5 0.0 0.0

$lab^*ncE$  0.5 0.0 -

$n^* = 0,00$

blackness  $n^*$



$n^* = 1,00$

$n^* = 0,50$

$n^* = 0,00$

chromaticness  $c^*$

0,25
0,50
0,75
1,00

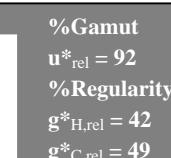
UE100-7, 3 step scales for constant CIELAB hue 203/360 = 0.564 (left)

3 step scales for constant CIELAB hue 217/360 = 0.601 (right)

## MRS18a; adapted (a) CIELAB data

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

RMa	49.63	66.8	40.02	77.87	31
JMa	90.7	-7.27	93.19	93.48	94
GMa	52.11	-69.93	11.26	70.85	171
G50BMa	45.03	-36.65	-27.13	45.61	217
BMa	36.65	23.26	-62.27	66.49	290
B50RMa	34.94	57.27	-43.6	71.99	323
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	272



%Gamut

$u^*_{rel} = 92$

%Regularity

$g^*_{H,rel} = 42$

$g^*_{C,rel} = 49$

relative Inform. Technology (IT)  
 $olv_i3^*$  1.0 1.0 1.0 (1.0)  
 $cmy_n3^*$  0.0 0.0 0.0 (0.0)  
 $olv_i4^*$  1.0 1.0 1.0 1.0  
 $cmy_n4^*$  0.0 0.0 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  95.41 0.01 0.0

$LAB^*LABa$  95.41 0.0 0.0

$LAB^*TCh_a$  99.99 0.01 -

relative CIELAB lab\*

$lab^*lab$  1.0 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  76.05 -35.6 -15.11

$LAB^*LABa$  76.05 -35.63 -15.11

$LAB^*TCh_a$  75.0 38.72 202.99

relative CIELAB lab\*

$lab^*lab$  0.75 -0.459 -0.194

$lab^*tch$  0.75 0.5 0.564

$lab^*nch$  0.0 0.5 0.564

relative Natural Colour (NC)

$lab^*lrij$  0.75 -0.416 -0.275

$lab^*tce$  0.75 0.2 0.593

$lab^*ncE$  0.0 0.5 g37b

relative Inform. Technology (IT)

$olv_i3^*$  0.5 0.5 0.5 (1.0)

$cmy_n3^*$  0.5 0.5 0.5 (0.0)

$olv_i4^*$  1.0 1.0 1.0 0.5

$cmy_n4^*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  56.72 0.05 0.0

$LAB^*LABa$  56.72 0.0 0.0

$LAB^*TCh_a$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

## Input: Colorimetric Reflective System NRS18

for hue  $h^* = lab^*h = 203/360 = 0.564$

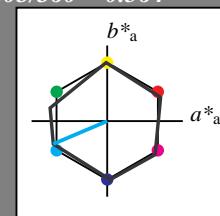
$lab^*tch$  and  $lab^*nch$

D65: hue G50B

LCH\*Ma: 57 77 203

olv\*Ma: 0.0 1.0 1.0

triangle lightness  $t^*$



%Gamut

$u^*_{rel} = 100$

%Regularity

$g^*_{H,rel} = 47$

$g^*_{C,rel} = 100$

relative Inform. Technology (IT)  
olvi3\* 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 0.0

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 0.0 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 -

standard and adapted CIELAB

LAB\*LAB 76.05 -35.6 -15.11

LAB\*LABa 76.05 -35.63 -15.11

LAB\*TChA 75.0 38.72 202.99

relative CIELAB lab\*

lab\*lab 0.75 -0.459 -0.194

lab\*tch 0.75 0.5 0.564

lab\*nch 0.0 0.5 0.564

relative Natural Colour (NC)

lab\*lrj 0.75 -0.416 -0.275

lab\*tce 0.75 0.2 0.593

lab\*ncE 0.0 0.5 g37b

relative Inform. Technology (IT)

olvi3\* 0.5 0.5 0.5 (1.0)

cmyn3\* 0.5 0.5 0.5 (0.0)

olv4\* 1.0 1.0 1.0 0.5

cmyn4\* 0.0 0.0 0.5

standard and adapted CIELAB

LAB\*LAB 56.72 0.05 0.0

LAB\*LABa 56.72 0.0 0.0

LAB\*TChA 50.0 0.01 -

relative CIELAB lab\*

lab\*lab 0.5 0.0 0.0

lab\*tch 0.5 0.0 -

lab\*nch 0.5 0.0 -

relative Natural Colour (NC)

lab\*lrj 0.5 0.0 0.0

lab\*tce 0.5 0.0 0.0

lab\*ncE 0.5 0.0 -

$n^* = 1,0$

## NRS18; adapted (a) CIELAB data

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

RMa	56.7	70.66	31.47	77.35	24
JMa	56.7	-1.39	77.37	77.39	91
GMa	56.7	-75.46	17.4	77.45	167
G50BMa	56.7	-71.29	-30.25	77.45	203
BMa	56.7	4.0	-77.3	77.41	273
B50RMa	56.7	63.35	-44.4	77.36	325
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	272

## relative Inform. Technology (IT)

olvi3\* 0.0 1.0 1.0 (1.0)

cmyn3\* 0.0 0.0 0.0 (0.0)

olv4\* 0.0 1.0 1.0 1.0

cmyn4\* 0.0 0.0 0.0 0.0

standard and adapted CIELAB

LAB\*LAB 76.05 -35.6 -15.11

LAB\*LABa 76.05 -35.63 -15.11

LAB\*TChA 75.0 38.72 202.99

relative CIELAB lab\*

lab\*lab 0.75 -0.459 -0.194

lab\*tch 0.75 0.5 0.564

lab\*nch 0.0 0.5 0.564

relative Natural Colour (NC)

lab\*lrj 0.75 -0.416 -0.275

lab\*tce 0.75 0.2 0.593

lab\*ncE 0.0 0.5 g37b

relative Inform. Technology (IT)

olvi3\* 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 0.1

standard and adapted CIELAB

LAB\*LAB 18.02 0.09 0.02

LAB\*LABa 18.02 0.0 0.0

LAB\*TChA 0.01 0.01 -

relative CIELAB lab\*

lab\*lab 0.0 0.0 0.0

lab\*tch 0.0 0.0 -

lab\*nch 1.0 0.0 -

relative Natural Colour (NC)

lab\*lrj 0.0 0.0 0.0

lab\*tce 0.0 0.0 0.0

lab\*ncE 1.0 0.0 -

$n^* = 1,0$

$n^* = 0,00$



blackness  $n^*$

0,25 0,50 0,75 1,00

chromaticness  $c^*$

## Output: Colorimetric Reflective System NRS18

for hue  $h^* = lab^*h = 203/360 = 0.564$

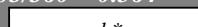
$lab^*tch$  and  $lab^*nch$

D65: hue G50B

LCH\*Ma: 57 77 203

olv\*Ma: 0.0 1.0 1.0

triangle lightness  $t^*$



%Gamut

$u^*_{rel} = 100$

%Regularity

$g^*_{H,rel} = 47$

$g^*_{C,rel} = 100$

relative Inform. Technology (IT)  
olvi3\* 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 0.0

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 0.0 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 -

standard and adapted CIELAB

LAB\*LAB 76.05 -35.6 -15.11

LAB\*LABa 76.05 -35.63 -15.11

LAB\*TChA 75.0 38.72 202.99

relative CIELAB lab\*

lab\*lab 0.75 -0.459 -0.194

lab\*tch 0.75 0.5 0.564

lab\*nch 0.0 0.5 0.564

relative Natural Colour (NC)

lab\*lrj 0.75 -0.416 -0.275

lab\*tce 0.75 0.2 0.593

lab\*ncE 0.0 0.5 g37b

relative Inform. Technology (IT)

olvi3\* 0.5 0.5 0.5 (1.0)

cmyn3\* 0.5 0.5 0.5 (0.0)

olv4\* 1.0 1.0 1.0 0.5

cmyn4\* 0.0 0.0 0.5

standard and adapted CIELAB

LAB\*LAB 56.72 0.05 0.0

LAB\*LABa 56.72 0.0 0.0

LAB\*TChA 50.0 0.01 -

relative CIELAB lab\*

lab\*lab 0.5 0.0 0.0

lab\*tch 0.5 0.0 -

lab\*nch 1.0 0.0 -

relative Natural Colour (NC)

lab\*lrj 0.5 0.0 0.0

lab\*tce 0.5 0.0 0.0

lab\*ncE 1.0 0.0 -

$n^* = 1,0$

## NRS18; adapted (a) CIELAB data

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

RMa	56.7	70.66	31.47	77.35	24
JMa	56.7	-1.39	77.37	77.39	91
GMa	56.7	-75.46	17.4	77.45	167
G50BMa	56.7	-71.29	-30.25	77.45	203
BMa	56.7	4.0	-77.3	77.41	273
B50RMa	56.7	63.35	-44.4	77.36	325
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	272

## relative Inform. Technology (IT)

olvi3\* 0.0 1.0 1.0 (1.0)

cmyn3\* 0.0 0.0 0.0 (0.0)

olv4\* 0.0 1.0 1.0 1.0

cmyn4\* 0.0 0.0 0.0 0.0

standard and adapted CIELAB

LAB\*LAB 76.05 -35.6 -15.11

LAB\*LABa 76.05 -35.63 -15.11

LAB\*TChA 75.0 38.72 202.99

relative CIELAB lab\*

lab\*lab 0.75 -0.459 -0.194

lab\*tch 0.75 0.5 0.564

lab\*nch 0.0 0.5 0.564

relative Natural Colour (NC)

lab\*lrj 0.75 -0.416 -0.275

lab\*tce 0.75 0.2 0.593

lab\*ncE 0.0 0.5 g37b

relative Inform. Technology (IT)

olvi3\* 0.0 0.0 0.0 (1.0)

cmyn3\* 1.0 1.0 1.0 (0.0)

olv4\* 1.0 1.0 1.0 0.5

cmyn4\* 0.0 0.0 0.1

standard and adapted CIELAB

LAB\*LAB 18.02 0.09 0.02

LAB\*LABa 18.02 0.0 0.0

LAB\*TChA 0.01 0.01 -

relative CIELAB lab\*

lab\*lab 0.0 0.0 0.0

lab

## Input: Colorimetric Reflective System NRS18

for hue  $h^* = lab^*h = 203/360 = 0.564$

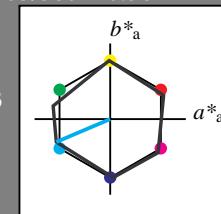
$lab^*tch$  and  $lab^*nch$

D65: hue G50B

LCH\*Ma: 57 77 203

olv\*Ma: 0.0 1.0 1.0

triangle lightness  $t^*$



relative Inform. Technology (IT)  
 $olvi3^*$  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 0.0

$LAB^*LABa$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)  
 $olvi3^*$  0.5 0.5 0.5 (1.0)  
 $cmyn3^*$  0.5 0.5 0.5 (0.0)  
 $olv4^*$  1.0 1.0 1.0 0.5  
 $cmyn4^*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  56.72 0.05 0.0

$LAB^*LABa$  56.72 0.0 0.0

$LAB^*TChA$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.5 0.0 0.0

$lab^*tce$  0.5 0.0 0.0

$lab^*ncE$  0.5 0.0 -

relative Inform. Technology (IT)  
 $olvi3^*$  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 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.09 0.02

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*tce$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

NRS18; adapted (a) CIELAB data					
	$L^*=L^*_a$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	56.7	70.66	31.47	77.35	24
JMa	56.7	-1.39	77.37	77.39	91
GMa	56.7	-75.46	17.4	77.45	167
G50BMa	56.7	-71.29	-30.25	77.45	203
BMa	56.7	4.0	-77.3	77.41	273
B50RMa	56.7	63.35	-44.4	77.36	325
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	272

relative Inform. Technology (IT)			
$olvi3^*$	1.0	1.0	(1.0)
$cmyn3^*$	0.0	0.0	(0.0)
$olv4^*$	1.0	1.0	1.0
$cmyn4^*$	0.0	0.0	0.0

relative Inform. Technology (IT)			
$olvi3^*$	0.5	0.5	(1.0)
$cmyn3^*$	0.5	0.5	(0.0)
$olv4^*$	1.0	1.0	0.5
$cmyn4^*$	0.0	0.0	0.5

relative Inform. Technology (IT)			
$olvi3^*$	0.0	0.0	(1.0)
$cmyn3^*$	1.0	1.0	(0.0)
$olv4^*$	1.0	1.0	1.0
$cmyn4^*$	0.0	0.0	1.0

$n^* = 1,0$

relative Inform. Technology (IT)			
$olvi3^*$	0.0	1.0	(1.0)
$cmyn3^*$	0.5	0.5	(0.0)
$olv4^*$	0.0	1.0	1.0
$cmyn4^*$	1.0	0.0	0.0

relative Inform. Technology (IT)			
$olvi3^*$	0.5	0.5	(1.0)
$cmyn3^*$	1.0	0.5	0.5
$olv4^*$	1.0	1.0	0.5
$cmyn4^*$	0.0	0.0	0.5

$n^* = 1,0$

$n^* = 0,00$

blackness  $n^*$

chromaticness  $c^*$

$n^* = 0,50$

$n^* = 1,00$

## Output: Colorimetric Reflective System NCS18

for hue  $h^* = lab^*h = 203/360 = 0.563$

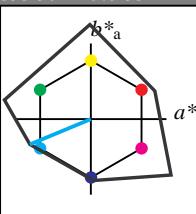
$lab^*tch$  and  $lab^*nch$

D65: hue G50B

LCH\*Ma: 59 87 203

olv\*Ma: 0.0 1.0 1.0

triangle lightness  $t^*$



%Gamut

$u^*_{rel} = 100$

%Regularity

$g^*_{H,rel} = 47$

$g^*_{C,rel} = 100$

relative Inform. Technology (IT)			
$olvi3^*$	1.0	1.0	(1.0)
$cmyn3^*$	0.0	0.0	(0.0)
$olv4^*$	1.0	1.0	1.0
$cmyn4^*$	0.0	0.0	0.0

relative Inform. Technology (IT)			
$olvi3^*$	0.5	1.0	(1.0)
$cmyn3^*$	0.5	0.0	(0.0)
$olv4^*$	0.5	1.0	1.0
$cmyn4^*$	0.5	0.0	0.0

$n^* = 1,0$

$n^* = 0,50$

$n^* = 1,00$

$n^* = 0,00$

NCS18; adapted (a) CIELAB data					
	$L^*=L^*_a$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	47.15	84.63	37.24	92.46	24
JMa	91.37	-1.27	125.03	125.03	91
GMa	63.07	-114.29	25.34	117.07	167
G50BMa	59.47	-80.61	-33.45	87.29	203
BMa	49.01	3.63	-81.2	81.29	273
B50RMa	44.06	106.07	-73.94	129.31	325
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	272

relative Inform. Technology (IT)			
$olvi3^*$	1.0	1.0	(1.0)
$cmyn3^*$	0.0	0.0	(0.0)
$olv4^*$	1.0	1.0	1.0
$cmyn4^*$	0.0	0.0	0.0

relative Inform. Technology (IT)			
$olvi3^*$	0.5	1.0	(1.0)
$cmyn3^*$	0.5	0.0	(0.0)
$olv4^*$	0.5	1.0	1.0
$cmyn4^*$	0.5	0.0	0.0

$n^* = 1,0$

$n^* = 0,50$

$n^* = 1,00$

$n^* = 0,00$

NCS18; adapted (a) CIELAB data					
	$L^*=L^*_a$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	47.15	84.63	37.24	92.46	24
JMa	91.37	-1.27	125.03	125.03	91
GMa	63.07	-114.29</td			

## Input: Colorimetric Reflective System NRS18

for hue  $h^* = lab^*h = 203/360 = 0.564$

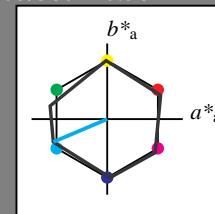
$lab^*tch$  and  $lab^*nch$

D65: hue G50B

LCH\*Ma: 57 77 203

olv\*Ma: 0.0 1.0 1.0

triangle lightness  $t^*$



%Gamut

$u^*_{rel} = 100$

%Regularity

$g^*_{H,rel} = 47$

$g^*_{C,rel} = 100$

relative Inform. Technology (IT)  
 $olv_i3^*$  1.0 1.0 1.0 (1.0)  
 $cmy_n3^*$  0.0 0.0 0.0 (0.0)  
 $olv_i4^*$  1.0 1.0 1.0 1.0  
 $cmy_n4^*$  0.0 0.0 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  95.41 0.0 0.0

$LAB^*LABa$  95.41 0.0 0.0

$LAB^*TCh_a$  99.99 0.01 -

relative CIELAB lab\*

$lab^*lab$  1.0 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)  
 $olv_i3^*$  0.5 0.5 0.5 (1.0)  
 $cmy_n3^*$  0.5 0.5 0.5 (0.0)  
 $olv_i4^*$  1.0 1.0 1.0 0.5  
 $cmy_n4^*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  56.72 0.05 0.0

$LAB^*LABa$  56.72 0.0 0.0

$LAB^*TCh_a$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.5 0.0 0.0

$lab^*tce$  0.5 0.0 0.0

$lab^*ncE$  0.5 0.0 -

relative Inform. Technology (IT)  
 $olv_i3^*$  0.0 0.0 0.0 (1.0)  
 $cmy_n3^*$  1.0 1.0 1.0 (0.0)  
 $olv_i4^*$  1.0 1.0 1.0 0.0  
 $cmy_n4^*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.09 0.02

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TCh_a$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*tce$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

## NRS18; adapted (a) CIELAB data

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

RMa	56.7	70.66	31.47	77.35	24
JMa	56.7	-1.39	77.37	77.39	91
GMa	56.7	-75.46	17.4	77.45	167
G50BMa	56.7	-71.29	-30.25	77.45	203
BMa	56.7	4.0	-77.3	77.41	273
B50RMa	56.7	63.35	-44.4	77.36	325
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	272

## Output: Colorimetric Reflective System NRS11

for hue  $h^* = lab^*h = 203/360 = 0.564$

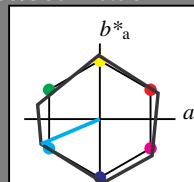
$lab^*tch$  and  $lab^*nch$

D65: hue G50B

LCH\*Ma: 53 84 203

olv\*Ma: 0.0 1.0 1.0

triangle lightness  $t^*$



%Gamut

$u^*_{rel} = 119$

%Regularity

$g^*_{H,rel} = 47$

$g^*_{C,rel} = 100$

relative Inform. Technology (IT)  
 $olv_i3^*$  1.0 1.0 1.0 (1.0)  
 $cmy_n3^*$  0.0 0.0 0.0 (0.0)  
 $olv_i4^*$  1.0 1.0 1.0 1.0  
 $cmy_n4^*$  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

$LAB^*TCh_a$  99.99 0.01 -

relative CIELAB lab\*

$lab^*lab$  1.0 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)  
 $olv_i3^*$  0.5 1.0 1.0 (1.0)  
 $cmy_n3^*$  0.5 0.0 0.0 (0.0)  
 $olv_i4^*$  0.5 1.0 1.0 1.0  
 $cmy_n4^*$  0.5 0.0 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  74.3 -38.82 -16.48

$LAB^*LABa$  74.3 -38.85 -16.48

$LAB^*TCh_a$  75.0 42.21 203.0

relative CIELAB lab\*

$lab^*lab$  0.75 -0.459 -0.194

$lab^*tch$  0.75 0.5 0.564

$lab^*nch$  0.0 0.5 0.564

relative Natural Colour (NC)

$lab^*lrij$  0.75 -0.416 -0.275

$lab^*tce$  0.75 0.5 0.593

$lab^*ncE$  0.0 0.5 g37b

relative Inform. Technology (IT)  
 $olv_i3^*$  0.0 0.5 0.5 (1.0)  
 $cmy_n3^*$  1.0 0.5 0.5 (0.0)  
 $olv_i4^*$  0.5 1.0 1.0 0.5  
 $cmy_n4^*$  0.5 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  53.21 0.04 0.0

$LAB^*LABa$  53.21 0.0 0.0

$LAB^*TCh_a$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.5 0.0 0.0

$lab^*tce$  0.5 0.0 -

$lab^*ncE$  0.5 0.5 g37b

relative Inform. Technology (IT)  
 $olv_i3^*$  0.0 0.0 0.0 (1.0)  
 $cmy_n3^*$  1.0 1.0 1.0 (0.0)  
 $olv_i4^*$  1.0 1.0 1.0 0.0  
 $cmy_n4^*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  11.01 0.07 0.01

$LAB^*LABa$  11.01 0.0 0.0

$LAB^*TCh_a$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.25 -0.459 -0.194

$lab^*tch$  0.25 0.5 0.564

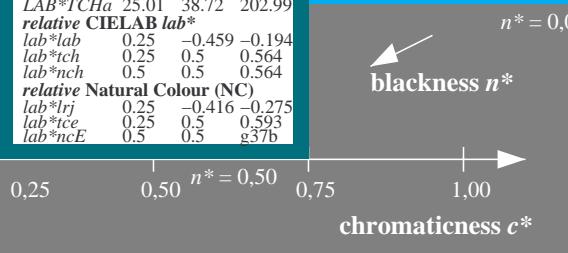
$lab^*nch$  0.5 0.5 0.564

relative Natural Colour (NC)

$lab^*lrij$  0.25 -0.416 -0.275

$lab^*tce$  0.25 0.5 0.593

$lab^*ncE$  0.5 0.5 g37b

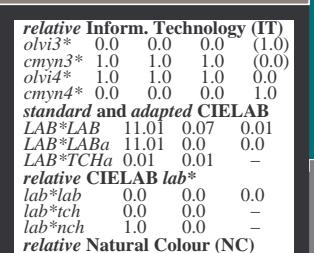


$n^* = 0,00$

$n^* = 0,50$

$n^* = 1,00$

chromaticness  $c^*$



$n^* = 1,0$



UE100-7, 3 step scales for constant CIELAB hue 203/360 = 0.564 (left)

3 step scales for constant CIELAB hue 203/360 = 0.564 (right)



$n^* = 0,00$

$n^* = 0,50$

$n^* = 1,00$

chromaticness  $c^*$

## Input: Colorimetric Reflective System NRS18

for hue  $h^* = lab^*h = 203/360 = 0.564$

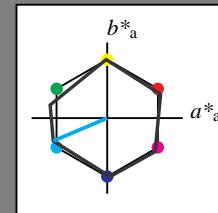
$lab^*tch$  and  $lab^*nch$

D65: hue G50B

LCH\*Ma: 57 77 203

olv\*Ma: 0.0 1.0 1.0

triangle lightness  $t^*$



## NRS18; adapted (a) CIELAB data

	$L^*=L_a^*$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	56.7	70.66	31.47	77.35	24
JMa	56.7	-1.39	77.37	77.39	91
GMa	56.7	-75.46	17.4	77.45	167
G50BMa	56.7	-71.29	-30.25	77.45	203
BMa	56.7	4.0	-77.3	77.41	273
B50RMa	56.7	63.35	-44.4	77.36	325
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	272

relative Inform. Technology (IT)  
 $olv_i3^*$  1.0 1.0 1.0 (1.0)  
 $cmyn3^*$  0.0 0.0 0.0 (0.0)  
 $olv_i4^*$  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 0.0  
 $LAB^*LABa$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0  
 $lab^*tce$  1.0 0.0 0.0  
 $lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)  
 $olv_i3^*$  0.5 0.5 0.5 (1.0)  
 $cmyn3^*$  0.5 0.5 0.5 (0.0)  
 $olv_i4^*$  1.0 1.0 1.0 0.5  
 $cmyn4^*$  0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  76.05 -35.6 -15.11  
 $LAB^*LABa$  76.05 -35.63 -15.11  
 $LAB^*TChA$  75.0 38.72 202.99

relative CIELAB lab\*

$lab^*lab$  0.75 -0.459 -0.194  
 $lab^*tch$  0.75 0.5 0.564  
 $lab^*nch$  0.0 0.5 0.564

relative Natural Colour (NC)

$lab^*lrij$  0.75 -0.416 -0.275  
 $lab^*tce$  0.75 0.2 0.593  
 $lab^*ncE$  0.0 0.5 g37b

relative Inform. Technology (IT)  
 $olv_i3^*$  0.0 0.0 0.0 (1.0)  
 $cmyn3^*$  1.0 1.0 1.0 (0.0)  
 $olv_i4^*$  1.0 1.0 1.0 0.0  
 $cmyn4^*$  0.0 0.0 0.1

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.09 0.02  
 $LAB^*LABa$  18.02 0.0 0.0  
 $LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0  
 $lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0  
 $lab^*tce$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

## relative Inform. Technology (IT)

$olv_i3^*$  0.5 1.0 1.0 (1.0)  
 $cmyn3^*$  0.5 0.0 0.0 (0.0)  
 $olv_i4^*$  0.5 1.0 1.0 1.0  
 $cmyn4^*$  0.5 0.0 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  76.05 -35.6 -15.11  
 $LAB^*LABa$  76.05 -35.63 -15.11  
 $LAB^*TChA$  75.0 38.72 202.99

relative CIELAB lab\*

$lab^*lab$  0.0 1.0 1.0 (1.0)  
 $lab^*tch$  0.0 0.0 0.0 (0.0)  
 $lab^*nch$  0.0 0.0 0.0

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0  
 $lab^*tce$  0.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  56.72 0.05 0.0  
 $LAB^*LABa$  56.72 0.0 0.0  
 $LAB^*TChA$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0  
 $lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.5 0.0 0.0  
 $lab^*tce$  0.5 0.0 0.0  
 $lab^*ncE$  0.5 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  37.36 -35.56 -15.09  
 $LAB^*LABa$  37.36 -35.63 -15.11  
 $LAB^*TChA$  25.01 38.72 202.99

relative CIELAB lab\*

$lab^*lab$  0.25 -0.459 -0.194  
 $lab^*tch$  0.25 0.5 0.564  
 $lab^*nch$  0.5 0.5 0.564

relative Natural Colour (NC)

$lab^*lrij$  0.25 -0.416 -0.275  
 $lab^*tce$  0.25 0.5 0.593  
 $lab^*ncE$  0.5 0.5 g37b

$n^* = 0,00$



chromaticness  $c^*$

## Output: Colorimetric Reflective System NCS11

for hue  $h^* = lab^*h = 203/360 = 0.563$

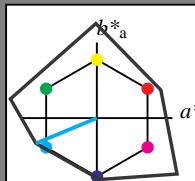
$lab^*tch$  and  $lab^*nch$

D65: hue G50B

LCH\*Ma: 59 87 203

olv\*Ma: 0.0 1.0 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

relative Inform. Technology (IT)  
 $olv_i3^*$  1.0 1.0 1.0 (1.0)  
 $cmyn3^*$  0.0 0.0 0.0 (0.0)  
 $olv_i4^*$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0  
 $lab^*tce$  1.0 0.0 0.0  
 $lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)  
 $olv_i3^*$  0.5 1.0 1.0 (1.0)  
 $cmyn3^*$  0.5 0.0 0.0 (0.0)  
 $olv_i4^*$  0.5 1.0 1.0 1.0  
 $cmyn4^*$  0.5 0.0 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  77.43 -40.26 -16.71  
 $LAB^*LABa$  77.43 -40.29 -16.72  
 $LAB^*TChA$  75.0 43.63 202.54

relative CIELAB lab\*

$lab^*lab$  0.787 -0.461 -0.191  
 $lab^*tch$  0.75 0.5 0.563  
 $lab^*nch$  0.0 0.5 0.563

relative Natural Colour (NC)

$lab^*lrij$  0.787 -0.418 -0.272  
 $lab^*tce$  0.75 0.5 0.592  
 $lab^*ncE$  0.0 0.5 g36b

relative Inform. Technology (IT)  
 $olv_i3^*$  0.0 1.0 1.0 (1.0)  
 $cmyn3^*$  1.0 0.0 0.0 (0.0)  
 $olv_i4^*$  0.5 1.0 1.0 0.5  
 $cmyn4^*$  0.5 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  59.47 -80.55 -33.44  
 $LAB^*LABa$  59.47 -80.59 -33.44  
 $LAB^*TChA$  50.0 87.26 202.54

relative CIELAB lab\*

$lab^*lab$  0.574 -0.922 -0.382  
 $lab^*tch$  0.5 1.0 0.563  
 $lab^*nch$  0.0 1.0 0.563

relative Natural Colour (NC)

$lab^*lrij$  0.574 -0.836 -0.546  
 $lab^*tce$  0.5 1.0 0.592  
 $lab^*ncE$  0.0 1.0 g36b

$n^* = 1,0$



chromaticness  $c^*$

$n^* = 0,00$



chromaticness  $c^*$

UE100-7, 3 step scales for constant CIELAB hue 203/360 = 0.564 (left)

3 step scales for constant CIELAB hue 203/360 = 0.563 (right)

## Input: Colorimetric Reflective System NCS18

for hue  $h^* = lab^*h = 203/360 = 0.563$

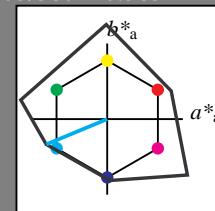
$lab^*tch$  and  $lab^*nch$

D65: hue G50B

LCH\*Ma: 59 87 203

olv\*Ma: 0.0 1.0 1.0

triangle lightness  $t^*$



%Gamut

$u^*_{rel} = 136$

%Regularity

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

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

relative Inform. Technology (IT)

$olv^3*$  1.0 1.0 1.0 (1.0)  
 $cmy^3*$  0.0 0.0 0.0 (0.0)  
 $olv^4*$  1.0 1.0 1.0 1.0  
 $cmy^4*$  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  
 $LAB^*TCh$  99.99 0.01 -

relative CIELAB lab\*

$lab^*lab$  1.0 0.0 0.0  
 $lab^*tch$  1.0 0.0 -  
 $lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  1.0 0.0 0.0

$lab^*ice$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)

$olv^3*$  0.5 0.5 0.5 (1.0)  
 $cmy^3*$  0.5 0.5 0.5 (0.0)  
 $olv^4*$  1.0 1.0 1.0 0.5  
 $cmy^4*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  56.72 0.05 0.0  
 $LAB^*LABa$  56.72 0.0 0.0  
 $LAB^*TCh$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0  
 $lab^*tch$  0.5 0.0 -  
 $lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  0.5 0.0 0.0

$lab^*ice$  0.5 0.0 0.0

$lab^*ncE$  0.5 0.0 -

relative Inform. Technology (IT)

$olv^3*$  0.0 0.0 0.0 (1.0)  
 $cmy^3*$  1.0 1.0 1.0 (0.0)  
 $olv^4*$  1.0 1.0 1.0 0.0  
 $cmy^4*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.09 0.02  
 $LAB^*LABa$  18.02 0.0 0.0  
 $LAB^*TCh$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0  
 $lab^*tch$  0.0 0.0 -  
 $lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  0.0 0.0 0.0

$lab^*ice$  0.0 0.0 0.0

$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

## NCS18; adapted (a) CIELAB data

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

RMa	47.15	84.63	37.24	92.46	24
JMa	91.37	-1.27	125.03	125.03	91
GMa	63.07	-114.29	25.34	117.07	167
G50BMa	59.47	-80.61	-33.45	87.29	203
BMa	49.01	3.63	-81.2	81.29	273
B50RMa	44.06	106.07	-73.94	129.31	325
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	272

## Output: Colorimetric Reflective System ORS18

for hue  $h^* = lab^*h = 236/360 = 0.656$

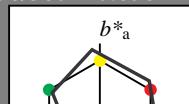
$lab^*tch$  and  $lab^*nch$

D65: hue C

LCH\*Ma: 59 54 236

olv\*Ma: 0.0 1.0 1.0

triangle lightness  $t^*$



%Gamut

$u^*_{rel} = 93$

%Regularity

$g^*_{H,rel} = 57$

$g^*_{C,rel} = 59$

relative Inform. Technology (IT)

$olv^3*$  1.0 1.0 1.0 (1.0)  
 $cmy^3*$  0.0 0.0 0.0 (0.0)  
 $olv^4*$  1.0 1.0 1.0 1.0  
 $cmy^4*$  0.0 0.0 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  95.41 -0.97 4.75  
 $LAB^*LABa$  95.41 0.0 0.0  
 $LAB^*TCh$  99.99 0.01 -

relative CIELAB lab\*

$lab^*lab$  1.0 0.0 0.0  
 $lab^*tch$  1.0 0.0 -  
 $lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  1.0 0.0 0.0

$lab^*ice$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)

$olv^3*$  0.5 1.0 1.0 (1.0)  
 $cmy^3*$  0.5 0.0 0.0 (0.0)  
 $olv^4*$  0.5 1.0 1.0 1.0  
 $cmy^4*$  0.5 0.0 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  59.47 -80.55 -33.44  
 $LAB^*LABa$  59.47 -80.6 -33.45  
 $LAB^*TCh$  50.0 87.28 202.54

relative CIELAB lab\*

$lab^*lab$  0.536 -0.922 -0.382  
 $lab^*tch$  0.5 1.0 0.563  
 $lab^*nch$  0.0 1.0 0.563

relative Natural Colour (NC)

$lab^*lrj$  0.536 -0.836 -0.546

$lab^*ice$  0.5 1.0 0.592

$lab^*ncE$  0.0 1.0 g36b

$n^* = 0,00$

blackness  $n^*$

chromaticness  $c^*$

relative Inform. Technology (IT)

$olv^3*$  0.5 1.0 1.0 (1.0)  
 $cmy^3*$  0.5 0.0 0.0 (0.0)  
 $olv^4*$  0.5 1.0 1.0 1.0  
 $cmy^4*$  0.5 0.0 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  77.01 -15.79 -18.98  
 $LAB^*LABa$  77.01 -15.16 -22.5  
 $LAB^*TCh$  75.0 27.15 236.01

relative CIELAB lab\*

$lab^*lab$  0.762 -0.278 -0.413  
 $lab^*tch$  0.75 0.5 0.656  
 $lab^*nch$  0.0 0.5 0.656

relative Natural Colour (NC)

$lab^*lrj$  0.762 -0.247 -0.433

$lab^*ice$  0.75 0.5 0.667

$lab^*ncE$  0.0 0.5 g66b

$n^* = 0,00$

blackness  $n^*$

chromaticness  $c^*$

## ORS18; adapted (a) CIELAB data

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

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)

$olv^3*$  0.0 1.0 1.0 (1.0)  
 $cmy^3*$  1.0 0.0 0.0 (0.0)  
 $olv^4*$  0.0 1.0 1.0 1.0  
 $cmy^4*$  1.0 0.0 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  58.62 -30.62 -42.73  
 $LAB^*LABa$  58.62 -30.34 -45.01  
 $LAB^*TCh$  50.0 54.29 236.01

relative CIELAB lab\*

$lab^*lab$  0.525 -0.558 -0.828  
 $lab^*tch$  0.5 1.0 0.656  
 $lab^*nch$  0.0 1.0 0.656

relative Natural Colour (NC)

$lab^*lrj$  0.525 -0.496 -0.867

$lab^*ice$  0.5 1.0 0.667

$lab^*ncE$  0.0 1.0 g66b

$n^* = 0,00$

blackness  $n^*$

chromaticness  $c^*$

relative Inform. Technology (IT)

$olv^3*$  0.0 0.0 0.0 (1.0)  
 $cmy^3*$  1.0 1.0 1.0 (0.0)  
 $olv^4*$  1.0 1.0 1.0 1.0  
 $cmy^4*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.5 -0.46  
 $LAB^*LABa$  18.02 0.0 0.0  
 $LAB^*TCh$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.262 -0.278 -0.413  
 $lab^*tch$  0.25 0.5 0.656  
 $lab^*nch$  0.5 0.5 0.656

relative Natural Colour (NC)

$lab^*lrj$  0.262 -0.247 -0.433

$lab^*ice$  0.25 0.5 0.667

$lab^*ncE$  0.5 0.5 g66b

$n^* = 1,0$

blackness  $n^*$

chromaticness  $c^*$

UE100-7, 3 step scales for constant CIELAB hue 203/360 = 0.563 (left)

3 step scales for constant CIELAB hue 236/360 = 0.656 (right)

## Input: Colorimetric Reflective System NCS18

for hue  $h^* = lab^*h = 203/360 = 0.563$

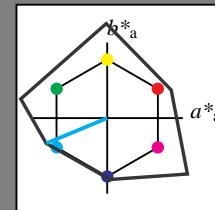
$lab^*tch$  and  $lab^*nch$

D65: hue G50B

LCH\*Ma: 59 87 203

olv\*Ma: 0.0 1.0 1.0

triangle lightness  $t^*$



%Gamut

$u^*_{rel} = 136$

%Regularity

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

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

relative Inform. Technology (IT)

$olv13^*$  1.0 1.0 1.0 (1.0)

$cmy3^*$  0.0 0.0 0.0 (0.0)

$olv4^*$  1.0 1.0 1.0 1.0

$cmy4^*$  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

$LAB^*TCh$  99.99 0.01 -

relative CIELAB lab\*

$lab^*lab$  1.0 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)

$olv13^*$  0.5 0.5 0.5 (1.0)

$cmy3^*$  0.5 0.5 0.5 (0.0)

$olv4^*$  1.0 1.0 1.0 0.5

$cmy4^*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  56.72 0.05 0.0

$LAB^*LABa$  56.72 0.0 0.0

$LAB^*TCh$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.5 0.0 0.0

$lab^*tce$  0.5 0.0 0.0

$lab^*ncE$  0.5 0.0 -

relative Inform. Technology (IT)

$olv13^*$  0.0 0.0 0.0 (1.0)

$cmy3^*$  1.0 1.0 1.0 (0.0)

$olv4^*$  1.0 1.0 1.0 0.0

$cmy4^*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.09 0.02

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TCh$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*tce$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

## NCS18; adapted (a) CIELAB data

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

RMa	47.15	84.63	37.24	92.46	24
JMa	91.37	-1.27	125.03	125.03	91
GMa	63.07	-114.29	25.34	117.07	167
G50BMa	59.47	-80.61	-33.45	87.29	203
BMa	49.01	3.63	-81.2	81.29	273
B50RMa	44.06	106.07	-73.94	129.31	325
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	272

## Output: Colorimetric Reflective System MRS18

for hue  $h^* = lab^*h = 218/360 = 0.605$

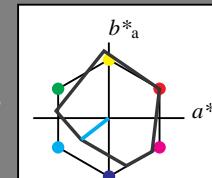
$lab^*tch$  and  $lab^*nch$

D65: hue G50B

LCH\*Ma: 45 46 218

olv\*Ma: 0.0 1.0 1.0

triangle lightness  $t^*$



%Gamut

$u^*_{rel} = 91$

%Regularity

$g^*_{H,rel} = 41$

$g^*_{C,rel} = 52$

relative Inform. Technology (IT)

$olv13^*$  1.0 1.0 1.0 (1.0)

$cmy3^*$  0.0 0.0 0.0 (0.0)

$olv4^*$  1.0 1.0 1.0 1.0

$cmy4^*$  0.0 0.0 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  95.41 -0.97 4.75

$LAB^*LABa$  95.41 0.0 0.0

$LAB^*TCh$  99.99 0.01 -

relative CIELAB lab\*

$lab^*lab$  1.0 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)

$olv13^*$  0.5 1.0 1.0 (1.0)

$cmy3^*$  0.5 0.0 0.0 (0.0)

$olv4^*$  0.5 1.0 1.0 1.0

$cmy4^*$  0.5 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  59.47 -80.55 -33.44

$LAB^*LABa$  59.47 -80.6 -33.45

$LAB^*TCh$  50.0 87.28 202.54

relative CIELAB lab\*

$lab^*lab$  0.536 -0.922 -0.382

$lab^*tch$  0.5 1.0 0.563

$lab^*nch$  0.0 1.0 0.563

relative Natural Colour (NC)

$lab^*lrij$  0.536 -0.836 -0.546

$lab^*tce$  0.5 1.0 0.592

$lab^*ncE$  0.0 1.0 g36b

$n^* = 0,00$

blackness  $n^*$

chromaticness  $c^*$

$n^* = 1,0$

## MRS18; adapted (a) CIELAB data

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

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)

$olv13^*$  0.5 1.0 1.0 (1.0)

$cmy3^*$  0.5 0.0 0.0 (0.0)

$olv4^*$  0.5 1.0 1.0 1.0

$cmy4^*$  0.5 0.0 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  70.21 -18.77 -11.17

$LAB^*LABa$  70.21 -18.27 -14.23

$LAB^*TCh$  75.0 23.17 217.91

relative CIELAB lab\*

$lab^*lab$  0.674 -0.393 -0.306

$lab^*tch$  0.75 0.5 0.605

$lab^*nch$  0.0 0.5 0.605

relative Natural Colour (NC)

$lab^*lrij$  0.674 -0.353 -0.352

$lab^*tce$  0.75 0.5 0.625

$lab^*ncE$  0.0 0.5 0.625

$n^* = 0,00$

blackness  $n^*$

chromaticness  $c^*$

UE100-7, 3 step scales for constant CIELAB hue 203/360 = 0.563 (left)

3 step scales for constant CIELAB hue 218/360 = 0.605 (right)

## Input: Colorimetric Reflective System NCS18

for hue  $h^* = lab^*h = 203/360 = 0.563$

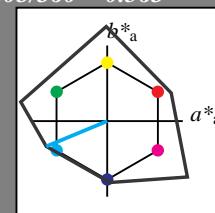
$lab^*tch$  and  $lab^*nch$

D65: hue G50B

LCH\*Ma: 59 87 203

olv\*Ma: 0.0 1.0 1.0

triangle lightness  $t^*$



%Gamut

$u^*_{rel} = 136$

%Regularity

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

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

relative Inform. Technology (IT)

$olv^3*$  1.0 1.0 1.0 (1.0)

$cmy^3*$  0.0 0.0 0.0 (0.0)

$olv^4*$  1.0 1.0 1.0 1.0

$cmy^4*$  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

$LAB^*TCh$  99.99 0.01 -

relative CIELAB lab\*

$lab^*lab$  1.0 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  1.0 0.0 0.0

$lab^*ice$  1.0 0.0 -

$lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)

$olv^3*$  0.5 0.5 0.5 (1.0)

$cmy^3*$  0.5 0.5 0.5 (0.0)

$olv^4*$  1.0 1.0 1.0 0.5

$cmy^4*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  56.72 0.05 0.0

$LAB^*LABa$  56.72 0.0 0.0

$LAB^*TCh$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  0.5 0.0 0.0

$lab^*ice$  0.5 0.0 -

$lab^*ncE$  0.5 0.0 -

relative Inform. Technology (IT)

$olv^3*$  0.0 0.0 0.0 (1.0)

$cmy^3*$  1.0 1.0 1.0 (0.0)

$olv^4*$  1.0 1.0 1.0 0.0

$cmy^4*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.09 0.02

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TCh$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  0.0 0.0 0.0

$lab^*ice$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

## NCS18; adapted (a) CIELAB data

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

RMa	47.15	84.63	37.24	92.46	24
JMa	91.37	-1.27	125.03	125.03	91
GMa	63.07	-114.29	25.34	117.07	167
G50BMa	59.47	-80.61	-33.45	87.29	203
BMa	49.01	3.63	-81.2	81.29	273
B50RMa	44.06	106.07	-73.94	129.31	325
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	272

## Output: Colorimetric Reflective System TRS18

for hue  $h^* = lab^*h = 236/360 = 0.656$

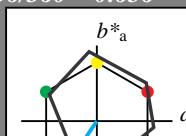
$lab^*tch$  and  $lab^*nch$

D65: hue C

LCH\*Ma: 59 54 236

olv\*Ma: 0.0 1.0 1.0

triangle lightness  $t^*$



%Gamut

$u^*_{rel} = 93$

%Regularity

$g^*_{H,rel} = 57$

$g^*_{C,rel} = 59$

relative Inform. Technology (IT)

$olv^3*$  1.0 1.0 1.0 (1.0)

$cmy^3*$  0.0 0.0 0.0 (0.0)

$olv^4*$  1.0 1.0 1.0 1.0

$cmy^4*$  0.0 0.0 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  95.41 -0.97 4.75

$LAB^*LABa$  95.41 0.0 0.0

$LAB^*TCh$  99.99 0.01 -

relative CIELAB lab\*

$lab^*lab$  1.0 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  1.0 0.0 0.0

$lab^*ice$  1.0 0.0 -

$lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)

$olv^3*$  0.5 1.0 1.0 (1.0)

$cmy^3*$  0.5 0.0 0.0 (0.0)

$olv^4*$  0.5 1.0 1.0 1.0

$cmy^4*$  0.5 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  59.47 -80.55 -33.44

$LAB^*LABa$  59.47 -80.6 -33.45

$LAB^*TCh$  50.0 87.28 202.54

relative CIELAB lab\*

$lab^*lab$  0.536 -0.922 -0.382

$lab^*tch$  0.5 1.0 0.563

$lab^*nch$  0.0 1.0 0.563

relative Natural Colour (NC)

$lab^*lrj$  0.536 -0.836 -0.546

$lab^*ice$  0.5 1.0 0.592

$lab^*ncE$  0.0 1.0 g36b

$n^* = 0,00$

blackness  $n^*$

chromaticness  $c^*$

$n^* = 0,50$

blackness  $n^*$

chromaticness  $c^*$

$n^* = 1,00$

$n^* = 0,00$

blackness  $n^*$

chromaticness  $c^*$

UE100-7, 3 step scales for constant CIELAB hue 203/360 = 0.563 (left)

3 step scales for constant CIELAB hue 236/360 = 0.656 (right)

## Input: Colorimetric Reflective System NCS18

for hue  $h^* = lab^*h = 203/360 = 0.563$

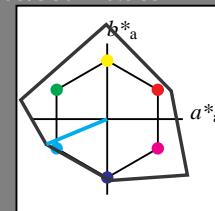
$lab^*tch$  and  $lab^*nch$

D65: hue G50B

LCH\*Ma: 59 87 203

olv\*Ma: 0.0 1.0 1.0

triangle lightness  $t^*$



relative Inform. Technology (IT)

olv13\* 1.0 1.0 1.0 (1.0)

cmyn3\* 0.0 0.0 0.0 (0.0)

olv14\* 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 0.0 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 -

standard and adapted CIELAB

LAB\*LAB 77.43 -40.26 -16.71

LAB\*LABa 77.43 -40.29 -16.72

LAB\*TChA 75.0 43.64 202.54

relative CIELAB lab\*

lab\*lab 0.768 -0.461 -0.191

lab\*tch 0.75 0.5 0.563

lab\*nch 0.0 0.5 0.563

relative Natural Colour (NC)

lab\*lrj 0.768 -0.418 -0.272

lab\*tce 0.75 0.2 0.592

lab\*ncE 0.0 0.5 g36b

relative Inform. Technology (IT)

olv13\* 0.5 0.5 0.5 (1.0)

cmyn3\* 0.5 0.5 0.5 (0.0)

olv14\* 1.0 1.0 1.0 0.5

cmyn4\* 0.0 0.0 0.0 0.5

standard and adapted CIELAB

LAB\*LAB 56.72 0.05 0.0

LAB\*LABa 56.72 0.0 0.0

LAB\*TChA 50.0 0.01 -

relative CIELAB lab\*

lab\*lab 0.5 0.0 0.0

lab\*tch 0.5 0.0 -

lab\*nch 0.5 0.0 -

relative Natural Colour (NC)

lab\*lrj 0.5 0.0 0.0

lab\*tce 0.5 0.0 0.0

lab\*ncE 0.5 0.0 -

$n^* = 1,0$

## NCS18; adapted (a) CIELAB data

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

RMa	47.15	84.63	37.24	92.46	24
JMa	91.37	-1.27	125.03	125.03	91
GMa	63.07	-114.29	25.34	117.07	167
G50BMa	59.47	-80.61	-33.45	87.29	203
BMa	49.01	3.63	-81.2	81.29	273
B50RMa	44.06	106.07	-73.94	129.31	325
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	272

%Gamut

$u^*_{rel} = 136$

%Regularity

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

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

relative Inform. Technology (IT)

olv13\* 0.5 1.0 1.0 (1.0)

cmyn3\* 0.5 0.0 0.0 (0.0)

olv14\* 0.5 1.0 1.0 1.0

cmyn4\* 0.5 0.0 0.0 0.0

standard and adapted CIELAB

LAB\*LAB 77.43 -40.26 -16.71

LAB\*LABa 77.43 -40.29 -16.72

LAB\*TChA 75.0 43.64 202.54

relative CIELAB lab\*

lab\*lab 0.768 -0.461 -0.191

lab\*tch 0.75 0.5 0.563

lab\*nch 0.0 0.5 0.563

relative Natural Colour (NC)

lab\*lrj 0.768 -0.418 -0.272

lab\*tce 0.75 0.2 0.592

lab\*ncE 0.0 0.5 g36b

standard and adapted CIELAB

LAB\*LAB 59.47 -80.55 -33.44

LAB\*LABa 59.47 -80.6 -33.45

LAB\*TChA 50.0 87.28 202.54

relative CIELAB lab\*

lab\*lab 0.536 -0.922 -0.382

lab\*tch 0.5 1.0 0.563

lab\*nch 0.0 1.0 0.563

relative Natural Colour (NC)

lab\*lrj 0.536 -0.836 -0.546

lab\*tce 0.5 1.0 0.592

lab\*ncE 0.0 1.0 g36b

relative CIELAB lab\*

lab\*lab 0.268 -0.461 -0.191

lab\*tch 0.25 0.5 0.563

lab\*nch 0.5 0.5 0.563

relative Natural Colour (NC)

lab\*lrj 0.268 -0.418 -0.272

lab\*tce 0.25 0.5 0.592

lab\*ncE 0.5 0.5 g36b

relative CIELAB lab\*

lab\*lab 18.02 0.09 0.02

lab\*LABa 18.02 0.0 0.0

lab\*TChA 0.01 0.01 -

relative CIELAB lab\*

lab\*lab 0.0 0.0 0.0

lab\*tch 0.0 0.0 -

lab\*nch 1.0 0.0 -

relative Natural Colour (NC)

lab\*lrj 0.0 0.0 0.0

lab\*tce 0.0 0.0 -

lab\*ncE 1.0 0.0 -

$n^* = 0,00$

$n^* = 0,50$

blackness  $n^*$

chromaticness  $c^*$

## Output: Colorimetric Reflective System MRS18a

for hue  $h^* = lab^*h = 217/360 = 0.601$

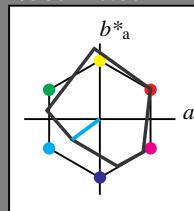
$lab^*tch$  and  $lab^*nch$

D65: hue G50B

LCH\*Ma: 45 46 217

olv\*Ma: 0.0 1.0 1.0

triangle lightness  $t^*$



%Gamut

$u^*_{rel} = 92$

%Regularity

$g^*_{H,rel} = 42$

$g^*_{C,rel} = 49$

relative Inform. Technology (IT)

olv13\* 0.5 1.0 1.0 (1.0)

cmyn3\* 0.5 0.0 0.0 (0.0)

olv14\* 0.5 1.0 1.0 1.0

cmyn4\* 0.5 0.0 0.0 0.0

standard and adapted CIELAB

LAB\*LAB 95.41 0.01 0.0

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 0.0 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 -

standard and adapted CIELAB

LAB\*LAB 70.21 -18.28 -13.55

LAB\*LABa 70.21 -18.31 -13.56

LAB\*TChA 75.0 22.8 216.52

relative CIELAB lab\*

lab\*lab 0.674 -0.401 -0.296

lab\*tch 0.75 0.5 0.601

lab\*nch 0.0 0.5 0.601

relative Natural Colour (NC)

lab\*lrj 0.674 -0.355 -0.35

lab\*tce 0.75 0.5 0.624

lab\*ncE 0.0 0.5 g49b

	$L^*=L^*_{ab}$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	49.63	66.8	40.02	77.87	31
JMa	90.7	-7.27	93.19	93.48	94
GMa	52.11	-69.93	11.26	70.85	171
G50BMa	45.03	-36.65	-27.13	45.61	217
BMa	36.65	23.26	-62.27	66.49	290
B50RMa	34.94	57.27	-43.6	71.99	323
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	272

	$L^*=L^*_{ab}$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	0.0	1.0	1.0	(1.0)	
JMa	0.0	0.0	0.0	(0.0)	
olv14* 0.0	1.0	1.0	1.0	1.0	
olv14* 1.0	0.0	0.0	0.0	0.0	
cmyn4* 1.0	0.0	0.0	0.0	0.0	
standard and adapted CIELAB					
LAB*LAB 45.03					
LAB*LABa 45.03					
LAB*TChA 50.0					
relative CIELAB lab*					
lab*lab 0.349	-0.803	-0.594			
lab*tch 0.5	1.0	0.601			
lab*nch 0.0	1.0	0.601			
relative Natural Colour (NC)					
lab*lrj 0.349	-0.71	-0.702			
lab*tce 0.5	1.0	0.624			
lab*ncE 0.0	1.0	0.624			

	$L^*=L^*_{ab}$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
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## Input: Colorimetric Reflective System NCS18

for hue  $h^* = lab^*h = 203/360 = 0.563$

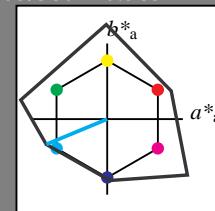
$lab^*tch$  and  $lab^*nch$

D65: hue G50B

LCH\*Ma: 59 87 203

olv\*Ma: 0.0 1.0 1.0

triangle lightness  $t^*$



relative Inform. Technology (IT)

olv13\* 1.0 1.0 1.0 (1.0)

cmyn3\* 0.0 0.0 0.0 (0.0)

olv14\* 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 0.0 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 -

standard and adapted CIELAB

LAB\*LAB 77.43 -40.26 -16.71

LAB\*LABa 77.43 -40.29 -16.72

LAB\*TChA 75.0 43.64 202.54

relative CIELAB lab\*

lab\*lab 0.768 -0.461 -0.191

lab\*tch 0.75 0.5 0.563

lab\*nch 0.0 0.5 0.563

relative Natural Colour (NC)

lab\*lrj 0.768 -0.418 -0.272

lab\*tce 0.75 0.2 0.592

lab\*ncE 0.0 0.5 g36b

relative Inform. Technology (IT)

olv13\* 0.5 0.5 0.5 (1.0)

cmyn3\* 0.5 0.5 0.5 (0.0)

olv14\* 1.0 1.0 1.0 0.5

cmyn4\* 0.0 0.0 0.5

standard and adapted CIELAB

LAB\*LAB 56.72 0.05 0.0

LAB\*LABa 56.72 0.0 0.0

LAB\*TChA 50.0 0.01 -

relative CIELAB lab\*

lab\*lab 0.5 0.0 0.0

lab\*tch 0.5 0.0 -

lab\*nch 0.5 0.0 -

relative Natural Colour (NC)

lab\*lrj 0.5 0.0 0.0

lab\*tce 0.5 0.0 0.0

lab\*ncE 0.5 0.0 -

standard and adapted CIELAB

LAB\*LAB 18.02 0.09 0.02

LAB\*LABa 18.02 0.0 0.0

LAB\*TChA 0.01 0.01 -

relative CIELAB lab\*

lab\*lab 0.0 0.0 0.0

lab\*tch 0.0 0.0 -

lab\*nch 1.0 0.0 -

relative Natural Colour (NC)

lab\*lrj 0.0 0.0 0.0

lab\*tce 0.0 0.0 -

lab\*ncE 1.0 0.0 -

$n^* = 1,0$

## NCS18; adapted (a) CIELAB data

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

RMa	47.15	84.63	37.24	92.46	24
JMa	91.37	-1.27	125.03	125.03	91
GMa	63.07	-114.29	25.34	117.07	167
G50BMa	59.47	-80.61	-33.45	87.29	203
BMa	49.01	3.63	-81.2	81.29	273
B50RMa	44.06	106.07	-73.94	129.31	325
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	272

%Gamut

$u^*_{rel} = 136$

%Regularity

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

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

relative Inform. Technology (IT)

olv13\* 0.5 1.0 1.0 (1.0)

cmyn3\* 0.5 0.0 0.0 (0.0)

olv14\* 0.5 1.0 1.0 1.0

cmyn4\* 0.5 0.0 0.0 0.0

standard and adapted CIELAB

LAB\*LAB 77.43 -40.26 -16.71

LAB\*LABa 77.43 -40.29 -16.72

LAB\*TChA 75.0 43.64 202.54

relative CIELAB lab\*

lab\*lab 0.768 -0.461 -0.191

lab\*tch 0.75 0.5 0.563

lab\*nch 0.0 0.5 0.563

relative Natural Colour (NC)

lab\*lrj 0.768 -0.418 -0.272

lab\*tce 0.75 0.2 0.592

lab\*ncE 0.0 0.5 g36b

relative Inform. Technology (IT)

olv13\* 0.0 0.5 0.5 (1.0)

cmyn3\* 0.5 0.5 0.5 (0.0)

olv14\* 0.5 1.0 1.0 0.5

cmyn4\* 0.0 0.0 0.5

standard and adapted CIELAB

LAB\*LAB 59.47 -80.55 -33.44

LAB\*LABa 59.47 -80.6 -33.45

LAB\*TChA 50.0 87.28 202.54

relative CIELAB lab\*

lab\*lab 0.536 -0.922 -0.382

lab\*tch 0.5 1.0 0.563

lab\*nch 0.0 1.0 0.563

relative Natural Colour (NC)

lab\*lrj 0.536 -0.836 -0.546

lab\*tce 0.5 1.0 0.592

lab\*ncE 0.0 1.0 g36b

relative Inform. Technology (IT)

olv13\* 0.0 0.0 0.0 (1.0)

cmyn3\* 1.0 1.0 1.0 (0.0)

olv14\* 1.0 1.0 1.0 0.5

cmyn4\* 0.0 0.0 0.1

standard and adapted CIELAB

LAB\*LAB 18.02 0.09 0.02

LAB\*LABa 18.02 0.0 0.0

LAB\*TChA 0.01 0.01 -

relative CIELAB lab\*

lab\*lab 0.268 -0.461 -0.191

lab\*tch 0.25 0.5 0.563

lab\*nch 0.5 0.5 0.563

relative Natural Colour (NC)

lab\*lrj 0.268 -0.418 -0.272

lab\*tce 0.25 0.5 0.592

lab\*ncE 0.5 0.5 g36b

$n^* = 0,00$

blackness  $n^*$

chromaticness  $c^*$

## Output: Colorimetric Reflective System NRS18

for hue  $h^* = lab^*h = 203/360 = 0.564$

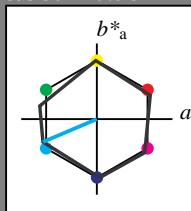
$lab^*tch$  and  $lab^*nch$

D65: hue G50B

LCH\*Ma: 57 77 203

olv\*Ma: 0.0 1.0 1.0

triangle lightness  $t^*$



%Gamut

$u^*_{rel} = 100$

%Regularity

$g^*_{H,rel} = 47$

$g^*_{C,rel} = 100$

relative Inform. Technology (IT)

olv13\* 1.0 1.0 1.0 (1.0)

cmyn3\* 0.0 0.0 0.0 (0.0)

olv14\* 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 0.0

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 0.0 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)

olv13\* 0.5 0.5 0.5 (1.0)

cmyn3\* 0.5 0.5 0.5 (0.0)

olv14\* 0.5 1.0 1.0 0.5

cmyn4\* 0.5 0.0 0.0 0.5

standard and adapted CIELAB

LAB\*LAB 77.43 -40.26 -16.71

LAB\*LABa 77.43 -40.29 -16.72

LAB\*TChA 75.0 43.64 202.54

relative CIELAB lab\*

lab\*lab 0.768 -0.461 -0.191

lab\*tch 0.75 0.5 0.563

lab\*nch 0.0 0.5 0.563

relative Natural Colour (NC)

lab\*lrj 0.768 -0.418 -0.272

lab\*tce 0.75 0.2 0.592

lab\*ncE 0.0 0.5 g36b

$n^* = 1,0$

3 step scales for constant CIELAB hue 203/360 = 0.564 (right)

## Output: Colorimetric Reflective System NRS18

for hue  $h^* = lab^*h = 203/360 = 0.564$

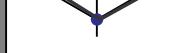
$lab^*tch$  and  $lab^*nch$

D65: hue G50B

LCH\*Ma: 57 77 203

olv\*Ma: 0.0 1.0 1.0

triangle lightness  $t^*$



%Gamut

$u^*_{rel} = 100$

%Regularity

$g^*_{H,rel} = 47$

$g^*_{C,rel} = 100$

relative Inform. Technology (IT)

olv13\* 1.0 1.0 1.0 (1.0)

cmyn3\* 0.0 0.0 0.0 (0.0)

olv14\* 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 0.0

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 0.0 0.0 -

relative Natural Colour (NC)

lab\*lrj 1.0 0.0 0.0

lab\*tce 1.0 0.0 0.0

## Input: Colorimetric Reflective System NCS18

for hue  $h^* = lab^*h = 203/360 = 0.563$

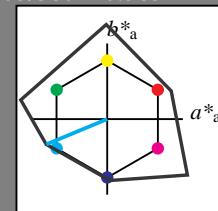
$lab^*tch$  and  $lab^*nch$

D65: hue G50B

LCH\*Ma: 59 87 203

olv\*Ma: 0.0 1.0 1.0

triangle lightness  $t^*$



relative Inform. Technology (IT)

$olv^3*$  1.0 1.0 1.0 (1.0)

$cmy^3*$  0.0 0.0 0.0 (0.0)

$olv^4*$  1.0 1.0 1.0 1.0

$cmy^4*$  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

$LAB^*TCh$  99.99 0.01 -

relative CIELAB  $lab^*$

$lab^*lab$  1.0 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  1.0 0.0 0.0

$lab^*ice$  1.0 0.0 -

$lab^*ncE$  0.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  77.43 -40.26 -16.71

$LAB^*LABa$  77.43 -40.29 -16.72

$LAB^*TCh$  75.0 43.64 202.54

relative CIELAB  $lab^*$

$lab^*lab$  0.768 -0.461 -0.191

$lab^*tch$  0.75 0.5 0.563

$lab^*nch$  0.0 0.5 0.563

relative Natural Colour (NC)

$lab^*lrj$  0.768 -0.418 -0.272

$lab^*ice$  0.75 0.5 0.592

$lab^*ncE$  0.0 0.5 g36b

relative Inform. Technology (IT)

$olv^3*$  0.5 0.5 0.5 (1.0)

$cmy^3*$  0.5 0.5 0.5 (0.0)

$olv^4*$  1.0 1.0 1.0 0.5

$cmy^4*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  56.72 0.05 0.0

$LAB^*LABa$  56.72 0.0 0.0

$LAB^*TCh$  50.0 0.01 -

relative CIELAB  $lab^*$

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  0.5 0.0 0.0

$lab^*ice$  0.5 0.0 -

$lab^*ncE$  0.5 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.09 0.02

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TCh$  0.01 0.01 -

relative CIELAB  $lab^*$

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  0.0 0.0 0.0

$lab^*ice$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

## NCS18; adapted (a) CIELAB data

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

RMa	47.15	84.63	37.24	92.46	24
JMa	91.37	-1.27	125.03	125.03	91
GMa	63.07	-114.29	25.34	117.07	167
G50BMa	59.47	-80.61	-33.45	87.29	203
BMa	49.01	3.63	-81.2	81.29	273
B50RMa	44.06	106.07	-73.94	129.31	325
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	272

%Gamut

$u^*_{rel} = 136$

%Regularity

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

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

relative Inform. Technology (IT)

$olv^3*$  0.5 1.0 1.0 (1.0)

$cmy^3*$  0.5 0.0 0.0 (0.0)

$olv^4*$  0.5 1.0 1.0 1.0

$cmy^4*$  0.5 0.0 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  77.43 -40.26 -16.71

$LAB^*LABa$  77.43 -40.29 -16.72

$LAB^*TCh$  75.0 43.64 202.54

relative CIELAB  $lab^*$

$lab^*lab$  0.768 -0.461 -0.191

$lab^*tch$  0.75 0.5 0.563

$lab^*nch$  0.0 0.5 0.563

relative Natural Colour (NC)

$lab^*lrj$  0.768 -0.418 -0.272

$lab^*ice$  0.75 0.5 0.592

$lab^*ncE$  0.0 0.5 g36b

relative Inform. Technology (IT)

$olv^3*$  0.0 1.0 1.0 (1.0)

$cmy^3*$  0.5 0.0 0.0 (0.0)

$olv^4*$  0.5 1.0 1.0 1.0

$cmy^4*$  0.5 0.0 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  59.47 -80.55 -33.44

$LAB^*LABa$  59.47 -80.6 -33.45

$LAB^*TCh$  50.0 87.28 202.54

relative CIELAB  $lab^*$

$lab^*lab$  0.536 -0.922 -0.382

$lab^*tch$  0.5 1.0 0.563

$lab^*nch$  0.0 1.0 0.563

relative Natural Colour (NC)

$lab^*lrj$  0.536 -0.836 -0.546

$lab^*ice$  0.5 1.0 0.592

$lab^*ncE$  0.0 1.0 g36b

relative Inform. Technology (IT)

$olv^3*$  0.0 0.0 0.0 (1.0)

$cmy^3*$  1.0 1.0 1.0 (0.0)

$olv^4*$  1.0 1.0 1.0 0.5

$cmy^4*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.09 0.02

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TCh$  0.01 0.01 -

relative CIELAB  $lab^*$

$lab^*lab$  0.268 -0.461 -0.191

$lab^*tch$  0.25 0.5 0.563

$lab^*nch$  0.5 0.5 0.563

relative Natural Colour (NC)

$lab^*lrj$  0.268 -0.418 -0.272

$lab^*ice$  0.25 0.5 0.592

$lab^*ncE$  0.5 0.5 g36b

$n^* = 0,00$

blackness  $n^*$

chromaticness  $c^*$

## Output: Colorimetric Reflective System NCS18

for hue  $h^* = lab^*h = 203/360 = 0.563$

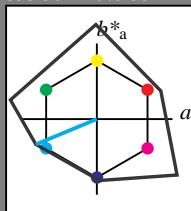
$lab^*tch$  and  $lab^*nch$

D65: hue G50B

LCH\*Ma: 59 87 203

olv\*Ma: 0.0 1.0 1.0

triangle lightness  $t^*$



%Gamut

$u^*_{rel} = 136$

%Regularity

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

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

relative Inform. Technology (IT)

$olv^3*$  1.0 1.0 1.0 (1.0)

$cmy^3*$  0.0 0.0 0.0 (0.0)

$olv^4*$  1.0 1.0 1.0 1.0

$cmy^4*$  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

$LAB^*TCh$  99.99 0.01 -

relative CIELAB  $lab^*$

$lab^*lab$  1.0 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  1.0 0.0 0.0

$lab^*ice$  1.0 0.0 -

$lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)

$olv^3*$  0.5 0.5 0.5 (1.0)

$cmy^3*$  0.5 0.5 0.5 (0.0)

$olv^4*$  0.5 0.5 0.5 0.5

$cmy^4*$  0.5 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  77.43 -40.26 -16.71

$LAB^*LABa$  77.43 -40.29 -16.72

$LAB^*TCh$  75.0 43.64 202.54

relative CIELAB  $lab^*$

$lab^*lab$  0.768 -0.461 -0.191

$lab^*tch$  0.75 0.5 0.563

$lab^*nch$  0.0 0.5 0.563

relative Natural Colour (NC)

$lab^*lrj$  0.768 -0.418 -0.272

$lab^*ice$  0.75 0.5 0.592

$lab^*ncE$  0.0 0.5 g36b

relative Inform. Technology (IT)

$olv^3*$  0.0 0.0 0.0 (1.0)

$cmy^3*$  1.0 1.0 1.0 (0.0)

$olv^4*$  1.0 1.0 1.0 0.5

$cmy^4*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  77.43 -40.26 -16.71

$LAB^*LABa$  77.43 -40.29 -16.72

$LAB^*TCh$  75.0 43.64 202.54

relative CIELAB  $lab^*$

$lab^*lab$  0.768 -0.461 -0.191

$lab^*tch$  0.75 0.5 0.563

$lab^*nch$  0.0 0.5 0.563

relative Natural Colour (NC)

$lab^*lrj$  0.768 -0.418 -0

## Input: Colorimetric Reflective System NCS18

for hue  $h^* = lab^*h = 203/360 = 0.563$

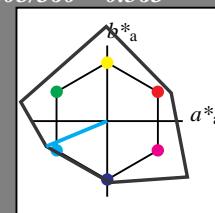
$lab^*tch$  and  $lab^*nch$

D65: hue G50B

LCH\*Ma: 59 87 203

olv\*Ma: 0.0 1.0 1.0

triangle lightness  $t^*$



relative Inform. Technology (IT)  
 $olv_i3^*$  1.0 1.0 1.0 (1.0)  
 $cmyn3^*$  0.0 0.0 0.0 (0.0)

$olv_i4^*$  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

$LAB^*TCh$  99.99 0.01 -

relative CIELAB lab\*

$lab^*lab$  1.0 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)  
 $olv_i3^*$  0.5 0.5 0.5 (1.0)  
 $cmyn3^*$  0.5 0.5 0.5 (0.0)

$olv_i4^*$  1.0 1.0 1.0 0.5  
 $cmyn4^*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  56.72 0.05 0.0

$LAB^*LABa$  56.72 0.0 0.0

$LAB^*TCh$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.5 0.0 0.0

$lab^*tce$  0.5 0.0 0.0

$lab^*ncE$  0.5 0.0 -

relative Inform. Technology (IT)  
 $olv_i3^*$  0.0 0.0 0.0 (1.0)  
 $cmyn3^*$  1.0 1.0 1.0 (0.0)

$olv_i4^*$  1.0 1.0 1.0 0.0  
 $cmyn4^*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.09 0.02

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TCh$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*tce$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

%Gamut

$u^*_{rel} = 136$

%Regularity

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

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

relative Inform. Technology (IT)

$olv_i3^*$  0.5 1.0 1.0 (1.0)

$cmyn3^*$  0.5 0.0 0.0 (0.0)

$olv_i4^*$  0.5 1.0 1.0 1.0

$cmyn4^*$  0.5 0.0 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  77.43 -40.26 -16.71

$LAB^*LABa$  77.43 -40.29 -16.72

$LAB^*TCh$  75.0 43.64 202.54

relative CIELAB lab\*

$lab^*lab$  0.768 -0.461 -0.191

$lab^*tch$  0.75 0.5 0.563

$lab^*nch$  0.0 0.5 0.563

relative Natural Colour (NC)

$lab^*lrij$  0.768 -0.418 -0.272

$lab^*tce$  0.75 0.2 0.592

$lab^*ncE$  0.0 0.5 g36b

relative Inform. Technology (IT)

$olv_i3^*$  0.0 1.0 1.0 (1.0)

$cmyn3^*$  0.5 0.0 0.0 (0.0)

$olv_i4^*$  1.0 1.0 1.0 1.0

$cmyn4^*$  1.0 0.0 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  59.47 -80.55 -33.44

$LAB^*LABa$  59.47 -80.6 -33.45

$LAB^*TCh$  50.0 87.28 202.54

relative CIELAB lab\*

$lab^*lab$  0.536 -0.922 -0.382

$lab^*tch$  0.5 1.0 0.563

$lab^*nch$  0.0 1.0 0.563

relative Natural Colour (NC)

$lab^*lrij$  0.536 -0.836 -0.546

$lab^*tce$  0.5 1.0 0.592

$lab^*ncE$  0.0 1.0 g36b

relative Inform. Technology (IT)

$olv_i3^*$  0.0 0.0 0.0 (1.0)

$cmyn3^*$  1.0 1.0 1.0 (0.0)

$olv_i4^*$  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 0.0 0.0

$LAB^*TCh$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*tce$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 0,00$

blackness  $n^*$

chromaticness  $c^*$

## Output: Colorimetric Reflective System NRS11

for hue  $h^* = lab^*h = 203/360 = 0.564$

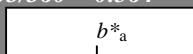
$lab^*tch$  and  $lab^*nch$

D65: hue G50B

LCH\*Ma: 53 84 203

olv\*Ma: 0.0 1.0 1.0

triangle lightness  $t^*$



%Gamut

$u^*_{rel} = 119$

%Regularity

$g^*_{H,rel} = 47$

$g^*_{C,rel} = 100$

relative Inform. Technology (IT)

$olv_i3^*$  0.5 1.0 1.0 (1.0)

$cmyn3^*$  0.5 0.0 0.0 (0.0)

$olv_i4^*$  0.5 1.0 1.0 1.0

$cmyn4^*$  0.5 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

$LAB^*TCh$  99.99 0.01 -

relative CIELAB lab\*

$lab^*lab$  1.0 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)

$olv_i3^*$  0.5 1.0 1.0 (1.0)

$cmyn3^*$  0.5 0.0 0.0 (0.0)

$olv_i4^*$  0.5 1.0 1.0 0.5

$cmyn4^*$  0.5 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  53.2 0.04 0.0

$LAB^*LABa$  53.2 0.0 0.0

$LAB^*TCh$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

$n^* = 1,0$

NRS11; adapted (a) CIELAB data

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

RMa 53.2 77.06 34.32 84.36 24

JMa 53.2 -1.51 84.38 84.39 91

GMa 53.2 -82.27 18.98 84.44 167

G50BMa 53.2 -77.72 -32.98 84.44 203

BMa 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)

$olv_i3^*$  0.0 1.0 1.0 (1.0)

$cmyn3^*$  1.0 0.0 0.0 (0.0)

$olv_i4^*$  1.0 1.0 1.0 1.0

$cmyn4^*$  1.0 0.0 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  74.3 -38.82 -16.48

$LAB^*LABa$  74.3 -38.85 -16.48

$LAB^*TCh$  75.0 42.21 203.0

relative CIELAB lab\*

$lab^*lab$  0.75 -0.459 -0.194

$lab^*tch$  0.75 0.5 0.564

$lab^*nch$  0.0 0.5 0.564

relative Natural Colour (NC)

$lab^*lrij$  0.75 0.416 -0.275

$lab^*tce$  0.75 0.5 0.593

$lab^*ncE$  0.0 0.5 g37b

$n^* = 0,00$

blackness  $n^*$

chromaticness  $c^*$

UE100-7, 3 step scales for constant CIELAB hue 203/360 = 0.563 (left)

3 step scales for constant CIELAB hue 203/360 = 0.564 (right)

## Input: Colorimetric Reflective System NCS18

for hue  $h^* = lab^*h = 203/360 = 0.563$

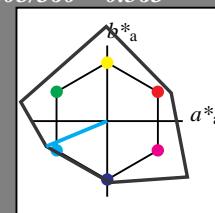
$lab^*tch$  and  $lab^*nch$

D65: hue G50B

LCH\*Ma: 59 87 203

olv\*Ma: 0.0 1.0 1.0

triangle lightness  $t^*$



## NCS18; adapted (a) CIELAB data

	$L^*=L_a^*$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	47.15	84.63	37.24	92.46	24
JMa	91.37	-1.27	125.03	125.03	91
GMa	63.07	-114.29	25.34	117.07	167
G50BMa	59.47	-80.61	-33.45	87.29	203
BMa	49.01	3.63	-81.2	81.29	273
B50RMa	44.06	106.07	-73.94	129.31	325
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	272

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

$LAB^*LABa$  95.41 0.0 0.0

$LAB^*TCh$  99.99 0.01 -

relative CIELAB  $lab^*$

$lab^*lab$  1.0 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  1.0 0.0 0.0

$lab^*ice$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  77.43 -40.26 -16.71

$LAB^*LABa$  77.43 -40.29 -16.72

$LAB^*TCh$  75.0 43.64 202.54

relative CIELAB  $lab^*$

$lab^*lab$  0.768 -0.461 -0.191

$lab^*tch$  0.75 0.5 0.563

$lab^*nch$  0.0 0.5 0.563

relative Natural Colour (NC)

$lab^*lrj$  0.768 -0.418 -0.272

$lab^*ice$  0.75 0.2 0.592

$lab^*ncE$  0.0 0.5 g36b

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 0.5

$cmyn^4*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  56.72 0.05 0.0

$LAB^*LABa$  56.72 0.0 0.0

$LAB^*TCh$  50.0 0.01 -

relative CIELAB  $lab^*$

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  0.5 0.0 0.0

$lab^*ice$  0.5 0.0 0.0

$lab^*ncE$  0.5 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.09 0.02

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TCh$  0.01 0.01 -

relative CIELAB  $lab^*$

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  0.0 0.0 0.0

$lab^*ice$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

relative Inform. Technology (IT)

$olv^3*$  0.0 0.0 0.0 (1.0)

$cmyn^3*$  1.0 1.0 1.0 (0.0)

$olv^4*$  1.0 1.0 1.0 0.0

$cmyn^4*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.09 0.02

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TCh$  0.01 0.01 -

relative CIELAB  $lab^*$

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  0.0 0.0 0.0

$lab^*ice$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.09 0.02

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TCh$  0.01 0.01 -

relative CIELAB  $lab^*$

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  0.0 0.0 0.0

$lab^*ice$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

relative Inform. Technology (IT)

$olv^3*$  0.0 0.0 0.0 (1.0)

$cmyn^3*$  1.0 1.0 1.0 (0.0)

$olv^4*$  1.0 1.0 1.0 0.0

$cmyn^4*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.09 0.02

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TCh$  0.01 0.01 -

relative CIELAB  $lab^*$

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  0.0 0.0 0.0

$lab^*ice$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.09 0.02

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TCh$  0.01 0.01 -

relative CIELAB  $lab^*$

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  0.0 0.0 0.0

$lab^*ice$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

## Output: Colorimetric Reflective System NCS11

for hue  $h^* = lab^*h = 203/360 = 0.563$

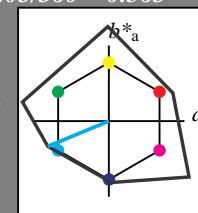
$lab^*tch$  and  $lab^*nch$

D65: hue G50B

LCH\*Ma: 59 87 203

olv\*Ma: 0.0 1.0 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

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

$LAB^*LABa$  95.41 0.0 0.0

$LAB^*TCh$  99.99 0.01 -

relative CIELAB  $lab^*$

$lab^*lab$  1.0 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  1.0 0.0 0.0

$lab^*ice$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  77.43 -40.26 -16.71

$LAB^*LABa$  77.43 -40.29 -16.72

$LAB^*TCh$  75.0 43.64 202.54

relative CIELAB  $lab^*$

$lab^*lab$  0.768 -0.461 -0.191

$lab^*tch$  0.75 0.5 0.563

$lab^*nch$  0.0 0.5 0.563

relative Natural Colour (NC)

$lab^*lrj$  0.768 -0.418 -0.272

$lab^*ice$  0.75 0.2 0.592

$lab^*ncE$  0.0 0.5 g36b

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 0.5

$cmyn^4*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

## Input: Colorimetric Reflective System NRS11

for hue  $h^* = lab^*h = 203/360 = 0.564$

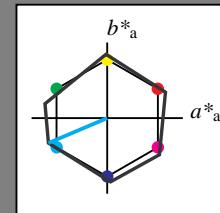
$lab^*tch$  and  $lab^*nch$

D65: hue G50B

LCH\*Ma: 53 84 203

olv\*Ma: 0.0 1.0 1.0

triangle lightness  $t^*$



relative Inform. Technology (IT)

$olv^3*$  1.0 1.0 1.0 (1.0)

$cmy^3*$  0.0 0.0 0.0 (0.0)

$olv^4*$  1.0 1.0 1.0 1.0

$cmy^4*$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 -

$lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)

$olv^3*$  0.5 0.5 0.5 (1.0)

$cmy^3*$  0.5 0.5 0.5 (0.0)

$olv^4*$  1.0 1.0 1.0 0.5

$cmy^4*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  53.21 0.04 0.0

$LAB^*LABa$  53.21 0.0 0.0

$LAB^*TChA$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.5 0.0 0.0

$lab^*tce$  0.5 0.0 -

$lab^*ncE$  0.5 0.0 -

relative Inform. Technology (IT)

$olv^3*$  0.0 0.0 0.0 (1.0)

$cmy^3*$  1.0 1.0 1.0 (0.0)

$olv^4*$  1.0 1.0 1.0 0.0

$cmy^4*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  11.01 0.07 0.01

$LAB^*LABa$  11.01 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*tce$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

## NRS11; adapted (a) CIELAB data

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

RMa	53.2	77.06	34.32	84.36	24
JMa	53.2	-1.51	84.38	84.39	91
GMa	53.2	-82.27	18.98	84.44	167
G50BMa	53.2	-77.72	-32.98	84.44	203
BMa	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

%Gamut

$u^*_{rel} = 119$

%Regularity

$g^*_{H,rel} = 47$

$g^*_{C,rel} = 100$

relative Inform. Technology (IT)

$olv^3*$  0.5 1.0 1.0 (1.0)

$cmy^3*$  0.5 0.0 0.0 (0.0)

$olv^4*$  0.5 1.0 1.0 1.0

$cmy^4*$  0.5 0.0 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  74.3 -38.82 -16.48

$LAB^*LABa$  74.3 -38.85 -16.48

$LAB^*TChA$  75.0 42.21 203.0

relative CIELAB lab\*

$lab^*lab$  0.75 -0.459 -0.194

$lab^*tch$  0.75 0.5 0.564

$lab^*nch$  0.0 0.5 0.564

relative Natural Colour (NC)

$lab^*lrij$  0.75 -0.416 -0.275

$lab^*tce$  0.75 0.2 0.593

$lab^*ncE$  0.0 0.5 g37b

relative Inform. Technology (IT)

$olv^3*$  0.0 1.0 1.0 (1.0)

$cmy^3*$  0.5 0.0 0.0 (0.0)

$olv^4*$  1.0 1.0 1.0 1.0

$cmy^4*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  53.2 -77.67 -32.96

$LAB^*LABa$  53.2 -77.71 -32.97

$LAB^*TChA$  50.0 84.43 202.99

relative CIELAB lab\*

$lab^*lab$  0.5 -0.919 -0.39

$lab^*tch$  0.5 1.0 0.564

$lab^*nch$  0.0 1.0 0.564

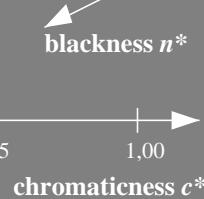
relative Natural Colour (NC)

$lab^*lrij$  0.5 -0.833 -0.551

$lab^*tce$  0.5 1.0 0.593

$lab^*ncE$  0.0 1.0 g37b

$n^* = 0,00$



## Output: Colorimetric Reflective System ORS18

for hue  $h^* = lab^*h = 236/360 = 0.656$

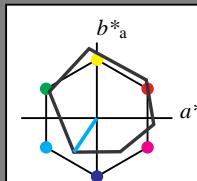
$lab^*tch$  and  $lab^*nch$

D65: hue C

LCH\*Ma: 59 54 236

olv\*Ma: 0.0 1.0 1.0

triangle lightness  $t^*$



%Gamut

$u^*_{rel} = 93$

%Regularity

$g^*_{H,rel} = 57$

$g^*_{C,rel} = 59$

relative Inform. Technology (IT)

$olv^3*$  1.0 1.0 1.0 (1.0)

$cmy^3*$  0.0 0.0 0.0 (0.0)

$olv^4*$  1.0 1.0 1.0 1.0

$cmy^4*$  0.0 0.0 0.0 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 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 -

$lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)

$olv^3*$  0.5 1.0 1.0 (1.0)

$cmy^3*$  0.5 0.0 0.0 (0.0)

$olv^4*$  1.0 1.0 1.0 1.0

$cmy^4*$  0.0 0.0 0.0 0.5

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 CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

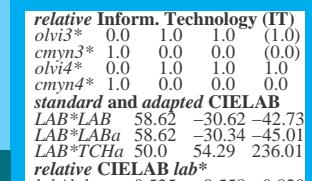
$lab^*lrij$  0.5 0.0 0.0

$lab^*tce$  0.5 0.0 -

$lab^*ncE$  0.5 0.0 -

$n^* = 0,00$

ORS18; adapted (a) CIELAB data	$L^*=L^*_{ab}$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
O Ma	47.94	65.37	50.52	82.62	38
Y Ma	90.37	-10.27	91.77	92.34	96
I Ma	50.9	-62.79	34.95	71.87	151
C Ma	58.62	-30.35	-45.01	54.3	236
V Ma	25.71	31.11	-44.42	54.24	305
M Ma	48.13	75.27	-8.35	75.73	354
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
BCIE	30.57	1.15	-46.84	46.87	271



relative CIELAB lab*	$lab^*lab$	$lab^*tch$	$lab^*nch$	$n^* = 0,50$	$blackness n^*$	$chromaticness c^*$
lab^*lab	0.262	-0.278	-0.413			
lab^*tch	0.25	0.5	0.656			
lab^*nch	0.5	0.5	0.656			
relative Natural Colour (NC)						
lab^*lrij	0.262	-0.247	-0.433			
lab^*tce	0.25	0.5	0.667			
lab^*ncE	0.5	0.5	0.667			

UE100-7, 3 step scales for constant CIELAB hue 203/360 = 0.564 (left)

3 step scales for constant CIELAB hue 236/360 = 0.656 (right)

## Input: Colorimetric Reflective System NRS11

for hue  $h^* = lab^*h = 203/360 = 0.564$

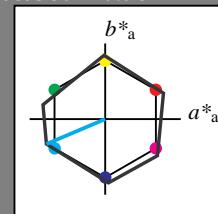
$lab^*tch$  and  $lab^*nch$

D65: hue G50B

LCH\*Ma: 53 84 203

olv\*Ma: 0.0 1.0 1.0

triangle lightness  $t^*$



### NRS11; adapted (a) CIELAB data

	$L^* = L^*_{ab}$	$a^*_{ab}$	$b^*_{ab}$	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	53.2	77.06	34.32	84.36	24
JMa	53.2	-1.51	84.38	84.39	91
GMa	53.2	-82.27	18.98	84.44	167
G50BMa	53.2	-77.72	-32.98	84.44	203
BMa	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)

olv*i*3\* 1.0 1.0 1.0 (1.0)

cmy*n*3\* 0.0 0.0 0.0 (0.0)

olv*i*4\* 1.0 1.0 1.0 1.0

cmy*n*4\* 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 0.0 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 -

standard and adapted CIELAB

LAB\*LAB 74.3 -38.82 -16.48

LAB\*LABa 74.3 -38.85 -16.48

LAB\*TChA 75.0 42.21 203.0

relative CIELAB lab\*

lab\*lab 0.75 -0.459 -0.194

lab\*tch 0.75 0.5 0.564

lab\*nch 0.0 0.5 0.564

relative Natural Colour (NC)

lab\*lrj 0.75 -0.416 -0.275

lab\*tce 0.75 0.2 0.593

lab\*ncE 0.0 0.5 g37b

relative Inform. Technology (IT)

olv*i*3\* 0.5 0.5 0.5 (1.0)

cmy*n*3\* 0.5 0.5 0.5 (0.0)

olv*i*4\* 1.0 1.0 1.0 0.5

cmy*n*4\* 0.0 0.0 0.5

standard and adapted CIELAB

LAB\*LAB 53.21 0.04 0.0

LAB\*LABa 53.21 0.0 0.0

LAB\*TChA 50.0 0.01 -

relative CIELAB lab\*

lab\*lab 0.5 0.0 0.0

lab\*tch 0.5 0.0 -

lab\*nch 0.5 0.0 -

relative Natural Colour (NC)

lab\*lrj 0.5 0.0 0.0

lab\*tce 0.5 0.0 0.0

lab\*ncE 0.5 0.0 -

standard and adapted CIELAB

LAB\*LAB 32.1 -38.79 -16.46

LAB\*LABa 32.1 -38.85 -16.48

LAB\*TChA 25.01 42.21 203.0

relative CIELAB lab\*

lab\*lab 0.25 -0.459 -0.194

lab\*tch 0.25 0.5 0.564

lab\*nch 0.5 0.5 0.564

relative Natural Colour (NC)

lab\*lrj 0.25 -0.416 -0.275

lab\*tce 0.25 0.5 0.593

lab\*ncE 0.5 0.5 g37b

$n^* = 1,0$

relative Inform. Technology (IT)

olv*i*3\* 0.0 0.0 0.0 (1.0)

cmy*n*3\* 1.0 1.0 1.0 (0.0)

olv*i*4\* 1.0 1.0 1.0 0.0

cmy*n*4\* 0.0 0.0 1.0

standard and adapted CIELAB

LAB\*LAB 11.01 0.07 0.01

LAB\*LABa 11.01 0.0 0.0

LAB\*TChA 0.01 0.01 -

relative CIELAB lab\*

lab\*lab 0.0 0.0 0.0

lab\*tch 0.0 0.0 -

lab\*nch 1.0 0.0 -

relative Natural Colour (NC)

lab\*lrj 0.0 0.0 0.0

lab\*tce 0.0 0.0 0.0

lab\*ncE 1.0 0.0 -

standard and adapted CIELAB

LAB\*LAB 11.01 0.07 0.01

LAB\*LABa 11.01 0.0 0.0

LAB\*TChA 0.01 0.01 -

relative CIELAB lab\*

lab\*lab 0.25 -0.459 -0.194

lab\*tch 0.25 0.5 0.564

lab\*nch 0.5 0.5 0.564

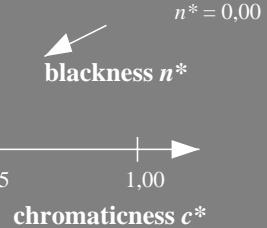
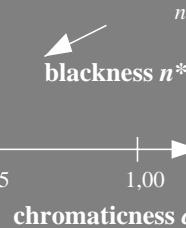
relative Natural Colour (NC)

lab\*lrj 0.25 -0.416 -0.275

lab\*tce 0.25 0.5 0.593

lab\*ncE 0.5 0.5 g37b

$n^* = 1,0$



## Output: Colorimetric Reflective System MRS18

for hue  $h^* = lab^*h = 218/360 = 0.605$

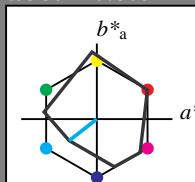
$lab^*tch$  and  $lab^*nch$

D65: hue G50B

LCH\*Ma: 45 46 218

olv\*Ma: 0.0 1.0 1.0

triangle lightness  $t^*$



### MRS18; adapted (a) CIELAB data

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

olv*i*3\* 1.0 1.0 1.0 (1.0)

cmy*n*3\* 0.0 0.0 0.0 (0.0)

olv*i*4\* 1.0 1.0 1.0 1.0

cmy*n*4\* 0.0 0.0 0.0 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 0.0 0.0

lab\*tch 1.0 0.0 -

lab\*nch 0.0 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 -

standard and adapted CIELAB

LAB\*LAB 70.21 -18.77 -11.17

LAB\*LABa 70.21 -18.27 -14.23

LAB\*TChA 75.0 23.17 217.91

relative CIELAB lab\*

lab\*lab 0.674 -0.393 -0.306

lab\*tch 0.75 0.5 0.605

lab\*nch 0.0 0.5 0.605

relative Natural Colour (NC)

lab\*lrj 0.674 -0.353 -0.352

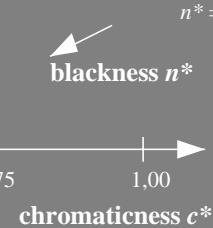
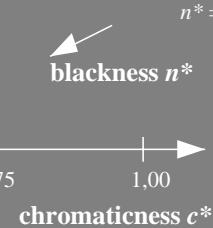
lab\*tce 0.75 0.5 0.625

lab\*ncE 0.0 0.5 g49b

$n^* = 0,00$

blackness  $n^*$

chromaticness  $c^*$



UE100-7, 3 step scales for constant CIELAB hue 203/360 = 0.564 (left)

3 step scales for constant CIELAB hue 218/360 = 0.605 (right)

## Input: Colorimetric Reflective System NRS11

for hue  $h^* = lab^*h = 203/360 = 0.564$

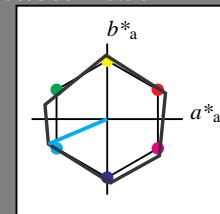
$lab^*tch$  and  $lab^*nch$

D65: hue G50B

LCH\*Ma: 53 84 203

olv\*Ma: 0.0 1.0 1.0

triangle lightness  $t^*$



### NRS11; adapted (a) CIELAB data

	$L^* = L^*_{ab}$	$a^*_{ab}$	$b^*_{ab}$	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	53.2	77.06	34.32	84.36	24
JMa	53.2	-1.51	84.38	84.39	91
GMa	53.2	-82.27	18.98	84.44	167
G50BMa	53.2	-77.72	-32.98	84.44	203
BMa	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)

$olv^3*$  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

$LAB^*LABa$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  74.3 -38.82 -16.48

$LAB^*LABa$  74.3 -38.85 -16.48

$LAB^*TChA$  75.0 42.21 203.0

relative CIELAB lab\*

$lab^*lab$  0.75 -0.459 -0.194

$lab^*tch$  0.75 0.5 0.564

$lab^*nch$  0.0 0.5 0.564

relative Natural Colour (NC)

$lab^*lrij$  0.75 -0.416 -0.275

$lab^*tce$  0.75 0.2 0.593

$lab^*ncE$  0.0 0.5 g37b

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 0.5

$cmyn^4*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  53.21 0.04 0.0

$LAB^*LABa$  53.21 0.0 0.0

$LAB^*TChA$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.5 0.0 0.0

$lab^*tce$  0.5 0.0 0.0

$lab^*ncE$  0.5 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  32.1 -38.79 -16.48

$LAB^*LABa$  32.1 -38.85 -16.48

$LAB^*TChA$  25.01 42.21 203.0

relative CIELAB lab\*

$lab^*lab$  0.25 -0.459 -0.194

$lab^*tch$  0.25 0.5 0.564

$lab^*nch$  0.5 0.5 0.564

relative Natural Colour (NC)

$lab^*lrij$  0.25 -0.416 -0.275

$lab^*tce$  0.25 0.5 0.593

$lab^*ncE$  0.5 0.5 g37b

$n^* = 1,0$

$n^* = 0,00$

$n^* = 0,50$

$1,00$

$chromaticness c^*$

## Output: Colorimetric Reflective System TRS18

for hue  $h^* = lab^*h = 236/360 = 0.656$

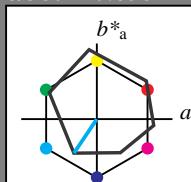
$lab^*tch$  and  $lab^*nch$

D65: hue C

LCH\*Ma: 59 54 236

olv\*Ma: 0.0 1.0 1.0

triangle lightness  $t^*$



### TRS18; adapted (a) CIELAB data

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

$olv^3*$  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

$LAB^*LABa$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  77.01 -15.79 -18.98

$LAB^*LABa$  77.01 -15.16 -22.5

$LAB^*TChA$  75.0 27.15 236.01

relative CIELAB lab\*

$lab^*lab$  0.762 -0.278 -0.413

$lab^*tch$  0.75 0.5 0.656

$lab^*nch$  0.0 0.5 0.656

relative Natural Colour (NC)

$lab^*lrij$  0.762 -0.247 -0.433

$lab^*tce$  0.75 0.5 0.667

$lab^*ncE$  0.0 0.5 g66b

relative Inform. Technology (IT)

$olv^3*$  0.5 0.5 0.5 (1.0)

$cmyn^3*$  1.0 0.5 0.5 (0.0)

$olv^4*$  0.5 1.0 1.0 0.5

$cmyn^4*$  0.5 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  58.62 -30.62 -42.73

$LAB^*LABa$  58.62 -30.34 -45.01

$LAB^*TChA$  50.0 54.29 236.01

relative CIELAB lab\*

$lab^*lab$  0.525 -0.558 -0.828

$lab^*tch$  0.5 1.0 0.656

$lab^*nch$  0.0 1.0 0.656

relative Natural Colour (NC)

$lab^*lrij$  0.525 -0.496 -0.867

$lab^*tce$  0.5 1.0 0.667

$lab^*ncE$  0.0 1.0 g66b

$n^* = 0,00$

$n^* = 0,50$

$1,00$

$chromaticness c^*$

$n^* = 1,0$

UE100-7, 3 step scales for constant CIELAB hue 203/360 = 0.564 (left)

3 step scales for constant CIELAB hue 236/360 = 0.656 (right)

## Input: Colorimetric Reflective System NRS11

for hue  $h^* = lab^*h = 203/360 = 0.564$

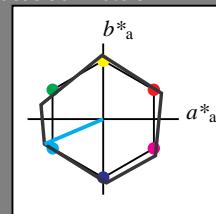
$lab^*tch$  and  $lab^*nch$

D65: hue G50B

LCH\*Ma: 53 84 203

olv\*Ma: 0.0 1.0 1.0

triangle lightness  $t^*$



## NRS11; adapted (a) CIELAB data

	$L^* = L^*_{ab}$	$a^*_{ab}$	$b^*_{ab}$	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	53.2	77.06	34.32	84.36	24
JMa	53.2	-1.51	84.38	84.39	91
GMa	53.2	-82.27	18.98	84.44	167
G50BMa	53.2	-77.72	-32.98	84.44	203
BMa	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)

$olv^3*$  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

$LAB^*LABa$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  74.3 -38.82 -16.48

$LAB^*LABa$  74.3 -38.85 -16.48

$LAB^*TChA$  75.0 42.21 203.0

relative CIELAB lab\*

$lab^*lab$  0.75 -0.459 -0.194

$lab^*tch$  0.75 0.5 0.564

$lab^*nch$  0.0 0.5 0.564

relative Natural Colour (NC)

$lab^*lrij$  0.75 -0.416 -0.275

$lab^*tce$  0.75 0.2 0.593

$lab^*ncE$  0.0 0.5 g37b

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 0.5

$cmyn^4*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  53.21 0.04 0.0

$LAB^*LABa$  53.21 0.0 0.0

$LAB^*TChA$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.5 0.0 0.0

$lab^*tce$  0.5 0.0 0.0

$lab^*ncE$  0.5 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  32.1 -38.79 -16.48

$LAB^*LABa$  32.1 -38.85 -16.48

$LAB^*TChA$  25.01 42.21 203.0

relative CIELAB lab\*

$lab^*lab$  0.25 -0.459 -0.194

$lab^*tch$  0.25 0.5 0.564

$lab^*nch$  0.5 0.5 0.564

relative Natural Colour (NC)

$lab^*lrij$  0.25 -0.416 -0.275

$lab^*tce$  0.25 0.5 0.593

$lab^*ncE$  0.5 0.5 g37b

$n^* = 1,0$

relative Inform. Technology (IT)

$olv^3*$  0.5 1.0 1.0 (1.0)

$cmyn^3*$  0.5 0.0 0.0 (0.0)

$olv^4*$  0.5 1.0 1.0 1.0

$cmyn^4*$  0.5 0.0 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  74.3 -38.82 -16.48

$LAB^*LABa$  74.3 -38.85 -16.48

$LAB^*TChA$  75.0 42.21 203.0

relative CIELAB lab\*

$lab^*lab$  0.75 -0.459 -0.194

$lab^*tch$  0.75 0.5 0.564

$lab^*nch$  0.0 0.5 0.564

relative Natural Colour (NC)

$lab^*lrij$  0.75 -0.416 -0.275

$lab^*tce$  0.75 0.2 0.593

$lab^*ncE$  0.0 0.5 g37b

relative Inform. Technology (IT)

$olv^3*$  0.0 0.0 0.0 (1.0)

$cmyn^3*$  1.0 1.0 1.0 (0.0)

$olv^4*$  1.0 1.0 1.0 0.0

$cmyn^4*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  11.01 0.07 0.01

$LAB^*LABa$  11.01 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*tce$  0.0 0.0 0.0

$lab^*ncE$  1.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.1 0.02

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*tce$  0.0 0.0 0.0

$lab^*ncE$  1.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.1 0.02

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*tce$  0.0 0.0 0.0

$lab^*ncE$  1.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.1 0.02

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*tce$  0.0 0.0 0.0

$lab^*ncE$  1.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.1 0.02

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*tce$  0.0 0.0 0.0

$lab^*ncE$  1.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.1 0.02

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*tce$  0.0 0.0 0.0

$lab^*ncE$  1.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.1 0.02

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*tce$  0.0 0.0 0.0

$lab^*ncE$  1.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.1 0.02

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*tce$  0.0 0.0 0.0

$lab^*ncE$  1.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.1 0.02

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab$

## Input: Colorimetric Reflective System NRS11

for hue  $h^* = lab^*h = 203/360 = 0.564$

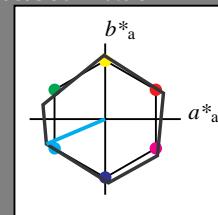
$lab^*tch$  and  $lab^*nch$

D65: hue G50B

LCH\*Ma: 53 84 203

olv\*Ma: 0.0 1.0 1.0

triangle lightness  $t^*$



## NRS11; adapted (a) CIELAB data

	$L^* = L^*_{ab}$	$a^*_{ab}$	$b^*_{ab}$	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	53.2	77.06	34.32	84.36	24
JMa	53.2	-1.51	84.38	84.39	91
GMa	53.2	-82.27	18.98	84.44	167
G50BMa	53.2	-77.72	-32.98	84.44	203
BMa	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)

$olv^3*$  1.0 1.0 1.0 (1.0)

$cmyn3*$  0.0 0.0 0.0 (0.0)

$olv^4*$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  74.3 -38.82 -16.48

$LAB^*LABa$  74.3 -38.85 -16.48

$LAB^*TChA$  75.0 42.21 203.0

relative CIELAB lab\*

$lab^*lab$  0.75 -0.459 -0.194

$lab^*tch$  0.75 0.5 0.564

$lab^*nch$  0.0 0.5 0.564

relative Natural Colour (NC)

$lab^*lrij$  0.75 -0.416 -0.275

$lab^*tce$  0.75 0.2 0.593

$lab^*ncE$  0.0 0.5 g37b

relative Inform. Technology (IT)

$olv^3*$  0.5 0.5 0.5 (1.0)

$cmyn3*$  0.5 0.5 0.5 (0.0)

$olv^4*$  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

$LAB^*LABa$  53.21 0.0 0.0

$LAB^*TChA$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.5 0.0 0.0

$lab^*tce$  0.5 0.0 0.0

$lab^*ncE$  0.5 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  11.01 0.07 0.01

$LAB^*LABa$  11.01 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*tce$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

relative Inform. Technology (IT)

$olv^3*$  0.5 1.0 1.0 (1.0)

$cmyn3*$  0.5 0.0 0.0 (0.0)

$olv^4*$  1.0 1.0 1.0 1.0

$cmyn4*$  0.5 0.0 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  74.3 -38.82 -16.48

$LAB^*LABa$  74.3 -38.85 -16.48

$LAB^*TChA$  75.0 42.21 203.0

relative CIELAB lab\*

$lab^*lab$  0.75 -0.459 -0.194

$lab^*tch$  0.75 0.5 0.564

$lab^*nch$  0.0 0.5 0.564

relative Natural Colour (NC)

$lab^*lrij$  0.75 -0.416 -0.275

$lab^*tce$  0.75 0.2 0.593

$lab^*ncE$  0.0 0.5 g37b

relative Inform. Technology (IT)

$olv^3*$  0.0 0.5 0.5 (1.0)

$cmyn3*$  1.0 0.5 0.5 (0.0)

$olv^4*$  1.0 1.0 1.0 0.5

$cmyn4*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  53.2 -77.67 -32.96

$LAB^*LABa$  53.2 -77.71 -32.97

$LAB^*TChA$  50.0 84.43 202.99

relative CIELAB lab\*

$lab^*lab$  0.5 -0.919 -0.39

$lab^*tch$  0.5 1.0 0.564

$lab^*nch$  0.0 1.0 0.564

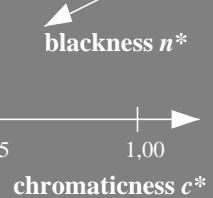
relative Natural Colour (NC)

$lab^*lrij$  0.5 -0.833 -0.551

$lab^*tce$  0.5 1.0 0.593

$lab^*ncE$  0.0 1.0 g37b

$n^* = 0,00$



$n^* = 0,00$

blackness  $n^*$

1,00

chromaticness  $c^*$

## Output: Colorimetric Reflective System NRS18

for hue  $h^* = lab^*h = 203/360 = 0.564$

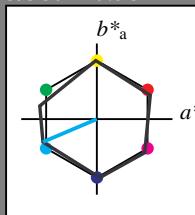
$lab^*tch$  and  $lab^*nch$

D65: hue G50B

LCH\*Ma: 57 77 203

olv\*Ma: 0.0 1.0 1.0

triangle lightness  $t^*$



## NRS18; adapted (a) CIELAB data

	$L^* = L^*_{ab}$	$a^*_{ab}$	$b^*_{ab}$	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	56.7	70.66	31.47	77.35	24
JMa	56.7	-1.39	77.37	77.39	91
GMa	56.7	-75.46	17.4	77.45	167
G50BMa	56.7	-71.29	-30.25	77.45	203
BMa	56.7	4.0	-77.3	77.41	273
B50RMa	56.7	63.35	-44.4	77.36	325
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	272

relative Inform. Technology (IT)

$olv^3*$  1.0 1.0 1.0 (1.0)

$cmyn3*$  0.0 0.0 0.0 (0.0)

$olv^4*$  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 0.0

$LAB^*LABa$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

relative CIELAB lab\*

$lab^*lab$  0.75 -0.459 -0.194

$lab^*tch$  0.75 0.5 0.564

$lab^*nch$  0.0 0.5 0.564

relative Natural Colour (NC)

$lab^*lrij$  0.75 -0.416 -0.275

$lab^*tce$  0.75 0.5 0.593

$lab^*ncE$  0.0 0.5 g37b

$n^* = 0,00$

blackness  $n^*$

1,00

chromaticness  $c^*$

relative Inform. Technology (IT)

$olv^3*$  0.5 0.5 0.5 (1.0)

$cmyn3*$  0.5 0.5 0.5 (0.0)

$olv^4*$  0.5 1.0 1.0 1.0

$cmyn4*$  0.5 0.0 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  76.05 -35.6 -15.11

$LAB^*LABa$  76.05 -35.63 -15.11

$LAB^*TChA$  75.0 38.72 202.99

relative CIELAB lab\*

$lab^*lab$  0.75 -0.459 -0.194

$lab^*tch$  0.75 0.5 0.564

$lab^*nch$  0.0 0.5 0.564

relative Natural Colour (NC)

$lab^*lrij$  0.75 -0.416 -0.275

$lab^*tce$  0.75 0.5 0.593

$lab^*ncE$  0.0 0.5 g37b

$n^* = 0,00$

blackness  $n^*$

1,00

chromaticness  $c^*$

$n^* = 0,00$

blackness  $n^*$

1,00

## Input: Colorimetric Reflective System NRS11

for hue  $h^* = lab^*h = 203/360 = 0.564$

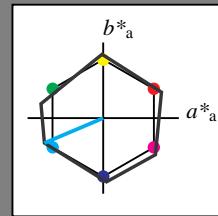
$lab^*tch$  and  $lab^*nch$

D65: hue G50B

LCH\*Ma: 53 84 203

olv\*Ma: 0.0 1.0 1.0

triangle lightness  $t^*$



### NRS11; adapted (a) CIELAB data

	$L^* = L^*_{ab}$	$a^*_{ab}$	$b^*_{ab}$	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	53.2	77.06	34.32	84.36	24
JMa	53.2	-1.51	84.38	84.39	91
GMa	53.2	-82.27	18.98	84.44	167
G50BMa	53.2	-77.72	-32.98	84.44	203
BMa	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)

$olv^3*$  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

$LAB^*LABa$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 -

$lab^*ncE$  0.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  74.3 -38.82 -16.48

$LAB^*LABa$  74.3 -38.85 -16.48

$LAB^*TChA$  75.0 42.21 203.0

relative CIELAB lab\*

$lab^*lab$  0.75 -0.459 -0.194

$lab^*tch$  0.75 0.5 0.564

$lab^*nch$  0.0 0.5 0.564

relative Natural Colour (NC)

$lab^*lrij$  0.75 -0.416 -0.275

$lab^*tce$  0.75 0.2 0.593

$lab^*ncE$  0.0 0.5 g37b

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 0.5

$cmyn^4*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  53.21 0.04 0.0

$LAB^*LABa$  53.21 0.0 0.0

$LAB^*TChA$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.5 0.0 0.0

$lab^*tce$  0.5 0.0 -

$lab^*ncE$  0.5 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  32.1 -38.79 -16.46

$LAB^*LABa$  32.1 -38.85 -16.48

$LAB^*TChA$  25.01 42.21 203.0

relative CIELAB lab\*

$lab^*lab$  0.25 -0.459 -0.194

$lab^*tch$  0.25 0.5 0.564

$lab^*nch$  0.5 0.5 0.564

relative Natural Colour (NC)

$lab^*lrij$  0.25 -0.416 -0.275

$lab^*tce$  0.25 0.5 0.593

$lab^*ncE$  0.5 0.5 g37b

$n^* = 1,0$

relative Inform. Technology (IT)

$olv^3*$  0.0 0.0 0.0 (1.0)

$cmyn^3*$  1.0 1.0 1.0 (0.0)

$olv^4*$  1.0 1.0 1.0 0.0

$cmyn^4*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  11.01 0.07 0.01

$LAB^*LABa$  11.01 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*tce$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  11.01 0.07 0.01

$LAB^*LABa$  11.01 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*tce$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

## Output: Colorimetric Reflective System NCS18

for hue  $h^* = lab^*h = 203/360 = 0.563$

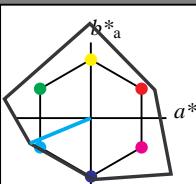
$lab^*tch$  and  $lab^*nch$

D65: hue G50B

LCH\*Ma: 59 87 203

olv\*Ma: 0.0 1.0 1.0

triangle lightness  $t^*$



### NCS18; adapted (a) CIELAB data

	$L^* = L^*_{ab}$	$a^*_{ab}$	$b^*_{ab}$	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	47.15	84.63	37.24	92.46	24
JMa	91.37	-1.27	125.03	125.03	91
GMa	63.07	-114.29	25.34	117.07	167
G50BMa	59.47	-80.61	-33.45	87.29	203
BMa	49.01	3.63	-81.2	81.29	273
B50RMa	44.06	106.07	-73.94	129.31	325
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	272

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

$LAB^*LABa$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 -

$lab^*ncE$  0.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  74.3 -38.82 -16.48

$LAB^*LABa$  74.3 -38.85 -16.48

$LAB^*TChA$  75.0 42.21 203.0

relative CIELAB lab\*

$lab^*lab$  0.75 -0.459 -0.194

$lab^*tch$  0.75 0.5 0.564

$lab^*nch$  0.0 0.5 0.564

relative Natural Colour (NC)

$lab^*lrij$  0.75 -0.416 -0.275

$lab^*tce$  0.75 0.2 0.593

$lab^*ncE$  0.0 0.5 g37b

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 0.5

$cmyn^4*$  0.5 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  53.2 -77.67 -32.96

$LAB^*LABa$  53.2 -77.71 -32.97

$LAB^*TChA$  50.0 84.43 202.99

relative CIELAB lab\*

$lab^*lab$  0.5 -0.919 -0.39

$lab^*tch$  0.5 1.0 0.564

$lab^*nch$  0.0 1.0 0.564

relative Natural Colour (NC)

$lab^*lrij$  0.5 -0.833 -0.551

$lab^*tce$  0.5 1.0 0.593

$lab^*ncE$  0.0 1.0 g37b

relative Inform. Technology (IT)

$olv^3*$  0.0 0.0 0.0 (1.0)

$cmyn^3*$  1.0 1.0 1.0 (0.0)

$olv^4*$  1.0 1.0 1.0 0.5

$cmyn^4*$  1.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.09 0.02

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*tce$  0.0 0.0 -

$lab^*ncE$  1.0 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)

## Input: Colorimetric Reflective System NRS11

for hue  $h^* = lab^*h = 203/360 = 0.564$

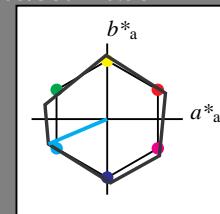
$lab^*tch$  and  $lab^*nch$

D65: hue G50B

LCH\*Ma: 53 84 203

olv\*Ma: 0.0 1.0 1.0

triangle lightness  $t^*$



relative Inform. Technology (IT)

olv*i*3\* 1.0 1.0 1.0 (1.0)

cmy*n*3\* 0.0 0.0 0.0 (0.0)

olv*i*4\* 1.0 1.0 1.0 1.0

cmy*n*4\* 0.0 0.0 0.0 0.0

standard and adapted CIELAB

LAB\*LAB 95.41 0.0 -0.01

LAB\*LAB*a* 95.41 0.0 0.0

LAB\*TCh*a* 99.99 0.01 -

relative CIELAB lab\*

lab\*lab 1.0 0.0 0.0

lab\*tch 1.0 0.0 -

lab\*nch 0.0 0.0 -

relative Natural Colour (NC)

lab\*lrj 1.0 0.0 0.0

lab\*tce 1.0 0.0 0.0

lab\*nc*E* 0.0 0.0 -

standard and adapted CIELAB

LAB\*LAB 74.3 -38.82 -16.48

LAB\*LAB*a* 74.3 -38.85 -16.48

LAB\*TCh*a* 75.0 42.21 203.0

relative CIELAB lab\*

lab\*lab 0.75 -0.459 -0.194

lab\*tch 0.75 0.5 0.564

lab\*nch 0.0 0.5 0.564

relative Natural Colour (NC)

lab\*lrj 0.75 -0.416 -0.275

lab\*tce 0.75 0.2 0.593

lab\*nc*E* 0.0 0.5 g37b

relative Inform. Technology (IT)

olv*i*3\* 0.5 0.5 0.5 (1.0)

cmy*n*3\* 0.5 0.5 0.5 (0.0)

olv*i*4\* 1.0 1.0 1.0 0.5

cmy*n*4\* 0.0 0.0 0.0 0.5

standard and adapted CIELAB

LAB\*LAB 53.21 0.04 0.0

LAB\*LAB*a* 53.21 0.0 0.0

LAB\*TCh*a* 50.0 0.01 -

relative CIELAB lab\*

lab\*lab 0.5 0.0 0.0

lab\*tch 0.5 0.0 -

lab\*nch 0.5 0.0 -

relative Natural Colour (NC)

lab\*lrj 0.5 0.0 0.0

lab\*tce 0.5 0.0 0.0

lab\*nc*E* 0.5 0.0 -

standard and adapted CIELAB

LAB\*LAB 11.01 0.07 0.01

LAB\*LAB*a* 11.01 0.0 0.0

LAB\*TCh*a* 0.01 0.01 -

relative CIELAB lab\*

lab\*lab 0.0 0.0 0.0

lab\*tch 0.0 0.0 -

lab\*nch 1.0 0.0 -

relative Natural Colour (NC)

lab\*lrj 0.0 0.0 0.0

lab\*tce 0.0 0.0 0.0

lab\*nc*E* 1.0 0.0 -

$n^* = 1,0$

## NRS11; adapted (a) CIELAB data

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

RMa	53.2	77.06	34.32	84.36	24
JMa	53.2	-1.51	84.38	84.39	91
GMa	53.2	-82.27	18.98	84.44	167
G50BMa	53.2	-77.72	-32.98	84.44	203
BMa	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)

olv*i*3\* 0.0 1.0 1.0 (1.0)

cmy*n*3\* 1.0 0.0 0.0 (0.0)

olv*i*4\* 0.5 1.0 1.0 1.0

cmy*n*4\* 0.0 0.0 0.0 0.0

standard and adapted CIELAB

LAB\*LAB 74.3 -38.82 -16.48

LAB\*LAB*a* 74.3 -38.85 -16.48

LAB\*TCh*a* 50.0 84.43 202.99

relative CIELAB lab\*

lab\*lab 0.5 -0.919 -0.39

lab\*tch 0.5 0.5 0.564

lab\*nch 0.0 1.0 0.564

relative Natural Colour (NC)

lab\*lrj 0.5 -0.833 -0.551

lab\*tce 0.5 1.0 0.593

lab\*nc*E* 0.0 1.0 g37b

## standard and adapted CIELAB

LAB\*LAB 53.2 -77.67 -32.96

LAB\*LAB*a* 53.2 -77.71 -32.97

LAB\*TCh*a* 50.0 0.01 -

relative CIELAB lab\*

lab\*lab 0.25 -0.459 -0.194

lab\*tch 0.25 0.5 0.564

lab\*nch 0.5 0.5 0.564

relative Natural Colour (NC)

lab\*lrj 0.25 -0.416 -0.275

lab\*tce 0.25 0.5 0.593

lab\*nc*E* 0.0 0.5 g37b

$n^* = 0,00$

blackness  $n^*$

chromaticness  $c^*$

## relative Inform. Technology (IT)

olv*i*3\* 0.5 0.5 0.5 (1.0)

cmy*n*3\* 0.5 0.5 0.5 (0.0)

olv*i*4\* 1.0 1.0 1.0 0.5

cmy*n*4\* 0.0 0.0 0.0 0.5

standard and adapted CIELAB

LAB\*LAB 53.21 0.04 0.0

LAB\*LAB*a* 53.21 0.0 0.0

LAB\*TCh*a* 50.0 0.01 -

relative CIELAB lab\*

lab\*lab 0.5 0.0 0.0

lab\*tch 0.5 0.0 -

lab\*nch 1.0 0.0 -

relative Natural Colour (NC)

lab\*lrj 0.5 0.0 0.0

lab\*tce 0.5 0.0 0.0

lab\*nc*E* 1.0 0.0 -

standard and adapted CIELAB

LAB\*LAB 11.01 0.07 0.01

LAB\*LAB*a* 11.01 0.0 0.0

LAB\*TCh*a* 0.01 0.01 -

relative CIELAB lab\*

lab\*lab 0.0 0.0 0.0

lab\*tch 0.0 0.0 -

lab\*nch 1.0 0.0 -

relative Natural Colour (NC)

lab\*lrj 0.0 0.0 0.0

lab\*tce 0.0 0.0 0.0

lab\*nc*E* 1.0 0.0 -

$n^* = 0,50$

blackness  $n^*$

chromaticness  $c^*$

$n^* = 1,0$

blackness  $n^*$

chromaticness  $c^*$

## Output: Colorimetric Reflective System NRS11

for hue  $h^* = lab^*h = 203/360 = 0.564$

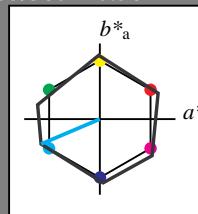
$lab^*tch$  and  $lab^*nch$

D65: hue G50B

LCH\*Ma: 53 84 203

olv\*Ma: 0.0 1.0 1.0

triangle lightness  $t^*$



%Gamut

$u^*_{rel} = 119$

%Regularity

$g^*_{H,rel} = 47$

$g^*_{C,rel} = 100$

relative Inform. Technology (IT)

olv*i*3\* 1.0 1.0 1.0 (1.0)

cmy*n*3\* 0.0 0.0 0.0 (0.0)

olv*i*4\* 1.0 1.0 1.0 1.0

cmy*n*4\* 0.0 0.0 0.0 0.0

standard and adapted CIELAB

LAB\*LAB 95.41 0.0 -0.01

LAB\*LAB*a* 95.41 0.0 0.0

LAB\*TCh*a* 99.99 0.01 -

relative CIELAB lab\*

lab\*lab 1.0 0.0 0.0

lab\*tch 1.0 0.0 -

lab\*nch 0.0 0.0 -

relative Natural Colour (NC)

lab\*lrj 1.0 0.0 0.0

lab\*tce 1.0 0.0 0.0

lab\*nc*E* 0.0 0.0 -

relative Inform. Technology (IT)

olv*i*3\* 0.5 0.5 0.5 (1.0)

cmy*n*3\* 0.5 0.5 0.5 (0.0)

olv*i*4\* 1.0 1.0 1.0 0.5

cmy*n*4\* 0.0 0.0 0.0 0.5

standard and adapted CIELAB

LAB\*LAB 74.3 -38.82 -16.48

LAB\*LAB*a* 74.3 -38.85 -16.48

LAB\*TCh*a* 75.0 42.21 203.0

relative CIELAB lab\*

lab\*lab 0.75 -0.459 -0.194

lab\*tch 0.75 0.5 0.564

lab\*nch 0.0 0.5 0.564

relative Natural Colour (NC)

lab\*lrj 0.75 -0.416 -0.275

lab\*tce 0.75 0.5 0.593

lab\*nc*E* 0.0 0.5 g37b

$n^* = 0,00$

blackness  $n^*$

chromaticness  $c^*$

$n^* = 1,00$

blackness  $n^*$

chromaticness  $c^*$

$n^* = 0,50$

blackness  $n^*$

chromaticness  $c^*$

$n^* = 1,0$

blackness  $n^*$

chromaticness  $c^*$

$n^* = 0,00$

blackness  $n^*$

chromaticness  $c^*$

$n^* = 1,00$

blackness  $n^*$

chromaticness  $c^*$

$n^* = 0,50$

blackness  $n^*$

chromaticness  $c^*$

$n^* = 0,00$

blackness  $n^*$

</

## Input: Colorimetric Reflective System NRS11

for hue  $h^* = lab^*h = 203/360 = 0.564$

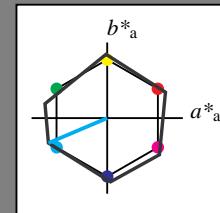
$lab^*tch$  and  $lab^*nch$

D65: hue G50B

LCH\*Ma: 53 84 203

olv\*Ma: 0.0 1.0 1.0

triangle lightness  $t^*$



### NRS11; adapted (a) CIELAB data

	$L^*=L_a^*$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	53.2	77.06	34.32	84.36	24
JMa	53.2	-1.51	84.38	84.39	91
GMa	53.2	-82.27	18.98	84.44	167
G50BMa	53.2	-77.72	-32.98	84.44	203
BMa	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)

$olv^3*$  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

$LAB^*LABa$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 -

$lab^*ncE$  0.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  74.3 -38.82 -16.48

$LAB^*LABa$  74.3 -38.85 -16.48

$LAB^*TChA$  75.0 42.21 203.0

relative CIELAB lab\*

$lab^*lab$  0.75 -0.459 -0.194

$lab^*tch$  0.75 0.5 0.564

$lab^*nch$  0.0 0.5 0.564

relative Natural Colour (NC)

$lab^*lrij$  0.75 -0.416 -0.275

$lab^*tce$  0.75 0.2 0.593

$lab^*ncE$  0.0 0.5 g37b

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 0.5

$cmyn^4*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  53.21 0.04 0.0

$LAB^*LABa$  53.21 0.0 0.0

$LAB^*TChA$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.5 0.0 0.0

$lab^*tce$  0.5 0.0 -

$lab^*ncE$  0.5 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  32.1 -38.79 -16.48

$LAB^*LABa$  32.1 -38.85 -16.48

$LAB^*TChA$  25.01 42.21 203.0

relative CIELAB lab\*

$lab^*lab$  0.25 -0.459 -0.194

$lab^*tch$  0.25 0.5 0.564

$lab^*nch$  0.5 0.5 0.564

relative Natural Colour (NC)

$lab^*lrij$  0.25 -0.416 -0.275

$lab^*tce$  0.25 0.5 0.593

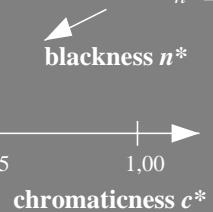
$lab^*ncE$  0.5 0.5 g37b

$n^* = 1,0$

$n^* = 1,0$

$n^* = 0,50$

$n^* = 0,00$



UE100-7, 3 step scales for constant CIELAB hue 203/360 = 0.564 (left)

## Output: Colorimetric Reflective System NCS11

for hue  $h^* = lab^*h = 203/360 = 0.563$

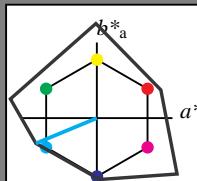
$lab^*tch$  and  $lab^*nch$

D65: hue G50B

LCH\*Ma: 59 87 203

olv\*Ma: 0.0 1.0 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

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

$LAB^*LABa$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 -

$lab^*ncE$  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 0.5

$cmyn^4*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  74.3 -38.82 -16.48

$LAB^*LABa$  74.3 -38.85 -16.48

$LAB^*TChA$  75.0 42.21 203.0

relative CIELAB lab\*

$lab^*lab$  0.75 -0.459 -0.194

$lab^*tch$  0.75 0.5 0.564

$lab^*nch$  0.0 0.5 0.564

relative Natural Colour (NC)

$lab^*lrij$  0.75 -0.416 -0.275

$lab^*tce$  0.75 0.2 0.593

$lab^*ncE$  0.0 0.5 g37b

relative Inform. Technology (IT)

$olv^3*$  0.0 0.0 0.0 (1.0)

$cmyn^3*$  1.0 1.0 1.0 (0.0)

$olv^4*$  1.0 1.0 1.0 0.0

$cmyn^4*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  53.21 0.04 0.0

$LAB^*LABa$  53.21 0.0 0.0

$LAB^*TChA$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 -0.919 -0.39

$lab^*tch$  0.5 1.0 0.564

$lab^*nch$  0.0 1.0 0.564

relative Natural Colour (NC)

$lab^*lrij$  0.5 -0.833 -0.551

$lab^*tce$  0.5 1.0 0.593

$lab^*ncE$  0.0 1.0 g37b

relative Inform. Technology (IT)

$olv^3*$  0.0 0.5 0.5 (1.0)

$cmyn^3*$  1.0 0.5 0.5 (0.0)

$olv^4*$  0.5 1.0 1.0 0.5

$cmyn^4*$  0.5 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  53.21 0.04 0.0

$LAB^*LABa$  53.21 0.0 0.0

$LAB^*TChA$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 -0.919 -0.39

$lab^*tch$  0.5 1.0 0.564

$lab^*nch$  0.0 1.0 0.564

relative Natural Colour (NC)

$lab^*lrij$  0.5 -0.833 -0.551

$lab^*tce$  0.5 1.0 0.593

$lab^*ncE$  0.0 1.0 g37b

$n^* = 1,0$

$n^* = 0,50$

$n^* = 0,00$

relative Inform. Technology (IT)

$olv^3*$  0.287 -0.461 -0.191

$cmyn^3*$  0.25 0.5 0.563

$olv^4*$  0.5 1.0 1.0 0.563

$cmyn^4*$  0.5 0.0 0.0 0.563

standard and adapted CIELAB

$LAB^*LAB$  35.23 -40.23 -16.7

$LAB^*LABa$  35.23 -40.29 -16.72

$LAB^*TChA$  25.01 43.63 202.54

relative CIELAB lab\*

$lab^*lab$  0.287 -0.461 -0.191

$lab^*tch$  0.25 0.5 0.563

$lab^*nch$  0.5 0.5 0.563

relative Natural Colour (NC)

$lab^*lrij$  0.287 -0.418 -0.272

$lab^*tce$  0.25 0.5 0.592

$lab^*ncE$  0.5 0.5 g36b

$n^* = 1,0$

$n^* = 0,50$

$n^* = 0,00$

$n^* = 0,00</math$

## Input: Colorimetric Reflective System NCS11

for hue  $h^* = lab^*h = 203/360 = 0.563$

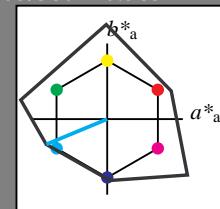
$lab^*tch$  and  $lab^*nch$

D65: hue G50B

LCH\*Ma: 59 87 203

olv\*Ma: 0.0 1.0 1.0

triangle lightness  $t^*$



## NCS11; adapted (a) CIELAB data

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

relative Inform. Technology (IT)

$olv^3*$  1.0 1.0 1.0 (1.0)

$cmyn3*$  0.0 0.0 0.0 (0.0)

$olv^4*$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrf$  1.0 0.0 0.0

$lab^*fce$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  77.43 -40.26 -16.71

$LAB^*LABa$  77.43 -40.29 -16.72

$LAB^*TChA$  75.0 43.63 202.54

relative CIELAB lab\*

$lab^*lab$  0.787 -0.461 -0.191

$lab^*tch$  0.75 0.5 0.563

$lab^*nch$  0.0 0.5 0.563

relative Natural Colour (NC)

$lab^*lrf$  0.787 -0.418 -0.272

$lab^*fce$  0.75 0.2 0.592

$lab^*ncE$  0.0 0.5 g36b

relative Inform. Technology (IT)

$olv^3*$  0.5 0.5 0.5 (1.0)

$cmyn3*$  0.5 0.5 0.5 (0.0)

$olv^4*$  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

$LAB^*LABa$  53.21 0.0 0.0

$LAB^*TChA$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrf$  0.5 0.0 0.0

$lab^*fce$  0.5 0.0 0.0

$lab^*ncE$  0.5 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  35.23 -40.23 -16.7

$LAB^*LABa$  35.23 -40.29 -16.72

$LAB^*TChA$  25.01 43.63 202.54

relative CIELAB lab\*

$lab^*lab$  0.287 -0.461 -0.191

$lab^*tch$  0.25 0.5 0.563

$lab^*nch$  0.5 0.5 0.563

relative Natural Colour (NC)

$lab^*lrf$  0.287 -0.418 -0.272

$lab^*fce$  0.25 0.5 0.592

$lab^*ncE$  0.5 0.5 g36b

$n^* = 1,0$

$n^* = 0,00$

$n^* = 0,50$

$1,00$

$chromaticness c^*$

## Output: Colorimetric Reflective System ORS18

for hue  $h^* = lab^*h = 236/360 = 0.656$

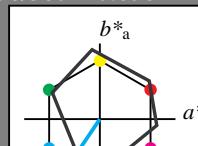
$lab^*tch$  and  $lab^*nch$

D65: hue C

LCH\*Ma: 59 54 236

olv\*Ma: 0.0 1.0 1.0

triangle lightness  $t^*$



## ORS18; adapted (a) CIELAB data

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

$olv^3*$  1.0 1.0 1.0 (1.0)

$cmyn3*$  0.0 0.0 0.0 (0.0)

$olv^4*$  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

$LAB^*LABa$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrf$  1.0 0.0 0.0

$lab^*fce$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  77.01 -15.79 -18.98

$LAB^*LABa$  77.01 -15.16 -22.5

$LAB^*TChA$  75.0 27.15 236.01

relative CIELAB lab\*

$lab^*lab$  0.762 -0.278 -0.413

$lab^*tch$  0.75 0.5 0.656

$lab^*nch$  0.0 0.5 0.656

relative Natural Colour (NC)

$lab^*lrf$  0.762 -0.247 -0.433

$lab^*fce$  0.75 0.5 0.667

$lab^*ncE$  0.0 0.5 g66b

relative Inform. Technology (IT)

$olv^3*$  0.5 0.5 0.5 (1.0)

$cmyn3*$  0.5 0.5 0.5 (0.0)

$olv^4*$  0.0 1.0 1.0 1.0

$cmyn4*$  1.0 0.0 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  58.62 -30.62 -42.73

$LAB^*LABa$  58.62 -30.34 -45.01

$LAB^*TChA$  50.0 54.29 236.01

relative CIELAB lab\*

$lab^*lab$  0.525 -0.558 -0.828

$lab^*tch$  0.5 1.0 0.656

$lab^*nch$  0.0 1.0 0.656

relative Natural Colour (NC)

$lab^*lrf$  0.525 -0.496 -0.867

$lab^*fce$  0.5 1.0 0.667

$lab^*ncE$  0.0 1.0 g66b

$n^* = 0,00$

$n^* = 0,50$

$1,00$

$chromaticness c^*$

$n^* = 1,0$

$n^* = 0,50$

$1,00$

$chromaticness c^*$

UE100-7, 3 step scales for constant CIELAB hue 203/360 = 0.563 (left)

3 step scales for constant CIELAB hue 236/360 = 0.656 (right)

## Input: Colorimetric Reflective System NCS11

for hue  $h^* = lab^*h = 203/360 = 0.563$

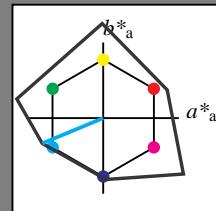
$lab^*tch$  and  $lab^*nch$

D65: hue G50B

LCH\*Ma: 59 87 203

olv\*Ma: 0.0 1.0 1.0

triangle lightness  $t^*$



## NCS11; adapted (a) CIELAB data

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

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

$LAB^*LABa$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  77.43 -40.26 -16.71

$LAB^*LABa$  77.43 -40.29 -16.72

$LAB^*TChA$  75.0 43.63 202.54

relative CIELAB lab\*

$lab^*lab$  0.787 -0.461 -0.191

$lab^*tch$  0.75 0.5 0.563

$lab^*nch$  0.0 0.5 0.563

relative Natural Colour (NC)

$lab^*lrij$  0.787 -0.418 -0.272

$lab^*tce$  0.75 0.2 0.592

$lab^*ncE$  0.0 0.5 g36b

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 0.5

$cmyn^4*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  53.21 0.04 0.0

$LAB^*LABa$  53.21 0.0 0.0

$LAB^*TChA$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.5 0.0 0.0

$lab^*tce$  0.5 0.0 0.0

$lab^*ncE$  0.5 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  35.23 -40.23 -16.7

$LAB^*LABa$  35.23 -40.29 -16.72

$LAB^*TChA$  25.01 43.63 202.54

relative CIELAB lab\*

$lab^*lab$  0.287 -0.461 -0.191

$lab^*tch$  0.25 0.5 0.563

$lab^*nch$  0.5 0.5 0.563

relative Natural Colour (NC)

$lab^*lrij$  0.287 -0.418 -0.272

$lab^*tce$  0.25 0.5 0.592

$lab^*ncE$  0.5 0.5 g36b

$n^* = 1,0$

$n^* = 0,00$

$n^* = 0,50$

1,00

$n^* = 0,50$

chromaticness  $c^*$

## Output: Colorimetric Reflective System MRS18

for hue  $h^* = lab^*h = 218/360 = 0.605$

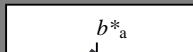
$lab^*tch$  and  $lab^*nch$

D65: hue G50B

LCH\*Ma: 45 46 218

olv\*Ma: 0.0 1.0 1.0

triangle lightness  $t^*$



## MRS18; adapted (a) CIELAB data

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

$olv^3*$  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

$LAB^*LABa$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  70.21 -18.77 -11.17

$LAB^*LABa$  70.21 -18.27 -14.23

$LAB^*TChA$  75.0 23.17 217.91

relative CIELAB lab\*

$lab^*lab$  0.674 -0.393 -0.306

$lab^*tch$  0.75 0.5 0.605

$lab^*nch$  0.0 0.5 0.605

relative Natural Colour (NC)

$lab^*lrij$  0.674 -0.353 -0.352

$lab^*tce$  0.75 0.5 0.625

$lab^*ncE$  0.0 0.5 g49b

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 0.5

$cmyn^4*$  0.5 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  45.03 -36.57 -27.11

$LAB^*LABa$  45.03 -36.56 -28.47

$LAB^*TChA$  50.0 46.35 217.91

relative CIELAB lab\*

$lab^*lab$  0.349 -0.788 -0.613

$lab^*tch$  0.5 1.0 0.605

$lab^*nch$  0.0 1.0 0.605

relative Natural Colour (NC)

$lab^*lrij$  0.349 -0.706 -0.706

$lab^*tce$  0.5 1.0 0.625

$lab^*ncE$  0.0 1.0 g49b

$n^* = 0,00$

$n^* = 0,50$

1,00

$n^* = 0,50$

1,00

chromaticness  $c^*$

UE100-7, 3 step scales for constant CIELAB hue 203/360 = 0.563 (left)

3 step scales for constant CIELAB hue 218/360 = 0.605 (right)

## Input: Colorimetric Reflective System NCS11

for hue  $h^* = lab^*h = 203/360 = 0.563$

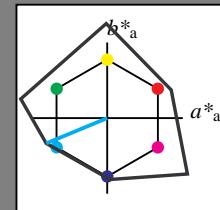
$lab^*tch$  and  $lab^*nch$

D65: hue G50B

LCH\*Ma: 59 87 203

olv\*Ma: 0.0 1.0 1.0

triangle lightness  $t^*$



## NCS11; adapted (a) CIELAB data

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

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

$LAB^*LABa$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrf$  1.0 0.0 0.0

$lab^*fce$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  77.43 -40.26 -16.71

$LAB^*LABa$  77.43 -40.29 -16.72

$LAB^*TChA$  75.0 43.63 202.54

relative CIELAB lab\*

$lab^*lab$  0.787 -0.461 -0.191

$lab^*tch$  0.75 0.5 0.563

$lab^*nch$  0.0 0.5 0.563

relative Natural Colour (NC)

$lab^*lrf$  0.787 -0.418 -0.272

$lab^*fce$  0.75 0.2 0.592

$lab^*ncE$  0.0 0.5 g36b

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 0.5

$cmyn^4*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  53.21 0.04 0.0

$LAB^*LABa$  53.21 0.0 0.0

$LAB^*TChA$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrf$  0.5 0.0 0.0

$lab^*fce$  0.5 0.0 0.0

$lab^*ncE$  0.5 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  35.23 -40.23 -16.7

$LAB^*LABa$  35.23 -40.29 -16.72

$LAB^*TChA$  25.01 43.63 202.54

relative CIELAB lab\*

$lab^*lab$  0.287 -0.461 -0.191

$lab^*tch$  0.25 0.5 0.563

$lab^*nch$  0.5 0.5 0.563

relative Natural Colour (NC)

$lab^*lrf$  0.287 -0.418 -0.272

$lab^*fce$  0.25 0.5 0.592

$lab^*ncE$  0.5 0.5 g36b

$n^* = 1,0$

$n^* = 0,00$

$n^* = 0,50$

$n^* = 1,00$

$n^* = 0,50$

$n^* = 1,00$

$n^* = 0,25$

$n^* = 0,75$

$n^* = 1,00$

$n^* = 0,25$

$n^* = 0,75$

$n^* = 1,00$

$n^* = 0,25$

$n^* = 0,75$

$n^* = 1,00$

$n^* = 0,25$

$n^* = 0,75$

$n^* = 1,00$

## Output: Colorimetric Reflective System TRS18

for hue  $h^* = lab^*h = 236/360 = 0.656$

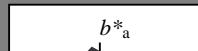
$lab^*tch$  and  $lab^*nch$

D65: hue C

LCH\*Ma: 59 54 236

olv\*Ma: 0.0 1.0 1.0

triangle lightness  $t^*$



## TRS18; adapted (a) CIELAB data

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

%Gamut

$u^*_{rel} = 149$

%Regularity

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

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

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

$cmynd*$  0.0 0.0 0.0 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 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrf$  1.0 0.0 0.0

$lab^*fce$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  77.01 -15.79 -18.98

$LAB^*LABa$  77.01 -15.16 -22.5

$LAB^*TChA$  75.0 27.15 236.01

relative CIELAB lab\*

$lab^*lab$  0.762 -0.278 -0.413

$lab^*tch$  0.75 0.5 0.656

$lab^*nch$  0.0 0.5 0.656

relative Natural Colour (NC)

$lab^*lrf$  0.762 -0.247 -0.433

$lab^*fce$  0.75 0.5 0.667

$lab^*ncE$  0.0 0.5 g66b

relative Inform. Technology (IT)

$olv^3*$  0.5 1.0 1.0 (1.0)

$cmyn^3*$  0.5 0.5 0.5 (0.0)

$olv^4*$  0.5 1.0 1.0 1.0

$cmynd*$  0.5 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  58.62 -30.62 -42.73

$LAB^*LABa$  58.62 -30.34 -45.01

$LAB^*TChA$  50.0 54.29 236.01

relative CIELAB lab\*

$lab^*lab$  0.525 -0.558 -0.828

$lab^*tch$  0.5 1.0 0.656

$lab^*nch$  0.0 1.0 0.656

relative Natural Colour (NC)

$lab^*lrf$  0.525 -0.496 -0.867

$lab^*fce$  0.5 1.0 0.667

$lab^*ncE$  0.0 1.0 g66b

relative Inform. Technology (IT)

$olv^3*$  1.0 0.0 0.0 (0.0)

$cmyn^3*$  0.0 1.0 0.0 (0.0)

$olv^4*$  0.0 1.0 1.0 1.0

$cmynd*$  0.0 0.0 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  38.32 -15.05 -21.59

$LAB^*LABa$  38.32 -15.16 -22.5

$LAB^*TChA$  25.01 27.15 236.01

relative CIELAB lab\*

$lab^*lab$  0.262 -0.278 -0.413

$lab^*tch$  0.25 0.5 0.656

$lab^*nch$  0.5 0.5 0.656

relative Natural Colour (NC)

$lab^*lrf$  0.262 -0.247 -0.433

$lab^*fce$  0.25 0.5 0.667

$lab^*ncE$  0.5 0.5 g66b

$n^* = 0,00$

$n^* = 0,50$

$n^* = 1,00$

$n^* = 0,25$

$n^* = 0,75$

$n^* = 1,00$

$n^* = 0,25$

$n^* = 0,75$

$n^* = 1,00$

$n^* = 0,25$

$n^* = 0,75$

$n^* = 1,00$

$n^* = 0,25$

## Input: Colorimetric Reflective System NCS11

for hue  $h^* = lab^*h = 203/360 = 0.563$

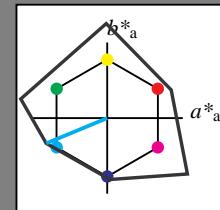
$lab^*tch$  and  $lab^*nch$

D65: hue G50B

LCH\*Ma: 59 87 203

olv\*Ma: 0.0 1.0 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

relative Inform. Technology (IT)

$olv_i3^*$  1.0 1.0 1.0 (1.0)

$cmy_n3^*$  0.0 0.0 0.0 (0.0)

$olv_i4^*$  1.0 1.0 1.0 1.0

$cmy_n4^*$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  77.43 -40.26 -16.71

$LAB^*LABa$  77.43 -40.29 -16.72

$LAB^*TChA$  75.0 43.63 202.54

relative CIELAB lab\*

$lab^*lab$  0.787 -0.461 -0.191

$lab^*tch$  0.75 0.5 0.563

$lab^*nch$  0.0 0.5 0.563

relative Natural Colour (NC)

$lab^*lrij$  0.787 -0.418 -0.272

$lab^*tce$  0.75 0.2 0.592

$lab^*ncE$  0.0 0.5 g36b

relative Inform. Technology (IT)

$olv_i3^*$  0.5 0.5 0.5 (1.0)

$cmy_n3^*$  0.5 0.5 0.5 (0.0)

$olv_i4^*$  1.0 1.0 1.0 0.5

$cmy_n4^*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  53.21 0.04 0.0

$LAB^*LABa$  53.21 0.0 0.0

$LAB^*TChA$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.5 0.0 0.0

$lab^*tce$  0.5 0.0 0.0

$lab^*ncE$  0.5 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  35.23 -40.23 -16.7

$LAB^*LABa$  35.23 -40.29 -16.72

$LAB^*TChA$  25.01 43.63 202.54

relative CIELAB lab\*

$lab^*lab$  0.287 -0.461 -0.191

$lab^*tch$  0.25 0.5 0.563

$lab^*nch$  0.5 0.5 0.563

relative Natural Colour (NC)

$lab^*lrij$  0.287 -0.418 -0.272

$lab^*tce$  0.25 0.5 0.592

$lab^*ncE$  0.5 0.5 g36b

$n^* = 1,0$

$n^* = 0,00$

$n^* = 0,50$

1,00

$n^* = 0,50$

chromaticness  $c^*$

## Output: Colorimetric Reflective System MRS18a

for hue  $h^* = lab^*h = 217/360 = 0.601$

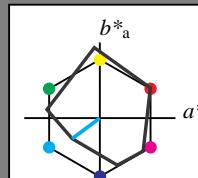
$lab^*tch$  and  $lab^*nch$

D65: hue G50B

LCH\*Ma: 45 46 217

olv\*Ma: 0.0 1.0 1.0

triangle lightness  $t^*$



### MRS18a; adapted (a) CIELAB data

	$L^* = L_a^*$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	49.63	66.8	40.02	77.87	31
JMa	90.7	-7.27	93.19	93.48	94
GMa	52.11	-69.93	11.26	70.85	171
G50BMa	45.03	-36.65	-27.13	45.61	217
BMa	36.65	23.26	-62.27	66.49	290
B50RMa	34.94	57.27	-43.6	71.99	323
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	272

relative Inform. Technology (IT)

$olv_i3^*$  1.0 1.0 1.0 (1.0)

$cmy_n3^*$  0.0 0.0 0.0 (0.0)

$olv_i4^*$  1.0 1.0 1.0 1.0

$cmy_n4^*$  0.0 0.0 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  95.41 0.01 0.0

$LAB^*LABa$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  70.21 -18.28 -13.55

$LAB^*LABa$  70.21 -18.31 -13.56

$LAB^*TChA$  75.0 22.8 216.52

relative CIELAB lab\*

$lab^*lab$  0.674 -0.401 -0.296

$lab^*tch$  0.75 0.5 0.601

$lab^*nch$  0.0 0.5 0.601

relative Natural Colour (NC)

$lab^*lrij$  0.674 -0.355 -0.35

$lab^*tce$  0.75 0.5 0.624

$lab^*ncE$  0.0 0.5 g49b

relative Inform. Technology (IT)

$olv_i3^*$  0.5 0.5 0.5 (1.0)

$cmy_n3^*$  0.5 0.5 0.5 (0.0)

$olv_i4^*$  1.0 1.0 1.0 0.5

$cmy_n4^*$  0.5 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  45.03 -36.57 -27.11

$LAB^*LABa$  45.03 -36.64 -27.13

$LAB^*TChA$  50.0 45.6 216.52

relative CIELAB lab\*

$lab^*lab$  0.349 -0.803 -0.594

$lab^*tch$  0.5 1.0 0.601

$lab^*nch$  0.0 1.0 0.601

relative Natural Colour (NC)

$lab^*lrij$  0.349 -0.71 -0.702

$lab^*tce$  0.5 1.0 0.624

$lab^*ncE$  0.0 1.0 g49b

$n^* = 1,0$

$n^* = 0,50$

1,00

$n^* = 0,50$

chromaticness  $c^*$

UE100-7, 3 step scales for constant CIELAB hue 203/360 = 0.563 (left)

3 step scales for constant CIELAB hue 217/360 = 0.601 (right)

## Input: Colorimetric Reflective System NCS11

for hue  $h^* = lab^*h = 203/360 = 0.563$

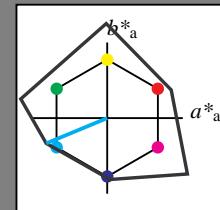
$lab^*tch$  and  $lab^*nch$

D65: hue G50B

LCH\*Ma: 59 87 203

olv\*Ma: 0.0 1.0 1.0

triangle lightness  $t^*$



### NCS11; adapted (a) CIELAB data

	$L^* = L_{ab}^*$	$a_{ab}^*$	$b_{ab}^*$	$C_{ab,a}^*$	$h_{ab,a}^*$
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

relative Inform. Technology (IT)

$olv_i3^*$  1.0 1.0 1.0 (1.0)

$cmyn3^*$  0.0 0.0 0.0 (0.0)

$olv_i4^*$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  77.43 -40.26 -16.71

$LAB^*LABa$  77.43 -40.29 -16.72

$LAB^*TChA$  75.0 43.63 202.54

relative CIELAB lab\*

$lab^*lab$  0.787 -0.461 -0.191

$lab^*tch$  0.75 0.5 0.563

$lab^*nch$  0.0 0.5 0.563

relative Natural Colour (NC)

$lab^*lrij$  0.787 -0.418 -0.272

$lab^*tce$  0.75 0.2 0.592

$lab^*ncE$  0.0 0.5 g36b

relative Inform. Technology (IT)

$olv_i3^*$  0.5 0.5 0.5 (1.0)

$cmyn3^*$  0.5 0.5 0.5 (0.0)

$olv_i4^*$  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

$LAB^*LABa$  53.21 0.0 0.0

$LAB^*TChA$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.5 0.0 0.0

$lab^*tce$  0.5 0.0 0.0

$lab^*ncE$  0.5 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  11.01 0.07 0.01

$LAB^*LABa$  11.01 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*tce$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

relative Inform. Technology (IT)

$olv_i3^*$  1.0 1.0 1.0 (0.0)

$cmyn3^*$  1.0 0.0 0.0 (0.0)

$olv_i4^*$  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

$LAB^*LABa$  11.01 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*tce$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

relative Inform. Technology (IT)

$olv_i3^*$  0.5 0.5 0.5 (1.0)

$cmyn3^*$  0.5 0.5 0.5 (0.0)

$olv_i4^*$  0.5 1.0 1.0 1.0

$cmyn4^*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.09 0.02

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*tce$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

## Output: Colorimetric Reflective System NRS18

for hue  $h^* = lab^*h = 203/360 = 0.564$

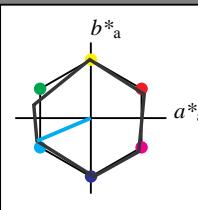
$lab^*tch$  and  $lab^*nch$

D65: hue G50B

LCH\*Ma: 57 77 203

olv\*Ma: 0.0 1.0 1.0

triangle lightness  $t^*$



### NRS18; adapted (a) CIELAB data

	$L^* = L_{ab}^*$	$a_{ab}^*$	$b_{ab}^*$	$C_{ab,a}^*$	$h_{ab,a}^*$
RMa	56.7	70.66	31.47	77.35	24
JMa	56.7	-1.39	77.37	77.39	91
GMa	56.7	-75.46	17.4	77.45	167
G50BMa	56.7	-71.29	-30.25	77.45	203
BMa	56.7	4.0	-77.3	77.41	273
B50RMa	56.7	63.35	-44.4	77.36	325
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	272

relative Inform. Technology (IT)

$olv_i3^*$  1.0 1.0 1.0 (1.0)

$cmyn3^*$  0.0 0.0 0.0 (0.0)

$olv_i4^*$  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 0.0

$LAB^*LABa$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)

$olv_i3^*$  0.5 0.5 0.5 (1.0)

$cmyn3^*$  0.5 0.5 0.5 (0.0)

$olv_i4^*$  0.5 1.0 1.0 0.5

$cmyn4^*$  0.5 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  56.72 0.05 0.0

$LAB^*LABa$  56.72 0.0 0.0

$LAB^*TChA$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.5 0.0 0.0

$lab^*tce$  0.5 0.0 0.0

$lab^*ncE$  0.5 0.0 -

relative Inform. Technology (IT)

$olv_i3^*$  0.0 0.0 0.0 (1.0)

$cmyn3^*$  0.0 0.0 0.0 (0.0)

$olv_i4^*$  0.0 1.0 1.0 1.0

$cmyn4^*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.09 0.02

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*tce$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

relative Inform. Technology (IT)

$olv_i3^*$  1.0 1.0 1.0 (0.0)

$cmyn3^*$  1.0 0.0 0.0 (0.0)

$olv_i4^*$  1.0 1.0 1.0 1.0

$cmyn4^*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  56.7 70.66 31.47

<math

## Input: Colorimetric Reflective System NCS11

for hue  $h^* = lab^*h = 203/360 = 0.563$

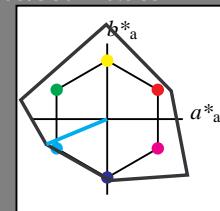
$lab^*tch$  and  $lab^*nch$

D65: hue G50B

LCH\*Ma: 59 87 203

olv\*Ma: 0.0 1.0 1.0

triangle lightness  $t^*$



relative Inform. Technology (IT)

$olv^3*$  1.0 1.0 1.0 (1.0)

$cmy^3*$  0.0 0.0 0.0 (0.0)

$olv^4*$  1.0 1.0 1.0 1.0

$cmy^4*$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 -

$lab^*ncE$  0.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  77.43 -40.26 -16.71

$LAB^*LABa$  77.43 -40.29 -16.72

$LAB^*TChA$  75.0 43.63 202.54

relative CIELAB  $lab^*$

$lab^*lab$  0.787 -0.461 -0.191

$lab^*tch$  0.75 0.5 0.563

$lab^*nch$  0.0 0.5 0.563

relative Natural Colour (NC)

$lab^*lrij$  0.787 -0.418 -0.272

$lab^*tce$  0.75 0.2 0.592

$lab^*ncE$  0.0 0.5 g36b

relative Inform. Technology (IT)

$olv^3*$  0.5 0.5 0.5 (1.0)

$cmy^3*$  0.5 0.5 0.5 (0.0)

$olv^4*$  1.0 1.0 1.0 0.5

$cmy^4*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  53.21 0.04 0.0

$LAB^*LABa$  53.21 0.0 0.0

$LAB^*TChA$  50.0 0.01 -

relative CIELAB  $lab^*$

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.5 0.0 0.0

$lab^*tce$  0.5 0.0 -

$lab^*ncE$  0.5 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
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

%Gamut

$u^*_{rel} = 149$

%Regularity

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

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

relative Inform. Technology (IT)

$olv^3*$  0.5 1.0 1.0 (1.0)

$cmy^3*$  0.5 0.0 0.0 (0.0)

$olv^4*$  0.5 1.0 1.0 1.0

$cmy^4*$  0.5 0.0 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  77.43 -40.26 -16.71

$LAB^*LABa$  77.43 -40.29 -16.72

$LAB^*TChA$  75.0 43.63 202.54

relative CIELAB  $lab^*$

$lab^*lab$  0.787 -0.461 -0.191

$lab^*tch$  0.75 0.5 0.563

$lab^*nch$  0.0 0.5 0.563

relative Natural Colour (NC)

$lab^*lrij$  0.787 -0.418 -0.272

$lab^*tce$  0.75 0.2 0.592

$lab^*ncE$  0.0 0.5 g36b

relative Inform. Technology (IT)

$olv^3*$  0.0 0.5 0.5 (1.0)

$cmy^3*$  0.5 0.5 0.5 (0.0)

$olv^4*$  1.0 1.0 1.0 0.5

$cmy^4*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  59.47 -80.55 -33.44

$LAB^*LABa$  59.47 -80.59 -33.44

$LAB^*TChA$  50.0 87.26 202.54

relative CIELAB  $lab^*$

$lab^*lab$  0.574 -0.922 -0.382

$lab^*tch$  0.5 1.0 0.563

$lab^*nch$  0.0 1.0 0.563

relative Natural Colour (NC)

$lab^*lrij$  0.574 -0.836 -0.546

$lab^*tce$  0.5 1.0 0.592

$lab^*ncE$  0.0 1.0 g36b

relative Inform. Technology (IT)

$olv^3*$  0.0 0.0 0.0 (1.0)

$cmy^3*$  1.0 1.0 1.0 (0.0)

$olv^4*$  1.0 1.0 1.0 0.5

$cmy^4*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.09 0.02

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB  $lab^*$

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*tce$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 0,00$

blackness  $n^*$

chromaticness  $c^*$

## Output: Colorimetric Reflective System NCS18

for hue  $h^* = lab^*h = 203/360 = 0.563$

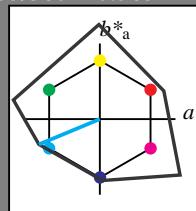
$lab^*tch$  and  $lab^*nch$

D65: hue G50B

LCH\*Ma: 59 87 203

olv\*Ma: 0.0 1.0 1.0

triangle lightness  $t^*$



%Gamut

$u^*_{rel} = 136$

%Regularity

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

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

relative Inform. Technology (IT)

$olv^3*$  1.0 1.0 1.0 (1.0)

$cmy^3*$  0.0 0.0 0.0 (0.0)

$olv^4*$  1.0 1.0 1.0 1.0

$cmy^4*$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 -

$lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)

$olv^3*$  0.0 0.0 0.0 (1.0)

$cmy^3*$  1.0 1.0 1.0 (0.0)

$olv^4*$  1.0 1.0 1.0 0.5

$cmy^4*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  77.43 -40.26 -16.71

$LAB^*LABa$  77.43 -40.29 -16.72

$LAB^*TChA$  75.0 43.63 202.54

relative CIELAB  $lab^*$

$lab^*lab$  0.787 -0.461 -0.191

$lab^*tch$  0.75 0.5 0.563

$lab^*nch$  0.0 0.5 0.563

relative Natural Colour (NC)

$lab^*lrij$  0.787 -0.418 -0.272

$lab^*tce$  0.75 0.2 0.592

$lab^*ncE$  0.0 0.5 g36b

$n^* = 1,0$

blackness  $n^*$

chromaticness  $c^*$

## NCS18; adapted (a) CIELAB data

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

RMa	47.15	84.63	37.24	92.46	24
JMa	91.37	-1.27	125.03	125.03	91
GMa	63.07	-114.29	25.34	117.06	167
G50BMa	59.47	-80.61	-33.45	87.29	203
BMa	49.01	3.65	-81.19	81.28	273
B50RMa	44.06	106.09	-73.93	129.31	325
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	272

relative Inform. Technology (IT)

$olv^3*$  0.0 1.0 1.0 (1.0)

$cmy^3*$  1.0 0.0 0.0 (0.0)

$olv^4*$  1.0 1.0 1.0 1.0

$cmy^4*$  1.0 0.0 0.0 0.0</p

## Input: Colorimetric Reflective System NCS11

for hue  $h^* = lab^*h = 203/360 = 0.563$

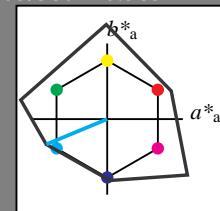
$lab^*tch$  and  $lab^*nch$

D65: hue G50B

LCH\*Ma: 59 87 203

olv\*Ma: 0.0 1.0 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

relative Inform. Technology (IT)  
 $olv^3*$  1.0 1.0 1.0 (1.0)  
 $cmy3*$  0.0 0.0 0.0 (0.0)  
 $olv^4*$  1.0 1.0 1.0 1.0  
 $cmy4*$  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 -  
 $lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)  
 $lab^*lrij$  1.0 0.0 0.0  
 $lab^*ice$  1.0 0.0 0.0  
 $lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)  
 $olv^3*$  0.5 0.5 0.5 (1.0)  
 $cmy3*$  0.5 0.5 0.5 (0.0)  
 $olv^4*$  1.0 1.0 1.0 0.5  
 $cmy4*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB  
 $LAB^*LAB$  53.21 0.04 0.0  
 $LAB^*LABa$  53.21 0.0 0.0  
 $LAB^*TChA$  50.0 0.01 -

relative CIELAB lab\*  
 $lab^*lab$  0.5 0.0 0.0  
 $lab^*tch$  0.5 0.0 -  
 $lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)  
 $lab^*lrij$  0.5 0.0 0.0  
 $lab^*ice$  0.5 0.0 0.0  
 $lab^*ncE$  0.5 0.0 -

relative Inform. Technology (IT)  
 $olv^3*$  0.0 0.0 0.0 (1.0)  
 $cmy3*$  1.0 1.0 1.0 (0.0)  
 $olv^4*$  1.0 1.0 1.0 0.0  
 $cmy4*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB  
 $LAB^*LAB$  11.01 0.07 0.01  
 $LAB^*LABa$  11.01 0.0 0.0  
 $LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*  
 $lab^*lab$  0.0 0.0 0.0  
 $lab^*tch$  0.0 0.0 -  
 $lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)  
 $lab^*lrij$  0.0 0.0 0.0  
 $lab^*ice$  0.0 0.0 -  
 $lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

%Gamut

$u^*_{rel} = 149$

%Regularity

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

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

relative Inform. Technology (IT)

$olv^3*$  0.5 1.0 1.0 (1.0)

$cmy3*$  0.5 0.0 0.0 (0.0)

$olv^4*$  0.5 1.0 1.0 1.0

$cmy4*$  0.5 0.0 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  77.43 -40.26 -16.71

$LAB^*LABa$  77.43 -40.29 -16.72

$LAB^*TChA$  75.0 43.63 202.54

relative CIELAB lab\*

$lab^*lab$  0.787 -0.461 -0.191

$lab^*tch$  0.75 0.5 0.563

$lab^*nch$  0.0 0.5 0.563

relative Natural Colour (NC)

$lab^*lrij$  0.787 -0.418 -0.272

$lab^*ice$  0.75 0.2 0.592

$lab^*ncE$  0.0 0.5 g36b

relative Inform. Technology (IT)

$olv^3*$  0.0 1.0 1.0 (1.0)

$cmy3*$  0.5 0.0 0.0 (0.0)

$olv^4*$  1.0 1.0 1.0 0.5

$cmy4*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  59.47 -80.55 -33.44

$LAB^*LABa$  59.47 -80.59 -33.44

$LAB^*TChA$  50.0 87.26 202.54

relative CIELAB lab\*

$lab^*lab$  0.574 -0.922 -0.382

$lab^*tch$  0.5 1.0 0.563

$lab^*nch$  0.0 1.0 0.563

relative Natural Colour (NC)

$lab^*lrij$  0.574 -0.836 -0.546

$lab^*ice$  0.5 1.0 0.592

$lab^*ncE$  0.0 1.0 g36b

relative Inform. Technology (IT)

$olv^3*$  0.0 0.5 0.5 (1.0)

$cmy3*$  1.0 0.5 0.5 (0.0)

$olv^4*$  1.0 1.0 1.0 0.5

$cmy4*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  11.01 0.07 0.01

$LAB^*LABa$  11.01 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*ice$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 0,00$



chromaticness  $c^*$

blackness  $n^*$

$n^* = 0,50$

$n^* = 1,00$

## Output: Colorimetric Reflective System NRS11

for hue  $h^* = lab^*h = 203/360 = 0.564$

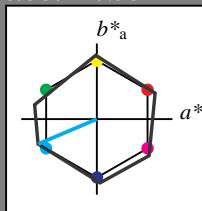
$lab^*tch$  and  $lab^*nch$

D65: hue G50B

LCH\*Ma: 53 84 203

olv\*Ma: 0.0 1.0 1.0

triangle lightness  $t^*$



### NRS11; adapted (a) CIELAB data

	$L^*=L^*_a$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	53.2	77.06	34.32	84.36	24
JMa	53.2	-1.51	84.38	84.39	91
GMa	53.2	-82.27	18.98	84.44	167
G50BMa	53.2	-77.72	-32.98	84.44	203
BMa	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)  
 $olv^3*$  1.0 1.0 1.0 (1.0)  
 $cmy3*$  0.0 0.0 0.0 (0.0)  
 $olv^4*$  1.0 1.0 1.0 1.0  
 $cmy4*$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*ice$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)

$olv^3*$  0.5 1.0 1.0 (1.0)

$cmy3*$  0.5 0.0 0.0 (0.0)

$olv^4*$  0.5 1.0 1.0 1.0

$cmy4*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  59.47 -80.55 -33.44

$LAB^*LABa$  59.47 -80.59 -33.44

$LAB^*TChA$  50.0 87.26 202.54

relative CIELAB lab\*

$lab^*lab$  0.574 -0.922 -0.382

$lab^*tch$  0.5 1.0 0.563

$lab^*nch$  0.0 1.0 0.563

relative Natural Colour (NC)

$lab^*lrij$  0.574 -0.836 -0.546

$lab^*ice$  0.5 1.0 0.592

$lab^*ncE$  0.0 1.0 g36b

$n^* = 1,0$

$n^* = 0,50$

$n^* = 0,00$

chromaticness  $c^*$

blackness  $n^*$

$n^* = 0,50$

$n^* = 1,00$

$n^* = 0,00$

UE100-7, 3 step scales for constant CIELAB hue 203/360 = 0.563 (left)

3 step scales for constant CIELAB hue 203/360 = 0.564 (right)

## Input: Colorimetric Reflective System NCS11

for hue  $h^* = lab^*h = 203/360 = 0.563$

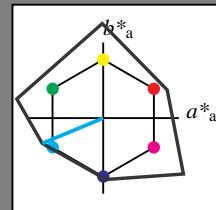
$lab^*tch$  and  $lab^*nch$

D65: hue G50B

LCH\*Ma: 59 87 203

olv\*Ma: 0.0 1.0 1.0

triangle lightness  $t^*$



%Gamut

$u^*_{rel} = 149$

%Regularity

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

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

relative Inform. Technology (IT)

$olv^3* 1.0 \quad 1.0 \quad 1.0 \quad (1.0)$

$cmy^3* 0.0 \quad 0.0 \quad 0.0 \quad (0.0)$

$olv^4* 1.0 \quad 1.0 \quad 1.0 \quad 1.0$

$cmy^4* 0.0 \quad 0.0 \quad 0.0 \quad 0.0$

standard and adapted CIELAB

$LAB^*LAB \quad 95.41 \quad 0.0 \quad -0.01$

$LAB^*LABa \quad 95.41 \quad 0.0 \quad 0.0$

$LAB^*TChA \quad 99.99 \quad 0.01 \quad -$

relative CIELAB lab\*

$lab^*lab \quad 1.0 \quad 0.0 \quad 0.0$

$lab^*tch \quad 1.0 \quad 0.0 \quad -$

$lab^*nch \quad 0.0 \quad 0.0 \quad -$

relative Natural Colour (NC)

$lab^*lrij \quad 1.0 \quad 0.0 \quad 0.0$

$lab^*tce \quad 1.0 \quad 0.0 \quad -$

$lab^*ncE \quad 0.0 \quad 0.0 \quad -$

relative Inform. Technology (IT)

$olv^3* 0.5 \quad 0.5 \quad 0.5 \quad (1.0)$

$cmy^3* 0.5 \quad 0.5 \quad 0.5 \quad (0.0)$

$olv^4* 1.0 \quad 1.0 \quad 1.0 \quad 0.5$

$cmy^4* 0.0 \quad 0.0 \quad 0.0 \quad 0.5$

standard and adapted CIELAB

$LAB^*LAB \quad 53.21 \quad 0.04 \quad 0.0$

$LAB^*LABa \quad 53.21 \quad 0.0 \quad 0.0$

$LAB^*TChA \quad 50.0 \quad 0.01 \quad -$

relative CIELAB lab\*

$lab^*lab \quad 0.5 \quad 0.0 \quad 0.0$

$lab^*tch \quad 0.5 \quad 0.0 \quad -$

$lab^*nch \quad 0.5 \quad 0.0 \quad -$

relative Natural Colour (NC)

$lab^*lrij \quad 0.5 \quad 0.0 \quad 0.0$

$lab^*tce \quad 0.5 \quad 0.0 \quad -$

$lab^*ncE \quad 0.5 \quad 0.0 \quad -$

relative Inform. Technology (IT)

$olv^3* 0.0 \quad 0.0 \quad 0.0 \quad (1.0)$

$cmy^3* 1.0 \quad 1.0 \quad 1.0 \quad (0.0)$

$olv^4* 1.0 \quad 1.0 \quad 1.0 \quad 0.0$

$cmy^4* 0.0 \quad 0.0 \quad 0.0 \quad 1.0$

standard and adapted CIELAB

$LAB^*LAB \quad 11.01 \quad 0.07 \quad 0.01$

$LAB^*LABa \quad 11.01 \quad 0.0 \quad 0.0$

$LAB^*TChA \quad 0.01 \quad 0.01 \quad -$

relative CIELAB lab\*

$lab^*lab \quad 0.0 \quad 0.0 \quad 0.0$

$lab^*tch \quad 0.0 \quad 0.0 \quad -$

$lab^*nch \quad 1.0 \quad 0.0 \quad -$

relative Natural Colour (NC)

$lab^*lrij \quad 0.0 \quad 0.0 \quad 0.0$

$lab^*tce \quad 0.0 \quad 0.0 \quad -$

$lab^*ncE \quad 1.0 \quad 0.0 \quad -$

$n^* = 1,0$

## NCS11; adapted (a) CIELAB data

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

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

## Output: Colorimetric Reflective System NCS11

for hue  $h^* = lab^*h = 203/360 = 0.563$

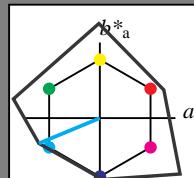
$lab^*tch$  and  $lab^*nch$

D65: hue G50B

LCH\*Ma: 59 87 203

olv\*Ma: 0.0 1.0 1.0

triangle lightness  $t^*$



%Gamut

$u^*_{rel} = 149$

%Regularity

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

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

relative Inform. Technology (IT)

$olv^3* 1.0 \quad 1.0 \quad 1.0 \quad (1.0)$

$cmy^3* 0.0 \quad 0.0 \quad 0.0 \quad (0.0)$

$olv^4* 1.0 \quad 1.0 \quad 1.0 \quad 1.0$

$cmy^4* 0.0 \quad 0.0 \quad 0.0 \quad 0.0$

standard and adapted CIELAB

$LAB^*LAB \quad 95.41 \quad 0.0 \quad -0.01$

$LAB^*LABa \quad 95.41 \quad 0.0 \quad 0.0$

$LAB^*TChA \quad 99.99 \quad 0.01 \quad -$

relative CIELAB lab\*

$lab^*lab \quad 1.0 \quad 0.0 \quad 0.0$

$lab^*tch \quad 1.0 \quad 0.0 \quad -$

$lab^*nch \quad 0.0 \quad 0.0 \quad -$

relative Natural Colour (NC)

$lab^*lrij \quad 1.0 \quad 0.0 \quad 0.0$

$lab^*tce \quad 1.0 \quad 0.0 \quad -$

$lab^*ncE \quad 0.0 \quad 0.0 \quad -$

relative Inform. Technology (IT)

$olv^3* 0.5 \quad 1.0 \quad 1.0 \quad (1.0)$

$cmy^3* 0.5 \quad 0.5 \quad 0.5 \quad (0.0)$

$olv^4* 1.0 \quad 1.0 \quad 1.0 \quad 0.5$

$cmy^4* 0.0 \quad 0.0 \quad 0.0 \quad 0.5$

standard and adapted CIELAB

$LAB^*LAB \quad 59.47 \quad -80.55 \quad -33.44$

$LAB^*LABa \quad 59.47 \quad -80.59 \quad -33.44$

$LAB^*TChA \quad 50.0 \quad 87.26 \quad 202.54$

relative CIELAB lab\*

$lab^*lab \quad 0.787 \quad -0.461 \quad -0.191$

$lab^*tch \quad 0.75 \quad 0.5 \quad 0.563$

$lab^*nch \quad 0.0 \quad 0.5 \quad 0.563$

relative Natural Colour (NC)

$lab^*lrij \quad 0.787 \quad -0.418 \quad -0.272$

$lab^*tce \quad 0.75 \quad 0.5 \quad 0.592$

$lab^*ncE \quad 0.0 \quad 0.5 \quad g36b$

$n^* = 0,00$

blackness  $n^*$

chromaticness  $c^*$

$n^* = 0,50$

$n^* = 0,50$

$n^* = 1,00$

$n^* = 1,00$

$n^* = 1,0$

blackness  $n^*$

NCS11; adapted (a) CIELAB data					
	$L^*=L^*_{ab,a}$	$a^*_{ab,a}$	$b^*_{ab,a}$	$C^*_{ab,a}$	$h^*_{ab,a}$
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

NCS11; adapted (a) CIELAB data					
	$L^*=L^*_{ab,a}$	$a^*_{ab,a}$	$b^*_{ab,a}$	$C^*_{ab,a}$	$h^*_{ab,a}$
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

relative Inform. Technology (IT)
$olv^3* 1.0 \quad 1.0 \quad 1.0 \quad (1.0)$
$cmy^3* 0.0 \quad 0.0 \quad 0.0 \quad (0.0)$
$olv^4* 1.0 \quad 1.0 \quad 1.0 \quad 1.0$
$cmy^4* 0.0 \quad 0.0 \quad 0.0 \quad 0.0$
standard and adapted CIELAB
$LAB^*LAB \quad 95.41 \quad 0.0 \quad -0.01$
$LAB^*LABa \quad 95.41 \quad 0.0 \quad 0.0$
$LAB^*TChA \quad 99.99 \quad 0.01 \quad -$
relative CIELAB lab*
$lab^*lab \quad 1.0 \quad 0.0 \quad 0.0$
$lab^*tch \quad 1.0 \quad 0.0 \quad -$
$lab^*nch \quad 0.0 \quad 0.0 \quad -$
relative Natural Colour (NC)
$lab^*lrij \quad 1.0 \quad 0.0 \quad 0.0$
$lab^*tce \quad 1.0 \quad 0.0 \quad -$
$lab^*ncE \quad 0.0 \quad 0.0 \quad -$

relative Inform. Technology (IT)
$olv^3* 0.5 \quad 0.5 \quad 0.5 \quad (1.0)$
$cmy^3* 0.5 \quad 0.5 \quad 0.5 \quad (0.0)$
$olv^4* 0.5 \quad 1.0 \quad 1.0 \quad 0.5$
$cmy^4* 0.0 \quad 0.0 \quad 0.0 \quad 0.5$
standard and adapted CIELAB

## Input: Colorimetric Reflective System ORS18

for hue  $h^* = lab^*h = 305/360 = 0.847$

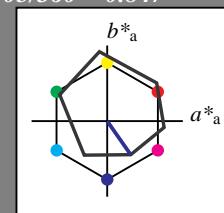
$lab^*tch$  and  $lab^*nch$

D65: hue V

LCH\*Ma: 26 54 305

olv\*Ma: 0.0 0.0 1.0

triangle lightness  $t^*$



relative Inform. Technology (IT)  
 $olv_i3^*$  1.0 1.0 1.0 (1.0)  
 $cmy_n3^*$  0.0 0.0 0.0 (0.0)

$olv_i4^*$  1.0 1.0 1.0 1.0  
 $cmy_n4^*$  0.0 0.0 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  95.41 -0.97 4.75  
 $LAB^*LABa$  95.41 0.0 0.0

$LAB^*TCh_a$  99.99 0.01 -

relative CIELAB lab\*

$lab^*lab$  1.0 0.0 0.0  
 $lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0  
 $lab^*tce$  1.0 0.0 -

$lab^*ncE$  0.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  60.56 15.24 -19.79  
 $LAB^*LABa$  60.56 15.55 -22.2

$LAB^*TCh_a$  75.0 27.11 305.0

relative CIELAB lab\*

$lab^*lab$  0.55 0.287 -0.408  
 $lab^*tch$  0.75 0.5 0.847

$lab^*nch$  0.0 0.5 0.847

relative Natural Colour (NC)

$lab^*lrij$  0.55 0.225 -0.446  
 $lab^*tce$  0.75 0.2 0.824

$lab^*ncE$  0.0 0.5 b29r

relative Inform. Technology (IT)  
 $olv_i3^*$  0.5 0.5 0.5 (1.0)  
 $cmy_n3^*$  0.5 0.5 0.5 (0.0)

$olv_i4^*$  1.0 1.0 1.0 0.5

$cmy_n4^*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  56.71 -0.23 2.14  
 $LAB^*LABa$  56.71 0.0 0.0

$LAB^*TCh_a$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0  
 $lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.5 0.0 0.0  
 $lab^*tce$  0.5 0.0 -

$lab^*ncE$  0.5 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.5 -0.46  
 $LAB^*LABa$  18.02 0.0 0.0

$LAB^*TCh_a$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0  
 $lab^*tch$  0.0 0.0 -

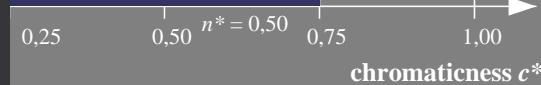
$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

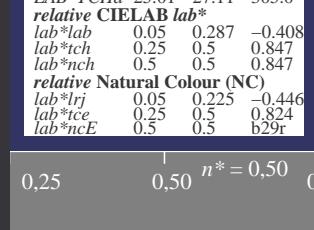
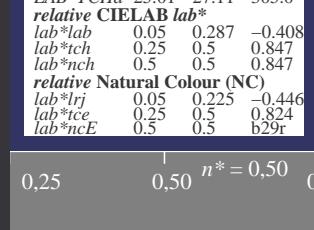
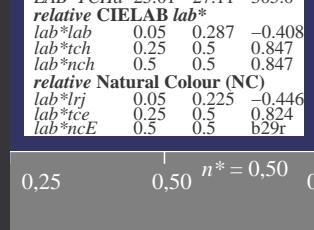
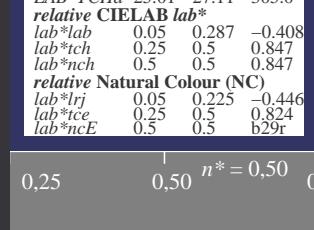
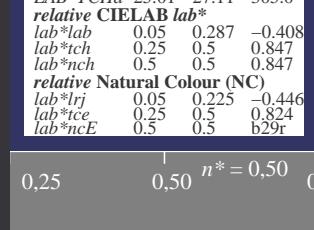
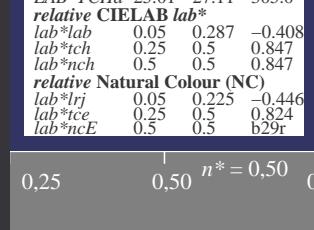
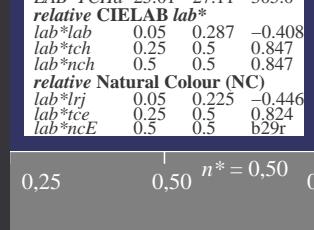
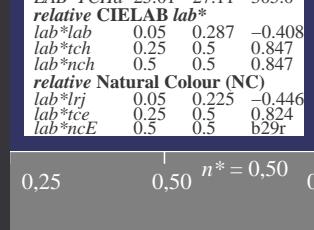
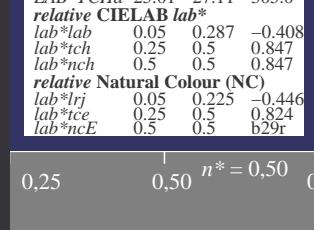
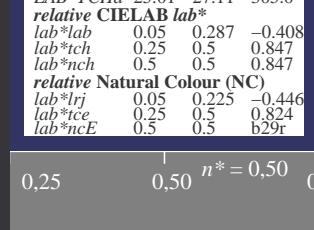
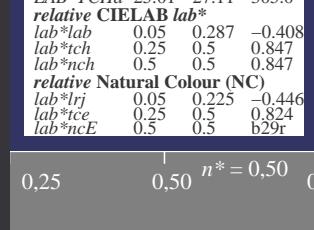
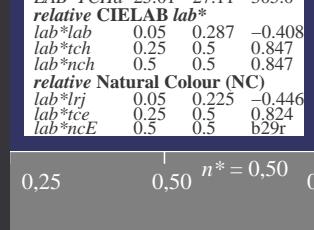
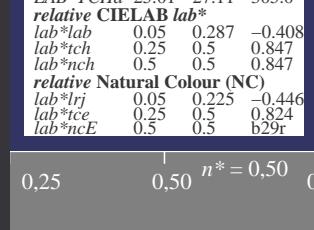
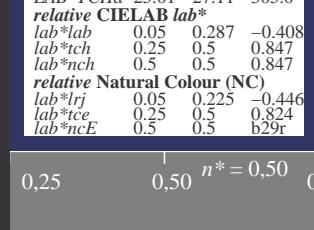
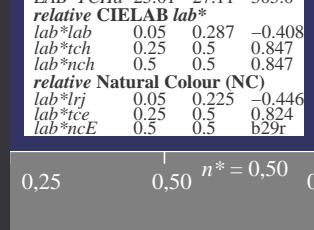
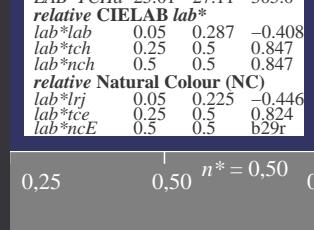
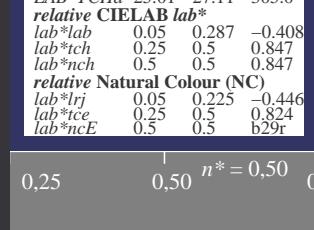
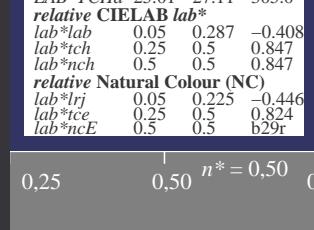
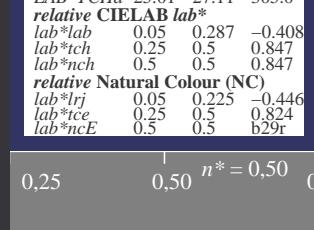
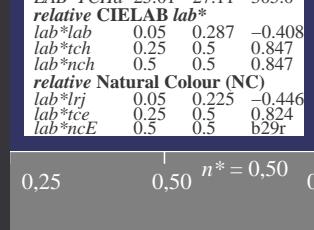
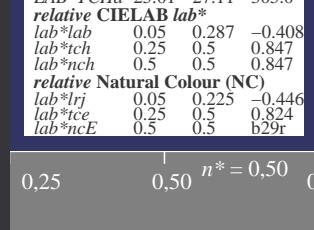
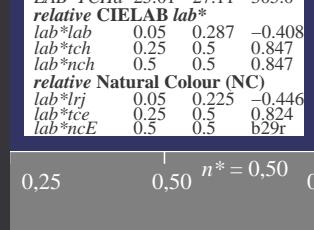
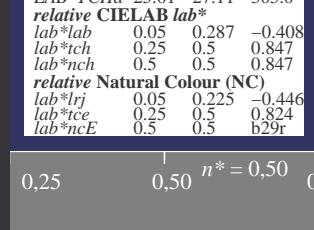
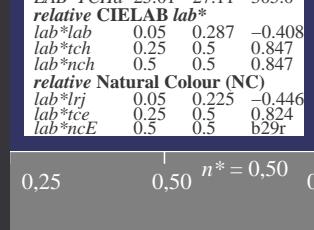
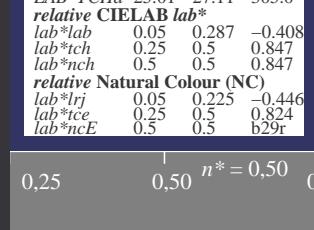
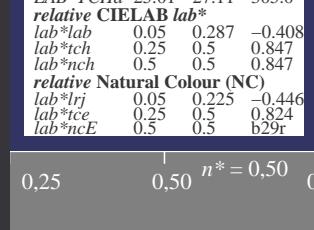
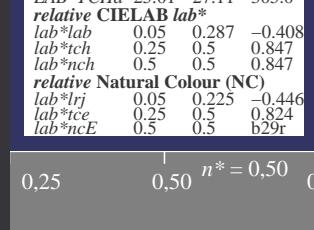
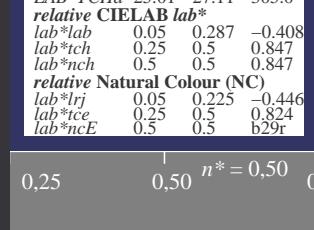
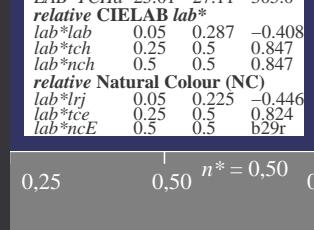
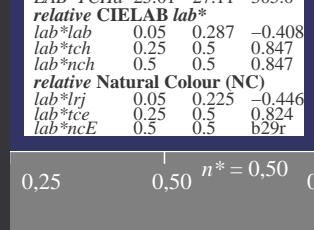
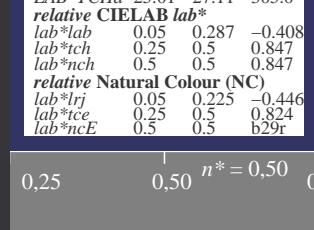
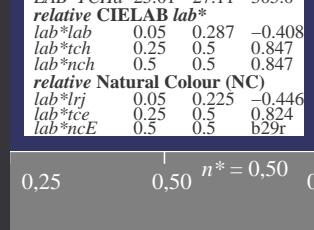
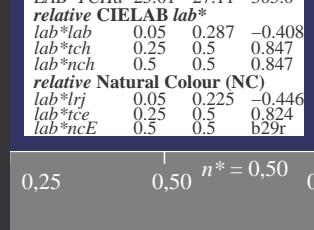
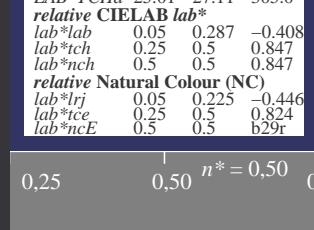
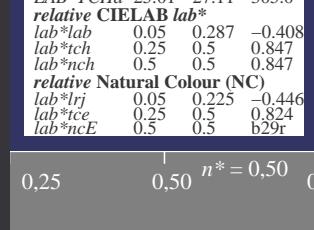
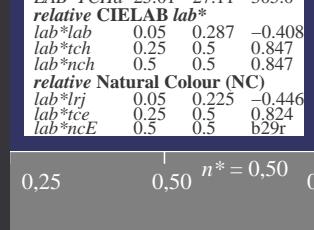
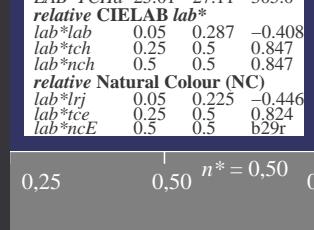
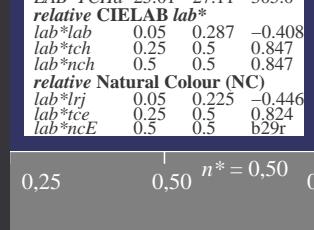
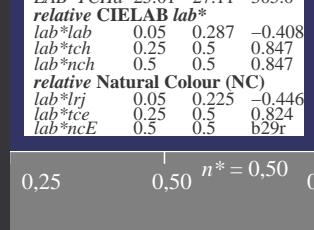
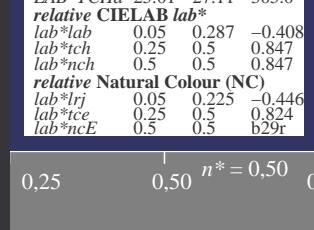
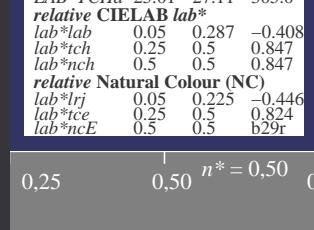
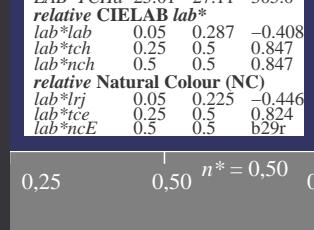
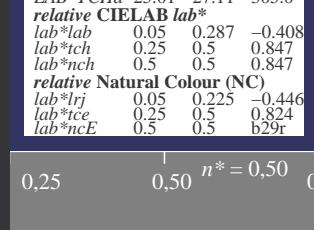
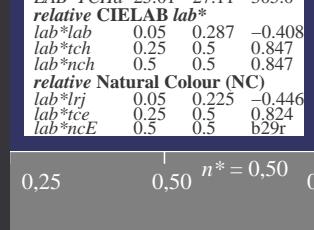
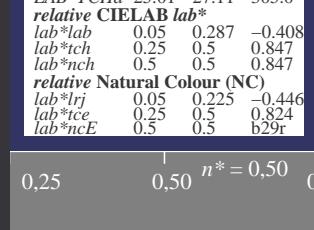
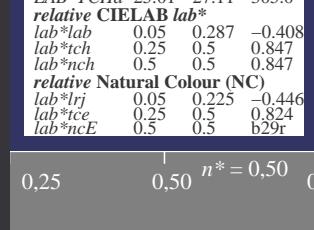
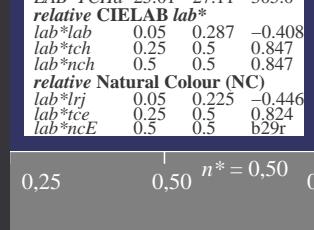
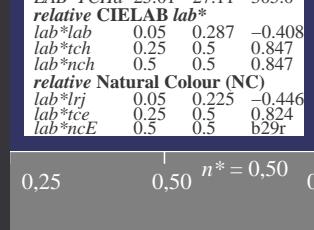
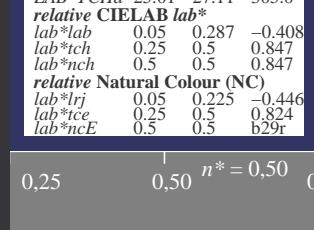
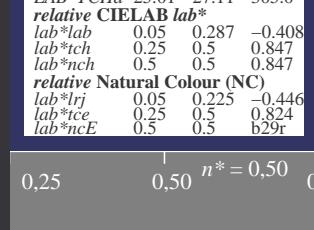
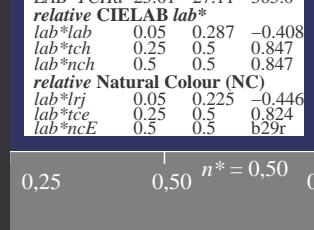
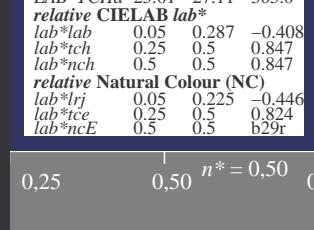
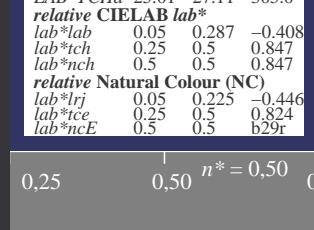
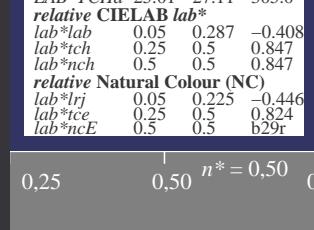
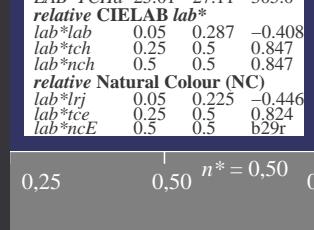
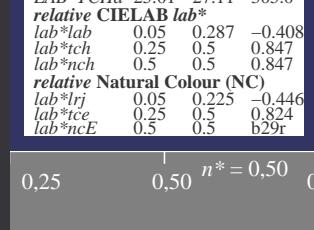
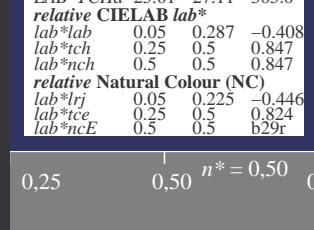
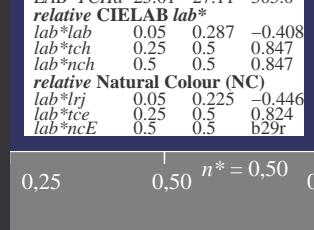
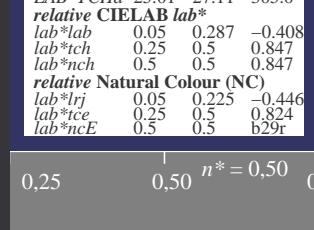
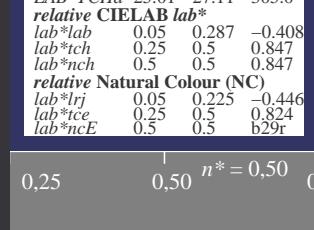
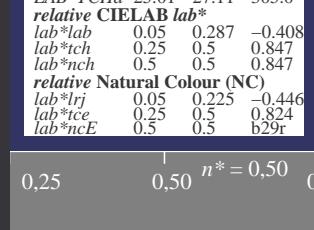
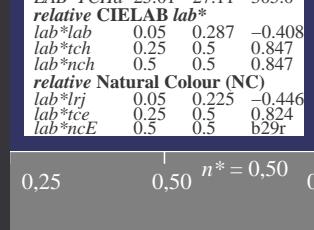
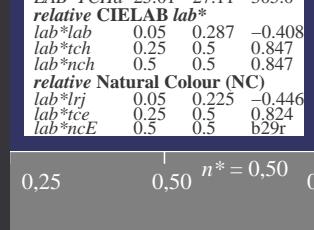
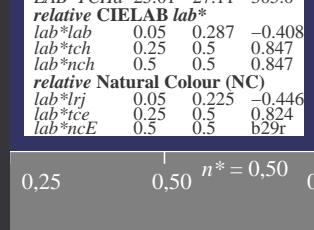
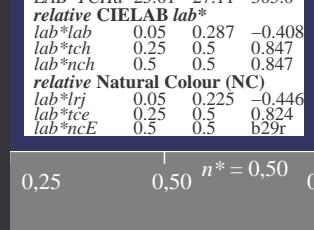
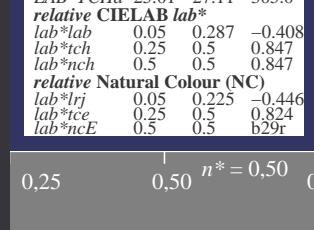
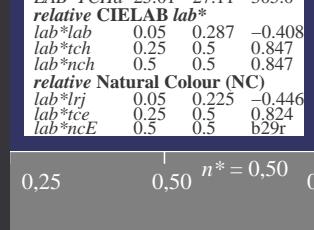
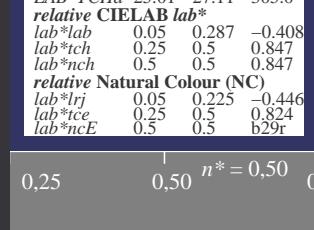
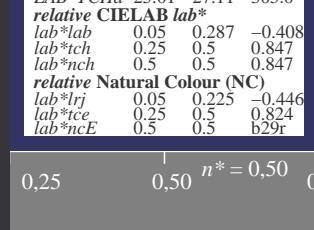
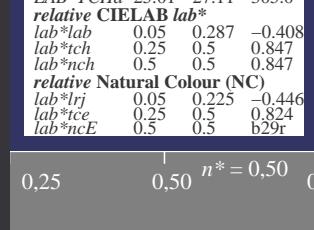
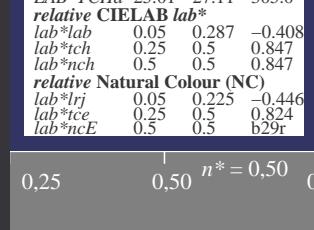
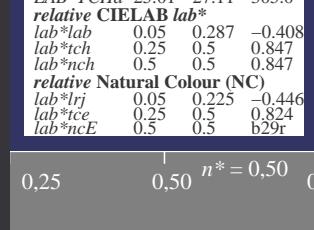
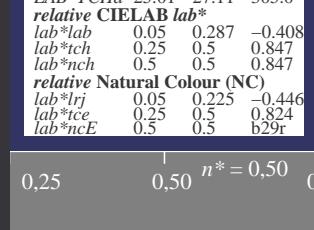
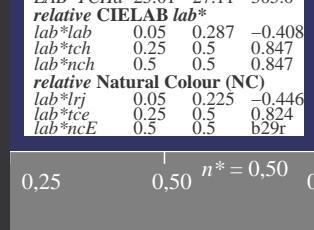
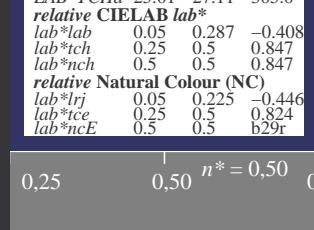
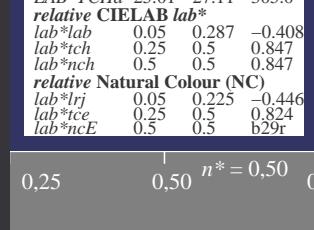
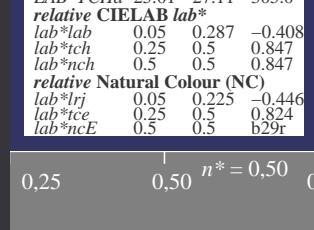
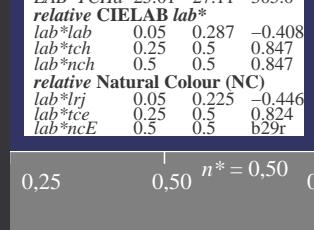
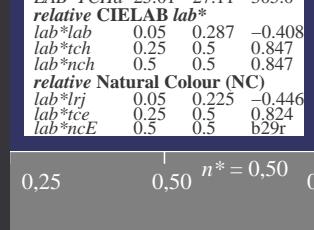
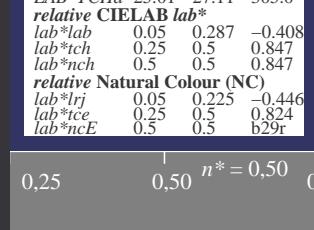
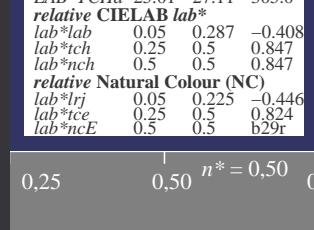
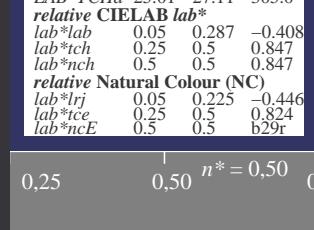
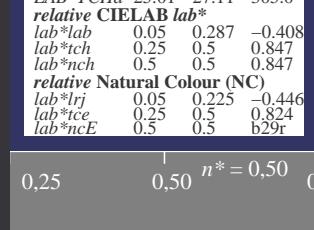
$lab^*lrij$  0.0 0.0 0.0  
 $lab^*tce$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$



$n^* = 0,00$



## Input: Colorimetric Reflective System ORS18

for hue  $h^* = lab^*h = 305/360 = 0.847$

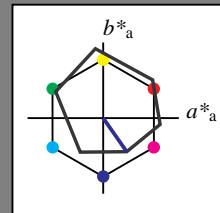
$lab^*tch$  and  $lab^*nch$

D65: hue V

LCH\*Ma: 26 54 305

olv\*Ma: 0.0 0.0 1.0

triangle lightness  $t^*$



## ORS18; adapted (a) CIELAB data

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

$olv_i3^*$  1.0 1.0 1.0 (1.0)

$cmy_n3^*$  0.0 0.0 0.0 (0.0)

$olv_i4^*$  1.0 1.0 1.0 1.0

$cmy_n4^*$  0.0 0.0 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  95.41 -0.97 4.75

$LAB^*LABa$  95.41 0.0 0.0

$LAB^*TCh$  99.99 0.01 -

relative CIELAB lab\*

$lab^*lab$  1.0 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 -

$lab^*ncE$  0.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  60.56 15.24 -19.79

$LAB^*LABa$  60.56 15.55 -22.2

$LAB^*TCh$  75.0 27.11 305.0

relative CIELAB lab\*

$lab^*lab$  0.55 0.287 -0.408

$lab^*tch$  0.75 0.5 0.847

$lab^*nch$  0.0 0.5 0.847

relative Natural Colour (NC)

$lab^*lrij$  0.55 0.225 -0.446

$lab^*tce$  0.75 0.2 0.824

$lab^*ncE$  0.0 0.5 b29r

relative Inform. Technology (IT)

$olv_i3^*$  0.5 0.5 0.5 (1.0)

$cmy_n3^*$  0.5 0.5 0.5 (0.0)

$olv_i4^*$  1.0 1.0 1.0 0.5

$cmy_n4^*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  56.71 -0.23 2.14

$LAB^*LABa$  56.71 0.0 0.0

$LAB^*TCh$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.5 0.0 0.0

$lab^*tce$  0.5 0.0 -

$lab^*ncE$  0.5 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.5 -0.46

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TCh$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*tce$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

$n^* = 0,00$

$n^* = 0,50$

$n^* = 1,00$

$chromaticness c^*$

UE100-7, 3 step scales for constant CIELAB hue 305/360 = 0.847 (left)

## Output: Colorimetric Reflective System MRS18

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

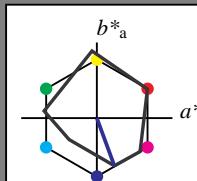
$lab^*tch$  and  $lab^*nch$

D65: hue B

LCH\*Ma: 37 67 290

olv\*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

relative Inform. Technology (IT)

$olv_i3^*$  1.0 1.0 1.0 (1.0)

$cmy_n3^*$  0.0 0.0 0.0 (0.0)

$olv_i4^*$  1.0 1.0 1.0 1.0

$cmy_n4^*$  0.0 0.0 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  95.41 -0.97 4.75

$LAB^*LABa$  95.41 0.0 0.0

$LAB^*TCh$  99.99 0.01 -

relative CIELAB lab\*

$lab^*lab$  1.0 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 -

$lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)

$olv_i3^*$  0.5 0.5 0.5 (1.0)

$cmy_n3^*$  0.5 0.5 0.5 (0.0)

$olv_i4^*$  1.0 1.0 1.0 0.5

$cmy_n4^*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  25.72 31.46 -44.36

$LAB^*LABa$  25.72 31.1 -44.41

$LAB^*TCh$  50.0 54.23 305.0

relative CIELAB lab\*

$lab^*lab$  0.1 0.573 -0.818

$lab^*tch$  0.5 1.0 0.847

$lab^*nch$  0.0 1.0 0.847

relative Natural Colour (NC)

$lab^*lrij$  0.1 0.449 -0.892

$lab^*tce$  0.5 1.0 0.824

$lab^*ncE$  0.0 1.0 b29r

$n^* = 1,0$

$n^* = 0,50$

$n^* = 1,00$

$chromaticness c^*$

$n^* = 0,00$

$n^* = 0,50$

$n^* = 1,00$

$chromaticness c^*$

3 step scales for constant CIELAB hue 290/360 = 0.806 (right)

## Input: Colorimetric Reflective System ORS18

for hue  $h^* = lab^*h = 305/360 = 0.847$

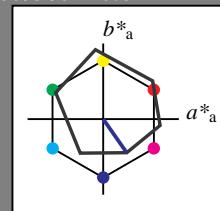
$lab^*tch$  and  $lab^*nch$

D65: hue V

LCH\*Ma: 26 54 305

olv\*Ma: 0.0 0.0 1.0

triangle lightness  $t^*$



### ORS18; adapted (a) CIELAB data

	$L^*=L^*_a$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
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)

$olv^3*$  1.0 1.0 1.0 (1.0)

$cmy^3*$  0.0 0.0 0.0 (0.0)

$olv^4*$  1.0 1.0 1.0 1.0

$cmy^4*$  0.0 0.0 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  95.41 -0.97 4.75

$LAB^*LABa$  95.41 0.0 0.0

$LAB^*TCh$  99.99 0.01 -

relative CIELAB lab\*

$lab^*lab$  1.0 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  1.0 0.0 0.0

$lab^*ice$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  60.56 15.24 -19.79

$LAB^*LABa$  60.56 15.55 -22.2

$LAB^*TCh$  75.0 27.11 305.0

relative CIELAB lab\*

$lab^*lab$  0.55 0.287 -0.408

$lab^*tch$  0.75 0.5 0.847

$lab^*nch$  0.0 0.5 0.847

relative Natural Colour (NC)

$lab^*lrj$  0.55 0.225 -0.446

$lab^*ice$  0.75 0.2 0.824

$lab^*ncE$  0.0 0.5 b29r

relative Inform. Technology (IT)

$olv^3*$  0.5 0.5 0.5 (1.0)

$cmy^3*$  0.5 0.5 0.5 (0.0)

$olv^4*$  1.0 1.0 1.0 0.5

$cmy^4*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  56.71 -0.23 2.14

$LAB^*LABa$  56.71 0.0 0.0

$LAB^*TCh$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  0.5 0.0 0.0

$lab^*ice$  0.5 0.0 0.0

$lab^*ncE$  0.5 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.5 -0.46

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TCh$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  0.0 0.0 0.0

$lab^*ice$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

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

%Gamut  
 $u^*_{rel} = 93$   
%Regularity  
 $g^*_{H,rel} = 57$   
 $g^*_{C,rel} = 59$

	relative Inform. Technology (IT)		
$olv^3*$	0.5	0.5	0.5 (1.0)
$cmy^3*$	0.5	0.5	0.5 (0.0)
$olv^4*$	1.0	1.0	1.0 0.5
$cmy^4*$	0.0	0.0	0.0 0.5
	relative CIELAB lab*		
$lab^*lab$	0.55	0.287	-0.408
$lab^*tch$	0.75	0.5	0.847
$lab^*nch$	0.0	0.5	0.847
	relative Natural Colour (NC)		
$lab^*lrj$	0.55	0.225	-0.446
$lab^*ice$	0.75	0.2	0.824
$lab^*ncE$	0.0	0.5	b29r
	standard and adapted CIELAB		
$LAB^*LAB$	60.56	15.24	-19.79
$LAB^*LABa$	60.56	15.55	-22.2
$LAB^*TCh$	75.0	27.11	305.0

	relative Inform. Technology (IT)		
$olv^3*$	0.0	0.0	1.0 (1.0)
$cmy^3*$	1.0	1.0	0.0 (0.0)
$olv^4*$	0.0	0.0	1.0 1.0
$cmy^4*$	0.5	0.5	0.5 0.5
	relative CIELAB lab*		
$lab^*lab$	0.1	0.573	-0.818
$lab^*tch$	0.5	1.0	0.847
$lab^*nch$	0.0	1.0	0.847
	relative Natural Colour (NC)		
$lab^*lrj$	0.1	0.449	-0.892
$lab^*ice$	0.5	1.0	0.824
$lab^*ncE$	0.0	1.0	b29r
	standard and adapted CIELAB		
$LAB^*LAB$	21.87	15.98	-22.4
$LAB^*LABa$	21.87	15.55	-22.2
$LAB^*TCh$	25.01	27.11	305.0

	relative Inform. Technology (IT)		
$olv^3*$	0.0	0.0	0.5 (1.0)
$cmy^3*$	1.0	1.0	0.0 (0.0)
$olv^4*$	1.0	1.0	1.0 0.5
$cmy^4*$	0.0	0.0	0.0 0.5
	relative CIELAB lab*		
$lab^*lab$	0.05	0.287	-0.408
$lab^*tch$	0.25	0.5	0.847
$lab^*nch$	0.5	0.5	0.847
	relative Natural Colour (NC)		
$lab^*lrj$	0.05	0.225	-0.446
$lab^*ice$	0.25	0.5	0.824
$lab^*ncE$	0.5	0.5	b29r
	standard and adapted CIELAB		
$LAB^*LAB$	18.02	0.5	-0.46
$LAB^*LABa$	18.02	0.0	0.0
$LAB^*TCh$	0.01	0.01	-

	relative Inform. Technology (IT)		
$olv^3*$	0.0	0.0	0.0 (1.0)
$cmy^3*$	1.0	1.0	0.0 (0.0)
$olv^4*$	1.0	1.0	1.0 1.0
$cmy^4*$	0.0	0.0	0.0 1.0
	relative CIELAB lab*		
$lab^*lab$	0.0	0.0	0.0
$lab^*tch$	0.0	0.0	-
$lab^*nch$	1.0	0.0	-
	relative Natural Colour (NC)		
$lab^*lrj$	0.0	0.0	0.0
$lab^*ice$	0.0	0.0	-
$lab^*ncE$	1.0	0.0	-
	standard and adapted CIELAB		
$LAB^*LAB$	18.02	0.5	-0.46
$LAB^*LABa$	18.02	0.0	0.0
$LAB^*TCh$	0.01	0.01	-

$n^* = 1,0$

blackness  $n^*$

chromaticness  $c^*$

## Output: Colorimetric Reflective System TRS18

for hue  $h^* = lab^*h = 305/360 = 0.847$

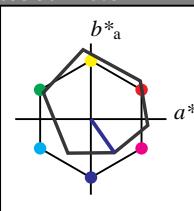
$lab^*tch$  and  $lab^*nch$

D65: hue V

LCH\*Ma: 26 54 305

olv\*Ma: 0.0 0.0 1.0

triangle lightness  $t^*$



%Gamut  
 $u^*_{rel} = 93$   
%Regularity  
 $g^*_{H,rel} = 57$   
 $g^*_{C,rel} = 59$

	relative Inform. Technology (IT)		
$olv^3*$	1.0	1.0	1.0 (1.0)
$cmy^3*$	0.0	0.0	0.0 (0.0)
$olv^4*$	1.0	1.0	1.0 1.0
$cmy^4*$	0.0	0.0	0.0 0.0
	standard and adapted CIELAB		
$LAB^*LAB$	95.41	-0.97	4.75
$LAB^*LABa$	95.41	0.0	0.0
$LAB^*TCh$	99.99	0.01	-
	relative CIELAB lab*		
$lab^*lab$	1.0	0.0	0.0
$lab^*tch$	1.0	0.0	

## Input: Colorimetric Reflective System ORS18

for hue  $h^* = lab^*h = 305/360 = 0.847$

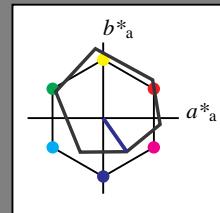
$lab^*tch$  and  $lab^*nch$

D65: hue V

LCH\*Ma: 26 54 305

olv\*Ma: 0.0 0.0 1.0

triangle lightness  $t^*$



### ORS18; adapted (a) CIELAB data

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

$olv_i3^*$  1.0 1.0 1.0 (1.0)

$cmy_n3^*$  0.0 0.0 0.0 (0.0)

$olv_i4^*$  1.0 1.0 1.0 1.0

$cmy_n4^*$  0.0 0.0 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  95.41 -0.97 4.75

$LAB^*LABa$  95.41 0.0 0.0

$LAB^*TCh$  99.99 0.01 -

relative CIELAB lab\*

$lab^*lab$  1.0 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 -

$lab^*ncE$  0.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  60.56 15.24 -19.79

$LAB^*LABa$  60.56 15.55 -22.2

$LAB^*TCh$  75.0 27.11 305.0

relative CIELAB lab\*

$lab^*lab$  0.55 0.287 -0.408

$lab^*tch$  0.75 0.5 0.847

$lab^*nch$  0.0 0.5 0.847

relative Natural Colour (NC)

$lab^*lrij$  0.55 0.225 -0.446

$lab^*tce$  0.75 0.2 0.824

$lab^*ncE$  0.0 0.5 b29r

relative Inform. Technology (IT)

$olv_i3^*$  0.5 0.5 0.5 (1.0)

$cmy_n3^*$  0.5 0.5 0.5 (0.0)

$olv_i4^*$  1.0 1.0 1.0 0.5

$cmy_n4^*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  56.71 -0.23 2.14

$LAB^*LABa$  56.71 0.0 0.0

$LAB^*TCh$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.5 0.0 0.0

$lab^*tce$  0.5 0.0 -

$lab^*ncE$  0.5 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.5 -0.46

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TCh$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*tce$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

relative Inform. Technology (IT)

$olv_i3^*$  0.5 0.5 0.5 (1.0)

$cmy_n3^*$  0.5 0.5 0.5 (0.0)

$olv_i4^*$  0.5 0.5 1.0 1.0

$cmy_n4^*$  0.5 0.5 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  60.56 15.24 -19.79

$LAB^*LABa$  60.56 15.55 -22.2

$LAB^*TCh$  75.0 27.11 305.0

relative CIELAB lab\*

$lab^*lab$  0.55 0.287 -0.408

$lab^*tch$  0.75 0.5 0.847

$lab^*nch$  0.0 0.5 0.847

relative Natural Colour (NC)

$lab^*lrij$  0.55 0.225 -0.446

$lab^*tce$  0.75 0.2 0.824

$lab^*ncE$  0.0 0.5 b29r

relative Inform. Technology (IT)

$olv_i3^*$  0.0 0.0 0.5 (1.0)

$cmy_n3^*$  1.0 1.0 0.0 (0.0)

$olv_i4^*$  0.0 0.0 1.0 1.0

$cmy_n4^*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  25.72 31.46 -44.36

$LAB^*LABa$  25.72 31.1 -44.41

$LAB^*TCh$  50.0 54.23 305.0

relative CIELAB lab\*

$lab^*lab$  0.1 0.573 -0.818

$lab^*tch$  0.5 1.0 0.847

$lab^*nch$  0.0 1.0 0.847

relative Natural Colour (NC)

$lab^*lrij$  0.1 0.449 -0.892

$lab^*tce$  0.5 1.0 0.824

$lab^*ncE$  0.0 1.0 b29r

relative Inform. Technology (IT)

$olv_i3^*$  0.0 0.0 0.5 (1.0)

$cmy_n3^*$  1.0 1.0 0.0 (0.0)

$olv_i4^*$  1.0 1.0 1.0 0.0

$cmy_n4^*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.1 0.02

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TCh$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*tce$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 0,00$

blackness  $n^*$

chromaticness  $c^*$

## Output: Colorimetric Reflective System MRS18a

for hue  $h^* = lab^*h = 290/360 = 0.807$

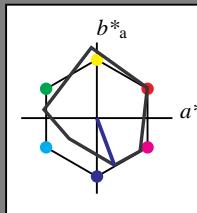
$lab^*tch$  and  $lab^*nch$

D65: hue B

LCH\*Ma: 37 66 290

olv\*Ma: 0.0 0.0 1.0

triangle lightness  $t^*$



	$L^*=L_a^*$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	49.63	66.8	40.02	77.87	31
JMa	90.7	-7.27	93.19	93.48	94
GMa	52.11	-69.93	11.26	70.85	171
G50BMa	45.03	-36.65	-27.13	45.61	217
BMa	36.65	23.26	-62.27	66.49	290
B50RMa	34.94	57.27	-43.6	71.99	323
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	272

relative Inform. Technology (IT)

$olv_i3^*$  1.0 1.0 1.0 (1.0)

$cmy_n3^*$  0.0 0.0 0.0 (0.0)

$olv_i4^*$  1.0 1.0 1.0 1.0

$cmy_n4^*$  0.0 0.0 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  95.41 0.01 0.0

$LAB^*LABa$  95.41 0.0 0.0

$LAB^*TCh$  99.99 0.01 -

relative CIELAB lab\*

$lab^*lab$  1.0 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 -

$lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)

$olv_i3^*$  0.5 0.5 0.5 (1.0)

$cmy_n3^*$  0.5 0.5 0.5 (0.0)

$olv_i4^*$  0.5 0.5 1.0 1.0

$cmy_n4^*$  0.5 0.5 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  66.03 11.67 -31.12

$LAB^*LABa$  66.03 11.63 -31.13

$LAB^*TCh$  75.0 33.24 290.48

relative CIELAB lab\*

$lab^*lab$  0.62 0.175 -0.467

$lab^*tch$  0.75 0.5 0.807

$lab^*nch$  0.0 0.5 0.807

relative Natural Colour (NC)

$lab^*lrij$  0.62 0.128 -0.482

$lab^*tce$  0.75 0.5 0.791

$lab^*ncE$  0.0 0.5 b16r

$n^* = 0,00$

blackness  $n^*$

chromaticness  $c^*$

UE100-7, 3 step scales for constant CIELAB hue 305/360 = 0.847 (left)

3 step scales for constant CIELAB hue 290/360 = 0.807 (right)

### Input: Colorimetric Reflective System ORS18

for hue  $h^* = lab^*h = 305/360 = 0.847$

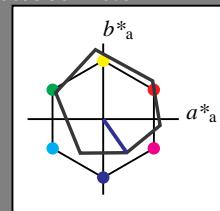
$lab^*tch$  and  $lab^*nch$

D65: hue V

LCH\*Ma: 26 54 305

olv\*Ma: 0.0 0.0 1.0

triangle lightness  $t^*$



### ORS18; adapted (a) CIELAB data

	$L^* = L^*_a$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
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)

$olv^3*$  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

$LAB^*LABa$  95.41 0.0 0.0

$LAB^*TCh$  99.99 0.01 -

relative CIELAB lab\*

$lab^*lab$  1.0 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  1.0 0.0 0.0

$lab^*ice$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  60.56 15.24 -19.79

$LAB^*LABa$  60.56 15.55 -22.2

$LAB^*TCh$  75.0 27.11 305.0

relative CIELAB lab\*

$lab^*lab$  0.55 0.287 -0.408

$lab^*tch$  0.75 0.5 0.847

$lab^*nch$  0.0 0.5 0.847

relative Natural Colour (NC)

$lab^*lrj$  0.55 0.225 -0.446

$lab^*ice$  0.75 0.2 0.824

$lab^*ncE$  0.0 0.5 b29r

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 0.5

$cmyn^4*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  56.71 -0.23 2.14

$LAB^*LABa$  56.71 0.0 0.0

$LAB^*TCh$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  0.5 0.0 0.0

$lab^*ice$  0.5 0.0 0.0

$lab^*ncE$  0.5 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.5 -0.46

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TCh$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  0.0 0.0 0.0

$lab^*ice$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

relative Inform. Technology (IT)

$olv^3*$  0.0 0.0 0.0 (1.0)

$cmyn^3*$  1.0 1.0 1.0 (0.0)

$olv^4*$  1.0 1.0 1.0 0.0

$cmyn^4*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.5 -0.46

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TCh$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  0.0 0.0 0.0

$lab^*ice$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.5 -0.46

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TCh$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  0.0 0.0 0.0

$lab^*ice$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 1,00$

$n^* = 0,00$

blackness  $n^*$

chromaticness  $c^*$

### Output: Colorimetric Reflective System NRS18

for hue  $h^* = lab^*h = 273/360 = 0.758$

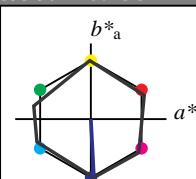
$lab^*tch$  and  $lab^*nch$

D65: hue B

LCH\*Ma: 57 77 273

olv\*Ma: 0.0 0.0 1.0

triangle lightness  $t^*$



### NRS18; adapted (a) CIELAB data

	$L^* = L^*_a$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	56.7	70.66	31.47	77.35	24
JMa	56.7	-1.39	77.37	77.39	91
GMa	56.7	-75.46	17.4	77.45	167
G50BMa	56.7	-71.29	-30.25	77.45	203
BMa	56.7	4.0	-77.3	77.41	273
B50RMa	56.7	63.35	-44.4	77.36	325
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	272

%Gamut

$u^*_{rel} = 93$

%Regularity

$g^*_{H,rel} = 57$

$g^*_{C,rel} = 59$

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 0.0

$LAB^*LABa$  95.41 0.0 0.0

$LAB^*TCh$  99.99 0.01 -

relative CIELAB lab\*

$lab^*lab$  1.0 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  1.0 0.0 0.0

$lab^*ice$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  60.56 15.24 -19.79

$LAB^*LABa$  60.56 15.55 -22.2

$LAB^*TCh$  75.0 27.11 305.0

relative CIELAB lab\*

$lab^*lab$  0.55 0.287 -0.408

$lab^*tch$  0.75 0.5 0.847

$lab^*nch$  0.0 0.5 0.847

relative Natural Colour (NC)

$lab^*lrj$  0.55 0.225 -0.446

$lab^*ice$  0.75 0.2 0.824

$lab^*ncE$  0.0 0.5 b29r

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 0.5

$cmyn^4*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  56.7 4.0 0.0

$LAB^*LABa$  56.7 4.0 0.0

$LAB^*TCh$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.75 0.026 -0.498

$lab^*tch$  0.75 0.5 0.758

$lab^*nch$  0.0 0.5 0.758

relative Natural Colour (NC)

$lab^*lrj$  0.75 0.009 -0.499

$lab^*ice$  0.75 0.5 0.753

$lab^*ncE$  0.0 0.5 b01r

$n^* = 0,00$

blackness  $n^*$

chromaticness  $c^*$

$n^* = 1,0$

blackness  $n^*$

chromaticness  $c^*$

UE100-7, 3 step scales for constant CIELAB hue 305/360 = 0.847 (left)

3 step scales for constant CIELAB hue 273/360 = 0.758 (right)

## Input: Colorimetric Reflective System ORS18

for hue  $h^* = lab^*h = 305/360 = 0.847$

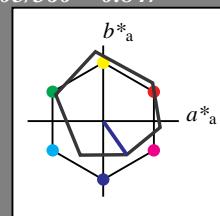
$lab^*tch$  and  $lab^*nch$

D65: hue V

LCH\*Ma: 26 54 305

olv\*Ma: 0.0 0.0 1.0

triangle lightness  $t^*$



## ORS18; adapted (a) CIELAB data

	$L^* = L^*_a$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
O <sub>Ma</sub>	47.94	65.37	50.52	82.62	38
Y <sub>Ma</sub>	90.37	-10.27	91.77	92.34	96
L <sub>Ma</sub>	50.9	-62.79	34.95	71.87	151
C <sub>Ma</sub>	58.62	-30.35	-45.01	54.3	236
V <sub>Ma</sub>	25.71	31.11	-44.42	54.24	305
M <sub>Ma</sub>	48.13	75.27	-8.35	75.73	354
N <sub>Ma</sub>	18.01	0.0	0.0	0.0	0
W <sub>Ma</sub>	95.41	0.0	0.0	0.0	0
R <sub>CIE</sub>	39.92	58.66	26.98	64.56	25
J <sub>CIE</sub>	81.26	-2.17	67.76	67.79	92
G <sub>CIE</sub>	52.23	-42.26	11.75	43.87	164
B <sub>CIE</sub>	30.57	1.15	-46.84	46.87	271

relative Inform. Technology (IT)

$olv^3*$  1.0 1.0 1.0 (1.0)

$cmy^3*$  0.0 0.0 0.0 (0.0)

$olv^4*$  1.0 1.0 1.0 1.0

$cmy^4*$  0.0 0.0 0.0 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 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 -

$lab^*ncE$  0.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  60.56 15.24 -19.79

$LAB^*LABa$  60.56 15.55 -22.2

$LAB^*TChA$  75.0 27.11 305.0

relative CIELAB lab\*

$lab^*lab$  0.55 0.287 -0.408

$lab^*tch$  0.75 0.5 0.847

$lab^*nch$  0.0 0.5 0.847

relative Natural Colour (NC)

$lab^*lrij$  0.55 0.225 -0.446

$lab^*tce$  0.75 0.2 0.824

$lab^*ncE$  0.0 0.5 b29r

relative Inform. Technology (IT)

$olv^3*$  0.5 0.5 0.5 (1.0)

$cmy^3*$  0.5 0.5 0.5 (0.0)

$olv^4*$  1.0 1.0 1.0 0.5

$cmy^4*$  0.0 0.0 0.0 0.5

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 CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.5 0.0 0.0

$lab^*tce$  0.5 0.0 -

$lab^*ncE$  0.5 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.5 -0.46

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*tce$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

relative Inform. Technology (IT)

$olv^3*$  0.0 0.0 0.5 (1.0)

$cmy^3*$  1.0 1.0 0.5 (0.0)

$olv^4*$  0.5 0.5 1.0 0.5

$cmy^4*$  0.5 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  21.87 15.98 -22.4

$LAB^*LABa$  21.87 15.55 -22.2

$LAB^*TChA$  25.01 27.11 305.0

relative CIELAB lab\*

$lab^*lab$  0.05 0.287 -0.408

$lab^*tch$  0.25 0.5 0.847

$lab^*nch$  0.5 0.5 0.847

relative Natural Colour (NC)

$lab^*lrij$  0.05 0.225 -0.446

$lab^*tce$  0.25 0.5 0.824

$lab^*ncE$  0.5 0.5 b29r

relative Inform. Technology (IT)

$olv^3*$  0.0 0.0 0.0 (1.0)

$cmy^3*$  1.0 1.0 1.0 (0.0)

$olv^4*$  1.0 1.0 1.0 0.0

$cmy^4*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.5 -0.46

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*tce$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

$n^* = 0,00$

blackness  $n^*$

chromaticness  $c^*$

## Output: Colorimetric Reflective System NCS18

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

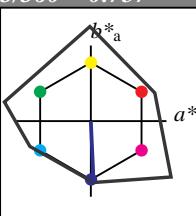
$lab^*tch$  and  $lab^*nch$

D65: hue B

LCH\*Ma: 49 81 273

olv\*Ma: 0.0 0.0 1.0

triangle lightness  $t^*$



## NCS18; adapted (a) CIELAB data

	$L^* = L^*_a$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
R <sub>Ma</sub>	47.15	84.63	37.24	92.46	24
J <sub>Ma</sub>	91.37	-1.27	125.03	125.03	91
G <sub>Ma</sub>	63.07	-114.29	25.34	117.07	167
G50B <sub>Ma</sub>	59.47	-80.61	-33.45	87.29	203
B <sub>Ma</sub>	49.01	3.63	-81.2	81.29	273
B50R <sub>Ma</sub>	44.06	106.07	-73.94	129.31	325
N <sub>Ma</sub>	18.01	0.0	0.0	0.0	0
W <sub>Ma</sub>	95.41	0.0	0.0	0.0	0
R <sub>CIE</sub>	39.92	58.67	27.97	64.99	25
J <sub>CIE</sub>	81.26	-2.91	71.56	71.62	92
G <sub>CIE</sub>	52.23	-42.47	13.58	44.6	162
B <sub>CIE</sub>	30.57	1.33	-46.48	46.51	272

relative Inform. Technology (IT)

$olv^3*$  1.0 1.0 1.0 (1.0)

$cmy^3*$  0.0 0.0 0.0 (0.0)

$olv^4*$  1.0 1.0 1.0 1.0

$cmy^4*$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 -

$lab^*ncE$  0.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  72.21 1.85 -40.58

$LAB^*LABa$  72.21 1.82 -40.59

$LAB^*TChA$  75.0 40.64 272.56

relative CIELAB lab\*

$lab^*lab$  0.7 0.022 -0.498

$lab^*tch$  0.75 0.5 0.757

$lab^*nch$  0.0 0.5 0.757

relative Natural Colour (NC)

$lab^*lrij$  0.7 0.006 -0.499

$lab^*tce$  0.75 0.5 0.752

$lab^*ncE$  0.0 0.5 b600r

relative Inform. Technology (IT)

$olv^3*$  0.0 0.0 0.5 (1.0)

$cmy^3*$  1.0 1.0 1.0 (0.0)

$olv^4*$  1.0 1.0 1.0 0.0

$cmy^4*$  0.5 0.5 0.5 0.5

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.09 0.02

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.2 0.022 -0.498

$lab^*tch$  0.25 0.5 0.757

$lab^*nch$  0.5 0.5 0.757

relative Natural Colour (NC)

$lab^*lrij$  0.2 0.006 -0.499

$lab^*tce$  0.25 0.5 0.752

$lab^*ncE$  0.5 0.5 b600r

$n^* = 1,0$

$n^* = 0,00$

blackness  $n^*$

chromaticness  $c^*$

UE100-7, 3 step scales for constant CIELAB hue 305/360 = 0.847 (left)

3 step scales for constant CIELAB hue 273/360 = 0.757 (right)

## Input: Colorimetric Reflective System ORS18

for hue  $h^* = lab^*h = 305/360 = 0.847$

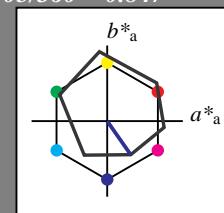
$lab^*tch$  and  $lab^*nch$

D65: hue V

LCH\*Ma: 26 54 305

olv\*Ma: 0.0 0.0 1.0

triangle lightness  $t^*$



### ORS18; adapted (a) CIELAB data

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

$olv^3*$  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

$LAB^*LABa$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  60.56 15.24 -19.79

$LAB^*LABa$  60.56 15.55 -22.2

$LAB^*TChA$  75.0 27.11 305.0

relative CIELAB lab\*

$lab^*lab$  0.55 0.287 -0.408

$lab^*tch$  0.75 0.5 0.847

$lab^*nch$  0.0 0.5 0.847

relative Natural Colour (NC)

$lab^*lrij$  0.55 0.225 -0.446

$lab^*tce$  0.75 0.2 0.824

$lab^*ncE$  0.0 0.5 b29r

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 0.5

$cmyn^4*$  0.0 0.0 0.0 0.5

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 CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.5 0.0 0.0

$lab^*tce$  0.5 0.0 0.0

$lab^*ncE$  0.5 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.5 -0.46

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*tce$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

relative Inform. Technology (IT)

$olv^3*$  0.0 0.0 0.0 (1.0)

$cmyn^3*$  1.0 1.0 1.0 (0.0)

$olv^4*$  1.0 1.0 1.0 0.0

$cmyn^4*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.5 -0.46

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*tce$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.5 -0.46

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*tce$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

## Output: Colorimetric Reflective System NRS11

for hue  $h^* = lab^*h = 273/360 = 0.758$

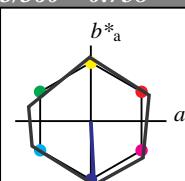
$lab^*tch$  and  $lab^*nch$

D65: hue B

LCH\*Ma: 53 84 273

olv\*Ma: 0.0 0.0 1.0

triangle lightness  $t^*$



### NRS11; adapted (a) CIELAB data

	$L^*=L_a^*$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	53.2	77.06	34.32	84.36	24
JMa	53.2	-1.51	84.38	84.39	91
GMa	53.2	-82.27	18.98	84.44	167
G50BMa	53.2	-77.72	-32.98	84.44	203
BMa	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

%Gamut

$u^*_{rel} = 93$

%Regularity

$g^*_{H,rel} = 57$

$g^*_{C,rel} = 59$

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

$LAB^*LABa$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  74.3 2.21 -42.13

$LAB^*LABa$  74.3 2.19 -42.13

$LAB^*TChA$  75.0 42.2 272.97

relative CIELAB lab\*

$lab^*lab$  0.75 0.026 -0.498

$lab^*tch$  0.75 0.5 0.758

$lab^*nch$  0.0 0.5 0.758

relative Natural Colour (NC)

$lab^*lrij$  0.75 0.009 -0.499

$lab^*tce$  0.75 0.5 0.753

$lab^*ncE$  0.0 0.5 b01r

relative Inform. Technology (IT)

$olv^3*$  0.0 0.0 0.0 (1.0)

$cmyn^3*$  1.0 1.0 0.0 (0.0)

$olv^4*$  0.0 0.0 1.0 1.0

$cmyn^4*$  1.0 1.0 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  53.2 4.42 -84.26

$LAB^*LABa$  53.2 4.37 -84.27

$LAB^*TChA$  50.0 84.39 272.97

relative CIELAB lab\*

$lab^*lab$  0.5 0.052 -0.997

$lab^*tch$  0.5 1.0 0.758

$lab^*nch$  0.0 1.0 0.758

relative Natural Colour (NC)

$lab^*lrij$  0.5 0.018 -0.999

$lab^*tce$  0.5 1.0 0.753

$lab^*ncE$  0.0 1.0 b01r

$n^* = 0,00$

blackness  $n^*$

$n^* = 1,0$

chromaticness  $c^*$

UE100-7, 3 step scales for constant CIELAB hue 305/360 = 0.847 (left)

3 step scales for constant CIELAB hue 273/360 = 0.758 (right)

## Input: Colorimetric Reflective System ORS18

for hue  $h^* = lab^*h = 305/360 = 0.847$

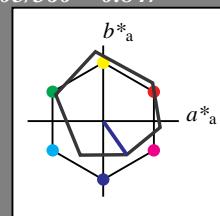
$lab^*tch$  and  $lab^*nch$

D65: hue V

LCH\*Ma: 26 54 305

olv\*Ma: 0.0 0.0 1.0

triangle lightness  $t^*$



### ORS18; adapted (a) CIELAB data

	$L^* = L_a^*$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
O Ma	47.94	65.37	50.52	82.62	38
Y Ma	90.37	-10.27	91.77	92.34	96
L Ma	50.9	-62.79	34.95	71.87	151
C Ma	58.62	-30.35	-45.01	54.3	236
V Ma	25.71	31.11	-44.42	54.24	305
M Ma	48.13	75.27	-8.35	75.73	354
N Ma	18.01	0.0	0.0	0.0	0
W Ma	95.41	0.0	0.0	0.0	0
R CIE	39.92	58.66	26.98	64.56	25
J CIE	81.26	-2.17	67.76	67.79	92
G CIE	52.23	-42.26	11.75	43.87	164
B CIE	30.57	1.15	-46.84	46.87	271

%Gamut

$u^*_{rel} = 93$

%Regularity

$g^*_{H,rel} = 57$

$g^*_{C,rel} = 59$

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 0.0 0.0

$lab^{*tch}$  1.0 0.0 -

$lab^{*nch}$  0.0 0.0 -

relative Natural Colour (NC)

$lab^{*lrij}$  1.0 0.0 0.0

$lab^{*tice}$  1.0 0.0 -

$lab^{*ncE}$  0.0 0.0 -

relative Inform. Technology (IT)

$olv^{*3*}$  0.5 0.5 0.5 (1.0)

$cmy^{*3*}$  0.5 0.5 0.5 (0.0)

$olv^{*4*}$  1.0 1.0 1.0 0.5

$cmy^{*4*}$  0.0 0.0 0.0 0.5

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 CIELAB lab\*

$lab^{*lab}$  0.5 0.0 0.0

$lab^{*tch}$  0.5 0.0 -

$lab^{*nch}$  0.5 0.0 -

relative Natural Colour (NC)

$lab^{*lrij}$  0.5 0.0 0.0

$lab^{*tice}$  0.5 0.0 -

$lab^{*ncE}$  0.5 0.0 -

relative Inform. Technology (IT)

$olv^{*3*}$  0.0 0.0 0.0 (1.0)

$cmy^{*3*}$  1.0 1.0 1.0 (0.0)

$olv^{*4*}$  1.0 1.0 1.0 0.0

$cmy^{*4*}$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^{*LAB}$  18.02 0.5 -0.46

$LAB^{*LABa}$  18.02 0.0 0.0

$LAB^{*TChA}$  0.01 0.01 -

relative CIELAB lab\*

$lab^{*lab}$  0.0 0.0 0.0

$lab^{*tch}$  0.0 0.0 -

$lab^{*nch}$  1.0 0.0 -

relative Natural Colour (NC)

$lab^{*lrij}$  0.0 0.0 0.0

$lab^{*tice}$  0.0 0.0 -

$lab^{*ncE}$  1.0 0.0 -

$n^* = 1,0$

$n^* = 0,00$

$n^* = 0,50$

$n^* = 1,00$

blackness  $n^*$

chromaticness  $c^*$

UE100-7, 3 step scales for constant CIELAB hue 305/360 = 0.847 (left)

## Output: Colorimetric Reflective System NCS11

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

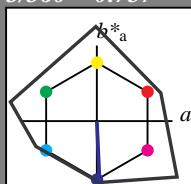
$lab^*tch$  and  $lab^*nch$

D65: hue B

LCH\*Ma: 49 81 273

olv\*Ma: 0.0 0.0 1.0

triangle lightness  $t^*$



### NCS11; adapted (a) CIELAB data

	$L^* = L_a^*$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
R Ma	47.15	84.64	37.25	92.48	24
J Ma	91.37	-1.27	125.03	125.03	91
G Ma	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
R CIE	39.92	58.69	27.98	65.01	25
J CIE	81.26	-2.9	71.56	71.62	92
G CIE	52.23	-42.45	13.59	44.59	162
B CIE	30.57	1.35	-46.48	46.51	272

%Gamut

$u^*_{rel} = 149$

%Regularity

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

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

relative Inform. Technology (IT)

$olv^{*3*}$  0.5 0.5 0.5 (1.0)

$cmy^{*3*}$  0.5 0.5 0.5 (0.0)

$olv^{*4*}$  0.5 0.5 1.0 1.0

$cmy^{*4*}$  0.5 0.5 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 -

$lab^{*nch}$  0.0 0.0 -

relative Natural Colour (NC)

$lab^{*lrij}$  1.0 0.0 0.0

$lab^{*tice}$  1.0 0.0 -

$lab^{*ncE}$  0.0 0.0 -

relative Inform. Technology (IT)

$olv^{*3*}$  0.0 0.0 0.5 (1.0)

$cmy^{*3*}$  1.0 1.0 1.0 (0.0)

$olv^{*4*}$  1.0 1.0 1.0 0.0

$cmy^{*4*}$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^{*LAB}$  53.21 0.04 0.0

$LAB^{*LABa}$  53.21 0.0 0.0

$LAB^{*TChA}$  50.0 0.01 -

relative CIELAB lab\*

$lab^{*lab}$  0.1 0.573 -0.818

$lab^{*tch}$  0.5 1.0 0.847

$lab^{*nch}$  0.0 1.0 0.847

relative Natural Colour (NC)

$lab^{*lrij}$  0.1 0.449 -0.892

$lab^{*tice}$  0.5 1.0 0.824

$lab^{*ncE}$  0.0 1.0 b29r

$n^* = 0,00$

relative Inform. Technology (IT)

$olv^{*3*}$  0.0 0.0 1.0 (1.0)

$cmy^{*3*}$  1.0 1.0 0.0 (0.0)

$olv^{*4*}$  0.0 0.0 1.0 1.0

$cmy^{*4*}$  1.0 1.0 0.0 0.0

standard and adapted CIELAB

$LAB^{*LAB}$  49.02 3.7 -81.16

$LAB^{*LABa}$  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)

$lab^{*lrij}$  0.45 0.013 -0.999

$lab^{*tice}$  0.5 1.0 0.752

$lab^{*ncE}$  0.0 1.0 b00r

$n^* = 0,00$

$n^* = 0,50$

$n^* = 1,00$

blackness  $n^*$

chromaticness  $c^*$

$n^* = 1,0$

3 step scales for constant CIELAB hue 273/360 = 0.757 (right)

## Input: Colorimetric Reflective System MRS18

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

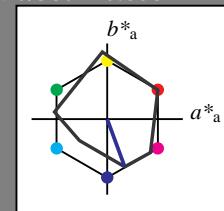
$lab^*tch$  and  $lab^*nch$

D65: hue B

LCH\*Ma: 37 67 290

olv\*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

relative Inform. Technology (IT)

$olv_i3^*$  1.0 1.0 1.0 (1.0)

$cmyn3^*$  0.0 0.0 0.0 (0.0)

$olv_i4^*$  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

$LAB^*LABa$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 -

$lab^*ncE$  0.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  66.03 11.17 -28.74

$LAB^*LABa$  66.03 11.59 -31.51

$LAB^*TChA$  75.0 33.59 290.19

relative CIELAB lab\*

$lab^*lab$  0.62 0.173 -0.468

$lab^*tch$  0.75 0.5 0.806

$lab^*nch$  0.0 0.5 0.806

relative Natural Colour (NC)

$lab^*lrij$  0.62 0.129 -0.482

$lab^*tce$  0.75 0.2 0.791

$lab^*ncE$  0.0 0.5 b16r

relative Inform. Technology (IT)

$olv_i3^*$  0.5 0.5 0.5 (1.0)

$cmyn3^*$  0.5 0.5 0.5 (0.0)

$olv_i4^*$  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

$LAB^*LABa$  56.71 0.0 0.0

$LAB^*TChA$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.5 0.0 0.0

$lab^*tce$  0.5 0.0 -

$lab^*ncE$  0.5 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.5 -0.46

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*tce$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

### relative Inform. Technology (IT)

$olv_i3^*$  0.0 0.0 0.5 (1.0)

$cmyn3^*$  1.0 1.0 0.5 (0.0)

$olv_i4^*$  0.5 0.5 1.0 0.5

$cmyn4^*$  0.5 0.5 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  27.34 11.92 -31.35

$LAB^*LABa$  27.34 11.59 -31.51

$LAB^*TChA$  25.01 33.59 290.19

relative CIELAB lab\*

$lab^*lab$  0.12 0.173 -0.468

$lab^*tch$  0.25 0.5 0.806

$lab^*nch$  0.5 0.5 0.806

relative Natural Colour (NC)

$lab^*lrij$  0.12 0.129 -0.482

$lab^*tce$  0.25 0.5 b16r

$lab^*ncE$  0.5 0.5 b16r

relative Inform. Technology (IT)

$olv_i3^*$  0.0 0.0 0.5 (1.0)

$cmyn3^*$  1.0 1.0 0.5 (0.0)

$olv_i4^*$  1.0 1.0 1.0 0.0

$cmyn4^*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.5 -0.46

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

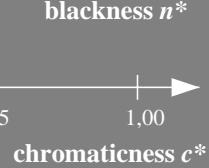
relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*tce$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 0,00$



## Output: Colorimetric Reflective System ORS18

for hue  $h^* = lab^*h = 305/360 = 0.847$

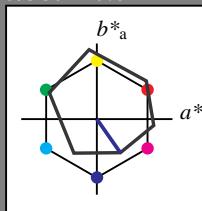
$lab^*tch$  and  $lab^*nch$

D65: hue V

LCH\*Ma: 26 54 305

olv\*Ma: 0.0 0.0 1.0

triangle lightness  $t^*$



### ORS18; adapted (a) CIELAB data

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

$olv_i3^*$  1.0 1.0 1.0 (1.0)

$cmyn3^*$  0.0 0.0 0.0 (0.0)

$olv_i4^*$  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

$LAB^*LABa$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 -

$lab^*ncE$  0.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  60.56 15.24 -19.79

$LAB^*LABa$  60.56 15.55 -22.2

$LAB^*TChA$  75.0 27.11 305.0

relative CIELAB lab\*

$lab^*lab$  0.55 0.287 -0.408

$lab^*tch$  0.75 0.5 0.847

$lab^*nch$  0.0 0.5 0.847

relative Natural Colour (NC)

$lab^*lrij$  0.55 0.225 -0.446

$lab^*tce$  0.75 0.5 0.824

$lab^*ncE$  0.0 0.5 b29r

relative Inform. Technology (IT)

$olv_i3^*$  0.0 0.0 0.5 (1.0)

$cmyn3^*$  1.0 1.0 0.5 (0.0)

$olv_i4^*$  1.0 1.0 1.0 0.0

$cmyn4^*$  0.5 0.5 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.5 -0.46

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

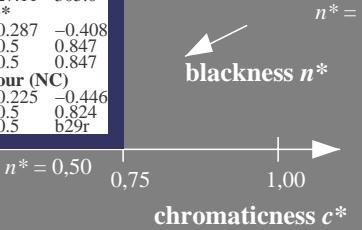
relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*tce$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 0,00$



3 step scales for constant CIELAB hue 290/360 = 0.806 (left)

3 step scales for constant CIELAB hue 305/360 = 0.847 (right)

## Input: Colorimetric Reflective System MRS18

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

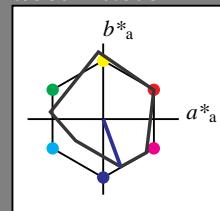
$lab^*tch$  and  $lab^*nch$

D65: hue B

LCH\*Ma: 37 67 290

olv\*Ma: 0.0 0.0 1.0

triangle lightness  $t^*$



### MRS18; adapted (a) CIELAB data

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

$olv^3*$  1.0 1.0 1.0 (1.0)

$cmy3^*$  0.0 0.0 0.0 (0.0)

$olv^4*$  1.0 1.0 1.0 1.0

$cmy4^*$  0.0 0.0 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  95.41 -0.97 4.75

$LAB^*LABa$  95.41 0.0 0.0

$LAB^*TCh$  99.99 0.01 -

relative CIELAB lab\*

$lab^*lab$  1.0 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  66.03 11.17 -28.74

$LAB^*LABa$  66.03 11.59 -31.51

$LAB^*TCh$  75.0 33.59 290.19

relative CIELAB lab\*

$lab^*lab$  0.62 0.173 -0.468

$lab^*tch$  0.75 0.5 0.806

$lab^*nch$  0.0 0.5 0.806

relative Natural Colour (NC)

$lab^*lrij$  0.62 0.129 -0.482

$lab^*tce$  0.75 0.2 0.791

$lab^*ncE$  0.0 0.5 b16r

relative Inform. Technology (IT)

$olv^3*$  0.5 0.5 0.5 (1.0)

$cmy3^*$  0.5 0.5 0.5 (0.0)

$olv^4*$  1.0 1.0 1.0 0.5

$cmy4^*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  56.71 -0.23 2.14

$LAB^*LABa$  56.71 0.0 0.0

$LAB^*TCh$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.5 0.0 0.0

$lab^*tce$  0.5 0.0 0.0

$lab^*ncE$  0.5 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.5 -0.46

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TCh$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

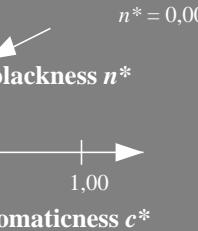
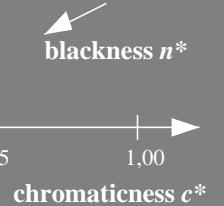
$lab^*lrij$  0.0 0.0 0.0

$lab^*tce$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

$n^* = 0,00$



## Output: Colorimetric Reflective System MRS18

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

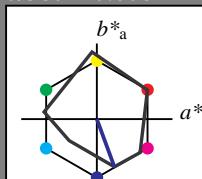
$lab^*tch$  and  $lab^*nch$

D65: hue B

LCH\*Ma: 37 67 290

olv\*Ma: 0.0 0.0 1.0

triangle lightness  $t^*$



### MRS18; adapted (a) CIELAB data

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

$olv^3*$  1.0 1.0 1.0 (1.0)

$cmy3^*$  0.0 0.0 0.0 (0.0)

$olv^4*$  1.0 1.0 1.0 1.0

$cmy4^*$  0.0 0.0 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  95.41 -0.97 4.75

$LAB^*LABa$  95.41 0.0 0.0

$LAB^*TCh$  99.99 0.01 -

relative CIELAB lab\*

$lab^*lab$  1.0 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  66.03 11.17 -28.74

$LAB^*LABa$  66.03 11.59 -31.51

$LAB^*TCh$  75.0 33.59 290.19

relative CIELAB lab\*

$lab^*lab$  0.62 0.173 -0.468

$lab^*tch$  0.75 0.5 0.806

$lab^*nch$  0.0 0.5 0.806

relative Natural Colour (NC)

$lab^*lrij$  0.62 0.129 -0.482

$lab^*tce$  0.75 0.2 0.791

$lab^*ncE$  0.0 0.5 b16r

relative Inform. Technology (IT)

$olv^3*$  0.0 0.0 0.0 (1.0)

$cmy3^*$  1.0 1.0 1.0 (0.0)

$olv^4*$  1.0 1.0 1.0 0.5

$cmy4^*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  36.65 23.33 -62.24

$LAB^*LABa$  36.65 23.18 -63.03

$LAB^*TCh$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.241 0.345 -0.937

$lab^*tch$  0.5 1.0 0.806

$lab^*nch$  0.0 1.0 0.806

relative Natural Colour (NC)

$lab^*lrij$  0.241 0.257 -0.965

$lab^*tce$  0.5 1.0 0.791

$lab^*ncE$  0.0 1.0 b16r

$n^* = 1,0$

$n^* = 0,50$

$n^* = 0,50$

$n^* = 1,00$

$n^* = 0,00$

$n^* = 0,00$

$n^* = 1,00$

$n^* = 0,50$

$n^* = 0,50$

$n^* = 1,00$

$n^* = 0,25$

$n^* = 0,25$

$n^* = 1,00$

$n^* = 0,75$

$n^* = 0,75$

$n^* = 1,00$

$n^* = 0,50$

$n^* = 0,50$

$n^* = 1,00$

$n^* = 0,25$

$n^* = 0,25$

$n^* = 1,00$

$n^* = 0,00$

$n^* = 0,00$

$n^* = 1,00$

$n^* = 0,50$

$n^* = 0,25$

$n^* = 0,00$

$n^* = 0,00$

$n^* = 1,00$

$n^* = 0,50$

$n^* = 0,25$

$n^* = 0,00$

$n^* = 0,00$

$n^* = 1,00$

$n^* = 0,50$

$n^* = 0,25$

$n^* = 0,00$

$n^* = 0,00$

$n^* = 1,00$

$n^* = 0,50$

$n^* = 0,25$

$n^* = 0,00$

$n^* = 0,00$

$n^* = 1,00$

$n^* = 0,50$

$n^* = 0,25$

$n^* = 0,00$

$n^* = 0,00$

$n^* = 1,00$

## Input: Colorimetric Reflective System MRS18

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

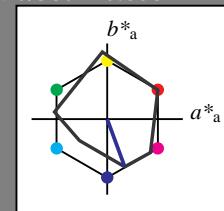
$lab^*tch$  and  $lab^*nch$

D65: hue B

LCH\*Ma: 37 67 290

olv\*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

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

$LAB^*LABa$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrf$  1.0 0.0 0.0

$lab^*fce$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  66.03 11.17 -28.74

$LAB^*LABa$  66.03 11.59 -31.51

$LAB^*TChA$  75.0 33.59 290.19

relative CIELAB lab\*

$lab^*lab$  0.62 0.173 -0.468

$lab^*tch$  0.75 0.5 0.806

$lab^*nch$  0.0 0.5 0.806

relative Natural Colour (NC)

$lab^*lrf$  0.62 0.129 -0.482

$lab^*fce$  0.75 0.2 0.791

$lab^*ncE$  0.0 0.5 b16r

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 0.5

$cmyn^4*$  0.0 0.0 0.0 0.5

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 CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrf$  0.5 0.0 0.0

$lab^*fce$  0.5 0.0 0.0

$lab^*ncE$  0.5 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.5 -0.46

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrf$  0.0 0.0 0.0

$lab^*fce$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

relative Inform. Technology (IT)

$olv^3*$  0.0 0.0 0.0 (1.0)

$cmyn^3*$  1.0 1.0 1.0 (0.0)

$olv^4*$  1.0 1.0 1.0 0.0

$cmyn^4*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.5 -0.46

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrf$  0.0 0.0 0.0

$lab^*fce$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.5 -0.46

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

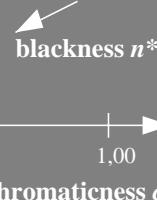
$lab^*lrf$  0.0 0.0 0.0

$lab^*fce$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

$n^* = 0,00$



## Output: Colorimetric Reflective System TRS18

for hue  $h^* = lab^*h = 305/360 = 0.847$

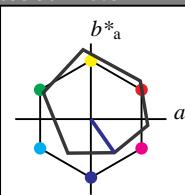
$lab^*tch$  and  $lab^*nch$

D65: hue V

LCH\*Ma: 26 54 305

olv\*Ma: 0.0 0.0 1.0

triangle lightness  $t^*$



## TRS18; adapted (a) CIELAB data

	$L^* = L^*_a$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
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)

$olv^3*$  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

$LAB^*LABa$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrf$  1.0 0.0 0.0

$lab^*fce$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  66.03 11.17 -28.74

$LAB^*LABa$  66.03 11.59 -31.51

$LAB^*TChA$  75.0 33.59 290.19

relative CIELAB lab\*

$lab^*lab$  0.62 0.173 -0.468

$lab^*tch$  0.75 0.5 0.806

$lab^*nch$  0.0 0.5 0.806

relative Natural Colour (NC)

$lab^*lrf$  0.62 0.129 -0.482

$lab^*fce$  0.75 0.2 0.791

$lab^*ncE$  0.0 0.5 b16r

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 0.5

$cmyn^4*$  0.5 0.5 0.5 0.5

standard and adapted CIELAB

$LAB^*LAB$  36.65 23.33 -62.24

$LAB^*LABa$  36.65 23.18 -63.03

$LAB^*TChA$  50.0 67.17 290.19

relative CIELAB lab\*

$lab^*lab$  0.241 0.345 -0.937

$lab^*tch$  0.5 1.0 0.806

$lab^*nch$  0.0 1.0 0.806

relative Natural Colour (NC)

$lab^*lrf$  0.241 0.257 -0.965

$lab^*fce$  0.5 1.0 0.791

$lab^*ncE$  0.0 1.0 b16r

relative Inform. Technology (IT)

$olv^3*$  0.0 0.0 0.0 (1.0)

$cmyn^3*$  1.0 1.0 1.0 (0.0)

$olv^4*$  1.0 1.0 1.0 0.0

$cmyn^4*$  0.5 0.5 0.5 0.5

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.5 -0.46

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrf$  0.0 0.0 0.0

$lab^*fce$  0.0 0.

## Input: Colorimetric Reflective System MRS18

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

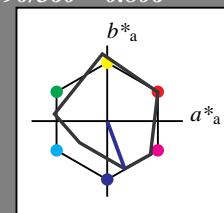
$lab^*tch$  and  $lab^*nch$

D65: hue B

LCH\*Ma: 37 67 290

olv\*Ma: 0.0 0.0 1.0

triangle lightness  $t^*$



### MRS18; adapted (a) CIELAB data

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

$olv^3*$  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

$LAB^*LABa$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 -

$lab^*ncE$  0.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  66.03 11.17 -28.74

$LAB^*LABa$  66.03 11.59 -31.51

$LAB^*TChA$  75.0 33.59 290.19

relative CIELAB lab\*

$lab^*lab$  0.62 0.173 -0.468

$lab^*tch$  0.75 0.5 0.806

$lab^*nch$  0.0 0.5 0.806

relative Natural Colour (NC)

$lab^*lrij$  0.62 0.129 -0.482

$lab^*tce$  0.75 0.2 0.791

$lab^*ncE$  0.0 0.5 b16r

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 0.5

$cmyn^4*$  0.0 0.0 0.0 0.5

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 CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.5 0.0 0.0

$lab^*tce$  0.5 0.0 -

$lab^*ncE$  0.5 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.5 -0.46

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*tce$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

relative Inform. Technology (IT)

$olv^3*$  0.0 0.0 0.0 (1.0)

$cmyn^3*$  1.0 1.0 1.0 (0.0)

$olv^4*$  1.0 1.0 1.0 0.0

$cmyn^4*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.5 -0.46

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*tce$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.1 -0.02

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

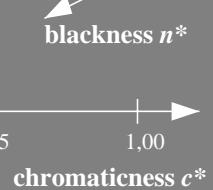
relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*tce$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 0,00$



## Output: Colorimetric Reflective System MRS18a

for hue  $h^* = lab^*h = 290/360 = 0.807$

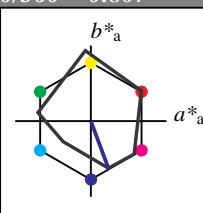
$lab^*tch$  and  $lab^*nch$

D65: hue B

LCH\*Ma: 37 66 290

olv\*Ma: 0.0 0.0 1.0

triangle lightness  $t^*$



### MRS18a; adapted (a) CIELAB data

	$L^* = L^*_{ab}$	$a^*_{ab}$	$b^*_{ab}$	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	49.63	66.96	38.37	77.18	30
JMa	90.7	-7.27	93.19	93.48	94
GMa	52.11	-69.93	11.26	70.85	171
G50BMa	45.03	-36.65	-27.13	45.61	217
BMa	36.65	23.26	-62.27	66.49	290
B50RMa	34.94	57.27	-43.6	71.99	323
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	272

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 0.01 0.0

$LAB^*LABa$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 -

$lab^*ncE$  0.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  66.03 11.67 -31.12

$LAB^*LABa$  66.03 11.63 -31.13

$LAB^*TChA$  75.0 33.24 290.48

relative CIELAB lab\*

$lab^*lab$  0.62 0.175 -0.467

$lab^*tch$  0.75 0.5 0.807

$lab^*nch$  0.0 0.5 0.807

relative Natural Colour (NC)

$lab^*lrij$  0.62 0.128 -0.482

$lab^*tce$  0.75 0.5 0.791

$lab^*ncE$  0.0 0.5 b16r

relative Inform. Technology (IT)

$olv^3*$  0.5 0.5 0.5 (1.0)

$cmyn^3*$  0.5 0.5 0.5 (0.0)

$olv^4*$  0.5 0.5 1.0 1.0

$cmyn^4*$  0.5 0.5 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  36.65 23.33 -62.24

$LAB^*LABa$  36.65 23.25 -62.26

$LAB^*TChA$  50.0 66.47 290.48

relative CIELAB lab\*

$lab^*lab$  0.241 0.35 -0.936

$lab^*tch$  0.5 1.0 0.807

$lab^*nch$  0.0 1.0 0.807

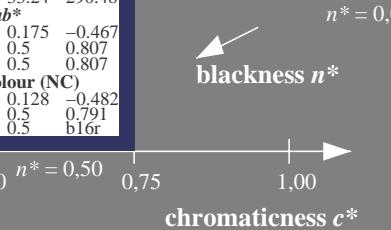
relative Natural Colour (NC)

$lab^*lrij$  0.241 0.257 -0.965

$lab^*tce$  0.5 1.0 0.791

$lab^*ncE$  0.0 1.0 b16r

$n^* = 0,00$



$n^* = 1,0$

3 step scales for constant CIELAB hue 290/360 = 0.807 (right)

UE100-7, 3 step scales for constant CIELAB hue 290/360 = 0.806 (left)

## Input: Colorimetric Reflective System MRS18

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

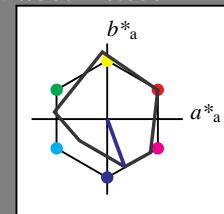
$lab^*tch$  and  $lab^*nch$

D65: hue B

LCH\*Ma: 37 67 290

olv\*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

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

$LAB^*LABa$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 -

$lab^*ncE$  0.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  66.03 11.17 -28.74

$LAB^*LABa$  66.03 11.59 -31.51

$LAB^*TChA$  75.0 33.59 290.19

relative CIELAB lab\*

$lab^*lab$  0.62 0.173 -0.468

$lab^*tch$  0.75 0.5 0.806

$lab^*nch$  0.0 0.5 0.806

relative Natural Colour (NC)

$lab^*lrij$  0.62 0.129 -0.482

$lab^*tce$  0.75 0.2 0.791

$lab^*ncE$  0.0 0.5 b16r

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 0.5

$cmyn^4*$  0.0 0.0 0.0 0.5

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 CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.5 0.0 0.0

$lab^*tce$  0.5 0.0 -

$lab^*ncE$  0.5 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.05 -0.46

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*tce$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

relative Inform. Technology (IT)

$olv^3*$  0.0 0.0 0.0 (1.0)

$cmyn^3*$  1.0 1.0 1.0 (0.0)

$olv^4*$  1.0 1.0 1.0 0.0

$cmyn^4*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.05 -0.46

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.12 0.173 -0.468

$lab^*tch$  0.25 0.5 0.806

$lab^*nch$  0.5 0.5 0.806

relative Natural Colour (NC)

$lab^*lrij$  0.12 0.129 -0.482

$lab^*tce$  0.25 0.5 0.791

$lab^*ncE$  0.5 0.5 b16r

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.09 0.02

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

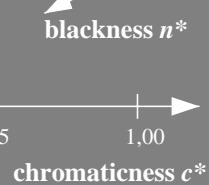
relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*tce$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 0,00$



## Output: Colorimetric Reflective System NRS18

for hue  $h^* = lab^*h = 273/360 = 0.758$

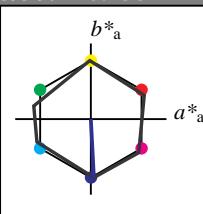
$lab^*tch$  and  $lab^*nch$

D65: hue B

LCH\*Ma: 57 77 273

olv\*Ma: 0.0 0.0 1.0

triangle lightness  $t^*$



	$L^* = L^*_a$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	56.7	70.66	31.47	77.35	24
JMa	56.7	-1.39	77.37	77.39	91
GMa	56.7	-75.46	17.4	77.45	167
G50BMa	56.7	-71.29	-30.25	77.45	203
BMa	56.7	4.0	-77.3	77.41	273
B50RMa	56.7	63.35	-44.4	77.36	325
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	272

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 0.0

$LAB^*LABa$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 -

$lab^*ncE$  0.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  66.03 11.17 -28.74

$LAB^*LABa$  66.03 11.59 -31.51

$LAB^*TChA$  75.0 33.59 290.19

relative CIELAB lab\*

$lab^*lab$  0.241 0.345 -0.937

$lab^*tch$  0.5 1.0 0.806

$lab^*nch$  0.0 1.0 0.806

relative Natural Colour (NC)

$lab^*lrij$  0.241 0.257 -0.965

$lab^*tce$  0.5 1.0 0.791

$lab^*ncE$  0.0 1.0 b16r

relative Inform. Technology (IT)

$olv^3*$  0.0 0.0 0.0 (1.0)

$cmyn^3*$  1.0 1.0 1.0 (0.0)

$olv^4*$  1.0 1.0 1.0 0.0

$cmyn^4*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.09 0.02

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*tce$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

$n^* = 0,00$

blackness  $n^*$

chromaticness  $c^*$

$n^* = 1,0$

$n^* = 0,00$

blackness  $n^*$

chromaticness  $c^*$

UE100-7, 3 step scales for constant CIELAB hue 290/360 = 0.806 (left)

3 step scales for constant CIELAB hue 273/360 = 0.758 (right)

## Input: Colorimetric Reflective System MRS18

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

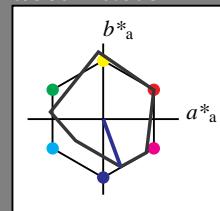
$lab^*tch$  and  $lab^*nch$

D65: hue B

LCH\*Ma: 37 67 290

olv\*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

relative Inform. Technology (IT)

$olv^3*$  1.0 1.0 1.0 (1.0)

$cmy^3*$  0.0 0.0 0.0 (0.0)

$olv^4*$  1.0 1.0 1.0 1.0

$cmy^4*$  0.0 0.0 0.0 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 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 -

$lab^*ncE$  0.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  66.03 11.17 -28.74

$LAB^*LABa$  66.03 11.59 -31.51

$LAB^*TChA$  75.0 33.59 290.19

relative CIELAB lab\*

$lab^*lab$  0.62 0.173 -0.468

$lab^*tch$  0.75 0.5 0.806

$lab^*nch$  0.0 0.5 0.806

relative Natural Colour (NC)

$lab^*lrij$  0.62 0.129 -0.482

$lab^*tce$  0.75 0.2 0.791

$lab^*ncE$  0.0 0.5 b16r

relative Inform. Technology (IT)

$olv^3*$  0.5 0.5 0.5 (1.0)

$cmy^3*$  0.5 0.5 0.5 (0.0)

$olv^4*$  1.0 1.0 1.0 0.5

$cmy^4*$  0.0 0.0 0.0 0.5

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 CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.5 0.0 0.0

$lab^*tce$  0.5 0.0 -

$lab^*ncE$  0.5 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.5 -0.46

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*tce$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

$n^* = 0,00$

$n^* = 0,50$

$1,00$

$chromaticness c^*$

## Output: Colorimetric Reflective System NCS18

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

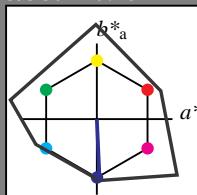
$lab^*tch$  and  $lab^*nch$

D65: hue B

LCH\*Ma: 49 81 273

olv\*Ma: 0.0 0.0 1.0

triangle lightness  $t^*$



### NCS18; adapted (a) CIELAB data

	$L^* = L^*_a$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	47.15	84.63	37.24	92.46	24
JMa	91.37	-1.27	125.03	125.03	91
GMa	63.07	-114.29	25.34	117.07	167
G50BMa	59.47	-80.61	-33.45	87.29	203
BMa	49.01	3.63	-81.2	81.29	273
B50RMa	44.06	106.07	-73.94	129.31	325
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	272

relative Inform. Technology (IT)

$olv^3*$  1.0 1.0 1.0 (1.0)

$cmy^3*$  0.0 0.0 0.0 (0.0)

$olv^4*$  1.0 1.0 1.0 1.0

$cmy^4*$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 -

$lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)

$olv^3*$  0.5 0.5 0.5 (1.0)

$cmy^3*$  0.5 0.5 0.5 (0.0)

$olv^4*$  1.0 1.0 1.0 0.5

$cmy^4*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  36.65 23.33 -62.24

$LAB^*LABa$  36.65 23.18 -63.03

$LAB^*TChA$  50.0 67.17 290.19

relative CIELAB lab\*

$lab^*lab$  0.241 0.345 -0.937

$lab^*tch$  0.5 1.0 0.806

$lab^*nch$  0.0 1.0 0.806

relative Natural Colour (NC)

$lab^*lrij$  0.241 0.257 -0.965

$lab^*tce$  0.5 1.0 0.791

$lab^*ncE$  0.0 1.0 b16r

relative Inform. Technology (IT)

$olv^3*$  0.0 0.0 0.0 (1.0)

$cmy^3*$  1.0 1.0 1.0 (0.0)

$olv^4*$  1.0 1.0 1.0 0.0

$cmy^4*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.09 0.02

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*tce$  0.0 0.0 -

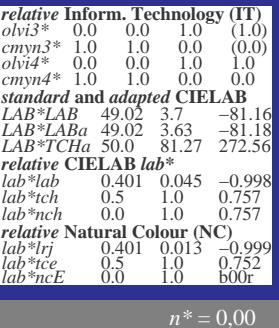
$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

$n^* = 0,50$

$1,00$

$chromaticness c^*$



$n^* = 0,00$

$n^* = 0,50$

$1,00$

$chromaticness c^*$

UE100-7, 3 step scales for constant CIELAB hue 290/360 = 0.806 (left)

3 step scales for constant CIELAB hue 273/360 = 0.757 (right)

## Input: Colorimetric Reflective System MRS18

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

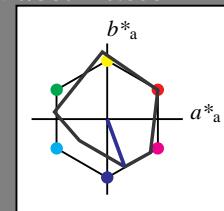
$lab^*tch$  and  $lab^*nch$

D65: hue B

LCH\*Ma: 37 67 290

olv\*Ma: 0.0 0.0 1.0

triangle lightness  $t^*$



relative Inform. Technology (IT)

olv*i*3\* 1.0 1.0 1.0 (1.0)

cmy*n*3\* 0.0 0.0 0.0 (0.0)

olv*i*4\* 1.0 1.0 1.0 1.0

cmy*n*4\* 0.0 0.0 0.0 0.0

standard and adapted CIELAB

LAB\*LAB 95.41 -0.97 4.75

LAB\*LAB*a* 95.41 0.0 0.0

LAB\*TCh*a* 99.99 0.01 -

relative CIELAB lab\*

lab\**lab* 1.0 0.0 0.0

lab\**tch* 1.0 0.0 -

lab\**nch* 0.0 0.0 -

relative Natural Colour (NC)

lab\**lrj* 1.0 0.0 0.0

lab\**tce* 1.0 0.0 -

lab\**ncE* 0.0 0.0 -

standard and adapted CIELAB

LAB\*LAB 66.03 11.17 -28.74

LAB\*LAB*a* 66.03 11.59 -31.51

LAB\*TCh*a* 75.0 33.59 290.19

relative CIELAB lab\*

lab\**lab* 0.62 0.173 -0.468

lab\**tch* 0.75 0.5 0.806

lab\**nch* 0.0 0.5 0.806

relative Natural Colour (NC)

lab\**lrj* 0.62 0.129 -0.482

lab\**tce* 0.75 0.2 0.791

lab\**ncE* 0.0 0.5 b16r

relative Inform. Technology (IT)

olv*i*3\* 0.5 0.5 0.5 (1.0)

cmy*n*3\* 0.5 0.5 0.5 (0.0)

olv*i*4\* 1.0 1.0 1.0 0.5

cmy*n*4\* 0.0 0.0 0.0 0.5

standard and adapted CIELAB

LAB\*LAB 56.71 -0.23 2.14

LAB\*LAB*a* 56.71 0.0 0.0

LAB\*TCh*a* 50.0 0.01 -

relative CIELAB lab\*

lab\**lab* 0.5 0.0 0.0

lab\**tch* 0.5 0.0 -

lab\**nch* 0.5 0.0 -

relative Natural Colour (NC)

lab\**lrj* 0.5 0.0 0.0

lab\**tce* 0.5 0.0 -

lab\**ncE* 0.5 0.0 -

standard and adapted CIELAB

LAB\*LAB 27.34 11.92 -31.35

LAB\*LAB*a* 27.34 11.59 -31.51

LAB\*TCh*a* 25.01 33.59 290.19

relative CIELAB lab\*

lab\**lab* 0.12 0.173 -0.468

lab\**tch* 0.25 0.5 0.806

lab\**nch* 0.5 0.5 0.806

relative Natural Colour (NC)

lab\**lrj* 0.12 0.129 -0.482

lab\**tce* 0.25 0.5 0.791

lab\**ncE* 0.5 0.5 b16r

$n^* = 1,0$

## MRS18; adapted (a) CIELAB data

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

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

%Gamut

$u^*_{rel} = 91$

%Regularity

$g^*_{H,rel} = 41$

$g^*_{C,rel} = 52$

## Output: Colorimetric Reflective System NRS11

for hue  $h^* = lab^*h = 273/360 = 0.758$

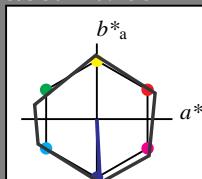
$lab^*tch$  and  $lab^*nch$

D65: hue B

LCH\*Ma: 53 84 273

olv\*Ma: 0.0 0.0 1.0

triangle lightness  $t^*$



%Gamut

$u^*_{rel} = 119$

%Regularity

$g^*_{H,rel} = 47$

$g^*_{C,rel} = 100$

relative Inform. Technology (IT)

olv*i*3\* 1.0 1.0 1.0 (1.0)

cmy*n*3\* 0.0 0.0 0.0 (0.0)

olv*i*4\* 1.0 1.0 1.0 1.0

cmy*n*4\* 0.0 0.0 0.0 0.0

standard and adapted CIELAB

LAB\*LAB 95.41 0.0 -0.01

LAB\*LAB*a* 95.41 0.0 0.0

LAB\*TCh*a* 99.99 0.01 -

relative CIELAB lab\*

lab\**lab* 1.0 0.0 0.0

lab\**tch* 1.0 0.0 -

lab\**nch* 0.0 0.0 -

relative Natural Colour (NC)

lab\**lrj* 1.0 0.0 0.0

lab\**tce* 1.0 0.0 -

lab\**ncE* 0.0 0.0 -

standard and adapted CIELAB

LAB\*LAB 74.3 2.21 -42.13

LAB\*LAB*a* 74.3 2.19 -42.13

LAB\*TCh*a* 75.0 42.2 272.97

relative CIELAB lab\*

lab\**lab* 0.75 0.026 -0.498

lab\**tch* 0.75 0.5 0.758

lab\**nch* 0.0 0.5 0.758

relative Natural Colour (NC)

lab\**lrj* 0.75 0.009 -0.499

lab\**tce* 0.75 0.5 0.753

lab\**ncE* 0.0 0.5 b01r

standard and adapted CIELAB

LAB\*LAB 53.2 4.42 -84.26

LAB\*LAB*a* 53.2 4.37 -84.27

LAB\*TCh*a* 50.0 84.39 272.97

relative CIELAB lab\*

lab\**lab* 0.5 0.025 -0.997

lab\**tch* 0.5 1.0 0.758

lab\**nch* 0.0 1.0 0.758

relative Natural Colour (NC)

lab\**lrj* 0.5 0.018 -0.999

lab\**tce* 0.5 1.0 0.753

lab\**ncE* 0.0 1.0 b01r

## NRS11; adapted (a) CIELAB data

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

RMa	53.2	77.06	34.32	84.36	24
JMa	53.2	-1.51	84.38	84.39	91
GMa	53.2	-82.27	18.98	84.44	167
G50BMa	53.2	-77.72	-32.98	84.44	203
BMa	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

%Gamut

$u^*_{rel} = 119$

%Regularity

$g^*_{H,rel} = 47$

$g^*_{C,rel} = 100$

$n^* = 0,00$

blackness  $n^*$

$n^* = 0,50$

$n^* = 1,00$

chromaticness  $c^*$

$n^* = 1,0$

3 step scales for constant CIELAB hue 273/360 = 0.758 (right)

UE100-7, 3 step scales for constant CIELAB hue 290/360 = 0.806 (left)

$n^* = 0,00$

blackness  $n^*$

$n^* = 0,50$

$n^* = 1,00$

chromaticness  $c^*$

## Input: Colorimetric Reflective System MRS18

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

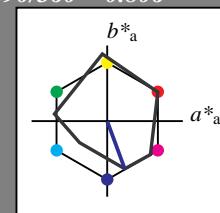
$lab^*tch$  and  $lab^*nch$

D65: hue B

LCH\*Ma: 37 67 290

olv\*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

relative Inform. Technology (IT)

$olv^3*$  1.0 1.0 1.0 (1.0)

$cmy^3*$  0.0 0.0 0.0 (0.0)

$olv^4*$  1.0 1.0 1.0 1.0

$cmy^4*$  0.0 0.0 0.0 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 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 -

$lab^*ncE$  0.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  66.03 11.17 -28.74

$LAB^*LABa$  66.03 11.59 -31.51

$LAB^*TChA$  75.0 33.59 290.19

relative CIELAB lab\*

$lab^*lab$  0.62 0.173 -0.468

$lab^*tch$  0.75 0.5 0.806

$lab^*nch$  0.0 0.5 0.806

relative Natural Colour (NC)

$lab^*lrij$  0.62 0.129 -0.482

$lab^*tce$  0.75 0.2 0.791

$lab^*ncE$  0.0 0.5 b16r

relative Inform. Technology (IT)

$olv^3*$  0.5 0.5 0.5 (1.0)

$cmy^3*$  0.5 0.5 0.5 (0.0)

$olv^4*$  1.0 1.0 1.0 0.5

$cmy^4*$  0.0 0.0 0.0 0.5

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 CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.5 0.0 0.0

$lab^*tce$  0.5 0.0 -

$lab^*ncE$  0.5 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.5 -0.46

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*tce$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

$n^* = 0,00$

$n^* = 0,50$

$n^* = 1,00$

$chromaticness c^*$

## Output: Colorimetric Reflective System NCS11

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

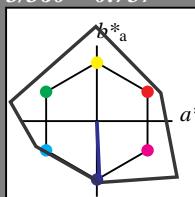
$lab^*tch$  and  $lab^*nch$

D65: hue B

LCH\*Ma: 49 81 273

olv\*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

relative Inform. Technology (IT)

$olv^3*$  1.0 1.0 1.0 (1.0)

$cmy^3*$  0.0 0.0 0.0 (0.0)

$olv^4*$  1.0 1.0 1.0 1.0

$cmy^4*$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 -

$lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)

$olv^3*$  0.5 0.5 0.5 (1.0)

$cmy^3*$  0.5 0.5 0.5 (0.0)

$olv^4*$  1.0 1.0 1.0 0.5

$cmy^4*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  36.65 23.33 -62.24

$LAB^*LABa$  36.65 23.18 -63.03

$LAB^*TChA$  50.0 67.17 290.19

relative CIELAB lab\*

$lab^*lab$  0.241 0.345 -0.937

$lab^*tch$  0.5 1.0 0.806

$lab^*nch$  0.0 1.0 0.806

relative Natural Colour (NC)

$lab^*lrij$  0.241 0.257 -0.965

$lab^*tce$  0.5 1.0 b16r

$lab^*ncE$  0.0 1.0 b16r

relative Inform. Technology (IT)

$olv^3*$  0.0 0.0 0.0 (1.0)

$cmy^3*$  1.0 1.0 1.0 (0.0)

$olv^4*$  1.0 1.0 1.0 0.0

$cmy^4*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  11.01 0.07 0.01

$LAB^*LABa$  11.01 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*tce$  0.0 0.0 -

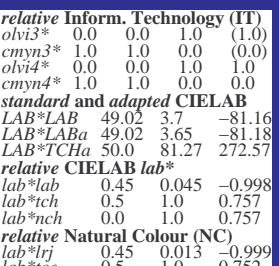
$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

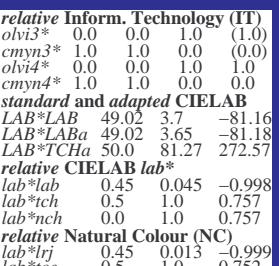
$n^* = 0,50$

$n^* = 1,00$

$chromaticness c^*$



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



$n^* = 0,00$

$n^* = 0,50$

$n^* = 1,00$

$chromaticness c^*$

UE100-7, 3 step scales for constant CIELAB hue 290/360 = 0.806 (left)

3 step scales for constant CIELAB hue 273/360 = 0.757 (right)



### Input: Colorimetric Reflective System TRS18

for hue  $h^* = lab^*h = 305/360 = 0.847$

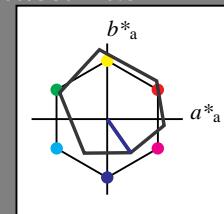
$lab^*tch$  and  $lab^*nch$

D65: hue V

LCH\*Ma: 26 54 305

olv\*Ma: 0.0 0.0 1.0

triangle lightness  $t^*$



### TRS18; adapted (a) CIELAB data

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

$olv_i3^*$  1.0 1.0 1.0 (1.0)

$cmy3^*$  0.0 0.0 0.0 (0.0)

$olv_i4^*$  1.0 1.0 1.0 1.0

$cmy4^*$  0.0 0.0 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  95.41 -0.97 4.75

$LAB^*LABa$  95.41 0.0 0.0

$LAB^*TCh$  99.99 0.01 -

relative CIELAB lab\*

$lab^*lab$  1.0 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 -

$lab^*ncE$  0.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  60.56 15.24 -19.79

$LAB^*LABa$  60.56 15.55 -22.2

$LAB^*TCh$  75.0 27.11 305.0

relative CIELAB lab\*

$lab^*lab$  0.55 0.287 -0.408

$lab^*tch$  0.75 0.5 0.847

$lab^*nch$  0.0 0.5 0.847

relative Natural Colour (NC)

$lab^*lrij$  0.55 0.225 -0.446

$lab^*tce$  0.75 0.2 0.824

$lab^*ncE$  0.0 0.5 b29r

relative Inform. Technology (IT)

$olv_i3^*$  0.5 0.5 0.5 (1.0)

$cmy3^*$  0.5 0.5 0.5 (0.0)

$olv_i4^*$  1.0 1.0 1.0 0.5

$cmy4^*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  56.71 -0.23 2.14

$LAB^*LABa$  56.71 0.0 0.0

$LAB^*TCh$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.5 0.0 0.0

$lab^*tce$  0.5 0.0 -

$lab^*ncE$  0.5 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.5 -0.46

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TCh$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*tce$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

$n^* = 0,00$

$n^* = 0,50$

$n^* = 1,00$

$chromaticness c^*$

$n^* = 0,00$

$n^* = 1,00$

$blackness n^*$

$n^* = 0,00$

### Output: Colorimetric Reflective System MRS18

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

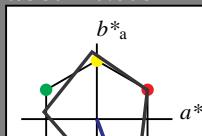
$lab^*tch$  and  $lab^*nch$

D65: hue B

LCH\*Ma: 37 67 290

olv\*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

relative Inform. Technology (IT)

$olv_i3^*$  1.0 1.0 1.0 (1.0)

$cmy3^*$  0.0 0.0 0.0 (0.0)

$olv_i4^*$  1.0 1.0 1.0 1.0

$cmy4^*$  0.0 0.0 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  95.41 -0.97 4.75

$LAB^*LABa$  95.41 0.0 0.0

$LAB^*TCh$  99.99 0.01 -

relative CIELAB lab\*

$lab^*lab$  1.0 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 -

$lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)

$olv_i3^*$  0.5 0.5 0.5 (1.0)

$cmy3^*$  0.5 0.5 0.5 (0.0)

$olv_i4^*$  1.0 1.0 1.0 0.5

$cmy4^*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  25.72 31.46 -44.36

$LAB^*LABa$  25.72 31.1 -44.41

$LAB^*TCh$  50.0 54.23 305.0

relative CIELAB lab\*

$lab^*lab$  0.1 0.573 -0.818

$lab^*tch$  0.5 1.0 0.847

$lab^*nch$  0.0 1.0 0.847

relative Natural Colour (NC)

$lab^*lrij$  0.1 0.449 -0.892

$lab^*tce$  0.5 1.0 0.824

$lab^*ncE$  0.0 1.0 b29r

relative Inform. Technology (IT)

$olv_i3^*$  0.0 0.0 0.0 (1.0)

$cmy3^*$  1.0 1.0 1.0 (0.0)

$olv_i4^*$  1.0 1.0 1.0 0.0

$cmy4^*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.5 -0.46

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TCh$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*tce$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

$n^* = 0,50$

$n^* = 1,00$

$chromaticness c^*$

$n^* = 0,00$

$n^* = 1,00$

$blackness n^*$

$n^* = 0,00$

UE100-7, 3 step scales for constant CIELAB hue 305/360 = 0.847 (left)

3 step scales for constant CIELAB hue 290/360 = 0.806 (right)

### Input: Colorimetric Reflective System TRS18

for hue  $h^* = lab^*h = 305/360 = 0.847$

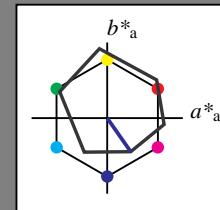
$lab^*tch$  and  $lab^*nch$

D65: hue V

LCH\*Ma: 26 54 305

olv\*Ma: 0.0 0.0 1.0

triangle lightness  $t^*$



### TRS18; adapted (a) CIELAB data

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

relative Inform. Technology (IT)

$olv_i3^*$  1.0 1.0 1.0 (1.0)

$cmy_n3^*$  0.0 0.0 0.0 (0.0)

$olv_i4^*$  1.0 1.0 1.0 1.0

$cmy_n4^*$  0.0 0.0 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  95.41 -0.97 4.75

$LAB^*LABa$  95.41 0.0 0.0

$LAB^*TCh$  99.99 0.01 -

relative CIELAB lab\*

$lab^*lab$  1.0 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  1.0 0.0 0.0

$lab^*ice$  1.0 0.0 -

$lab^*ncE$  0.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  60.56 15.24 -19.79

$LAB^*LABa$  60.56 15.55 -22.2

$LAB^*TCh$  75.0 27.11 305.0

relative CIELAB lab\*

$lab^*lab$  0.55 0.287 -0.408

$lab^*tch$  0.75 0.5 0.847

$lab^*nch$  0.0 0.5 0.847

relative Natural Colour (NC)

$lab^*lrj$  0.55 0.225 -0.446

$lab^*ice$  0.75 0.2 0.824

$lab^*ncE$  0.0 0.5 b29r

relative Inform. Technology (IT)

$olv_i3^*$  0.5 0.5 0.5 (1.0)

$cmy_n3^*$  0.5 0.5 0.5 (0.0)

$olv_i4^*$  1.0 1.0 1.0 0.5

$cmy_n4^*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  56.71 -0.23 2.14

$LAB^*LABa$  56.71 0.0 0.0

$LAB^*TCh$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  0.5 0.0 0.0

$lab^*ice$  0.5 0.0 -

$lab^*ncE$  0.5 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.5 -0.46

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TCh$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  0.0 0.0 0.0

$lab^*ice$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

### TRS18; adapted (a) CIELAB data

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

D65: hue V

LCH\*Ma: 26 54 305

olv\*Ma: 0.0 0.0 1.0

triangle lightness  $t^*$

### Output: Colorimetric Reflective System TRS18

for hue  $h^* = lab^*h = 305/360 = 0.847$

$lab^*tch$  and  $lab^*nch$

D65: hue V

LCH\*Ma: 26 54 305

olv\*Ma: 0.0 0.0 1.0

triangle lightness  $t^*$

### TRS18; adapted (a) CIELAB data

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

O Ma 47.94 65.37 50.52 82.62 38

Y Ma 90.37 -10.27 91.77 92.34 96

L Ma 50.9 -62.79 34.95 71.87 151

C Ma 58.62 -30.35 -45.01 54.3 236

V Ma 25.71 31.11 -44.42 54.24 305

M Ma 48.13 75.27 -8.35 75.73 354

N Ma 18.01 0.0 0.0 0.0 0

W Ma 95.41 0.0 0.0 0.0 0

R CIE 39.92 58.66 26.98 64.56 25

J CIE 81.26 -2.17 67.76 67.79 92

G CIE 52.23 -42.26 11.75 43.87 164

B CIE 30.57 1.15 -46.84 46.87 271

% Gamut

$u^*_{rel} = 93$

% Regularity

$g^*_{H,rel} = 57$

$g^*_{C,rel} = 59$

relative Inform. Technology (IT)

$olv_i3^*$  1.0 1.0 1.0 (1.0)

$cmy_n3^*$  0.0 0.0 0.0 (0.0)

$olv_i4^*$  1.0 1.0 1.0 1.0

$cmy_n4^*$  0.0 0.0 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  95.41 -0.97 4.75

$LAB^*LABa$  95.41 0.0 0.0

$LAB^*TCh$  99.99 0.01 -

relative CIELAB lab\*

$lab^*lab$  1.0 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  1.0 0.0 0.0

$lab^*ice$  1.0 0.0 -

$lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)

$olv_i3^*$  0.5 0.5 0.5 (1.0)

$cmy_n3^*$  0.5 0.5 0.5 (0.0)

$olv_i4^*$  1.0 1.0 1.0 0.5

$cmy_n4^*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  56.71 -0.23 2.14

$LAB^*LABa$  56.71 0.0 0.0

$LAB^*TCh$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.55 0.287 -0.408

$lab^*tch$  0.75 0.5 0.847

$lab^*nch$  0.0 0.5 0.847

relative Natural Colour (NC)

$lab^*lrj$  0.55 0.225 -0.446

$lab^*ice$  0.75 0.2 0.824

$lab^*ncE$  0.0 0.5 b29r

$n^* = 1,0$

### TRS18; adapted (a) CIELAB data

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

O Ma 47.94 65.37 50.52 82.62 38

Y Ma 90.37 -10.27 91.77 92.34 96

L Ma 50.9 -62.79 34.95 71.87 151

C Ma 58.62 -30.35 -45.01 54.3 236

V Ma 25.71 31.11 -44.42 54.24 305

M Ma 48.13 75.27 -8.35 75.73 354

N Ma 18.01 0.0 0.0 0.0 0

W Ma 95.41 0.0 0.0 0.0 0

R CIE 39.92 58.66 26.98 64.56 25

J CIE 81.26 -2.17 67.76 67.79 92

G CIE 52.23 -42.26 11.75 43.87 164

B CIE 30.57 1.15 -46.84 46.87 271

relative Inform. Technology (IT)

$olv_i3^*$  1.0 1.0 1.0 (1.0)

$cmy_n3^*$  0.5 0.5 0.5 (0.0)

$olv_i4^*$  0.5 0.5 1.0 1.0

$cmy_n4^*$  0.0 0.0 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  60.56 15.24 -19.79

$LAB^*LABa$  60.56 15.55 -22.2

$LAB^*TCh$  75.0 27.11 305.0

relative CIELAB lab\*

$lab^*lab$  0.55 0.287 -0.408

$lab^*tch$  0.75 0.5 0.847

$lab^*nch$  0.0 0.5 0.847

relative Natural Colour (NC)

$lab^*lrj$  0.55 0.225 -0.446

$lab^*ice$  0.75 0.2 0.824

$lab^*ncE$  0.0 0.5 b29r

relative Inform. Technology (IT)

$olv_i3^*$  0.0 0.0 0.5 (1.0)

$cmy_n3^*$  1.0 1.0 1.0 (0.0)

$olv_i4^*$  1.0 1.0 1.0 0.5

$cmy_n4^*$  0.5 0.5 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.5 -0.46

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TCh$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  0.0 0.0 0.0

$lab^*ice$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

UE100-7, 3 step scales for constant CIELAB hue 305/360 = 0.847 (left)

3 step scales for constant CIELAB hue 305/360 = 0.847 (right)

$n^* = 0,00$

$n^* = 0,50$

$n^* = 1,00$

$n^* = 1,0$

relative Inform. Technology (IT)

$olv_i3^*$  1.0 1.0 1.0 (1.0)

$cmy_n3^*$  0.0 0.0 0.0 (0.0)

$olv_i4^*$  1.0 1.0 1.0 1.0

$cmy_n4^*$  0.0 0.0 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  60.56 15.24 -19.79

$LAB^*LABa$  60.56 15.55 -22.2

$LAB^*TCh$  75.0 27.11 305.0

relative CIELAB lab\*

$lab^*lab$  0.55 0.287 -0.408

$lab^*tch$  0.75 0.5 0.847

$lab^*nch$  0.0 0.5 0.847

relative Natural Colour (NC)

$lab^*lrj$  0.55 0.225 -0.446

$lab^*ice$  0.75 0.2 0.824

$lab^*ncE$  0.0 0.5 b29r

### Input: Colorimetric Reflective System TRS18

for hue  $h^* = lab^*h = 305/360 = 0.847$

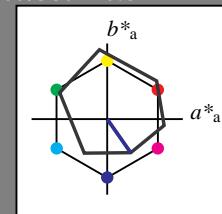
$lab^*tch$  and  $lab^*nch$

D65: hue V

LCH\*Ma: 26 54 305

olv\*Ma: 0.0 0.0 1.0

triangle lightness  $t^*$



### TRS18; adapted (a) CIELAB data

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

$olv_i3^*$  1.0 1.0 1.0 (1.0)

$cmy_n3^*$  0.0 0.0 0.0 (0.0)

$olv_i4^*$  1.0 1.0 1.0 1.0

$cmy_n4^*$  0.0 0.0 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  95.41 -0.97 4.75

$LAB^*LABa$  95.41 0.0 0.0

$LAB^*TCh$  99.99 0.01 -

relative CIELAB lab\*

$lab^*lab$  1.0 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 -

$lab^*ncE$  0.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  60.56 15.24 -19.79

$LAB^*LABa$  60.56 15.55 -22.2

$LAB^*TCh$  75.0 27.11 305.0

relative CIELAB lab\*

$lab^*lab$  0.55 0.287 -0.408

$lab^*tch$  0.75 0.5 0.847

$lab^*nch$  0.0 0.5 0.847

relative Natural Colour (NC)

$lab^*lrij$  0.55 0.225 -0.446

$lab^*tce$  0.75 0.2 0.824

$lab^*ncE$  0.0 0.5 b29r

relative Inform. Technology (IT)

$olv_i3^*$  0.5 0.5 0.5 (1.0)

$cmy_n3^*$  0.5 0.5 0.5 (0.0)

$olv_i4^*$  1.0 1.0 1.0 0.5

$cmy_n4^*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  56.71 -0.23 2.14

$LAB^*LABa$  56.71 0.0 0.0

$LAB^*TCh$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.5 0.0 0.0

$lab^*tce$  0.5 0.0 -

$lab^*ncE$  0.5 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.5 -0.46

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TCh$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*tce$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

relative Inform. Technology (IT)

$olv_i3^*$  0.0 0.0 0.0 (1.0)

$cmy_n3^*$  1.0 1.0 1.0 (0.0)

$olv_i4^*$  1.0 1.0 1.0 0.0

$cmy_n4^*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.5 -0.46

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TCh$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*tce$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.5 -0.46

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TCh$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*tce$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

### Output: Colorimetric Reflective System MRS18a

for hue  $h^* = lab^*h = 290/360 = 0.807$

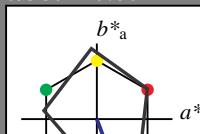
$lab^*tch$  and  $lab^*nch$

D65: hue B

LCH\*Ma: 37 66 290

olv\*Ma: 0.0 0.0 1.0

triangle lightness  $t^*$



### MRS18a; adapted (a) CIELAB data

	$L^*=L_a^*$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	49.63	66.8	40.02	77.87	31
JMa	90.7	-7.27	93.19	93.48	94
GMa	52.11	-69.93	11.26	70.85	171
G50BMa	45.03	-36.65	-27.13	45.61	217
BMa	36.65	23.26	-62.27	66.49	290
B50RMa	34.94	57.27	-43.6	71.99	323
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	272

relative Inform. Technology (IT)

$olv_i3^*$  1.0 1.0 1.0 (1.0)

$cmy_n3^*$  0.0 0.0 0.0 (0.0)

$olv_i4^*$  1.0 1.0 1.0 1.0

$cmy_n4^*$  0.0 0.0 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  95.41 0.01 0.0

$LAB^*LABa$  95.41 0.0 0.0

$LAB^*TCh$  99.99 0.01 -

relative CIELAB lab\*

$lab^*lab$  1.0 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 -

$lab^*ncE$  0.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  66.03 11.67 -31.12

$LAB^*LABa$  66.03 11.63 -31.13

$LAB^*TCh$  75.0 33.24 290.48

relative CIELAB lab\*

$lab^*lab$  0.62 0.175 -0.467

$lab^*tch$  0.75 0.5 0.807

$lab^*nch$  0.0 0.5 0.807

relative Natural Colour (NC)

$lab^*lrij$  0.62 0.128 -0.482

$lab^*tce$  0.75 0.5 0.791

$lab^*ncE$  0.0 0.5 b16r

relative Inform. Technology (IT)

$olv_i3^*$  0.0 0.0 0.5 (1.0)

$cmy_n3^*$  1.0 1.0 0.5 (0.0)

$olv_i4^*$  0.5 0.5 1.0 0.5

$cmy_n4^*$  0.5 0.5 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  36.65 23.33 -62.24

$LAB^*LABa$  36.65 23.25 -62.26

$LAB^*TCh$  50.0 66.47 290.48

relative CIELAB lab\*

$lab^*lab$  0.241 0.35 -0.936

$lab^*tch$  0.5 1.0 0.807

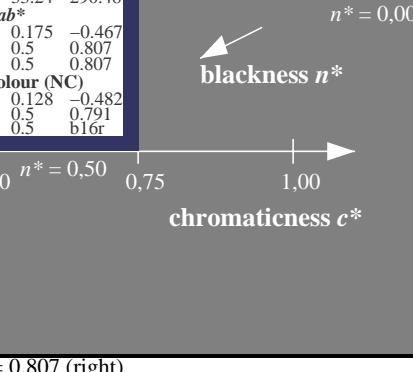
$lab^*nch$  0.0 1.0 0.807

relative Natural Colour (NC)

$lab^*lrij$  0.241 0.257 -0.965

$lab^*tce$  0.5 1.0 0.791

$lab^*ncE$  0.0 1.0 b16r



$n^* = 0,00$

blackness  $n^*$

$n^* = 1,00$

chromaticness  $c^*$

UE100-7, 3 step scales for constant CIELAB hue 305/360 = 0.847 (left)

3 step scales for constant CIELAB hue 290/360 = 0.807 (right)

### Input: Colorimetric Reflective System TRS18

for hue  $h^* = lab^*h = 305/360 = 0.847$

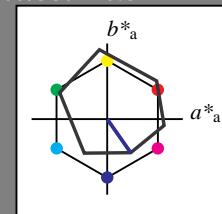
$lab^*tch$  and  $lab^*nch$

D65: hue V

LCH\*Ma: 26 54 305

olv\*Ma: 0.0 0.0 1.0

triangle lightness  $t^*$



### TRS18; adapted (a) CIELAB data

	$L^* = L^*_a$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
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)

$olv^3*$  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

$LAB^*LABa$  95.41 0.0 0.0

$LAB^*TCh$  99.99 0.01 -

relative CIELAB lab\*

$lab^*lab$  1.0 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  1.0 0.0 0.0

$lab^*ice$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  60.56 15.24 -19.79

$LAB^*LABa$  60.56 15.55 -22.2

$LAB^*TCh$  75.0 27.11 305.0

relative CIELAB lab\*

$lab^*lab$  0.55 0.287 -0.408

$lab^*tch$  0.75 0.5 0.847

$lab^*nch$  0.0 0.5 0.847

relative Natural Colour (NC)

$lab^*lrj$  0.55 0.225 -0.446

$lab^*ice$  0.75 0.2 0.824

$lab^*ncE$  0.0 0.5 b29r

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 0.5

$cmyn^4*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  56.71 -0.23 2.14

$LAB^*LABa$  56.71 0.0 0.0

$LAB^*TCh$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  0.5 0.0 0.0

$lab^*ice$  0.5 0.0 0.0

$lab^*ncE$  0.5 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.5 -0.46

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TCh$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  0.0 0.0 0.0

$lab^*ice$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

relative Inform. Technology (IT)

$olv^3*$  0.0 0.0 0.0 (1.0)

$cmyn^3*$  1.0 1.0 1.0 (0.0)

$olv^4*$  1.0 1.0 1.0 0.0

$cmyn^4*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.5 -0.46

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TCh$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  0.0 0.0 0.0

$lab^*ice$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.5 -0.46

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TCh$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  0.0 0.0 0.0

$lab^*ice$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

relative Inform. Technology (IT)

$olv^3*$  0.0 0.0 0.0 (1.0)

$cmyn^3*$  1.0 1.0 1.0 (0.0)

$olv^4*$  1.0 1.0 1.0 0.5

$cmyn^4*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.5 -0.46

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TCh$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  0.0 0.0 0.0

$lab^*ice$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.5 -0.46

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TCh$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  0.0 0.0 0.0

$lab^*ice$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

### Output: Colorimetric Reflective System NRS18

for hue  $h^* = lab^*h = 273/360 = 0.758$

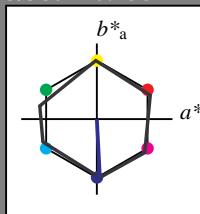
$lab^*tch$  and  $lab^*nch$

D65: hue B

LCH\*Ma: 57 77 273

olv\*Ma: 0.0 0.0 1.0

triangle lightness  $t^*$



### NRS18; adapted (a) CIELAB data

	$L^* = L^*_a$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	56.7	70.66	31.47	77.35	24
JMa	56.7	-1.39	77.37	77.39	91
GMa	56.7	-75.46	17.4	77.45	167
G50BMa	56.7	-71.29	-30.25	77.45	203
BMa	56.7	4.0	-77.3	77.41	273
B50RMa	56.7	63.35	-44.4	77.36	325
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	272

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 0.0

$LAB^*LABa$  95.41 0.0 0.0

$LAB^*TCh$  99.99 0.01 -

relative CIELAB lab\*

$lab^*lab$  1.0 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  1.0 0.0 0.0

$lab^*ice$  1.0 0.0 0.0

$lab^*ncE$  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)

$olv^4*$  0.5 0.5 1.0 1.0

$cmyn^4*$  0.5 0.5 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  76.05 2.03 -38.63

$LAB^*LABa$  76.05 2.0 -38.64

$LAB^*TCh$  75.0 38.7 272.96

relative CIELAB lab\*

$lab^*lab$  0.75 0.026 -0.498

$lab^*tch$  0.75 0.5 0.758

$lab^*nch$  0.0 0.5 0.758

relative Natural Colour (NC)

$lab^*lrj$  0.75 0.009 -0.499

$lab^*ice$  0.75 0.5 0.753

$lab^*ncE$  0.0 0.5 b01r

$n^* = 0,00$

blackness  $n^*$

chromaticness  $c^*$

### Input: Colorimetric Reflective System TRS18

for hue  $h^* = lab^*h = 305/360 = 0.847$

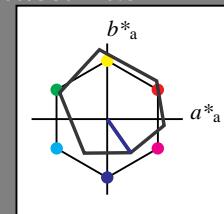
$lab^*tch$  and  $lab^*nch$

D65: hue V

LCH\*Ma: 26 54 305

olv\*Ma: 0.0 0.0 1.0

triangle lightness  $t^*$



### TRS18; adapted (a) CIELAB data

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

$olv_i3^*$  1.0 1.0 1.0 (1.0)

$cmy3^*$  0.0 0.0 0.0 (0.0)

$olv_i4^*$  1.0 1.0 1.0 1.0

$cmy4^*$  0.0 0.0 0.0 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 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*ice$  1.0 0.0 -

$lab^*ncE$  0.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  60.56 15.24 -19.79

$LAB^*LABa$  60.56 15.55 -22.2

$LAB^*TChA$  75.0 27.11 305.0

relative CIELAB lab\*

$lab^*lab$  0.55 0.287 -0.408

$lab^*tch$  0.75 0.5 0.847

$lab^*nch$  0.0 0.5 0.847

relative Natural Colour (NC)

$lab^*lrij$  0.55 0.225 -0.446

$lab^*ice$  0.75 0.2 0.824

$lab^*ncE$  0.0 0.5 b29r

relative Inform. Technology (IT)

$olv_i3^*$  0.5 0.5 0.5 (1.0)

$cmy3^*$  0.5 0.5 0.5 (0.0)

$olv_i4^*$  1.0 1.0 1.0 0.5

$cmy4^*$  0.0 0.0 0.0 0.5

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 CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.5 0.0 0.0

$lab^*ice$  0.5 0.0 -

$lab^*ncE$  0.5 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.5 -0.46

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*ice$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

$n^* = 0,00$

$n^* = 0,50$

$n^* = 1,00$

$chromaticness c^*$

### Output: Colorimetric Reflective System NCS18

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

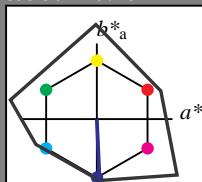
$lab^*tch$  and  $lab^*nch$

D65: hue B

LCH\*Ma: 49 81 273

olv\*Ma: 0.0 0.0 1.0

triangle lightness  $t^*$



### NCS18; adapted (a) CIELAB data

	$L^* = L_a^*$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	47.15	84.63	37.24	92.46	24
JMa	91.37	-1.27	125.03	125.03	91
GMa	63.07	-114.29	25.34	117.07	167
G50BMa	59.47	-80.61	-33.45	87.29	203
BMa	49.01	3.63	-81.2	81.29	273
B50RMa	44.06	106.07	-73.94	129.31	325
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	272

%Gamut

$u^*_{rel} = 93$

%Regularity

$g^*_{H,rel} = 57$

$g^*_{C,rel} = 59$

relative Inform. Technology (IT)

$olv_i3^*$  1.0 1.0 1.0 (1.0)

$cmy3^*$  0.0 0.0 0.0 (0.0)

$olv_i4^*$  1.0 1.0 1.0 1.0

$cmy4^*$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*ice$  1.0 0.0 -

$lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)

$olv_i3^*$  0.5 0.5 0.5 (1.0)

$cmy3^*$  0.5 0.5 0.5 (0.0)

$olv_i4^*$  1.0 1.0 1.0 0.5

$cmy4^*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  56.72 0.05 0.0

$LAB^*LABa$  56.72 0.0 0.0

$LAB^*TChA$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.1 0.573 -0.818

$lab^*tch$  0.5 1.0 0.847

$lab^*nch$  0.0 1.0 0.847

relative Natural Colour (NC)

$lab^*lrij$  0.1 0.449 -0.892

$lab^*ice$  0.5 1.0 0.824

$lab^*ncE$  0.0 1.0 b29r

$n^* = 0,00$

relative Inform. Technology (IT)

$olv_i3^*$  0.0 0.0 0.0 (1.0)

$cmy3^*$  1.0 1.0 1.0 (0.0)

$olv_i4^*$  1.0 1.0 1.0 0.0

$cmy4^*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.09 0.02

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.2 0.022 -0.498

$lab^*tch$  0.25 0.5 0.757

$lab^*nch$  0.5 0.5 0.757

relative Natural Colour (NC)

$lab^*lrij$  0.2 0.006 -0.499

$lab^*ice$  0.25 0.5 0.752

$lab^*ncE$  0.5 0.5 b600r

$n^* = 1,0$

relative Inform. Technology (IT)

$olv_i3^*$  0.0 0.0 0.0 (1.0)

$cmy3^*$  1.0 1.0 1.0 (0.0)

$olv_i4^*$  0.0 0.0 1.0 1.0

$cmy4^*$  1.0 1.0 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  49.02 3.7 -81.16

$LAB^*LABa$  49.02 3.63 -81.18

$LAB^*TChA$  50.0 81.27 272.56

relative CIELAB lab\*

$lab^*lab$  0.401 0.045 -0.998

$lab^*tch$  0.5 1.0 0.757

$lab^*nch$  0.0 1.0 0.757

relative Natural Colour (NC)

$lab^*lrij$  0.401 0.013 -0.999

$lab^*ice$  0.5 1.0 0.752

$lab^*ncE$  0.0 1.0 b600r

$n^* = 0,00$

$n^* = 0,50$

$n^* = 1,00$

$chromaticness c^*$

UE100-7, 3 step scales for constant CIELAB hue 305/360 = 0.847 (left)

3 step scales for constant CIELAB hue 273/360 = 0.757 (right)

### Input: Colorimetric Reflective System TRS18

for hue  $h^* = lab^*h = 305/360 = 0.847$

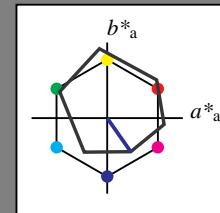
$lab^*tch$  and  $lab^*nch$

D65: hue V

LCH\*Ma: 26 54 305

olv\*Ma: 0.0 0.0 1.0

triangle lightness  $t^*$



### TRS18; adapted (a) CIELAB data

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

$olv_i3^*$  1.0 1.0 1.0 (1.0)

$cmy_n3^*$  0.0 0.0 0.0 (0.0)

$olv_i4^*$  1.0 1.0 1.0 1.0

$cmy_n4^*$  0.0 0.0 0.0 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 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  60.56 15.24 -19.79

$LAB^*LABa$  60.56 15.55 -22.2

$LAB^*TChA$  75.0 27.11 305.0

relative CIELAB lab\*

$lab^*lab$  0.55 0.287 -0.408

$lab^*tch$  0.75 0.5 0.847

$lab^*nch$  0.0 0.5 0.847

relative Natural Colour (NC)

$lab^*lrij$  0.55 0.225 -0.446

$lab^*tce$  0.75 0.2 0.824

$lab^*ncE$  0.0 0.5 b29r

relative Inform. Technology (IT)

$olv_i3^*$  0.5 0.5 0.5 (1.0)

$cmy_n3^*$  0.5 0.5 0.5 (0.0)

$olv_i4^*$  1.0 1.0 1.0 0.5

$cmy_n4^*$  0.0 0.0 0.0 0.5

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 CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.5 0.0 0.0

$lab^*tce$  0.5 0.0 0.0

$lab^*ncE$  0.5 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.5 -0.46

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*tce$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

relative Inform. Technology (IT)

$olv_i3^*$  1.0 1.0 1.0 (0.0)

$cmy_n3^*$  1.0 1.0 1.0 (0.0)

$olv_i4^*$  1.0 1.0 1.0 1.0

$cmy_n4^*$  1.0 1.0 1.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  21.87 15.98 -22.4

$LAB^*LABa$  21.87 15.55 -22.2

$LAB^*TChA$  25.01 27.11 305.0

relative CIELAB lab\*

$lab^*lab$  0.05 0.287 -0.408

$lab^*tch$  0.25 0.5 0.847

$lab^*nch$  0.5 0.5 0.847

relative Natural Colour (NC)

$lab^*lrij$  0.05 0.225 -0.446

$lab^*tce$  0.25 0.5 0.824

$lab^*ncE$  0.5 0.5 b29r

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.5 -0.46

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*tce$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

### Output: Colorimetric Reflective System NRS11

for hue  $h^* = lab^*h = 273/360 = 0.758$

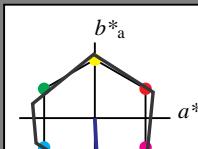
$lab^*tch$  and  $lab^*nch$

D65: hue B

LCH\*Ma: 53 84 273

olv\*Ma: 0.0 0.0 1.0

triangle lightness  $t^*$



### NRS11; adapted (a) CIELAB data

	$L^*=L_a^*$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	53.2	77.06	34.32	84.36	24
JMa	53.2	-1.51	84.38	84.39	91
GMa	53.2	-82.27	18.98	84.44	167
G50BMa	53.2	-77.72	-32.98	84.44	203
BMa	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

%Gamut

$u^*_{rel} = 93$

%Regularity

$g^*_{H,rel} = 57$

$g^*_{C,rel} = 59$

relative Inform. Technology (IT)

$olv_i3^*$  1.0 1.0 1.0 (1.0)

$cmy_n3^*$  0.0 0.0 0.0 (0.0)

$olv_i4^*$  1.0 1.0 1.0 1.0

$cmy_n4^*$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  74.3 2.21 -42.13

$LAB^*LABa$  74.3 2.19 -42.13

$LAB^*TChA$  75.0 42.2 272.97

relative CIELAB lab\*

$lab^*lab$  0.75 0.026 -0.498

$lab^*tch$  0.75 0.5 0.758

$lab^*nch$  0.0 0.5 0.758

relative Natural Colour (NC)

$lab^*lrij$  0.75 0.009 -0.499

$lab^*tce$  0.75 0.5 0.753

$lab^*ncE$  0.0 0.5 b01r

relative Inform. Technology (IT)

$olv_i3^*$  0.0 0.0 1.0 (1.0)

$cmy_n3^*$  1.0 1.0 0.0 (0.0)

$olv_i4^*$  0.0 0.0 1.0 1.0

$cmy_n4^*$  1.0 1.0 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  53.2 4.42 -84.26

$LAB^*LABa$  53.2 4.37 -84.27

$LAB^*TChA$  50.0 84.39 272.97

relative CIELAB lab\*

$lab^*lab$  0.5 0.052 -0.997

$lab^*tch$  0.5 1.0 0.758

$lab^*nch$  0.0 1.0 0.758

relative Natural Colour (NC)

$lab^*lrij$  0.5 0.018 -0.999

$lab^*tce$  0.5 1.0 0.753

$lab^*ncE$  0.0 1.0 b01r

$n^* = 0,00$

blackness  $n^*$

chromaticness  $c^*$

$n^* = 1,0$

3 step scales for constant CIELAB hue 273/360 = 0.758 (right)

UE100-7, 3 step scales for constant CIELAB hue 305/360 = 0.847 (left)

### Input: Colorimetric Reflective System TRS18

for hue  $h^* = lab^*h = 305/360 = 0.847$

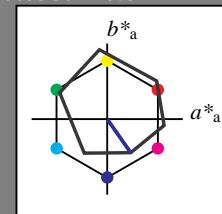
$lab^*tch$  and  $lab^*nch$

D65: hue V

LCH\*Ma: 26 54 305

olv\*Ma: 0.0 0.0 1.0

triangle lightness  $t^*$



### TRS18; adapted (a) CIELAB data

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

$olv_i3^*$  1.0 1.0 1.0 (1.0)

$cmy_n3^*$  0.0 0.0 0.0 (0.0)

$olv_i4^*$  1.0 1.0 1.0 1.0

$cmy_n4^*$  0.0 0.0 0.0 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 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 -

$lab^*ncE$  0.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  60.56 15.24 -19.79

$LAB^*LABa$  60.56 15.55 -22.2

$LAB^*TChA$  75.0 27.11 305.0

relative CIELAB lab\*

$lab^*lab$  0.55 0.287 -0.408

$lab^*tch$  0.75 0.5 0.847

$lab^*nch$  0.0 0.5 0.847

relative Natural Colour (NC)

$lab^*lrij$  0.55 0.225 -0.446

$lab^*tce$  0.75 0.2 0.824

$lab^*ncE$  0.0 0.5 b29r

relative Inform. Technology (IT)

$olv_i3^*$  0.5 0.5 0.5 (1.0)

$cmy_n3^*$  0.5 0.5 0.5 (0.0)

$olv_i4^*$  1.0 1.0 1.0 0.5

$cmy_n4^*$  0.0 0.0 0.0 0.5

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 CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.5 0.0 0.0

$lab^*tce$  0.5 0.0 -

$lab^*ncE$  0.5 0.0 -

$n^* = 1,0$

%Gamut

$u^*_{rel} = 93$

%Regularity

$g^*_{H,rel} = 57$

$g^*_{C,rel} = 59$

relative Inform. Technology (IT)

$olv_i3^*$  0.5 0.5 1.0 (1.0)

$cmy_n3^*$  0.5 0.5 0.0 (0.0)

$olv_i4^*$  0.5 0.5 1.0 1.0

$cmy_n4^*$  0.5 0.5 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  60.56 15.24 -19.79

$LAB^*LABa$  60.56 15.55 -22.2

$LAB^*TChA$  75.0 27.11 305.0

relative CIELAB lab\*

$lab^*lab$  0.55 0.287 -0.408

$lab^*tch$  0.75 0.5 0.847

$lab^*nch$  0.0 0.5 0.847

relative Natural Colour (NC)

$lab^*lrij$  0.55 0.225 -0.446

$lab^*tce$  0.75 0.2 0.824

$lab^*ncE$  0.0 0.5 b29r

standard and adapted CIELAB

$LAB^*LAB$  25.72 31.46 -44.36

$LAB^*LABa$  25.72 31.1 -44.41

$LAB^*TChA$  50.0 54.23 305.0

relative CIELAB lab\*

$lab^*lab$  0.1 0.573 -0.818

$lab^*tch$  0.5 1.0 0.847

$lab^*nch$  0.0 1.0 0.847

relative Natural Colour (NC)

$lab^*lrij$  0.1 0.449 -0.892

$lab^*tce$  0.5 1.0 0.824

$lab^*ncE$  0.0 1.0 b29r

relative Inform. Technology (IT)

$olv_i3^*$  0.0 0.0 0.5 (1.0)

$cmy_n3^*$  1.0 1.0 0.0 (0.0)

$olv_i4^*$  1.0 1.0 1.0 0.0

$cmy_n4^*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.5 -0.46

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*tce$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 0,00$

blackness  $n^*$

$n^* = 0,50$

$n^* = 1,00$

chromaticness  $c^*$

$n^* = 0,25$

$n^* = 0,75$

### Output: Colorimetric Reflective System NCS11

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

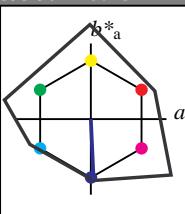
$lab^*tch$  and  $lab^*nch$

D65: hue B

LCH\*Ma: 49 81 273

olv\*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

relative Inform. Technology (IT)

$olv_i3^*$  1.0 1.0 1.0 (1.0)

$cmy_n3^*$  0.0 0.0 0.0 (0.0)

$olv_i4^*$  1.0 1.0 1.0 1.0

$cmy_n4^*$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 -

$lab^*ncE$  0.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  72.21 1.85 -40.58

$LAB^*LABa$  72.21 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)

$lab^*lrij$  0.725 0.006 -0.499

$lab^*tce$  0.75 0.5 0.752

$lab^*ncE$  0.0 0.5 600r

relative Inform. Technology (IT)

$olv_i3^*$  0.0 0.0 0.5 (1.0)

$cmy_n3^*$  1.0 1.0 0.5 (0.0)

$olv_i4^*$  1.0 1.0 1.0 0.5

$cmy_n4^*$  0.5 0.5 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  11.01 0.07 0.01

$LAB^*LABa$  11.01 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*tce$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

blackness  $n^*$

$n^* = 0,50$

$n^* = 1,00$

chromaticness  $c^*$

$n^* = 0,25$

</

### Input: Colorimetric Reflective System MRS18a

for hue  $h^* = lab^*h = 290/360 = 0.807$

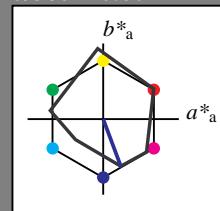
$lab^*tch$  and  $lab^*nch$

D65: hue B

LCH\*Ma: 37 66 290

olv\*Ma: 0.0 0.0 1.0

triangle lightness  $t^*$



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 0.01 0.0  
 $LAB^*LABa$  95.41 0.0 0.0  
 $LAB^*TCh$  99.99 0.01 -

relative CIELAB lab\*

$lab^*lab$  1.0 0.0 0.0  
 $lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0  
 $lab^*tce$  1.0 0.0 0.0  
 $lab^*ncE$  0.0 0.0 -

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 0.5  
 $cmyn4^*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  66.03 11.67 -31.12  
 $LAB^*LABa$  66.03 11.63 -31.13  
 $LAB^*TCh$  75.0 33.24 290.48

relative CIELAB lab\*

$lab^*lab$  0.62 0.175 -0.467  
 $lab^*tch$  0.75 0.5 0.807  
 $lab^*nch$  0.0 0.5 0.807

relative Natural Colour (NC)

$lab^*lrij$  0.62 0.128 -0.482  
 $lab^*tce$  0.75 0.2 0.791  
 $lab^*ncE$  0.0 0.5 b16r

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

$LAB^*LAB$  18.02 0.1 0.02  
 $LAB^*LABa$  18.02 0.0 0.0  
 $LAB^*TCh$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0  
 $lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0  
 $lab^*tce$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

### MRS18a; adapted (a) CIELAB data

	$L^*=L^*_a$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	49.63	66.8	40.02	77.87	31
JMa	90.7	-7.27	93.19	93.48	94
GMa	52.11	-69.93	11.26	70.85	171
G50BMa	45.03	-36.65	-27.13	45.61	217
BMa	36.65	23.26	-62.27	66.49	290
B50RMa	34.94	57.27	-43.6	71.99	323
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	272

%Gamut

$u^*_{rel} = 92$

%Regularity

$g^*_{H,rel} = 42$

$g^*_{C,rel} = 49$

relative Inform. Technology (IT)

$olvi3^*$  0.5 0.5 1.0 (1.0)

$cmyn3^*$  0.5 0.5 0.0 (0.0)

$olvi4^*$  0.5 0.5 1.0 1.0

$cmyn4^*$  0.5 0.5 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  66.03 11.67 -31.12  
 $LAB^*LABa$  66.03 11.63 -31.13  
 $LAB^*TCh$  75.0 33.24 290.48

relative CIELAB lab\*

$lab^*lab$  0.62 0.175 -0.467  
 $lab^*tch$  0.75 0.5 0.807  
 $lab^*nch$  0.0 0.5 0.807

relative Natural Colour (NC)

$lab^*lrij$  0.62 0.128 -0.482  
 $lab^*tce$  0.75 0.2 0.791  
 $lab^*ncE$  0.0 0.5 b16r

relative Inform. Technology (IT)

$olvi3^*$  0.0 0.5 0.5 (1.0)

$cmyn3^*$  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

$LAB^*LAB$  36.65 23.33 -62.24  
 $LAB^*LABa$  36.65 23.25 -62.26  
 $LAB^*TCh$  50.0 66.47 290.48

relative CIELAB lab\*

$lab^*lab$  0.241 0.35 -0.936  
 $lab^*tch$  0.5 1.0 0.807  
 $lab^*nch$  0.0 1.0 0.807

relative Natural Colour (NC)

$lab^*lrij$  0.241 0.257 -0.965  
 $lab^*tce$  0.5 1.0 0.791  
 $lab^*ncE$  0.0 1.0 b16r

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

$LAB^*LAB$  18.02 0.1 0.02  
 $LAB^*LABa$  18.02 0.0 0.0  
 $LAB^*TCh$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0  
 $lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0  
 $lab^*tce$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 0,00$

$n^* = 0,00$

blackness  $n^*$

chromaticness  $c^*$

### Output: Colorimetric Reflective System ORS18

for hue  $h^* = lab^*h = 305/360 = 0.847$

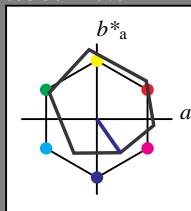
$lab^*tch$  and  $lab^*nch$

D65: hue V

LCH\*Ma: 26 54 305

olv\*Ma: 0.0 0.0 1.0

triangle lightness  $t^*$



%Gamut

$u^*_{rel} = 93$

%Regularity

$g^*_{H,rel} = 57$

$g^*_{C,rel} = 59$

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

$LAB^*LABa$  95.41 0.0 0.0

$LAB^*TCh$  99.99 0.01 -

relative CIELAB lab\*

$lab^*lab$  1.0 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0  
 $lab^*tce$  1.0 0.0 0.0  
 $lab^*ncE$  0.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  60.56 15.24 -19.79

$LAB^*LABa$  60.56 15.55 -22.2

$LAB^*TCh$  75.0 27.11 305.0

relative CIELAB lab\*

$lab^*lab$  0.55 0.287 -0.408

$lab^*tch$  0.75 0.5 0.847

$lab^*nch$  0.0 0.5 0.847

relative Natural Colour (NC)

$lab^*lrij$  0.55 0.225 -0.446  
 $lab^*tce$  0.75 0.5 0.824  
 $lab^*ncE$  0.0 0.5 b29r

standard and adapted CIELAB

$LAB^*LAB$  25.72 31.46 -44.36

$LAB^*LABa$  25.72 31.1 -44.41

$LAB^*TCh$  50.0 54.23 305.0

relative CIELAB lab\*

$lab^*lab$  0.1 0.573 -0.818

$lab^*tch$  0.5 1.0 0.847

$lab^*nch$  0.0 1.0 0.847

relative Natural Colour (NC)

$lab^*lrij$  0.1 0.449 -0.892  
 $lab^*tce$  0.5 1.0 0.824  
 $lab^*ncE$  0.0 1.0 b29r

$n^* = 0,00$

	$L^*=L^*_a$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
OMa	47.94	65.37	50.52	82.62	38
YMa	90.37	-10.27	91.77	92.34	96
IMa	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	58.67	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 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 0.01 0.0

$LAB^*LABa$  95.41 0.0 0.0

$LAB^*TCh$  99.99 0.01 -

relative CIELAB lab\*

$lab^*lab$  1.0 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0  
 $lab^*tce$  1.0 0.0 0.0  
 $lab^*ncE$  0.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  60.56 15.24 -19.79

$LAB^*LABa$  60.56 15.55 -22.2

$LAB^*TCh$  75.0 27.11 305.0

relative CIELAB lab\*

$lab^*lab$  0.55 0.287 -0.408

$lab^*tch$  0.75 0.5 0.847

$lab^*nch$  0.0 0.5 0.847

### Input: Colorimetric Reflective System MRS18a

for hue  $h^* = lab^*h = 290/360 = 0.807$

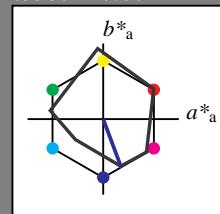
$lab^*tch$  and  $lab^*nch$

D65: hue B

LCH\*Ma: 37 66 290

olv\*Ma: 0.0 0.0 1.0

triangle lightness  $t^*$



relative Inform. Technology (IT)  
 $olvi3^*$  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 0.01 0.0  
 $LAB^*LABa$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 -

$lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)  
 $olvi3^*$  0.5 0.5 0.5 (1.0)  
 $cmyn3^*$  0.5 0.5 0.5 (0.0)  
 $olv4^*$  0.5 0.5 1.0 1.0  
 $cmyn4^*$  0.5 0.5 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  66.03 11.67 -31.12  
 $LAB^*LABa$  66.03 11.63 -31.13  
 $LAB^*TChA$  75.0 33.24 290.48

relative CIELAB lab\*

$lab^*lab$  0.62 0.175 -0.467

$lab^*tch$  0.75 0.5 0.807

$lab^*nch$  0.0 0.5 0.807

relative Natural Colour (NC)

$lab^*lrij$  0.62 0.128 -0.482

$lab^*tce$  0.75 0.2 0.791

$lab^*ncE$  0.0 0.5 b16r

relative Inform. Technology (IT)  
 $olvi3^*$  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 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.1 0.02  
 $LAB^*LABa$  18.02 0.0 0.0  
 $LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*tce$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

### MRS18a; adapted (a) CIELAB data

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

RMa	49.63	66.8	40.02	77.87	31
JMa	90.7	-7.27	93.19	93.48	94
GMa	52.11	-69.93	11.26	70.85	171
G50BMa	45.03	-36.65	-27.13	45.61	217
BMa	36.65	23.26	-62.27	66.49	290
B50RMa	34.94	57.27	-43.6	71.99	323
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	272

%Gamut

$u^*_{rel} = 92$

%Regularity

$g^*_{H,rel} = 42$

$g^*_{C,rel} = 49$

relative Inform. Technology (IT)

$olvi3^*$  0.5 0.5 0.5 (1.0)

$cmyn3^*$  0.5 0.5 0.5 (0.0)

$olv4^*$  0.5 0.5 1.0 1.0

$cmyn4^*$  0.5 0.5 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  66.03 11.67 -31.12  
 $LAB^*LABa$  66.03 11.63 -31.13  
 $LAB^*TChA$  75.0 33.24 290.48

relative CIELAB lab\*

$lab^*lab$  0.62 0.175 -0.467

$lab^*tch$  0.75 0.5 0.807

$lab^*nch$  0.0 0.5 0.807

relative Natural Colour (NC)

$lab^*lrij$  0.62 0.128 -0.482

$lab^*tce$  0.75 0.2 0.791

$lab^*ncE$  0.0 0.5 b16r

relative Inform. Technology (IT)

$olvi3^*$  0.0 0.0 0.5 (1.0)

$cmyn3^*$  1.0 1.0 0.0 (0.0)

$olv4^*$  1.0 1.0 1.0 0.5

$cmyn4^*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  36.65 23.33 -62.24  
 $LAB^*LABa$  36.65 23.25 -62.26  
 $LAB^*TChA$  50.0 66.47 290.48

relative CIELAB lab\*

$lab^*lab$  0.241 0.35 -0.936

$lab^*tch$  0.5 1.0 0.807

$lab^*nch$  0.0 1.0 0.807

relative Natural Colour (NC)

$lab^*lrij$  0.241 0.257 -0.965

$lab^*tce$  0.5 1.0 0.791

$lab^*ncE$  0.0 1.0 b16r

relative Inform. Technology (IT)

$olvi3^*$  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 0.1 0.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.2 0.02  
 $LAB^*LABa$  18.02 0.0 0.0  
 $LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*tce$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 0,00$

blackness  $n^*$

chromaticness  $c^*$

### Output: Colorimetric Reflective System MRS18

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

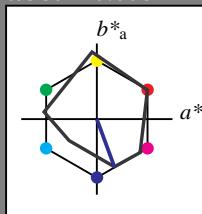
$lab^*tch$  and  $lab^*nch$

D65: hue B

LCH\*Ma: 37 67 290

olv\*Ma: 0.0 0.0 1.0

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)

$olv4^*$  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  
 $LAB^*LABa$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 -

$lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)

$olvi3^*$  0.5 0.5 0.5 (1.0)

$cmyn3^*$  0.5 0.5 0.5 (0.0)

$olv4^*$  0.5 0.5 1.0 1.0

$cmyn4^*$  0.5 0.5 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  66.03 11.67 -28.74  
 $LAB^*LABa$  66.03 11.59 -31.51  
 $LAB^*TChA$  75.0 33.59 290.19

relative CIELAB lab\*

$lab^*lab$  0.62 0.173 -0.468

$lab^*tch$  0.75 0.5 0.806

$lab^*nch$  0.0 0.5 0.806

relative Natural Colour (NC)

$lab^*lrij$  0.62 0.129 -0.482

$lab^*tce$  0.75 0.5 0.791

$lab^*ncE$  0.0 0.5 b16r

$n^* = 1,0$

3 step scales for constant CIELAB hue 290/360 = 0.806 (right)

### 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	58.67	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 1.0 1.0 (1.0)

$cmyn3^*$  0.5 0.5 0.5 (0.0)

$olv4^*$  0.5 0.5 1.0 1.0

$cmyn4^*$  0.5 0.5 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  36.65 23.33 -62.24  
 $LAB^*LABa$  36.65 23.18 -63.03  
 $LAB^*TChA$  50.0 67.17 290.19

relative CIELAB lab\*

$lab^*lab$  0.241 0.345 -0.937

$lab^*tch$  0.5 1.0 0.806

$lab^*nch$  0.0 1.0 0.806

relative Natural Colour (NC)

$lab^*lrij$  0.241 0.257 -0.965

$lab^*tce$  0.5 1.0 0.791

$lab^*ncE$  0.0 1.0 b16r

$n^* = 0,00$

blackness  $n^*$

### Input: Colorimetric Reflective System MRS18a

for hue  $h^* = lab^*h = 290/360 = 0.807$

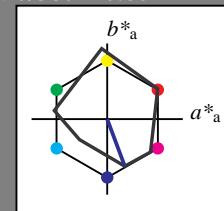
$lab^*tch$  and  $lab^*nch$

D65: hue B

LCH\*Ma: 37 66 290

olv\*Ma: 0.0 0.0 1.0

triangle lightness  $t^*$



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 0.01 0.0  
 $LAB^*LABa$  95.41 0.0 0.0  
 $LAB^*TCh$  99.99 0.01 -

relative CIELAB lab\*

$lab^*lab$  1.0 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrf$  1.0 0.0 0.0

$lab^*fce$  1.0 0.0 -

$lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)  
 $olvi3^*$  0.5 0.5 0.5 (1.0)  
 $cmyn3^*$  0.5 0.5 0.5 (0.0)  
 $olvi4^*$  0.5 0.5 1.0 1.0  
 $cmyn4^*$  0.5 0.5 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  66.03 11.67 -31.12  
 $LAB^*LABa$  66.03 11.63 -31.13  
 $LAB^*TCh$  75.0 33.24 290.48

relative CIELAB lab\*

$lab^*lab$  0.62 0.175 -0.467

$lab^*tch$  0.75 0.5 0.807

$lab^*nch$  0.0 0.5 0.807

relative Natural Colour (NC)

$lab^*lrf$  0.62 0.128 -0.482

$lab^*fce$  0.75 0.2 0.791

$lab^*ncE$  0.0 0.5 b16r

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

$LAB^*LAB$  18.02 0.1 0.02  
 $LAB^*LABa$  18.02 0.0 0.0  
 $LAB^*TCh$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrf$  0.0 0.0 0.0

$lab^*fce$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

### MRS18a; adapted (a) CIELAB data

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

RMa	49.63	66.8	40.02	77.87	31
JMa	90.7	-7.27	93.19	93.48	94
GMa	52.11	-69.93	11.26	70.85	171
G50BMa	45.03	-36.65	-27.13	45.61	217
BMa	36.65	23.26	-62.27	66.49	290
B50RMa	34.94	57.27	-43.6	71.99	323
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	272

%Gamut

$u^*_{rel} = 92$

%Regularity

$g^*_{H,rel} = 42$

$g^*_{C,rel} = 49$

relative Inform. Technology (IT)

$olvi3^*$  0.5 0.5 1.0 (1.0)

$cmyn3^*$  0.5 0.5 0.0 (0.0)

$olvi4^*$  0.5 0.5 1.0 1.0

$cmyn4^*$  0.5 0.5 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  66.03 11.67 -31.12  
 $LAB^*LABa$  66.03 11.63 -31.13  
 $LAB^*TCh$  75.0 33.24 290.48

relative CIELAB lab\*

$lab^*lab$  0.62 0.175 -0.467

$lab^*tch$  0.75 0.5 0.807

$lab^*nch$  0.0 0.5 0.807

relative Natural Colour (NC)

$lab^*lrf$  0.62 0.128 -0.482

$lab^*fce$  0.75 0.2 0.791

$lab^*ncE$  0.0 0.5 b16r

relative Inform. Technology (IT)

$olvi3^*$  0.0 0.5 0.5 (1.0)

$cmyn3^*$  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

$LAB^*LAB$  36.65 23.33 -62.24  
 $LAB^*LABa$  36.65 23.25 -62.26  
 $LAB^*TCh$  50.0 66.47 290.48

relative CIELAB lab\*

$lab^*lab$  0.241 0.35 -0.936

$lab^*tch$  0.5 1.0 0.807

$lab^*nch$  0.0 1.0 0.807

relative Natural Colour (NC)

$lab^*lrf$  0.241 0.257 -0.965

$lab^*fce$  0.5 1.0 0.791

$lab^*ncE$  0.0 1.0 b16r

relative Inform. Technology (IT)

$olvi3^*$  0.0 0.0 0.5 (1.0)

$cmyn3^*$  1.0 1.0 0.5 (0.0)

$olvi4^*$  1.0 1.0 1.0 0.5

$cmyn4^*$  0.5 0.5 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.5 0.02  
 $LAB^*LABa$  18.02 0.0 0.0  
 $LAB^*TCh$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrf$  0.0 0.0 0.0

$lab^*fce$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 0,00$

$n^* = 0,00$

blackness  $n^*$

chromaticness  $c^*$

### Output: Colorimetric Reflective System TRS18

for hue  $h^* = lab^*h = 305/360 = 0.847$

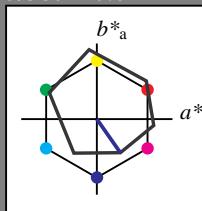
$lab^*tch$  and  $lab^*nch$

D65: hue V

LCH\*Ma: 26 54 305

olv\*Ma: 0.0 0.0 1.0

triangle lightness  $t^*$



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  
 $LAB^*LABa$  95.41 0.0 0.0  
 $LAB^*TCh$  99.99 0.01 -

relative CIELAB lab\*

$lab^*lab$  1.0 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrf$  1.0 0.0 0.0

$lab^*fce$  1.0 0.0 -

$lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)

$olvi3^*$  0.5 0.5 0.5 (1.0)

$cmyn3^*$  0.5 0.5 0.5 (0.0)

$olvi4^*$  0.5 0.5 1.0 1.0

$cmyn4^*$  0.5 0.5 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  60.56 15.24 -19.79  
 $LAB^*LABa$  60.56 15.55 -22.2  
 $LAB^*TCh$  75.0 27.11 305.0

relative CIELAB lab\*

$lab^*lab$  0.55 0.287 -0.408

$lab^*tch$  0.75 0.5 0.847

$lab^*nch$  0.0 0.5 0.847

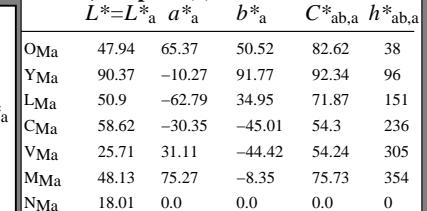
relative Natural Colour (NC)

$lab^*lrf$  0.55 0.225 -0.446

$lab^*fce$  0.75 0.5 0.824

$lab^*ncE$  0.0 0.5 b29r

$n^* = 1,00$



relative Inform. Technology (IT)

$olvi3^*$  1.0 1.0 1.0 (1.0)

$cmyn3^*$  0.5 0.5 0.5 (0.0)

$olvi4^*$  0.5 0.5 1.0 1.0

$cmyn4^*$  0.5 0.5 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  95.41 0.0 0.0  
 $LAB^*LABa$  95.41 0.0 0.0  
 $LAB^*TCh$  99.99 0.01 -

relative CIELAB lab\*

$lab^*lab$  1.0 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrf$  1.0 0.0 0.0

$lab^*fce$  1.0 0.0 -

$lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)

$olvi3^*$  0.0 0.0 0.5 (1.0)

$cmyn3^*$  1.0 1.0 0.5 (0.0)

$olvi4^*$  1.0 1.0 1.0 0.5

$cmyn4^*$  0.5 0.5 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.5 0.02  
 $LAB^*LABa$  18.02 0.0 0.0  
 $LAB^*TCh$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

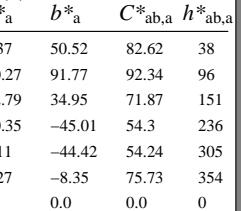
relative Natural Colour (NC)

$lab^*lrf$  0.0 0.0 0.0

$lab^*fce$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 1,00$



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.

### Input: Colorimetric Reflective System MRS18a

for hue  $h^* = lab^*h = 290/360 = 0.807$

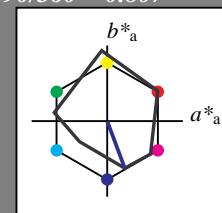
$lab^*tch$  and  $lab^*nch$

D65: hue B

LCH\*Ma: 37 66 290

olv\*Ma: 0.0 0.0 1.0

triangle lightness  $t^*$



relative Inform. Technology (IT)  
 $olv_i3^*$  1.0 1.0 1.0 (1.0)  
 $cmy_n3^*$  0.0 0.0 0.0 (0.0)  
 $olv_i4^*$  1.0 1.0 1.0 1.0  
 $cmy_n4^*$  0.0 0.0 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  95.41 0.01 0.0  
 $LAB^*LABa$  95.41 0.0 0.0  
 $LAB^*TCh$  99.99 0.01 -

relative CIELAB lab\*

$lab^*lab$  1.0 0.0 0.0  
 $lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0  
 $lab^*tce$  1.0 0.0 0.0  
 $lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)  
 $olv_i3^*$  0.5 0.5 0.5 (1.0)  
 $cmy_n3^*$  0.5 0.5 0.5 (0.0)  
 $olv_i4^*$  1.0 1.0 1.0 0.5  
 $cmy_n4^*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  66.03 11.67 -31.12  
 $LAB^*LABa$  66.03 11.63 -31.13  
 $LAB^*TCh$  75.0 33.24 290.48

relative CIELAB lab\*

$lab^*lab$  0.62 0.175 -0.467  
 $lab^*tch$  0.75 0.5 0.807  
 $lab^*nch$  0.0 0.5 0.807

relative Natural Colour (NC)

$lab^*lrij$  0.62 0.128 -0.482  
 $lab^*tce$  0.75 0.2 0.791  
 $lab^*ncE$  0.0 0.5 b16r

relative Inform. Technology (IT)  
 $olv_i3^*$  0.0 0.0 0.5 (1.0)  
 $cmy_n3^*$  1.0 1.0 0.5 (0.0)  
 $olv_i4^*$  0.5 0.5 1.0 0.5  
 $cmy_n4^*$  0.5 0.5 0.5

standard and adapted CIELAB

$LAB^*LAB$  56.71 0.05 0.0  
 $LAB^*LABa$  56.71 0.0 0.0  
 $LAB^*TCh$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0  
 $lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.5 0.0 0.0  
 $lab^*tce$  0.5 0.0 0.0  
 $lab^*ncE$  0.5 0.0 -

relative Inform. Technology (IT)  
 $olv_i3^*$  0.0 0.0 0.0 (1.0)  
 $cmy_n3^*$  1.0 1.0 1.0 (0.0)  
 $olv_i4^*$  1.0 1.0 1.0 0.0  
 $cmy_n4^*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.1 0.02  
 $LAB^*LABa$  18.02 0.0 0.0  
 $LAB^*TCh$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0  
 $lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0  
 $lab^*tce$  0.0 0.0 -  
 $lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

### MRS18a; adapted (a) CIELAB data

	$L^*=L^*_a$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	49.63	66.8	40.02	77.87	31
JMa	90.7	-7.27	93.19	93.48	94
GMa	52.11	-69.93	11.26	70.85	171
G50BMa	45.03	-36.65	-27.13	45.61	217
BMa	36.65	23.26	-62.27	66.49	290
B50RMa	34.94	57.27	-43.6	71.99	323
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	272

%Gamut

$u^*_{rel} = 92$

%Regularity

$g^*_{H,rel} = 42$

$g^*_{C,rel} = 49$

relative Inform. Technology (IT)

$olv_i3^*$  0.5 0.5 1.0 (1.0)

$cmy_n3^*$  0.5 0.5 0.0 (0.0)

$olv_i4^*$  0.5 0.5 1.0 1.0

$cmy_n4^*$  0.5 0.5 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  66.03 11.67 -31.12  
 $LAB^*LABa$  66.03 11.63 -31.13  
 $LAB^*TCh$  75.0 33.24 290.48

relative CIELAB lab\*

$lab^*lab$  0.62 0.175 -0.467

$lab^*tch$  0.75 0.5 0.807

$lab^*nch$  0.0 0.5 0.807

relative Natural Colour (NC)

$lab^*lrij$  0.62 0.128 -0.482

$lab^*tce$  0.75 0.2 0.791

$lab^*ncE$  0.0 0.5 b16r

relative Inform. Technology (IT)

$olv_i3^*$  0.0 0.0 0.5 (1.0)

$cmy_n3^*$  1.0 1.0 0.0 (0.0)

$olv_i4^*$  0.0 0.0 1.0 0.5

$cmy_n4^*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  36.65 23.33 -62.24  
 $LAB^*LABa$  36.65 23.25 -62.26  
 $LAB^*TCh$  50.0 66.47 290.48

relative CIELAB lab\*

$lab^*lab$  0.241 0.35 -0.936

$lab^*tch$  0.5 1.0 0.807

$lab^*nch$  0.0 1.0 0.807

relative Natural Colour (NC)

$lab^*lrij$  0.241 0.257 -0.965

$lab^*tce$  0.5 1.0 0.791

$lab^*ncE$  0.0 1.0 b16r

relative Inform. Technology (IT)

$olv_i3^*$  0.0 0.0 0.0 (1.0)

$cmy_n3^*$  1.0 1.0 1.0 (0.0)

$olv_i4^*$  1.0 1.0 1.0 0.0

$cmy_n4^*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.1 0.02  
 $LAB^*LABa$  18.02 0.0 0.0  
 $LAB^*TCh$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*tce$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 0,00$

blackness  $n^*$

$n^* = 0,00$

chromaticness  $c^*$

$n^* = 0,50$

$n^* = 1,00$

### Output: Colorimetric Reflective System MRS18a

for hue  $h^* = lab^*h = 290/360 = 0.807$

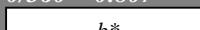
$lab^*tch$  and  $lab^*nch$

D65: hue B

LCH\*Ma: 37 66 290

olv\*Ma: 0.0 0.0 1.0

triangle lightness  $t^*$



%Gamut

$u^*_{rel} = 92$

%Regularity

$g^*_{H,rel} = 42$

$g^*_{C,rel} = 49$

relative Inform. Technology (IT)

$olv_i3^*$  1.0 1.0 1.0 (1.0)

$cmy_n3^*$  0.0 0.0 0.0 (0.0)

$olv_i4^*$  1.0 1.0 1.0 1.0

$cmy_n4^*$  0.0 0.0 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  95.41 0.01 0.0  
 $LAB^*LABa$  95.41 0.0 0.0  
 $LAB^*TCh$  99.99 0.01 -

relative CIELAB lab\*

$lab^*lab$  1.0 0.0 0.0  
 $lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0  
 $lab^*tce$  1.0 0.0 0.0  
 $lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)

$olv_i3^*$  0.5 0.5 0.5 (1.0)

$cmy_n3^*$  0.5 0.5 0.5 (0.0)

$olv_i4^*$  0.5 0.5 1.0 1.0

$cmy_n4^*$  0.5 0.5 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  66.03 11.67 -31.12  
 $LAB^*LABa$  66.03 11.63 -31.13  
 $LAB^*TCh$  75.0 33.24 290.48

relative CIELAB lab\*

$lab^*lab$  0.62 0.175 -0.467

$lab^*tch$  0.75 0.5 0.807

$lab^*nch$  0.0 0.5 0.807

relative Natural Colour (NC)

$lab^*lrij$  0.62 0.128 -0.482

$lab^*tce$  0.75 0.2 0.791

$lab^*ncE$  0.0 0.5 b16r

$n^* = 1,0$

blackness  $n^*$

### MRS18a; adapted (a) CIELAB data

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

	$L^*=L^*_a$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	49.63	66.8	40.02	77.87	31
JMa	90.7	-7.27	93.19	93.48	94
GMa	52.11	-69.93	11.26	70.85	171
G50BMa	45.03	-36.65	-27.13	45.61	217
BMa	36.65	23.26	-62.27	66.49	290
B50RMa	34.94	57.27	-43.6	71.99	323
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	272

%Gamut

$u^*_{rel} = 92$

%Regularity

$g^*_{H,rel} = 42$

$g^*_{C,rel} = 49$

relative Inform. Technology (IT)

$olv_i3^*$  1.0 1.0 1.0 (1.0)

$cmy_n3^*$  0.0 0.0 0.0 (0.0)

$olv_i4^*$  1.0 1.0 1.0 1.0

$cmy_n4^*$  0.0 0.0 0.0 0.0</

### Input: Colorimetric Reflective System MRS18a

for hue  $h^* = lab^*h = 290/360 = 0.807$

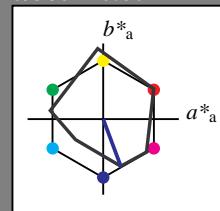
$lab^*tch$  and  $lab^*nch$

D65: hue B

LCH\*Ma: 37 66 290

olv\*Ma: 0.0 0.0 1.0

triangle lightness  $t^*$



relative Inform. Technology (IT)  
 $olvi3^*$  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 0.01 0.0  
 $LAB^*LABa$  95.41 0.0 0.0  
 $LAB^*TCh$  99.99 0.01 -

relative CIELAB lab\*

$lab^*lab$  1.0 0.0 0.0  
 $lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  1.0 0.0 0.0  
 $lab^*ice$  1.0 0.0 0.0  
 $lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)  
 $olvi3^*$  0.5 0.5 0.5 (1.0)  
 $cmyn3^*$  0.5 0.5 0.5 (0.0)  
 $olv4^*$  1.0 1.0 1.0 0.5  
 $cmyn4^*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  56.71 0.05 0.0  
 $LAB^*LABa$  56.71 0.0 0.0  
 $LAB^*TCh$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0  
 $lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  0.5 0.0 0.0  
 $lab^*ice$  0.5 0.0 0.0  
 $lab^*ncE$  0.5 0.0 -

relative Inform. Technology (IT)  
 $olvi3^*$  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 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.1 0.02  
 $LAB^*LABa$  18.02 0.0 0.0  
 $LAB^*TCh$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0  
 $lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  0.0 0.0 0.0  
 $lab^*ice$  0.0 0.0 -  
 $lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

### MRS18a; adapted (a) CIELAB data

	$L^*=L^*_a$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	49.63	66.8	40.02	77.87	31
JMa	90.7	-7.27	93.19	93.48	94
GMa	52.11	-69.93	11.26	70.85	171
G50BMa	45.03	-36.65	-27.13	45.61	217
BMa	36.65	23.26	-62.27	66.49	290
B50RMa	34.94	57.27	-43.6	71.99	323
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	272

%Gamut

$u^*_{rel} = 92$

%Regularity

$g^*_{H,rel} = 42$

$g^*_{C,rel} = 49$

relative Inform. Technology (IT)

$olvi3^*$  0.5 0.5 0.5 (1.0)

$cmyn3^*$  0.5 0.5 0.0 (0.0)

$olv4^*$  0.5 0.5 1.0 1.0

$cmyn4^*$  0.5 0.5 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  66.03 11.67 -31.12  
 $LAB^*LABa$  66.03 11.63 -31.13  
 $LAB^*TCh$  75.0 33.24 290.48

relative CIELAB lab\*

$lab^*lab$  0.62 0.175 -0.467

$lab^*tch$  0.75 0.5 0.807

$lab^*nch$  0.0 0.5 0.807

relative Natural Colour (NC)

$lab^*lrj$  0.62 0.128 -0.482

$lab^*ice$  0.75 0.2 0.791

$lab^*ncE$  0.0 0.5 b16r

relative Inform. Technology (IT)

$olvi3^*$  0.0 0.0 0.5 (1.0)

$cmyn3^*$  1.0 1.0 0.0 (0.0)

$olv4^*$  0.0 0.0 1.0 0.5

$cmyn4^*$  1.0 1.0 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  36.65 23.33 -62.24  
 $LAB^*LABa$  36.65 23.25 -62.26  
 $LAB^*TCh$  50.0 66.47 290.48

relative CIELAB lab\*

$lab^*lab$  0.241 0.35 -0.936

$lab^*tch$  0.5 1.0 0.807

$lab^*nch$  0.0 1.0 0.807

relative Natural Colour (NC)

$lab^*lrj$  0.241 0.257 -0.965

$lab^*ice$  0.5 1.0 0.791

$lab^*ncE$  0.0 1.0 b16r

relative Inform. Technology (IT)

$olvi3^*$  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 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.09 0.02  
 $LAB^*LABa$  18.02 0.0 0.0  
 $LAB^*TCh$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  0.0 0.0 0.0

$lab^*ice$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 0,00$



blackness  $n^*$



chromaticness  $c^*$



### Output: Colorimetric Reflective System NRS18

for hue  $h^* = lab^*h = 273/360 = 0.758$

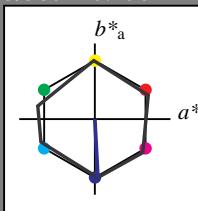
$lab^*tch$  and  $lab^*nch$

D65: hue B

LCH\*Ma: 57 77 273

olv\*Ma: 0.0 0.0 1.0

triangle lightness  $t^*$



%Gamut  
 $u^*_{rel} = 92$   
%Regularity  
 $g^*_{H,rel} = 42$   
 $g^*_{C,rel} = 100$

standard and adapted CIELAB

$LAB^*LAB$  95.41 0.0 0.0  
 $LAB^*LABa$  95.41 0.0 0.0  
 $LAB^*TCh$  99.99 0.01 -

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)

$lab^*lrj$  1.0 0.0 0.0  
 $lab^*ice$  1.0 0.0 0.0  
 $lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)

$olvi3^*$  0.5 0.5 0.5 (1.0)

$cmyn3^*$  0.5 0.5 0.5 (0.0)

$olv4^*$  0.5 0.5 1.0 1.0

$cmyn4^*$  0.5 0.5 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  76.05 2.03 -38.63  
 $LAB^*LABa$  76.05 2.0 -38.64  
 $LAB^*TCh$  75.0 38.7 272.96

relative CIELAB lab\*

$lab^*lab$  0.75 0.026 -0.498

$lab^*tch$  0.75 0.5 0.758

$lab^*nch$  0.0 0.5 0.758

relative Natural Colour (NC)

$lab^*lrj$  0.75 0.009 -0.499

$lab^*ice$  0.75 0.5 0.753

$lab^*ncE$  0.0 0.5 b01r

relative Inform. Technology (IT)

$olvi3^*$  0.0 0.0 0.5 (1.0)

$cmyn3^*$  1.0 1.0 0.5 (0.0)

$olv4^*$  1.0 1.0 1.0 0.5

$cmyn4^*$  0.5 0.5 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  37.36 2.07 -38.61  
 $LAB^*LABa$  37.36 2.0 -38.64  
 $LAB^*TCh$  25.01 38.7 272.96

relative CIELAB lab\*

$lab^*lab$  0.25 0.026 -0.498

$lab^*tch$  0.25 0.5 0.758

$lab^*nch$  0.5 0.5 0.758

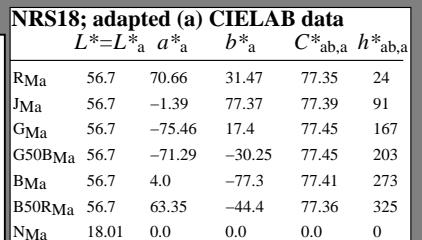
relative Natural Colour (NC)

$lab^*lrj$  0.25 0.009 -0.499

$lab^*ice$  0.25 0.5 0.753

$lab^*ncE$  0.5 0.5 b01r

$n^* = 1,0$



%Gamut  
 $u^*_{rel} = 100$   
%Regularity  
 $g^*_{H,rel} = 47$   
 $g^*_{C,rel} = 100$

standard and adapted CIELAB

$LAB^*LAB$  95.41 0.0 0.0  
 $LAB^*LABa$  95.41 0.0 0.0  
 $LAB^*TCh$  99.99 0.01 -

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)

$lab^*lrj$  1.0 0.0 0.0  
 $lab^*ice$  1.0 0.0 0.0  
 $lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)

$olvi3^*$  1.0 1.0 1.0 (0.0)

$cmyn3^*$  1.0 1.0 0.5 (0.0)

$olv4^*$  1.0 1.0 1.0 1.0

$cmyn4^*$  1.0 1.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  76.05 2.05 -38.63  
 $LAB^*LABa$  76.05 2.0 -38.64  
 $LAB^*TCh$  75.0 38.7 272.96

relative CIELAB lab\*

$lab^*lab$  0.75 0.026 -0.498

$lab^*tch$  0.75 0.5 0.758

$lab^*nch$  0.0 0.5 0.758

relative Natural Colour (NC)

$lab^*lrj$  0.75 0.009 -0.499

$lab^*ice$  0.75 0.5 0.753

$lab^*ncE$  0.0 0.5 b01r

$n^* = 1,0$

$n^* = 0,00$



blackness  $n^*$



chromaticness  $c^*$



UE100-7, 3 step scales for constant CIELAB hue 290/360 = 0.807 (left)

### Input: Colorimetric Reflective System MRS18a

for hue  $h^* = lab^*h = 290/360 = 0.807$

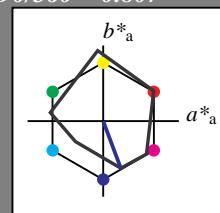
$lab^*tch$  and  $lab^*nch$

D65: hue B

LCH\*Ma: 37 66 290

olv\*Ma: 0.0 0.0 1.0

triangle lightness  $t^*$



### MRS18a; adapted (a) CIELAB data

	$L^* = L^*_{ab}$	$a^*_{ab}$	$b^*_{ab}$	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	49.63	66.8	40.02	77.87	31
JMa	90.7	-7.27	93.19	93.48	94
GMa	52.11	-69.93	11.26	70.85	171
G50BMa	45.03	-36.65	-27.13	45.61	217
BMa	36.65	23.26	-62.27	66.49	290
B50RMa	34.94	57.27	-43.6	71.99	323
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	272

relative Inform. Technology (IT)  
 $olv_i3^*$  1.0 1.0 1.0 (1.0)  
 $cmy3^*$  0.0 0.0 0.0 (0.0)  
 $olv_i4^*$  1.0 1.0 1.0 1.0  
 $cmy4^*$  0.0 0.0 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  95.41 0.01 0.0

$LAB^*LABa$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)  
 $olv_i3^*$  0.5 0.5 0.5 (1.0)  
 $cmy3^*$  0.5 0.5 0.5 (0.0)  
 $olv_i4^*$  0.5 0.5 1.0 1.0  
 $cmy4^*$  0.5 0.5 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  66.03 11.67 -31.12

$LAB^*LABa$  66.03 11.63 -31.13

$LAB^*TChA$  75.0 33.24 290.48

relative CIELAB lab\*

$lab^*lab$  0.62 0.175 -0.467

$lab^*tch$  0.75 0.5 0.807

$lab^*nch$  0.0 0.5 0.807

relative Natural Colour (NC)

$lab^*lrij$  0.62 0.128 -0.482

$lab^*tce$  0.75 0.2 0.791

$lab^*ncE$  0.0 0.5 b16r

relative Inform. Technology (IT)  
 $olv_i3^*$  0.5 0.5 0.5 (1.0)  
 $cmy3^*$  0.5 0.5 0.5 (0.0)  
 $olv_i4^*$  0.5 0.5 1.0 1.0  
 $cmy4^*$  0.5 0.5 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  56.71 0.05 0.0

$LAB^*LABa$  56.71 0.0 0.0

$LAB^*TChA$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.5 0.0 0.0

$lab^*tce$  0.5 0.0 0.0

$lab^*ncE$  0.5 0.0 -

relative Inform. Technology (IT)  
 $olv_i3^*$  0.0 0.0 0.0 (1.0)  
 $cmy3^*$  1.0 1.0 1.0 (0.0)  
 $olv_i4^*$  1.0 1.0 1.0 0.0  
 $cmy4^*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.1 0.02

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

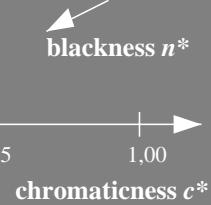
$lab^*lrij$  0.0 0.0 0.0

$lab^*tce$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

$n^* = 0,00$



UE100-7, 3 step scales for constant CIELAB hue 290/360 = 0.807 (left)

### Output: Colorimetric Reflective System NCS18

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

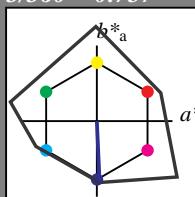
$lab^*tch$  and  $lab^*nch$

D65: hue B

LCH\*Ma: 49 81 273

olv\*Ma: 0.0 0.0 1.0

triangle lightness  $t^*$



### NCS18; adapted (a) CIELAB data

	$L^* = L^*_{ab}$	$a^*_{ab}$	$b^*_{ab}$	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	47.15	84.63	37.24	92.46	24
JMa	91.37	-1.27	125.03	125.03	91
GMa	63.07	-114.29	25.34	117.07	167
G50BMa	59.47	-80.61	-33.45	87.29	203
BMa	49.01	3.63	-81.2	81.29	273
B50RMa	44.06	106.07	-73.94	129.31	325
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	272

relative Inform. Technology (IT)  
 $olv_i3^*$  1.0 1.0 1.0 (1.0)  
 $cmy3^*$  0.0 0.0 0.0 (0.0)  
 $olv_i4^*$  1.0 1.0 1.0 1.0  
 $cmy4^*$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)  
 $olv_i3^*$  0.5 0.5 0.5 (1.0)  
 $cmy3^*$  0.5 0.5 0.5 (0.0)  
 $olv_i4^*$  0.5 0.5 1.0 1.0  
 $cmy4^*$  0.5 0.5 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  72.21 1.85 -40.58

$LAB^*LABa$  72.21 1.82 -40.59

$LAB^*TChA$  75.0 40.64 272.56

relative CIELAB lab\*

$lab^*lab$  0.7 0.022 -0.498

$lab^*tch$  0.75 0.5 0.757

$lab^*nch$  0.0 0.5 0.757

relative Natural Colour (NC)

$lab^*lrij$  0.7 0.006 -0.499

$lab^*tce$  0.75 0.5 0.752

$lab^*ncE$  0.0 0.5 b600r

relative Inform. Technology (IT)  
 $olv_i3^*$  0.0 0.0 0.5 (1.0)  
 $cmy3^*$  1.0 1.0 1.0 (0.0)  
 $olv_i4^*$  1.0 1.0 1.0 0.5  
 $cmy4^*$  0.5 0.5 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  33.52 1.9 -40.56

$LAB^*LABa$  33.52 1.82 -40.59

$LAB^*TChA$  25.01 40.64 272.56

relative CIELAB lab\*

$lab^*lab$  0.2 0.022 -0.498

$lab^*tch$  0.25 0.5 0.757

$lab^*nch$  0.5 0.5 0.757

relative Natural Colour (NC)

$lab^*lrij$  0.2 0.006 -0.499

$lab^*tce$  0.25 0.5 0.752

$lab^*ncE$  0.5 0.5 b600r

$n^* = 1,0$



3 step scales for constant CIELAB hue 273/360 = 0.757 (right)

### Input: Colorimetric Reflective System MRS18a

for hue  $h^* = lab^*h = 290/360 = 0.807$

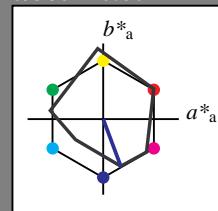
$lab^*tch$  and  $lab^*nch$

D65: hue B

LCH\*Ma: 37 66 290

olv\*Ma: 0.0 0.0 1.0

triangle lightness  $t^*$



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 0.01 0.0  
 $LAB^*LABa$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0  
 $lab^*tce$  1.0 0.0 0.0  
 $lab^*ncE$  0.0 0.0 -

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 0.5  
 $cmyn4^*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  56.71 0.05 0.0  
 $LAB^*LABa$  56.71 0.0 0.0  
 $LAB^*TChA$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0  
 $lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.5 0.0 0.0  
 $lab^*tce$  0.5 0.0 0.0  
 $lab^*ncE$  0.5 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

$LAB^*LAB$  18.02 0.1 0.02  
 $LAB^*LABa$  18.02 0.0 0.0  
 $LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0  
 $lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0  
 $lab^*tce$  0.0 0.0 0.0  
 $lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

### MRS18a; adapted (a) CIELAB data

	$L^*=L^*_a$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	49.63	66.8	40.02	77.87	31
JMa	90.7	-7.27	93.19	93.48	94
GMa	52.11	-69.93	11.26	70.85	171
G50BMa	45.03	-36.65	-27.13	45.61	217
BMa	36.65	23.26	-62.27	66.49	290
B50RMa	34.94	57.27	-43.6	71.99	323
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	272

%Gamut

$u^*_{rel} = 92$

%Regularity

$g^*_{H,rel} = 42$

$g^*_{C,rel} = 49$

relative Inform. Technology (IT)

$olvi3^*$  0.5 0.5 0.5 (1.0)

$cmyn3^*$  0.5 0.5 0.0 (0.0)

$olvi4^*$  0.5 0.5 1.0 1.0

$cmyn4^*$  0.5 0.5 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  66.03 11.67 -31.12  
 $LAB^*LABa$  66.03 11.63 -31.13  
 $LAB^*TChA$  75.0 33.24 290.48

relative CIELAB lab\*

$lab^*lab$  0.62 0.175 -0.467

$lab^*tch$  0.75 0.5 0.807

$lab^*nch$  0.0 0.5 0.807

relative Natural Colour (NC)

$lab^*lrij$  0.62 0.128 -0.482

$lab^*tce$  0.75 0.2 0.791

$lab^*ncE$  0.0 0.5 b16r

relative Inform. Technology (IT)

$olvi3^*$  0.0 0.0 0.5 (1.0)

$cmyn3^*$  1.0 1.0 0.0 (0.0)

$olvi4^*$  0.0 0.0 1.0 0.5

$cmyn4^*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  36.65 23.33 -62.24  
 $LAB^*LABa$  36.65 23.25 -62.26  
 $LAB^*TChA$  50.0 66.47 290.48

relative CIELAB lab\*

$lab^*lab$  0.241 0.35 -0.936

$lab^*tch$  0.5 1.0 0.807

$lab^*nch$  0.0 1.0 0.807

relative Natural Colour (NC)

$lab^*lrij$  0.241 0.257 -0.965

$lab^*tce$  0.5 1.0 0.791

$lab^*ncE$  0.0 1.0 b16r

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 0.0 0.0  
 $LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*tce$  0.0 0.0 0.0

$lab^*ncE$  1.0 0.0 -

$n^* = 0,00$



$n^* = 0,50$

$n^* = 1,00$

chromaticness  $c^*$

### Output: Colorimetric Reflective System NRS11

for hue  $h^* = lab^*h = 273/360 = 0.758$

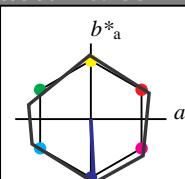
$lab^*tch$  and  $lab^*nch$

D65: hue B

LCH\*Ma: 53 84 273

olv\*Ma: 0.0 0.0 1.0

triangle lightness  $t^*$



%Gamut

$u^*_{rel} = 119$

%Regularity

$g^*_{H,rel} = 47$

$g^*_{C,rel} = 100$

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 -

relative CIELAB lab\*

$lab^*lab$  1.0 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0  
 $lab^*tce$  1.0 0.0 0.0  
 $lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)

$olvi3^*$  0.5 0.5 0.5 (1.0)

$cmyn3^*$  0.5 0.5 0.5 (0.0)

$olvi4^*$  0.5 0.5 1.0 1.0

$cmyn4^*$  0.5 0.5 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  74.3 2.21 -42.13  
 $LAB^*LABa$  74.3 2.19 -42.13  
 $LAB^*TChA$  75.0 42.2 272.97

relative CIELAB lab\*

$lab^*lab$  0.75 0.026 -0.498

$lab^*tch$  0.75 0.5 0.758

$lab^*nch$  0.0 0.5 0.758

relative Natural Colour (NC)

$lab^*lrij$  0.75 0.009 -0.499  
 $lab^*tce$  0.75 0.5 0.753  
 $lab^*ncE$  0.0 0.5 b01r

$n^* = 1,0$

	$L^*=L^*_a$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	53.2	77.06	34.32	84.36	24
JMa	53.2	-1.51	84.38	84.39	91
GMa	53.2	-82.27	18.98	84.44	167
G50BMa	53.2	-77.72	-32.98	84.44	203
BMa	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	-2.91	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 1.0 1.0 (0.0)

$cmyn3^*$  0.5 0.5 0.5 (0.0)

$olvi4^*$  0.5 0.5 1.0 1.0

$cmyn4^*$  0.5 0.5 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  74.3 2.21 -42.13  
 $LAB^*LABa$  74.3 2.19 -42.13  
 $LAB^*TChA$  75.0 42.2 272.97

relative CIELAB lab\*

$lab^*lab$  0.75 0.026 -0.498

$lab^*tch$  0.75 0.5 0.758

$lab^*nch$  0.0 0.5 0.758

relative Natural Colour (NC)

$lab^*lrij$  0.5 0.018 -0.999  
 $lab^*tce$  0.5 1.0 0.753  
 $lab^*ncE$  0.0 1.0 b01r

$n^* = 0,00$



$n^* = 0,50$

$n^* = 1,00$

chromaticness  $c^*$

UE100-7, 3 step scales for constant CIELAB hue 290/360 = 0.807 (left)

3 step scales for constant CIELAB hue 273/360 = 0.758 (right)

### Input: Colorimetric Reflective System MRS18a

for hue  $h^* = lab^*h = 290/360 = 0.807$

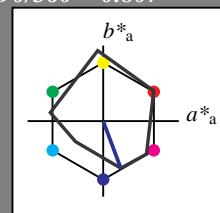
$lab^*tch$  and  $lab^*nch$

D65: hue B

LCH\*Ma: 37 66 290

olv\*Ma: 0.0 0.0 1.0

triangle lightness  $t^*$



### MRS18a; adapted (a) CIELAB data

	$L^*=L^*_a$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	49.63	66.8	40.02	77.87	31
JMa	90.7	-7.27	93.19	93.48	94
GMa	52.11	-69.93	11.26	70.85	171
G50BMa	45.03	-36.65	-27.13	45.61	217
BMa	36.65	23.26	-62.27	66.49	290
B50RMa	34.94	57.27	-43.6	71.99	323
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	272

relative Inform. Technology (IT)  
 $olv_i3^*$  1.0 1.0 1.0 (1.0)  
 $cmy3^*$  0.0 0.0 0.0 (0.0)  
 $olv_i4^*$  1.0 1.0 1.0 1.0  
 $cmy4^*$  0.0 0.0 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  95.41 0.01 0.0

$LAB^*LABa$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)  
 $olv_i3^*$  0.5 0.5 0.5 (1.0)  
 $cmy3^*$  0.5 0.5 0.5 (0.0)  
 $olv_i4^*$  0.5 0.5 1.0 1.0  
 $cmy4^*$  0.5 0.5 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  66.03 11.67 -31.12

$LAB^*LABa$  66.03 11.63 -31.13

$LAB^*TChA$  75.0 33.24 290.48

relative CIELAB lab\*

$lab^*lab$  0.62 0.175 -0.467

$lab^*tch$  0.75 0.5 0.807

$lab^*nch$  0.0 0.5 0.807

relative Natural Colour (NC)

$lab^*lrij$  0.62 0.128 -0.482

$lab^*tce$  0.75 0.2 0.791

$lab^*ncE$  0.0 0.5 b16r

relative Inform. Technology (IT)  
 $olv_i3^*$  0.5 0.5 0.5 (1.0)  
 $cmy3^*$  0.5 0.5 0.5 (0.0)  
 $olv_i4^*$  0.5 0.5 1.0 1.0  
 $cmy4^*$  0.5 0.5 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  56.71 0.05 0.0

$LAB^*LABa$  56.71 0.0 0.0

$LAB^*TChA$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.5 0.0 0.0

$lab^*tce$  0.5 0.0 0.0

$lab^*ncE$  0.5 0.0 -

relative Inform. Technology (IT)  
 $olv_i3^*$  0.0 0.0 0.0 (1.0)  
 $cmy3^*$  1.0 1.0 1.0 (0.0)  
 $olv_i4^*$  1.0 1.0 1.0 0.0  
 $cmy4^*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.1 0.02

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*tce$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

	$L^*=L^*_a$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	49.63	66.8	40.02	77.87	31
JMa	90.7	-7.27	93.19	93.48	94
GMa	52.11	-69.93	11.26	70.85	171
G50BMa	45.03	-36.65	-27.13	45.61	217
BMa	36.65	23.26	-62.27	66.49	290
B50RMa	34.94	57.27	-43.6	71.99	323
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	272

relative Inform. Technology (IT)  
 $olv_i3^*$  0.5 0.5 0.5 (1.0)  
 $cmy3^*$  0.5 0.5 0.5 (0.0)  
 $olv_i4^*$  0.5 0.5 1.0 1.0  
 $cmy4^*$  0.5 0.5 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  66.03 11.67 -31.12

$LAB^*LABa$  66.03 11.63 -31.13

$LAB^*TChA$  75.0 33.24 290.48

relative CIELAB lab\*

$lab^*lab$  0.62 0.175 -0.467

$lab^*tch$  0.75 0.5 0.807

$lab^*nch$  0.0 0.5 0.807

relative Natural Colour (NC)

$lab^*lrij$  0.62 0.128 -0.482

$lab^*tce$  0.75 0.2 0.791

$lab^*ncE$  0.0 0.5 b16r

relative Inform. Technology (IT)  
 $olv_i3^*$  0.5 0.5 0.5 (1.0)  
 $cmy3^*$  0.5 0.5 0.5 (0.0)  
 $olv_i4^*$  0.5 0.5 1.0 1.0  
 $cmy4^*$  0.5 0.5 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  36.65 23.33 -62.24

$LAB^*LABa$  36.65 23.25 -62.26

$LAB^*TChA$  50.0 66.47 290.48

relative CIELAB lab\*

$lab^*lab$  0.241 0.35 -0.936

$lab^*tch$  0.5 1.0 0.807

$lab^*nch$  0.0 1.0 0.807

relative Natural Colour (NC)

$lab^*lrij$  0.241 0.257 -0.965

$lab^*tce$  0.5 1.0 0.791

$lab^*ncE$  0.0 1.0 b16r

relative Inform. Technology (IT)  
 $olv_i3^*$  0.0 0.0 0.0 (1.0)  
 $cmy3^*$  1.0 1.0 1.0 (0.0)  
 $olv_i4^*$  1.0 1.0 1.0 0.0  
 $cmy4^*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  11.01 0.07 0.01

$LAB^*LABa$  11.01 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*tce$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 0,00$

blackness  $n^*$

chromaticness  $c^*$

0,25 0,50  $n^* = 0,50$  0,75 1,00

$n^* = 0,00$

blackness  $n^*$

chromaticness  $c^*$

0,25 0,50  $n^* = 0,50$  0,75 1,00

$n^* = 1,0$

blackness  $n^*$

chromaticness  $c^*$

0,25 0,50  $n^* = 0,50$  0,75 1,00

$n^* = 0,00$

blackness  $n^*$

chromaticness  $c^*$

0,25 0,50  $n^* = 0,50$  0,75 1,00

$n^* = 1,0$

blackness  $n^*$

chromaticness  $c^*$

0,25 0,50  $n^* = 0,50$  0,75 1,00

$n^* = 0,00$

blackness  $n^*$

chromaticness  $c^*$

0,25 0,50  $n^* = 0,50$  0,75 1,00

$n^* = 1,0$

blackness  $n^*$

chromaticness  $c^*$

0,25 0,50  $n^* = 0,50$  0,75 1,00

$n^* = 0,00$

blackness  $n^*$

chromaticness  $c^*$

0,25 0,50  $n^* = 0,50$  0,75 1,00

$n^* = 1,0$

blackness  $n^*$

chromaticness  $c^*$

0,25 0,50  $n^* = 0,50$  0,75 1,00

$n^* = 0,00$

blackness  $n^*$

chromaticness  $c^*$

0,25 0,50  $n^* = 0,50$  0,75 1,00

$n^* = 1,0$

blackness  $n^*$

chromaticness  $c^*$

0,25 0,50  $n^* = 0,50$  0,75 1,00

$n^* = 0,00$

blackness  $n^*$

chromaticness  $c^*$

0,25 0,50  $n^* = 0,50$  0,75 1,00

$n^* = 1,0$

blackness  $n^*$

chromaticness  $c^*$

0,25 0,50  $n^* = 0,50$  0,75 1,00

$n^* = 0,00$

blackness  $n^*$

chromaticness  $c^*$

0,25 0,50  $n^* = 0,50$  0,75 1,00

$n^* = 1,0$

blackness  $n^*$

chromaticness  $c^*$

0,25 0,50  $n^* = 0,50$  0,75 1,00

## Input: Colorimetric Reflective System NRS18

for hue  $h^* = lab^*h = 273/360 = 0.758$

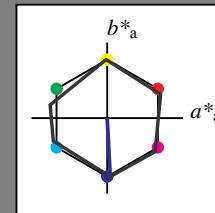
$lab^*tch$  and  $lab^*nch$

D65: hue B

LCH\*Ma: 57 77 273

olv\*Ma: 0.0 0.0 1.0

triangle lightness  $t^*$



%Gamut

$u^*_{rel} = 100$

%Regularity

$g^*_{H,rel} = 47$

$g^*_{C,rel} = 100$

relative Inform. Technology (IT)  
 $olvi3^*$  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 0.0

$LAB^*LABa$  95.41 0.0 0.0

$LAB^*TCh$  99.99 0.01 –

relative CIELAB lab\*

$lab^*lab$  1.0 0.0 0.0

$lab^*tch$  1.0 0.0 –

$lab^*nch$  0.0 0.0 –

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*ice$  1.0 0.0 –

$lab^*ncE$  0.0 0.0 –

relative Inform. Technology (IT)  
 $olvi3^*$  0.5 0.5 0.5 (1.0)  
 $cmyn3^*$  0.5 0.5 0.5 (0.0)  
 $olv4^*$  1.0 1.0 1.0 0.5  
 $cmyn4^*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  56.72 0.05 0.0

$LAB^*LABa$  56.72 0.0 0.0

$LAB^*TCh$  50.0 0.01 –

relative CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 –

$lab^*nch$  0.5 0.0 –

relative Natural Colour (NC)

$lab^*lrij$  0.5 0.0 0.0

$lab^*ice$  0.5 0.0 –

$lab^*ncE$  0.5 0.0 –

relative Inform. Technology (IT)  
 $olvi3^*$  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 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.09 0.02

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TCh$  0.01 0.01 –

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 –

$lab^*nch$  1.0 0.0 –

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*ice$  0.0 0.0 –

$lab^*ncE$  1.0 0.0 –

$n^* = 1,0$

## NRS18; adapted (a) CIELAB data

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

RMa	56.7	70.66	31.47	77.35	24
JMa	56.7	-1.39	77.37	77.39	91
GMa	56.7	-75.46	17.4	77.45	167
G50BMa	56.7	-71.29	-30.25	77.45	203
BMa	56.7	4.0	-77.3	77.41	273
B50RMa	56.7	63.35	-44.4	77.36	325
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	272

## Output: Colorimetric Reflective System ORS18

for hue  $h^* = lab^*h = 305/360 = 0.847$

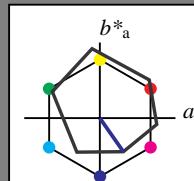
$lab^*tch$  and  $lab^*nch$

D65: hue V

LCH\*Ma: 26 54 305

olv\*Ma: 0.0 0.0 1.0

triangle lightness  $t^*$



%Gamut

$u^*_{rel} = 93$

%Regularity

$g^*_{H,rel} = 57$

$g^*_{C,rel} = 59$

relative Inform. Technology (IT)  
 $olvi3^*$  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

$LAB^*LABa$  95.41 0.0 0.0

$LAB^*TCh$  99.99 0.01 –

relative CIELAB lab\*

$lab^*lab$  1.0 0.0 0.0

$lab^*tch$  1.0 0.0 –

$lab^*nch$  0.0 0.0 –

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*ice$  1.0 0.0 –

$lab^*ncE$  0.0 0.0 –

relative Inform. Technology (IT)  
 $olvi3^*$  0.5 0.5 0.5 (1.0)  
 $cmyn3^*$  0.5 0.5 0.5 (0.0)  
 $olv4^*$  0.5 0.5 1.0 1.0  
 $cmyn4^*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  56.7 4.05 -77.27

$LAB^*LABa$  56.7 4.0 -77.28

$LAB^*TCh$  50.0 0.01 –

relative CIELAB lab\*

$lab^*lab$  0.5 0.052 -0.997

$lab^*tch$  0.5 1.0 0.758

$lab^*nch$  0.0 1.0 0.758

relative Natural Colour (NC)

$lab^*lrij$  0.5 0.018 -0.999

$lab^*ice$  0.5 1.0 0.753

$lab^*ncE$  0.0 1.0 0.601r

relative Inform. Technology (IT)  
 $olvi3^*$  0.0 0.0 0.0 (1.0)  
 $cmyn3^*$  1.0 1.0 1.0 (0.0)  
 $olv4^*$  1.0 1.0 1.0 0.5  
 $cmyn4^*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.5 -0.46

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TCh$  0.01 0.01 –

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 –

$lab^*nch$  1.0 0.0 –

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*ice$  0.0 0.0 –

$lab^*ncE$  1.0 0.0 –

$n^* = 1,0$

$n^* = 0,00$

blackness  $n^*$

$chromaticness c^*$

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

## ORS18; adapted (a) CIELAB data

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

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)

$olvi3^*$  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

$LAB^*LAB$  60.56 15.24 -19.79

$LAB^*LABa$  60.56 15.55 -22.2

$LAB^*TCh$  75.0 27.11 305.0

relative CIELAB lab\*

$lab^*lab$  0.55 0.287 -0.408

$lab^*tch$  0.75 0.5 0.847

$lab^*nch$  0.0 0.5 0.847

relative Natural Colour (NC)

$lab^*lrij$  0.55 0.225 -0.446

$lab^*ice$  0.75 0.5 0.824

$lab^*ncE$  0.0 0.5 0.824

relative Inform. Technology (IT)

$olvi3^*$  0.0 0.0 0.5 (1.0)

$cmyn3^*$  1.0 1.0 0.5 (0.0)

$olv4^*$  0.5 0.5 1.0 0.5

$cmyn4^*$  0.5 0.5 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  21.87 15.98 -22.4

$LAB^*LABa$  21.87 15.55 -22.2

$LAB^*TCh$  25.01 27.11 305.0

relative CIELAB lab\*

$lab^*lab$  0.05 0.287 -0.408

$lab^*tch$  0.25 0.5 0.847

$lab^*nch$  0.5 0.5 0.847

relative Natural Colour (NC)

$lab^*lrij$  0.05 0.225 -0.446

$lab^*ice$  0.25 0.5 0.824

$lab^*ncE$  0.5 0.5 0.824

$n^* = 1,0$

relative Inform. Technology (IT)

$olvi3^*$  1.0 1.0 0.0 (0.0)

$cmyn3^*$  0.0 0.0 1.0 1.0

$olv4^*$  0.0 0.0 1.0 1.0

$cmyn4^*$  1.0 1.0 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  25.72 31.46 -44.36

$LAB^*LABa$  25.72 31.1 -44.41

$LAB^*TCh$  50.0 54.23 305.0

relative CIELAB lab\*

$lab^*lab$  0.1 0.573 -0.818

$lab^*tch$  0.5 1.0 0.847

$lab^*nch$  0.0 1.0 0.847

relative Natural Colour (NC)

$lab^*lrij$  0.1 0.449 -0.892

$lab^*ice</math$

## Input: Colorimetric Reflective System NRS18

for hue  $h^* = lab^*h = 273/360 = 0.758$

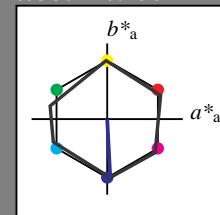
$lab^*tch$  and  $lab^*nch$

D65: hue B

LCH\*Ma: 57 77 273

olv\*Ma: 0.0 0.0 1.0

triangle lightness  $t^*$



### NRS18; adapted (a) CIELAB data

	$L^*=L_a^*$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	56.7	70.66	31.47	77.35	24
JMa	56.7	-1.39	77.37	77.39	91
GMa	56.7	-75.46	17.4	77.45	167
G50BMa	56.7	-71.29	-30.25	77.45	203
BMa	56.7	4.0	-77.3	77.41	273
B50RMa	56.7	63.35	-44.4	77.36	325
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	272

relative Inform. Technology (IT)  
 $olv_i3^*$  1.0 1.0 1.0 (1.0)  
 $cmy3^*$  0.0 0.0 0.0 (0.0)  
 $olv_i4^*$  1.0 1.0 1.0 1.0  
 $cmy4^*$  0.0 0.0 0.0 0.0

standard and adapted CIELAB  
 $LAB^*LAB$  95.41 0.0 0.0  
 $LAB^*LABa$  95.41 0.0 0.0  
 $LAB^*TCh$  99.99 0.01 -

relative CIELAB lab\*  
 $lab^*lab$  1.0 0.0 0.0  
 $lab^*tch$  1.0 0.0 -  
 $lab^*nch$  0.0 0.0 -  
relative Natural Colour (NC)  
 $lab^*lrij$  1.0 0.0 0.0  
 $lab^*tce$  1.0 0.0 0.0  
 $lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)  
 $olv_i3^*$  0.5 0.5 0.5 (1.0)  
 $cmy3^*$  0.5 0.5 0.5 (0.0)  
 $olv_i4^*$  1.0 1.0 1.0 0.5  
 $cmy4^*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB  
 $LAB^*LAB$  56.72 0.05 0.0  
 $LAB^*LABa$  56.72 0.0 0.0  
 $LAB^*TCh$  50.0 0.01 -

relative CIELAB lab\*  
 $lab^*lab$  0.5 0.0 0.0  
 $lab^*tch$  0.5 0.0 -  
 $lab^*nch$  0.5 0.0 -  
relative Natural Colour (NC)  
 $lab^*lrij$  0.5 0.0 0.0  
 $lab^*tce$  0.5 0.0 0.0  
 $lab^*ncE$  0.5 0.0 -

relative Inform. Technology (IT)  
 $olv_i3^*$  0.0 0.0 0.0 (1.0)  
 $cmy3^*$  1.0 1.0 1.0 (0.0)  
 $olv_i4^*$  1.0 1.0 1.0 0.0  
 $cmy4^*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB  
 $LAB^*LAB$  18.02 0.09 0.02  
 $LAB^*LABa$  18.02 0.0 0.0  
 $LAB^*TCh$  0.01 0.01 -

relative CIELAB lab\*  
 $lab^*lab$  0.0 0.0 0.0  
 $lab^*tch$  0.0 0.0 -  
 $lab^*nch$  1.0 0.0 -  
relative Natural Colour (NC)  
 $lab^*lrij$  0.0 0.0 0.0  
 $lab^*tce$  0.0 0.0 -  
 $lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

$t^*$

$t^*$

$t^*$

$t^*$

$t^*$

$t^*$

$n^* = 0,00$

$n^*$

## Input: Colorimetric Reflective System NRS18

for hue  $h^* = lab^*h = 273/360 = 0.758$

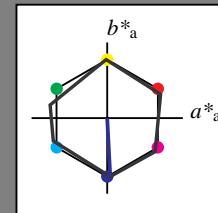
$lab^*tch$  and  $lab^*nch$

D65: hue B

LCH\*Ma: 57 77 273

olv\*Ma: 0.0 0.0 1.0

triangle lightness  $t^*$



%Gamut

$u^*_{rel} = 100$

%Regularity

$g^*_{H,rel} = 47$

$g^*_{C,rel} = 100$

relative Inform. Technology (IT)  
 $olv_i3^*$  1.0 1.0 1.0 (1.0)  
 $cmyn3^*$  0.0 0.0 0.0 (0.0)  
 $olv_i4^*$  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 0.0

$LAB^*LABa$  95.41 0.0 0.0

$LAB^*TCh$  99.99 0.01 -

relative CIELAB lab\*

$lab^*lab$  1.0 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrf$  1.0 0.0 0.0

$lab^*fce$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)  
 $olv_i3^*$  0.5 0.5 0.5 (1.0)  
 $cmyn3^*$  0.5 0.5 0.5 (0.0)  
 $olv_i4^*$  1.0 1.0 1.0 0.5  
 $cmyn4^*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  56.72 0.05 0.0

$LAB^*LABa$  56.72 0.0 0.0

$LAB^*TCh$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrf$  0.5 0.0 0.0

$lab^*fce$  0.5 0.0 0.0

$lab^*ncE$  0.5 0.0 -

relative Inform. Technology (IT)  
 $olv_i3^*$  0.0 0.0 0.0 (1.0)  
 $cmyn3^*$  1.0 1.0 1.0 (0.0)  
 $olv_i4^*$  1.0 1.0 1.0 0.0  
 $cmyn4^*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.09 0.02

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TCh$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrf$  0.0 0.0 0.0

$lab^*fce$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

## NRS18; adapted (a) CIELAB data

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

RMa	56.7	70.66	31.47	77.35	24
JMa	56.7	-1.39	77.37	77.39	91
GMa	56.7	-75.46	17.4	77.45	167
G50BMa	56.7	-71.29	-30.25	77.45	203
BMa	56.7	4.0	-77.3	77.41	273
B50RMa	56.7	63.35	-44.4	77.36	325
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	272

## Output: Colorimetric Reflective System TRS18

for hue  $h^* = lab^*h = 305/360 = 0.847$

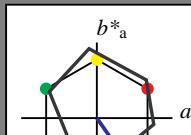
$lab^*tch$  and  $lab^*nch$

D65: hue V

LCH\*Ma: 26 54 305

olv\*Ma: 0.0 0.0 1.0

triangle lightness  $t^*$



%Gamut

$u^*_{rel} = 93$

%Regularity

$g^*_{H,rel} = 57$

$g^*_{C,rel} = 59$

relative Inform. Technology (IT)  
 $olv_i3^*$  1.0 1.0 1.0 (1.0)  
 $cmyn3^*$  0.0 0.0 0.0 (0.0)  
 $olv_i4^*$  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

$LAB^*LABa$  95.41 0.0 0.0

$LAB^*TCh$  99.99 0.01 -

relative CIELAB lab\*

$lab^*lab$  1.0 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrf$  1.0 0.0 0.0

$lab^*fce$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)  
 $olv_i3^*$  0.5 0.5 0.5 (1.0)  
 $cmyn3^*$  0.5 0.5 0.5 (0.0)  
 $olv_i4^*$  0.5 0.5 1.0 1.0  
 $cmyn4^*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  56.7 4.05 -77.27

$LAB^*LABa$  56.7 4.0 -77.28

$LAB^*TCh$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 0.052 -0.997

$lab^*tch$  0.5 1.0 0.758

$lab^*nch$  0.0 1.0 0.758

relative Natural Colour (NC)

$lab^*lrf$  0.5 0.018 -0.999

$lab^*fce$  0.5 1.0 0.753

$lab^*ncE$  0.0 1.0 0.601r

relative Inform. Technology (IT)  
 $olv_i3^*$  0.0 0.0 0.0 (1.0)  
 $cmyn3^*$  1.0 1.0 1.0 (0.0)  
 $olv_i4^*$  1.0 1.0 1.0 0.5  
 $cmyn4^*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.5 -0.46

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TCh$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrf$  0.0 0.0 0.0

$lab^*fce$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

## TRS18; adapted (a) CIELAB data

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

O Ma	47.94	65.37	50.52	82.62	38
Y Ma	90.37	-10.27	91.77	92.34	96
I Ma	50.9	-62.79	34.95	71.87	151
C Ma	58.62	-30.35	-45.01	54.3	236
V Ma	25.71	31.11	-44.42	54.24	305
M Ma	48.13	75.27	-8.35	75.73	354
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
BCIE	30.57	1.15	-46.84	46.87	271

relative Inform. Technology (IT)  
 $olv_i3^*$  1.0 1.0 1.0 (1.0)  
 $cmyn3^*$  0.0 0.0 0.0 (0.0)  
 $olv_i4^*$  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

$LAB^*LABa$  95.41 0.0 0.0

$LAB^*TCh$  99.99 0.01 -

relative CIELAB lab\*

$lab^*lab$  1.0 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrf$  1.0 0.0 0.0

$lab^*fce$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)  
 $olv_i3^*$  0.5 0.5 0.5 (1.0)  
 $cmyn3^*$  0.5 0.5 0.5 (0.0)  
 $olv_i4^*$  0.5 0.5 1.0 0.5  
 $cmyn4^*$  0.5 0.5 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  56.71 -0.23 2.14

$LAB^*LABa$  56.71 0.0 0.0

$LAB^*TCh$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 0.225 -0.446

$lab^*tch$  0.5 0.5 0.824

$lab^*nch$  0.5 0.5 0.824

relative Natural Colour (NC)

$lab^*lrf$  0.1 0.449 -0.892

$lab^*fce$  0.5 1.0 0.824

$lab^*ncE$  0.0 1.0 0.824

relative Inform. Technology (IT)  
 $olv_i3^*$  0.0 0.0 0.0 (1.0)  
 $cmyn3^*$  1.0 1.0 1.0 (0.0)  
 $olv_i4^*$  1.0 1.0 1.0 0.5  
 $cmyn4^*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.5 -0.46

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TCh$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrf$  0.0 0.0 0.0

$lab^*fce$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

UE100-7, 3 step scales for constant CIELAB hue 273/360 = 0.758 (left)

3 step scales for constant CIELAB hue 305/360 = 0.847 (right)

$n^* = 0,00$

blackness  $n^*$

chromaticness  $c^*$

## Input: Colorimetric Reflective System NRS18

for hue  $h^* = lab^*h = 273/360 = 0.758$

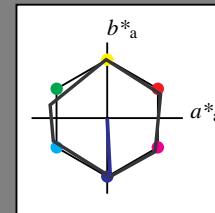
$lab^*tch$  and  $lab^*nch$

D65: hue B

LCH\*Ma: 57 77 273

olv\*Ma: 0.0 0.0 1.0

triangle lightness  $t^*$



%Gamut

$u^*_{rel} = 100$

%Regularity

$g^*_{H,rel} = 47$

$g^*_{C,rel} = 100$

relative Inform. Technology (IT)  
 $olv_i3^*$  1.0 1.0 1.0 (1.0)  
 $cmyn3^*$  0.0 0.0 0.0 (0.0)  
 $olv_i4^*$  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 0.0

$LAB^*LABa$  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 –

$lab^*nch$  0.0 0.0 –

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 –

relative Inform. Technology (IT)  
 $olv_i3^*$  0.5 0.5 0.5 (1.0)  
 $cmyn3^*$  0.5 0.5 0.5 (0.0)  
 $olv_i4^*$  1.0 1.0 1.0 0.5  
 $cmyn4^*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  56.72 0.05 0.0

$LAB^*LABa$  56.72 0.0 0.0

$LAB^*TChA$  50.0 0.01 –

relative CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 –

$lab^*nch$  0.5 0.0 –

relative Natural Colour (NC)

$lab^*lrij$  0.5 0.0 0.0

$lab^*tce$  0.5 0.0 0.0

$lab^*ncE$  0.5 0.0 –

relative Inform. Technology (IT)  
 $olv_i3^*$  0.0 0.0 0.0 (1.0)  
 $cmyn3^*$  1.0 1.0 1.0 (0.0)  
 $olv_i4^*$  1.0 1.0 1.0 0.0  
 $cmyn4^*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.09 0.02

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TChA$  0.01 0.01 –

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 –

$lab^*nch$  1.0 0.0 –

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*tce$  0.0 0.0 –

$lab^*ncE$  1.0 0.0 –

$n^* = 1,0$

## NRS18; adapted (a) CIELAB data

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

RMa	56.7	70.66	31.47	77.35	24
JMa	56.7	-1.39	77.37	77.39	91
GMa	56.7	-75.46	17.4	77.45	167
G50BMa	56.7	-71.29	-30.25	77.45	203
BMa	56.7	4.0	-77.3	77.41	273
B50RMa	56.7	63.35	-44.4	77.36	325
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	272

## Output: Colorimetric Reflective System MRS18a

for hue  $h^* = lab^*h = 290/360 = 0.807$

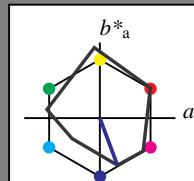
$lab^*tch$  and  $lab^*nch$

D65: hue B

LCH\*Ma: 37 66 290

olv\*Ma: 0.0 0.0 1.0

triangle lightness  $t^*$



%Gamut

$u^*_{rel} = 92$

%Regularity

$g^*_{H,rel} = 42$

$g^*_{C,rel} = 49$

relative Inform. Technology (IT)  
 $olv_i3^*$  1.0 1.0 1.0 (1.0)  
 $cmyn3^*$  0.0 0.0 0.0 (0.0)  
 $olv_i4^*$  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 0.01 0.0

$LAB^*LABa$  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 –

$lab^*nch$  0.0 0.0 –

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 –

relative Inform. Technology (IT)  
 $olv_i3^*$  0.5 0.5 0.5 (1.0)  
 $cmyn3^*$  0.5 0.5 0.5 (0.0)  
 $olv_i4^*$  0.5 0.5 1.0 1.0  
 $cmyn4^*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  66.03 11.67 -31.12

$LAB^*LABa$  66.03 11.63 -31.13

$LAB^*TChA$  75.0 33.24 290.48

relative CIELAB lab\*

$lab^*lab$  0.62 0.175 -0.467

$lab^*tch$  0.75 0.5 0.807

$lab^*nch$  0.0 0.5 0.807

relative Natural Colour (NC)

$lab^*lrij$  0.62 0.128 -0.482

$lab^*tce$  0.75 0.5 0.791

$lab^*ncE$  0.0 0.5 0.791

relative Inform. Technology (IT)  
 $olv_i3^*$  0.0 0.0 0.5 (1.0)  
 $cmyn3^*$  1.0 1.0 0.5 (0.0)  
 $olv_i4^*$  0.5 0.5 1.0 0.5  
 $cmyn4^*$  0.5 0.5 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  36.65 23.33 -62.24

$LAB^*LABa$  36.65 23.25 -62.26

$LAB^*TChA$  50.0 66.47 290.48

relative CIELAB lab\*

$lab^*lab$  0.241 0.35 -0.936

$lab^*tch$  0.5 1.0 0.807

$lab^*nch$  0.0 1.0 0.807

relative Natural Colour (NC)

$lab^*lrij$  0.241 0.257 -0.965

$lab^*tce$  0.5 1.0 0.791

$lab^*ncE$  0.0 1.0 0.791

$n^* = 0,00$

blackness  $n^*$

$n^* = 0,50$

$n^* = 1,00$

$n^* = 0,00$

blackness  $n^*$

$n^* = 0,50$

$n^* = 1,00$

## MRS18a; adapted (a) CIELAB data

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

RMa	49.63	66.8	40.02	77.87	31
JMa	90.7	-7.27	93.19	93.48	94
GMa	52.11	-69.93	11.26	70.85	171
G50BMa	45.03	-36.65	-27.13	45.61	217
BMa	36.65	23.26	-62.27	66.49	290
B50RMa	34.94	57.27	-43.6	71.99	323
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	272

$n^* = 1,00$

blackness  $n^*$

$n^* = 0,50$

$n^* = 0,00$

UE100-7, 3 step scales for constant CIELAB hue 273/360 = 0.758 (left)

3 step scales for constant CIELAB hue 290/360 = 0.807 (right)

## Input: Colorimetric Reflective System NRS18

for hue  $h^* = lab^*h = 273/360 = 0.758$

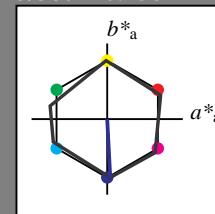
$lab^*tch$  and  $lab^*nch$

D65: hue B

LCH\*Ma: 57 77 273

olv\*Ma: 0.0 0.0 1.0

triangle lightness  $t^*$



%Gamut

$u^*_{rel} = 100$

%Regularity

$g^*_{H,rel} = 47$

$g^*_{C,rel} = 100$

relative Inform. Technology (IT)

$olv^3*$  1.0 1.0 1.0 (1.0)

$cmy^3*$  0.0 0.0 0.0 (0.0)

$olv^4*$  1.0 1.0 1.0 1.0

$cmy^4*$  0.0 0.0 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  95.41 0.0 0.0

$LAB^*LABa$  95.41 0.0 0.0

$LAB^*TCh$  99.99 0.01 -

relative CIELAB lab\*

$lab^*lab$  1.0 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*ice$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)

$olv^3*$  0.5 0.5 0.5 (1.0)

$cmy^3*$  0.5 0.5 0.5 (0.0)

$olv^4*$  1.0 1.0 1.0 0.5

$cmy^4*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  56.72 0.05 0.0

$LAB^*LABa$  56.72 0.0 0.0

$LAB^*TCh$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.5 0.0 0.0

$lab^*ice$  0.5 0.0 0.0

$lab^*ncE$  0.5 0.0 -

relative Inform. Technology (IT)

$olv^3*$  0.0 0.0 0.0 (1.0)

$cmy^3*$  1.0 1.0 1.0 (0.0)

$olv^4*$  1.0 1.0 1.0 0.0

$cmy^4*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.09 0.02

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TCh$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*ice$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

## NRS18; adapted (a) CIELAB data

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

RMa	56.7	70.66	31.47	77.35	24
JMa	56.7	-1.39	77.37	77.39	91
GMa	56.7	-75.46	17.4	77.45	167
G50BMa	56.7	-71.29	-30.25	77.45	203
BMa	56.7	4.0	-77.3	77.41	273
B50RMa	56.7	63.35	-44.4	77.36	325
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	272

## Output: Colorimetric Reflective System NRS18

for hue  $h^* = lab^*h = 273/360 = 0.758$

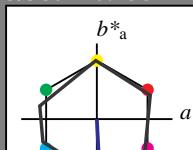
$lab^*tch$  and  $lab^*nch$

D65: hue B

LCH\*Ma: 57 77 273

olv\*Ma: 0.0 0.0 1.0

triangle lightness  $t^*$



%Gamut

$u^*_{rel} = 100$

%Regularity

$g^*_{H,rel} = 47$

$g^*_{C,rel} = 100$

relative Inform. Technology (IT)

$olv^3*$  1.0 1.0 1.0 (1.0)

$cmy^3*$  0.0 0.0 0.0 (0.0)

$olv^4*$  1.0 1.0 1.0 1.0

$cmy^4*$  0.0 0.0 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  95.41 0.0 0.0

$LAB^*LABa$  95.41 0.0 0.0

$LAB^*TCh$  99.99 0.01 -

relative CIELAB lab\*

$lab^*lab$  1.0 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*ice$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)

$olv^3*$  0.5 0.5 0.5 (1.0)

$cmy^3*$  0.5 0.5 0.5 (0.0)

$olv^4*$  1.0 1.0 1.0 0.5

$cmy^4*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  56.72 0.05 0.0

$LAB^*LABa$  56.72 0.0 0.0

$LAB^*TCh$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.75 0.026 -0.498

$lab^*tch$  0.75 0.5 0.758

$lab^*nch$  0.0 0.5 0.758

relative Natural Colour (NC)

$lab^*lrij$  0.75 0.009 -0.499

$lab^*ice$  0.75 0.5 0.753

$lab^*ncE$  0.0 0.5 bo1r

$n^* = 0,00$

blackness  $n^*$

chromaticness  $c^*$

$n^* = 1,0$

blackness  $n^*$

chromaticness  $c^*$

## NRS18; adapted (a) CIELAB data

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

RMa	56.7	70.66	31.47	77.35	24
JMa	56.7	-1.39	77.37	77.39	91
GMa	56.7	-75.46	17.4	77.45	167
G50BMa	56.7	-71.29	-30.25	77.45	203
BMa	56.7	4.0	-77.3	77.41	273
B50RMa	56.7	63.35	-44.4	77.36	325
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	272

relative Inform. Technology (IT)

$olv^3*$  0.5 0.5 0.5 (1.0)

$cmy^3*$  0.5 0.5 0.5 (0.0)

$olv^4*$  0.5 0.5 1.0 1.0

$cmy^4*$  0.5 0.5 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  76.05 2.03 -38.63

$LAB^*LABa$  76.05 2.0 -38.64

$LAB^*TCh$  75.0 38.7 272.96

relative CIELAB lab\*

$lab^*lab$  0.75 0.026 -0.498

$lab^*tch$  0.75 0.5 0.758

$lab^*nch$  0.0 0.5 0.758

relative Natural Colour (NC)

$lab^*lrij$  0.75 0.009 -0.499

$lab^*ice$  0.75 0.5 0.753

$lab^*ncE$  0.0 0.5 bo1r

$n^* = 0,00$

blackness  $n^*$

chromaticness  $c^*$

$n^* = 1,0$

blackness  $n^*$

chromaticness  $c^*$

UE100-7, 3 step scales for constant CIELAB hue 273/360 = 0.758 (left)

3 step scales for constant CIELAB hue 273/360 = 0.758 (right)

## Input: Colorimetric Reflective System NRS18

for hue  $h^* = lab^*h = 273/360 = 0.758$

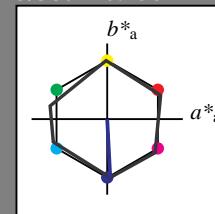
$lab^*tch$  and  $lab^*nch$

D65: hue B

LCH\*Ma: 57 77 273

olv\*Ma: 0.0 0.0 1.0

triangle lightness  $t^*$



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 0.0  
 $LAB^*LABa$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0  
 $lab^*tce$  1.0 0.0 0.0  
 $lab^*ncE$  0.0 0.0 -

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 0.5  
 $cmyn4^*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  56.72 0.05 0.0  
 $LAB^*LABa$  56.72 0.0 0.0  
 $LAB^*TChA$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0  
 $lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.5 0.0 0.0  
 $lab^*tce$  0.5 0.0 0.0  
 $lab^*ncE$  0.5 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

$LAB^*LAB$  18.02 0.09 0.02  
 $LAB^*LABa$  18.02 0.0 0.0  
 $LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0  
 $lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0  
 $lab^*tce$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

## NRS18; adapted (a) CIELAB data

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

RMa	56.7	70.66	31.47	77.35	24
JMa	56.7	-1.39	77.37	77.39	91
GMa	56.7	-75.46	17.4	77.45	167
G50BMa	56.7	-71.29	-30.25	77.45	203
BMa	56.7	4.0	-77.3	77.41	273
B50RMa	56.7	63.35	-44.4	77.36	325
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	272

%Gamut

$u^*_{rel} = 100$

%Regularity

$g^*_{H,rel} = 47$

$g^*_{C,rel} = 100$

relative Inform. Technology (IT)

$olvi3^*$  0.5 0.5 0.5 (1.0)

$cmyn3^*$  0.5 0.5 0.5 (0.0)

$olvi4^*$  0.5 0.5 1.0 1.0

$cmyn4^*$  0.5 0.5 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  76.05 2.03 -38.63

$LAB^*LABa$  76.05 2.0 -38.64

$LAB^*TChA$  75.0 38.7 272.96

relative CIELAB lab\*

$lab^*lab$  0.75 0.026 -0.498

$lab^*tch$  0.75 0.5 0.758

$lab^*nch$  0.0 0.5 0.758

relative Natural Colour (NC)

$lab^*lrij$  0.75 0.009 -0.499

$lab^*tce$  0.75 0.2 0.753

$lab^*ncE$  0.0 0.5 b01r

relative Inform. Technology (IT)

$olvi3^*$  0.0 0.0 1.0 (1.0)

$cmyn3^*$  1.0 1.0 0.0 (0.0)

$olvi4^*$  0.0 0.0 1.0 1.0

$cmyn4^*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  56.7 4.05 -77.27

$LAB^*LABa$  56.7 4.0 -77.28

$LAB^*TChA$  50.0 77.4 272.96

relative CIELAB lab\*

$lab^*lab$  0.5 0.052 -0.997

$lab^*tch$  0.5 1.0 0.758

$lab^*nch$  0.0 1.0 0.758

relative Natural Colour (NC)

$lab^*lrij$  0.5 0.018 -0.999

$lab^*tce$  0.5 1.0 0.753

$lab^*ncE$  0.0 1.0 b01r

relative Inform. Technology (IT)

$olvi3^*$  0.0 0.0 0.5 (1.0)

$cmyn3^*$  1.0 1.0 0.5 (0.0)

$olvi4^*$  0.5 0.5 1.0 0.5

$cmyn4^*$  0.5 0.5 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  37.36 2.07 -38.61

$LAB^*LABa$  37.36 2.0 -38.64

$LAB^*TChA$  25.01 38.7 272.96

relative CIELAB lab\*

$lab^*lab$  0.25 0.026 -0.498

$lab^*tch$  0.25 0.5 0.758

$lab^*nch$  0.5 0.5 0.758

relative Natural Colour (NC)

$lab^*lrij$  0.25 0.009 -0.499

$lab^*tce$  0.25 0.5 0.753

$lab^*ncE$  0.5 0.5 b01r

$n^* = 0,00$



blackness  $n^*$

chromaticness  $c^*$

## Output: Colorimetric Reflective System NCS18

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

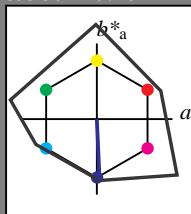
$lab^*tch$  and  $lab^*nch$

D65: hue B

LCH\*Ma: 49 81 273

olv\*Ma: 0.0 0.0 1.0

triangle lightness  $t^*$



%Gamut

$u^*_{rel} = 136$

%Regularity

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

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

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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0  
 $lab^*tce$  1.0 0.0 0.0  
 $lab^*ncE$  0.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  72.21 1.85 -40.58  
 $LAB^*LABa$  72.21 1.82 -40.59  
 $LAB^*TChA$  75.0 40.64 272.56

relative CIELAB lab\*

$lab^*lab$  0.7 0.022 -0.498

$lab^*tch$  0.75 0.5 0.757

$lab^*nch$  0.0 0.5 0.757

relative Natural Colour (NC)

$lab^*lrij$  0.7 0.006 -0.499

$lab^*tce$  0.75 0.5 0.752

$lab^*ncE$  0.0 0.5 b00r

relative Inform. Technology (IT)

$olvi3^*$  0.0 0.0 0.5 (1.0)

$cmyn3^*$  1.0 1.0 0.5 (0.0)

$olvi4^*$  0.5 0.5 1.0 0.5

$cmyn4^*$  0.5 0.5 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  33.52 1.9 -40.56

$LAB^*LABa$  33.52 1.82 -40.59

$LAB^*TChA$  25.01 40.64 272.56

relative CIELAB lab\*

$lab^*lab$  0.2 0.022 -0.498

$lab^*tch$  0.25 0.5 0.757

$lab^*nch$  0.5 0.5 0.757

relative Natural Colour (NC)

$lab^*lrij$  0.2 0.006 -0.499

$lab^*tce$  0.25 0.5 0.752

$lab^*ncE$  0.5 0.5 b00r

relative Inform. Technology (IT)

$olvi3^*$  0.0 0.0 0.5 (1.0)

$cmyn3^*$  1.0 1.0 0.5 (0.0)

$olvi4^*$  0.5 0.5 1.0 0.5

$cmyn4^*$  0.5 0.5 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.09 0.02  
 $LAB^*LABa$  18.02 0.0 0.0  
 $LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0  
 $lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0  
 $lab^*tce$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

relative Inform. Technology (IT)

$olvi3^*$  0.0 0.0 0.5 (1.0)

$cmyn3^*$  1.0 1.0 0.5 (0.0)

$olvi4^*$  0.5 0.5 1.0 0.5

$cmyn4^*$  0.5 0.5 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.09 0.02  
 $LAB^*LABa$  18.02 0.0 0.0  
 $LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0  
 $lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0  
 $lab^*tce$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

relative Inform. Technology (IT)

$olvi3^*$  0.0 0.0 0.5 (1.0)

$cmyn3^*$  1.0 1.0 0.5 (0.0)

$olvi4^*$  0.5 0.5 1.0 0.5

$cmyn4^*$  0.5 0.5 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.09 0.02  
 $LAB^*LABa$  18.02 0.0 0.0  
 $LAB^*TChA$  0.01 0.01 -

</div

## Input: Colorimetric Reflective System NRS18

for hue  $h^* = lab^*h = 273/360 = 0.758$

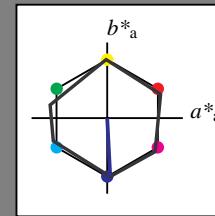
$lab^*tch$  and  $lab^*nch$

D65: hue B

LCH\*Ma: 57 77 273

olv\*Ma: 0.0 0.0 1.0

triangle lightness  $t^*$



%Gamut

$u^*_{rel} = 100$

%Regularity

$g^*_{H,rel} = 47$

$g^*_{C,rel} = 100$

relative Inform. Technology (IT)  
 $olv_i3^*$  1.0 1.0 1.0 (1.0)  
 $cmy_n3^*$  0.0 0.0 0.0 (0.0)  
 $olv_i4^*$  1.0 1.0 1.0 1.0  
 $cmy_n4^*$  0.0 0.0 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  95.41 0.0 0.0

$LAB^*LABa$  95.41 0.0 0.0

$LAB^*TCh_a$  99.99 0.01 -

relative CIELAB lab\*

$lab^*lab$  1.0 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)  
 $olv_i3^*$  0.5 0.5 0.5 (1.0)  
 $cmy_n3^*$  0.5 0.5 0.5 (0.0)  
 $olv_i4^*$  1.0 1.0 1.0 0.5  
 $cmy_n4^*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  56.72 0.05 0.0

$LAB^*LABa$  56.72 0.0 0.0

$LAB^*TCh_a$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.5 0.0 0.0

$lab^*tce$  0.5 0.0 0.0

$lab^*ncE$  0.5 0.0 -

relative Inform. Technology (IT)  
 $olv_i3^*$  0.0 0.0 0.0 (1.0)  
 $cmy_n3^*$  1.0 1.0 1.0 (0.0)  
 $olv_i4^*$  1.0 1.0 1.0 0.0  
 $cmy_n4^*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.09 0.02

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TCh_a$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*tce$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

## NRS18; adapted (a) CIELAB data

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

RMa	56.7	70.66	31.47	77.35	24
JMa	56.7	-1.39	77.37	77.39	91
GMa	56.7	-75.46	17.4	77.45	167
G50BMa	56.7	-71.29	-30.25	77.45	203
BMa	56.7	4.0	-77.3	77.41	273
B50RMa	56.7	63.35	-44.4	77.36	325
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	272

## Output: Colorimetric Reflective System NRS11

for hue  $h^* = lab^*h = 273/360 = 0.758$

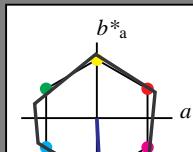
$lab^*tch$  and  $lab^*nch$

D65: hue B

LCH\*Ma: 53 84 273

olv\*Ma: 0.0 0.0 1.0

triangle lightness  $t^*$



%Gamut

$u^*_{rel} = 119$

%Regularity

$g^*_{H,rel} = 47$

$g^*_{C,rel} = 100$

relative Inform. Technology (IT)  
 $olv_i3^*$  1.0 1.0 1.0 (1.0)  
 $cmy_n3^*$  0.0 0.0 0.0 (0.0)  
 $olv_i4^*$  1.0 1.0 1.0 1.0  
 $cmy_n4^*$  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

$LAB^*TCh_a$  99.99 0.01 -

relative CIELAB lab\*

$lab^*lab$  1.0 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)  
 $olv_i3^*$  0.5 0.5 0.5 (1.0)  
 $cmy_n3^*$  0.5 0.5 0.5 (0.0)  
 $olv_i4^*$  0.5 0.5 1.0 1.0  
 $cmy_n4^*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  74.3 2.21 -42.13

$LAB^*LABa$  74.3 2.19 -42.13

$LAB^*TCh_a$  75.0 42.2 272.97

relative CIELAB lab\*

$lab^*lab$  0.75 0.026 -0.498

$lab^*tch$  0.75 0.5 0.758

$lab^*nch$  0.0 0.5 0.758

relative Natural Colour (NC)

$lab^*lrij$  0.75 0.009 -0.499

$lab^*tce$  0.75 0.5 0.753

$lab^*ncE$  0.0 0.5 601r

$n^* = 0,00$

blackness  $n^*$

chromaticness  $c^*$

$n^* = 1,0$

blackness  $n^*$

chromaticness  $c^*$

## NRS11; adapted (a) CIELAB data

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

RMa	53.2	77.06	34.32	84.36	24
JMa	53.2	-1.51	84.38	84.39	91
GMa	53.2	-82.27	18.98	84.44	167
G50BMa	53.2	-77.72	-32.98	84.44	203
BMa	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)

$olv_i3^*$  0.5 0.5 1.0 (1.0)

$cmy_n3^*$  0.5 0.5 0.5 (0.0)

$olv_i4^*$  0.5 0.5 1.0 1.0

$cmy_n4^*$  0.5 0.5 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  74.3 2.21 -42.13

$LAB^*LABa$  74.3 2.19 -42.13

$LAB^*TCh_a$  75.0 42.2 272.97

relative CIELAB lab\*

$lab^*lab$  0.75 0.026 -0.498

$lab^*tch$  0.75 0.5 0.758

$lab^*nch$  0.0 0.5 0.758

relative Natural Colour (NC)

$lab^*lrij$  0.75 0.009 -0.499

$lab^*tce$  0.75 0.5 0.753

$lab^*ncE$  0.0 0.5 601r

$n^* = 0,00$

blackness  $n^*$

chromaticness  $c^*$

$n^* = 1,0,0$

blackness  $n^*$

chromaticness  $c^*$

UE100-7, 3 step scales for constant CIELAB hue 273/360 = 0.758 (left)

3 step scales for constant CIELAB hue 273/360 = 0.758 (right)

## Input: Colorimetric Reflective System NRS18

for hue  $h^* = lab^*h = 273/360 = 0.758$

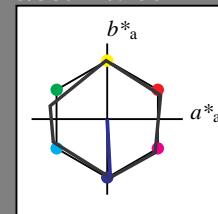
$lab^*tch$  and  $lab^*nch$

D65: hue B

LCH\*Ma: 57 77 273

olv\*Ma: 0.0 0.0 1.0

triangle lightness  $t^*$



### NRS18; adapted (a) CIELAB data

	$L^* = L^*_{ab}$	$a^*_{ab}$	$b^*_{ab}$	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	56.7	70.66	31.47	77.35	24
JMa	56.7	-1.39	77.37	77.39	91
GMa	56.7	-75.46	17.4	77.45	167
G50BMa	56.7	-71.29	-30.25	77.45	203
BMa	56.7	4.0	-77.3	77.41	273
B50RMa	56.7	63.35	-44.4	77.36	325
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	272

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 0.0  
 $LAB^*LABa$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0  
 $lab^*ice$  1.0 0.0 0.0  
 $lab^*ncE$  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 0.5  
 $cmyn^4*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  56.72 0.05 0.0  
 $LAB^*LABa$  56.72 0.0 0.0  
 $LAB^*TChA$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0  
 $lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.5 0.0 0.0  
 $lab^*ice$  0.5 0.0 0.0

$lab^*ncE$  0.5 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)

$olv^4*$  1.0 1.0 1.0 0.0

$cmyn^4*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.09 0.02  
 $LAB^*LABa$  18.02 0.0 0.0  
 $LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0  
 $lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0  
 $lab^*ice$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

%Gamut  
 $u^*_{rel} = 100$   
%Regularity  
 $g^*_{H,rel} = 47$   
 $g^*_{C,rel} = 100$

relative Inform. Technology (IT)  
 $olv^3*$  0.5 0.5 1.0 (1.0)  
 $cmyn^3*$  0.5 0.5 0.0 (0.0)  
 $olv^4*$  0.5 0.5 1.0 1.0  
 $cmyn^4*$  0.5 0.5 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  76.05 2.03 -38.63  
 $LAB^*LABa$  76.05 2.0 -38.64  
 $LAB^*TChA$  75.0 38.7 272.96

relative CIELAB lab\*

$lab^*lab$  0.75 0.026 -0.498  
 $lab^*tch$  0.75 0.5 0.758  
 $lab^*nch$  0.0 0.5 0.758

relative Natural Colour (NC)

$lab^*lrij$  0.75 0.009 -0.499  
 $lab^*ice$  0.75 0.2 0.753  
 $lab^*ncE$  0.0 0.5 b01r

relative Inform. Technology (IT)  
 $olv^3*$  0.0 0.0 1.0 (1.0)  
 $cmyn^3*$  1.0 1.0 0.0 (0.0)  
 $olv^4*$  0.0 0.0 1.0 1.0  
 $cmyn^4*$  1.0 1.0 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  56.7 4.05 -77.27  
 $LAB^*LABa$  56.7 4.0 -77.28  
 $LAB^*TChA$  50.0 77.4 272.96

relative CIELAB lab\*

$lab^*lab$  0.5 0.052 -0.997  
 $lab^*tch$  0.5 1.0 0.758  
 $lab^*nch$  0.0 1.0 0.758

relative Natural Colour (NC)

$lab^*lrij$  0.5 0.018 -0.999  
 $lab^*ice$  0.5 1.0 0.753  
 $lab^*ncE$  0.0 1.0 b01r

relative Inform. Technology (IT)  
 $olv^3*$  0.0 0.0 0.5 (1.0)  
 $cmyn^3*$  1.0 1.0 0.5 (0.0)  
 $olv^4*$  0.5 0.5 1.0 0.5  
 $cmyn^4*$  0.5 0.5 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  37.36 2.07 -38.61  
 $LAB^*LABa$  37.36 2.0 -38.64  
 $LAB^*TChA$  25.01 38.7 272.96

relative CIELAB lab\*

$lab^*lab$  0.25 0.026 -0.498  
 $lab^*tch$  0.25 0.5 0.758  
 $lab^*nch$  0.5 0.5 0.758

relative Natural Colour (NC)

$lab^*lrij$  0.25 0.009 -0.499  
 $lab^*ice$  0.25 0.5 0.753  
 $lab^*ncE$  0.5 0.5 b01r

relative Inform. Technology (IT)  
 $olv^3*$  0.0 0.0 0.0 (1.0)  
 $cmyn^3*$  1.0 1.0 1.0 (0.0)  
 $olv^4*$  1.0 1.0 1.0 0.0  
 $cmyn^4*$  0.0 0.0 1.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  11.01 0.07 0.01  
 $LAB^*LABa$  11.01 0.0 0.0  
 $LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0  
 $lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0  
 $lab^*ice$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

relative Inform. Technology (IT)  
 $olv^3*$  0.0 0.0 0.5 (1.0)  
 $cmyn^3*$  1.0 1.0 0.5 (0.0)  
 $olv^4*$  1.0 1.0 0.5 0.5  
 $cmyn^4*$  0.5 0.5 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  0.225 0.022 -0.498  
 $LAB^*LABa$  0.225 0.5 0.757  
 $LAB^*TChA$  0.5 0.5 0.757

relative Natural Colour (NC)

$lab^*lrij$  0.225 0.006 -0.499  
 $lab^*ice$  0.225 0.5 0.752  
 $lab^*ncE$  0.5 0.5 b01r

relative Inform. Technology (IT)  
 $olv^3*$  0.0 0.0 0.0 (1.0)  
 $cmyn^3*$  1.0 1.0 1.0 (0.0)  
 $olv^4*$  1.0 1.0 1.0 0.0  
 $cmyn^4*$  0.0 0.0 1.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  0.25 0.0 0.0  
 $LAB^*LABa$  0.25 0.5 0.757  
 $LAB^*TChA$  0.5 0.5 0.757

relative Natural Colour (NC)

$lab^*lrij$  0.25 0.0 0.0  
 $lab^*ice$  0.25 0.5 0.752  
 $lab^*ncE$  0.5 0.5 b01r

relative Inform. Technology (IT)  
 $olv^3*$  0.0 0.0 0.0 (1.0)  
 $cmyn^3*$  1.0 1.0 1.0 (0.0)  
 $olv^4*$  1.0 1.0 1.0 0.0  
 $cmyn^4*$  0.0 0.0 1.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  0.25 0.0 0.0  
 $LAB^*LABa$  0.25 0.5 0.757  
 $LAB^*TChA$  0.5 0.5 0.757

relative Natural Colour (NC)

$lab^*lrij$  0.25 0.0 0.0  
 $lab^*ice$  0.25 0.5 0.752  
 $lab^*ncE$  0.5 0.5 b01r

relative Inform. Technology (IT)  
 $olv^3*$  0.0 0.0 0.0 (1.0)  
 $cmyn^3*$  1.0 1.0 1.0 (0.0)  
 $olv^4*$  1.0 1.0 1.0 0.0  
 $cmyn^4*$  0.0 0.0 1.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  0.25 0.0 0.0  
 $LAB^*LABa$  0.25 0.5 0.757  
 $LAB^*TChA$  0.5 0.5 0.757

relative Natural Colour (NC)

$lab^*lrij$  0.25 0.0 0.0  
 $lab^*ice$  0.25 0.5 0.752  
 $lab^*ncE$  0.5 0.5 b01r

relative Inform. Technology (IT)  
 $olv^3*$  0.0 0.0 0.0 (1.0)  
 $cmyn^3*$  1.0 1.0 1.0 (0.0)  
 $olv^4*$  1.0 1.0 1.0 0.0  
 $cmyn^4*$  0.0 0.0 1.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  0.25 0.0 0.0  
 $LAB^*LABa$  0.25 0.5 0.757  
 $LAB^*TChA$  0.5 0.5 0.757

relative Natural Colour (NC)

$lab^*lrij$  0.25 0.0 0.0  
 $lab^*ice$  0.25 0.5 0.752  
 $lab^*ncE$  0.5 0.5 b01r

relative Inform. Technology (IT)  
 $olv^3*$  0.0 0.0 0.0 (1.0)  
 $cmyn^3*$  1.0 1.0 1.0 (0.0)  
 $olv^4*$  1.0 1.0 1.0 0.0  
 $cmyn^4*$  0.0 0.0 1.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  0.25 0.0 0.0  
 $LAB^*LABa$  0.25 0.5 0.757  
 $LAB^*TChA$  0.5 0.5 0.757

relative Natural Colour (NC)

$lab^*lrij$  0.25 0.0 0.0  
 $lab^*ice$  0.25 0.5 0.752  
 $lab^*ncE$  0.5 0.5 b01r

relative Inform. Technology (IT)  
 $olv^3*$  0.0 0.0 0.0 (1.0)  
 $cmyn^3*$  1.0 1.0 1.0 (0.0)  
 $olv^4*$  1.0 1.0 1.0 0.0  
 $cmyn^4*$  0.0 0.0 1.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  0.25 0.0 0.0  
 $LAB^*LABa$  0.25 0.5 0.757  
 $LAB^*TChA$  0.5 0.5 0.757

relative Natural Colour (NC)

$lab^*lrij$  0.25 0.0 0.0  
 $lab^*ice$  0.25 0.5 0.752  
 $lab^*ncE$  0.5 0.5 b01r

relative Inform. Technology (IT)  
 $olv^3*$  0.0 0.0 0.0 (1.0)  
 $cmyn^3*$  1.0 1.0 1.0 (0.0)  
 $olv^4*$  1.0 1.0 1.0 0.0  
 $cmyn^4*$  0.0 0.0 1.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  0.25 0.0 0.0  
 $LAB^*LABa$  0.25 0.5 0.757  
 $LAB^*TChA$  0.5 0.5 0.757

relative Natural Colour (NC)

$lab^*lrij$  0.25 0.0 0.0  
 $lab^*ice$  0.25 0.5 0.752  
 $lab^*ncE$  0.5 0.5 b01r

relative Inform. Technology (IT)  
 $olv^3*$  0.0 0.0 0.0 (1.0)  
 $cmyn^3*$  1.0 1.0 1.0 (0.0)  
 $olv^4*$  1.0 1.0 1.0 0.0  
 $cmyn^4*$  0.0 0.0 1.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  0.25 0.0 0.0  
 $LAB^*LABa$  0.25 0.5 0.757  
 $LAB^*TChA$  0.5 0.5 0.757

relative Natural Colour (NC)

$lab^*lrij$  0.25 0.0 0.0  
 $lab^*ice$  0.25 0.5 0.752  
 $lab^*ncE$  0.5 0.5 b01r

relative Inform. Technology (IT)  
 $olv^3*$  0.0 0.0 0.0 (1.0)  
 $cmyn^3*$  1.0 1.0 1.0 (0.0)  
 $olv^4*$  1.0 1.0 1.0 0.0  
 $cmyn^4*$  0.0 0.0 1.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  0.25 0.0 0.0  
 $LAB^*LABa$  0.25 0.5 0.757  
 $LAB^*TChA$  0.5 0.5 0.757

relative Natural Colour (NC)

$lab^*lrij$  0.25 0.0 0.0  
 $lab^*ice$  0.25 0.5 0.752  
 $lab^*ncE$  0.5 0.5 b01r

relative Inform. Technology (IT)  
 $olv^3*$  0.0 0.0 0.0 (1.0)  
 $cmyn^3*$  1.0 1.0 1.0 (0.0)  
 $olv^4*$  1.0 1.0 1.0 0.0  
 $cmyn^4*$  0.0 0.0 1.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  0.25 0.0 0.0  
 $LAB^*LABa$  0.25 0.5 0.757  
 $LAB^*TChA$  0.5 0.5 0.757

relative Natural Colour (NC)

$lab^*lrij$  0.25 0.0 0.0  
 $lab^*ice</math$

## Input: Colorimetric Reflective System NCS18

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

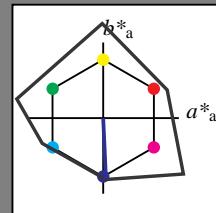
$lab^*tch$  and  $lab^*nch$

D65: hue B

LCH\*Ma: 49 81 273

olv\*Ma: 0.0 0.0 1.0

triangle lightness  $t^*$



%Gamut

$u^*_{rel} = 136$

%Regularity

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

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

relative Inform. Technology (IT)

$olv^3*$  1.0 1.0 1.0 (1.0)

$cmy^3*$  0.0 0.0 0.0 (0.0)

$olv^4*$  1.0 1.0 1.0 1.0

$cmy^4*$  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

$LAB^*TCh$  99.99 0.01 -

relative CIELAB lab\*

$lab^*lab$  1.0 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrf$  1.0 0.0 0.0

$lab^*fce$  1.0 0.0 -

$lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)

$olv^3*$  0.5 0.5 0.5 (1.0)

$cmy^3*$  0.5 0.5 0.5 (0.0)

$olv^4*$  1.0 1.0 1.0 0.5

$cmy^4*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  56.72 0.05 0.0

$LAB^*LABa$  56.72 0.0 0.0

$LAB^*TCh$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrf$  0.5 0.0 0.0

$lab^*fce$  0.5 0.0 -

$lab^*ncE$  0.5 0.0 -

relative Inform. Technology (IT)

$olv^3*$  0.0 0.0 0.0 (1.0)

$cmy^3*$  1.0 1.0 1.0 (0.0)

$olv^4*$  1.0 1.0 1.0 0.0

$cmy^4*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.09 0.02

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TCh$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrf$  0.0 0.0 0.0

$lab^*fce$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

## NCS18; adapted (a) CIELAB data

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

RMa	47.15	84.63	37.24	92.46	24
JMa	91.37	-1.27	125.03	125.03	91
GMa	63.07	-114.29	25.34	117.07	167
G50BMa	59.47	-80.61	-33.45	87.29	203
BMa	49.01	3.63	-81.2	81.29	273
B50RMa	44.06	106.07	-73.94	129.31	325
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	272

## Output: Colorimetric Reflective System ORS18

for hue  $h^* = lab^*h = 305/360 = 0.847$

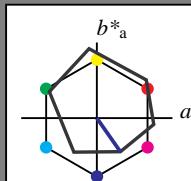
$lab^*tch$  and  $lab^*nch$

D65: hue V

LCH\*Ma: 26 54 305

olv\*Ma: 0.0 0.0 1.0

triangle lightness  $t^*$



%Gamut

$u^*_{rel} = 93$

%Regularity

$g^*_{H,rel} = 57$

$g^*_{C,rel} = 59$

relative Inform. Technology (IT)

$olv^3*$  1.0 1.0 1.0 (1.0)

$cmy^3*$  0.0 0.0 0.0 (0.0)

$olv^4*$  1.0 1.0 1.0 1.0

$cmy^4*$  0.0 0.0 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  95.41 -0.97 4.75

$LAB^*LABa$  95.41 0.0 0.0

$LAB^*TCh$  99.99 0.01 -

relative CIELAB lab\*

$lab^*lab$  1.0 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrf$  1.0 0.0 0.0

$lab^*fce$  1.0 0.0 -

$lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)

$olv^3*$  0.5 0.5 0.5 (1.0)

$cmy^3*$  0.5 0.5 0.5 (0.0)

$olv^4*$  0.5 0.5 1.0 1.0

$cmy^4*$  0.5 0.5 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  60.56 15.24 -19.79

$LAB^*LABa$  60.56 15.55 -22.2

$LAB^*TCh$  75.0 27.11 305.0

relative CIELAB lab\*

$lab^*lab$  0.55 0.287 -0.408

$lab^*tch$  0.75 0.5 0.847

$lab^*nch$  0.0 0.5 0.847

relative Natural Colour (NC)

$lab^*lrf$  0.55 0.225 -0.446

$lab^*fce$  0.75 0.5 0.824

$lab^*ncE$  0.0 0.5 0.824

relative Inform. Technology (IT)

$olv^3*$  0.0 0.0 0.5 (1.0)

$cmy^3*$  1.0 1.0 0.5 (0.0)

$olv^4*$  0.5 0.5 1.0 0.5

$cmy^4*$  0.5 0.5 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.5 -0.46

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TCh$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrf$  0.0 0.0 0.0

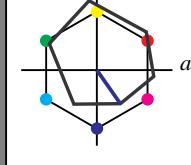
$lab^*fce$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

blackness  $n^*$

chromaticness  $c^*$



%Gamut

$u^*_{rel} = 93$

%Regularity

$g^*_{H,rel} = 57$

$g^*_{C,rel} = 59$

relative Inform. Technology (IT)

$olv^3*$  1.0 1.0 1.0 (1.0)

$cmy^3*$  0.0 0.0 0.0 (0.0)

$olv^4*$  1.0 1.0 1.0 1.0

$cmy^4*$  0.0 0.0 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  95.41 0.0 0.0

$LAB^*LABa$  95.41 0.0 0.0

$LAB^*TCh$  99.99 0.01 -

relative CIELAB lab\*

$lab^*lab$  1.0 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrf$  1.0 0.0 0.0

$lab^*fce$  1.0 0.0 -

$lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)

$olv^3*$  0.5 0.5 0.5 (1.0)

$cmy^3*$  0.5 0.5 0.5 (0.0)

$olv^4*$  0.5 0.5 1.0 0.5

$cmy^4*$  0.5 0.5 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  60.56 15.24 -19.79

$LAB^*LABa$  60.56 15.55 -22.2

$LAB^*TCh$  75.0 27.11 305.0

relative CIELAB lab\*

$lab^*lab$  0.55 0.287 -0.408

$lab^*tch$  0.75 0.5 0.847

$lab^*nch$  0.0 0.5 0.847

relative Natural Colour (NC)

$lab^*lrf$  0.55 0.225 -0.446

$lab^*fce$  0.75 0.5 0.824

$lab^*ncE$  0.0 0.5 0.824

$n^* = 1,0$

blackness  $n^*$

chromaticness  $c^*$

## ORS18; adapted (a) CIELAB data

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

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					

### Input: Colorimetric Reflective System NCS18

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

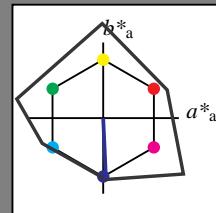
$lab^*tch$  and  $lab^*nch$

D65: hue B

LCH\*Ma: 49 81 273

olv\*Ma: 0.0 0.0 1.0

triangle lightness  $t^*$



%Gamut

$u^*_{rel} = 136$

%Regularity

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

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

relative Inform. Technology (IT)

$olv^3* 1.0 1.0 1.0 (1.0)$

$cmy^3* 0.0 0.0 0.0 (0.0)$

$olv^4* 1.0 1.0 1.0 1.0$

$cmy^4* 0.0 0.0 0.0 0.0$

standard and adapted CIELAB

$LAB^*LAB 95.41 0.0 -0.01$

$LAB^*LABa 95.41 0.0 0.0$

$LAB^*TCh 99.99 0.01 -$

relative CIELAB lab\*

$lab^*lab 1.0 0.0 0.0$

$lab^*tch 1.0 0.0 -$

$lab^*nch 0.0 0.0 -$

relative Natural Colour (NC)

$lab^*lrf 1.0 0.0 0.0$

$lab^*fce 1.0 0.0 0.0$

$lab^*ncE 0.0 0.0 -$

relative Inform. Technology (IT)

$olv^3* 0.5 0.5 0.5 (1.0)$

$cmy^3* 0.5 0.5 0.5 (0.0)$

$olv^4* 1.0 1.0 1.0 0.5$

$cmy^4* 0.0 0.0 0.0 0.5$

standard and adapted CIELAB

$LAB^*LAB 56.72 0.05 0.0$

$LAB^*LABa 56.72 0.0 0.0$

$LAB^*TCh 50.0 0.01 -$

relative CIELAB lab\*

$lab^*lab 0.5 0.0 0.0$

$lab^*tch 0.5 0.0 -$

$lab^*nch 0.5 0.0 -$

relative Natural Colour (NC)

$lab^*lrf 0.5 0.0 0.0$

$lab^*fce 0.5 0.0 0.0$

$lab^*ncE 0.5 0.0 -$

relative Inform. Technology (IT)

$olv^3* 0.0 0.0 0.0 (1.0)$

$cmy^3* 1.0 1.0 1.0 (0.0)$

$olv^4* 1.0 1.0 1.0 0.0$

$cmy^4* 0.0 0.0 0.0 1.0$

standard and adapted CIELAB

$LAB^*LAB 18.02 0.09 0.02$

$LAB^*LABa 18.02 0.0 0.0$

$LAB^*TCh 0.01 0.01 -$

relative CIELAB lab\*

$lab^*lab 0.0 0.0 0.0$

$lab^*tch 0.0 0.0 -$

$lab^*nch 1.0 0.0 -$

relative Natural Colour (NC)

$lab^*lrf 0.0 0.0 0.0$

$lab^*fce 0.0 0.0 0.0$

$lab^*ncE 1.0 0.0 -$

$n^* = 1,0$

### NCS18; adapted (a) CIELAB data

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

RMa	47.15	84.63	37.24	92.46	24
JMa	91.37	-1.27	125.03	125.03	91
GMa	63.07	-114.29	25.34	117.07	167
G50BMa	59.47	-80.61	-33.45	87.29	203
BMa	49.01	3.63	-81.2	81.29	273
B50RMa	44.06	106.07	-73.94	129.31	325
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	272

### Output: Colorimetric Reflective System MRS18

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

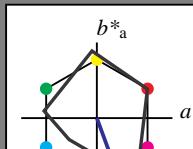
$lab^*tch$  and  $lab^*nch$

D65: hue B

LCH\*Ma: 37 67 290

olv\*Ma: 0.0 0.0 1.0

triangle lightness  $t^*$



%Gamut

$u^*_{rel} = 91$

%Regularity

$g^*_{H,rel} = 41$

$g^*_{C,rel} = 52$

relative Inform. Technology (IT)

$olv^3* 1.0 1.0 1.0 (1.0)$

$cmy^3* 0.0 0.0 0.0 (0.0)$

$olv^4* 1.0 1.0 1.0 1.0$

$cmy^4* 0.0 0.0 0.0 0.0$

standard and adapted CIELAB

$LAB^*LAB 95.41 -0.97 4.75$

$LAB^*LABa 95.41 0.0 0.0$

$LAB^*TCh 99.99 0.01 -$

relative CIELAB lab\*

$lab^*lab 1.0 0.0 0.0$

$lab^*tch 1.0 0.0 -$

$lab^*nch 0.0 0.0 -$

relative Natural Colour (NC)

$lab^*lrf 1.0 0.0 0.0$

$lab^*fce 1.0 0.0 0.0$

$lab^*ncE 0.0 0.0 -$

relative Inform. Technology (IT)

$olv^3* 0.5 0.5 0.5 (1.0)$

$cmy^3* 0.5 0.5 0.5 (0.0)$

$olv^4* 0.5 0.5 1.0 1.0$

$cmy^4* 0.5 0.5 0.0 0.0$

standard and adapted CIELAB

$LAB^*LAB 66.03 11.17 -28.74$

$LAB^*LABa 66.03 11.59 -31.51$

$LAB^*TCh 75.0 33.59 290.19$

relative CIELAB lab\*

$lab^*lab 0.62 0.173 -0.468$

$lab^*tch 0.75 0.5 0.806$

$lab^*nch 0.0 0.5 0.806$

relative Natural Colour (NC)

$lab^*lrf 0.62 0.129 -0.482$

$lab^*fce 0.75 0.5 0.791$

$lab^*ncE 0.0 0.5 b16r$

relative Inform. Technology (IT)

$olv^3* 0.0 0.0 0.5 (1.0)$

$cmy^3* 1.0 1.0 0.5 (0.0)$

$olv^4* 1.0 1.0 1.0 0.5$

$cmy^4* 0.5 0.5 0.0 0.5$

standard and adapted CIELAB

$LAB^*LAB 36.65 23.33 -62.24$

$LAB^*LABa 36.65 23.18 -63.03$

$LAB^*TCh 50.0 67.17 290.19$

relative CIELAB lab\*

$lab^*lab 0.241 0.345 -0.937$

$lab^*tch 0.5 1.0 0.806$

$lab^*nch 0.0 1.0 0.806$

relative Natural Colour (NC)

$lab^*lrf 0.241 0.257 -0.965$

$lab^*fce 0.5 1.0 0.791$

$lab^*ncE 0.0 1.0 b16r$

$n^* = 1,0$

$n^* = 0,00$

blackness  $n^*$

$n^* = 0,50$

$n^* = 1,00$

chromaticness  $c^*$

### MRS18; adapted (a) CIELAB data

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

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

%Gamut

$u^*_{rel} = 91$

%Regularity

$g^*_{H,rel} = 41$

$g^*_{C,rel} = 52$

relative Inform. Technology (IT)

$olv^3* 1.0 1.0 1.0 (1.0)$

$cmy^3* 0.5 0.5 0.5 (0.0)$

$olv^4* 0.5 0.5 1.0 1.0$

$cmy^4* 0.5 0.5 0.0 0.0$

standard and adapted CIELAB

$LAB^*LAB 95.41 0.0 0.0$

$LAB^*LABa 95.41 0.0 0.0$

$LAB^*TCh 99.99 0.01 -$

relative CIELAB lab\*

$lab^*lab 1.0 0.0 0.0$

$lab^*tch 1.0 0.0 -$

$lab^*nch 0.0 0.0 -$

relative Natural Colour (NC)

$lab^*lrf 1.0 0.0 0.0$

$lab^*fce 1.0 0.0 0.0$

$lab^*ncE 0.0 0.0 -$

relative Inform. Technology (IT)

$olv^3* 0.5 0.5 0.5 (0.0)$

$cmy^3* 1.0 1.0 0.5 (0.0)$

$olv^4* 1.0 1.0 1.0 0.5$

$cmy^4* 0.5 0.5 0.0 0.5$

standard and adapted CIELAB

$LAB^*LAB 66.03 11.17 -28.74$

$LAB^*LABa 66.03 11.59 -31.51$

$LAB^*TCh 75.0 33.59 290.19$

relative CIELAB lab\*

$lab^*lab 0.62 0.173 -0.468$

$lab^*tch 0.75 0.5 0.806$

$lab^*nch 0.0 0.5 0.806$

relative Natural Colour (NC)

$lab^*lrf 0.62 0.129 -0.482$

$lab^*fce 0.75 0.5 0.791$

$lab^*ncE 0.0 0.5 b16r$

$n^$

## Input: Colorimetric Reflective System NCS18

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

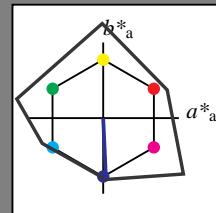
$lab^*tch$  and  $lab^*nch$

D65: hue B

LCH\*Ma: 49 81 273

olv\*Ma: 0.0 0.0 1.0

triangle lightness  $t^*$



%Gamut

$u^*_{rel} = 136$

%Regularity

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

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

relative Inform. Technology (IT)

$olv^3*$  1.0 1.0 1.0 (1.0)

$cmy^3*$  0.0 0.0 0.0 (0.0)

$olv^4*$  1.0 1.0 1.0 1.0

$cmy^4*$  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

$LAB^*TCh$  99.99 0.01 -

relative CIELAB lab\*

$lab^*lab$  1.0 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrf$  1.0 0.0 0.0

$lab^*ice$  1.0 0.0 -

$lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)

$olv^3*$  0.5 0.5 0.5 (1.0)

$cmy^3*$  0.5 0.5 0.5 (0.0)

$olv^4*$  1.0 1.0 1.0 0.5

$cmy^4*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  56.72 0.05 0.0

$LAB^*LABa$  56.72 0.0 0.0

$LAB^*TCh$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrf$  0.5 0.0 0.0

$lab^*ice$  0.5 0.0 -

$lab^*ncE$  0.5 0.0 -

relative Inform. Technology (IT)

$olv^3*$  0.0 0.0 0.0 (1.0)

$cmy^3*$  1.0 1.0 1.0 (0.0)

$olv^4*$  1.0 1.0 1.0 0.0

$cmy^4*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.09 0.02

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TCh$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrf$  0.0 0.0 0.0

$lab^*ice$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

## NCS18; adapted (a) CIELAB data

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

RMa	47.15	84.63	37.24	92.46	24
JMa	91.37	-1.27	125.03	125.03	91
GMa	63.07	-114.29	25.34	117.07	167
G50BMa	59.47	-80.61	-33.45	87.29	203
BMa	49.01	3.63	-81.2	81.29	273
B50RMa	44.06	106.07	-73.94	129.31	325
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	272

## Output: Colorimetric Reflective System TRS18

for hue  $h^* = lab^*h = 305/360 = 0.847$

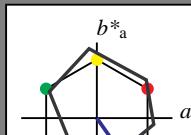
$lab^*tch$  and  $lab^*nch$

D65: hue V

LCH\*Ma: 26 54 305

olv\*Ma: 0.0 0.0 1.0

triangle lightness  $t^*$



%Gamut

$u^*_{rel} = 93$

%Regularity

$g^*_{H,rel} = 57$

$g^*_{C,rel} = 59$

relative Inform. Technology (IT)

$olv^3*$  1.0 1.0 1.0 (1.0)

$cmy^3*$  0.0 0.0 0.0 (0.0)

$olv^4*$  1.0 1.0 1.0 1.0

$cmy^4*$  0.0 0.0 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  95.41 -0.97 4.75

$LAB^*LABa$  95.41 0.0 0.0

$LAB^*TCh$  99.99 0.01 -

relative CIELAB lab\*

$lab^*lab$  1.0 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrf$  1.0 0.0 0.0

$lab^*ice$  1.0 0.0 -

$lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)

$olv^3*$  0.5 0.5 0.5 (1.0)

$cmy^3*$  0.5 0.5 0.5 (0.0)

$olv^4*$  0.5 0.5 1.0 1.0

$cmy^4*$  0.5 0.5 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  60.56 15.24 -19.79

$LAB^*LABa$  60.56 15.55 -22.2

$LAB^*TCh$  75.0 27.11 305.0

relative CIELAB lab\*

$lab^*lab$  0.55 0.287 -0.408

$lab^*tch$  0.75 0.5 0.847

$lab^*nch$  0.0 0.5 0.847

relative Natural Colour (NC)

$lab^*lrf$  0.55 0.225 -0.446

$lab^*ice$  0.75 0.5 0.824

$lab^*ncE$  0.0 0.5 0.824

relative Inform. Technology (IT)

$olv^3*$  0.0 0.0 0.5 (1.0)

$cmy^3*$  1.0 1.0 0.5 (0.0)

$olv^4*$  0.5 0.5 1.0 0.5

$cmy^4*$  0.5 0.5 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.5 -0.46

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TCh$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrf$  0.0 0.0 0.0

$lab^*ice$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

blackness  $n^*$

## TRS18; adapted (a) CIELAB data

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

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

%Gamut

$u^*_{rel} = 93$

%Regularity

$g^*_{H,rel} = 57$

$g^*_{C,rel} = 59$

relative Inform. Technology (IT)

$olv^3*$  1.0 1.0 1.0 (1.0)

$cmy^3*$  0.5 0.5 0.5 (0.0)

$olv^4*$  0.5 0.5 1.0 1.0

$cmy^4*$  0.5 0.5 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  95.41 0.0 0.0

$LAB^*LABa$  95.41 0.0 0.0

$LAB^*TCh$  99.99 0.01 -

relative CIELAB lab\*

$lab^*lab$  1.0 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrf$  1.0 0.0 0.0

$lab^*ice$  1.0 0.0 -

$lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)

$olv^3*$  0.5 0.5 0.5 (1.0)

$cmy^3*$  0.5 0.5 0.5 (0.0)

$olv^4*$  0.5 0.5 1.0 0.5

$cmy^4*$  0.5 0.5 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  60.56 15.24 -19.79

$LAB^*LABa$  60.56 15.55 -22.2

$LAB^*TCh$  75.0 27.11 305.0

relative CIELAB lab\*

$lab^*lab$  0.55 0.287 -0.408

$lab^*tch$  0.75 0.5 0.847

$lab^*nch$  0.0 0.5 0.847

relative Natural Colour (NC)

$lab^*lrf$  0.55 0.225 -0.446

$lab^*ice$  0.75 0.5 0.824

$lab^*ncE$  0.0 0.5 0.824

relative Inform. Technology (IT)

$olv^3*$  0.0 0.0 0.5 (1.0)

$cmy^3*$  1.0 1.0 0.5 (0.0)

$olv^4*$  0.5 0.5 1.0

### Input: Colorimetric Reflective System NCS18

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

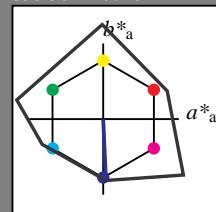
$lab^*tch$  and  $lab^*nch$

D65: hue B

LCH\*Ma: 49 81 273

olv\*Ma: 0.0 0.0 1.0

triangle lightness  $t^*$



relative Inform. Technology (IT)

olv*i*3\* 1.0 1.0 1.0 (1.0)

cmy*n*3\* 0.0 0.0 0.0 (0.0)

olv*i*4\* 1.0 1.0 1.0 1.0

cmy*n*4\* 0.0 0.0 0.0 0.0

standard and adapted CIELAB

LAB\*LAB 95.41 0.0 -0.01

LAB\*LAB*a* 95.41 0.0 0.0

LAB\*TCh*a* 99.99 0.01 -

relative CIELAB lab\*

lab\**lab* 1.0 0.0 0.0

lab\**tch* 1.0 0.0 -

lab\**nch* 0.0 0.0 -

relative Natural Colour (NC)

lab\**lrj* 1.0 0.0 0.0

lab\**tce* 1.0 0.0 -

lab\**ncE* 0.0 0.0 -

standard and adapted CIELAB

LAB\*LAB 72.21 1.85 -40.58

LAB\*LAB*a* 72.21 1.82 -40.59

LAB\*TCh*a* 75.0 40.64 272.56

relative CIELAB lab\*

lab\**lab* 0.7 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\**lrj* 0.7 0.006 -0.499

lab\**tce* 0.75 0.2 0.752

lab\**ncE* 0.0 0.5 600r

relative Inform. Technology (IT)

olv*i*3\* 0.5 0.5 0.5 (1.0)

cmy*n*3\* 0.5 0.5 0.5 (0.0)

olv*i*4\* 1.0 1.0 1.0 0.5

cmy*n*4\* 0.0 0.0 0.0 0.5

standard and adapted CIELAB

LAB\*LAB 56.72 0.05 0.0

LAB\*LAB*a* 56.72 0.0 0.0

LAB\*TCh*a* 50.0 0.01 -

relative CIELAB lab\*

lab\**lab* 0.5 0.0 0.0

lab\**tch* 0.5 0.0 -

lab\**nch* 0.5 0.0 -

relative Natural Colour (NC)

lab\**lrj* 0.5 0.0 0.0

lab\**tce* 0.5 0.0 -

lab\**ncE* 0.5 0.0 -

standard and adapted CIELAB

LAB\*LAB 33.52 1.9 -40.56

LAB\*LAB*a* 33.52 1.82 -40.59

LAB\*TCh*a* 25.01 40.64 272.56

relative CIELAB lab\*

lab\**lab* 0.2 0.022 -0.498

lab\**tch* 0.25 0.5 0.757

lab\**nch* 0.5 0.5 0.757

relative Natural Colour (NC)

lab\**lrj* 0.2 0.006 -0.499

lab\**tce* 0.25 0.5 0.752

lab\**ncE* 0.5 0.5 600r

$n^* = 1,0$

relative Inform. Technology (IT)

olv*i*3\* 0.0 0.0 0.0 (1.0)

cmy*n*3\* 1.0 1.0 1.0 (0.0)

olv*i*4\* 1.0 1.0 1.0 0.0

cmy*n*4\* 0.0 0.0 0.0 1.0

standard and adapted CIELAB

LAB\*LAB 18.02 0.09 0.02

LAB\*LAB*a* 18.02 0.0 0.0

LAB\*TCh*a* 0.01 0.01 -

relative CIELAB lab\*

lab\**lab* 0.0 0.0 0.0

lab\**tch* 0.0 0.0 -

lab\**nch* 1.0 0.0 -

relative Natural Colour (NC)

lab\**lrj* 0.0 0.0 0.0

lab\**tce* 0.0 0.0 -

lab\**ncE* 1.0 0.0 -

standard and adapted CIELAB

LAB\*LAB 18.02 0.09 0.02

LAB\*LAB*a* 18.02 0.0 0.0

LAB\*TCh*a* 0.01 0.01 -

relative CIELAB lab\*

lab\**lab* 0.2 0.022 -0.498

lab\**tch* 0.25 0.5 0.757

lab\**nch* 0.5 0.5 0.757

relative Natural Colour (NC)

lab\**lrj* 0.2 0.006 -0.499

lab\**tce* 0.25 0.5 0.752

lab\**ncE* 0.5 0.5 600r

%Gamut

$u^*_{rel} = 136$

%Regularity

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

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

relative Inform. Technology (IT)

olv*i*3\* 0.5 0.5 0.5 (1.0)

cmy*n*3\* 0.5 0.5 0.5 (0.0)

olv*i*4\* 0.5 0.5 1.0 1.0

cmy*n*4\* 0.5 0.5 0.0 0.0

standard and adapted CIELAB

LAB\*LAB 72.21 1.85 -40.58

LAB\*LAB*a* 72.21 1.82 -40.59

LAB\*TCh*a* 75.0 40.64 272.56

relative CIELAB lab\*

lab\**lab* 0.7 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\**lrj* 0.7 0.006 -0.499

lab\**tce* 0.75 0.2 0.752

lab\**ncE* 0.0 0.5 600r

relative Inform. Technology (IT)

olv*i*3\* 0.0 0.0 0.5 (1.0)

cmy*n*3\* 1.0 1.0 0.5 (0.0)

olv*i*4\* 1.0 1.0 1.0 0.5

cmy*n*4\* 0.0 0.0 0.0 0.5

standard and adapted CIELAB

LAB\*LAB 49.02 3.7 -81.16

LAB\*LAB*a* 49.02 3.63 -81.18

LAB\*TCh*a* 50.0 81.27 272.56

relative CIELAB lab\*

lab\**lab* 0.401 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\**lrj* 0.401 0.013 -0.999

lab\**tce* 0.5 1.0 0.752

lab\**ncE* 0.0 1.0 600r

relative Inform. Technology (IT)

olv*i*3\* 0.0 0.0 0.5 (1.0)

cmy*n*3\* 1.0 1.0 1.0 (0.0)

olv*i*4\* 1.0 1.0 1.0 0.5

cmy*n*4\* 0.0 0.0 0.0 1.0

standard and adapted CIELAB

LAB\*LAB 49.02 3.7 -81.16

LAB\*LAB*a* 49.02 3.63 -81.18

LAB\*TCh*a* 50.0 81.27 272.56

relative CIELAB lab\*

lab\**lab* 0.401 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\**lrj* 0.401 0.013 -0.999

lab\**tce* 0.5 1.0 0.752

lab\**ncE* 0.0 1.0 600r

relative Inform. Technology (IT)

olv*i*3\* 0.0 0.0 0.5 (1.0)

cmy*n*3\* 1.0 1.0 1.0 (0.0)

olv*i*4\* 1.0 1.0 1.0 0.5

cmy*n*4\* 0.0 0.0 0.0 1.0

standard and adapted CIELAB

LAB\*LAB 49.02 3.7 -81.16

LAB\*LAB*a* 49.02 3.63 -81.18

LAB\*TCh*a* 50.0 81.27 272.56

relative CIELAB lab\*

lab\**lab* 0.401 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\**lrj* 0.401 0.013 -0.999

lab\**tce* 0.5 1.0 0.752

lab\**ncE* 0.0 1.0 600r

relative Inform. Technology (IT)

olv*i*3\* 0.0 0.0 0.5 (1.0)

cmy*n*3\* 1.0 1.0 1.0 (0.0)

olv*i*4\* 1.0 1.0 1.0 0.5

cmy*n*4\* 0.0 0.0 0.0 1.0

standard and adapted CIELAB

LAB\*LAB 49.02 3.7 -81.16

LAB\*LAB*a* 49.02 3.63 -81.18

LAB\*TCh*a* 50.0 81.27 272.56

relative CIELAB lab\*

lab\**lab* 0.401 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\**lrj* 0.401 0.013 -0.999

lab\**tce* 0.5 1.0 0.752

lab\**ncE* 0.0 1.0 600r

relative Inform. Technology (IT)

olv*i*3\* 0.0 0.0 0.5 (1.0)

cmy*n*3\* 1.0 1.0 1.0 (0.0)

olv*i*4\* 1.0 1.0 1.0 0.5

cmy*n*4\* 0.0 0.0 0.0 1.0

standard and adapted CIELAB

LAB\*LAB 49.02 3.7 -81.16

LAB\*LAB*a* 49.02 3.63 -81.18

LAB\*TCh*a* 50.0 81.27 272.56

relative CIELAB lab\*

lab\**lab* 0.401 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\**lrj* 0.401 0.013 -0.999

lab\**tce* 0.5 1.0 0.752

lab\**ncE* 0.0 1.0 600r

relative Inform. Technology (IT)

olv*i*3\* 0.0 0.0 0.5 (1.0)

cmy*n*3\* 1.0 1.0 1.0 (0.0)

olv*i*4\* 1.0 1.0 1.0 0.5

cmy*n*4\* 0.0 0.0 0.0 1.0

standard and adapted CIELAB

LAB\*LAB 49.02 3.7 -81.16

LAB\*LAB*a* 49.02 3.63 -81.18

### Input: Colorimetric Reflective System NCS18

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

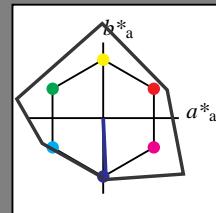
$lab^*tch$  and  $lab^*nch$

D65: hue B

LCH\*Ma: 49 81 273

olv\*Ma: 0.0 0.0 1.0

triangle lightness  $t^*$



### NCS18; adapted (a) CIELAB data

	$L^*=L_a^*$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	47.15	84.63	37.24	92.46	24
JMa	91.37	-1.27	125.03	125.03	91
GMa	63.07	-114.29	25.34	117.07	167
G50BMa	59.47	-80.61	-33.45	87.29	203
BMa	49.01	3.63	-81.2	81.29	273
B50RMa	44.06	106.07	-73.94	129.31	325
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	272

relative Inform. Technology (IT)

$olv_i3^*$  1.0 1.0 1.0 (1.0)

$cmyn3^*$  0.0 0.0 0.0 (0.0)

$olv_i4^*$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  72.21 1.85 -40.58

$LAB^*LABa$  72.21 1.82 -40.59

$LAB^*TChA$  75.0 40.64 272.56

relative CIELAB lab\*

$lab^*lab$  0.7 0.022 -0.498

$lab^*tch$  0.75 0.5 0.757

$lab^*nch$  0.0 0.5 0.757

relative Natural Colour (NC)

$lab^*lrij$  0.7 0.006 -0.499

$lab^*tce$  0.75 0.2 0.752

$lab^*ncE$  0.0 0.5 b00r

relative Inform. Technology (IT)

$olv_i3^*$  0.5 0.5 0.5 (1.0)

$cmyn3^*$  0.5 0.5 0.5 (0.0)

$olv_i4^*$  1.0 1.0 1.0 0.5

$cmyn4^*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  56.72 0.05 0.0

$LAB^*LABa$  56.72 0.0 0.0

$LAB^*TChA$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.5 0.0 0.0

$lab^*tce$  0.5 0.0 0.0

$lab^*ncE$  0.5 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.09 0.02

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*tce$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

relative Inform. Technology (IT)

$olv_i3^*$  0.5 0.5 0.5 (1.0)

$cmyn3^*$  0.5 0.5 0.5 (0.0)

$olv_i4^*$  0.5 0.5 1.0 1.0

$cmyn4^*$  0.5 0.5 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  72.21 1.85 -40.58

$LAB^*LABa$  72.21 1.82 -40.59

$LAB^*TChA$  75.0 40.64 272.56

relative CIELAB lab\*

$lab^*lab$  0.7 0.022 -0.498

$lab^*tch$  0.75 0.5 0.757

$lab^*nch$  0.0 0.5 0.757

relative Natural Colour (NC)

$lab^*lrij$  0.7 0.006 -0.499

$lab^*tce$  0.75 0.2 0.752

$lab^*ncE$  0.0 0.5 b00r

relative Inform. Technology (IT)

$olv_i3^*$  0.0 0.0 0.5 (1.0)

$cmyn3^*$  1.0 1.0 0.0 (0.0)

$olv_i4^*$  1.0 1.0 1.0 0.5

$cmyn4^*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  49.02 3.7 -81.16

$LAB^*LABa$  49.02 3.63 -81.18

$LAB^*TChA$  50.0 81.27 272.56

relative CIELAB lab\*

$lab^*lab$  0.401 0.045 -0.998

$lab^*tch$  0.5 1.0 0.757

$lab^*nch$  0.0 1.0 0.757

relative Natural Colour (NC)

$lab^*lrij$  0.401 0.013 -0.999

$lab^*tce$  0.5 1.0 0.752

$lab^*ncE$  0.0 1.0 b00r

relative Inform. Technology (IT)

$olv_i3^*$  0.0 0.0 0.0 (1.0)

$cmyn3^*$  1.0 1.0 1.0 (0.0)

$olv_i4^*$  1.0 1.0 1.0 0.5

$cmyn4^*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.09 0.02

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.2 0.022 -0.498

$lab^*tch$  0.25 0.5 0.757

$lab^*nch$  0.5 0.5 0.757

relative Natural Colour (NC)

$lab^*lrij$  0.2 0.006 -0.499

$lab^*tce$  0.25 0.5 0.752

$lab^*ncE$  0.5 0.5 b00r

$n^* = 0,00$

blackness  $n^*$

$n^* = 0,50$

$n^* = 1,00$

chromaticness  $c^*$

### Output: Colorimetric Reflective System NRS18

for hue  $h^* = lab^*h = 273/360 = 0.758$

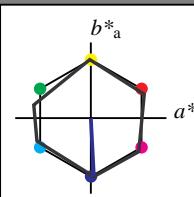
$lab^*tch$  and  $lab^*nch$

D65: hue B

LCH\*Ma: 57 77 273

olv\*Ma: 0.0 0.0 1.0

triangle lightness  $t^*$



### NRS18; adapted (a) CIELAB data

	$L^*=L_a^*$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	56.7	70.66	31.47	77.35	24
JMa	56.7	-1.39	77.37	77.39	91
GMa	56.7	-75.46	17.4	77.45	167
G50BMa	56.7	-71.29	-30.25	77.45	203
BMa	56.7	4.0	-77.3	77.41	273
B50RMa	56.7	63.35	-44.4	77.36	325
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	272

relative Inform. Technology (IT)

$olv_i3^*$  1.0 1.0 1.0 (1.0)

$cmyn3^*$  0.0 0.0 0.0 (0.0)

$olv_i4^*$  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 0.0

$LAB^*LABa$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  76.05 2.03 -38.63

$LAB^*LABa$  76.05 2.0 -38.64

$LAB^*TChA$  75.0 38.7 272.96

relative CIELAB lab\*

$lab^*lab$  0.75 0.026 -0.498

$lab^*tch$  0.75 0.5 0.758

$lab^*nch$  0.0 0.5 0.758

relative Natural Colour (NC)

$lab^*lrij$  0.75 0.009 -0.499

$lab^*tce$  0.75 0.5 0.753

$lab^*ncE$  0.0 0.5 b01r

$n^* = 0,00$

blackness  $n^*$

$n^* = 0,50$

$n^* = 1,00$

chromaticness  $c^*$

3 step scales for constant CIELAB hue 273/360 = 0.757 (left)

3 step scales for constant CIELAB hue 273/360 = 0.758 (right)

## Input: Colorimetric Reflective System NCS18

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

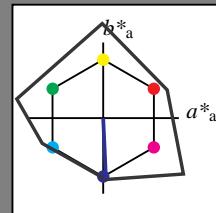
$lab^*tch$  and  $lab^*nch$

D65: hue B

LCH\*Ma: 49 81 273

olv\*Ma: 0.0 0.0 1.0

triangle lightness  $t^*$



%Gamut

$u^*_{rel} = 136$

%Regularity

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

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

relative Inform. Technology (IT)

$olv^3* 1.0 \quad 1.0 \quad 1.0 \quad (1.0)$

$cmy^3* 0.0 \quad 0.0 \quad 0.0 \quad (0.0)$

$olv^4* 1.0 \quad 1.0 \quad 1.0 \quad 1.0$

$cmy^4* 0.0 \quad 0.0 \quad 0.0 \quad 0.0$

standard and adapted CIELAB

$LAB^*LAB \quad 95.41 \quad 0.0 \quad -0.01$

$LAB^*LABa \quad 95.41 \quad 0.0 \quad 0.0$

$LAB^*TCh \quad 99.99 \quad 0.01 \quad -$

relative CIELAB lab\*

$lab^*lab \quad 1.0 \quad 0.0 \quad 0.0$

$lab^*tch \quad 1.0 \quad 0.0 \quad -$

$lab^*nch \quad 0.0 \quad 0.0 \quad -$

relative Natural Colour (NC)

$lab^*lrij \quad 1.0 \quad 0.0 \quad 0.0$

$lab^*ice \quad 1.0 \quad 0.0 \quad -$

$lab^*ncE \quad 0.0 \quad 0.0 \quad -$

relative Inform. Technology (IT)

$olv^3* 0.5 \quad 0.5 \quad 0.5 \quad (1.0)$

$cmy^3* 0.5 \quad 0.5 \quad 0.5 \quad (0.0)$

$olv^4* 1.0 \quad 1.0 \quad 1.0 \quad 0.5$

$cmy^4* 0.0 \quad 0.0 \quad 0.0 \quad 0.5$

standard and adapted CIELAB

$LAB^*LAB \quad 56.72 \quad 0.05 \quad 0.0$

$LAB^*LABa \quad 56.72 \quad 0.0 \quad 0.0$

$LAB^*TCh \quad 50.0 \quad 0.01 \quad -$

relative CIELAB lab\*

$lab^*lab \quad 0.5 \quad 0.0 \quad 0.0$

$lab^*tch \quad 0.5 \quad 0.0 \quad -$

$lab^*nch \quad 0.5 \quad 0.0 \quad -$

relative Natural Colour (NC)

$lab^*lrij \quad 0.5 \quad 0.0 \quad 0.0$

$lab^*ice \quad 0.5 \quad 0.0 \quad -$

$lab^*ncE \quad 0.5 \quad 0.0 \quad -$

relative Inform. Technology (IT)

$olv^3* 0.0 \quad 0.0 \quad 0.0 \quad (1.0)$

$cmy^3* 1.0 \quad 1.0 \quad 1.0 \quad (0.0)$

$olv^4* 1.0 \quad 1.0 \quad 1.0 \quad 0.0$

$cmy^4* 0.0 \quad 0.0 \quad 0.0 \quad 1.0$

standard and adapted CIELAB

$LAB^*LAB \quad 18.02 \quad 0.09 \quad 0.02$

$LAB^*LABa \quad 18.02 \quad 0.0 \quad 0.0$

$LAB^*TCh \quad 0.01 \quad 0.01 \quad -$

relative CIELAB lab\*

$lab^*lab \quad 0.0 \quad 0.0 \quad 0.0$

$lab^*tch \quad 0.0 \quad 0.0 \quad -$

$lab^*nch \quad 1.0 \quad 0.0 \quad -$

relative Natural Colour (NC)

$lab^*lrij \quad 0.0 \quad 0.0 \quad 0.0$

$lab^*ice \quad 0.0 \quad 0.0 \quad -$

$lab^*ncE \quad 1.0 \quad 0.0 \quad -$

$n^* = 1,0$

## NCS18; adapted (a) CIELAB data

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

RMa	47.15	84.63	37.24	92.46	24
JMa	91.37	-1.27	125.03	125.03	91
GMa	63.07	-114.29	25.34	117.07	167
G50BMa	59.47	-80.61	-33.45	87.29	203
BMa	49.01	3.63	-81.2	81.29	273
B50RMa	44.06	106.07	-73.94	129.31	325
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	272

## Output: Colorimetric Reflective System NCS18

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

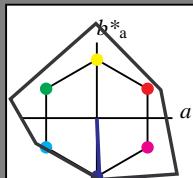
$lab^*tch$  and  $lab^*nch$

D65: hue B

LCH\*Ma: 49 81 273

olv\*Ma: 0.0 0.0 1.0

triangle lightness  $t^*$



%Gamut

$u^*_{rel} = 136$

%Regularity

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

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

relative Inform. Technology (IT)

$olv^3* 1.0 \quad 1.0 \quad 1.0 \quad (1.0)$

$cmy^3* 0.0 \quad 0.0 \quad 0.0 \quad (0.0)$

$olv^4* 1.0 \quad 1.0 \quad 1.0 \quad 1.0$

$cmy^4* 0.0 \quad 0.0 \quad 0.0 \quad 0.0$

standard and adapted CIELAB

$LAB^*LAB \quad 95.41 \quad 0.0 \quad -0.01$

$LAB^*LABa \quad 95.41 \quad 0.0 \quad 0.0$

$LAB^*TCh \quad 99.99 \quad 0.01 \quad -$

relative CIELAB lab\*

$lab^*lab \quad 1.0 \quad 0.0 \quad 0.0$

$lab^*tch \quad 1.0 \quad 0.0 \quad -$

$lab^*nch \quad 0.0 \quad 0.0 \quad -$

relative Natural Colour (NC)

$lab^*lrij \quad 1.0 \quad 0.0 \quad 0.0$

$lab^*ice \quad 1.0 \quad 0.0 \quad -$

$lab^*ncE \quad 0.0 \quad 0.0 \quad -$

relative Inform. Technology (IT)

$olv^3* 0.5 \quad 0.5 \quad 0.5 \quad (1.0)$

$cmy^3* 0.5 \quad 0.5 \quad 0.5 \quad (0.0)$

$olv^4* 1.0 \quad 1.0 \quad 1.0 \quad 0.5$

$cmy^4* 0.0 \quad 0.0 \quad 0.0 \quad 0.5$

standard and adapted CIELAB

$LAB^*LAB \quad 56.72 \quad 0.05 \quad 0.0$

$LAB^*LABa \quad 56.72 \quad 0.0 \quad 0.0$

$LAB^*TCh \quad 50.0 \quad 0.01 \quad -$

relative CIELAB lab\*

$lab^*lab \quad 0.7 \quad 0.022 \quad -0.498$

$lab^*tch \quad 0.75 \quad 0.5 \quad 0.757$

$lab^*nch \quad 0.0 \quad 0.5 \quad 0.757$

relative Natural Colour (NC)

$lab^*lrij \quad 0.7 \quad 0.006 \quad -0.499$

$lab^*ice \quad 0.75 \quad 0.5 \quad 0.752$

$lab^*ncE \quad 0.0 \quad 0.5 \quad 600r$

relative Inform. Technology (IT)

$olv^3* 0.0 \quad 0.0 \quad 0.0 \quad (1.0)$

$cmy^3* 1.0 \quad 1.0 \quad 1.0 \quad (0.0)$

$olv^4* 1.0 \quad 1.0 \quad 1.0 \quad 0.0$

$cmy^4* 0.0 \quad 0.0 \quad 0.0 \quad 1.0$

standard and adapted CIELAB

$LAB^*LAB \quad 18.02 \quad 0.09 \quad 0.02$

$LAB^*LABa \quad 18.02 \quad 0.0 \quad 0.0$

$LAB^*TCh \quad 0.01 \quad 0.01 \quad -$

relative CIELAB lab\*

$lab^*lab \quad 0.2 \quad 0.022 \quad -0.498$

$lab^*tch \quad 0.25 \quad 0.5 \quad 0.757$

$lab^*nch \quad 0.5 \quad 0.5 \quad 0.757$

relative Natural Colour (NC)

$lab^*lrij \quad 0.2 \quad 0.006 \quad -0.499$

$lab^*ice \quad 0.25 \quad 0.5 \quad 0.752$

$lab^*ncE \quad 0.5 \quad 0.5 \quad 600r$

relative Inform. Technology (IT)

$olv^3* 0.0 \quad 0.0 \quad 0.0 \quad (1.0)$

$cmy^3* 1.0 \quad 1.0 \quad 1.0 \quad (0.0)$

$olv^4* 1.0 \quad 1.0 \quad 1.0 \quad 0.0$

$cmy^4* 0.0 \quad 0.0 \quad 0.0 \quad 1.0$

standard and adapted CIELAB

$LAB^*LAB \quad 18.02 \quad 0.09 \quad 0.02$

$LAB^*LABa \quad 18.02 \quad 0.0 \quad 0.0$

$LAB^*TCh \quad 0.01 \quad 0.01 \quad -$

relative CIELAB lab\*

$lab^*lab \quad 0.2 \quad 0.022 \quad -0.498$

$lab^*tch \quad 0.25 \quad 0.5 \quad 0.757$

$lab^*nch \quad 0.5 \quad 0.5 \quad 0.757$

relative Natural Colour (NC)

$lab^*lrij \quad 0.2 \quad 0.006 \quad -0.499$

$lab^*ice \quad 0.25 \quad 0.5 \quad 0.752$

$lab^*ncE \quad 0.5 \quad 0.5 \quad 600r$

relative Inform. Technology (IT)

$olv^3* 0.0 \quad 0.0 \quad 0.0 \quad (1.0)$

$cmy^3* 1.0 \quad 1.0 \quad 1.0 \quad (0.0)$

$olv^4* 1.0 \quad 1.0 \quad 1.0 \quad 0.0$

$cmy^4* 0.0 \quad 0.0 \quad 0.0 \quad 1.0$

standard and adapted CIELAB

$LAB^*LAB \quad 18.02 \quad 0.09 \quad 0.02$

$LAB^*LABa \quad 18.02 \quad 0.0 \quad 0.0$

$LAB^*TCh \quad 0.01 \quad 0.01 \quad -$

relative CIELAB lab\*

$lab^*lab \quad 0.2 \quad 0.022 \quad -0.498$

$lab^*tch \quad 0.25 \quad 0.5 \quad 0.757$

$lab^*nch \quad 0.5 \quad 0.5 \quad 0.757$

relative Natural Colour (NC)

$lab^*lrij \quad 0.2 \quad 0.006 \quad -0.499$

$lab^*ice \quad 0.25 \quad 0.5 \quad 0.752$

$lab^*ncE \quad 0.5 \quad 0.5 \quad 600r$

relative Inform. Technology (IT)

$olv^3* 0.0 \quad 0.0 \quad 0.0 \quad (1.0)$

$cmy^3* 1.0 \quad 1.0 \quad 1.0 \quad (0.0)$

$olv^4* 1.0 \quad 1.0 \quad 1.0 \quad 0.0$

$cmy^4* 0.0 \quad 0.0 \quad 0.0 \quad 1.0$

standard and adapted CIELAB

$LAB^*LAB \quad 18.02 \quad 0.09 \quad 0.02$

$LAB^*LABa \quad 18.02 \quad 0.0 \quad 0.0$

$LAB^*TCh \quad 0.01 \quad 0.01 \quad -$

relative CIELAB lab\*

$lab^*lab \quad 0.2 \quad 0.022 \quad -0.498$

$lab^*tch \quad 0.25 \quad 0.5 \quad 0.757$

$lab^*nch \quad 0.5 \quad 0.5 \quad 0.757$

relative Natural Colour (NC)

$lab^*lrij \quad 0.2 \quad 0.006 \quad -0.499$

$lab^*ice \quad 0.25 \quad 0.5 \quad 0.752$

## Input: Colorimetric Reflective System NCS18

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

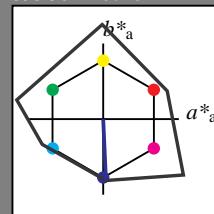
$lab^*tch$  and  $lab^*nch$

D65: hue B

LCH\*Ma: 49 81 273

olv\*Ma: 0.0 0.0 1.0

triangle lightness  $t^*$



%Gamut

$u^*_{rel} = 136$

%Regularity

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

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

relative Inform. Technology (IT)

$olv^3*$  1.0 1.0 1.0 (1.0)

$cmy^3*$  0.0 0.0 0.0 (0.0)

$olv^4*$  1.0 1.0 1.0 1.0

$cmy^4*$  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

$LAB^*TCh$  99.99 0.01 -

relative CIELAB lab\*

$lab^*lab$  1.0 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  1.0 0.0 0.0

$lab^*ice$  1.0 0.0 -

$lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)

$olv^3*$  0.5 0.5 0.5 (1.0)

$cmy^3*$  0.5 0.5 0.5 (0.0)

$olv^4*$  1.0 1.0 1.0 0.5

$cmy^4*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  56.72 0.05 0.0

$LAB^*LABa$  56.72 0.0 0.0

$LAB^*TCh$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  0.5 0.0 0.0

$lab^*ice$  0.5 0.0 -

$lab^*ncE$  0.5 0.0 -

relative Inform. Technology (IT)

$olv^3*$  0.0 0.0 0.0 (1.0)

$cmy^3*$  1.0 1.0 1.0 (0.0)

$olv^4*$  1.0 1.0 1.0 0.0

$cmy^4*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.09 0.02

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TCh$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  0.0 0.0 0.0

$lab^*ice$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

## NCS18; adapted (a) CIELAB data

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

RMa	47.15	84.63	37.24	92.46	24
JMa	91.37	-1.27	125.03	125.03	91
GMa	63.07	-114.29	25.34	117.07	167
G50BMa	59.47	-80.61	-33.45	87.29	203
BMa	49.01	3.63	-81.2	81.29	273
B50RMa	44.06	106.07	-73.94	129.31	325
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	272

## Output: Colorimetric Reflective System NRS11

for hue  $h^* = lab^*h = 273/360 = 0.758$

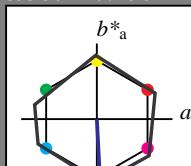
$lab^*tch$  and  $lab^*nch$

D65: hue B

LCH\*Ma: 53 84 273

olv\*Ma: 0.0 0.0 1.0

triangle lightness  $t^*$



%Gamut

$u^*_{rel} = 119$

%Regularity

$g^*_{H,rel} = 47$

$g^*_{C,rel} = 100$

relative Inform. Technology (IT)

$olv^3*$  1.0 1.0 1.0 (1.0)

$cmy^3*$  0.0 0.0 0.0 (0.0)

$olv^4*$  1.0 1.0 1.0 1.0

$cmy^4*$  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

$LAB^*TCh$  99.99 0.01 -

relative CIELAB lab\*

$lab^*lab$  1.0 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  1.0 0.0 0.0

$lab^*ice$  1.0 0.0 -

$lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)

$olv^3*$  0.5 0.5 0.5 (1.0)

$cmy^3*$  0.5 0.5 0.5 (0.0)

$olv^4*$  1.0 1.0 1.0 0.5

$cmy^4*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  72.21 1.85 -40.58

$LAB^*LABa$  72.21 1.82 -40.59

$LAB^*TCh$  75.0 40.64 272.56

relative CIELAB lab\*

$lab^*lab$  0.7 0.022 -0.498

$lab^*tch$  0.75 0.5 0.757

$lab^*nch$  0.0 0.5 0.757

relative Natural Colour (NC)

$lab^*lrj$  0.7 0.006 -0.499

$lab^*ice$  0.75 0.5 0.752

$lab^*ncE$  0.0 0.5 600r

$n^* = 0,00$

blackness  $n^*$

chromaticness  $c^*$

$n^* = 1,0$

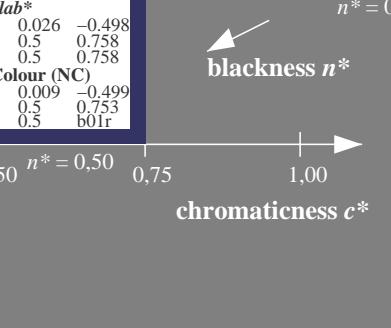
blackness  $n^*$

chromaticness  $c^*$

## NRS11; adapted (a) CIELAB data

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

RMa	53.2	77.06	34.32	84.36	24
JMa	53.2	-1.51	84.38	84.39	91
GMa	53.2	-82.27	18.98	84.44	167
G50BMa	53.2	-77.72	-32.98	84.44	203
BMa	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



%Gamut

$u^*_{rel} = 119$

%Regularity

$g^*_{H,rel} = 47$

$g^*_{C,rel} = 100$

relative Inform. Technology (IT)

$olv^3*$  1.0 1.0 1.0 (1.0)

$cmy^3*$  0.5 0.5 0.5 (0.0)

$olv^4*$  0.5 0.5 1.0 1.0

$cmy^4*$  0.5 0.5 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  74.3 2.21 -42.13

$LAB^*LABa$  74.3 2.19 -42.13

$LAB^*TCh$  75.0 42.2 272.97

relative CIELAB lab\*

$lab^*lab$  0.75 0.026 -0.498

$lab^*tch$  0.75 0.5 0.758

$lab^*nch$  0.0 0.5 0.758

relative Natural Colour (NC)

$lab^*lrj$  0.75 0.009 -0.499

$lab^*ice$  0.75 0.5 0.753

$lab^*ncE$  0.0 0.5 601r

$n^* = 0,00$

blackness  $n^*$

chromaticness  $c^*$

$n^* = 1,0$

UE100-7, 3 step scales for constant CIELAB hue 273/360 = 0.757 (left)

3 step scales for constant CIELAB hue 273/360 = 0.758 (right)

### Input: Colorimetric Reflective System NCS18

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

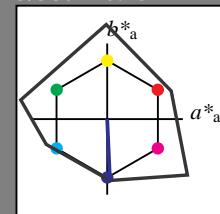
$lab^*tch$  and  $lab^*nch$

D65: hue B

LCH\*Ma: 49 81 273

olv\*Ma: 0.0 0.0 1.0

triangle lightness  $t^*$



relative Inform. Technology (IT)

olv*i*3\* 1.0 1.0 1.0 (1.0)

cmy*n*3\* 0.0 0.0 0.0 (0.0)

olv*i*4\* 1.0 1.0 1.0 1.0

cmy*n*4\* 0.0 0.0 0.0 0.0

standard and adapted CIELAB

LAB\*LAB 95.41 0.0 -0.01

LAB\*LAB*a* 95.41 0.0 0.0

LAB\*TCh*a* 99.99 0.01 -

relative CIELAB lab\*

lab\**lab* 1.0 0.0 0.0

lab\**tch* 1.0 0.0 -

lab\**nch* 0.0 0.0 -

relative Natural Colour (NC)

lab\**lrj* 1.0 0.0 0.0

lab\**tce* 1.0 0.0 -

lab\**ncE* 0.0 0.0 -

standard and adapted CIELAB

LAB\*LAB 72.21 1.85 -40.58

LAB\*LAB*a* 72.21 1.82 -40.59

LAB\*TCh*a* 75.0 40.64 272.56

relative CIELAB lab\*

lab\**lab* 0.7 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\**lrj* 0.7 0.006 -0.499

lab\**tce* 0.75 0.2 0.752

lab\**ncE* 0.0 0.5 600r

relative Inform. Technology (IT)

olv*i*3\* 0.5 0.5 0.5 (1.0)

cmy*n*3\* 0.5 0.5 0.5 (0.0)

olv*i*4\* 1.0 1.0 1.0 0.5

cmy*n*4\* 0.0 0.0 0.0 0.5

standard and adapted CIELAB

LAB\*LAB 56.72 0.05 0.0

LAB\*LAB*a* 56.72 0.0 0.0

LAB\*TCh*a* 50.0 0.01 -

relative CIELAB lab\*

lab\**lab* 0.5 0.0 0.0

lab\**tch* 0.5 0.0 -

lab\**nch* 0.5 0.0 -

relative Natural Colour (NC)

lab\**lrj* 0.5 0.0 0.0

lab\**tce* 0.5 0.0 -

lab\**ncE* 0.5 0.0 -

standard and adapted CIELAB

LAB\*LAB 33.52 1.9 -40.56

LAB\*LAB*a* 33.52 1.82 -40.59

LAB\*TCh*a* 25.01 40.64 272.56

relative CIELAB lab\*

lab\**lab* 0.2 0.022 -0.498

lab\**tch* 0.25 0.5 0.757

lab\**nch* 0.5 0.5 0.757

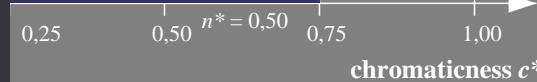
relative Natural Colour (NC)

lab\**lrj* 0.2 0.006 -0.499

lab\**tce* 0.25 0.5 0.752

lab\**ncE* 0.5 0.5 600r

$n^* = 1,0$



$n^* = 0,00$

$n^* = 0,50$

$n^* = 1,00$

chromaticness  $c^*$

### Output: Colorimetric Reflective System NCS11

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

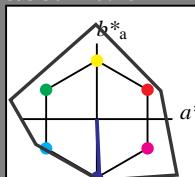
$lab^*tch$  and  $lab^*nch$

D65: hue B

LCH\*Ma: 49 81 273

olv\*Ma: 0.0 0.0 1.0

triangle lightness  $t^*$



%Gamut

$u^*_{rel} = 136$

%Regularity

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

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

relative Inform. Technology (IT)

olv*i*3\* 1.0 1.0 1.0 (1.0)

cmy*n*3\* 0.0 0.0 0.0 (0.0)

olv*i*4\* 1.0 1.0 1.0 1.0

cmy*n*4\* 0.0 0.0 0.0 0.0

standard and adapted CIELAB

LAB\*LAB 95.41 0.0 -0.01

LAB\*LAB*a* 95.41 0.0 0.0

LAB\*TCh*a* 99.99 0.01 -

relative CIELAB lab\*

lab\**lab* 1.0 0.0 0.0

lab\**tch* 1.0 0.0 -

lab\**nch* 0.0 0.0 -

relative Natural Colour (NC)

lab\**lrj* 1.0 0.0 0.0

lab\**tce* 1.0 0.0 -

lab\**ncE* 0.0 0.0 -

standard and adapted CIELAB

LAB\*LAB 72.21 1.85 -40.58

LAB\*LAB*a* 72.21 1.82 -40.59

LAB\*TCh*a* 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\**lrj* 0.725 0.006 -0.499

lab\**tce* 0.75 0.5 0.752

lab\**ncE* 0.0 0.5 600r

relative Inform. Technology (IT)

olv*i*3\* 0.5 0.5 0.5 (1.0)

cmy*n*3\* 0.5 0.5 0.5 (0.0)

olv*i*4\* 1.0 1.0 1.0 0.5

cmy*n*4\* 0.0 0.0 0.0 0.5

standard and adapted CIELAB

LAB\*LAB 53.21 0.04 0.0

LAB\*LAB*a* 53.21 0.0 0.0

LAB\*TCh*a* 50.0 0.01 -

relative CIELAB lab\*

lab\**lab* 0.401 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\**lrj* 0.401 0.013 -0.999

lab\**tce* 0.5 1.0 0.752

lab\**ncE* 0.0 1.0 600r

relative Inform. Technology (IT)

olv*i*3\* 0.0 0.0 0.5 (1.0)

cmy*n*3\* 1.0 1.0 1.0 (0.0)

olv*i*4\* 1.0 1.0 1.0 0.5

cmy*n*4\* 0.0 0.0 0.1 0.5

standard and adapted CIELAB

LAB\*LAB 11.01 0.07 0.01

LAB\*LAB*a* 11.01 0.0 0.0

LAB\*TCh*a* 0.01 0.01 -

relative CIELAB lab\*

lab\**lab* 0.0 0.0 0.0

lab\**tch* 0.0 0.0 -

lab\**nch* 1.0 0.0 -

relative Natural Colour (NC)

lab\**lrj* 0.0 0.0 0.0

lab\**tce* 0.0 0.0 -

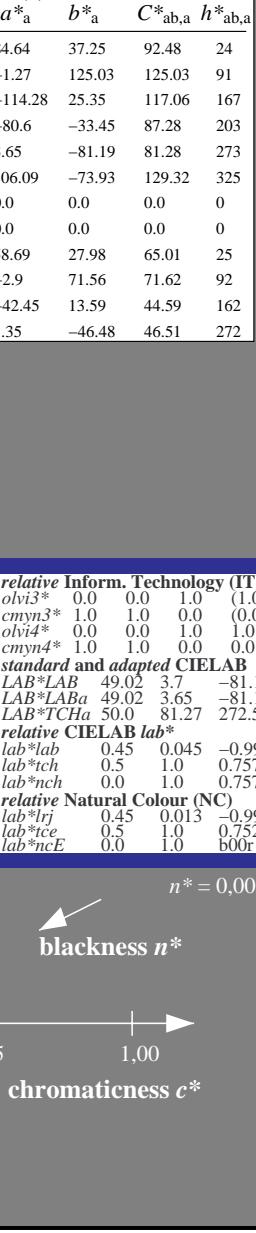
lab\**ncE* 1.0 0.0 -

$n^* = 1,0$

3 step scales for constant CIELAB hue 273/360 = 0.757 (left)

3 step scales for constant CIELAB hue 273/360 = 0.757 (right)

	$L^*=L^*_a$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	47.15	84.63	37.24	92.46	24
JMa	91.37	-1.27	125.03	125.03	91
GMa	63.07	-114.28	25.35	117.06	167
G50B <i>Ma</i>	59.47	-80.61	-33.45	87.28	203
B <i>Ma</i>	49.01	3.63	-81.2	81.28	273
B50R <i>Ma</i>	44.06	106.07	-73.94	129.32	325
N <i>Ma</i>	18.01	0.0	0.0	0.0	0
W <i>Ma</i>	95.41	0.0	0.0	0.0	0
R <i>CIE</i>	39.92	58.67	27.98	65.01	25
J <i>CIE</i>	81.26	-2.9	71.56	71.62	92
G <i>CIE</i>	52.23	-42.45	13.59	44.59	162
B <i>CIE</i>	30.57	1.35	-46.48	46.51	272



3 step scales for constant CIELAB hue 273/360 = 0.757 (left)

3 step scales for constant CIELAB hue 273/360 = 0.757 (right)

$n^* = 0,00$

blackness  $n^*$

$n^* = 1,00$

chromaticness  $c^*$

## Input: Colorimetric Reflective System NRS11

for hue  $h^* = lab^*h = 273/360 = 0.758$

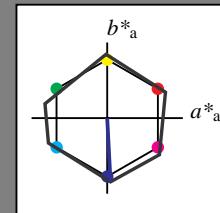
$lab^*tch$  and  $lab^*nch$

D65: hue B

LCH\*Ma: 53 84 273

olv\*Ma: 0.0 0.0 1.0

triangle lightness  $t^*$



relative Inform. Technology (IT)

olv*i*3\* 1.0 1.0 1.0 (1.0)

cmy*n*3\* 0.0 0.0 0.0 (0.0)

olv*i*4\* 1.0 1.0 1.0 1.0

cmy*n*4\* 0.0 0.0 0.0 0.0

standard and adapted CIELAB

LAB\*LAB 95.41 0.0 -0.01

LAB\*LAB*a* 95.41 0.0 0.0

LAB\*TCh*a* 99.99 0.01 -

relative CIELAB lab\*

lab\*lab 1.0 0.0 0.0

lab\*tch 1.0 0.0 -

lab\*nch 0.0 0.0 -

relative Natural Colour (NC)

lab\*lrj 1.0 0.0 0.0

lab\*tce 1.0 0.0 -

lab\*nc*E* 0.0 0.0 -

relative Inform. Technology (IT)

olv*i*3\* 0.5 0.5 0.5 (1.0)

cmy*n*3\* 0.5 0.5 0.5 (0.0)

olv*i*4\* 1.0 1.0 1.0 0.5

cmy*n*4\* 0.0 0.0 0.0 0.5

standard and adapted CIELAB

LAB\*LAB 53.21 0.04 0.0

LAB\*LAB*a* 53.21 0.0 0.0

LAB\*TCh*a* 50.0 0.01 -

relative CIELAB lab\*

lab\*lab 0.5 0.0 0.0

lab\*tch 0.5 0.0 -

lab\*nch 0.5 0.0 -

relative Natural Colour (NC)

lab\*lrj 0.5 0.0 0.0

lab\*tce 0.5 0.0 -

lab\*nc*E* 0.5 0.0 -

relative Inform. Technology (IT)

olv*i*3\* 0.0 0.0 0.0 (1.0)

cmy*n*3\* 1.0 1.0 1.0 (0.0)

olv*i*4\* 1.0 1.0 1.0 0.0

cmy*n*4\* 0.0 0.0 0.0 1.0

standard and adapted CIELAB

LAB\*LAB 11.01 0.07 0.01

LAB\*LAB*a* 11.01 0.0 0.0

LAB\*TCh*a* 0.01 0.01 -

relative CIELAB lab\*

lab\*lab 0.0 0.0 0.0

lab\*tch 0.0 0.0 -

lab\*nch 1.0 0.0 -

relative Natural Colour (NC)

lab\*lrj 0.0 0.0 0.0

lab\*tce 0.0 0.0 -

lab\*nc*E* 1.0 0.0 -

$n^* = 1,0$

## NRS11; adapted (a) CIELAB data

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

RMa	53.2	77.06	34.32	84.36	24
JMa	53.2	-1.51	84.38	84.39	91
GMa	53.2	-82.27	18.98	84.44	167
G50BMa	53.2	-77.72	-32.98	84.44	203
BMa	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

%Gamut

$u^*_{rel} = 119$

%Regularity

$g^*_{H,rel} = 47$

$g^*_{C,rel} = 100$

relative Inform. Technology (IT)

olv*i*3\* 0.5 0.5 0.5 (1.0)

cmy*n*3\* 0.5 0.5 0.5 (0.0)

olv*i*4\* 0.5 0.5 1.0 1.0

cmy*n*4\* 0.5 0.5 0.0 0.0

standard and adapted CIELAB

LAB\*LAB 74.3 2.21 -42.13

LAB\*LAB*a* 74.3 2.19 -42.13

LAB\*TCh*a* 75.0 42.2 272.97

relative CIELAB lab\*

lab\*lab 0.75 0.026 -0.498

lab\*tch 0.75 0.5 0.758

lab\*nch 0.0 0.5 0.758

relative Natural Colour (NC)

lab\*lrj 0.75 0.009 -0.499

lab\*tce 0.75 0.2 0.753

lab\*nc*E* 0.0 0.5 b01r

relative Inform. Technology (IT)

olv*i*3\* 0.0 0.0 0.5 (1.0)

cmy*n*3\* 1.0 1.0 0.0 (0.0)

olv*i*4\* 0.5 0.5 1.0 0.5

cmy*n*4\* 0.5 0.5 0.0 0.5

standard and adapted CIELAB

LAB\*LAB 53.2 4.42 -84.26

LAB\*LAB*a* 53.2 4.37 -84.27

LAB\*TCh*a* 50.0 84.39 272.97

relative CIELAB lab\*

lab\*lab 0.5 0.052 -0.997

lab\*tch 0.5 1.0 0.758

lab\*nch 0.0 1.0 0.758

relative Natural Colour (NC)

lab\*lrj 0.5 0.018 -0.999

lab\*tce 0.5 1.0 0.753

lab\*nc*E* 0.0 1.0 b01r

relative Inform. Technology (IT)

olv*i*3\* 0.0 0.0 0.0 (1.0)

cmy*n*3\* 1.0 1.0 1.0 (0.0)

olv*i*4\* 1.0 1.0 1.0 0.0

cmy*n*4\* 0.0 0.0 0.0 1.0

standard and adapted CIELAB

LAB\*LAB 32.1 2.25 -42.11

LAB\*LAB*a* 32.1 2.19 -42.13

LAB\*TCh*a* 25.01 42.2 272.97

relative CIELAB lab\*

lab\*lab 0.25 0.026 -0.498

lab\*tch 0.25 0.5 0.758

lab\*nch 0.5 0.5 0.758

relative Natural Colour (NC)

lab\*lrj 0.25 0.009 -0.499

lab\*tce 0.25 0.5 0.753

lab\*nc*E* 0.5 0.5 b01r

relative Inform. Technology (IT)

olv*i*3\* 0.0 0.0 0.0 (1.0)

cmy*n*3\* 1.0 1.0 1.0 (0.0)

olv*i*4\* 1.0 1.0 1.0 0.0

cmy*n*4\* 0.0 0.0 0.0 1.0

standard and adapted CIELAB

LAB\*LAB 11.01 0.07 0.01

LAB\*LAB*a* 11.01 0.0 0.0

LAB\*TCh*a* 0.01 0.01 -

relative CIELAB lab\*

lab\*lab 0.0 0.0 0.0

lab\*tch 0.0 0.0 -

lab\*nch 1.0 0.0 -

relative Natural Colour (NC)

lab\*lrj 0.0 0.0 0.0

lab\*tce 0.0 0.0 -

lab\*nc*E* 1.0 0.0 -

relative Inform. Technology (IT)

olv*i*3\* 0.0 0.0 0.0 (1.0)

cmy*n*3\* 1.0 1.0 1.0 (0.0)

olv*i*4\* 1.0 1.0 1.0 0.0

cmy*n*4\* 0.0 0.0 0.0 1.0

standard and adapted CIELAB

LAB\*LAB 11.01 0.07 0.01

LAB\*LAB*a* 11.01 0.0 0.0

LAB\*TCh*a* 0.01 0.01 -

relative CIELAB lab\*

lab\*lab 0.0 0.0 0.0

lab\*tch 0.0 0.0 -

lab\*nch 1.0 0.0 -

relative Natural Colour (NC)

lab\*lrj 0.0 0.0 0.0

lab\*tce 0.0 0.0 -

lab\*nc*E* 1.0 0.0 -

relative Inform. Technology (IT)

olv*i*3\* 0.0 0.0 0.0 (1.0)

cmy*n*3\* 1.0 1.0 1.0 (0.0)

olv*i*4\* 1.0 1.0 1.0 0.0

cmy*n*4\* 0.0 0.0 0.0 1.0

standard and adapted CIELAB

LAB\*LAB 11.01 0.07 0.01

LAB\*LAB*a* 11.01 0.0 0.0

LAB\*TCh*a* 0.01 0.01 -

relative CIELAB lab\*

lab\*lab 0.0 0.0 0.0

lab\*tch 0.0 0.0 -

lab\*nch 1.0 0.0 -

relative Natural Colour (NC)

lab\*lrj 0.0 0.0 0.0

lab\*tce 0.0 0.0 -

lab\*nc*E* 1.0 0.0 -

relative Inform. Technology (IT)

olv*i*3\* 0.0 0.0 0.0 (1.0)

cmy*n*3\* 1.0 1.0 1.0 (0.0)

olv*i*4\* 1.0 1.0 1.0 0.0

cmy*n*4\* 0.0 0.0 0.0 1.0

standard and adapted CIELAB

LAB\*LAB 11.01 0.07 0.01

LAB\*LAB*a* 11.01 0.0 0.0

LAB\*TCh*a* 0.01 0.01 -

relative CIELAB lab\*

lab\*lab 0.0 0.0 0.0

lab\*tch 0.0 0.0 -

lab\*nch 1.0 0.0 -

relative Natural Colour (NC)

lab\*lrj 0.0 0.0 0.0

lab\*tce 0.0 0.0 -

lab\*nc*E* 1.0 0.0 -

relative Inform. Technology (IT)

olv*i*3\* 0.0 0.0 0.0 (1.0)

cmy*n*3\* 1.0 1.0 1.0 (0.0)

olv*i*4\* 1.0 1.0 1.0 0.0

cmy*n*4\* 0.0 0.0 0.0 1.0

standard and adapted CIELAB

LAB\*LAB 11.01 0.07 0.01

LAB\*LAB*a* 11.01 0.0 0.0

LAB\*TCh*a* 0.01 0.01 -

relative CIELAB lab\*

lab\*lab 0.0 0.0 0.0

lab\*tch 0.0 0.0 -

lab\*nch 1.0 0.0 -

relative Natural Colour (NC)

lab\*lrj 0.0 0.0 0.0

## Input: Colorimetric Reflective System NRS11

for hue  $h^* = lab^*h = 273/360 = 0.758$

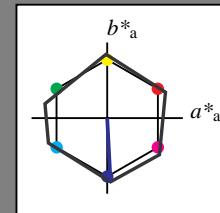
$lab^*tch$  and  $lab^*nch$

D65: hue B

LCH\*Ma: 53 84 273

olv\*Ma: 0.0 0.0 1.0

triangle lightness  $t^*$



relative Inform. Technology (IT)

olv*i*3\* 1.0 1.0 1.0 (1.0)

cmy*n*3\* 0.0 0.0 0.0 (0.0)

olv*i*4\* 1.0 1.0 1.0 1.0

cmy*n*4\* 0.0 0.0 0.0 0.0

standard and adapted CIELAB

LAB\*LAB 95.41 0.0 -0.01

LAB\*LAB*a* 95.41 0.0 0.0

LAB\*TCh*a* 99.99 0.01 -

relative CIELAB lab\*

lab\*lab 1.0 0.0 0.0

lab\*tch 1.0 0.0 -

lab\*nch 0.0 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 -

g\*<sub>H,rel</sub> = 47

## NRS11; adapted (a) CIELAB data

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

RMa	53.2	77.06	34.32	84.36	24
JMa	53.2	-1.51	84.38	84.39	91
GMa	53.2	-82.27	18.98	84.44	167
G50BMa	53.2	-77.72	-32.98	84.44	203
BMa	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

%Gamut

$u^*_{rel} = 119$

%Regularity

$g^*_{H,rel} = 47$

$g^*_{C,rel} = 100$

relative Inform. Technology (IT)

olv*i*3\* 0.5 0.5 0.5 (1.0)

cmy*n*3\* 0.5 0.5 0.5 (0.0)

olv*i*4\* 0.5 0.5 1.0 1.0

cmy*n*4\* 0.5 0.5 0.0 0.0

standard and adapted CIELAB

LAB\*LAB 74.3 2.21 -42.13

LAB\*LAB*a* 74.3 2.19 -42.13

LAB\*TCh*a* 75.0 42.2 272.97

relative CIELAB lab\*

lab\*lab 0.75 0.026 -0.498

lab\*tch 0.75 0.5 0.758

lab\*nch 0.0 0.5 0.758

relative Natural Colour (NC)

lab\*lrj 0.75 0.009 -0.499

lab\*tce 0.75 0.2 0.753

lab\*ncE 0.0 0.5 b01r

g\*<sub>C,rel</sub> = 100

relative Inform. Technology (IT)

olv*i*3\* 0.5 0.5 0.5 (1.0)

cmy*n*3\* 0.5 0.5 0.5 (0.0)

olv*i*4\* 0.5 0.5 1.0 1.0

cmy*n*4\* 0.5 0.5 0.0 0.5

standard and adapted CIELAB

LAB\*LAB 53.21 0.04 0.0

LAB\*LAB*a* 53.21 0.0 0.0

LAB\*TCh*a* 50.0 0.01 -

relative CIELAB lab\*

lab\*lab 0.5 0.0 0.0

lab\*tch 0.5 0.0 -

lab\*nch 0.5 0.0 -

relative Natural Colour (NC)

lab\*lrj 0.5 0.0 0.0

lab\*tce 0.5 0.0 0.0

lab\*ncE 0.5 0.0 -

g\*<sub>C,rel</sub> = 100

relative Inform. Technology (IT)

olv*i*3\* 0.0 0.0 0.0 (1.0)

cmy*n*3\* 1.0 1.0 1.0 (0.0)

olv*i*4\* 1.0 1.0 1.0 0.0

cmy*n*4\* 0.0 0.0 0.0 1.0

standard and adapted CIELAB

LAB\*LAB 11.01 0.07 0.01

LAB\*LAB*a* 11.01 0.0 0.0

LAB\*TCh*a* 0.01 0.01 -

relative CIELAB lab\*

lab\*lab 0.0 0.0 0.0

lab\*tch 0.0 0.0 -

lab\*nch 1.0 0.0 -

relative Natural Colour (NC)

lab\*lrj 0.0 0.0 0.0

lab\*tce 0.0 0.0 0.0

lab\*ncE 1.0 0.0 -

g\*<sub>C,rel</sub> = 100

relative Inform. Technology (IT)

olv*i*3\* 0.0 0.0 0.0 (1.0)

cmy*n*3\* 1.0 1.0 1.0 (0.0)

olv*i*4\* 1.0 1.0 1.0 0.0

cmy*n*4\* 0.0 0.0 0.0 1.0

standard and adapted CIELAB

LAB\*LAB 18.02 0.5 -0.46

LAB\*LAB*a* 18.02 0.0 0.0

LAB\*TCh*a* 0.01 0.01 -

relative CIELAB lab\*

lab\*lab 0.0 0.0 0.0

lab\*tch 0.0 0.0 -

lab\*nch 1.0 0.0 -

relative Natural Colour (NC)

lab\*lrj 0.0 0.0 0.0

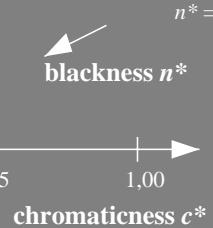
lab\*tce 0.0 0.0 0.0

lab\*ncE 1.0 0.0 -

g\*<sub>C,rel</sub> = 100

$n^* = 1,0$

$n^* = 0,00$



## Output: Colorimetric Reflective System MRS18

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

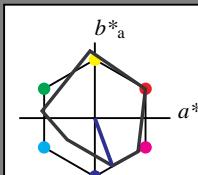
$lab^*tch$  and  $lab^*nch$

D65: hue B

LCH\*Ma: 37 67 290

olv\*Ma: 0.0 0.0 1.0

triangle lightness  $t^*$



%Gamut

$u^*_{rel} = 91$

%Regularity

$g^*_{H,rel} = 41$

$g^*_{C,rel} = 52$

relative Inform. Technology (IT)

olv*i*3\* 1.0 1.0 1.0 (1.0)

cmy*n*3\* 0.0 0.0 0.0 (0.0)

olv*i*4\* 1.0 1.0 1.0 1.0

cmy*n*4\* 0.0 0.0 0.0 0.0

standard and adapted CIELAB

LAB\*LAB 95.41 -0.97 4.75

LAB\*LAB*a* 95.41 0.0 0.0

LAB\*TCh*a* 99.99 0.01 -

relative CIELAB lab\*

lab\*lab 1.0 0.0 0.0

lab\*tch 1.0 0.0 -

lab\*nch 0.0 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 -

g\*<sub>H,rel</sub> = 41

g\*<sub>C,rel</sub> = 52

relative Inform. Technology (IT)

olv*i*3\* 0.5 0.5 0.5 (1.0)

cmy*n*3\* 0.5 0.5 0.5 (0.0)

olv*i*4\* 0.5 0.5 1.0 1.0

cmy*n*4\* 0.5 0.5 0.0 0.0

standard and adapted CIELAB

LAB\*LAB 66.03 11.17 -28.74

LAB\*LAB*a* 66.03 11.59 -31.51

LAB\*TCh*a* 75.0 33.59 290.19

relative CIELAB lab\*

lab\*lab 0.62 0.173 -0.468

lab\*tch 0.75 0.5 0.806

lab\*nch 0.0 0.5 0.806

relative Natural Colour (NC)

lab\*lrj 0.62 0.129 -0.482

lab\*tce 0.75 0.5 0.791

lab\*ncE 0.0 0.5 b16r

g\*<sub>H,rel</sub> = 41

g\*<sub>C,rel</sub> = 52

relative Inform. Technology (IT)

olv*i*3\* 0.0 0.0 0.0 (1.0)

cmy*n*3\* 1.0 1.0 1.0 (0.0)

olv*i*4\* 1.0 1.0 1.0 0.0

cmy*n*4\* 0.0 0.0 0.0 1.0

standard and adapted CIELAB

LAB\*LAB 18.02 0.5 -0.46

LAB\*LAB*a* 18.02 0.0 0.0

LAB\*TCh*a* 0.01 0.01 -

relative CIELAB lab\*

lab\*lab 0.0 0.0 0.0

lab\*tch 0.0 0.0 -

lab\*nch 1.0 0.0 -

relative Natural Colour (NC)

lab\*lrj 0.0 0.0 0.0

lab\*tce 0.0 0.0 0.0

lab\*ncE 1.0 0.0 -

g\*<sub>H,rel</sub> = 41

g\*<sub>C,rel</sub> = 52

relative Inform. Technology (IT)

olv*i*3\* 0.0 0.0 0.0 (1.0)

cmy*n*3\* 1.0 1.0 1.0 (0.0)

olv*i*4\* 1.0 1.0 1.0 0.0

cmy*n*4\* 0.0 0.0 0.0 1.0

standard and adapted CIELAB

LAB\*LAB 27.34 11.92 -31.35

LAB\*LAB*a* 27.34 11.59 -31.51

LAB\*TCh*a* 25.01 33.59 290.19

relative CIELAB lab\*

lab\*lab 0.12 0.173 -0.468

lab\*tch 0.25 0.5 0.806

lab\*nch 0.5 0.5 0.806

relative Natural Colour (NC)

lab\*lrj 0.12 0.129 -0.482

lab\*tce 0.25 0.5 0.791

lab\*ncE 0.5 0.5 b16r

g\*<sub>H,rel</sub> = 41

g\*<sub>C,rel</sub> = 52

relative Inform. Technology (IT)

olv*i*3\* 0.0 0.0 0.0 (1.0)

cmy*n*3\* 1.0 1.0 1.0 (0.0)

olv*i*4\* 1.0 1.0 1.0 0.0

cmy*n*4

## Input: Colorimetric Reflective System NRS11

for hue  $h^* = lab^*h = 273/360 = 0.758$

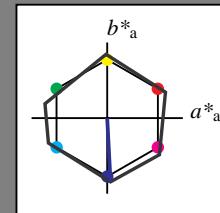
$lab^*tch$  and  $lab^*nch$

D65: hue B

LCH\*Ma: 53 84 273

olv\*Ma: 0.0 0.0 1.0

triangle lightness  $t^*$



## NRS11; adapted (a) CIELAB data

	$L^*=L_a^*$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	53.2	77.06	34.32	84.36	24
JMa	53.2	-1.51	84.38	84.39	91
GMa	53.2	-82.27	18.98	84.44	167
G50BMa	53.2	-77.72	-32.98	84.44	203
BMa	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)

$olv_i3^*$  1.0 1.0 1.0 (1.0)

$cmyn3^*$  0.0 0.0 0.0 (0.0)

$olv_i4^*$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrf$  1.0 0.0 0.0

$lab^*fce$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  74.3 2.21 -42.13

$LAB^*LABa$  74.3 2.19 -42.13

$LAB^*TChA$  75.0 42.2 272.97

relative CIELAB lab\*

$lab^*lab$  0.75 0.026 -0.498

$lab^*tch$  0.75 0.5 0.758

$lab^*nch$  0.0 0.5 0.758

relative Natural Colour (NC)

$lab^*lrf$  0.75 0.009 -0.499

$lab^*fce$  0.75 0.2 0.753

$lab^*ncE$  0.0 0.5 b01r

relative Inform. Technology (IT)

$olv_i3^*$  0.5 0.5 0.5 (1.0)

$cmyn3^*$  0.5 0.5 0.5 (0.0)

$olv_i4^*$  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

$LAB^*LABa$  53.21 0.0 0.0

$LAB^*TChA$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrf$  0.5 0.0 0.0

$lab^*fce$  0.5 0.0 0.0

$lab^*ncE$  0.5 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  11.01 0.07 0.01

$LAB^*LABa$  11.01 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrf$  0.0 0.0 0.0

$lab^*fce$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

relative Inform. Technology (IT)

$olv_i3^*$  0.5 0.5 1.0 (1.0)

$cmyn3^*$  0.5 0.5 0.0 (0.0)

$olv_i4^*$  0.5 0.5 1.0 1.0

$cmyn4^*$  0.5 0.5 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  74.3 2.21 -42.13

$LAB^*LABa$  74.3 2.19 -42.13

$LAB^*TChA$  75.0 42.2 272.97

relative CIELAB lab\*

$lab^*lab$  0.75 0.026 -0.498

$lab^*tch$  0.75 0.5 0.758

$lab^*nch$  0.0 0.5 0.758

relative Natural Colour (NC)

$lab^*lrf$  0.75 0.009 -0.499

$lab^*fce$  0.75 0.2 0.753

$lab^*ncE$  0.0 0.5 b01r

relative Inform. Technology (IT)

$olv_i3^*$  0.0 0.0 0.5 (1.0)

$cmyn3^*$  1.0 1.0 0.0 (0.0)

$olv_i4^*$  1.0 1.0 1.0 0.5

$cmyn4^*$  1.0 1.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  53.2 4.42 -84.26

$LAB^*LABa$  53.2 4.37 -84.27

$LAB^*TChA$  50.0 84.39 272.97

relative CIELAB lab\*

$lab^*lab$  0.5 0.052 -0.997

$lab^*tch$  0.5 1.0 0.758

$lab^*nch$  0.0 1.0 0.758

relative Natural Colour (NC)

$lab^*lrf$  0.5 0.018 -0.999

$lab^*fce$  0.5 1.0 0.753

$lab^*ncE$  0.0 1.0 b01r

relative Inform. Technology (IT)

$olv_i3^*$  0.0 0.0 0.5 (1.0)

$cmyn3^*$  1.0 1.0 0.5 (0.0)

$olv_i4^*$  1.0 1.0 1.0 0.5

$cmyn4^*$  1.0 1.0 0.5 0.5

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.5 -0.46

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrf$  0.0 0.0 0.0

$lab^*fce$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 0,00$

$n^* = 0,50$

$n^* = 1,00$

chromaticness  $c^*$

## Output: Colorimetric Reflective System TRS18

for hue  $h^* = lab^*h = 305/360 = 0.847$

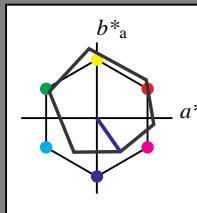
$lab^*tch$  and  $lab^*nch$

D65: hue V

LCH\*Ma: 26 54 305

olv\*Ma: 0.0 0.0 1.0

triangle lightness  $t^*$



## TRS18; adapted (a) CIELAB data

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

$olv_i3^*$  1.0 1.0 1.0 (1.0)

$cmyn3^*$  0.0 0.0 0.0 (0.0)

$olv_i4^*$  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

$LAB^*LABa$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrf$  1.0 0.0 0.0

$lab^*fce$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  60.56 15.24 -19.79

$LAB^*LABa$  60.56 15.55 -22.2

$LAB^*TChA$  75.0 27.11 305.0

relative CIELAB lab\*

$lab^*lab$  0.55 0.287 -0.408

$lab^*tch$  0.75 0.5 0.847

$lab^*nch$  0.0 0.5 0.847

relative Natural Colour (NC)

$lab^*lrf$  0.55 0.225 -0.446

$lab^*fce$  0.75 0.5 0.824

$lab^*ncE$  0.0 0.5 b29r

$n^* = 0,00$

relative Inform. Technology (IT)

$olv_i3^*$  0.0 0.0 0.5 (1.0)

$cmyn3^*$  1.0 1.0 0.5 (0.0)

$olv_i4^*$  0.0 0.0 1.0 1.0

$cmyn4^*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  25.72 31.46 -44.36

$LAB^*LABa$  25.72 31.1 -44.41

$LAB^*TChA$  50.0 54.23 305.0

relative CIELAB lab\*

$lab^*lab$  0.1 0.573 -0.818

## Input: Colorimetric Reflective System NRS11

for hue  $h^* = lab^*h = 273/360 = 0.758$

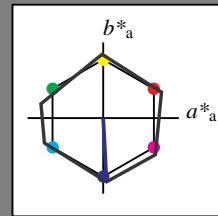
$lab^*tch$  and  $lab^*nch$

D65: hue B

LCH\*Ma: 53 84 273

olv\*Ma: 0.0 0.0 1.0

triangle lightness  $t^*$



### NRS11; adapted (a) CIELAB data

	$L^*=L_a^*$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	53.2	77.06	34.32	84.36	24
JMa	53.2	-1.51	84.38	84.39	91
GMa	53.2	-82.27	18.98	84.44	167
G50BMa	53.2	-77.72	-32.98	84.44	203
BMa	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)

$olv_i3^*$  1.0 1.0 1.0 (1.0)

$cmyn3^*$  0.0 0.0 0.0 (0.0)

$olv_i4^*$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 -

$lab^*ncE$  0.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  74.3 2.21 -42.13

$LAB^*LABa$  74.3 2.19 -42.13

$LAB^*TChA$  75.0 42.2 272.97

relative CIELAB lab\*

$lab^*lab$  0.75 0.026 -0.498

$lab^*tch$  0.75 0.5 0.758

$lab^*nch$  0.0 0.5 0.758

relative Natural Colour (NC)

$lab^*lrij$  0.75 0.009 -0.499

$lab^*tce$  0.75 0.2 0.753

$lab^*ncE$  0.0 0.5 b01r

relative Inform. Technology (IT)

$olv_i3^*$  0.5 0.5 0.5 (1.0)

$cmyn3^*$  0.5 0.5 0.5 (0.0)

$olv_i4^*$  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

$LAB^*LABa$  53.21 0.0 0.0

$LAB^*TChA$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.5 0.0 0.0

$lab^*tce$  0.5 0.0 -

$lab^*ncE$  0.5 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  32.1 2.25 -42.11

$LAB^*LABa$  32.1 2.19 -42.13

$LAB^*TChA$  25.01 42.2 272.97

relative CIELAB lab\*

$lab^*lab$  0.25 0.026 -0.498

$lab^*tch$  0.25 0.5 0.758

$lab^*nch$  0.5 0.5 0.758

relative Natural Colour (NC)

$lab^*lrij$  0.25 0.009 -0.499

$lab^*tce$  0.25 0.5 0.753

$lab^*ncE$  0.5 0.5 b01r

$n^* = 1,0$

relative Inform. Technology (IT)

$olv_i3^*$  0.0 0.0 0.0 (1.0)

$cmyn3^*$  1.0 1.0 1.0 (0.0)

$olv_i4^*$  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 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*tce$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.1 0.02

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*tce$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

relative Inform. Technology (IT)

$olv_i3^*$  0.0 0.0 1.0 (1.0)

$cmyn3^*$  0.5 0.5 0.5 (0.0)

$olv_i4^*$  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 0.01 0.0

$LAB^*LABa$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 -

$lab^*ncE$  1.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  74.3 2.21 -42.13

$LAB^*LABa$  74.3 2.19 -42.13

$LAB^*TChA$  75.0 42.2 272.97

relative CIELAB lab\*

$lab^*lab$  0.75 0.026 -0.498

$lab^*tch$  0.75 0.5 0.758

$lab^*nch$  0.0 0.5 0.758

relative Natural Colour (NC)

$lab^*lrij$  0.75 0.009 -0.499

$lab^*tce$  0.75 0.2 0.753

$lab^*ncE$  0.0 0.5 b01r

$n^* = 0,00$

blackness  $n^*$

chromaticness  $c^*$

## Output: Colorimetric Reflective System MRS18a

for hue  $h^* = lab^*h = 290/360 = 0.807$

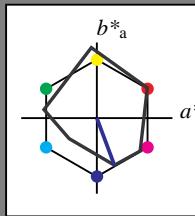
$lab^*tch$  and  $lab^*nch$

D65: hue B

LCH\*Ma: 37 66 290

olv\*Ma: 0.0 0.0 1.0

triangle lightness  $t^*$



### MRS18a; adapted (a) CIELAB data

	$L^*=L_a^*$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	49.63	66.8	40.02	77.87	31
JMa	90.7	-7.27	93.19	93.48	94
GMa	52.11	-69.93	11.26	70.85	171
G50BMa	45.03	-36.65	-27.13	45.61	217
BMa	36.65	23.26	-62.27	66.49	290
B50RMa	34.94	57.27	-43.6	71.99	323
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	272

	$L^*=L_a^*$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	0.63	0.5	0.5	0.0	0.0
JMa	0.90	0.5	0.5	0.0	0.0
GMa	0.52	0.5	0.5	0.0	0.0
G50BMa	0.45	0.5	0.5	0.0	0.0
BMa	0.37	0.5	0.5	0.0	0.0
B50RMa	0.34	0.5	0.5	0.0	0.0
NMa	0.18	0.0	0.0	0.0	0.0
WMa	0.95	0.0	0.0	0.0	0.0
RCIE	0.39	0.58	0.27	0.64	0.25
JCIE	0.81	-0.29	0.71	0.72	0.92
GCIE	0.52	-0.42	0.13	0.44	0.162
BCIE	0.30	0.13	-0.46	0.46	0.272

	$L^*=L_a^*$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	0.0	0.0	0.0	0.0	0.0
JMa	0.1	0.0	0.0	0.0	0.0
GMa	0.5	0.5	0.5	0.0	0.0
G50BMa	0.5	0.5	0.5	0.0	0.0
BMa	0.5	0.5	0.5	0.0	0.0
B50RMa	0.5	0.5	0.5	0.0	0.0
NMa	0.0	0.0	0.0	0.0	0.0
WMa	0.95	0.0	0.0	0.0	0.0
RCIE	0.39	0.58	0.27		

## Input: Colorimetric Reflective System NRS11

for hue  $h^* = lab^*h = 273/360 = 0.758$

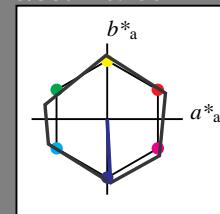
$lab^*tch$  and  $lab^*nch$

D65: hue B

LCH\*Ma: 53 84 273

olv\*Ma: 0.0 0.0 1.0

triangle lightness  $t^*$



### NRS11; adapted (a) CIELAB data

	$L^*=L_a^*$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	53.2	77.06	34.32	84.36	24
JMa	53.2	-1.51	84.38	84.39	91
GMa	53.2	-82.27	18.98	84.44	167
G50BMa	53.2	-77.72	-32.98	84.44	203
BMa	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)

$olv_i3^*$  1.0 1.0 1.0 (1.0)

$cmyn3^*$  0.0 0.0 0.0 (0.0)

$olv_i4^*$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 -

$lab^*ncE$  0.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  74.3 2.21 -42.13

$LAB^*LABa$  74.3 2.19 -42.13

$LAB^*TChA$  75.0 42.2 272.97

relative CIELAB lab\*

$lab^*lab$  0.75 0.026 -0.498

$lab^*tch$  0.75 0.5 0.758

$lab^*nch$  0.0 0.5 0.758

relative Natural Colour (NC)

$lab^*lrij$  0.75 0.009 -0.499

$lab^*tce$  0.75 0.2 0.753

$lab^*ncE$  0.0 0.5 b01r

relative Inform. Technology (IT)

$olv_i3^*$  0.5 0.5 0.5 (1.0)

$cmyn3^*$  0.5 0.5 0.5 (0.0)

$olv_i4^*$  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

$LAB^*LABa$  53.21 0.0 0.0

$LAB^*TChA$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.5 0.0 0.0

$lab^*tce$  0.5 0.0 -

$lab^*ncE$  0.5 0.0 -

relative Inform. Technology (IT)

$olv_i3^*$  0.0 0.0 0.0 (1.0)

$cmyn3^*$  1.0 1.0 1.0 (0.0)

$olv_i4^*$  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 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*tce$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

$n^* = 0,00$

$n^* = 0,50$

$1,00$

$chromaticness c^*$

## Output: Colorimetric Reflective System NRS18

for hue  $h^* = lab^*h = 273/360 = 0.758$

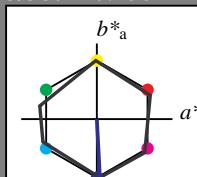
$lab^*tch$  and  $lab^*nch$

D65: hue B

LCH\*Ma: 57 77 273

olv\*Ma: 0.0 0.0 1.0

triangle lightness  $t^*$



### NRS18; adapted (a) CIELAB data

	$L^*=L_a^*$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	56.7	70.66	31.47	77.35	24
JMa	56.7	-1.39	77.37	77.39	91
GMa	56.7	-75.46	17.4	77.45	167
G50BMa	56.7	-71.29	-30.25	77.45	203
BMa	56.7	4.0	-77.3	77.41	273
B50RMa	56.7	63.35	-44.4	77.36	325
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	272

relative Inform. Technology (IT)

$olv_i3^*$  1.0 1.0 1.0 (1.0)

$cmyn3^*$  0.0 0.0 0.0 (0.0)

$olv_i4^*$  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 0.0

$LAB^*LABa$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 -

$lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)

$olv_i3^*$  0.5 0.5 0.5 (1.0)

$cmyn3^*$  0.5 0.5 0.5 (0.0)

$olv_i4^*$  0.5 0.5 1.0 1.0

$cmyn4^*$  0.5 0.5 0.5 0.5

standard and adapted CIELAB

$LAB^*LAB$  76.05 2.03 -38.63

$LAB^*LABa$  76.05 2.0 -38.64

$LAB^*TChA$  75.0 38.7 272.96

relative CIELAB lab\*

$lab^*lab$  0.75 0.026 -0.498

$lab^*tch$  0.75 0.5 0.758

$lab^*nch$  0.0 0.5 0.758

relative Natural Colour (NC)

$lab^*lrij$  0.75 0.009 -0.499

$lab^*tce$  0.75 0.5 0.753

$lab^*ncE$  0.0 0.5 b01r

relative Inform. Technology (IT)

$olv_i3^*$  0.0 0.0 0.0 (1.0)

$cmyn3^*$  1.0 1.0 1.0 (0.0)

$olv_i4^*$  1.0 1.0 1.0 0.0

$cmyn4^*$  0.5 0.5 0.5 0.5

standard and adapted CIELAB

$LAB^*LAB$  56.7 4.05 -77.27

$LAB^*LABa$  56.7 4.0 -77.28

$LAB^*TChA$  50.0 77.4 272.96

relative CIELAB lab\*

$lab^*lab$  0.5 0.052 -0.997

$lab^*tch$  0.5 1.0 0.758

$lab^*nch$  0.0 1.0 0.758

relative Natural Colour (NC)

$lab^*lrij$  0.5 0.018 -0.999

$lab^*tce$  0.5 1.0 0.753

$lab^*ncE$  0.0 1.0 b01r

$n^* = 0,00$

$n^* = 0,50$

$1,00$

$chromaticness c^*$

$n^* = 1,0$

3 step scales for constant CIELAB hue 273/360 = 0.758 (right)

UE100-7, 3 step scales for constant CIELAB hue 273/360 = 0.758 (left)

## Input: Colorimetric Reflective System NRS11

for hue  $h^* = lab^*h = 273/360 = 0.758$

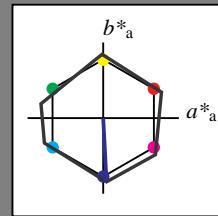
$lab^*tch$  and  $lab^*nch$

D65: hue B

LCH\*Ma: 53 84 273

olv\*Ma: 0.0 0.0 1.0

triangle lightness  $t^*$



### NRS11; adapted (a) CIELAB data

	$L^*=L_a^*$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	53.2	77.06	34.32	84.36	24
JMa	53.2	-1.51	84.38	84.39	91
GMa	53.2	-82.27	18.98	84.44	167
G50BMa	53.2	-77.72	-32.98	84.44	203
BMa	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)

$olv_i3^*$  1.0 1.0 1.0 (1.0)

$cmyn3^*$  0.0 0.0 0.0 (0.0)

$olv_i4^*$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 -

$lab^*ncE$  0.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  74.3 2.21 -42.13

$LAB^*LABa$  74.3 2.19 -42.13

$LAB^*TChA$  75.0 42.2 272.97

relative CIELAB lab\*

$lab^*lab$  0.7 0.026 -0.498

$lab^*tch$  0.7 0.5 0.758

$lab^*nch$  0.0 0.5 0.758

relative Natural Colour (NC)

$lab^*lrij$  0.75 0.009 -0.499

$lab^*tce$  0.75 0.2 0.753

$lab^*ncE$  0.0 0.5 b01r

relative Inform. Technology (IT)

$olv_i3^*$  0.5 0.5 0.5 (1.0)

$cmyn3^*$  0.5 0.5 0.5 (0.0)

$olv_i4^*$  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

$LAB^*LABa$  53.21 0.0 0.0

$LAB^*TChA$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.5 0.0 0.0

$lab^*tce$  0.5 0.0 -

$lab^*ncE$  0.5 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  32.1 2.25 -42.11

$LAB^*LABa$  32.1 2.19 -42.13

$LAB^*TChA$  25.01 42.2 272.97

relative CIELAB lab\*

$lab^*lab$  0.25 0.026 -0.498

$lab^*tch$  0.25 0.5 0.758

$lab^*nch$  0.5 0.5 0.758

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*tce$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

relative Inform. Technology (IT)

$olv_i3^*$  0.5 0.5 0.5 (1.0)

$cmyn3^*$  0.5 0.5 0.5 (0.0)

$olv_i4^*$  0.5 0.5 1.0 1.0

$cmyn4^*$  0.5 0.5 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  53.2 2.21 -42.13

$LAB^*LABa$  53.2 2.19 -42.13

$LAB^*TChA$  50.0 42.2 272.97

relative CIELAB lab\*

$lab^*lab$  0.75 0.026 -0.498

$lab^*tch$  0.75 0.5 0.758

$lab^*nch$  0.5 0.5 0.758

relative Natural Colour (NC)

$lab^*lrij$  0.5 0.018 -0.999

$lab^*tce$  0.5 1.0 0.753

$lab^*ncE$  0.0 1.0 b01r

standard and adapted CIELAB

$LAB^*LAB$  53.2 4.42 -84.26

$LAB^*LABa$  53.2 4.37 -84.27

$LAB^*TChA$  50.0 84.39 272.97

relative CIELAB lab\*

$lab^*lab$  0.5 0.052 -0.997

$lab^*tch$  0.5 1.0 0.758

$lab^*nch$  0.0 1.0 0.758

relative Natural Colour (NC)

$lab^*lrij$  0.5 0.018 -0.999

$lab^*tce$  0.5 1.0 0.753

$lab^*ncE$  0.0 1.0 b01r

relative CIELAB lab\*

$lab^*lab$  0.25 0.026 -0.498

$lab^*tch$  0.25 0.5 0.757

$lab^*nch$  0.5 0.5 0.757

relative Natural Colour (NC)

$lab^*lrij$  0.2 0.006 -0.499

$lab^*tce$  0.25 0.5 0.752

$lab^*ncE$  0.5 0.5 b00r

relative CIELAB lab\*

$lab^*lab$  0.401 0.045 -0.998

$lab^*tch$  0.5 1.0 0.757

$lab^*nch$  0.0 1.0 0.757

relative Natural Colour (NC)

$lab^*lrij$  0.401 0.013 -0.999

$lab^*tce$  0.5 1.0 0.752

$lab^*ncE$  0.0 1.0 b00r

relative CIELAB lab\*

$lab^*lab$  0.2 0.022 -0.498

$lab^*tch$  0.25 0.5 0.757

$lab^*nch$  0.5 0.5 0.757

relative Natural Colour (NC)

$lab^*lrij$  0.2 0.006 -0.499

$lab^*tce$  0.25 0.5 0.752

$lab^*ncE$  0.5 0.5 b00r

relative CIELAB lab\*

$lab^*lab$  0.492 0.045 -0.998

$lab^*tch$  0.5 1.0 0.757

$lab^*nch$  0.0 1.0 0.757

relative Natural Colour (NC)

$lab^*lrij$  0.492 0.013 -0.999

$lab^*tce$  0.5 1.0 0.752

$lab^*ncE$  0.0 1.0 b00r

relative CIELAB lab\*

$lab^*lab$  0.492 0.045 -0.998

$lab^*tch$  0.5 1.0 0.757

$lab^*nch$  0.0 1.0 0.757

relative Natural Colour (NC)

$lab^*lrij$  0.492 0.013 -0.999

$lab^*tce$  0.5 1.0 0.752

$lab^*ncE$  0.0 1.0 b00r

relative CIELAB lab\*

$lab^*lab$  0.492 0.045 -0.998

$lab^*tch$  0.5 1.0 0.757

$lab^*nch$  0.0 1.0 0.757

relative Natural Colour (NC)

$lab^*lrij$  0.492 0.013 -0.999

$lab^*tce$  0.5 1.0 0.752

$lab^*ncE$  0.0 1.0 b00r

relative CIELAB lab\*

$lab^*lab$  0.492 0.045 -0.998

$lab^*tch$  0.5 1.0 0.757

$lab^*nch$  0.0 1.0 0.757

relative Natural Colour (NC)

$lab^*lrij$  0.492 0.013 -0.999

$lab^*tce$  0.5 1.0 0.752

$lab^*ncE$  0.0 1.0 b00r

relative CIELAB lab\*

$lab^*lab$  0.492 0.045 -0.998

$lab^*tch$  0.5 1.0 0.757

$lab^*nch$  0.0 1.0 0.757

relative Natural Colour (NC)

$lab^*lrij$  0.492 0.013 -0.999

$lab^*tce$  0.5 1.0 0.752

$lab^*ncE$  0.0 1.0 b00r

relative CIELAB lab\*

$lab^*lab$  0.492 0.045 -0.998

$lab^*tch$  0.5 1.0 0.757

$lab^*nch$  0.0 1.0 0.757

relative Natural Colour (NC)

$lab^*lrij$  0.492 0.013 -0.999

$lab^*tce$  0.5 1.0 0.752

$lab^*ncE$  0.0 1.0 b00r

relative CIELAB lab\*

$lab^*lab$  0.492 0.045 -0.998

$lab^*tch$  0.5 1.0 0.757

$lab^*nch$  0.0 1.0 0.757

relative Natural Colour (NC)

$lab^*lrij$  0.492 0.013 -0.999

$lab^*tce$  0.5 1.0 0.752

$lab^*ncE$  0.0 1.0 b00r

relative CIELAB lab\*

$lab^*lab$  0.492 0.045 -0.998

$lab^*tch$  0.5 1.0 0.757

$lab^*nch$  0.0 1.0 0.757

relative Natural Colour (NC)

$lab^*lrij$  0.492 0.013 -0.999

$lab^*tce$  0.5 1.0 0.752

$lab^*ncE$  0.0 1.0 b00r

relative CIELAB lab\*

$lab^*lab$  0.492 0.045 -0.998

<

## Input: Colorimetric Reflective System NRS11

for hue  $h^* = lab^*h = 273/360 = 0.758$

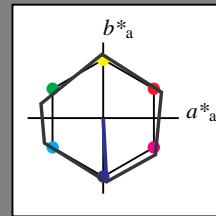
$lab^*tch$  and  $lab^*nch$

D65: hue B

LCH\*Ma: 53 84 273

olv\*Ma: 0.0 0.0 1.0

triangle lightness  $t^*$



relative Inform. Technology (IT)

olv13\* 1.0 1.0 1.0 (1.0)

cmyn3\* 0.0 0.0 0.0 (0.0)

olv14\* 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 0.0 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)

olv13\* 0.5 0.5 0.5 (1.0)

cmyn3\* 0.5 0.5 0.5 (0.0)

olv14\* 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\*LABa 53.21 0.0 0.0

LAB\*TChA 50.0 0.01 -

relative CIELAB lab\*

lab\*lab 0.5 0.0 0.0

lab\*tch 0.5 0.0 -

lab\*nch 0.5 0.0 -

relative Natural Colour (NC)

lab\*lrj 0.5 0.0 0.0

lab\*tce 0.5 0.0 0.0

lab\*ncE 0.5 0.0 -

relative Inform. Technology (IT)

olv13\* 0.0 0.0 0.0 (1.0)

cmyn3\* 1.0 1.0 1.0 (0.0)

olv14\* 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 0.0 0.0

LAB\*TChA 0.01 0.01 -

relative CIELAB lab\*

lab\*lab 0.0 0.0 0.0

lab\*tch 0.0 0.0 -

lab\*nch 1.0 0.0 -

relative Natural Colour (NC)

lab\*lrj 0.0 0.0 0.0

lab\*tce 0.0 0.0 0.0

lab\*ncE 1.0 0.0 -

$n^* = 1,0$

## NRS11; adapted (a) CIELAB data

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

RMa	53.2	77.06	34.32	84.36	24
JMa	53.2	-1.51	84.38	84.39	91
GMa	53.2	-82.27	18.98	84.44	167
G50BMa	53.2	-77.72	-32.98	84.44	203
BMa	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

%Gamut  
 $u^*_{rel} = 119$   
%Regularity  
 $g^*_{H,rel} = 47$   
 $g^*_{C,rel} = 100$

relative Inform. Technology (IT)  
olv13\* 0.5 0.5 0.5 (1.0)  
cmyn3\* 0.5 0.5 0.5 (0.0)  
olv14\* 0.5 0.5 1.0 1.0  
cmyn4\* 0.5 0.5 0.0 0.0  
relative CIELAB lab\*

lab\*lab 74.3 2.21 -42.13  
lab\*LABa 74.3 2.19 -42.13  
lab\*TChA 75.0 42.2 272.97

relative CIELAB lab\*  
lab\*lab 0.75 0.026 -0.498  
lab\*tch 0.75 0.5 0.758  
lab\*nch 0.0 0.5 0.758  
relative Natural Colour (NC)

lab\*lrj 0.75 0.009 -0.499  
lab\*tce 0.75 0.5 0.753  
lab\*ncE 0.0 0.5 b01r

relative CIELAB lab\*  
olv13\* 0.0 0.0 0.5 (1.0)  
cmyn3\* 1.0 1.0 0.0 (0.0)  
olv14\* 0.0 0.0 1.0 1.0  
cmyn4\* 0.0 0.0 0.0 0.5  
relative CIELAB lab\*

lab\*lab 53.2 4.42 -84.26  
lab\*LABa 53.2 4.37 -84.27  
lab\*TChA 50.0 84.39 272.97

relative CIELAB lab\*  
olv13\* 0.0 0.0 0.5 (1.0)  
cmyn3\* 1.0 1.0 0.5 (0.0)  
olv14\* 0.5 0.5 1.0 0.5  
cmyn4\* 0.0 0.0 0.0 0.5  
relative Natural Colour (NC)

lab\*lrj 0.5 0.018 -0.999  
lab\*tce 0.5 1.0 0.753  
lab\*ncE 0.0 1.0 b01r

relative CIELAB lab\*  
olv13\* 0.0 0.0 0.0 (1.0)  
cmyn3\* 1.0 1.0 1.0 (0.0)  
olv14\* 1.0 1.0 1.0 0.0  
cmyn4\* 0.0 0.0 0.0 1.0  
relative CIELAB lab\*

lab\*lab 11.01 0.07 0.01  
lab\*LABa 11.01 0.0 0.0  
lab\*TChA 0.01 0.01 -

relative CIELAB lab\*

lab\*lab 0.25 0.026 -0.498  
lab\*tch 0.25 0.5 0.758  
lab\*nch 0.5 0.5 0.758  
relative Natural Colour (NC)

lab\*lrj 0.25 0.009 -0.499  
lab\*tce 0.25 0.5 0.753  
lab\*ncE 0.5 0.5 b01r

relative CIELAB lab\*

lab\*lab 11.01 0.07 0.01  
lab\*LABa 11.01 0.0 0.0  
lab\*TChA 0.01 0.01 -

relative CIELAB lab\*

lab\*lab 0.25 0.026 -0.498  
lab\*tch 0.25 0.5 0.758  
lab\*nch 0.5 0.5 0.758  
relative Natural Colour (NC)

lab\*lrj 0.25 0.009 -0.499  
lab\*tce 0.25 0.5 0.753  
lab\*ncE 0.5 0.5 b01r

relative CIELAB lab\*

lab\*lab 11.01 0.07 0.01  
lab\*LABa 11.01 0.0 0.0  
lab\*TChA 0.01 0.01 -

relative CIELAB lab\*

lab\*lab 0.25 0.026 -0.498  
lab\*tch 0.25 0.5 0.758  
lab\*nch 0.5 0.5 0.758  
relative Natural Colour (NC)

lab\*lrj 0.25 0.009 -0.499  
lab\*tce 0.25 0.5 0.753  
lab\*ncE 0.5 0.5 b01r

relative CIELAB lab\*

lab\*lab 11.01 0.07 0.01  
lab\*LABa 11.01 0.0 0.0  
lab\*TChA 0.01 0.01 -

relative CIELAB lab\*

lab\*lab 0.25 0.026 -0.498  
lab\*tch 0.25 0.5 0.758  
lab\*nch 0.5 0.5 0.758  
relative Natural Colour (NC)

lab\*lrj 0.25 0.009 -0.499  
lab\*tce 0.25 0.5 0.753  
lab\*ncE 0.5 0.5 b01r

relative CIELAB lab\*

lab\*lab 11.01 0.07 0.01  
lab\*LABa 11.01 0.0 0.0  
lab\*TChA 0.01 0.01 -

relative CIELAB lab\*

lab\*lab 0.25 0.026 -0.498  
lab\*tch 0.25 0.5 0.758  
lab\*nch 0.5 0.5 0.758  
relative Natural Colour (NC)

lab\*lrj 0.25 0.009 -0.499  
lab\*tce 0.25 0.5 0.753  
lab\*ncE 0.5 0.5 b01r

relative CIELAB lab\*

lab\*lab 11.01 0.07 0.01  
lab\*LABa 11.01 0.0 0.0  
lab\*TChA 0.01 0.01 -

relative CIELAB lab\*

lab\*lab 0.25 0.026 -0.498  
lab\*tch 0.25 0.5 0.758  
lab\*nch 0.5 0.5 0.758  
relative Natural Colour (NC)

lab\*lrj 0.25 0.009 -0.499  
lab\*tce 0.25 0.5 0.753  
lab\*ncE 0.5 0.5 b01r

relative CIELAB lab\*

lab\*lab 11.01 0.07 0.01  
lab\*LABa 11.01 0.0 0.0  
lab\*TChA 0.01 0.01 -

relative CIELAB lab\*

lab\*lab 0.25 0.026 -0.498  
lab\*tch 0.25 0.5 0.758  
lab\*nch 0.5 0.5 0.758  
relative Natural Colour (NC)

lab\*lrj 0.25 0.009 -0.499  
lab\*tce 0.25 0.5 0.753  
lab\*ncE 0.5 0.5 b01r

relative CIELAB lab\*

lab\*lab 11.01 0.07 0.01  
lab\*LABa 11.01 0.0 0.0  
lab\*TChA 0.01 0.01 -

relative CIELAB lab\*

lab\*lab 0.25 0.026 -0.498  
lab\*tch 0.25 0.5 0.758  
lab\*nch 0.5 0.5 0.758  
relative Natural Colour (NC)

lab\*lrj 0.25 0.009 -0.499  
lab\*tce 0.25 0.5 0.753  
lab\*ncE 0.5 0.5 b01r

relative CIELAB lab\*

lab\*lab 11.01 0.07 0.01  
lab\*LABa 11.01 0.0 0.0  
lab\*TChA 0.01 0.01 -

relative CIELAB lab\*

lab\*lab 0.25 0.026 -0.498  
lab\*tch 0.25 0.5 0.758  
lab\*nch 0.5 0.5 0.758  
relative Natural Colour (NC)

lab\*lrj 0.25 0.009 -0.499  
lab\*tce 0.25 0.5 0.753  
lab\*ncE 0.5 0.5 b01r

relative CIELAB lab\*

lab\*lab 11.01 0.07 0.01  
lab\*LABa 11.01 0.0 0.0  
lab\*TChA 0.01 0.01 -

relative CIELAB lab\*

lab\*lab 0.25 0.026 -0.498  
lab\*tch 0.25 0.5 0.758  
lab\*nch 0.5 0.5 0.758  
relative Natural Colour (NC)

lab\*lrj 0.25 0.009 -0.499  
lab\*tce 0.25 0.5 0.753  
lab\*ncE 0.5 0.5 b01r

relative CIELAB lab\*

lab\*lab 11.01 0.07 0.01  
lab\*LABa 11.01 0.0 0.0  
lab\*TChA 0.01 0.01 -

relative CIELAB lab\*

lab\*lab 0.25 0.026 -0.498  
lab\*tch 0.25 0.5 0.758  
lab\*nch 0.5 0.5 0.758  
relative Natural Colour (NC)

lab\*lrj 0.25 0.009 -0.499  
lab\*tce 0.25 0.5 0.753  
lab\*ncE 0.5 0.5 b01r

relative CIELAB lab\*

lab\*lab 11.01 0.07 0.01  
lab\*LABa 11.01 0.0 0.0  
lab\*TChA 0.01 0.01 -

relative CIELAB lab\*

lab\*lab 0.25 0.026 -0.498  
lab\*tch 0.25 0.5 0.758  
lab\*nch 0.5 0.5 0.758  
relative Natural Colour (NC)

lab\*lrj 0.25 0.009 -0.499  
lab\*tce 0.25 0.5 0.753  
lab\*ncE 0.5 0.5 b01r

relative CIELAB lab\*

lab\*lab 11.01 0.07 0.01  
lab\*LABa 11.01 0.0 0.0  
lab\*TChA 0.01 0.01 -

relative CIELAB lab\*

lab\*lab 0.25 0.026 -0.498  
lab\*tch 0.25 0.5 0.758  
lab\*nch 0.5 0.5 0.758  
relative Natural Colour (NC)

lab\*lrj 0.25 0.009 -0.499  
lab\*tce 0.25 0.5 0.753  
lab\*ncE 0.5 0.5 b01r

relative CIELAB lab\*

lab\*lab 11.01 0.07 0.01  
lab\*LABa 11.01 0.0 0.0  
lab\*TChA 0.01 0.01 -

relative CIELAB lab\*

lab\*lab 0.25 0.026 -0.498  
lab\*tch 0.25 0.5 0.758  
lab\*nch 0.5 0.5 0.758  
relative Natural Colour (NC)

lab\*lrj 0.25 0.009 -0.499  
lab\*tce 0.25 0.5 0.753  
lab\*ncE 0.5 0.5 b01r

relative CIELAB lab\*

lab\*lab 11.01 0.07 0.01  
lab\*LABa 11.01 0.0 0.0  
lab\*TChA 0.01 0.01 -

relative CIELAB lab\*

lab\*lab 0.25 0.026 -0.498  
lab\*tch 0.25 0.5 0.758  
lab\*nch 0.5 0.5 0.758  
relative Natural Colour (NC)

lab\*lrj 0.25 0.009 -0.499  
lab\*tce 0.25 0.5 0.753  
lab\*ncE 0.5 0.5 b01r

relative CIELAB lab\*

lab\*lab 11.01 0.07 0.01  
lab\*LABa 11.01 0.0 0.0  
lab\*TChA 0.01 0.01 -

relative CIELAB lab\*

lab\*lab 0.25 0.026 -0.498  
lab\*tch 0.25 0.5 0.758  
lab\*nch 0.5 0.5 0.758  
relative Natural Colour (NC)

lab\*lrj 0.25 0.009 -0.499  
lab\*tce 0.25 0.5 0.753  
lab\*ncE 0.5 0.5 b01r

relative CIELAB lab\*

lab\*lab 11.01 0.07 0.01  
lab\*LABa 11.01 0.0 0.0  
lab\*TChA 0.01 0.01 -

relative CIELAB lab\*</

## Input: Colorimetric Reflective System NRS11

for hue  $h^* = lab^*h = 273/360 = 0.758$

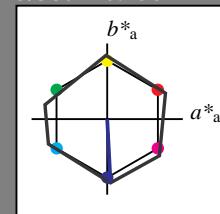
$lab^*tch$  and  $lab^*nch$

D65: hue B

LCH\*Ma: 53 84 273

olv\*Ma: 0.0 0.0 1.0

triangle lightness  $t^*$



### NRS11; adapted (a) CIELAB data

	$L^* = L_a^*$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	53.2	77.06	34.32	84.36	24
JMa	53.2	-1.51	84.38	84.39	91
GMa	53.2	-82.27	18.98	84.44	167
G50BMa	53.2	-77.72	-32.98	84.44	203
BMa	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)

$olv_i3^*$  1.0 1.0 1.0 (1.0)

$cmyn3^*$  0.0 0.0 0.0 (0.0)

$olv_i4^*$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  74.3 2.21 -42.13

$LAB^*LABa$  74.3 2.19 -42.13

$LAB^*TChA$  75.0 42.2 272.97

relative CIELAB lab\*

$lab^*lab$  0.75 0.026 -0.498

$lab^*tch$  0.75 0.5 0.758

$lab^*nch$  0.0 0.5 0.758

relative Natural Colour (NC)

$lab^*lrij$  0.75 0.009 -0.499

$lab^*tce$  0.75 0.2 0.753

$lab^*ncE$  0.0 0.5 b01r

standard and adapted CIELAB

$LAB^*LAB$  53.21 0.04 0.0

$LAB^*LABa$  53.21 0.0 0.0

$LAB^*TChA$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.5 0.0 0.0

$lab^*tce$  0.5 0.0 0.0

$lab^*ncE$  0.5 0.0 -

relative Inform. Technology (IT)

$olv_i3^*$  0.0 0.0 0.0 (1.0)

$cmyn3^*$  1.0 1.0 1.0 (0.0)

$olv_i4^*$  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 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*tce$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

	$L^* = L_a^*$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	0.5	0.5	1.0	(1.0)	
JMa	0.5	0.5	0.0	(0.0)	
GMa	0.5	1.0	1.0	1.0	
G50BMa	0.5	1.0	-1.0	1.0	
BMa	0.5	1.0	-1.0	1.0	
B50RMa	0.5	1.0	-1.0	1.0	
NMa	0.0	0.0	0.0	0.0	0
WMa	0.0	0.0	0.0	0.0	0
RCIE	0.75	0.25	0.5	0.757	
JCIE	0.75	0.25	0.5	0.757	
GCIE	0.75	0.25	0.5	0.757	
BCIE	0.75	0.25	0.5	0.757	

	$L^* = L_a^*$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	0.0	0.0	0.5	(1.0)	
JMa	1.0	1.0	0.5	(0.0)	
GMa	0.5	1.0	1.0	0.5	
G50BMa	0.5	1.0	-1.0	0.5	
BMa	0.5	1.0	-1.0	0.5	
B50RMa	0.5	1.0	-1.0	0.5	
NMa	0.0	0.0	0.0	0.0	0
WMa	0.0	0.0	0.0	0.0	0
RCIE	0.75	0.25	0.5	0.757	
JCIE	0.75	0.25	0.5	0.757	
GCIE	0.75	0.25	0.5	0.757	
BCIE	0.75	0.25	0.5	0.757	

	$L^* = L_a^*$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	0.0	0.0	0.0	0.0	0
JMa	1.0	1.0	1.0	1.0	
GMa	0.5	1.0	1.0	0.5	
G50BMa	0.5	1.0	-1.0	0.5	
BMa	0.5	1.0	-1.0	0.5	
B50RMa	0.5	1.0	-1.0	0.5	
NMa	0.0	0.0	0.0	0.0	0
WMa	0.0	0.0	0.0	0.0	0
RCIE	0.75	0.25	0.5	0.757	
JCIE	0.75	0.25	0.5	0.757	
GCIE	0.75	0.25	0.5	0.757	
BCIE	0.75	0.25	0.5	0.757	

$n^* = 0,00$

blackness  $n^*$

chromaticness  $c^*$

## Output: Colorimetric Reflective System NCS11

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

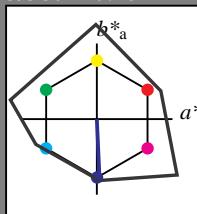
$lab^*tch$  and  $lab^*nch$

D65: hue B

LCH\*Ma: 49 81 273

olv\*Ma: 0.0 0.0 1.0

triangle lightness  $t^*$



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

relative Inform. Technology (IT)

$olv_i3^*$  1.0 1.0 1.0 (1.0)

$cmyn3^*$  0.0 0.0 0.0 (0.0)

$olv_i4^*$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  72.21 1.85 -40.58

$LAB^*LABa$  72.21 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)

$lab^*lrij$  0.725 0.006 -0.499

$lab^*tce$  0.75 0.5 0.752

$lab^*ncE$  0.0 0.5 b00r

standard and adapted CIELAB

$LAB^*LAB$  49.02 3.7 -81.16

$LAB^*LABa$  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)

$lab^*lrij$  0.45 0.013 -0.999

## Input: Colorimetric Reflective System NCS11

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

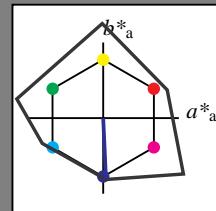
$lab^*tch$  and  $lab^*nch$

D65: hue B

LCH\*Ma: 49 81 273

olv\*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

relative Inform. Technology (IT)

$olv_i3^*$  1.0 1.0 1.0 (1.0)

$cmyn3^*$  0.0 0.0 0.0 (0.0)

$olv_i4^*$  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

$LAB^*TCh$  99.99 0.01 -

relative CIELAB  $lab^*$

$lab^*lab$  1.0 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrf$  1.0 0.0 0.0

$lab^*fce$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  72.21 1.85 -40.58

$LAB^*LABa$  72.21 1.82 -40.58

$LAB^*TCh$  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)

$lab^*lrf$  0.725 0.006 -0.499

$lab^*fce$  0.75 0.2 0.752

$lab^*ncE$  0.0 0.5 600r

relative Inform. Technology (IT)

$olv_i3^*$  0.5 0.5 0.5 (1.0)

$cmyn3^*$  0.5 0.5 0.5 (0.0)

$olv_i4^*$  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

$LAB^*LABa$  53.21 0.0 0.0

$LAB^*TCh$  50.0 0.01 -

relative CIELAB  $lab^*$

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrf$  0.5 0.0 0.0

$lab^*fce$  0.5 0.0 0.0

$lab^*ncE$  0.5 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  11.01 0.07 0.01

$LAB^*LABa$  11.01 0.0 0.0

$LAB^*TCh$  0.01 0.01 -

relative CIELAB  $lab^*$

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrf$  0.0 0.0 0.0

$lab^*fce$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

## relative Inform. Technology (IT)

$olv_i3^*$  0.5 0.5 0.5 (1.0)

$cmyn3^*$  0.5 0.5 0.5 (0.0)

$olv_i4^*$  0.5 0.5 1.0 1.0

$cmyn4^*$  0.5 0.5 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  72.21 1.85 -40.58

$LAB^*LABa$  72.21 1.82 -40.58

$LAB^*TCh$  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)

$lab^*lrf$  0.725 0.006 -0.499

$lab^*fce$  0.75 0.2 0.752

$lab^*ncE$  0.0 0.5 600r

## relative Inform. Technology (IT)

$olv_i3^*$  0.0 0.0 0.5 (1.0)

$cmyn3^*$  1.0 1.0 0.0 (0.0)

$olv_i4^*$  1.0 1.0 1.0 0.5

$cmyn4^*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  49.02 3.7 -81.16

$LAB^*LABa$  49.02 3.65 -81.18

$LAB^*TCh$  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)

$lab^*lrf$  0.45 0.013 -0.999

$lab^*fce$  0.5 1.0 0.752

$lab^*ncE$  0.0 1.0 600r

relative Inform. Technology (IT)

$olv_i3^*$  0.0 0.0 0.5 (1.0)

$cmyn3^*$  1.0 1.0 0.0 (0.0)

$olv_i4^*$  1.0 1.0 1.0 0.5

$cmyn4^*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.5 -0.46

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TCh$  0.01 0.01 -

relative CIELAB  $lab^*$

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrf$  0.0 0.0 0.0

$lab^*fce$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 0,00$

blackness  $n^*$

$n^* = 0,00$

blackness  $n^*$

$chromaticness c^*$

## Output: Colorimetric Reflective System ORS18

for hue  $h^* = lab^*h = 305/360 = 0.847$

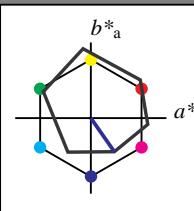
$lab^*tch$  and  $lab^*nch$

D65: hue V

LCH\*Ma: 26 54 305

olv\*Ma: 0.0 0.0 1.0

triangle lightness  $t^*$



## ORS18; adapted (a) CIELAB data

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

$olv_i3^*$  1.0 1.0 1.0 (1.0)

$cmyn3^*$  0.0 0.0 0.0 (0.0)

$olv_i4^*$  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

$LAB^*LABa$  95.41 0.0 0.0

$LAB^*TCh$  99.99 0.01 -

relative CIELAB  $lab^*$

$lab^*lab$  1.0 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrf$  1.0 0.0 0.0

$lab^*fce$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)

$olv_i3^*$  0.5 0.5 0.5 (1.0)

$cmyn3^*$  0.5 0.5 0.5 (0.0)

$olv_i4^*$  0.5 0.5 1.0 1.0

$cmyn4^*$  0.5 0.5 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  55.71 -0.23 2.14

$LAB^*LABa$  56.71 0.0 0.0

$LAB^*TCh$  50.0 0.01 -

relative CIELAB  $lab^*$

$lab^*lab$  0.5 0.287 -0.408

$lab^*tch$  0.75 0.5 0.847

$lab^*nch$  0.0 0.5 0.847

relative Natural Colour (NC)

$lab^*lrf$  0.55 0.225 -0.446

$lab^*fce$  0.75 0.5 0.824

$lab^*ncE$  0.0 0.5 0.824

$n^* = 1,00$

blackness  $n^*$

$n^* = 0,00$

## Input: Colorimetric Reflective System NCS11

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

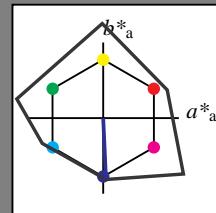
$lab^*tch$  and  $lab^*nch$

D65: hue B

LCH\*Ma: 49 81 273

olv\*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

relative Inform. Technology (IT)

$olv_i3^*$  1.0 1.0 1.0 (1.0)

$cmyn3^*$  0.0 0.0 0.0 (0.0)

$olv_i4^*$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  72.21 1.85 -40.58

$LAB^*LABa$  72.21 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)

$lab^*lrij$  0.725 0.006 -0.499

$lab^*tce$  0.75 0.2 0.752

$lab^*ncE$  0.0 0.5 600r

relative Inform. Technology (IT)

$olv_i3^*$  0.5 0.5 0.5 (1.0)

$cmyn3^*$  0.5 0.5 0.5 (0.0)

$olv_i4^*$  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

$LAB^*LABa$  53.21 0.0 0.0

$LAB^*TChA$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.5 0.0 0.0

$lab^*tce$  0.5 0.0 0.0

$lab^*ncE$  0.5 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  11.01 0.07 0.01

$LAB^*LABa$  11.01 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*tce$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

relative Inform. Technology (IT)

$olv_i3^*$  0.5 0.5 1.0 (1.0)

$cmyn3^*$  0.5 0.5 0.0 (0.0)

$olv_i4^*$  0.5 0.5 1.0 1.0

$cmyn4^*$  0.5 0.5 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  72.21 1.85 -40.58

$LAB^*LABa$  72.21 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)

$lab^*lrij$  0.725 0.006 -0.499

$lab^*tce$  0.75 0.2 0.752

$lab^*ncE$  0.0 0.5 600r

relative Inform. Technology (IT)

$olv_i3^*$  0.0 0.0 0.5 (1.0)

$cmyn3^*$  1.0 1.0 0.0 (0.0)

$olv_i4^*$  1.0 1.0 1.0 0.5

$cmyn4^*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  49.02 3.7 -81.16

$LAB^*LABa$  49.02 3.65 -81.18

$LAB^*TChA$  50.0 81.27 272.57

relative CIELAB lab\*

$lab^*lab$  0.492 0.045 -0.998

$lab^*tch$  0.5 1.0 0.757

$lab^*nch$  0.0 1.0 0.757

relative Natural Colour (NC)

$lab^*lrij$  0.45 0.013 -0.999

$lab^*tce$  0.5 1.0 0.752

$lab^*ncE$  0.0 1.0 600r

relative Inform. Technology (IT)

$olv_i3^*$  0.0 0.0 0.5 (1.0)

$cmyn3^*$  1.0 1.0 0.0 (0.0)

$olv_i4^*$  1.0 1.0 1.0 0.5

$cmyn4^*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.5 -0.46

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*tce$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 0,00$

$n^* = 0,50$

$n^* = 1,00$

blackness  $n^*$

chromaticness  $c^*$

## Output: Colorimetric Reflective System MRS18

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

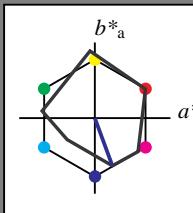
$lab^*tch$  and  $lab^*nch$

D65: hue B

LCH\*Ma: 37 67 290

olv\*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

relative Inform. Technology (IT)

$olv_i3^*$  1.0 1.0 1.0 (1.0)

$cmyn3^*$  0.0 0.0 0.0 (0.0)

$olv_i4^*$  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

$LAB^*LABa$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)

$olv_i3^*$  0.5 0.5 0.5 (1.0)

$cmyn3^*$  0.5 0.5 0.5 (0.0)

$olv_i4^*$  0.5 0.5 1.0 0.5

$cmyn4^*$  0.5 0.5 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  66.03 11.17 -28.74

$LAB^*LABa$  66.03 11.59 -31.51

$LAB^*TChA$  75.0 33.59 290.19

relative CIELAB lab\*

$lab^*lab$  0.62 0.173 -0.468

$lab^*tch$  0.75 0.5 0.806

$lab^*nch$  0.0 0.5 0.806

relative Natural Colour (NC)

$lab^*lrij$  0.62 0.129 -0.482

$lab^*tce$  0.75 0.5 0.791

$lab^*ncE$  0.0 0.5 0.791

$n^* = 0,00$

$n^* = 0,50$

$n^* = 1,00$

blackness  $n^*$

chromaticness  $c^*$

3 step scales for constant CIELAB hue 273/360 = 0.757 (left)

## Input: Colorimetric Reflective System NCS11

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

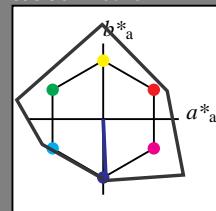
$lab^*tch$  and  $lab^*nch$

D65: hue B

LCH\*Ma: 49 81 273

olv\*Ma: 0.0 0.0 1.0

triangle lightness  $t^*$



## NCS11; adapted (a) CIELAB data

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

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

$LAB^*LABa$  95.41 0.0 0.0

$LAB^*TCh$  99.99 0.01 -

relative CIELAB lab\*

$lab^*lab$  1.0 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrf$  1.0 0.0 0.0

$lab^*fce$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  72.21 1.85 -40.58

$LAB^*LABa$  72.21 1.82 -40.58

$LAB^*TCh$  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)

$lab^*lrf$  0.725 0.006 -0.499

$lab^*fce$  0.75 0.2 0.752

$lab^*ncE$  0.0 0.5 600r

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 0.5

$cmyn^4*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  53.21 0.04 0.0

$LAB^*LABa$  53.21 0.0 0.0

$LAB^*TCh$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrf$  0.5 0.0 0.0

$lab^*fce$  0.5 0.0 0.0

$lab^*ncE$  0.5 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  11.01 0.07 0.01

$LAB^*LABa$  11.01 0.0 0.0

$LAB^*TCh$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrf$  0.0 0.0 0.0

$lab^*fce$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

relative Inform. Technology (IT)

$olv^3*$  0.5 0.5 1.0 (1.0)

$cmyn^3*$  0.5 0.5 0.0 (0.0)

$olv^4*$  0.5 0.5 1.0 1.0

$cmyn^4*$  0.5 0.0 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  72.21 1.85 -40.58

$LAB^*LABa$  72.21 1.82 -40.58

$LAB^*TCh$  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)

$lab^*lrf$  0.725 0.006 -0.499

$lab^*fce$  0.75 0.2 0.752

$lab^*ncE$  0.0 0.5 600r

relative Inform. Technology (IT)

$olv^3*$  0.0 0.0 0.5 (1.0)

$cmyn^3*$  1.0 1.0 0.0 (0.0)

$olv^4*$  1.0 1.0 1.0 0.5

$cmyn^4*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  49.02 3.7 -81.16

$LAB^*LABa$  49.02 3.65 -81.18

$LAB^*TCh$  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)

$lab^*lrf$  0.45 0.013 -0.999

$lab^*fce$  0.5 1.0 0.752

$lab^*ncE$  0.0 1.0 600r

relative Inform. Technology (IT)

$olv^3*$  0.0 0.0 0.5 (1.0)

$cmyn^3*$  1.0 1.0 0.0 (0.0)

$olv^4*$  1.0 1.0 1.0 0.5

$cmyn^4*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.5 -0.46

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TCh$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

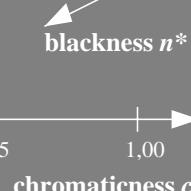
relative Natural Colour (NC)

$lab^*lrf$  0.0 0.0 0.0

$lab^*fce$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 0,00$



$n^* = 0,00$

blackness  $n^*$

chromaticness  $c^*$

## Output: Colorimetric Reflective System TRS18

for hue  $h^* = lab^*h = 305/360 = 0.847$

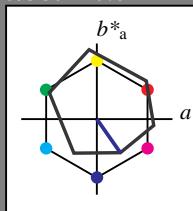
$lab^*tch$  and  $lab^*nch$

D65: hue V

LCH\*Ma: 26 54 305

olv\*Ma: 0.0 0.0 1.0

triangle lightness  $t^*$



%Gamut

$u^*_{rel} = 149$

%Regularity

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

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

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 -0.97 4.75

$LAB^*LABa$  95.41 0.0 0.0

$LAB^*TCh$  99.99 0.01 -

relative CIELAB lab\*

$lab^*lab$  1.0 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrf$  1.0 0.0 0.0

$lab^*fce$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  60.56 15.24 -19.79

$LAB^*LABa$  60.56 15.55 -22.2

$LAB^*TCh$  75.0 27.11 305.0

relative CIELAB lab\*

$lab^*lab$  0.55 0.287 -0.408

$lab^*tch$  0.75 0.5 0.847

$lab^*nch$  0.0 0.5 0.847

relative Natural Colour (NC)

$lab^*lrf$  0.55 0.225 -0.446

$lab^*fce$  0.75 0.5 0.824

$lab^*ncE$  0.0 0.5 0.824

relative Inform. Technology (IT)

$olv^3*$  0.0 0.0 0.5 (1.0)

$cmyn^3*$  1.0 1.0 0.0 (0.0)

$olv^4*$  1.0 1.0 1.0 0.5

$cmyn^4*$  0.5 0.5 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.5 -0.46

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TCh$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrf$  0.0 0.0 0.0

$lab^*fce$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

relative Inform. Technology (IT)

$olv^3*$  1.0 1.0 1.0 (1.0)

$cmyn^3*$  1.0 1.0 0.0 (0.0)

$olv^4*$  1.0 1.0 1.0 0.5

$cmyn^4*$  0.5 0.5 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.5 -0.46

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TCh$  0.01 0.01 -

## Input: Colorimetric Reflective System NCS11

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

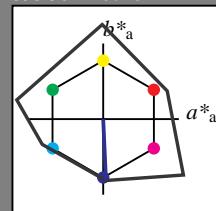
$lab^*tch$  and  $lab^*nch$

D65: hue B

LCH\*Ma: 49 81 273

olv\*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

relative Inform. Technology (IT)

$olv_i3^*$  1.0 1.0 1.0 (1.0)

$cmyn3^*$  0.0 0.0 0.0 (0.0)

$olv_i4^*$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  72.21 1.85 -40.58

$LAB^*LABa$  72.21 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)

$lab^*lrij$  0.725 0.006 -0.499

$lab^*tce$  0.75 0.2 0.752

$lab^*ncE$  0.0 0.5 b60r

relative Inform. Technology (IT)

$olv_i3^*$  0.5 0.5 0.5 (1.0)

$cmyn3^*$  0.5 0.5 0.5 (0.0)

$olv_i4^*$  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

$LAB^*LABa$  53.21 0.0 0.0

$LAB^*TChA$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.5 0.0 0.0

$lab^*tce$  0.5 0.0 0.0

$lab^*ncE$  0.5 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  11.01 0.07 0.01

$LAB^*LABa$  11.01 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*tce$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

	$L^*=L_a^*$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	0.0	0.0	1.0	(1.0)	
JMa	1.0	1.0	0.0	(0.0)	
GMa	0.0	0.0	0.0	1.0	
G50BMa	0.0	0.0	0.0	0.0	
BMa	0.0	0.0	0.0	0.0	
B50RMa	0.0	0.0	0.0	0.0	
NMa	0.0	0.0	0.0	0.0	
WMa	0.0	0.0	0.0	0.0	
RCIE	0.0	0.0	0.0	0.0	
JCIE	0.0	0.0	0.0	0.0	
GCIE	0.0	0.0	0.0	0.0	
BCIE	0.0	0.0	0.0	0.0	

	$L^*=L_a^*$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	0.0	0.0	0.5	(1.0)	
JMa	1.0	1.0	0.5	(0.0)	
GMa	0.5	0.5	0.5	0.5	
G50BMa	0.5	0.5	0.5	0.5	
BMa	0.5	0.5	0.5	0.5	
B50RMa	0.5	0.5	0.5	0.5	
NMa	0.5	0.5	0.5	0.5	
WMa	0.5	0.5	0.5	0.5	
RCIE	0.5	0.5	0.5	0.5	
JCIE	0.5	0.5	0.5	0.5	
GCIE	0.5	0.5	0.5	0.5	
BCIE	0.5	0.5	0.5	0.5	

	$L^*=L_a^*$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	0.0	0.0	0.25	-0.498	
JMa	0.25	0.5	0.757		
GMa	0.5	0.5	0.757		
G50BMa	0.5	0.5	0.757		
BMa	0.5	0.5	0.757		
B50RMa	0.5	0.5	0.757		
NMa	0.5	0.5	0.757		
WMa	0.5	0.5	0.757		
RCIE	0.5	0.5	0.757		
JCIE	0.5	0.5	0.757		
GCIE	0.5	0.5	0.757		
BCIE	0.5	0.5	0.757		

	$L^*=L_a^*$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	0.0	0.0	0.25	-0.498	
JMa	0.25	0.5	0.757		
GMa	0.5	0.5	0.757		
G50BMa	0.5	0.5	0.757		
BMa	0.5	0.5	0.757		
B50RMa	0.5	0.5	0.757		
NMa	0.5	0.5	0.757		
WMa	0.5	0.5	0.757		
RCIE	0.5	0.5	0.757		
JCIE	0.5	0.5	0.757		
GCIE	0.5	0.5	0.757		
BCIE	0.5	0.5	0.757		

	$L^*=L_a^*$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	0.0	0.0	0.25	-0.498	
JMa	0.25	0.5	0.757		
GMa	0.5	0.5	0.757		
G50BMa	0.5	0.5	0.757		
BMa	0.5	0.5	0.757		
B50RMa	0.5	0.5	0.757		
NMa	0.5	0.5	0.757		
WMa	0.5	0.5	0.757		
RCIE	0.5	0.5	0.757		
JCIE	0.5	0.5	0.757		
GCIE	0.5	0.5	0.757		
BCIE	0.5	0.5	0.757		

	$L^*=L_a^*$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	0.0	0.0	0.25	-0.498	
JMa	0.25	0.5	0.757		
GMa	0.5	0.5	0.757		
G50BMa	0.5	0.5	0.757		
BMa	0.5	0.5	0.757		
B50RMa	0.5	0.5	0.757		
NMa	0.5	0.5	0.757		
WMa	0.5	0.5	0.757		
RCIE	0.5	0.5	0.757		
JCIE	0.5	0.5	0.757		
GCIE	0.5	0.5	0.757		
BCIE	0.5	0.5	0.757		

	$L^*=L_a^*$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	0.0	0.0	0.25	-0.498	
JMa	0.25	0.5	0.757		
GMa	0.5	0.5	0.757		
G50BMa	0.5	0.5	0.757		
BMa	0.5	0.5	0.757		
B50RMa	0.5	0.5	0.757		
NMa	0.5	0.5	0.757		
WMa	0.5	0.5	0.757		
RCIE	0.5	0.5	0.757		
JCIE	0.5	0.5	0.757		
GCIE	0.5	0.5	0.757		
BCIE	0.5	0.5	0.757		

	$L^*=L_a^*$	$a^*_a$	$b^*_a$	<math

## Input: Colorimetric Reflective System NCS11

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

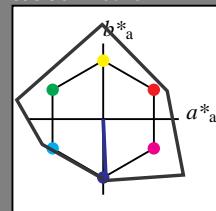
$lab^*tch$  and  $lab^*nch$

D65: hue B

LCH\*Ma: 49 81 273

olv\*Ma: 0.0 0.0 1.0

triangle lightness  $t^*$



### NCS11; adapted (a) CIELAB data

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

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

$LAB^*LABa$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  72.21 1.85 -40.58

$LAB^*LABa$  72.21 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)

$lab^*lrij$  0.725 0.006 -0.499

$lab^*tce$  0.75 0.2 0.752

$lab^*ncE$  0.0 0.5 b00r

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 0.5

$cmyn^4*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  53.21 0.04 0.0

$LAB^*LABa$  53.21 0.0 0.0

$LAB^*TChA$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.5 0.0 0.0

$lab^*tce$  0.5 0.0 0.0

$lab^*ncE$  0.5 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  11.01 0.07 0.01

$LAB^*LABa$  11.01 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*tce$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

relative Inform. Technology (IT)

$olv^3*$  0.5 0.5 0.5 (1.0)

$cmyn^3*$  0.5 0.5 0.5 (0.0)

$olv^4*$  0.5 0.5 1.0 1.0

$cmyn^4*$  0.5 0.5 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  72.21 1.85 -40.58

$LAB^*LABa$  72.21 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)

$lab^*lrij$  0.725 0.006 -0.499

$lab^*tce$  0.75 0.2 0.752

$lab^*ncE$  0.0 0.5 b00r

relative Inform. Technology (IT)

$olv^3*$  0.0 0.0 0.5 (1.0)

$cmyn^3*$  1.0 1.0 1.0 (0.0)

$olv^4*$  1.0 1.0 1.0 0.0

$cmyn^4*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.09 0.02

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.225 0.022 -0.498

$lab^*tch$  0.25 0.5 0.757

$lab^*nch$  0.5 0.5 0.757

relative Natural Colour (NC)

$lab^*lrij$  0.225 0.006 -0.499

$lab^*tce$  0.25 0.5 0.752

$lab^*ncE$  0.5 0.5 b00r

relative Inform. Technology (IT)

$olv^3*$  0.0 0.0 0.0 (1.0)

$cmyn^3*$  1.0 1.0 1.0 (0.0)

$olv^4*$  1.0 1.0 1.0 0.0

$cmyn^4*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  11.01 0.07 0.01

$LAB^*LABa$  11.01 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*tce$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 0,00$

blackness  $n^*$

chromaticness  $c^*$

## Output: Colorimetric Reflective System NRS18

for hue  $h^* = lab^*h = 273/360 = 0.758$

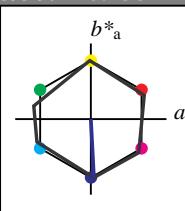
$lab^*tch$  and  $lab^*nch$

D65: hue B

LCH\*Ma: 57 77 273

olv\*Ma: 0.0 0.0 1.0

triangle lightness  $t^*$



### NRS18; adapted (a) CIELAB data

	$L^* = L^*_{ab}$	$a^*_{ab}$	$b^*_{ab}$	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	56.7	70.66	31.47	77.35	24
JMa	56.7	-1.39	77.37	77.39	91
GMa	56.7	-75.46	17.4	77.45	167
G50BMa	56.7	-71.29	-30.25	77.45	203
BMa	56.7	4.0	-77.3	77.41	273
B50RMa	56.7	63.35	-44.4	77.36	325
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	272

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 0.0

$LAB^*LABa$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 0.0

$lab^*ncE$  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)

$olv^4*$  0.5 0.5 1.0 0.5

$cmyn^4*$  0.5 0.5 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  76.05 2.03 -38.63

$LAB^*LABa$  76.05 2.0 -38.64

$LAB^*TChA$  75.0 38.7 272.96

relative CIELAB lab\*

$lab^*lab$  0.75 0.026 -0.498

$lab^*tch$  0.75 0.5 0.758

$lab^*nch$  0.0 0.5 0.758

relative Natural Colour (NC)

$lab^*lrij$  0.75 0.009 -0.499

$lab^*tce$  0.75 0.5 0.753

$lab^*ncE$  0.0 0.5 b01r

$n^* = 0,00$

blackness  $n^*$

chromaticness  $c^*$

3 step scales for constant CIELAB hue 273/360 = 0.757 (left)

3 step scales for constant CIELAB hue 273/360 = 0.758 (right)

## Input: Colorimetric Reflective System NCS11

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

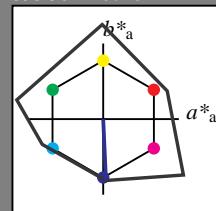
$lab^*tch$  and  $lab^*nch$

D65: hue B

LCH\*Ma: 49 81 273

olv\*Ma: 0.0 0.0 1.0

triangle lightness  $t^*$



relative Inform. Technology (IT)

olv13\* 1.0 1.0 1.0 (1.0)

cmyn3\* 0.0 0.0 0.0 (0.0)

olv14\* 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 0.0 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)

olv13\* 0.5 0.5 0.5 (1.0)

cmyn3\* 0.5 0.5 0.5 (0.0)

olv14\* 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\*LABa 53.21 0.0 0.0

LAB\*TChA 50.0 0.01 -

relative CIELAB lab\*

lab\*lab 0.5 0.0 0.0

lab\*tch 0.5 0.0 -

lab\*nch 0.5 0.0 -

relative Natural Colour (NC)

lab\*lrj 0.5 0.0 0.0

lab\*tce 0.5 0.0 0.0

lab\*ncE 0.5 0.0 -

relative Inform. Technology (IT)

olv13\* 0.0 0.0 0.0 (1.0)

cmyn3\* 1.0 1.0 1.0 (0.0)

olv14\* 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 0.0 0.0

LAB\*TChA 0.01 0.01 -

relative CIELAB lab\*

lab\*lab 0.0 0.0 0.0

lab\*tch 0.0 0.0 -

lab\*nch 1.0 0.0 -

relative Natural Colour (NC)

lab\*lrj 0.0 0.0 0.0

lab\*tce 0.0 0.0 0.0

lab\*ncE 1.0 0.0 -

$n^* = 1,0$

## NCS11; adapted (a) CIELAB data

$L^*=L^*_a \quad a^*_a \quad b^*_a \quad C^*_{ab,a} \quad h^*_{ab,a}$

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

%Gamut

$u^*_{rel} = 149$

%Regularity

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

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

relative Inform. Technology (IT)

olv13\* 0.5 0.5 0.5 (1.0)

cmyn3\* 0.5 0.5 0.5 (0.0)

olv14\* 0.5 0.5 1.0 1.0

cmyn4\* 0.5 0.5 0.0 0.0

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\*lrj 0.725 0.006 -0.499

lab\*tce 0.75 0.5 0.752

lab\*ncE 0.0 0.5 600r

relative Inform. Technology (IT)

olv13\* 0.0 0.0 0.5 (1.0)

cmyn3\* 1.0 1.0 0.0 (0.0)

olv14\* 1.0 1.0 1.0 0.5

cmyn4\* 0.0 0.0 0.0 0.5

relative CIELAB lab\*

lab\*lab 0.492 3.7 -81.16

lab\*lab 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\*lrj 0.45 0.013 -0.999

lab\*tce 0.5 1.0 0.752

lab\*ncE 0.0 1.0 600r

relative Inform. Technology (IT)

olv13\* 0.0 0.0 0.0 (1.0)

cmyn3\* 1.0 1.0 1.0 (0.0)

olv14\* 1.0 1.0 1.0 0.0

cmyn4\* 0.0 0.0 0.0 1.0

standard and adapted CIELAB

LAB\*LAB 30.01 1.89 -40.56

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 0.5 0.5 0.757

relative Natural Colour (NC)

lab\*lrj 0.225 0.006 -0.499

lab\*tce 0.25 0.5 0.752

lab\*ncE 0.5 0.5 600r

$n^* = 0,00$

blackness  $n^*$

$n^* = 0,50$

chromaticness  $c^*$

## Output: Colorimetric Reflective System NCS18

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

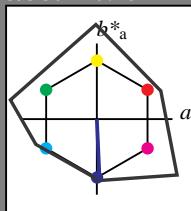
$lab^*tch$  and  $lab^*nch$

D65: hue B

LCH\*Ma: 49 81 273

olv\*Ma: 0.0 0.0 1.0

triangle lightness  $t^*$



%Gamut

$u^*_{rel} = 136$

%Regularity

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

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

relative Inform. Technology (IT)

olv13\* 0.5 0.5 1.0 (1.0)

cmyn3\* 0.5 0.5 0.0 (0.0)

olv14\* 0.5 0.5 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 0.0 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)

olv13\* 0.0 0.0 0.5 (1.0)

cmyn3\* 1.0 1.0 0.0 (0.0)

olv14\* 1.0 1.0 1.0 0.0

cmyn4\* 0.0 0.0 0.0 1.0

standard and adapted CIELAB

LAB\*LAB 72.21 1.85 -40.58

LAB\*LABa 72.21 1.82 -40.59

LAB\*TChA 75.0 40.64 272.56

relative CIELAB lab\*

lab\*lab 0.7 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\*lrj 0.7 0.006 -0.499

lab\*tce 0.75 0.5 0.752

lab\*ncE 0.0 0.5 600r

$n^* = 1,00$

blackness  $n^*$

$n^* = 0,50$

chromaticness  $c^*$

## NCS18; adapted (a) CIELAB data

$L^*=L^*_a \quad a^*_a \quad b^*_a \quad C^*_{ab,a} \quad h^*_{ab,a}$

RMa	47.15	84.63	37.24	92.46	24
JMa	91.37	-1.27	125.03	125.03	91
GMa	63.07	-114.29	25.34	117.07	167
G50BMa	59.47	-80.6	-33.45	87.29	203
BMa	49.01	3.65	-81.19	81.28	273
B50RMa	44.06	106.09	-73.93	129.32	325
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.69	27.98	64.99	25
JCIE	81.26	-2.9	71.56	71.62	92
GCIE	52.23	-42.45	13.58	44.6	162
BCIE	30.57	1.35	-46.48	46.51	272

%Gamut

$u^*_{rel} = 136$

%Regularity

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

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

relative Inform. Technology (IT)

olv13\* 0.5 0.5 1.0 (1.0)

cmyn3\* 0.5 0.5 0.5 (0.0)

olv14\* 0.5 0.5 1.0 1.0

cmyn4\* 0.0 0.0 0.0 0.0

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\*lrj 0.725 0.006 -0.499

lab\*tce 0.75 0.5 0.752

lab\*ncE 0.0 0.5

## Input: Colorimetric Reflective System NCS11

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

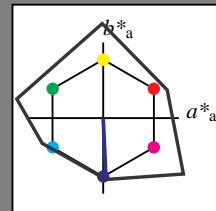
$lab^*tch$  and  $lab^*nch$

D65: hue B

LCH\*Ma: 49 81 273

olv\*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

relative Inform. Technology (IT)

$olv_i3^*$  1.0 1.0 1.0 (1.0)

$cmy_n3^*$  0.0 0.0 0.0 (0.0)

$olv_i4^*$  1.0 1.0 1.0 1.0

$cmy_n4^*$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  72.21 1.85 -40.58

$LAB^*LABa$  72.21 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)

$lab^*lrij$  0.725 0.006 -0.499

$lab^*tce$  0.75 0.2 0.752

$lab^*ncE$  0.0 0.5 b00r

relative Inform. Technology (IT)

$olv_i3^*$  0.5 0.5 0.5 (1.0)

$cmy_n3^*$  0.5 0.5 0.5 (0.0)

$olv_i4^*$  1.0 1.0 1.0 0.5

$cmy_n4^*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  53.21 0.04 0.0

$LAB^*LABa$  53.21 0.0 0.0

$LAB^*TChA$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.5 0.0 0.0

$lab^*tce$  0.5 0.0 0.0

$lab^*ncE$  0.5 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  11.01 0.07 0.01

$LAB^*LABa$  11.01 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*tce$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

relative Inform. Technology (IT)

$olv_i3^*$  0.5 0.5 0.5 (1.0)

$cmy_n3^*$  0.5 0.5 0.5 (0.0)

$olv_i4^*$  0.5 0.5 1.0 1.0

$cmy_n4^*$  0.5 0.5 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  72.21 1.85 -40.58

$LAB^*LABa$  72.21 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)

$lab^*lrij$  0.725 0.006 -0.499

$lab^*tce$  0.75 0.2 0.752

$lab^*ncE$  0.0 0.5 b00r

relative Inform. Technology (IT)

$olv_i3^*$  0.0 0.0 0.5 (1.0)

$cmy_n3^*$  1.0 1.0 1.0 (0.0)

$olv_i4^*$  1.0 1.0 1.0 0.0

$cmy_n4^*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  11.01 0.07 0.01

$LAB^*LABa$  11.01 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.225 0.022 -0.498

$lab^*tch$  0.25 0.5 0.757

$lab^*nch$  0.5 0.5 0.757

relative Natural Colour (NC)

$lab^*lrij$  0.225 0.006 -0.499

$lab^*tce$  0.25 0.5 0.752

$lab^*ncE$  0.5 0.5 b00r

relative Inform. Technology (IT)

$olv_i3^*$  0.0 0.0 0.0 (1.0)

$cmy_n3^*$  1.0 1.0 1.0 (0.0)

$olv_i4^*$  1.0 1.0 1.0 0.0

$cmy_n4^*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  11.01 0.07 0.01

$LAB^*LABa$  11.01 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*tce$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 0,00$

blackness  $n^*$

chromaticness  $c^*$

## Output: Colorimetric Reflective System NRS11

for hue  $h^* = lab^*h = 273/360 = 0.758$

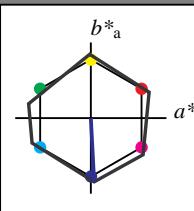
$lab^*tch$  and  $lab^*nch$

D65: hue B

LCH\*Ma: 53 84 273

olv\*Ma: 0.0 0.0 1.0

triangle lightness  $t^*$



	$L^*=L_a^*$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	53.2	77.06	34.32	84.36	24
JMa	53.2	-1.51	84.38	84.39	91
GMa	53.2	-82.27	18.98	84.44	167
G50BMa	53.2	-77.72	-32.98	84.44	203
BMa	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)

$olv_i3^*$  1.0 1.0 1.0 (1.0)

$cmy_n3^*$  0.0 0.0 0.0 (0.0)

$olv_i4^*$  1.0 1.0 1.0 1.0

$cmy_n4^*$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  74.3 2.21 -42.13

$LAB^*LABa$  74.3 2.19 -42.13

$LAB^*TChA$  75.0 42.2 272.97

relative CIELAB lab\*

$lab^*lab$  0.75 0.026 -0.498

$lab^*tch$  0.75 0.5 0.758

$lab^*nch$  0.0 0.5 0.758

relative Natural Colour (NC)

$lab^*lrij$  0.75 0.009 -0.499

$lab^*tce$  0.75 0.5 0.753

$lab^*ncE$  0.0 0.5 b01r

relative Inform. Technology (IT)

$olv_i3^*$  0.0 0.0 0.5 (1.0)

$cmy_n3^*$  1.0 1.0 1.0 (0.0)

$olv_i4^*$  1.0 1.0 1.0 0.5

$cmy_n4^*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  11.01 0.07 0.01

$LAB^*LABa$  11.01 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*t$

## Input: Colorimetric Reflective System NCS11

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

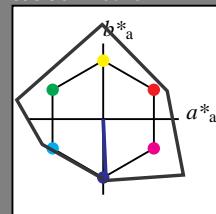
$lab^*tch$  and  $lab^*nch$

D65: hue B

LCH\*Ma: 49 81 273

olv\*Ma: 0.0 0.0 1.0

triangle lightness  $t^*$



%Gamut

$u^*_{rel} = 149$

%Regularity

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

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

relative Inform. Technology (IT)

$olv^3*$  1.0 1.0 1.0 (1.0)

$cmy^3*$  0.0 0.0 0.0 (0.0)

$olv^4*$  1.0 1.0 1.0 1.0

$cmy^4*$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*ice$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)

$olv^3*$  0.5 0.5 0.5 (1.0)

$cmy^3*$  0.5 0.5 0.5 (0.0)

$olv^4*$  1.0 1.0 1.0 0.5

$cmy^4*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  53.21 0.04 0.0

$LAB^*LABa$  53.21 0.0 0.0

$LAB^*TChA$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.5 0.0 0.0

$lab^*ice$  0.5 0.0 0.0

$lab^*ncE$  0.5 0.0 -

relative Inform. Technology (IT)

$olv^3*$  0.0 0.0 0.0 (1.0)

$cmy^3*$  1.0 1.0 1.0 (0.0)

$olv^4*$  1.0 1.0 1.0 0.0

$cmy^4*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  11.01 0.07 0.01

$LAB^*LABa$  11.01 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*ice$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

## NCS11; adapted (a) CIELAB data

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

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

## Output: Colorimetric Reflective System NCS11

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

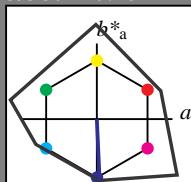
$lab^*tch$  and  $lab^*nch$

D65: hue B

LCH\*Ma: 49 81 273

olv\*Ma: 0.0 0.0 1.0

triangle lightness  $t^*$



%Gamut

$u^*_{rel} = 149$

%Regularity

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

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

relative Inform. Technology (IT)

$olv^3*$  1.0 1.0 1.0 (1.0)

$cmy^3*$  0.0 0.0 0.0 (0.0)

$olv^4*$  1.0 1.0 1.0 1.0

$cmy^4*$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*ice$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)

$olv^3*$  0.5 0.5 0.5 (1.0)

$cmy^3*$  0.5 0.5 0.5 (0.0)

$olv^4*$  1.0 1.0 1.0 0.5

$cmy^4*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  53.21 0.04 0.0

$LAB^*LABa$  53.21 0.0 0.0

$LAB^*TChA$  50.0 0.01 -

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)

$lab^*lrij$  0.725 0.006 -0.499

$lab^*ice$  0.75 0.5 0.752

$lab^*ncE$  0.0 0.5 600r

$n^* = 0,00$

blackness  $n^*$

$chromaticness c^*$

$n^* = 0,00$

blackness  $n^*$

$chromaticness c^*$

UE100-7, 3 step scales for constant CIELAB hue 273/360 = 0.757 (left)

3 step scales for constant CIELAB hue 273/360 = 0.757 (right)

## Input: Colorimetric Reflective System ORS18

for hue  $h^* = lab^*h = 354/360 = 0.982$

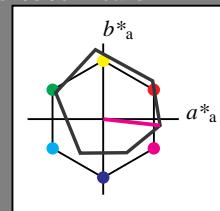
$lab^*tch$  and  $lab^*nch$

D65: hue M

LCH\*Ma: 48 76 354

olv\*Ma: 1.0 0.0 1.0

triangle lightness  $t^*$



### ORS18; adapted (a) CIELAB data

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

olv*i*3\* 1.0 1.0 1.0 (1.0)

cmy*n*3\* 0.0 0.0 0.0 (0.0)

olv*i*4\* 1.0 1.0 1.0 1.0

cmy*n*4\* 0.0 0.0 0.0 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 0.0 0.0

lab\*tch 1.0 0.0 -

lab\*nch 0.0 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 -

standard and adapted CIELAB

LAB\*LAB 71.77 37.1 -1.01

LAB\*LABa 71.77 37.63 -4.17

LAB\*TChA 75.0 37.86 353.66

relative CIELAB lab\*

lab\*lab 0.695 0.497 -0.054

lab\*tch 0.75 0.5 0.982

lab\*nch 0.0 0.5 0.982

relative Natural Colour (NC)

lab\*lrj 0.695 0.454 -0.208

lab\*tce 0.75 0.5 0.932

lab\*ncE 0.0 0.5 b72r

relative Inform. Technology (IT)

olv*i*3\* 0.5 0.5 0.5 (1.0)

cmy*n*3\* 0.5 0.5 0.5 (0.0)

olv*i*4\* 1.0 1.0 1.0 0.5

cmy*n*4\* 0.0 0.0 0.5

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 CIELAB lab\*

lab\*lab 0.5 0.0 0.0

lab\*tch 0.5 0.0 -

lab\*nch 0.5 0.0 -

relative Natural Colour (NC)

lab\*lrj 0.5 0.0 0.0

lab\*tce 0.5 0.0 0.0

lab\*ncE 0.5 0.0 -

standard and adapted CIELAB

LAB\*LAB 33.08 37.84 -3.62

LAB\*LABa 33.08 37.63 -4.17

LAB\*TChA 25.01 37.86 353.66

relative CIELAB lab\*

lab\*lab 0.195 0.497 -0.054

lab\*tch 0.25 0.5 0.982

lab\*nch 0.5 0.5 0.982

relative Natural Colour (NC)

lab\*lrj 0.195 0.454 -0.208

lab\*tce 0.25 0.5 0.932

lab\*ncE 0.5 0.5 b72r

$n^* = 1,0$

relative Inform. Technology (IT)

olv*i*3\* 0.0 0.0 0.0 (1.0)

cmy*n*3\* 1.0 1.0 1.0 (0.0)

olv*i*4\* 1.0 1.0 1.0 0.0

cmy*n*4\* 0.0 0.0 1.0

standard and adapted CIELAB

LAB\*LAB 18.02 0.5 -0.46

LAB\*LABa 18.02 0.0 0.0

LAB\*TChA 0.01 0.01 -

relative CIELAB lab\*

lab\*lab 0.0 0.0 0.0

lab\*tch 0.0 0.0 -

lab\*nch 1.0 0.0 -

relative Natural Colour (NC)

lab\*lrj 0.0 0.0 0.0

lab\*tce 0.0 0.0 -

lab\*ncE 1.0 0.0 -

standard and adapted CIELAB

LAB\*LAB 18.02 0.5 -0.46

LAB\*LABa 18.02 0.0 0.0

LAB\*TChA 0.01 0.01 -

relative CIELAB lab\*

lab\*lab 0.195 0.497 -0.054

lab\*tch 0.25 0.5 0.982

lab\*nch 0.5 0.5 0.982

relative Natural Colour (NC)

lab\*lrj 0.195 0.454 -0.208

lab\*tce 0.25 0.5 0.932

lab\*ncE 0.5 0.5 b72r

$n^* = 1,0$

## Output: Colorimetric Reflective System ORS18

for hue  $h^* = lab^*h = 354/360 = 0.982$

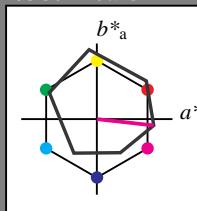
$lab^*tch$  and  $lab^*nch$

D65: hue M

LCH\*Ma: 48 76 354

olv\*Ma: 1.0 0.0 1.0

triangle lightness  $t^*$



### ORS18; adapted (a) CIELAB data

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

olv*i*3\* 1.0 1.0 1.0 (1.0)

cmy*n*3\* 0.0 0.0 0.0 (0.0)

olv*i*4\* 1.0 1.0 1.0 1.0

cmy*n*4\* 0.0 0.0 0.0 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 0.0 0.0

lab\*tch 1.0 0.0 -

lab\*nch 0.0 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 -

standard and adapted CIELAB

LAB\*LAB 71.77 37.1 -1.01

LAB\*LABa 71.77 37.63 -4.17

LAB\*TChA 75.0 37.86 353.66

relative CIELAB lab\*

lab\*lab 0.695 0.497 -0.054

lab\*tch 0.75 0.5 0.982

lab\*nch 0.0 0.5 0.982

relative Natural Colour (NC)

lab\*lrj 0.695 0.454 -0.208

lab\*tce 0.75 0.5 0.932

lab\*ncE 0.0 0.5 b72r

$n^* = 0,00$

blackness  $n^*$

$n^* = 0,00$

blackness  $n^*$

$n^* = 0,50$

chromaticness  $c^*$

$n^* = 1,00$

chromaticness  $c^*$

relative Inform. Technology (IT)

olv*i*3\* 0.0 0.0 0.0 (1.0)

cmy*n*3\* 1.0 1.0 1.0 (0.0)

olv*i*4\* 1.0 1.0 1.0 0.5

cmy*n*4\* 0.0 0.0 0.5

standard and adapted CIELAB

LAB\*LAB 18.02 0.5 -0.46

LAB\*LABa 18.02 0.0 0.0

LAB\*TChA 0.01 0.01 -

relative CIELAB lab\*

lab\*lab 0.195 0.497 -0.054

lab\*tch 0.25 0.5 0.982

lab\*nch 0.5 0.5 0.982

relative Natural Colour (NC)

lab\*lrj 0.195 0.454 -0.208

lab\*tce 0.25 0.5 0.932

lab\*ncE 0.5 0.5 b72r

$n^* = 1,0$

chromaticness  $c^*$

$n^* = 0,00$

blackness  $n^*$

$n^* = 0,50$

chromaticness  $c^*$

UE100-7, 3 step scales for constant CIELAB hue 354/360 = 0.982 (left)

3 step scales for constant CIELAB hue 354/360 = 0.982 (right)

## Input: Colorimetric Reflective System ORS18

for hue  $h^* = lab^*h = 354/360 = 0.982$

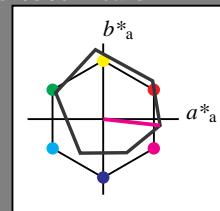
$lab^*tch$  and  $lab^*nch$

D65: hue M

LCH\*Ma: 48 76 354

olv\*Ma: 1.0 0.0 1.0

triangle lightness  $t^*$



relative Inform. Technology (IT)  
 $olv_i3^*$  1.0 1.0 1.0 (1.0)  
 $cmy_n3^*$  0.0 0.0 0.0 (0.0)

$olv_i4^*$  1.0 1.0 1.0 1.0  
 $cmy_n4^*$  0.0 0.0 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  95.41 -0.97 4.75

$LAB^*LABa$  95.41 0.0 0.0

$LAB^*TCh_a$  99.99 0.01 -

relative CIELAB lab\*

$lab^*lab$  1.0 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  1.0 0.0 0.0

$lab^*ice$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  71.77 37.1 -1.01

$LAB^*LABa$  71.77 37.63 -4.17

$LAB^*TCh_a$  75.0 37.86 353.66

relative CIELAB lab\*

$lab^*lab$  0.695 0.497 -0.054

$lab^*tch$  0.75 0.5 0.982

$lab^*nch$  0.0 0.5 0.982

relative Natural Colour (NC)

$lab^*lrj$  0.695 0.454 -0.208

$lab^*ice$  0.75 0.5 0.932

$lab^*ncE$  0.0 0.5 b72r

relative Inform. Technology (IT)

$olv_i3^*$  0.5 0.5 0.5 (1.0)

$cmy_n3^*$  0.5 0.5 0.5 (0.0)

$olv_i4^*$  1.0 1.0 1.0 0.5

$cmy_n4^*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  56.71 -0.23 2.14

$LAB^*LABa$  56.71 0.0 0.0

$LAB^*TCh_a$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  0.5 0.0 0.0

$lab^*ice$  0.5 0.0 0.0

$lab^*ncE$  0.5 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.5 -0.46

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TCh_a$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  0.0 0.0 0.0

$lab^*ice$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

relative Inform. Technology (IT)

$olv_i3^*$  0.0 0.0 0.0 (1.0)

$cmy_n3^*$  1.0 1.0 1.0 (0.0)

$olv_i4^*$  1.0 1.0 1.0 0.0

$cmy_n4^*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.5 -0.46

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TCh_a$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  0.0 0.0 0.0

$lab^*ice$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 0,50$

## ORS18; adapted (a) CIELAB data

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

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

%Gamut

$u^*_{rel} = 93$

%Regularity

$g^*_{H,rel} = 57$

$g^*_{C,rel} = 59$

standard and adapted CIELAB

$LAB^*LAB$  95.41 -0.97 4.75

$LAB^*LABa$  95.41 0.0 0.0

$LAB^*TCh_a$  99.99 0.01 -

relative CIELAB lab\*

$lab^*lab$  1.0 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  1.0 0.0 0.0

$lab^*ice$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  71.77 37.1 -1.01

$LAB^*LABa$  71.77 37.63 -4.17

$LAB^*TCh_a$  75.0 37.86 353.66

relative CIELAB lab\*

$lab^*lab$  0.695 0.497 -0.054

$lab^*tch$  0.75 0.5 0.982

$lab^*nch$  0.0 0.5 0.982

relative Natural Colour (NC)

$lab^*lrj$  0.695 0.454 -0.208

$lab^*ice$  0.75 0.5 0.932

$lab^*ncE$  0.0 0.5 b72r

relative Inform. Technology (IT)

$olv_i3^*$  0.5 0.5 0.5 (1.0)

$cmy_n3^*$  0.5 0.5 0.5 (0.0)

$olv_i4^*$  1.0 0.5 1.0 1.0

$cmy_n4^*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  56.71 -0.23 2.14

$LAB^*LABa$  56.71 0.0 0.0

$LAB^*TCh_a$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  0.5 0.0 0.0

$lab^*ice$  0.5 0.0 0.0

$lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)

$olv_i3^*$  0.0 0.0 0.0 (1.0)

$cmy_n3^*$  1.0 1.0 1.0 (0.0)

$olv_i4^*$  1.0 1.0 1.0 0.0

$cmy_n4^*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.5 -0.46

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TCh_a$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  0.0 0.0 0.0

$lab^*ice$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

relative Inform. Technology (IT)

$olv_i3^*$  0.0 0.0 0.0 (1.0)

$cmy_n3^*$  1.0 1.0 1.0 (0.0)

$olv_i4^*$  1.0 1.0 1.0 0.0

$cmy_n4^*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.5 -0.46

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TCh_a$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  0.0 0.0 0.0

$lab^*ice$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

relative Inform. Technology (IT)

$olv_i3^*$  0.0 0.0 0.0 (1.0)

$cmy_n3^*$  1.0 1.0 1.0 (0.0)

$olv_i4^*$  1.0 1.0 1.0 0.0

$cmy_n4^*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.5 -0.46

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TCh_a$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  0.0 0.0 0.0

$lab^*ice$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

relative Inform. Technology (IT)

$olv_i3^*$  0.0 0.0 0.0 (1.0)

$cmy_n3^*$  1.0 1.0 1.0 (0.0)

$olv_i4^*$  1.0 1.0 1.0 0.0

$cmy_n4^*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.5 -0.46

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TCh_a$  0.01 0.01 -

relative CIELAB lab\*

## Input: Colorimetric Reflective System ORS18

for hue  $h^* = lab^*h = 354/360 = 0.982$

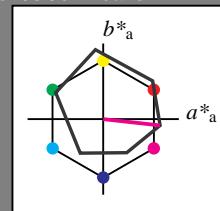
$lab^*tch$  and  $lab^*nch$

D65: hue M

LCH\*Ma: 48 76 354

olv\*Ma: 1.0 0.0 1.0

triangle lightness  $t^*$



### ORS18; adapted (a) CIELAB data

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

$olv^3*$  1.0 1.0 1.0 (1.0)

$cmy^3*$  0.0 0.0 0.0 (0.0)

$olv^4*$  1.0 1.0 1.0 1.0

$cmy^4*$  0.0 0.0 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  95.41 -0.97 4.75

$LAB^*LABa$  95.41 0.0 0.0

$LAB^*TCh$  99.99 0.01 -

relative CIELAB lab\*

$lab^*lab$  1.0 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  1.0 0.0 0.0

$lab^*ice$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  71.77 37.1 -1.01

$LAB^*LABa$  71.77 37.63 -4.17

$LAB^*TCh$  75.0 37.86 353.66

relative CIELAB lab\*

$lab^*lab$  0.695 0.497 -0.054

$lab^*tch$  0.75 0.5 0.982

$lab^*nch$  0.0 0.5 0.982

relative Natural Colour (NC)

$lab^*lrj$  0.695 0.454 -0.208

$lab^*ice$  0.75 0.5 0.932

$lab^*ncE$  0.0 0.5 b72r

relative Inform. Technology (IT)

$olv^3*$  0.5 0.5 0.5 (1.0)

$cmy^3*$  0.5 0.5 0.5 (0.0)

$olv^4*$  1.0 1.0 1.0 0.5

$cmy^4*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  56.71 -0.23 2.14

$LAB^*LABa$  56.71 0.0 0.0

$LAB^*TCh$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  0.5 0.0 0.0

$lab^*ice$  0.5 0.0 0.0

$lab^*ncE$  0.5 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  48.14 75.18 -6.78

$LAB^*LABa$  48.14 75.25 -8.35

$LAB^*TCh$  50.0 75.71 353.66

relative CIELAB lab\*

$lab^*lab$  0.389 0.994 -0.109

$lab^*tch$  0.5 1.0 0.982

$lab^*nch$  0.0 1.0 0.982

relative Natural Colour (NC)

$lab^*lrj$  0.389 0.909 -0.416

$lab^*ice$  0.5 1.0 0.932

$lab^*ncE$  0.0 1.0 b72r

$n^* = 1,0$

$n^* = 0,00$

$n^* = 0,50$

$1,00$

chromaticness  $c^*$

## Output: Colorimetric Reflective System TRS18

for hue  $h^* = lab^*h = 354/360 = 0.982$

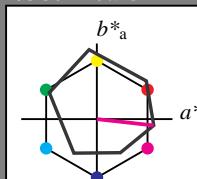
$lab^*tch$  and  $lab^*nch$

D65: hue M

LCH\*Ma: 48 76 354

olv\*Ma: 1.0 0.0 1.0

triangle lightness  $t^*$



### TRS18; adapted (a) CIELAB data

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

$olv^3*$  1.0 0.5 1.0 (1.0)

$cmy^3*$  0.0 0.5 0.0 (0.0)

$olv^4*$  1.0 0.5 1.0 1.0

$cmy^4*$  0.0 0.5 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  95.41 -0.97 4.75

$LAB^*LABa$  95.41 0.0 0.0

$LAB^*TCh$  99.99 0.01 -

relative CIELAB lab\*

$lab^*lab$  1.0 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  1.0 0.0 0.0

$lab^*ice$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)

$olv^3*$  0.5 0.5 0.5 (1.0)

$cmy^3*$  0.5 0.5 0.5 (0.0)

$olv^4*$  1.0 0.5 1.0 0.5

$cmy^4*$  0.0 0.5 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  71.77 37.1 -1.01

$LAB^*LABa$  71.77 37.63 -4.17

$LAB^*TCh$  75.0 37.86 353.66

relative CIELAB lab\*

$lab^*lab$  0.695 0.497 -0.054

$lab^*tch$  0.75 0.5 0.982

$lab^*nch$  0.0 0.5 0.982

relative Natural Colour (NC)

$lab^*lrj$  0.695 0.454 -0.208

$lab^*ice$  0.75 0.5 0.932

$lab^*ncE$  0.0 0.5 b72r

$n^* = 1,0$

$n^* = 0,00$

$n^* = 0,50$

$1,00$

chromaticness  $c^*$

$n^* = 0,50$

blackness  $n^*$

$n^* = 1,00$

chromaticness  $c^*$

UE100-7, 3 step scales for constant CIELAB hue 354/360 = 0.982 (left)

3 step scales for constant CIELAB hue 354/360 = 0.982 (right)

## Input: Colorimetric Reflective System ORS18

for hue  $h^* = lab^*h = 354/360 = 0.982$

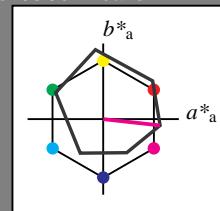
$lab^*tch$  and  $lab^*nch$

D65: hue M

LCH\*Ma: 48 76 354

olv\*Ma: 1.0 0.0 1.0

triangle lightness  $t^*$



### ORS18; adapted (a) CIELAB data

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

$olv^3*$  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

$LAB^*LABa$  95.41 0.0 0.0

$LAB^*TCh$  99.99 0.01 -

relative CIELAB lab\*

$lab^*lab$  1.0 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  1.0 0.0 0.0

$lab^*ice$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  71.77 37.1 -1.01

$LAB^*LABa$  71.77 37.63 -4.17

$LAB^*TCh$  75.0 37.86 353.66

relative CIELAB lab\*

$lab^*lab$  0.695 0.497 -0.054

$lab^*tch$  0.75 0.5 0.982

$lab^*nch$  0.0 0.5 0.982

relative Natural Colour (NC)

$lab^*lrj$  0.695 0.454 -0.208

$lab^*ice$  0.75 0.2 0.932

$lab^*ncE$  0.0 0.5 b72r

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 0.5

$cmyn^4*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  56.71 -0.23 2.14

$LAB^*LABa$  56.71 0.0 0.0

$LAB^*TCh$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  0.5 0.0 0.0

$lab^*ice$  0.5 0.0 0.0

$lab^*ncE$  0.5 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  33.08 37.84 -3.62

$LAB^*LABa$  33.08 37.63 -4.17

$LAB^*TCh$  25.01 37.86 353.66

relative CIELAB lab\*

$lab^*lab$  0.195 0.497 -0.054

$lab^*tch$  0.25 0.5 0.982

$lab^*nch$  0.5 0.5 0.982

relative Natural Colour (NC)

$lab^*lrj$  0.195 0.454 -0.208

$lab^*ice$  0.25 0.5 0.932

$lab^*ncE$  0.5 0.5 b72r

$n^* = 1,0$

$n^* = 0,00$

$n^* = 0,50$

$n^* = 1,00$

blackness  $n^*$

chromaticness  $c^*$

## Output: Colorimetric Reflective System MRS18a

for hue  $h^* = lab^*h = 323/360 = 0.896$

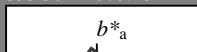
$lab^*tch$  and  $lab^*nch$

D65: hue B50R

LCH\*Ma: 35 72 323

olv\*Ma: 1.0 0.0 1.0

triangle lightness  $t^*$



### MRS18a; adapted (a) CIELAB data

	$L^* = L^*_{ab}$	$a^*_{ab}$	$b^*_{ab}$	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	49.63	66.8	40.02	77.87	31
JMa	90.7	-7.27	93.19	93.48	94
GMa	52.11	-69.93	11.26	70.85	171
G50BMa	45.03	-36.65	-27.13	45.61	217
BMa	36.65	23.26	-62.27	66.49	290
B50RMa	34.94	57.27	-43.6	71.99	323
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	272

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 0.01 0.0

$LAB^*LABa$  95.41 0.0 0.0

$LAB^*TCh$  99.99 0.01 -

relative CIELAB lab\*

$lab^*lab$  1.0 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  1.0 0.0 0.0

$lab^*ice$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  65.17 28.68 -21.78

$LAB^*LABa$  65.17 28.63 -21.79

$LAB^*TCh$  75.0 35.99 322.71

relative CIELAB lab\*

$lab^*lab$  0.609 0.398 -0.302

$lab^*tch$  0.75 0.5 0.896

$lab^*nch$  0.0 0.5 0.896

relative Natural Colour (NC)

$lab^*lrj$  0.609 0.324 -0.38

$lab^*ice$  0.75 0.5 0.862

$lab^*ncE$  0.0 0.5 b44r

relative Inform. Technology (IT)

$olv^3*$  1.0 0.0 1.0 (1.0)

$cmyn^3*$  0.0 1.0 0.0 (0.0)

$olv^4*$  1.0 0.5 1.0 0.5

$cmyn^4*$  0.0 0.5 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  34.95 57.34 -43.57

$LAB^*LABa$  34.95 57.26 -43.59

$LAB^*TCh$  50.0 71.98 322.71

relative CIELAB lab\*

$lab^*lab$  0.219 0.795 -0.605

$lab^*tch$  0.5 1.0 0.896

$lab^*nch$  0.0 1.0 0.896

relative Natural Colour (NC)

$lab^*lrj$  0.219 0.648 -0.761

$lab^*ice$  0.5 1.0 0.862

$lab^*ncE$  0.0 1.0 b44r

$n^* = 0,00$

$n^* = 0,50$

$n^* = 1,0$

blackness  $n^*$

chromaticness  $c^*$

UE100-7, 3 step scales for constant CIELAB hue 354/360 = 0.982 (left)

3 step scales for constant CIELAB hue 323/360 = 0.896 (right)

## Input: Colorimetric Reflective System ORS18

for hue  $h^* = lab^*h = 354/360 = 0.982$

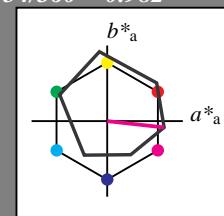
$lab^*tch$  and  $lab^*nch$

D65: hue M

LCH\*Ma: 48 76 354

olv\*Ma: 1.0 0.0 1.0

triangle lightness  $t^*$



### ORS18; adapted (a) CIELAB data

	$L^* = L^*_a$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
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)

$olv^3*$  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

$LAB^*LABa$  95.41 0.0 0.0

$LAB^*TCh$  99.99 0.01 -

relative CIELAB lab\*

$lab^*lab$  1.0 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  1.0 0.0 0.0

$lab^*ice$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  71.77 37.1 -1.01

$LAB^*LABa$  71.77 37.63 -4.17

$LAB^*TCh$  75.0 37.86 353.66

relative CIELAB lab\*

$lab^*lab$  0.695 0.497 -0.054

$lab^*tch$  0.75 0.5 0.982

$lab^*nch$  0.0 0.5 0.982

relative Natural Colour (NC)

$lab^*lrj$  0.695 0.454 -0.208

$lab^*ice$  0.75 0.2 0.932

$lab^*ncE$  0.0 0.5 b72r

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 0.5

$cmyn^4*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  56.71 -0.23 2.14

$LAB^*LABa$  56.71 0.0 0.0

$LAB^*TCh$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  0.5 0.0 0.0

$lab^*ice$  0.5 0.0 0.0

$lab^*ncE$  0.5 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  33.08 37.84 -3.62

$LAB^*LABa$  33.08 37.63 -4.17

$LAB^*TCh$  25.01 37.86 353.66

relative CIELAB lab\*

$lab^*lab$  0.195 0.497 -0.054

$lab^*tch$  0.25 0.5 0.982

$lab^*nch$  0.5 0.5 0.982

relative Natural Colour (NC)

$lab^*lrj$  0.195 0.454 -0.208

$lab^*ice$  0.25 0.5 0.932

$lab^*ncE$  0.5 0.5 b72r

$n^* = 1,0$

$n^* = 0,00$

$n^* = 0,50$

$1,00$

$chromaticness c^*$

## Output: Colorimetric Reflective System NRS18

for hue  $h^* = lab^*h = 325/360 = 0.903$

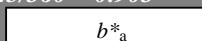
$lab^*tch$  and  $lab^*nch$

D65: hue M

LCH\*Ma: 57 77 325

olv\*Ma: 1.0 0.0 1.0

triangle lightness  $t^*$



### NRS18; adapted (a) CIELAB data

	$L^* = L^*_a$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	56.7	70.66	31.47	77.35	24
JMa	56.7	-1.39	77.37	77.39	91
GMa	56.7	-75.46	17.4	77.45	167
G50BMa	56.7	-71.29	-30.25	77.45	203
BMa	56.7	4.0	-77.3	77.41	273
B50RMa	56.7	63.35	-44.4	77.36	325
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	272

%Gamut

$u^*_{rel} = 93$

%Regularity

$g^*_{H,rel} = 57$

$g^*_{C,rel} = 59$

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 0.0

$LAB^*LABa$  95.41 0.0 0.0

$LAB^*TCh$  99.99 0.01 -

relative CIELAB lab\*

$lab^*lab$  1.0 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  1.0 0.0 0.0

$lab^*ice$  1.0 0.0 0.0

$lab^*ncE$  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 0.5 1.0 0.5

$cmyn^4*$  0.0 0.5 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  48.14 75.18 -6.78

$LAB^*LABa$  48.14 75.25 -8.35

$LAB^*TCh$  50.0 75.71 353.66

relative CIELAB lab\*

$lab^*lab$  0.389 0.994 -0.109

$lab^*tch$  0.5 1.0 0.982

$lab^*nch$  0.0 1.0 0.982

relative Natural Colour (NC)

$lab^*lrj$  0.389 0.909 -0.416

$lab^*ice$  0.5 1.0 0.932

$lab^*ncE$  0.0 1.0 b72r

$n^* = 0,00$

$n^* = 0,50$

$1,00$

$chromaticness c^*$

$n^* = 0,00$

$n^* = 0,50$

$1,00$

$chromaticness c^*$

UE100-7, 3 step scales for constant CIELAB hue 354/360 = 0.982 (left)

3 step scales for constant CIELAB hue 325/360 = 0.903 (right)

### Input: Colorimetric Reflective System ORS18

for hue  $h^* = lab^*h = 354/360 = 0.982$

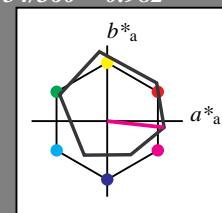
$lab^*tch$  and  $lab^*nch$

D65: hue M

LCH\*Ma: 48 76 354

olv\*Ma: 1.0 0.0 1.0

triangle lightness  $t^*$



### ORS18; adapted (a) CIELAB data

	$L^* = L^*_a$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
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)

$olv^3*$  1.0 1.0 1.0 (1.0)

$cmyn3*$  0.0 0.0 0.0 (0.0)

$olv^4*$  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

$LAB^*LABa$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  1.0 0.0 0.0

$lab^*ice$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)

$olv^3*$  0.5 0.5 0.5 (1.0)

$cmyn3*$  0.5 0.5 0.5 (0.0)

$olv^4*$  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

$LAB^*LABa$  56.71 0.0 0.0

$LAB^*TChA$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  0.5 0.0 0.0

$lab^*ice$  0.5 0.0 0.0

$lab^*ncE$  0.5 0.0 -

relative Inform. Technology (IT)

$olv^3*$  0.0 0.0 0.0 (1.0)

$cmyn3*$  1.0 1.0 1.0 (0.0)

$olv^4*$  1.0 1.0 1.0 0.0

$cmyn4*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.5 -0.46

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  0.0 0.0 0.0

$lab^*ice$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

### ORS18; adapted (a) CIELAB data

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

%Gamut

$u^*_{rel} = 93$

%Regularity

$g^*_{H,rel} = 57$

$g^*_{C,rel} = 59$

relative Inform. Technology (IT)

$olv^3*$  1.0 0.5 1.0 (1.0)

$cmyn3*$  0.0 0.5 0.0 (0.0)

$olv^4*$  1.0 0.5 1.0 1.0

$cmyn4*$  0.0 0.5 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  71.77 37.1 -1.01

$LAB^*LABa$  71.77 37.63 -4.17

$LAB^*TChA$  75.0 37.86 353.66

relative CIELAB lab\*

$lab^*lab$  0.695 0.497 -0.054

$lab^*tch$  0.75 0.5 0.982

$lab^*nch$  0.0 0.5 0.982

relative Natural Colour (NC)

$lab^*lrj$  0.695 0.454 -0.208

$lab^*ice$  0.75 0.5 0.932

$lab^*ncE$  0.0 0.5 672r

relative Inform. Technology (IT)

$olv^3*$  0.5 0.5 0.5 (1.0)

$cmyn3*$  0.5 1.0 0.0 (0.0)

$olv^4*$  1.0 1.0 1.0 0.5

$cmyn4*$  0.0 0.5 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  48.14 75.18 -6.78

$LAB^*LABa$  48.14 75.25 -8.35

$LAB^*TChA$  50.0 75.71 353.66

relative CIELAB lab\*

$lab^*lab$  0.389 0.994 -0.109

$lab^*tch$  0.5 1.0 0.982

$lab^*nch$  0.0 1.0 0.982

relative Natural Colour (NC)

$lab^*lrj$  0.389 0.909 -0.416

$lab^*ice$  0.5 1.0 0.932

$lab^*ncE$  0.0 1.0 672r

relative Inform. Technology (IT)

$olv^3*$  0.0 0.0 0.0 (1.0)

$cmyn3*$  1.0 1.0 1.0 (0.0)

$olv^4*$  1.0 1.0 1.0 0.0

$cmyn4*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.09 -0.02

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.195 0.497 -0.054

$lab^*tch$  0.25 0.5 0.982

$lab^*nch$  0.5 0.5 0.982

relative Natural Colour (NC)

$lab^*lrj$  0.195 0.454 -0.208

$lab^*ice$  0.25 0.5 0.932

$lab^*ncE$  0.5 0.5 672r

$n^* = 0,00$

$n^* = blackness n^*$

$n^* = chromaticness c^*$

### Output: Colorimetric Reflective System NCS18

for hue  $h^* = lab^*h = 325/360 = 0.903$

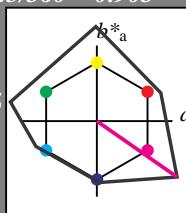
$lab^*tch$  and  $lab^*nch$

D65: hue B50R

LCH\*Ma: 44 129 325

olv\*Ma: 1.0 0.0 1.0

triangle lightness  $t^*$



### NCS18; adapted (a) CIELAB data

	$L^* = L^*_a$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	47.15	84.63	37.24	92.46	24
JMa	91.37	-1.27	125.03	125.03	91
GMa	63.07	-114.29	25.34	117.07	167
G50BMa	59.47	-80.61	-33.45	87.29	203
BMa	49.01	3.63	-81.2	81.29	273
B50RMa	44.06	106.07	-73.94	129.31	325
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	272

relative Inform. Technology (IT)

$olv^3*$  1.0 0.5 1.0 (1.0)

$cmyn3*$  0.0 0.5 0.0 (0.0)

$olv^4*$  1.0 0.5 1.0 1.0

$cmyn4*$  0.0 0.5 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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  1.0 0.0 0.0

$lab^*ice$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)

$olv^3*$  0.5 0.5 0.5 (1.0)

$cmyn3*$  0.5 1.0 0.5 (0.0)

## Input: Colorimetric Reflective System ORS18

for hue  $h^* = lab^*h = 354/360 = 0.982$

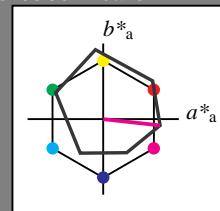
$lab^*tch$  and  $lab^*nch$

D65: hue M

LCH\*Ma: 48 76 354

olv\*Ma: 1.0 0.0 1.0

triangle lightness  $t^*$



## ORS18; adapted (a) CIELAB data

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

$olv_i3^*$  1.0 1.0 1.0 (1.0)

$cmy_n3^*$  0.0 0.0 0.0 (0.0)

$olv_i4^*$  1.0 1.0 1.0 1.0

$cmy_n4^*$  0.0 0.0 0.0 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 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  71.77 37.1 -1.01

$LAB^*LABa$  71.77 37.63 -4.17

$LAB^*TChA$  75.0 37.86 353.66

relative CIELAB lab\*

$lab^*lab$  0.695 0.497 -0.054

$lab^*tch$  0.75 0.5 0.982

$lab^*nch$  0.0 0.5 0.982

relative Natural Colour (NC)

$lab^*lrij$  0.695 0.454 -0.208

$lab^*tce$  0.75 0.2 0.932

$lab^*ncE$  0.0 0.5 b72r

relative Inform. Technology (IT)

$olv_i3^*$  0.5 0.5 0.5 (1.0)

$cmy_n3^*$  0.5 0.5 0.5 (0.0)

$olv_i4^*$  1.0 1.0 1.0 0.5

$cmy_n4^*$  0.0 0.0 0.0 0.5

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 CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.5 0.0 0.0

$lab^*tce$  0.5 0.0 0.0

$lab^*ncE$  0.5 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  33.08 37.84 -3.62

$LAB^*LABa$  33.08 37.63 -4.17

$LAB^*TChA$  25.01 37.86 353.66

relative CIELAB lab\*

$lab^*lab$  0.195 0.497 -0.054

$lab^*tch$  0.25 0.5 0.982

$lab^*nch$  0.5 0.5 0.982

relative Natural Colour (NC)

$lab^*lrij$  0.195 0.454 -0.208

$lab^*tce$  0.25 0.5 0.932

$lab^*ncE$  0.5 0.5 b72r

$n^* = 1,0$

$n^* = 0,00$

$n^* = 0,50$

$1,00$

chromaticness  $c^*$

## Output: Colorimetric Reflective System NRS11

for hue  $h^* = lab^*h = 325/360 = 0.903$

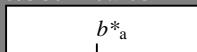
$lab^*tch$  and  $lab^*nch$

D65: hue M

LCH\*Ma: 53 84 325

olv\*Ma: 1.0 0.0 1.0

triangle lightness  $t^*$



## NRS11; adapted (a) CIELAB data

	$L^* = L_a^*$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	53.2	77.06	34.32	84.36	24
JMa	53.2	-1.51	84.38	84.39	91
GMa	53.2	-82.27	18.98	84.44	167
G50BMa	53.2	-77.72	-32.98	84.44	203
BMa	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)

$olv_i3^*$  1.0 1.0 1.0 (1.0)

$cmy_n3^*$  0.0 0.0 0.0 (0.0)

$olv_i4^*$  1.0 1.0 1.0 1.0

$cmy_n4^*$  0.0 0.0 0.0 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 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  71.77 37.1 -1.01

$LAB^*LABa$  71.77 37.63 -4.17

$LAB^*TChA$  75.0 37.86 353.66

relative CIELAB lab\*

$lab^*lab$  0.695 0.497 -0.054

$lab^*tch$  0.75 0.5 0.982

$lab^*nch$  0.0 0.5 0.982

relative Natural Colour (NC)

$lab^*lrij$  0.695 0.454 -0.208

$lab^*tce$  0.75 0.2 0.932

$lab^*ncE$  0.0 0.5 b72r

relative Inform. Technology (IT)

$olv_i3^*$  0.5 0.5 0.5 (1.0)

$cmy_n3^*$  0.5 1.0 1.0 (0.0)

$olv_i4^*$  1.0 1.0 1.0 0.5

$cmy_n4^*$  0.0 0.5 0.5 0.5

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 CIELAB lab\*

$lab^*lab$  0.195 0.497 -0.054

$lab^*tch$  0.25 0.5 0.982

$lab^*nch$  0.5 0.5 0.982

relative Natural Colour (NC)

$lab^*lrij$  0.195 0.454 -0.208

$lab^*tce$  0.25 0.5 0.932

$lab^*ncE$  0.5 0.5 b72r

$n^* = 1,0$

$n^* = 0,00$

$n^* = 0,50$

$1,00$

blackness  $n^*$

$n^* = 1,0$

$n^* = 0,00$

$n^* = 0,50$

$1,00$

blackness  $n^*$

UE100-7, 3 step scales for constant CIELAB hue 354/360 = 0.982 (left)

3 step scales for constant CIELAB hue 325/360 = 0.903 (right)

### Input: Colorimetric Reflective System ORS18

for hue  $h^* = lab^*h = 354/360 = 0.982$

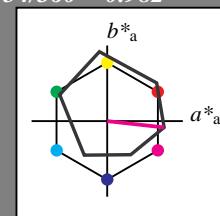
$lab^*tch$  and  $lab^*nch$

D65: hue M

LCH\*Ma: 48 76 354

olv\*Ma: 1.0 0.0 1.0

triangle lightness  $t^*$



### ORS18; adapted (a) CIELAB data

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

$olv^3*$  1.0 1.0 1.0 (1.0)

$cmy^3*$  0.0 0.0 0.0 (0.0)

$olv^4*$  1.0 1.0 1.0 1.0

$cmy^4*$  0.0 0.0 0.0 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 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 -

$lab^*ncE$  0.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  71.77 37.1 -1.01

$LAB^*LABa$  71.77 37.63 -4.17

$LAB^*TChA$  75.0 37.86 353.66

relative CIELAB lab\*

$lab^*lab$  0.695 0.497 -0.054

$lab^*tch$  0.75 0.5 0.982

$lab^*nch$  0.0 0.5 0.982

relative Natural Colour (NC)

$lab^*lrij$  0.695 0.454 -0.208

$lab^*tce$  0.75 0.2 0.932

$lab^*ncE$  0.0 0.5 b72r

relative Inform. Technology (IT)

$olv^3*$  0.5 0.5 0.5 (1.0)

$cmy^3*$  0.5 0.5 0.5 (0.0)

$olv^4*$  1.0 1.0 1.0 0.5

$cmy^4*$  0.0 0.0 0.0 0.5

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 CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.5 0.0 0.0

$lab^*tce$  0.5 0.0 -

$lab^*ncE$  0.5 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  33.08 37.84 -3.62

$LAB^*LABa$  33.08 37.63 -4.17

$LAB^*TChA$  25.01 37.86 353.66

relative CIELAB lab\*

$lab^*lab$  0.195 0.497 -0.054

$lab^*tch$  0.25 0.5 0.982

$lab^*nch$  0.5 0.5 0.982

relative Natural Colour (NC)

$lab^*lrij$  0.195 0.454 -0.208

$lab^*tce$  0.25 0.5 0.932

$lab^*ncE$  0.5 0.5 b72r

$n^* = 1,0$

relative Inform. Technology (IT)

$olv^3*$  0.0 0.0 0.0 (1.0)

$cmy^3*$  1.0 1.0 1.0 (0.0)

$olv^4*$  1.0 1.0 1.0 0.0

$cmy^4*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.5 -0.46

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*tce$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.5 -0.46

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*tce$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

$n^* = 0,00$

blackness  $n^*$

0,25 0,50  $n^* = 0,50$  0,75 1,00

chromaticness  $c^*$

### Output: Colorimetric Reflective System NCS11

for hue  $h^* = lab^*h = 325/360 = 0.903$

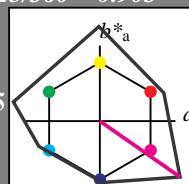
$lab^*tch$  and  $lab^*nch$

D65: hue M

LCH\*Ma: 44 129 325

olv\*Ma: 1.0 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

relative Inform. Technology (IT)

$olv^3*$  1.0 1.0 1.0 (1.0)

$cmy^3*$  0.0 0.0 0.0 (0.0)

$olv^4*$  1.0 1.0 1.0 1.0

$cmy^4*$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 -

$lab^*ncE$  0.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  69.73 53.06 -36.95

$LAB^*LABa$  69.73 53.03 -36.95

$LAB^*TChA$  75.0 64.65 325.12

relative CIELAB lab\*

$lab^*lab$  0.696 0.41 -0.285

$lab^*tch$  0.75 0.5 0.903

$lab^*nch$  0.0 0.5 0.903

relative Natural Colour (NC)

$lab^*lrij$  0.696 0.336 -0.369

$lab^*tce$  0.75 0.5 0.867

$lab^*ncE$  0.0 0.5 b46r

$n^* = 0,00$

blackness  $n^*$

0,25 0,50  $n^* = 0,50$  0,75 1,00

chromaticness  $c^*$

$n^* = 1,0$

3 step scales for constant CIELAB hue 354/360 = 0.982 (left)

3 step scales for constant CIELAB hue 325/360 = 0.903 (right)

## Input: Colorimetric Reflective System MRS18

for hue  $h^* = lab^*h = 322/360 = 0.895$

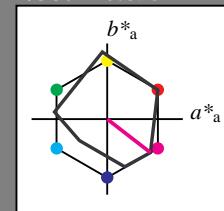
$lab^*tch$  and  $lab^*nch$

D65: hue B50R

LCH\*Ma: 35 72 322

olv\*Ma: 1.0 0.0 1.0

triangle lightness  $t^*$



relative Inform. Technology (IT)

olv*i*3\* 1.0 1.0 1.0 (1.0)

cmy*n*3\* 0.0 0.0 0.0 (0.0)

olv*i*4\* 1.0 1.0 1.0 1.0

cmy*n*4\* 0.0 0.0 0.0 0.0

standard and adapted CIELAB

LAB\*LAB 95.41 -0.97 4.75

LAB\*LAB*a* 95.41 0.0 0.0

LAB\*TCh*a* 99.99 0.01 -

relative CIELAB lab\*

lab\**lab* 1.0 0.0 0.0

lab\**tch* 1.0 0.0 -

lab\**nch* 0.0 0.0 -

relative Natural Colour (NC)

lab\**lrj* 1.0 0.0 0.0

lab\**tce* 1.0 0.0 -

lab\**ncE* 0.0 0.0 -

standard and adapted CIELAB

LAB\*LAB 65.17 28.18 -19.4

LAB\*LAB*a* 65.17 28.58 -22.12

LAB\*TCh*a* 75.0 36.15 322.25

relative CIELAB lab\*

lab\**lab* 0.609 0.395 -0.305

lab\**tch* 0.75 0.5 0.895

lab\**nch* 0.0 0.5 0.895

relative Natural Colour (NC)

lab\**lrj* 0.609 0.324 -0.38

lab\**tce* 0.75 0.2 0.862

lab\**ncE* 0.0 0.5 b44r

relative Inform. Technology (IT)

olv*i*3\* 0.5 0.5 0.5 (1.0)

cmy*n*3\* 0.5 0.5 0.5 (0.0)

olv*i*4\* 1.0 1.0 1.0 0.5

cmy*n*4\* 0.0 0.0 0.0 0.5

standard and adapted CIELAB

LAB\*LAB 56.71 -0.23 2.14

LAB\*LAB*a* 56.71 0.0 0.0

LAB\*TCh*a* 50.0 0.01 -

relative CIELAB lab\*

lab\**lab* 0.5 0.0 0.0

lab\**tch* 0.5 0.0 -

lab\**nch* 0.5 0.0 -

relative Natural Colour (NC)

lab\**lrj* 0.5 0.0 0.0

lab\**tce* 0.5 0.0 -

lab\**ncE* 0.5 0.0 -

standard and adapted CIELAB

LAB\*LAB 26.48 28.92 -22.01

LAB\*LAB*a* 26.48 28.58 -22.12

LAB\*TCh*a* 25.01 36.15 322.25

relative CIELAB lab\*

lab\**lab* 0.109 0.395 -0.305

lab\**tch* 0.25 0.5 0.895

lab\**nch* 0.5 0.5 0.895

relative Natural Colour (NC)

lab\**lrj* 0.109 0.324 -0.38

lab\**tce* 0.25 0.5 0.862

lab\**ncE* 0.5 0.5 b44r

$n^* = 1,0$

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

%Gamut

$u^*_{rel} = 91$

%Regularity

$g^*_{H,rel} = 41$

$g^*_{C,rel} = 52$

relative Inform. Technology (IT)

olv*i*3\* 1.0 0.5 1.0 (1.0)

cmy*n*3\* 0.0 0.5 0.0 (0.0)

olv*i*4\* 1.0 0.5 1.0 1.0

cmy*n*4\* 0.0 0.5 0.0 0.0

standard and adapted CIELAB

LAB\*LAB 65.17 28.18 -19.4

LAB\*LAB*a* 65.17 28.58 -22.12

LAB\*TCh*a* 75.0 36.15 322.25

relative CIELAB lab\*

lab\**lab* 0.609 0.395 -0.305

lab\**tch* 0.75 0.5 0.895

lab\**nch* 0.0 0.5 0.895

relative Natural Colour (NC)

lab\**lrj* 0.609 0.324 -0.38

lab\**tce* 0.75 0.2 0.862

lab\**ncE* 0.0 0.5 b44r

relative Inform. Technology (IT)

olv*i*3\* 0.5 0.5 0.5 (1.0)

cmy*n*3\* 0.5 0.5 0.5 (0.0)

olv*i*4\* 1.0 1.0 1.0 0.5

cmy*n*4\* 0.0 0.5 0.0 0.5

standard and adapted CIELAB

LAB\*LAB 56.71 -0.23 2.14

LAB\*LAB*a* 56.71 0.0 0.0

LAB\*TCh*a* 50.0 0.01 -

relative CIELAB lab\*

lab\**lab* 0.109 0.395 -0.305

lab\**tch* 0.25 0.5 0.895

lab\**nch* 0.5 0.5 0.895

relative Natural Colour (NC)

lab\**lrj* 0.109 0.324 -0.38

lab\**tce* 0.25 0.5 0.862

lab\**ncE* 0.5 0.5 b44r

$n^* = 0,00$

blackness  $n^*$

chromaticness  $c^*$

$n^* = 1,0$

blackness  $n^*$

chromaticness  $c^*$

$n^* = 0,50$

$n^* = 1,00$

## Output: Colorimetric Reflective System ORS18

for hue  $h^* = lab^*h = 354/360 = 0.982$

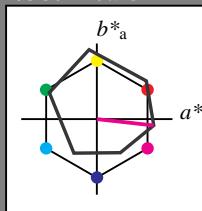
$lab^*tch$  and  $lab^*nch$

D65: hue M

LCH\*Ma: 48 76 354

olv\*Ma: 1.0 0.0 1.0

triangle lightness  $t^*$



%Gamut

$u^*_{rel} = 93$

%Regularity

$g^*_{H,rel} = 57$

$g^*_{C,rel} = 59$

relative Inform. Technology (IT)

olv*i*3\* 1.0 0.5 1.0 (1.0)

cmy*n*3\* 0.0 0.5 0.0 (0.0)

olv*i*4\* 1.0 0.5 1.0 1.0

cmy*n*4\* 0.0 0.0 0.0 0.0

standard and adapted CIELAB

LAB\*LAB 95.41 -0.97 4.75

LAB\*LAB*a* 95.41 0.0 0.0

LAB\*TCh*a* 99.99 0.01 -

relative CIELAB lab\*

lab\**lab* 1.0 0.0 0.0

lab\**tch* 1.0 0.0 -

lab\**nch* 0.0 0.0 -

relative Natural Colour (NC)

lab\**lrj* 1.0 0.0 0.0

lab\**tce* 1.0 0.0 -

lab\**ncE* 0.0 0.0 -

relative Inform. Technology (IT)

olv*i*3\* 0.5 0.0 0.5 (1.0)

cmy*n*3\* 0.5 1.0 1.0 (0.0)

olv*i*4\* 1.0 0.5 1.0 0.5

cmy*n*4\* 0.0 0.0 0.0 0.5

standard and adapted CIELAB

LAB\*LAB 71.77 37.1 -1.01

LAB\*LAB*a* 71.77 37.63 -4.17

LAB\*TCh*a* 75.0 37.86 353.66

relative CIELAB lab\*

lab\**lab* 0.695 0.497 -0.054

lab\**tch* 0.75 0.5 0.982

lab\**nch* 0.0 0.5 0.982

relative Natural Colour (NC)

lab\**lrj* 0.695 0.454 -0.208

lab\**tce* 0.75 0.5 0.932

lab\**ncE* 0.0 0.5 b72r

$n^* = 0,00$

blackness  $n^*$

chromaticness  $c^*$

$n^* = 0,50$

$n^* = 1,00$

$n^* = 0,25$

blackness  $n^*$

chromaticness  $c^*$

UE100-7, 3 step scales for constant CIELAB hue 322/360 = 0.895 (left)

3 step scales for constant CIELAB hue 354/360 = 0.982 (right)

## Input: Colorimetric Reflective System MRS18

for hue  $h^* = lab^*h = 322/360 = 0.895$

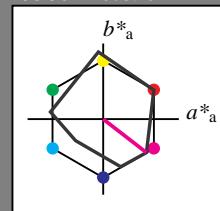
$lab^*tch$  and  $lab^*nch$

D65: hue B50R

LCH\*Ma: 35 72 322

olv\*Ma: 1.0 0.0 1.0

triangle lightness  $t^*$



relative Inform. Technology (IT)  
 $olv_i3^*$  1.0 1.0 1.0 (1.0)  
 $cmy_n3^*$  0.0 0.0 0.0 (0.0)

$olv_i4^*$  1.0 1.0 1.0 1.0  
 $cmy_n4^*$  0.0 0.0 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  95.41 -0.97 4.75  
 $LAB^*LABa$  95.41 0.0 0.0

$LAB^*TCh_a$  99.99 0.01 -

relative CIELAB lab\*

$lab^*lab$  1.0 0.0 0.0  
 $lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0  
 $lab^*tce$  1.0 0.0 -

$lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)  
 $olv_i3^*$  0.5 0.5 0.5 (1.0)  
 $cmy_n3^*$  0.5 0.5 0.5 (0.0)

$olv_i4^*$  1.0 1.0 1.0 0.5  
 $cmy_n4^*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  56.71 -0.23 2.14  
 $LAB^*LABa$  56.71 0.0 0.0

$LAB^*TCh_a$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0  
 $lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.5 0.0 0.0  
 $lab^*tce$  0.5 0.0 -

$lab^*ncE$  0.5 0.0 -

relative Inform. Technology (IT)  
 $olv_i3^*$  0.0 0.0 0.0 (1.0)

$cmy_n3^*$  1.0 1.0 1.0 (0.0)

$olv_i4^*$  1.0 1.0 1.0 0.0

$cmy_n4^*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.5 -0.46  
 $LAB^*LABa$  18.02 0.0 0.0

$LAB^*TCh_a$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0  
 $lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0  
 $lab^*tce$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

## 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

%Gamut

$u^*_{rel} = 91$

%Regularity

$g^*_{H,rel} = 41$

$g^*_{C,rel} = 52$

relative Inform. Technology (IT)

$olv_i3^*$  1.0 0.5 1.0 (1.0)

$cmy_n3^*$  0.0 0.5 0.0 (0.0)

$olv_i4^*$  1.0 0.5 1.0 1.0

$cmy_n4^*$  0.0 0.5 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  65.17 28.18 -19.4

$LAB^*LABa$  65.17 28.58 -22.12

$LAB^*TCh_a$  75.0 36.15 322.25

relative CIELAB lab\*

$lab^*lab$  0.609 0.395 -0.305

$lab^*tch$  0.75 0.5 0.895

$lab^*nch$  0.0 0.5 0.895

relative Natural Colour (NC)

$lab^*lrij$  0.609 0.324 -0.38

$lab^*tce$  0.75 0.2 0.862

$lab^*ncE$  0.0 0.5 b44r

relative Inform. Technology (IT)

$olv_i3^*$  0.5 0.5 0.5 (1.0)

$cmy_n3^*$  0.5 0.5 0.5 (0.0)

$olv_i4^*$  1.0 1.0 1.0 0.5

$cmy_n4^*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  34.95 57.34 -43.57

$LAB^*LABa$  34.95 57.16 -44.25

$LAB^*TCh_a$  50.0 57.17 322.25

relative CIELAB lab\*

$lab^*lab$  0.219 0.791 -0.611

$lab^*tch$  0.5 1.0 0.895

$lab^*nch$  0.0 1.0 0.895

relative Natural Colour (NC)

$lab^*lrij$  0.219 0.648 -0.76

$lab^*tce$  0.5 1.0 0.862

$lab^*ncE$  0.0 1.0 b44r

relative Inform. Technology (IT)

$olv_i3^*$  0.0 0.0 0.0 (1.0)

$cmy_n3^*$  1.0 1.0 1.0 (0.0)

$olv_i4^*$  1.0 1.0 1.0 0.0

$cmy_n4^*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.5 -0.46

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TCh_a$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*tce$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 0,00$

blackness  $n^*$

chromaticness  $c^*$

## Output: Colorimetric Reflective System MRS18

for hue  $h^* = lab^*h = 322/360 = 0.895$

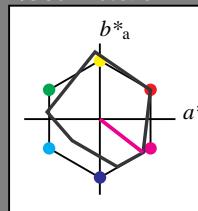
$lab^*tch$  and  $lab^*nch$

D65: hue B50R

LCH\*Ma: 35 72 322

olv\*Ma: 1.0 0.0 1.0

triangle lightness  $t^*$



%Gamut

$u^*_{rel} = 91$

%Regularity

$g^*_{H,rel} = 41$

$g^*_{C,rel} = 52$

relative Inform. Technology (IT)

$olv_i3^*$  1.0 0.5 1.0 (1.0)

$cmy_n3^*$  0.0 0.5 0.0 (0.0)

$olv_i4^*$  1.0 0.5 1.0 1.0

$cmy_n4^*$  0.0 0.0 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  95.41 -0.97 4.75

$LAB^*LABa$  95.41 0.0 0.0

$LAB^*TCh_a$  99.99 0.01 -

relative CIELAB lab\*

$lab^*lab$  1.0 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 -

$lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)

$olv_i3^*$  0.5 0.5 0.5 (1.0)

$cmy_n3^*$  0.5 0.5 0.5 (0.0)

$olv_i4^*$  1.0 0.5 1.0 0.5

$cmy_n4^*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  65.17 28.18 -19.4

$LAB^*LABa$  65.17 28.58 -22.12

$LAB^*TCh_a$  75.0 36.15 322.25

relative CIELAB lab\*

$lab^*lab$  0.609 0.395 -0.305

$lab^*tch$  0.75 0.5 0.895

$lab^*nch$  0.0 0.5 0.895

relative Natural Colour (NC)

$lab^*lrij$  0.609 0.324 -0.38

$lab^*tce$  0.75 0.2 0.862

$lab^*ncE$  0.0 0.5 b44r

relative Inform. Technology (IT)

$olv_i3^*$  0.0 0.0 0.0 (1.0)

$cmy_n3^*$  1.0 1.0 1.0 (0.0)

$olv_i4^*$  1.0 1.0 1.0 0.0

$cmy_n4^*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  56.71 -0.23 2.14

$LAB^*LABa$  56.71 0.0 0.0

$LAB^*TCh_a$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.609 0.395 -0.305

$lab^*tch$  0.75 0.5 0.895

$lab^*nch$  0.0 0.5 0.895

relative Natural Colour (NC)

$lab^*lrij$  0.219 0.648 -0.76

$lab^*tce$  0.5 1.0 0.862

$lab^*ncE$  0.0 1.0 b44r

$n^* = 1,0$

## 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</				

## Input: Colorimetric Reflective System MRS18

for hue  $h^* = lab^*h = 322/360 = 0.895$

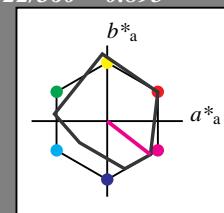
$lab^*tch$  and  $lab^*nch$

D65: hue B50R

LCH\*Ma: 35 72 322

olv\*Ma: 1.0 0.0 1.0

triangle lightness  $t^*$



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\*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 0.0 0.0 -

relative Natural Colour (NC)

lab\*lrj 1.0 0.0 0.0

lab\*tce 1.0 0.0 -

lab\*ncE 0.0 0.0 -

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 0.5

cmyn4\* 0.0 0.0 0.5

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 CIELAB lab\*

lab\*lab 0.5 0.0 0.0

lab\*tch 0.5 0.0 -

lab\*nch 0.5 0.0 -

relative Natural Colour (NC)

lab\*lrj 0.5 0.0 0.0

lab\*tce 0.5 0.0 -

lab\*ncE 0.5 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 1.0

standard and adapted CIELAB

LAB\*LAB 18.02 0.5 -0.46

LAB\*LABa 18.02 0.0 0.0

LAB\*TChA 0.01 0.01 -

relative CIELAB lab\*

lab\*lab 0.0 0.0 0.0

lab\*tch 0.0 0.0 -

lab\*nch 1.0 0.0 -

relative Natural Colour (NC)

lab\*lrj 0.0 0.0 0.0

lab\*tce 0.0 0.0 -

lab\*ncE 1.0 0.0 -

$n^* = 1,0$

## MRS18; adapted (a) CIELAB data

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

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

%Gamut

$u^*_{rel} = 91$

%Regularity

$g^*_{H,rel} = 41$

$g^*_{C,rel} = 52$

relative Inform. Technology (IT)

olvi3\* 1.0 0.5 1.0 (1.0)

cmyn3\* 0.0 0.5 0.0 (0.0)

olvi4\* 1.0 0.5 1.0 1.0

cmyn4\* 0.0 0.5 0.0 0.0

standard and adapted CIELAB

LAB\*LAB 65.17 28.18 -19.4

LAB\*LABa 65.17 28.58 -22.12

LAB\*TChA 75.0 36.15 322.25

relative CIELAB lab\*

lab\*lab 0.609 0.395 -0.305

lab\*tch 0.75 0.5 0.895

lab\*nch 0.0 0.5 0.895

relative Natural Colour (NC)

lab\*lrj 0.609 0.324 -0.38

lab\*tce 0.75 0.2 0.862

lab\*ncE 0.0 0.5 b44r

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 0.0 1.0 0.5

cmyn4\* 0.0 0.0 0.0 0.5

standard and adapted CIELAB

LAB\*LAB 34.95 57.34 -43.57

LAB\*LABa 34.95 57.16 -44.25

LAB\*TChA 50.0 57.1 322.25

relative CIELAB lab\*

lab\*lab 0.219 0.791 -0.611

lab\*tch 0.5 1.0 0.895

lab\*nch 0.0 1.0 0.895

relative Natural Colour (NC)

lab\*lrj 0.219 0.648 -0.76

lab\*tce 0.5 1.0 0.862

lab\*ncE 0.0 1.0 b44r

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 1.0

standard and adapted CIELAB

LAB\*LAB 18.02 0.5 -0.46

LAB\*LABa 18.02 0.0 0.0

LAB\*TChA 0.01 0.01 -

relative CIELAB lab\*

lab\*lab 0.0 0.0 0.0

lab\*tch 0.0 0.0 -

lab\*nch 1.0 0.0 -

relative Natural Colour (NC)

lab\*lrj 0.0 0.0 0.0

lab\*tce 0.0 0.0 -

lab\*ncE 1.0 0.0 -

$n^* = 0,00$

blackness  $n^*$

chromaticness  $c^*$

## Output: Colorimetric Reflective System TRS18

for hue  $h^* = lab^*h = 354/360 = 0.982$

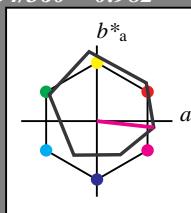
$lab^*tch$  and  $lab^*nch$

D65: hue M

LCH\*Ma: 48 76 354

olv\*Ma: 1.0 0.0 1.0

triangle lightness  $t^*$



%Gamut

$u^*_{rel} = 93$

%Regularity

$g^*_{H,rel} = 57$

$g^*_{C,rel} = 59$

relative Inform. Technology (IT)

olvi3\* 1.0 0.5 1.0 (1.0)

cmyn3\* 0.0 0.5 0.0 (0.0)

olvi4\* 1.0 0.5 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\*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 0.0 0.0 -

relative Natural Colour (NC)

lab\*lrj 1.0 0.0 0.0

lab\*tce 1.0 0.0 -

lab\*ncE 0.0 0.0 -

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 0.5 1.0 0.5

cmyn4\* 0.0 0.5 0.0 0.5

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 CIELAB lab\*

lab\*lab 0.609 0.395 -0.305

lab\*tch 0.75 0.5 0.895

lab\*nch 0.0 0.5 0.895

relative Natural Colour (NC)

lab\*lrj 0.609 0.324 -0.38

lab\*tce 0.75 0.2 0.862

lab\*ncE 0.0 0.5 b44r

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 1.0

standard and adapted CIELAB

LAB\*LAB 17.17 37.1 -1.01

LAB\*LABa 17.17 37.63 -4.17

LAB\*TChA 75.0 37.86 353.66

relative CIELAB lab\*

lab\*lab 0.695 0.497 -0.054

lab\*tch 0.75 0.5 0.982

lab\*nch 0.0 0.5 0.982

relative Natural Colour (NC)

lab\*lrj 0.695 0.454 -0.208

lab\*tce 0.75 0.5 0.932

lab\*ncE 0.0 0.5 b72r

## TRS18; adapted (a) CIELAB data

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

O Ma	47.94	65.37	50.52	82.62	38
Y Ma	90.37	-10.27	91.77	92.34	96
L Ma	50.9	-62.79	34.95	71.87	151
C Ma	58.62	-30.35	-45.01	54.3	236
V Ma	25.71	31.11	-44.42	54.24	305
M Ma	48.13	75.27	-8.35	75.73	354
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
BCIE	30.57	1.15	-46.84	46.87	271

relative Inform. Technology (IT)

&lt;p

## Input: Colorimetric Reflective System MRS18

for hue  $h^* = lab^*h = 322/360 = 0.895$

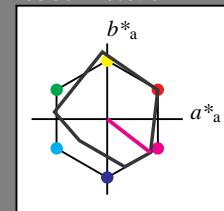
$lab^*tch$  and  $lab^*nch$

D65: hue B50R

LCH\*Ma: 35 72 322

olv\*Ma: 1.0 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

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

$LAB^*LABa$  95.41 0.0 0.0

$LAB^*TCh$  99.99 0.01 -

relative CIELAB lab\*

$lab^*lab$  1.0 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 -

$lab^*ncE$  0.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  65.17 28.18 -19.4

$LAB^*LABa$  65.17 28.58 -22.12

$LAB^*TCh$  75.0 36.15 322.25

relative CIELAB lab\*

$lab^*lab$  0.609 0.395 -0.305

$lab^*tch$  0.75 0.5 0.895

$lab^*nch$  0.0 0.5 0.895

relative Natural Colour (NC)

$lab^*lrij$  0.609 0.324 -0.38

$lab^*tce$  0.75 0.2 0.862

$lab^*ncE$  0.0 0.5 b44r

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 0.5

$cmyn^4*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  56.71 -0.23 2.14

$LAB^*LABa$  56.71 0.0 0.0

$LAB^*TCh$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.5 0.0 0.0

$lab^*tce$  0.5 0.0 -

$lab^*ncE$  0.5 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  34.95 57.34 -43.57

$LAB^*LABa$  34.95 57.16 -44.25

$LAB^*TCh$  50.0 57.01 322.25

relative CIELAB lab\*

$lab^*lab$  0.219 0.791 -0.611

$lab^*tch$  0.5 1.0 0.895

$lab^*nch$  0.0 1.0 0.895

relative Natural Colour (NC)

$lab^*lrij$  0.219 0.648 -0.76

$lab^*tce$  0.5 1.0 0.862

$lab^*ncE$  0.0 1.0 b44r

$n^* = 1,0$

	$L^*=L^*_a$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	0.0	0.0	0.0	(1.0)	
JMa	1.0	1.0	1.0	(0.0)	
GMa	1.0	1.0	1.0	0.0	
G50BMa	0.0	0.0	0.0	1.0	
BMa	0.0	0.0	0.0	0.0	
B50RMa	0.0	0.0	0.0	0.0	
NMa	0.0	0.0	0.0	0.0	
WMa	0.0	0.0	0.0	0.0	
RCIE	0.0	0.0	0.0	0.0	
JCIE	0.0	0.0	0.0	0.0	
GCIE	0.0	0.0	0.0	0.0	
BCIE	0.0	0.0	0.0	0.0	

	$L^*=L^*_a$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	0.0	0.0	0.0	(1.0)	
JMa	1.0	1.0	1.0	(0.0)	
GMa	1.0	1.0	1.0	0.0	
G50BMa	0.0	0.0	0.0	1.0	
BMa	0.0	0.0	0.0	0.0	
B50RMa	0.0	0.0	0.0	0.0	
NMa	0.0	0.0	0.0	0.0	
WMa	0.0	0.0	0.0	0.0	
RCIE	0.0	0.0	0.0	0.0	
JCIE	0.0	0.0	0.0	0.0	
GCIE	0.0	0.0	0.0	0.0	
BCIE	0.0	0.0	0.0	0.0	

	$L^*=L^*_a$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	0.0	0.0	0.0	(1.0)	
JMa	1.0	1.0	1.0	(0.0)	
GMa	1.0	1.0	1.0	0.0	
G50BMa	0.0	0.0	0.0	1.0	
BMa	0.0	0.0	0.0	0.0	
B50RMa	0.0	0.0	0.0	0.0	
NMa	0.0	0.0	0.0	0.0	
WMa	0.0	0.0	0.0	0.0	
RCIE	0.0	0.0	0.0	0.0	
JCIE	0.0	0.0	0.0	0.0	
GCIE	0.0	0.0	0.0	0.0	
BCIE	0.0	0.0	0.0	0.0	

	$L^*=L^*_a$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	0.0	0.0	0.0	(1.0)	
JMa	1.0	1.0	1.0	(0.0)	
GMa	1.0	1.0	1.0	0.0	
G50BMa	0.0	0.0	0.0	1.0	
BMa	0.0	0.0	0.0	0.0	
B50RMa	0.0	0.0	0.0	0.0	
NMa	0.0	0.0	0.0	0.0	
WMa	0.0	0.0	0.0	0.0	
RCIE	0.0	0.0	0.0	0.0	
JCIE	0.0	0.0	0.0	0.0	
GCIE	0.0	0.0	0.0	0.0	
BCIE	0.0	0.0	0.0	0.0	

	$L^*=L^*_a$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	0.0	0.0	0.0	(1.0)	
JMa	1.0	1.0	1.0	(0.0)	
GMa	1.0	1.0	1.0	0.0	
G50BMa	0.0	0.0	0.0	1.0	
BMa	0.0	0.0	0.0	0.0	
B50RMa	0.0	0.0	0.0	0.0	
NMa	0.0	0.0	0.0	0.0	
WMa	0.0	0.0	0.0	0.0	
RCIE	0.0	0.0	0.0	0.0	
JCIE	0.0	0.0	0.0	0.0	
GCIE	0.0	0.0	0.0	0.0	
BCIE	0.0	0.0	0.0	0.0	

$n^* = 1,0$

	$L^*=L^*_a$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	0.0	0.0	0.0	(1.0)	
JMa	1.0	1.0	1.0	(0.0)	
GMa	1.0	1.0	1.0	0.0	
G50BMa	0.0	0.0	0.0	1.0	
BMa	0.0	0.0	0.0	0.0	
B50RMa	0.0	0.0	0.0	0.0	
NMa	0.0	0.0	0.0	0.0	
WMa	0.0	0.0	0.0	0.0	
RCIE	0.0	0.0	0.0	0.0	
JCIE	0.0	0.0	0.0	0.0	
GCIE	0.0	0.0	0.0	0.0	
BCIE	0.0	0.0	0.0	0.0	

	$L^*=L^*_a$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	0.0	0.0	0.0	(1.0)	
JMa	1.0	1.0	1.0	(0.0)	
GMa	1.0	1.0	1.0	0.0	
G50BMa	0.0	0.0	0.0	1.0	
BMa	0.0	0.0	0.0	0.0	
B50RMa	0.0	0.0	0.0	0.0	
NMa	0.0	0.0	0.0	0.0	
WMa	0.0	0.0	0.0	0.0	
RCIE	0.0	0.0	0.0	0.0	
JCIE	0.0	0.0	0.0	0.0	

### Input: Colorimetric Reflective System MRS18

for hue  $h^* = lab^*h = 322/360 = 0.895$

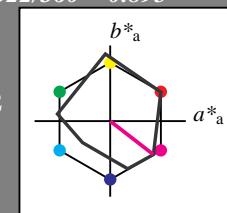
$lab^*tch$  and  $lab^*nch$

D65: hue B50R

LCH\*Ma: 35 72 322

olv\*Ma: 1.0 0.0 1.0

triangle lightness  $t^*$



relative Inform. Technology (IT)  
 $olv_i3^*$  1.0 1.0 1.0 (1.0)  
 $cmyn3^*$  0.0 0.0 0.0 (0.0)

$olv_i4^*$  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  
 $LAB^*LABa$  95.41 0.0 0.0  
 $LAB^*TCh$  99.99 0.01 -

relative CIELAB lab\*

$lab^*lab$  1.0 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  1.0 0.0 0.0

$lab^*ice$  1.0 0.0 -

$lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)  
 $olv_i3^*$  1.0 0.5 1.0 (1.0)

$cmyn3^*$  0.0 0.5 0.0 (0.0)  
 $olv_i4^*$  1.0 0.5 1.0 1.0

$cmyn4^*$  0.0 0.5 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  65.17 28.18 -19.4  
 $LAB^*LABa$  65.17 28.58 -22.12  
 $LAB^*TCh$  75.0 36.15 322.25

relative CIELAB lab\*

$lab^*lab$  0.609 0.395 -0.305

$lab^*tch$  0.75 0.5 0.895

$lab^*nch$  0.0 0.5 0.895

relative Natural Colour (NC)

$lab^*lrj$  0.609 0.324 -0.38

$lab^*ice$  0.75 0.2 0.862

$lab^*ncE$  0.0 0.5 b44r

relative Inform. Technology (IT)  
 $olv_i3^*$  0.5 0.5 0.5 (1.0)

$cmyn3^*$  0.5 0.5 0.5 (0.0)

$olv_i4^*$  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  
 $LAB^*LABa$  56.71 0.0 0.0  
 $LAB^*TCh$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  0.5 0.0 0.0

$lab^*ice$  0.5 0.0 -

$lab^*ncE$  0.5 0.0 -

relative Inform. Technology (IT)  
 $olv_i3^*$  0.0 0.0 0.0 (1.0)

$cmyn3^*$  1.0 1.0 1.0 (0.0)

$olv_i4^*$  1.0 1.0 1.0 0.0

$cmyn4^*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.5 -0.46  
 $LAB^*LABa$  18.02 0.0 0.0  
 $LAB^*TCh$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  0.0 0.0 0.0

$lab^*ice$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

$n^* = 0,00$

$n^* = 0,50$

$n^* = 0,00$   
blackness  $n^*$   
| →  
0,25      0,50      0,75      1,00  
chromaticness  $c^*$

### 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

%Gamut

$u^*_{rel} = 91$

%Regularity

$g^*_{H,rel} = 41$

$g^*_{C,rel} = 52$

relative Inform. Technology (IT)  
 $olv_i3^*$  1.0 0.5 1.0 (1.0)

$cmyn3^*$  0.0 0.5 0.0 (0.0)

$olv_i4^*$  1.0 0.5 1.0 1.0

$cmyn4^*$  0.0 0.5 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  65.17 28.18 -19.4  
 $LAB^*LABa$  65.17 28.58 -22.12  
 $LAB^*TCh$  75.0 36.15 322.25

relative CIELAB lab\*

$lab^*lab$  0.609 0.395 -0.305

$lab^*tch$  0.75 0.5 0.895

$lab^*nch$  0.0 0.5 0.895

relative Natural Colour (NC)

$lab^*lrj$  0.609 0.324 -0.38

$lab^*ice$  0.75 0.2 0.862

$lab^*ncE$  0.0 0.5 b44r

relative Inform. Technology (IT)  
 $olv_i3^*$  0.5 0.5 0.5 (1.0)

$cmyn3^*$  0.5 0.5 0.5 (0.0)

$olv_i4^*$  1.0 1.0 1.0 0.5

$cmyn4^*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  34.95 57.34 -43.57  
 $LAB^*LABa$  34.95 57.16 -44.25  
 $LAB^*TCh$  50.0 57.72 322.25

relative CIELAB lab\*

$lab^*lab$  0.219 0.791 -0.611

$lab^*tch$  0.5 1.0 0.895

$lab^*nch$  0.0 1.0 0.895

relative Natural Colour (NC)

$lab^*lrj$  0.219 0.648 -0.76

$lab^*ice$  0.5 1.0 0.862

$lab^*ncE$  0.0 1.0 b44r

relative Inform. Technology (IT)  
 $olv_i3^*$  0.0 0.0 0.0 (1.0)

$cmyn3^*$  1.0 1.0 1.0 (0.0)

$olv_i4^*$  1.0 1.0 1.0 0.0

$cmyn4^*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.09 0.02  
 $LAB^*LABa$  18.02 0.0 0.0  
 $LAB^*TCh$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  0.0 0.0 0.0

$lab^*ice$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

### Output: Colorimetric Reflective System NRS18

for hue  $h^* = lab^*h = 325/360 = 0.903$

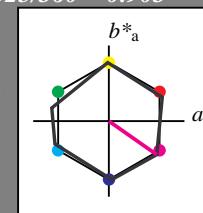
$lab^*tch$  and  $lab^*nch$

D65: hue B50R

LCH\*Ma: 57 77 325

olv\*Ma: 1.0 0.0 1.0

triangle lightness  $t^*$



%Gamut

$u^*_{rel} = 100$

%Regularity

$g^*_{H,rel} = 47$

$g^*_{C,rel} = 100$

relative Inform. Technology (IT)  
 $olv_i3^*$  1.0 1.0 1.0 (1.0)

$cmyn3^*$  0.0 0.0 0.0 (0.0)

$olv_i4^*$  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 0.0  
 $LAB^*LABa$  95.41 0.0 0.0  
 $LAB^*TCh$  99.99 0.01 -

relative CIELAB lab\*

$lab^*lab$  1.0 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  1.0 0.0 0.0

$lab^*ice$  1.0 0.0 -

$lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)  
 $olv_i3^*$  1.0 0.5 1.0 (1.0)

$cmyn3^*$  0.0 0.5 0.0 (0.0)

$olv_i4^*$  1.0 0.5 1.0 1.0

$cmyn4^*$  0.0 0.5 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  76.05 31.7 -22.18  
 $LAB^*LABa$  76.05 31.67 -22.12  
 $LAB^*TCh$  75.0 38.67 324.97

relative CIELAB lab\*

$lab^*lab$  0.75 0.409 -0.286

$lab^*tch$  0.75 0.5 0.903

$lab^*nch$  0.0 0.5 0.903

relative Natural Colour (NC)

$lab^*lrj$  0.75 0.336 -0.37

$lab^*ice$  0.75 0.5 0.867

$lab^*ncE$  0.0 0.5 b46r

relative Inform. Technology (IT)  
 $olv_i3^*$  0.5 0.0 0.0 (1.0)

$cmyn3^*$  0.5 1.0 0.5 (0.0)

$olv_i4^*$  1.0 0.5 1.0 0.5

$cmyn4^*$  0.0 0.5 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  37.36 31.74 -22.17  
 $LAB^*LABa$  37.36 31.67 -22.19  
 $LAB^*TCh$  25.01 38.67 324.97

relative CIELAB lab\*

$lab^*lab$  0.25 0.409 -0.286

$lab^*tch$  0.25 0.5 0.903

$lab^*nch$  1.0 0.5 0.903

relative Natural Colour (NC)

$lab^*lrj$  0.25 0.336 -0.37

$lab^*ice$  0.25 0.5 0.867

$lab^*ncE$  1.0 0.5 b46r

$n^* = 1,0$

blackness  $n^*$

| →

0,25      0,50      0,75      1,00  
chromaticness  $c^*$

UE100-7, 3 step scales for constant CIELAB hue 322/360 = 0.895 (left)

3 step scales for constant CIELAB hue 325/360 = 0.903 (right)

## Input: Colorimetric Reflective System MRS18

for hue  $h^* = lab^*h = 322/360 = 0.895$

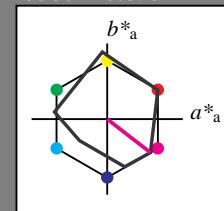
$lab^*tch$  and  $lab^*nch$

D65: hue B50R

LCH\*Ma: 35 72 322

olv\*Ma: 1.0 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

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

$LAB^*LABa$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  65.17 28.18 -19.4

$LAB^*LABa$  65.17 28.58 -22.12

$LAB^*TChA$  75.0 36.15 322.25

relative CIELAB lab\*

$lab^*lab$  0.609 0.395 -0.305

$lab^*tch$  0.75 0.5 0.895

$lab^*nch$  0.0 0.5 0.895

relative Natural Colour (NC)

$lab^*lrij$  0.609 0.324 -0.38

$lab^*tce$  0.75 0.2 0.862

$lab^*ncE$  0.0 0.5 b44r

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 0.5

$cmyn^4*$  0.0 0.0 0.0 0.5

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 CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.5 0.0 0.0

$lab^*tce$  0.5 0.0 0.0

$lab^*ncE$  0.5 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.5 -0.46

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*tce$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

relative Inform. Technology (IT)

$olv^3*$  0.0 0.0 0.0 (1.0)

$cmyn^3*$  1.0 1.0 1.0 (0.0)

$olv^4*$  1.0 1.0 1.0 0.0

$cmyn^4*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.5 -0.46

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*tce$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.5 -0.46

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*tce$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

## Output: Colorimetric Reflective System NCS18

for hue  $h^* = lab^*h = 325/360 = 0.903$

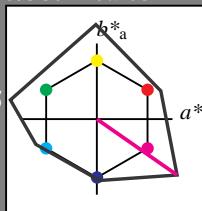
$lab^*tch$  and  $lab^*nch$

D65: hue B50R

LCH\*Ma: 44 129 325

olv\*Ma: 1.0 0.0 1.0

triangle lightness  $t^*$



### NCS18; adapted (a) CIELAB data

	$L^* = L^*_a$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	47.15	84.63	37.24	92.46	24
JMa	91.37	-1.27	125.03	125.03	91
GMa	63.07	-114.29	25.34	117.07	167
G50BMa	59.47	-80.61	-33.45	87.29	203
BMa	49.01	3.63	-81.2	81.29	273
B50RMa	44.06	106.07	-73.94	129.31	325
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	272

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

$LAB^*LABa$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  69.73 53.06 -36.95

$LAB^*LABa$  69.73 53.03 -36.96

$LAB^*TChA$  75.0 64.64 325.12

relative CIELAB lab\*

$lab^*lab$  0.668 0.41 -0.285

$lab^*tch$  0.75 0.5 0.903

$lab^*nch$  0.0 0.5 0.903

relative Natural Colour (NC)

$lab^*lrij$  0.668 0.336 -0.369

$lab^*tce$  0.75 0.5 0.867

$lab^*ncE$  0.0 0.5 b44r

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 0.5 1.0 0.5

$cmyn^4*$  0.0 0.5 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  44.06 106.12 -73.91

$LAB^*LABa$  44.06 106.05 -73.93

$LAB^*TChA$  50.0 129.28 325.12

relative CIELAB lab\*

$lab^*lab$  0.337 0.82 -0.571

$lab^*tch$  0.5 1.0 0.903

$lab^*nch$  0.0 1.0 0.903

relative Natural Colour (NC)

$lab^*lrij$  0.337 0.673 -0.739

$lab^*tce$  0.5 1.0 0.867

$lab^*ncE$  0.0 1.0 b44r

$n^* = 1,0$

relative Inform. Technology (IT)

$olv^3*$  1.0 1.0 1.0 (0.0)

$cmyn^3*$  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 0.0 0.02

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*tce$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

relative Inform. Technology (IT)

## Input: Colorimetric Reflective System MRS18

for hue  $h^* = lab^*h = 322/360 = 0.895$

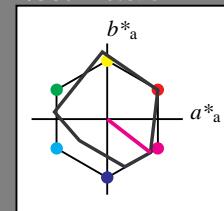
$lab^*tch$  and  $lab^*nch$

D65: hue B50R

LCH\*Ma: 35 72 322

olv\*Ma: 1.0 0.0 1.0

triangle lightness  $t^*$



relative Inform. Technology (IT)  
 $olv_i3^*$  1.0 1.0 1.0 (1.0)  
 $cmy_n3^*$  0.0 0.0 0.0 (0.0)

$olv_i4^*$  1.0 1.0 1.0 1.0  
 $cmy_n4^*$  0.0 0.0 0.0 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 0.0 0.0  
 $lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 -

$lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)  
 $olv_i3^*$  0.5 0.5 0.5 (1.0)  
 $cmy_n3^*$  0.5 0.5 0.5 (0.0)

$olv_i4^*$  1.0 1.0 1.0 0.5  
 $cmy_n4^*$  0.0 0.0 0.0 0.5

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 CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0  
 $lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.5 0.0 0.0

$lab^*tce$  0.5 0.0 -

$lab^*ncE$  0.5 0.0 -

relative Inform. Technology (IT)  
 $olv_i3^*$  0.0 0.0 0.0 (1.0)  
 $cmy_n3^*$  1.0 1.0 1.0 (0.0)

$olv_i4^*$  1.0 1.0 1.0 0.0  
 $cmy_n4^*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.5 -0.46  
 $LAB^*LABa$  18.02 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0  
 $lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*tce$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

## 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

%Gamut

$u^*_{rel} = 91$

%Regularity

$g^*_{H,rel} = 41$

$g^*_{C,rel} = 52$

relative Inform. Technology (IT)

$olv_i3^*$  1.0 0.5 1.0 (1.0)

$cmy_n3^*$  0.0 0.5 0.0 (0.0)

$olv_i4^*$  1.0 0.5 1.0 1.0

$cmy_n4^*$  0.0 0.5 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  65.17 28.18 -19.4  
 $LAB^*LABa$  65.17 28.58 -22.12

$LAB^*TChA$  75.0 36.15 322.25

relative CIELAB lab\*

$lab^*lab$  0.609 0.395 -0.305  
 $lab^*tch$  0.75 0.5 0.895

$lab^*nch$  0.0 0.5 0.895

relative Natural Colour (NC)

$lab^*lrij$  0.609 0.324 -0.38

$lab^*tce$  0.75 0.2 0.862

$lab^*ncE$  0.0 0.5 b44r

relative Inform. Technology (IT)

$olv_i3^*$  0.5 0.5 0.5 (1.0)

$cmy_n3^*$  0.5 0.5 0.5 (0.0)

$olv_i4^*$  1.0 1.0 1.0 0.5

$cmy_n4^*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  34.95 57.34 -43.57  
 $LAB^*LABa$  34.95 57.16 -44.25

$LAB^*TChA$  50.0 57.29 322.25

relative CIELAB lab\*

$lab^*lab$  0.219 0.791 -0.611  
 $lab^*tch$  0.5 1.0 0.895

$lab^*nch$  0.0 1.0 0.895

relative Natural Colour (NC)

$lab^*lrij$  0.219 0.648 -0.76

$lab^*tce$  0.5 1.0 0.862

$lab^*ncE$  0.0 1.0 b44r

$n^* = 0,00$

$n^* = blackness n^*$

$n^* = chromaticness c^*$

## Output: Colorimetric Reflective System NRS11

for hue  $h^* = lab^*h = 325/360 = 0.903$

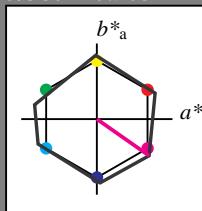
$lab^*tch$  and  $lab^*nch$

D65: hue B50R

LCH\*Ma: 53 84 325

olv\*Ma: 1.0 0.0 1.0

triangle lightness  $t^*$



%Gamut

$u^*_{rel} = 119$

%Regularity

$g^*_{H,rel} = 47$

$g^*_{C,rel} = 100$

relative Inform. Technology (IT)

$olv_i3^*$  1.0 0.5 1.0 (1.0)

$cmy_n3^*$  0.0 0.5 0.0 (0.0)

$olv_i4^*$  1.0 0.5 1.0 1.0

$cmy_n4^*$  0.0 0.5 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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 -

$lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)

$olv_i3^*$  0.5 0.0 0.5 (1.0)

$cmy_n3^*$  0.5 1.0 1.0 (0.0)

$olv_i4^*$  1.0 1.0 1.0 0.5

$cmy_n4^*$  0.0 0.5 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  74.3 34.57 -24.19  
 $LAB^*LABa$  74.3 34.54 -24.2

$LAB^*TChA$  75.0 42.18 324.98

relative CIELAB lab\*

$lab^*lab$  0.75 0.409 -0.286  
 $lab^*tch$  0.75 0.5 0.903

$lab^*nch$  0.0 0.5 0.903

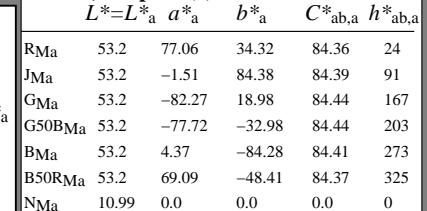
relative Natural Colour (NC)

$lab^*lrij$  0.75 0.336 -0.37

$lab^*tce$  0.75 0.5 0.867

$lab^*ncE$  0.0 0.5 b44r

$n^* = 0,00$



%Gamut

$u^*_{rel} = 119$

%Regularity

$g^*_{H,rel} = 47$

$g^*_{C,rel} = 100$

relative Inform. Technology (IT)

$olv_i3^*$  1.0 0.5 1.0 (1.0)

$cmy_n3^*$  0.0 0.5 0.0 (0.0)

$olv_i4^*$  1.0 0.5 1.0 1.0

$cmy_n4^*$  0.0 0.5 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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 -

$lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)

$olv_i3^*$  1.0 0.5 1.0 (1.0)

$cmy_n3^*$  0.0 0.5 0.0 (0.0)

$olv_i4^*$  1.0 0.5 1.0 1.0

$cmy_n4^*$  0.0 0.5 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  74.3 34.57 -24.19  
 $LAB^*LABa$  74.3 34.54 -24.2

$LAB^*TChA$  75.0 42.18 324.98

relative CIELAB lab\*

$lab^*lab$  0.75 0.409 -0.286  
 $lab^*tch$  0.75 0.5 0.903

$lab^*nch$  0.0 0.5 0.903

relative Natural Colour (NC)

$lab^*lrij$  0.75 0.336 -0.37

$lab^*tce$  0.75 0.5 0.867

$lab^*ncE$  0.0 0.5 b44r

$n^* = 1,0$



%Gamut

$u^*_{rel} = 119$

%Regularity

$g^*_{H,rel} = 47$

$g^*_{C,rel} = 100$

relative Inform. Technology (IT)

$olv_i3^*$  1.0 0.5 1.0 (1.0)

$cmy_n3^*$  0.0 0.5 0.0 (0.0)

$olv_i4^*$  1.0 0.5 1.0 1.0

$cmy_n4^*$  0.0 0.5 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 -

## Input: Colorimetric Reflective System MRS18

for hue  $h^* = lab^*h = 322/360 = 0.895$

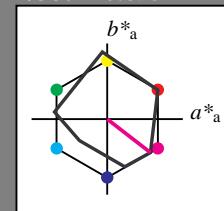
$lab^*tch$  and  $lab^*nch$

D65: hue B50R

LCH\*Ma: 35 72 322

olv\*Ma: 1.0 0.0 1.0

triangle lightness  $t^*$



relative Inform. Technology (IT)

olv13\* 1.0 1.0 1.0 (1.0)

cmyn3\* 0.0 0.0 0.0 (0.0)

olv14\* 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\*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 0.0 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)

olv13\* 0.5 0.5 0.5 (1.0)

cmyn3\* 0.5 0.5 0.5 (0.0)

olv14\* 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\*LABa 56.71 0.0 0.0

LAB\*TChA 50.0 0.01 -

relative CIELAB lab\*

lab\*lab 0.5 0.0 0.0

lab\*tch 0.5 0.0 -

lab\*nch 0.5 0.0 -

relative Natural Colour (NC)

lab\*lrj 0.5 0.0 0.0

lab\*tce 0.5 0.0 0.0

lab\*ncE 0.5 0.0 -

relative Inform. Technology (IT)

olv13\* 0.0 0.0 0.0 (1.0)

cmyn3\* 1.0 1.0 1.0 (0.0)

olv14\* 1.0 1.0 1.0 0.0

cmyn4\* 0.0 0.0 0.0 1.0

standard and adapted CIELAB

LAB\*LAB 18.02 0.5 -0.46

LAB\*LABa 18.02 0.0 0.0

LAB\*TChA 0.01 0.01 -

relative CIELAB lab\*

lab\*lab 0.0 0.0 0.0

lab\*tch 0.0 0.0 -

lab\*nch 1.0 0.0 -

relative Natural Colour (NC)

lab\*lrj 0.0 0.0 0.0

lab\*tce 0.0 0.0 -

lab\*ncE 1.0 0.0 -

$n^* = 1,0$

## MRS18; adapted (a) CIELAB data

$L^*=L^*_a \quad a^*_a \quad b^*_a \quad C^*_{ab,a} \quad h^*_{ab,a}$

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

%Gamut

$u^*_{rel} = 91$

%Regularity

$g^*_{H,rel} = 41$

$g^*_{C,rel} = 52$

relative Inform. Technology (IT)

olv13\* 1.0 0.5 1.0 (1.0)

cmyn3\* 0.0 0.5 0.0 (0.0)

olv14\* 1.0 0.5 1.0 1.0

cmyn4\* 0.0 0.5 0.0 0.0

standard and adapted CIELAB

LAB\*LAB 65.17 28.18 -19.4

LAB\*LABa 65.17 28.58 -22.12

LAB\*TChA 75.0 36.15 322.25

relative CIELAB lab\*

lab\*lab 0.609 0.395 -0.305

lab\*tch 0.75 0.5 0.895

lab\*nch 0.0 0.5 0.895

relative Natural Colour (NC)

lab\*lrj 0.609 0.324 -0.38

lab\*tce 0.75 0.2 0.862

lab\*ncE 0.0 0.5 b44r

relative Inform. Technology (IT)

olv13\* 0.5 0.5 0.5 (1.0)

cmyn3\* 0.5 0.5 0.5 (0.0)

olv14\* 1.0 1.0 1.0 0.5

cmyn4\* 0.0 0.0 0.0 0.5

standard and adapted CIELAB

LAB\*LAB 34.95 57.34 -43.57

LAB\*LABa 34.95 57.16 -44.25

LAB\*TChA 50.0 57.29 322.25

relative CIELAB lab\*

lab\*lab 0.219 0.791 -0.611

lab\*tch 0.5 1.0 0.895

lab\*nch 0.0 1.0 0.895

relative Natural Colour (NC)

lab\*lrj 0.219 0.648 -0.76

lab\*tce 0.5 1.0 0.862

lab\*ncE 0.0 1.0 b44r

relative Inform. Technology (IT)

olv13\* 0.0 0.0 0.0 (1.0)

cmyn3\* 1.0 1.0 1.0 (0.0)

olv14\* 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 0.0 0.0

LAB\*TChA 0.01 0.01 -

relative CIELAB lab\*

lab\*lab 0.0 0.0 0.0

lab\*tch 0.0 0.0 -

lab\*nch 1.0 0.0 -

relative Natural Colour (NC)

lab\*lrj 0.0 0.0 0.0

lab\*tce 0.0 0.0 -

lab\*ncE 1.0 0.0 -

$n^* = 0,00$



blackness  $n^*$

chromaticness  $c^*$

## Output: Colorimetric Reflective System NCS11

for hue  $h^* = lab^*h = 325/360 = 0.903$

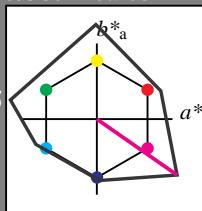
$lab^*tch$  and  $lab^*nch$

D65: hue B50R

LCH\*Ma: 44 129 325

olv\*Ma: 1.0 0.0 1.0

triangle lightness  $t^*$



%Gamut

$u^*_{rel} = 149$

%Regularity

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

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

relative Inform. Technology (IT)

olv13\* 1.0 0.5 1.0 (1.0)

cmyn3\* 0.0 0.5 0.0 (0.0)

olv14\* 1.0 0.5 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 0.0 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)

olv13\* 0.5 0.0 0.5 (1.0)

cmyn3\* 0.5 0.0 0.5 (0.0)

olv14\* 1.0 0.5 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\*LABa 53.21 0.0 0.0

LAB\*TChA 50.0 0.01 -

relative CIELAB lab\*

lab\*lab 0.5 0.0 0.0

lab\*tch 0.5 0.0 -

lab\*nch 0.5 0.0 -

relative Natural Colour (NC)

lab\*lrj 0.5 0.0 0.0

lab\*tce 0.5 0.0 0.0

lab\*ncE 0.5 0.0 -

relative Inform. Technology (IT)

olv13\* 0.0 0.0 0.0 (1.0)

cmyn3\* 1.0 0.0 1.0 (0.0)

olv14\* 1.0 0.0 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 0.0 0.0

LAB\*TChA 0.01 0.01 -

relative CIELAB lab\*

lab\*lab 0.0 0.0 0.0

lab\*tch 0.0 0.0 -

lab\*nch 0.0 0.0 -

relative Natural Colour (NC)

lab\*lrj 0.0 0.0 0.0

lab\*tce 0.0 0.0 0.0

lab\*ncE 0.0 0.0 -

relative Inform. Technology (IT)

olv13\* 0.0 0.0 0.0 (1.0)

cmyn3\* 0.0 0.0 0.0 (0.0)

olv14\* 0.0 0.0 0.0 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 0.0 0.0

LAB\*TChA 0.01 0.01 -

relative CIELAB lab\*

lab\*lab 0.0 0.0 0.0

lab\*tch 0.0 0.0 -

lab\*nch 0.0 0.0 -

relative Natural Colour (NC)

lab\*lrj 0.0 0.0 0.0

lab\*tce 0.0 0.0 0.0

lab\*ncE 0.0 0.0 -

relative Inform. Technology (IT)

olv13\* 0.0 0.0 0.0 (1.0)

cmyn3\* 0.0 0.0 0.0 (0.0)

olv14\* 0.0 0.0 0.0 0.0

cmyn4\* 0.0 0.0 0.0 1.0

standard and adapted CIELAB

### Input: Colorimetric Reflective System TRS18

for hue  $h^* = lab^*h = 354/360 = 0.982$

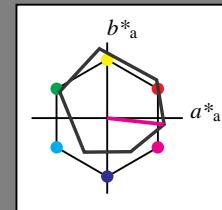
$lab^*tch$  and  $lab^*nch$

D65: hue M

LCH\*Ma: 48 76 354

olv\*Ma: 1.0 0.0 1.0

triangle lightness  $t^*$



relative Inform. Technology (IT)  
 $olv^3*$  1.0 1.0 1.0 (1.0)  
 $cmy^3*$  0.0 0.0 0.0 (0.0)

$olv^4*$  1.0 1.0 1.0 1.0  
 $cmy^4*$  0.0 0.0 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  95.41 -0.97 4.75

$LAB^*LABa$  95.41 0.0 0.0

$LAB^*TCh$  99.99 0.01 -

relative CIELAB lab\*

$lab^*lab$  1.0 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  1.0 0.0 0.0

$lab^*ice$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)  
 $olv^3*$  0.5 0.5 0.5 (1.0)  
 $cmy^3*$  0.5 0.5 0.5 (0.0)

$olv^4*$  1.0 1.0 1.0 0.5

$cmy^4*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  56.71 -0.23 2.14

$LAB^*LABa$  56.71 0.0 0.0

$LAB^*TCh$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  0.5 0.0 0.0

$lab^*ice$  0.5 0.0 0.0

$lab^*ncE$  0.5 0.0 -

relative Inform. Technology (IT)  
 $olv^3*$  0.0 0.0 0.0 (1.0)  
 $cmy^3*$  1.0 1.0 1.0 (0.0)

$olv^4*$  1.0 1.0 1.0 0.0

$cmy^4*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.5 -0.46

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TCh$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  0.0 0.0 0.0

$lab^*ice$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

### TRS18; adapted (a) CIELAB data

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

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

%Gamut

$u^*_{rel} = 93$

%Regularity

$g^*_{H,rel} = 57$

$g^*_{C,rel} = 59$

relative Inform. Technology (IT)

$olv^3*$  1.0 0.5 1.0 (1.0)

$cmy^3*$  0.0 0.5 0.0 (0.0)

$olv^4*$  1.0 0.5 1.0 1.0

$cmy^4*$  0.0 0.5 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  71.77 37.1 -1.01

$LAB^*LABa$  71.77 37.63 -4.17

$LAB^*TCh$  75.0 37.86 353.66

relative CIELAB lab\*

$lab^*lab$  0.695 0.497 -0.054

$lab^*tch$  0.75 0.5 0.982

$lab^*nch$  0.0 0.5 0.982

relative Natural Colour (NC)

$lab^*lrj$  0.695 0.454 -0.208

$lab^*ice$  0.75 0.5 0.932

$lab^*ncE$  0.0 0.5 b72r

relative Inform. Technology (IT)

$olv^3*$  0.5 0.5 0.5 (1.0)

$cmy^3*$  0.5 0.5 0.5 (0.0)

$olv^4*$  1.0 1.0 1.0 0.5

$cmy^4*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  48.14 75.18 -6.78

$LAB^*LABa$  48.14 75.25 -8.35

$LAB^*TCh$  50.0 75.71 353.66

relative CIELAB lab\*

$lab^*lab$  0.389 0.994 -0.109

$lab^*tch$  0.5 1.0 0.982

$lab^*nch$  0.0 1.0 0.982

relative Natural Colour (NC)

$lab^*lrj$  0.389 0.909 -0.416

$lab^*ice$  0.5 1.0 0.932

$lab^*ncE$  0.0 1.0 b72r

relative Inform. Technology (IT)

$olv^3*$  0.0 0.0 0.0 (1.0)

$cmy^3*$  1.0 1.0 1.0 (0.0)

$olv^4*$  1.0 1.0 1.0 0.0

$cmy^4*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.5 -0.46

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TCh$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.195 0.497 -0.054

$lab^*tch$  0.25 0.5 0.982

$lab^*nch$  0.5 0.5 0.982

relative Natural Colour (NC)

$lab^*lrj$  0.195 0.454 -0.208

$lab^*ice$  0.25 0.5 0.932

$lab^*ncE$  0.5 0.5 b72r

$n^* = 0,00$

blackness  $n^*$

$chromaticness c^*$

### Output: Colorimetric Reflective System ORS18

for hue  $h^* = lab^*h = 354/360 = 0.982$

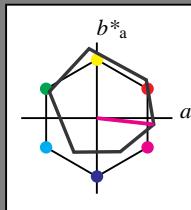
$lab^*tch$  and  $lab^*nch$

D65: hue M

LCH\*Ma: 48 76 354

olv\*Ma: 1.0 0.0 1.0

triangle lightness  $t^*$



%Gamut

$u^*_{rel} = 93$

%Regularity

$g^*_{H,rel} = 57$

$g^*_{C,rel} = 59$

relative Inform. Technology (IT)

$olv^3*$  1.0 0.5 1.0 (1.0)

$cmy^3*$  0.0 0.5 0.0 (0.0)

$olv^4*$  1.0 0.5 1.0 1.0

$cmy^4*$  0.0 0.0 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  95.41 -0.97 4.75

$LAB^*LABa$  95.41 0.0 0.0

$LAB^*TCh$  99.99 0.01 -

relative CIELAB lab\*

$lab^*lab$  1.0 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  1.0 0.0 0.0

$lab^*ice$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)

$olv^3*$  0.5 0.5 1.0 (1.0)

$cmy^3*$  0.5 0.5 0.5 (0.0)

$olv^4*$  1.0 0.5 1.0 0.5

$cmy^4*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  48.14 75.18 -6.78

$LAB^*LABa$  48.14 75.25 -8.35

$LAB^*TCh$  50.0 75.71 353.66

relative CIELAB lab\*

$lab^*lab$  0.695 0.497 -0.054

$lab^*tch$  0.75 0.5 0.982

$lab^*nch$  0.0 0.5 0.982

relative Natural Colour (NC)

$lab^*lrj$  0.695 0.454 -0.208

$lab^*ice$  0.75 0.5 0.932

$lab^*ncE$  0.0 0.5 b72r

$n^* = 1,0$

blackness  $n^*$

$chromaticness c^*$

3 step scales for constant CIELAB hue 354/360 = 0.982 (left)

3 step scales for constant CIELAB hue 354/360 = 0.982 (right)

UE100-7, 3 step scales for constant CIELAB hue 354/360 = 0.982 (left)

3 step scales for constant CIELAB hue 354/360 = 0.982 (right)

## Input: Colorimetric Reflective System TRS18

for hue  $h^* = lab^*h = 354/360 = 0.982$

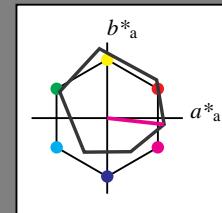
$lab^*tch$  and  $lab^*nch$

D65: hue M

LCH\*Ma: 48 76 354

olv\*Ma: 1.0 0.0 1.0

triangle lightness  $t^*$



### TRS18; adapted (a) CIELAB data

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

olv*i*3\* 1.0 1.0 1.0 (1.0)

cmy*n*3\* 0.0 0.0 0.0 (0.0)

olv*i*4\* 1.0 1.0 1.0 1.0

cmy*n*4\* 0.0 0.0 0.0 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 0.0 0.0

lab\*tch 1.0 0.0 -

lab\*nch 0.0 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 -

standard and adapted CIELAB

LAB\*LAB 71.77 37.1 -1.01

LAB\*LABa 71.77 37.63 -4.17

LAB\*TChA 75.0 37.86 353.66

relative CIELAB lab\*

lab\*lab 0.695 0.497 -0.054

lab\*tch 0.75 0.5 0.982

lab\*nch 0.0 0.5 0.982

relative Natural Colour (NC)

lab\*lrj 0.695 0.454 -0.208

lab\*tce 0.75 0.5 0.932

lab\*ncE 0.0 0.5 b72r

relative Inform. Technology (IT)

olv*i*3\* 0.5 0.5 0.5 (1.0)

cmy*n*3\* 0.5 0.5 0.5 (0.0)

olv*i*4\* 1.0 1.0 1.0 0.5

cmy*n*4\* 0.0 0.0 0.5

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 CIELAB lab\*

lab\*lab 0.5 0.0 0.0

lab\*tch 0.5 0.0 -

lab\*nch 0.5 0.0 -

relative Natural Colour (NC)

lab\*lrj 0.5 0.0 0.0

lab\*tce 0.5 0.0 0.0

lab\*ncE 0.5 0.0 -

standard and adapted CIELAB

LAB\*LAB 33.08 37.84 -3.62

LAB\*LABa 33.08 37.63 -4.17

LAB\*TChA 25.01 37.86 353.66

relative CIELAB lab\*

lab\*lab 0.195 0.497 -0.054

lab\*tch 0.25 0.5 0.982

lab\*nch 0.5 0.5 0.982

relative Natural Colour (NC)

lab\*lrj 0.195 0.454 -0.208

lab\*tce 0.25 0.5 0.932

lab\*ncE 0.5 0.5 b72r

$n^* = 1,0$

$n^* = 0,00$

$n^* = 0,50$

$1,00$

chromaticness  $c^*$

$n^* = 0,00$

blackness  $n^*$

$n^* = 0,50$

$1,00$

chromaticness  $c^*$

## Output: Colorimetric Reflective System MRS18

for hue  $h^* = lab^*h = 322/360 = 0.895$

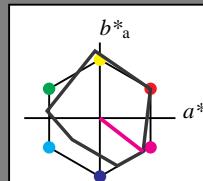
$lab^*tch$  and  $lab^*nch$

D65: hue B50R

LCH\*Ma: 35 72 322

olv\*Ma: 1.0 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

relative Inform. Technology (IT)

olv*i*3\* 1.0 1.0 1.0 (1.0)

cmy*n*3\* 0.0 0.0 0.0 (0.0)

olv*i*4\* 1.0 1.0 1.0 1.0

cmy*n*4\* 0.0 0.0 0.0 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 0.0 0.0

lab\*tch 1.0 0.0 -

lab\*nch 0.0 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 -

standard and adapted CIELAB

LAB\*LAB 71.77 37.1 -1.01

LAB\*LABa 71.77 37.63 -4.17

LAB\*TChA 75.0 37.86 353.66

relative CIELAB lab\*

lab\*lab 0.695 0.497 -0.054

lab\*tch 0.75 0.5 0.982

lab\*nch 0.0 0.5 0.982

relative Natural Colour (NC)

lab\*lrj 0.695 0.454 -0.208

lab\*tce 0.75 0.5 0.932

lab\*ncE 0.0 0.5 b72r

relative Inform. Technology (IT)

olv*i*3\* 0.5 0.5 0.5 (1.0)

cmy*n*3\* 0.5 0.5 0.5 (0.0)

olv*i*4\* 1.0 0.5 1.0 0.5

cmy*n*4\* 0.0 0.5 0.0 0.5

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 CIELAB lab\*

lab\*lab 0.195 0.497 -0.054

lab\*tch 0.25 0.5 0.982

lab\*nch 0.5 0.5 0.982

relative Natural Colour (NC)

lab\*lrj 0.195 0.454 -0.208

lab\*tce 0.25 0.5 0.932

lab\*ncE 0.5 0.5 b72r

$n^* = 1,0$

$n^* = 0,00$

blackness  $n^*$

$n^* = 0,50$

$1,00$

chromaticness  $c^*$

$n^* = 0,00$

blackness  $n^*$

$n^* = 0,50$

$1,00$

chromaticness  $c^*$

UE100-7, 3 step scales for constant CIELAB hue 354/360 = 0.982 (left)

3 step scales for constant CIELAB hue 322/360 = 0.895 (right)

### Input: Colorimetric Reflective System TRS18

for hue  $h^* = lab^*h = 354/360 = 0.982$

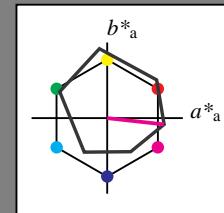
$lab^*tch$  and  $lab^*nch$

D65: hue M

LCH\*Ma: 48 76 354

olv\*Ma: 1.0 0.0 1.0

triangle lightness  $t^*$



### TRS18; adapted (a) CIELAB data

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

olv*i*3\* 1.0 1.0 1.0 (1.0)

cmy*n*3\* 0.0 0.0 0.0 (0.0)

olv*i*4\* 1.0 1.0 1.0 1.0

cmy*n*4\* 0.0 0.0 0.0 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 0.0 0.0

lab\*tch 1.0 0.0 -

lab\*nch 0.0 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 -

standard and adapted CIELAB

LAB\*LAB 71.77 37.1 -1.01

LAB\*LABa 71.77 37.63 -4.17

LAB\*TChA 75.0 37.86 353.66

relative CIELAB lab\*

lab\*lab 0.695 0.497 -0.054

lab\*tch 0.75 0.5 0.982

lab\*nch 0.0 0.5 0.982

relative Natural Colour (NC)

lab\*lrj 0.695 0.454 -0.208

lab\*tce 0.75 0.5 0.932

lab\*ncE 0.0 0.5 b72r

relative Inform. Technology (IT)

olv*i*3\* 0.5 0.5 0.5 (1.0)

cmy*n*3\* 0.5 0.5 0.5 (0.0)

olv*i*4\* 1.0 1.0 1.0 0.5

cmy*n*4\* 0.0 0.0 0.5

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 CIELAB lab\*

lab\*lab 0.5 0.0 0.0

lab\*tch 0.5 0.0 -

lab\*nch 0.5 0.0 -

relative Natural Colour (NC)

lab\*lrj 0.5 0.0 0.0

lab\*tce 0.5 0.0 0.0

lab\*ncE 0.5 0.0 -

standard and adapted CIELAB

LAB\*LAB 33.08 37.84 -3.62

LAB\*LABa 33.08 37.63 -4.17

LAB\*TChA 25.01 37.86 353.66

relative CIELAB lab\*

lab\*lab 0.195 0.497 -0.054

lab\*tch 0.25 0.5 0.982

lab\*nch 0.5 0.5 0.982

relative Natural Colour (NC)

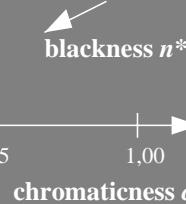
lab\*lrj 0.195 0.454 -0.208

lab\*tce 0.25 0.5 0.932

lab\*ncE 0.5 0.5 b72r

$n^* = 1,0$

$n^* = 0,00$



chromaticness  $c^*$

### Output: Colorimetric Reflective System TRS18

for hue  $h^* = lab^*h = 354/360 = 0.982$

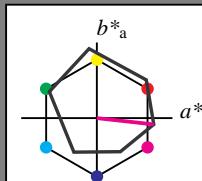
$lab^*tch$  and  $lab^*nch$

D65: hue M

LCH\*Ma: 48 76 354

olv\*Ma: 1.0 0.0 1.0

triangle lightness  $t^*$



### TRS18; adapted (a) CIELAB data

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

olv*i*3\* 1.0 0.5 1.0 (1.0)

cmy*n*3\* 0.0 0.5 0.0 (0.0)

olv*i*4\* 1.0 0.5 1.0 1.0

cmy*n*4\* 0.0 0.5 0.0 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 0.0 0.0

lab\*tch 1.0 0.0 -

lab\*nch 0.0 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 -

standard and adapted CIELAB

LAB\*LAB 71.77 37.1 -1.01

LAB\*LABa 71.77 37.63 -4.17

LAB\*TChA 75.0 37.86 353.66

relative CIELAB lab\*

lab\*lab 0.695 0.497 -0.054

lab\*tch 0.75 0.5 0.982

lab\*nch 0.0 0.5 0.982

relative Natural Colour (NC)

lab\*lrj 0.695 0.454 -0.208

lab\*tce 0.75 0.5 0.932

lab\*ncE 0.0 0.5 b72r

$n^* = 1,0$



chromaticness  $c^*$

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

olv*i*3\* 1.0 0.5 1.0 (1.0)

cmy*n*3\* 0.0 0.5 0.0 (0.0)

olv*i*4\* 1.0 0.5 1.0 1.0

cmy*n*4\* 0.0 0.5 0.0 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 0.0 0.0

lab\*tch 1.0 0.0 -

lab\*nch 0.0 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 -

$n^* = 1,0$

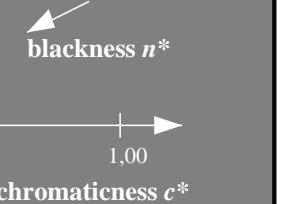


chromaticness  $c^*$

UE100-7, 3 step scales for constant CIELAB hue 354/360 = 0.982 (left)

3 step scales for constant CIELAB hue 354/360 = 0.982 (right)

$n^* = 0,00$



chromaticness  $c^*$

### Input: Colorimetric Reflective System TRS18

for hue  $h^* = lab^*h = 354/360 = 0.982$

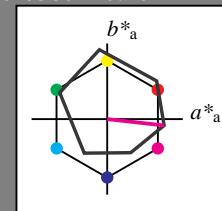
$lab^*tch$  and  $lab^*nch$

D65: hue M

LCH\*Ma: 48 76 354

olv\*Ma: 1.0 0.0 1.0

triangle lightness  $t^*$



### TRS18; adapted (a) CIELAB data

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

$olv^3*$  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

$LAB^*LABa$  95.41 0.0 0.0

$LAB^*TCh$  99.99 0.01 -

relative CIELAB lab\*

$lab^*lab$  1.0 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  1.0 0.0 0.0

$lab^*ice$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  71.77 37.1 -1.01

$LAB^*LABa$  71.77 37.63 -4.17

$LAB^*TCh$  75.0 37.86 353.66

relative CIELAB lab\*

$lab^*lab$  0.695 0.497 -0.054

$lab^*tch$  0.75 0.5 0.982

$lab^*nch$  0.0 0.5 0.982

relative Natural Colour (NC)

$lab^*lrj$  0.695 0.454 -0.208

$lab^*ice$  0.75 0.2 0.932

$lab^*ncE$  0.0 0.5 b72r

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 0.5

$cmyn^4*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  56.71 -0.23 2.14

$LAB^*LABa$  56.71 0.0 0.0

$LAB^*TCh$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  0.5 0.0 0.0

$lab^*ice$  0.5 0.0 0.0

$lab^*ncE$  0.5 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  48.14 75.18 -6.78

$LAB^*LABa$  48.14 75.25 -8.35

$LAB^*TCh$  50.0 75.71 353.66

relative CIELAB lab\*

$lab^*lab$  0.389 0.994 -0.109

$lab^*tch$  0.5 1.0 0.982

$lab^*nch$  0.0 1.0 0.982

relative Natural Colour (NC)

$lab^*lrj$  0.389 0.909 -0.416

$lab^*ice$  0.5 1.0 0.932

$lab^*ncE$  0.0 1.0 b72r

$n^* = 1,0$

$n^* = 0,00$

$n^* = 0,50$

$n^* = 1,00$

### Output: Colorimetric Reflective System MRS18a

for hue  $h^* = lab^*h = 323/360 = 0.896$

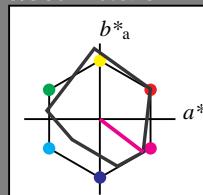
$lab^*tch$  and  $lab^*nch$

D65: hue B50R

LCH\*Ma: 35 72 323

olv\*Ma: 1.0 0.0 1.0

triangle lightness  $t^*$



### MRS18a; adapted (a) CIELAB data

	$L^* = L^*_{ab}$	$a^*_{ab}$	$b^*_{ab}$	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	49.63	66.8	40.02	77.87	31
JMa	90.7	-7.27	93.19	93.48	94
GMa	52.11	-69.93	11.26	70.85	171
G50BMa	45.03	-36.65	-27.13	45.61	217
BMa	36.65	23.26	-62.27	66.49	290
B50RMa	34.94	57.27	-43.6	71.99	323
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	272

%Gamut

$u^*_{rel} = 93$

%Regularity

$g^*_{H,rel} = 57$

$g^*_{C,rel} = 59$

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 0.01 0.0

$LAB^*LABa$  95.41 0.0 0.0

$LAB^*TCh$  99.99 0.01 -

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)

$lab^*lrj$  1.0 0.0 0.0

$lab^*ice$  1.0 0.0 0.0

$lab^*ncE$  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 0.5 1.0 0.5

$cmyn^4*$  0.0 0.5 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  48.14 75.18 -6.78

$LAB^*LABa$  48.14 75.25 -8.35

$LAB^*TCh$  50.0 75.71 353.66

relative CIELAB lab\*

$lab^*lab$  0.389 0.994 -0.109

$lab^*tch$  0.5 1.0 0.982

$lab^*nch$  0.0 1.0 0.982

relative Natural Colour (NC)

$lab^*lrj$  0.389 0.909 -0.416

$lab^*ice$  0.5 1.0 0.932

$lab^*ncE$  0.0 1.0 b72r

$n^* = 0,00$

$n^* = 0,50$

$n^* = 1,00$

### Input: Colorimetric Reflective System TRS18

for hue  $h^* = lab^*h = 354/360 = 0.982$

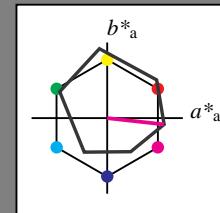
$lab^*tch$  and  $lab^*nch$

D65: hue M

LCH\*Ma: 48 76 354

olv\*Ma: 1.0 0.0 1.0

triangle lightness  $t^*$



### TRS18; adapted (a) CIELAB data

	$L^* = L^*_a$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
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)

$olv^3*$  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

$LAB^*LABa$  95.41 0.0 0.0

$LAB^*TCh$  99.99 0.01 -

relative CIELAB lab\*

$lab^*lab$  1.0 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  1.0 0.0 0.0

$lab^*ice$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  71.77 37.1 -1.01

$LAB^*LABa$  71.77 37.63 -4.17

$LAB^*TCh$  75.0 37.86 353.66

relative CIELAB lab\*

$lab^*lab$  0.695 0.497 -0.054

$lab^*tch$  0.75 0.5 0.982

$lab^*nch$  0.0 0.5 0.982

relative Natural Colour (NC)

$lab^*lrj$  0.695 0.454 -0.208

$lab^*ice$  0.75 0.2 0.932

$lab^*ncE$  0.0 0.5 b72r

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 0.5

$cmyn^4*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  56.71 -0.23 2.14

$LAB^*LABa$  56.71 0.0 0.0

$LAB^*TCh$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  0.5 0.0 0.0

$lab^*ice$  0.5 0.0 0.0

$lab^*ncE$  0.5 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.5 -0.46

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TCh$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  0.0 0.0 0.0

$lab^*ice$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

relative Inform. Technology (IT)

$olv^3*$  0.0 0.0 0.0 (1.0)

$cmyn^3*$  1.0 1.0 1.0 (0.0)

$olv^4*$  1.0 1.0 1.0 0.0

$cmyn^4*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.5 -0.46

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TCh$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  0.0 0.0 0.0

$lab^*ice$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.5 -0.46

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TCh$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  0.0 0.0 0.0

$lab^*ice$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

### Output: Colorimetric Reflective System NRS18

for hue  $h^* = lab^*h = 325/360 = 0.903$

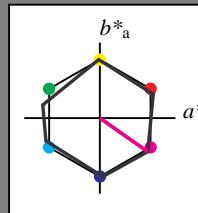
$lab^*tch$  and  $lab^*nch$

D65: hue B50R

LCH\*Ma: 57 77 325

olv\*Ma: 1.0 0.0 1.0

triangle lightness  $t^*$



### NRS18; adapted (a) CIELAB data

	$L^* = L^*_a$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	56.7	70.66	31.47	77.35	24
JMa	56.7	-1.39	77.37	77.39	91
GMa	56.7	-75.46	17.4	77.45	167
G50BMa	56.7	-71.29	-30.25	77.45	203
BMa	56.7	4.0	-77.3	77.41	273
B50RMa	56.7	63.35	-44.4	77.36	325
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	272

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 0.0

$LAB^*LABa$  95.41 0.0 0.0

$LAB^*TCh$  99.99 0.01 -

relative CIELAB lab\*

$lab^*lab$  1.0 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  1.0 0.0 0.0

$lab^*ice$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  76.05 31.7 -22.18

$LAB^*LABa$  76.05 31.67 -22.19

$LAB^*TCh$  75.0 38.67 324.97

relative CIELAB lab\*

$lab^*lab$  0.75 0.409 -0.286

$lab^*tch$  0.75 0.5 0.903

$lab^*nch$  0.0 0.5 0.903

relative Natural Colour (NC)

$lab^*lrj$  0.75 0.336 -0.37

$lab^*ice$  0.75 0.5 0.867

$lab^*ncE$  0.0 0.5 b46r

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 0.5 1.0 0.5

$cmyn^4*$  0.0 0.5 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.09 0.02

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TCh$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.25 0.409 -0.286

$lab^*tch$  0.25 0.5 0.903

$lab^*nch$  0.5 0.5 0.903

relative Natural Colour (NC)

$lab^*lrj$  0.25 0.336 -0.37

$lab^*ice$  0.25 0.5 0.867

$lab^*ncE$  0.5 0.5 b46r

$n^* = 0,00$

$n^* = 1,0$

relative Inform. Technology (IT)

$olv^3*$  1.0 1.0 1.0 (0.0)

$cmyn^3*$  0.0 0.0 0.0 (0.0)

$olv^4*$  1.0 1.0 1.0 0.0

$cmyn^4*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.09 0.02

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TCh$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.25 0.409 -0.286

$lab^*tch$  0.25 0.5 0.903

$lab^*nch$  0.5 0.5 0.903

relative Natural Colour (NC)

$lab^*lrj$  0.25 0.336 -0.37

$lab^*ice$  0.25 0.5 0.867

$lab^*ncE$  0.5 0.5 b46r

### Input: Colorimetric Reflective System TRS18

for hue  $h^* = lab^*h = 354/360 = 0.982$

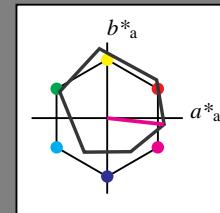
$lab^*tch$  and  $lab^*nch$

D65: hue M

LCH\*Ma: 48 76 354

olv\*Ma: 1.0 0.0 1.0

triangle lightness  $t^*$



### TRS18; adapted (a) CIELAB data

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

$olv^3*$  1.0 1.0 1.0 (1.0)

$cmyn3*$  0.0 0.0 0.0 (0.0)

$olv^4*$  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

$LAB^*LABa$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  1.0 0.0 0.0

$lab^*ice$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  71.77 37.1 -1.01

$LAB^*LABa$  71.77 37.63 -4.17

$LAB^*TChA$  75.0 37.86 353.66

relative CIELAB lab\*

$lab^*lab$  0.695 0.497 -0.054

$lab^*tch$  0.75 0.5 0.982

$lab^*nch$  0.0 0.5 0.982

relative Natural Colour (NC)

$lab^*lrj$  0.695 0.454 -0.208

$lab^*ice$  0.75 0.2 0.932

$lab^*ncE$  0.0 0.5 b72r

relative Inform. Technology (IT)

$olv^3*$  0.5 0.5 0.5 (1.0)

$cmyn3*$  0.5 0.5 0.5 (0.0)

$olv^4*$  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

$LAB^*LABa$  56.71 0.0 0.0

$LAB^*TChA$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  0.5 0.0 0.0

$lab^*ice$  0.5 0.0 0.0

$lab^*ncE$  0.5 0.0 -

$n^* = 1,0$

%Gamut

$u^*_{rel} = 93$

%Regularity

$g^*_{H,rel} = 57$

$g^*_{C,rel} = 59$

relative Inform. Technology (IT)

$olv^3*$  1.0 0.5 1.0 (1.0)

$cmyn3*$  0.0 0.5 0.0 (0.0)

$olv^4*$  1.0 0.5 1.0 1.0

$cmyn4*$  0.0 0.5 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  71.77 37.1 -1.01

$LAB^*LABa$  71.77 37.63 -4.17

$LAB^*TChA$  75.0 37.86 353.66

relative CIELAB lab\*

$lab^*lab$  0.695 0.497 -0.054

$lab^*tch$  0.75 0.5 0.982

$lab^*nch$  0.0 0.5 0.982

relative Natural Colour (NC)

$lab^*lrj$  0.695 0.454 -0.208

$lab^*ice$  0.75 0.2 0.932

$lab^*ncE$  0.0 0.5 b72r

standard and adapted CIELAB

$LAB^*LAB$  48.14 75.18 -6.78

$LAB^*LABa$  48.14 75.25 -8.35

$LAB^*TChA$  50.0 75.71 353.66

relative CIELAB lab\*

$lab^*lab$  0.389 0.994 -0.109

$lab^*tch$  0.5 1.0 0.982

$lab^*nch$  0.0 1.0 0.982

relative Natural Colour (NC)

$lab^*lrj$  0.389 0.909 -0.416

$lab^*ice$  0.5 1.0 0.932

$lab^*ncE$  0.0 1.0 b72r

relative Inform. Technology (IT)

$olv^3*$  0.5 0.0 0.5 (1.0)

$cmyn3*$  0.5 1.0 0.5 (0.0)

$olv^4*$  1.0 0.5 1.0 0.5

$cmyn4*$  0.0 0.5 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.5 -0.46

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  0.0 0.0 0.0

$lab^*ice$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 0,00$

blackness  $n^*$

$n^* = 0,50$

—

—

—

$n^* = 1,00$

chromaticness  $c^*$

### Output: Colorimetric Reflective System NCS18

for hue  $h^* = lab^*h = 325/360 = 0.903$

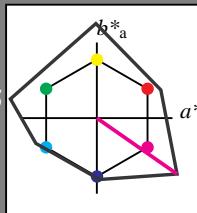
$lab^*tch$  and  $lab^*nch$

D65: hue B50R

LCH\*Ma: 44 129 325

olv\*Ma: 1.0 0.0 1.0

triangle lightness  $t^*$



### NCS18; adapted (a) CIELAB data

	$L^* = L_a^*$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	47.15	84.63	37.24	92.46	24
JMa	91.37	-1.27	125.03	125.03	91
GMa	63.07	-114.29	25.34	117.07	167
G50BMa	59.47	-80.61	-33.45	87.29	203
BMa	49.01	3.63	-81.2	81.29	273
B50RMa	44.06	106.07	-73.94	129.31	325
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	272

relative Inform. Technology (IT)

$olv^3*$  1.0 0.5 1.0 (1.0)

$cmyn3*$  0.0 0.5 0.0 (0.0)

$olv^4*$  1.0 0.5 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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  1.0 0.0 0.0

$lab^*ice$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  69.73 53.06 -36.95

$LAB^*LABa$  69.73 53.03 -36.96

$LAB^*TChA$  75.0 64.64 325.12

relative CIELAB lab\*

$lab^*lab$  0.668 0.41 -0.285

$lab^*tch$  0.75 0.5 0.903

$lab^*nch$  0.0 0.5 0.903

relative Natural Colour (NC)

$lab^*lrj$  0.668 0.336 -0.369

$lab^*ice$  0.75 0.5 0.867

$lab^*ncE$  0.0 0.5 b46r

$n^* = 0,00$

blackness  $n^*$

$n^* = 0,50$

—

—

—

$n^* = 1,00$

chromaticness  $c^*$

3 step scales for constant CIELAB hue 354/360 = 0.982 (left)

3 step scales for constant CIELAB hue 325/360 = 0.903 (right)

UE100-7, 3 step scales for constant CIELAB hue 354/360 = 0.982 (left)

UE100-7, 3 step scales for constant CIELAB hue 325/360 = 0.903 (right)

### Input: Colorimetric Reflective System TRS18

for hue  $h^* = lab^*h = 354/360 = 0.982$

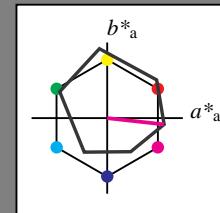
$lab^*tch$  and  $lab^*nch$

D65: hue M

LCH\*Ma: 48 76 354

olv\*Ma: 1.0 0.0 1.0

triangle lightness  $t^*$



### TRS18; adapted (a) CIELAB data

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

$olv^3*$  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

$LAB^*LABa$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 -

$lab^*ncE$  0.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  71.77 37.1 -1.01

$LAB^*LABa$  71.77 37.63 -4.17

$LAB^*TChA$  75.0 37.86 353.66

relative CIELAB lab\*

$lab^*lab$  0.695 0.497 -0.054

$lab^*tch$  0.75 0.5 0.982

$lab^*nch$  0.0 0.5 0.982

relative Natural Colour (NC)

$lab^*lrij$  0.695 0.454 -0.208

$lab^*tce$  0.75 0.2 0.932

$lab^*ncE$  0.0 0.5 b72r

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 0.5

$cmyn^4*$  0.0 0.0 0.0 0.5

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 CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.5 0.0 0.0

$lab^*tce$  0.5 0.0 -

$lab^*ncE$  0.5 0.0 -

$n^* = 1,0$

%Gamut

$u^*_{rel} = 93$

%Regularity

$g^*_{H,rel} = 57$

$g^*_{C,rel} = 59$

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

$LAB^*LABa$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 -

$lab^*ncE$  0.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  71.77 37.1 -1.01

$LAB^*LABa$  71.77 37.63 -4.17

$LAB^*TChA$  75.0 37.86 353.66

relative CIELAB lab\*

$lab^*lab$  0.695 0.497 -0.054

$lab^*tch$  0.75 0.5 0.982

$lab^*nch$  0.0 0.5 0.982

relative Natural Colour (NC)

$lab^*lrij$  0.695 0.454 -0.208

$lab^*tce$  0.75 0.2 0.932

$lab^*ncE$  0.0 0.5 b72r

relative Inform. Technology (IT)

$olv^3*$  0.0 0.0 0.0 (1.0)

$cmyn^3*$  0.0 0.0 0.0 (0.0)

$olv^4*$  1.0 0.0 1.0 0.5

$cmyn^4*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  48.14 75.18 -6.78

$LAB^*LABa$  48.14 75.25 -8.35

$LAB^*TChA$  50.0 75.71 353.66

relative CIELAB lab\*

$lab^*lab$  0.389 0.994 -0.109

$lab^*tch$  0.5 1.0 0.982

$lab^*nch$  0.0 1.0 0.982

relative Natural Colour (NC)

$lab^*lrij$  0.389 0.909 -0.416

$lab^*tce$  0.5 1.0 0.932

$lab^*ncE$  0.0 1.0 b72r

$n^* = 0,00$

blackness  $n^*$

$n^* = 0,50$

$n^* = 1,00$

chromaticness  $c^*$

### Output: Colorimetric Reflective System NRS11

for hue  $h^* = lab^*h = 325/360 = 0.903$

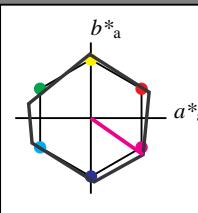
$lab^*tch$  and  $lab^*nch$

D65: hue B50R

LCH\*Ma: 53 84 325

olv\*Ma: 1.0 0.0 1.0

triangle lightness  $t^*$



### NRS11; adapted (a) CIELAB data

	$L^* = L_a^*$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	53.2	77.06	34.32	84.36	24
JMa	53.2	-1.51	84.38	84.39	91
GMa	53.2	-82.27	18.98	84.44	167
G50BMa	53.2	-77.72	-32.98	84.44	203
BMa	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)

$olv^3*$  1.0 0.5 1.0 (1.0)

$cmyn^3*$  0.0 0.5 0.5 (0.0)

$olv^4*$  1.0 0.5 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

$LAB^*LABa$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 -

$lab^*ncE$  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 0.5 1.0 0.5

$cmyn^4*$  0.0 0.5 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  74.3 34.57 -24.19

$LAB^*LABa$  74.3 34.54 -24.2

$LAB^*TChA$  75.0 42.18 324.98

relative CIELAB lab\*

$lab^*lab$  0.75 0.409 -0.286

$lab^*tch$  0.75 0.5 0.903

$lab^*nch$  0.0 0.5 0.903

relative Natural Colour (NC)

$lab^*lrij$  0.75 0.336 -0.37

$lab^*tce$  0.75 0.5 0.867

$lab^*ncE$  0.0 0.5 b46r

$n^* = 0,00$

blackness  $n^*$

$n^* = 0,50$

$n^* = 1,00$

chromaticness  $c^*$

3 step scales for constant CIELAB hue 325/360 = 0.903 (right)

UE100-7, 3 step scales for constant CIELAB hue 354/360 = 0.982 (left)

### Input: Colorimetric Reflective System TRS18

for hue  $h^* = lab^*h = 354/360 = 0.982$

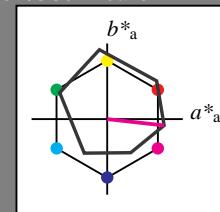
$lab^*tch$  and  $lab^*nch$

D65: hue M

LCH\*Ma: 48 76 354

olv\*Ma: 1.0 0.0 1.0

triangle lightness  $t^*$



relative Inform. Technology (IT)

olv13\* 1.0 1.0 1.0 (1.0)

cmyn3\* 0.0 0.0 0.0 (0.0)

olv14\* 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\*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 0.0 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)

olv13\* 0.5 0.5 0.5 (1.0)

cmyn3\* 0.5 0.5 0.5 (0.0)

olv14\* 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\*LABa 56.71 0.0 0.0

LAB\*TChA 50.0 0.01 -

relative CIELAB lab\*

lab\*lab 0.5 0.0 0.0

lab\*tch 0.5 0.0 -

lab\*nch 0.5 0.0 -

relative Natural Colour (NC)

lab\*lrj 0.5 0.0 0.0

lab\*tce 0.5 0.0 0.0

lab\*ncE 0.5 0.0 -

relative Inform. Technology (IT)

olv13\* 0.0 0.0 0.0 (1.0)

cmyn3\* 1.0 1.0 1.0 (0.0)

olv14\* 1.0 1.0 1.0 0.0

cmyn4\* 0.0 0.0 0.0 1.0

standard and adapted CIELAB

LAB\*LAB 18.02 0.5 -0.46

LAB\*LABa 18.02 0.0 0.0

LAB\*TChA 0.01 0.01 -

relative CIELAB lab\*

lab\*lab 0.0 0.0 0.0

lab\*tch 0.0 0.0 -

lab\*nch 1.0 0.0 -

relative Natural Colour (NC)

lab\*lrj 0.0 0.0 0.0

lab\*tce 0.0 0.0 0.0

lab\*ncE 1.0 0.0 -

$n^* = 1,0$

%Gamut

$u^*_{rel} = 93$

%Regularity

$g^*_{H,rel} = 57$

$g^*_{C,rel} = 59$

### TRS18; adapted (a) CIELAB data

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

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
JCIIE	81.26	-2.17	67.76	67.79	92
GCIIE	52.23	-42.26	11.75	43.87	164
BCIE	30.57	1.15	-46.84	46.87	271

triangle lightness  $t^*$

$n^* = 0,00$

blackness  $n^*$

$n^* = 0,50$

$n^* = 1,00$

chromaticness  $c^*$

### Output: Colorimetric Reflective System NCS11

for hue  $h^* = lab^*h = 325/360 = 0.903$

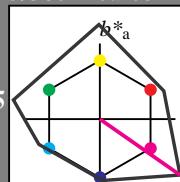
$lab^*tch$  and  $lab^*nch$

D65: hue B50R

LCH\*Ma: 44 129 325

olv\*Ma: 1.0 0.0 1.0

triangle lightness  $t^*$



%Gamut

$u^*_{rel} = 149$

%Regularity

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

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

### NCS11; adapted (a) CIELAB data

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

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

relative Inform. Technology (IT)

olv13\* 1.0 0.5 1.0 (1.0)

cmyn3\* 0.0 0.5 0.0 (0.0)

olv14\* 1.0 0.5 1.0 1.0

cmyn4\* 0.0 0.0 0.0 0.0

standard and adapted CIELAB

LAB\*LAB 69.73 53.06 -36.95

LAB\*LABa 69.73 53.03 -36.95

LAB\*TChA 75.0 64.65 325.12

relative CIELAB lab\*

lab\*lab 0.696 0.41 -0.285

lab\*tch 0.75 0.5 0.903

lab\*nch 0.0 0.5 0.903

relative Natural Colour (NC)

lab\*lrj 0.696 0.336 -0.369

lab\*tce 0.75 0.5 0.867

lab\*ncE 0.0 0.5 b46r

relative Inform. Technology (IT)

olv13\* 0.5 0.0 0.5 (1.0)

cmyn3\* 0.5 1.0 0.5 (0.0)

olv14\* 1.0 0.5 1.0 0.5

cmyn4\* 0.0 0.5 0.0 0.5

standard and adapted CIELAB

LAB\*LAB 44.06 106.12 -73.91

LAB\*LABa 44.06 106.07 -73.92

LAB\*TChA 50.0 129.29 325.12

relative CIELAB lab\*

lab\*lab 0.392 0.82 -0.571

lab\*tch 0.5 1.0 0.903

lab\*nch 0.0 1.0 0.903

relative Natural Colour (NC)

lab\*lrj 0.392 0.673 -0.739

lab\*tce 0.5 1.0 0.867

lab\*ncE 0.0 1.0 b46r

$n^* = 0,00$

blackness  $n^*$

$n^* = 0,50$

$n^* = 1,00$

chromaticness  $c^*$

$n^* = 1,0$

3 step scales for constant CIELAB hue 325/360 = 0.903 (right)

UE100-7, 3 step scales for constant CIELAB hue 354/360 = 0.982 (left)

### Input: Colorimetric Reflective System MRS18a

for hue  $h^* = lab^*h = 323/360 = 0.896$

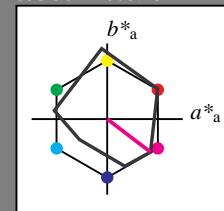
$lab^*tch$  and  $lab^*nch$

D65: hue B50R

LCH\*Ma: 35 72 323

olv\*Ma: 1.0 0.0 1.0

triangle lightness  $t^*$



### MRS18a; adapted (a) CIELAB data

	$L^*=L^*_a$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	49.63	66.8	40.02	77.87	31
JMa	90.7	-7.27	93.19	93.48	94
GMa	52.11	-69.93	11.26	70.85	171
G50BMa	45.03	-36.65	-27.13	45.61	217
BMa	36.65	23.26	-62.27	66.49	290
B50RMa	34.94	57.27	-43.6	71.99	323
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	272

relative Inform. Technology (IT)  
 $olv^3*$  1.0 1.0 1.0 (1.0)  
 $cmy^3*$  0.0 0.0 0.0 (0.0)  
 $olv^4*$  1.0 1.0 1.0 1.0  
 $cmy^4*$  0.0 0.0 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  95.41 0.01 0.0  
 $LAB^*LABa$  95.41 0.0 0.0  
 $LAB^*TCh$  99.99 0.01 -

relative CIELAB lab\*

$lab^*lab$  1.0 0.0 0.0  
 $lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrf$  1.0 0.0 0.0  
 $lab^*fce$  1.0 0.0 0.0  
 $lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)  
 $olv^3*$  0.5 0.5 0.5 (1.0)  
 $cmy^3*$  0.5 0.5 0.5 (0.0)  
 $olv^4*$  1.0 1.0 1.0 0.5  
 $cmy^4*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  56.71 0.05 0.0  
 $LAB^*LABa$  56.71 0.0 0.0  
 $LAB^*TCh$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0  
 $lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrf$  0.5 0.0 0.0  
 $lab^*fce$  0.5 0.0 0.0  
 $lab^*ncE$  0.5 0.0 -

relative Inform. Technology (IT)  
 $olv^3*$  0.0 0.0 0.0 (1.0)  
 $cmy^3*$  1.0 1.0 1.0 (0.0)  
 $olv^4*$  1.0 1.0 1.0 0.0  
 $cmy^4*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.1 0.02  
 $LAB^*LABa$  18.02 0.0 0.0  
 $LAB^*TCh$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0  
 $lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrf$  0.0 0.0 0.0  
 $lab^*fce$  0.0 0.0 -  
 $lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

### MRS18a; adapted (a) CIELAB data

	$L^*=L^*_a$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	49.63	66.8	40.02	77.87	31
JMa	90.7	-7.27	93.19	93.48	94
GMa	52.11	-69.93	11.26	70.85	171
G50BMa	45.03	-36.65	-27.13	45.61	217
BMa	36.65	23.26	-62.27	66.49	290
B50RMa	34.94	57.27	-43.6	71.99	323
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	272

%Gamut  
 $u^*_{rel} = 92$   
%Regularity  
 $g^*_{H,rel} = 42$   
 $g^*_{C,rel} = 49$

relative Inform. Technology (IT)  
 $olv^3*$  1.0 0.5 1.0 (1.0)  
 $cmy^3*$  0.0 0.5 0.0 (0.0)  
 $olv^4*$  1.0 0.5 1.0 1.0  
 $cmy^4*$  0.0 0.5 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  65.17 28.68 -21.78  
 $LAB^*LABa$  65.17 28.63 -21.79  
 $LAB^*TCh$  75.0 35.99 322.71

relative CIELAB lab\*

$lab^*lab$  0.609 0.398 -0.302  
 $lab^*tch$  0.75 0.5 0.896  
 $lab^*nch$  0.0 0.5 0.896

relative Natural Colour (NC)

$lab^*lrf$  0.609 0.324 -0.38  
 $lab^*fce$  0.75 0.2 0.862  
 $lab^*ncE$  0.0 0.5 b44r

relative Inform. Technology (IT)  
 $olv^3*$  0.5 0.5 0.5 (1.0)  
 $cmy^3*$  0.5 0.5 0.5 (0.0)  
 $olv^4*$  1.0 1.0 1.0 0.5  
 $cmy^4*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  34.95 57.34 -43.57  
 $LAB^*LABa$  34.95 57.26 -43.59  
 $LAB^*TCh$  50.0 57.19 322.71

relative CIELAB lab\*

$lab^*lab$  0.219 0.795 -0.605  
 $lab^*tch$  0.5 1.0 0.896  
 $lab^*nch$  0.0 1.0 0.896

relative Natural Colour (NC)

$lab^*lrf$  0.219 0.648 -0.761  
 $lab^*fce$  0.5 1.0 0.862  
 $lab^*ncE$  0.0 1.0 b44r

relative Inform. Technology (IT)  
 $olv^3*$  0.0 0.0 0.0 (1.0)  
 $cmy^3*$  1.0 1.0 1.0 (0.0)  
 $olv^4*$  1.0 1.0 1.0 0.0  
 $cmy^4*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  26.48 28.72 -21.77  
 $LAB^*LABa$  26.48 28.63 -21.79  
 $LAB^*TCh$  25.01 35.99 322.71

relative CIELAB lab\*

$lab^*lab$  0.109 0.398 -0.302  
 $lab^*tch$  0.25 0.5 0.896  
 $lab^*nch$  0.5 0.5 0.896

relative Natural Colour (NC)

$lab^*lrf$  0.109 0.324 -0.38  
 $lab^*fce$  0.25 0.5 0.862  
 $lab^*ncE$  0.5 0.5 b44r

$n^* = 0,00$

$n^* = 0,00$   
blackness  $n^*$   
chromaticness  $c^*$

$n^* = 0,50$

$n^* = 1,00$

$n^* = 0,25$

$n^* = 0,75$

### Output: Colorimetric Reflective System ORS18

for hue  $h^* = lab^*h = 354/360 = 0.982$

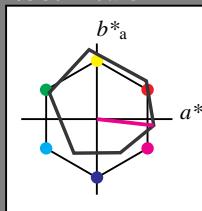
$lab^*tch$  and  $lab^*nch$

D65: hue M

LCH\*Ma: 48 76 354

olv\*Ma: 1.0 0.0 1.0

triangle lightness  $t^*$



%Gamut  
 $u^*_{rel} = 93$   
%Regularity  
 $g^*_{H,rel} = 57$   
 $g^*_{C,rel} = 59$

relative Inform. Technology (IT)  
 $olv^3*$  1.0 0.5 1.0 (1.0)  
 $cmy^3*$  0.0 0.5 0.0 (0.0)  
 $olv^4*$  1.0 0.5 1.0 1.0  
 $cmy^4*$  0.0 0.0 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  95.41 -0.97 4.75  
 $LAB^*LABa$  95.41 0.0 0.0  
 $LAB^*TCh$  99.99 0.01 -

relative CIELAB lab\*

$lab^*lab$  1.0 0.0 0.0  
 $lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrf$  1.0 0.0 0.0  
 $lab^*fce$  1.0 0.0 0.0  
 $lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)  
 $olv^3*$  0.5 0.5 0.5 (1.0)  
 $cmy^3*$  0.5 0.5 0.5 (0.0)  
 $olv^4*$  1.0 0.5 1.0 0.5  
 $cmy^4*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  71.77 37.31 -1.01  
 $LAB^*LABa$  71.77 37.63 -4.17  
 $LAB^*TCh$  75.0 37.86 353.66

relative CIELAB lab\*

$lab^*lab$  0.695 0.497 -0.054  
 $lab^*tch$  0.75 0.5 0.982  
 $lab^*nch$  0.0 0.5 0.982

relative Natural Colour (NC)

$lab^*lrf$  0.695 0.454 -0.208  
 $lab^*fce$  0.75 0.5 0.932  
 $lab^*ncE$  0.0 0.5 b72r

$n^* = 0,00$

	$L^*=L^*_a$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
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	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)  
 $olv^3*$  1.0 0.5 1.0 (1.0)  
 $cmy^3*$  0.0 0.5 0.0 (0.0)  
 $olv^4*$  1.0 0.5 1.0 1.0  
 $cmy^4*$  0.0 0.5 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  71.77 37.31 -1.01  
 $LAB^*LABa$  71.77 37.63 -4.17  
 $LAB^*TCh$  75.0 37.86 353.66

relative CIELAB lab\*

$lab^*lab$  0.695 0.497 -0.054  
 $lab^*tch$  0.75 0.5 0.982  
 $lab^*nch$  0.0 0.5 0.982

relative Natural Colour (NC)

$lab^*lrf$  0.695 0.454 -0.208  
 $lab^*fce$  0.75 0.5 0.932  
 $lab^*ncE$  0.0 0.5 b72r

$n^* = 0,00$

relative Inform. Technology (IT)  
 $olv^3*$  0.0 0.0 0.0 (1.0)  
 $cmy^3*$  0.0 1.0 0.0 (0.0)  
 $olv^4*$  1.0 0.5 1.0 0.5  
 $cmy^4*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  48.14 75.18 -6.78  
 $LAB^*LABa$  48.14 75.25 -8.35  
 $LAB^*TCh$  50.0 75.71 353.66

relative CIELAB lab\*

$lab^*lab$  0.389 0.994 -0.109  
 $lab^*tch$  0.5 1.0 0.982  
 $lab^*nch$  0.0 1.0 0.982

relative Natural Colour (NC)

$lab^*lrf$  0.389 0.909 -0.416  
 $lab^*fce$  0.5 1.0 0.932  
 $lab^*ncE$  0.0 1.0 b72r

$n^* = 0,00$

$n^* = 0,50$   
blackness  $n^*$   
chromaticness  $c^*$

$n^* = 0,25$

$n^* = 0,75$

$n^* = 1,0$

UE10



### Input: Colorimetric Reflective System MRS18a

for hue  $h^* = lab^*h = 323/360 = 0.896$

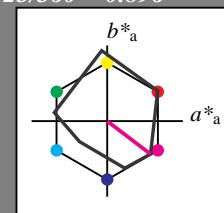
$lab^*tch$  and  $lab^*nch$

D65: hue B50R

LCH\*Ma: 35 72 323

olv\*Ma: 1.0 0.0 1.0

triangle lightness  $t^*$



### MRS18a; adapted (a) CIELAB data

	$L^*=L^*_a$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	49.63	66.8	40.02	77.87	31
JMa	90.7	-7.27	93.19	93.48	94
GMa	52.11	-69.93	11.26	70.85	171
G50BMa	45.03	-36.65	-27.13	45.61	217
BMa	36.65	23.26	-62.27	66.49	290
B50RMa	34.94	57.27	-43.6	71.99	323
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	272

relative Inform. Technology (IT)  
 $olv^3*$  1.0 1.0 1.0 (1.0)  
 $cmy^3*$  0.0 0.0 0.0 (0.0)  
 $olv^4*$  1.0 1.0 1.0 1.0  
 $cmy^4*$  0.0 0.0 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  95.41 0.01 0.0  
 $LAB^*LABa$  95.41 0.0 0.0  
 $LAB^*TCh$  99.99 0.01 -

relative CIELAB lab\*

$lab^*lab$  1.0 0.0 0.0  
 $lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrf$  1.0 0.0 0.0  
 $lab^*fce$  1.0 0.0 0.0  
 $lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)  
 $olv^3*$  0.5 0.5 0.5 (1.0)  
 $cmy^3*$  0.5 0.5 0.5 (0.0)  
 $olv^4*$  1.0 1.0 1.0 0.5  
 $cmy^4*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  56.71 0.05 0.0  
 $LAB^*LABa$  56.71 0.0 0.0  
 $LAB^*TCh$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0  
 $lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrf$  0.5 0.0 0.0  
 $lab^*fce$  0.5 0.0 0.0  
 $lab^*ncE$  0.5 0.0 -

relative Inform. Technology (IT)  
 $olv^3*$  0.0 0.0 0.0 (1.0)  
 $cmy^3*$  1.0 1.0 1.0 (0.0)  
 $olv^4*$  1.0 1.0 1.0 0.0  
 $cmy^4*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.01 0.02  
 $LAB^*LABa$  18.02 0.0 0.0  
 $LAB^*TCh$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0  
 $lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrf$  0.0 0.0 0.0  
 $lab^*fce$  0.0 0.0 -  
 $lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

%Gamut

$u^*_{rel} = 92$

%Regularity

$g^*_{H,rel} = 42$

$g^*_{C,rel} = 49$

relative Inform. Technology (IT)

$olv^3*$  1.0 0.5 1.0 (1.0)

$cmy^3*$  0.0 0.5 0.0 (0.0)

$olv^4*$  1.0 0.5 1.0 1.0

$cmy^4*$  0.0 0.5 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  65.17 28.68 -21.78

$LAB^*LABa$  65.17 28.63 -21.79

$LAB^*TCh$  75.0 35.99 322.71

relative CIELAB lab\*

$lab^*lab$  0.609 0.398 -0.302

$lab^*tch$  0.75 0.5 0.896

$lab^*nch$  0.0 0.5 0.896

relative Natural Colour (NC)

$lab^*lrf$  0.609 0.324 -0.38

$lab^*fce$  0.75 0.2 0.862

$lab^*ncE$  0.0 0.5 b44r

relative Inform. Technology (IT)

$olv^3*$  1.0 0.0 1.0 (1.0)

$cmy^3*$  0.0 1.0 0.0 (0.0)

$olv^4*$  1.0 1.0 1.0 0.5

$cmy^4*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  34.95 57.34 -43.57

$LAB^*LABa$  34.95 57.26 -43.59

$LAB^*TCh$  50.0 57.19 322.71

relative CIELAB lab\*

$lab^*lab$  0.219 0.795 -0.605

$lab^*tch$  0.5 1.0 0.896

$lab^*nch$  0.0 1.0 0.896

relative Natural Colour (NC)

$lab^*lrf$  0.219 0.648 -0.761

$lab^*fce$  0.5 1.0 0.862

$lab^*ncE$  0.0 1.0 b44r

relative Inform. Technology (IT)

$olv^3*$  0.0 0.0 0.0 (1.0)

$cmy^3*$  1.0 1.0 1.0 (0.0)

$olv^4*$  1.0 1.0 1.0 0.0

$cmy^4*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.5 -0.46

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TCh$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrf$  0.0 0.0 0.0

$lab^*fce$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 0,00$

blackness  $n^*$

$n^* = 0,50$

$n^* = 1,00$

chromaticness  $c^*$

### Output: Colorimetric Reflective System TRS18

for hue  $h^* = lab^*h = 354/360 = 0.982$

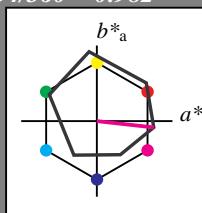
$lab^*tch$  and  $lab^*nch$

D65: hue M

LCH\*Ma: 48 76 354

olv\*Ma: 1.0 0.0 1.0

triangle lightness  $t^*$



%Gamut

$u^*_{rel} = 93$

%Regularity

$g^*_{H,rel} = 57$

$g^*_{C,rel} = 59$

relative Inform. Technology (IT)

$olv^3*$  1.0 1.0 1.0 (1.0)

$cmy^3*$  0.0 0.0 0.0 (0.0)

$olv^4*$  1.0 0.5 1.0 1.0

$cmy^4*$  0.0 0.0 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  95.41 -0.97 4.75

$LAB^*LABa$  95.41 0.0 0.0

$LAB^*TCh$  99.99 0.01 -

relative CIELAB lab\*

$lab^*lab$  1.0 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrf$  1.0 0.0 0.0

$lab^*fce$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)

$olv^3*$  0.5 0.5 0.5 (1.0)

$cmy^3*$  0.5 0.5 0.5 (0.0)

$olv^4*$  1.0 0.5 1.0 0.5

$cmy^4*$  0.0 0.5 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  71.77 37.1 -1.01

$LAB^*LABa$  71.77 37.63 -4.17

$LAB^*TCh$  75.0 37.86 353.66

relative CIELAB lab\*

$lab^*lab$  0.695 0.497 -0.054

$lab^*tch$  0.75 0.5 0.982

$lab^*nch$  0.0 0.5 0.982

relative Natural Colour (NC)

$lab^*lrf$  0.695 0.454 -0.208

$lab^*fce$  0.75 0.5 0.932

$lab^*ncE$  0.0 0.5 0.932

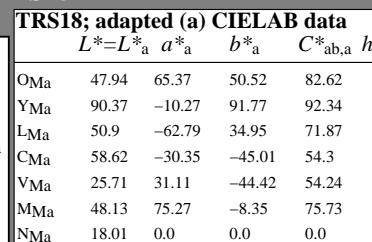
$n^* = 1,0$

blackness  $n^*$

$n^* = 0,50$

$n^* = 0,00$

chromaticness  $c^*$



%Gamut

$u^*_{rel} = 93$

%Regularity

$g^*_{H,rel} = 57$

$g^*_{C,rel} = 59$

relative Inform. Technology (IT)

$olv^3*$  1.0 0.5 1.0 (1.0)

$cmy^3*$  0.0 0.5 0.0 (0.0)

$olv^4*$  1.0 0.5 1.0 1.0

$cmy^4*$  0.0 0.5 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  71.77 37.18 -6.78

$LAB^*LABa$  48.14 75.25 -8.35

$LAB^*TCh$  50.0 75.71 353.66

relative CIELAB lab\*

$lab^*lab$  0.389 0.994 -0.109

$lab^*tch$  0.5 1.0 0.982

$lab^*nch$  0.0 1.0 0.982

relative Natural Colour (NC)

$lab^*lrf$  0.389 0.909 -0.416

$lab^*fce$  0.5 1.0 0.932

$lab^*ncE$  0.0 1.0 0.932

$n^* = 1,0$

blackness  $n^*$

$n^* = 0,50$

$n^* = 0,00$

chromaticness  $c^*$

UE100-7, 3 step scales for constant CIELAB hue 323/360 = 0.896 (left)

3 step scales for constant CIELAB hue 354/360 = 0.982 (right)

### Input: Colorimetric Reflective System MRS18a

for hue  $h^* = lab^*h = 323/360 = 0.896$

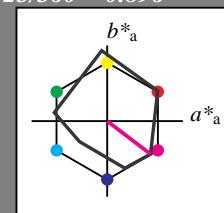
$lab^*tch$  and  $lab^*nch$

D65: hue B50R

LCH\*Ma: 35 72 323

olv\*Ma: 1.0 0.0 1.0

triangle lightness  $t^*$



relative Inform. Technology (IT)  
 $olv_i3^*$  1.0 1.0 1.0 (1.0)  
 $cmyn3^*$  0.0 0.0 0.0 (0.0)  
 $olv_i4^*$  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 0.01 0.0  
 $LAB^*LABa$  95.41 0.0 0.0  
 $LAB^*TCh$  99.99 0.01 -

relative CIELAB lab\*

$lab^*lab$  1.0 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 -

$lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)  
 $olv_i3^*$  0.5 0.5 0.5 (1.0)  
 $cmyn3^*$  0.5 0.5 0.5 (0.0)  
 $olv_i4^*$  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 0.05 0.0  
 $LAB^*LABa$  56.71 0.0 0.0  
 $LAB^*TCh$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.5 0.0 0.0

$lab^*tce$  0.5 0.0 -

$lab^*ncE$  0.5 0.0 -

relative Inform. Technology (IT)  
 $olv_i3^*$  0.0 0.0 0.0 (1.0)  
 $cmyn3^*$  1.0 1.0 1.0 (0.0)  
 $olv_i4^*$  1.0 1.0 1.0 0.0  
 $cmyn4^*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.1 0.02  
 $LAB^*LABa$  18.02 0.0 0.0  
 $LAB^*TCh$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*tce$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

### MRS18a; adapted (a) CIELAB data

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

RMa	49.63	66.8	40.02	77.87	31
JMa	90.7	-7.27	93.19	93.48	94
GMa	52.11	-69.93	11.26	70.85	171
G50BMa	45.03	-36.65	-27.13	45.61	217
BMa	36.65	23.26	-62.27	66.49	290
B50RMa	34.94	57.27	-43.6	71.99	323
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	272

%Gamut

$u^*_{rel} = 92$

%Regularity

$g^*_{H,rel} = 42$

$g^*_{C,rel} = 49$

relative Inform. Technology (IT)

$olv_i3^*$  1.0 0.5 1.0 (1.0)

$cmyn3^*$  0.0 0.5 0.0 (0.0)

$olv_i4^*$  1.0 0.5 1.0 1.0

$cmyn4^*$  0.0 0.5 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  65.17 28.68 -21.78

$LAB^*LABa$  65.17 28.63 -21.79

$LAB^*TCh$  75.0 35.99 322.71

relative CIELAB lab\*

$lab^*lab$  0.609 0.398 -0.302

$lab^*tch$  0.75 0.5 0.896

$lab^*nch$  0.0 0.5 0.896

relative Natural Colour (NC)

$lab^*lrij$  0.609 0.324 -0.38

$lab^*tce$  0.75 0.2 0.862

$lab^*ncE$  0.0 0.5 b44r

standard and adapted CIELAB

$LAB^*LAB$  34.95 57.34 -43.57

$LAB^*LABa$  34.95 57.26 -43.59

$LAB^*TCh$  50.0 71.98 322.71

relative CIELAB lab\*

$lab^*lab$  0.219 0.795 -0.605

$lab^*tch$  0.5 1.0 0.896

$lab^*nch$  0.0 1.0 0.896

relative Natural Colour (NC)

$lab^*lrij$  0.219 0.648 -0.761

$lab^*tce$  0.5 1.0 0.862

$lab^*ncE$  0.0 1.0 b44r

standard and adapted CIELAB

$LAB^*LAB$  26.48 28.72 -21.77

$LAB^*LABa$  26.48 28.63 -21.79

$LAB^*TCh$  25.01 35.99 322.71

relative CIELAB lab\*

$lab^*lab$  0.109 0.398 -0.302

$lab^*tch$  0.25 0.5 0.896

$lab^*nch$  0.5 0.5 0.896

relative Natural Colour (NC)

$lab^*lrij$  0.109 0.324 -0.38

$lab^*tce$  0.25 0.5 0.862

$lab^*ncE$  0.5 0.5 b44r

### MRS18a; adapted (a) CIELAB data

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

RMa	49.63	66.8	40.02	77.87	31
JMa	90.7	-7.27	93.19	93.48	94
GMa	52.11	-69.93	11.26	70.85	171
G50BMa	45.03	-36.65	-27.13	45.61	217
BMa	36.65	23.26	-62.27	66.49	290
B50RMa	34.94	57.27	-43.6	71.99	323
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	272

### Output: Colorimetric Reflective System MRS18a

for hue  $h^* = lab^*h = 323/360 = 0.896$

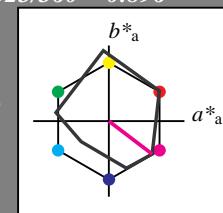
$lab^*tch$  and  $lab^*nch$

D65: hue B50R

LCH\*Ma: 35 72 323

olv\*Ma: 1.0 0.0 1.0

triangle lightness  $t^*$



%Gamut

$u^*_{rel} = 92$

%Regularity

$g^*_{H,rel} = 42$

$g^*_{C,rel} = 49$

relative Inform. Technology (IT)

$olv_i3^*$  1.0 0.5 1.0 (1.0)

$cmyn3^*$  0.0 0.5 0.0 (0.0)

$olv_i4^*$  1.0 0.5 1.0 1.0

$cmyn4^*$  0.0 0.5 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  95.41 0.01 0.0

$LAB^*LABa$  95.41 0.0 0.0

$LAB^*TCh$  99.99 0.01 -

relative CIELAB lab\*

$lab^*lab$  1.0 0.5 0.0

$lab^*tch$  1.0 0.0 0.0

$lab^*nch$  0.0 0.0 0.0

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 -

$lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)

$olv_i3^*$  0.5 0.5 0.5 (1.0)

$cmyn3^*$  0.5 0.5 0.5 (0.0)

$olv_i4^*$  1.0 0.5 1.0 0.5

$cmyn4^*$  0.0 0.5 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  56.71 0.05 0.0

$LAB^*LABa$  56.71 0.0 0.0

$LAB^*TCh$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.609 0.398 -0.302

$lab^*tch$  0.75 0.5 0.896

$lab^*nch$  0.0 0.5 0.896

relative Natural Colour (NC)

$lab^*lrij$  0.609 0.324 -0.38

$lab^*tce$  0.75 0.5 0.862

$lab^*ncE$  0.0 0.5 b44r

relative Inform. Technology (IT)

$olv_i3^*$  0.0 0.0 0.0 (1.0)

$cmyn3^*$  0.0 0.0 0.0 (0.0)

$olv_i4^*$  1.0 0.0 1.0 0.0

$cmyn4^*$  0.0 0.0 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.1 0.02

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TCh$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.109 0.398 -0.302

$lab^*tch$  0.25 0.5 0.896

$lab^*nch$  1.0 0.0 0.896

relative Natural Colour (NC)

$lab^*lrij$  0.109 0.324 -0.38

$lab^*tce$  0.25 0.5 0.862

$lab^*ncE$  1.0 0.0 -

RMa	49.63	66.8	40.02	77.87	31
JMa	90.7	-7.27	93.19	93.48	94
GMa	52.11	-69.93	11.26	70.85	171
G50BMa	45.03	-36.65	-27.13	45.61	217
BMa	36.65	23.26	-62.27	66.49	290
B50RMa	34.94</				

### Input: Colorimetric Reflective System MRS18a

for hue  $h^* = lab^*h = 323/360 = 0.896$

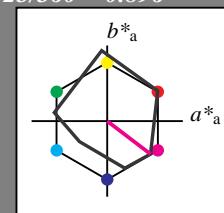
$lab^*tch$  and  $lab^*nch$

D65: hue B50R

LCH\*Ma: 35 72 323

olv\*Ma: 1.0 0.0 1.0

triangle lightness  $t^*$



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 0.01 0.0  
 $LAB^*LABa$  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 -  
 $lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0  
 $lab^*tce$  1.0 0.0 0.0  
 $lab^*ncE$  0.0 0.0 -

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 0.5  
 $cmyn4^*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  56.71 0.05 0.0  
 $LAB^*LABa$  56.71 0.0 0.0  
 $LAB^*TChA$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0  
 $lab^*tch$  0.5 0.0 -  
 $lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.5 0.0 0.0  
 $lab^*tce$  0.5 0.0 0.0  
 $lab^*ncE$  0.5 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

$LAB^*LAB$  18.02 0.1 0.02  
 $LAB^*LABa$  18.02 0.0 0.0  
 $LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0  
 $lab^*tch$  0.0 0.0 -  
 $lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0  
 $lab^*tce$  0.0 0.0 0.0  
 $lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

### MRS18a; adapted (a) CIELAB data

	$L^*=L^*_a$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	49.63	66.8	40.02	77.87	31
JMa	90.7	-7.27	93.19	93.48	94
GMa	52.11	-69.93	11.26	70.85	171
G50BMa	45.03	-36.65	-27.13	45.61	217
BMa	36.65	23.26	-62.27	66.49	290
B50RMa	34.94	57.27	-43.6	71.99	323
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	272

%Gamut

$u^*_{rel} = 92$

%Regularity

$g^*_{H,rel} = 42$

$g^*_{C,rel} = 49$

relative Inform. Technology (IT)

$olvi3^*$  1.0 0.5 1.0 (1.0)

$cmyn3^*$  0.0 0.5 0.0 (0.0)

$olvi4^*$  1.0 0.5 1.0 1.0

$cmyn4^*$  0.0 0.5 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  65.17 28.68 -21.78  
 $LAB^*LABa$  65.17 28.63 -21.79  
 $LAB^*TChA$  75.0 35.99 322.71

relative CIELAB lab\*

$lab^*lab$  0.609 0.398 -0.302  
 $lab^*tch$  0.75 0.5 0.896  
 $lab^*nch$  0.0 0.5 0.896

relative Natural Colour (NC)

$lab^*lrij$  0.609 0.324 -0.38  
 $lab^*tce$  0.75 0.2 0.862  
 $lab^*ncE$  0.0 0.5 b44r

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 0.5

$cmyn4^*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  34.95 57.34 -43.57  
 $LAB^*LABa$  34.95 57.26 -43.59  
 $LAB^*TChA$  50.0 71.98 322.71

relative CIELAB lab\*

$lab^*lab$  0.219 0.795 -0.605  
 $lab^*tch$  0.5 1.0 0.896  
 $lab^*nch$  0.0 1.0 0.896

relative Natural Colour (NC)

$lab^*lrij$  0.219 0.648 -0.761  
 $lab^*tce$  0.5 1.0 0.862  
 $lab^*ncE$  0.0 1.0 b44r

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

$LAB^*LAB$  18.02 0.1 0.02  
 $LAB^*LABa$  18.02 0.0 0.0  
 $LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0  
 $lab^*tch$  0.0 0.0 -  
 $lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0  
 $lab^*tce$  0.0 0.0 0.0  
 $lab^*ncE$  1.0 0.0 -

$n^* = 0,00$

$n^* = 0,00$



$n^* = 0,50$

chromaticness  $c^*$

### Output: Colorimetric Reflective System NRS18

for hue  $h^* = lab^*h = 325/360 = 0.903$

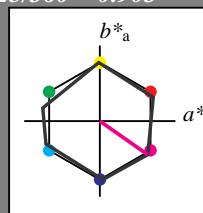
$lab^*tch$  and  $lab^*nch$

D65: hue B50R

LCH\*Ma: 57 77 325

olv\*Ma: 1.0 0.0 1.0

triangle lightness  $t^*$



%Gamut

$u^*_{rel} = 100$

%Regularity

$g^*_{H,rel} = 47$

$g^*_{C,rel} = 100$

relative Inform. Technology (IT)

$olvi3^*$  1.0 0.5 1.0 (1.0)

$cmyn3^*$  0.0 0.5 0.0 (0.0)

$olvi4^*$  1.0 0.5 1.0 1.0

$cmyn4^*$  0.0 0.0 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  95.41 0.0 0.0  
 $LAB^*LABa$  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 -  
 $lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0  
 $lab^*tce$  1.0 0.0 0.0  
 $lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)

$olvi3^*$  1.0 0.5 1.0 (1.0)

$cmyn3^*$  0.0 0.5 0.0 (0.0)

$olvi4^*$  1.0 0.5 1.0 0.5

$cmyn4^*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  76.05 31.7 22.18  
 $LAB^*LABa$  76.05 31.67 22.19  
 $LAB^*TChA$  75.0 38.67 324.97

relative CIELAB lab\*

$lab^*lab$  0.75 0.409 -0.286  
 $lab^*tch$  0.75 0.5 0.903  
 $lab^*nch$  0.0 0.5 0.903

relative Natural Colour (NC)

$lab^*lrij$  0.75 0.336 -0.37  
 $lab^*tce$  0.75 0.5 0.867  
 $lab^*ncE$  0.0 0.5 b46r

$n^* = 1,0$

3 step scales for constant CIELAB hue 325/360 = 0.903 (right)

	$L^*=L^*_a$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	56.7	70.66	31.47	77.35	24
JMa	56.7	-1.39	77.37	77.39	91
GMa	56.7	-75.46	17.4	77.45	167
G50BMa	56.7	-71.29	-30.25	77.45	203
BMa	56.7	4.0	-77.3	77.41	273
B50RMa	56.7	63.35	-44.4	77.36	325
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	272

relative Inform. Technology (IT)  
 $olvi3^*$  1.0 0.0 1.0 (1.0)  
 $cmyn3^*$  0.0 1.0 0.0 (0.0)  
 $olvi4^*$  1.0 0.0 1.0 1.0  
 $cmyn4^*$  0.0 0.0 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  76.05 31.7 22.18  
 $LAB^*LABa$  76.05 31.67 22.19  
 $LAB^*TChA$  75.0 38.67 324.97

relative CIELAB lab\*

$lab^*lab$  0.75 0.409 -0.286  
 $lab^*tch$  0.75 0.5 0.903  
 $lab^*nch$  0.0 0.5 0.903

relative Natural Colour (NC)

$lab^*lrij$  0.75 0.336 -0.37  
 $lab^*tce$  0.75 0.5 0.867  
 $lab^*ncE$  0.0 0.5 b46r

$n^* = 0,00$



$n^* = 0,50$

chromaticness  $c^*$

$n^* = 1,0$

UE100-7, 3 step scales for constant CIELAB hue 323/360 = 0.896 (left)

3 step scales for constant CIELAB hue 325/360 = 0.903 (right)

### Input: Colorimetric Reflective System MRS18a

for hue  $h^* = lab^*h = 323/360 = 0.896$

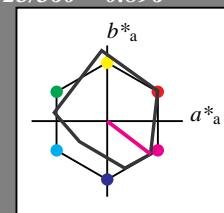
$lab^*tch$  and  $lab^*nch$

D65: hue B50R

LCH\*Ma: 35 72 323

olv\*Ma: 1.0 0.0 1.0

triangle lightness  $t^*$



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 0.01 0.0  
 $LAB^*LABa$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0  
 $lab^*tce$  1.0 0.0 0.0  
 $lab^*ncE$  0.0 0.0 -

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 0.5  
 $cmyn4^*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  56.71 0.05 0.0  
 $LAB^*LABa$  56.71 0.0 0.0  
 $LAB^*TChA$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0  
 $lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.5 0.0 0.0  
 $lab^*tce$  0.5 0.0 0.0  
 $lab^*ncE$  0.5 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

$LAB^*LAB$  18.02 0.01 0.02  
 $LAB^*LABa$  18.02 0.0 0.0  
 $LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0  
 $lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0  
 $lab^*tce$  0.0 0.0 -  
 $lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

### MRS18a; adapted (a) CIELAB data

	$L^*=L^*_a$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	49.63	66.8	40.02	77.87	31
JMa	90.7	-7.27	93.19	93.48	94
GMa	52.11	-69.93	11.26	70.85	171
G50BMa	45.03	-36.65	-27.13	45.61	217
BMa	36.65	23.26	-62.27	66.49	290
B50RMa	34.94	57.27	-43.6	71.99	323
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	272

%Gamut

$u^*_{rel} = 92$

%Regularity

$g^*_{H,rel} = 42$

$g^*_{C,rel} = 49$

relative Inform. Technology (IT)

$olvi3^*$  1.0 0.5 1.0 (1.0)

$cmyn3^*$  0.0 0.5 0.0 (0.0)

$olvi4^*$  1.0 0.5 1.0 1.0

$cmyn4^*$  0.0 0.5 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  65.17 28.68 -21.78

$LAB^*LABa$  65.17 28.63 -21.79

$LAB^*TChA$  75.0 35.99 322.71

relative CIELAB lab\*

$lab^*lab$  0.609 0.398 -0.302

$lab^*tch$  0.75 0.5 0.896

$lab^*nch$  0.0 0.5 0.896

relative Natural Colour (NC)

$lab^*lrij$  0.609 0.324 -0.38

$lab^*tce$  0.75 0.2 0.862

$lab^*ncE$  0.0 0.5 b44r

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 0.5

$cmyn4^*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  34.95 57.34 -43.57

$LAB^*LABa$  34.95 57.26 -43.59

$LAB^*TChA$  50.0 71.98 322.71

relative CIELAB lab\*

$lab^*lab$  0.219 0.795 -0.605

$lab^*tch$  0.5 1.0 0.896

$lab^*nch$  0.0 1.0 0.896

relative Natural Colour (NC)

$lab^*lrij$  0.219 0.648 -0.761

$lab^*tce$  0.5 1.0 0.862

$lab^*ncE$  0.0 1.0 b44r

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

$LAB^*LAB$  26.48 28.72 -21.77

$LAB^*LABa$  26.48 28.63 -21.79

$LAB^*TChA$  25.01 35.99 322.71

relative CIELAB lab\*

$lab^*lab$  0.109 0.398 -0.302

$lab^*tch$  0.25 0.5 0.896

$lab^*nch$  0.5 0.5 0.896

relative Natural Colour (NC)

$lab^*lrij$  0.109 0.324 -0.38

$lab^*tce$  0.25 0.5 0.862

$lab^*ncE$  0.5 0.5 b44r

$n^* = 0,00$



### Output: Colorimetric Reflective System NCS18

for hue  $h^* = lab^*h = 325/360 = 0.903$

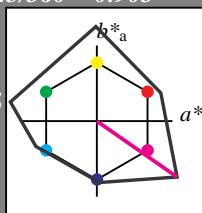
$lab^*tch$  and  $lab^*nch$

D65: hue B50R

LCH\*Ma: 44 129 325

olv\*Ma: 1.0 0.0 1.0

triangle lightness  $t^*$



%Gamut

$u^*_{rel} = 136$

%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 -

relative CIELAB lab\*

$lab^*lab$  1.0 0.0 0.0  
 $lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0  
 $lab^*tce$  1.0 0.0 0.0  
 $lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)  
 $olvi3^*$  1.0 0.5 1.0 (1.0)  
 $cmyn3^*$  0.0 0.5 0.0 (0.0)  
 $olvi4^*$  1.0 0.5 1.0 1.0  
 $cmyn4^*$  0.0 0.5 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  69.73 53.06 -36.95  
 $LAB^*LABa$  69.73 53.03 -36.96  
 $LAB^*TChA$  75.0 64.64 325.12

relative CIELAB lab\*

$lab^*lab$  0.668 0.41 -0.285  
 $lab^*tch$  0.75 0.5 0.903  
 $lab^*nch$  0.0 0.5 0.903

relative Natural Colour (NC)

$lab^*lrij$  0.668 0.336 -0.369  
 $lab^*tce$  0.75 0.5 0.867  
 $lab^*ncE$  0.0 0.5 b44r

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 0.5 1.0 0.5  
 $cmyn4^*$  0.0 0.5 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  44.06 106.12 -73.91  
 $LAB^*LABa$  44.06 106.05 -73.93  
 $LAB^*TChA$  50.0 129.28 325.12

relative CIELAB lab\*

$lab^*lab$  0.337 0.82 -0.571  
 $lab^*tch$  0.5 1.0 0.903  
 $lab^*nch$  0.0 1.0 0.903

relative Natural Colour (NC)

$lab^*lrij$  0.337 0.673 -0.739  
 $lab^*tce$  0.5 1.0 0.867  
 $lab^*ncE$  0.0 1.0 b44r

$n^* = 1,0$

$n^* = 0,50$

$n^* = 0,00$

$n^* = 1,0$

$n^* = 0,50$

$n^* = 0,00$

$n^* = 1,0$

$n^* = 0,50$

$n^* = 0,00$

$n^* = 1,0$

$n^* = 0,50$

$n^* = 0,00$

$n^* = 1,0$

$n^* = 0,50$

$n^* = 0,00$

$n^* = 1,0$

$n^* = 0,50$

$n^* = 0,00$

$n^* = 1,0$

$n^* = 0,50$

$n^* = 0,00$

$n^* = 1,0$

$n^* = 0,50$

$n^* = 0,00$

$n^* = 1,0$

$n^* = 0,50$

$n^* = 0,00$

$n^* = 1,0$

$n^* = 0,50$

$n^* = 0,00$

$n^* = 1,0$

$n^* = 0,50$

$n^* = 0,00$

$n^* = 1,0$

$n^* = 0,50$

$n^* = 0,00$

$n^* = 1,0$

$n^* = 0,50$

$n^* = 0,00$

$n^* = 1,0$

$n^* = 0,50$

$n^* = 0,00$

$n^* = 1,0$

### Input: Colorimetric Reflective System MRS18a

for hue  $h^* = lab^*h = 323/360 = 0.896$

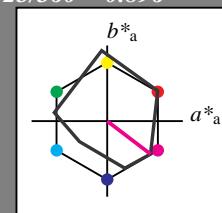
$lab^*tch$  and  $lab^*nch$

D65: hue B50R

LCH\*Ma: 35 72 323

olv\*Ma: 1.0 0.0 1.0

triangle lightness  $t^*$



relative Inform. Technology (IT)  
 $olvi3^*$  1.0 1.0 1.0 (1.0)  
 $cmy3^*$  0.0 0.0 0.0 (0.0)  
 $olv4^*$  1.0 1.0 1.0 1.0  
 $cmy4^*$  0.0 0.0 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  95.41 0.01 0.0

$LAB^*LABa$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)  
 $olvi3^*$  0.5 0.5 0.5 (1.0)  
 $cmy3^*$  0.5 0.5 0.5 (0.0)  
 $olv4^*$  1.0 1.0 1.0 0.5  
 $cmy4^*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  56.71 0.05 0.0

$LAB^*LABa$  56.71 0.0 0.0

$LAB^*TChA$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.5 0.0 0.0

$lab^*tce$  0.5 0.0 0.0

$lab^*ncE$  0.5 0.0 -

relative Inform. Technology (IT)  
 $olvi3^*$  0.0 0.0 0.0 (1.0)  
 $cmy3^*$  1.0 1.0 1.0 (0.0)  
 $olv4^*$  1.0 1.0 1.0 0.0  
 $cmy4^*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.01 0.02

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*tce$  0.0 0.0 0.0

$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

### MRS18a; adapted (a) CIELAB data

	$L^*=L^*_a$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	49.63	66.8	40.02	77.87	31
JMa	90.7	-7.27	93.19	93.48	94
GMa	52.11	-69.93	11.26	70.85	171
G50BMa	45.03	-36.65	-27.13	45.61	217
BMa	36.65	23.26	-62.27	66.49	290
B50RMa	34.94	57.27	-43.6	71.99	323
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	272

%Gamut

$u^*_{rel} = 92$

%Regularity

$g^*_{H,rel} = 42$

$g^*_{C,rel} = 49$

relative Inform. Technology (IT)

$olvi3^*$  1.0 0.5 1.0 (1.0)

$cmy3^*$  0.0 0.0 0.0 (0.0)

$olv4^*$  1.0 1.0 1.0 1.0

$cmy4^*$  0.0 0.0 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  95.41 0.01 0.0

$LAB^*LABa$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)

$olvi3^*$  0.5 0.5 0.5 (1.0)

$cmy3^*$  0.5 0.5 0.5 (0.0)

$olv4^*$  1.0 1.0 1.0 0.5

$cmy4^*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  56.71 0.05 0.0

$LAB^*LABa$  56.71 0.0 0.0

$LAB^*TChA$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.5 0.0 0.0

$lab^*tce$  0.5 0.0 0.0

$lab^*ncE$  0.5 0.0 -

relative Inform. Technology (IT)

$olvi3^*$  0.0 0.0 0.0 (1.0)

$cmy3^*$  1.0 1.0 1.0 (0.0)

$olv4^*$  1.0 1.0 1.0 0.0

$cmy4^*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.01 0.02

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*tce$  0.0 0.0 0.0

$lab^*ncE$  1.0 0.0 -

$n^* = 0,00$

blackness  $n^*$

chromaticness  $c^*$

$n^* = 0,50$

blackness  $n^*$

chromaticness  $c^*$

$n^* = 1,00$

### Output: Colorimetric Reflective System NRS11

for hue  $h^* = lab^*h = 325/360 = 0.903$

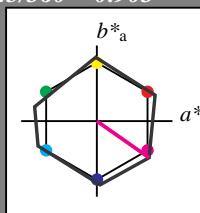
$lab^*tch$  and  $lab^*nch$

D65: hue B50R

LCH\*Ma: 53 84 325

olv\*Ma: 1.0 0.0 1.0

triangle lightness  $t^*$



relative Inform. Technology (IT)  
 $olvi3^*$  1.0 1.0 1.0 (1.0)  
 $cmy3^*$  0.0 0.0 0.0 (0.0)  
 $olv4^*$  1.0 1.0 1.0 1.0  
 $cmy4^*$  0.0 0.0 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  95.41 0.01 0.0

$LAB^*LABa$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)

$olvi3^*$  0.5 0.5 0.5 (1.0)

$cmy3^*$  0.5 0.5 0.5 (0.0)

$olv4^*$  1.0 1.0 1.0 0.5

$cmy4^*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  53.21 0.04 0.0

$LAB^*LABa$  53.21 0.0 0.0

$LAB^*TChA$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.5 0.0 0.0

$lab^*tce$  0.5 0.0 0.0

$lab^*ncE$  0.5 0.0 -

relative Inform. Technology (IT)

$olvi3^*$  0.0 0.0 0.0 (1.0)

$cmy3^*$  1.0 1.0 1.0 (0.0)

$olv4^*$  1.0 1.0 1.0 0.0

$cmy4^*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  32.1 0.07 0.01

$LAB^*LABa$  32.1 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*tce$  0.0 0.0 0.0

$lab^*ncE$  1.0 0.0 -

relative Inform. Technology (IT)

$olvi3^*$  1.0 1.0 1.0 (1.0)

$cmy3^*$  0.0 0.0 0.0 (0.0)

$olv4^*$  1.0 1.0 1.0 1.0

$cmy4^*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  11.01 0.07 0.01

$LAB^*LABa$  11.01 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*tce$  0.0 0.0 0.0

$lab^*ncE$  1.0 0.0 -

relative Inform. Technology (IT)

$olvi3^*$  1.0 1.0 1.0 (1.0)

$cmy3^*$  0.0 0.0 0.0 (0.0)

$olv4^*</math$

### Input: Colorimetric Reflective System MRS18a

for hue  $h^* = lab^*h = 323/360 = 0.896$

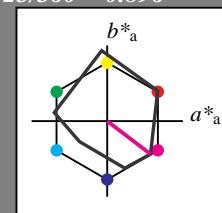
$lab^*tch$  and  $lab^*nch$

D65: hue B50R

LCH\*Ma: 35 72 323

olv\*Ma: 1.0 0.0 1.0

triangle lightness  $t^*$



### MRS18a; adapted (a) CIELAB data

	$L^*=L^*_a$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	49.63	66.8	40.02	77.87	31
JMa	90.7	-7.27	93.19	93.48	94
GMa	52.11	-69.93	11.26	70.85	171
G50BMa	45.03	-36.65	-27.13	45.61	217
BMa	36.65	23.26	-62.27	66.49	290
B50RMa	34.94	57.27	-43.6	71.99	323
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	272

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 0.01 0.0  
 $LAB^*LABa$  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 -  
 $lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0  
 $lab^*tce$  1.0 0.0 0.0  
 $lab^*ncE$  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 0.5  
 $cmyn^4*$  0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  56.71 0.05 0.0  
 $LAB^*LABa$  56.71 0.0 0.0  
 $LAB^*TChA$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0  
 $lab^*tch$  0.5 0.0 -  
 $lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.5 0.0 0.0  
 $lab^*tce$  0.5 0.0 0.0  
 $lab^*ncE$  0.5 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)  
 $olv^4*$  1.0 1.0 1.0 0.0  
 $cmyn^4*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.1 0.02  
 $LAB^*LABa$  18.02 0.0 0.0  
 $LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0  
 $lab^*tch$  0.0 0.0 -  
 $lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0  
 $lab^*tce$  0.0 0.0 -  
 $lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

%Gamut

$u^*_{rel} = 92$

%Regularity

$g^*_{H,rel} = 42$

$g^*_{C,rel} = 49$

relative Inform. Technology (IT)

$olv^3*$  1.0 0.5 1.0 (1.0)

$cmyn^3*$  0.0 0.5 0.0 (0.0)

$olv^4*$  1.0 0.5 1.0 1.0

$cmyn^4*$  0.0 0.5 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  65.17 28.68 -21.78  
 $LAB^*LABa$  65.17 28.63 -21.79  
 $LAB^*TChA$  75.0 35.99 322.71

relative CIELAB lab\*

$lab^*lab$  0.609 0.398 -0.302

$lab^*tch$  0.75 0.5 0.896

$lab^*nch$  0.0 0.5 0.896

relative Natural Colour (NC)

$lab^*lrij$  0.609 0.324 -0.38

$lab^*tce$  0.75 0.2 0.862

$lab^*ncE$  0.0 0.5 b44r

relative Inform. Technology (IT)

$olv^3*$  1.0 0.0 1.0 (1.0)

$cmyn^3*$  0.0 1.0 0.0 (0.0)

$olv^4*$  1.0 1.0 1.0 0.5

$cmyn^4*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  34.95 57.34 -43.57  
 $LAB^*LABa$  34.95 57.26 -43.59  
 $LAB^*TChA$  50.0 71.98 322.71

relative CIELAB lab\*

$lab^*lab$  0.219 0.795 -0.605

$lab^*tch$  0.5 1.0 0.896

$lab^*nch$  0.0 1.0 0.896

relative Natural Colour (NC)

$lab^*lrij$  0.219 0.648 -0.761

$lab^*tce$  0.5 1.0 0.862

$lab^*ncE$  0.0 1.0 b44r

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 0.5 1.0 0.5

$cmyn^4*$  0.0 0.5 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  26.48 28.72 -21.77  
 $LAB^*LABa$  26.48 28.63 -21.79  
 $LAB^*TChA$  25.01 35.99 322.71

relative CIELAB lab\*

$lab^*lab$  0.109 0.398 -0.302

$lab^*tch$  0.25 0.5 0.896

$lab^*nch$  0.5 0.5 0.896

relative Natural Colour (NC)

$lab^*lrij$  0.109 0.324 -0.38

$lab^*tce$  0.25 0.5 0.862

$lab^*ncE$  0.5 0.5 b44r

$n^* = 0,00$



blackness  $n^*$

chromaticness  $c^*$

### Output: Colorimetric Reflective System NCS11

for hue  $h^* = lab^*h = 325/360 = 0.903$

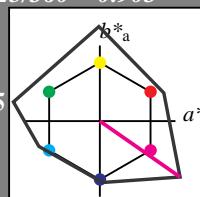
$lab^*tch$  and  $lab^*nch$

D65: hue B50R

LCH\*Ma: 44 129 325

olv\*Ma: 1.0 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	-2.91	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)  
 $olv^3*$  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  
 $LAB^*LABa$  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 -  
 $lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0  
 $lab^*tce$  1.0 0.0 0.0  
 $lab^*ncE$  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 0.5 1.0 0.5

$cmyn^4*$  0.0 0.5 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  53.21 0.04 0.0  
 $LAB^*LABa$  53.21 0.0 0.0  
 $LAB^*TChA$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.219 0.795 -0.605

$lab^*tch$  0.5 1.0 0.896

$lab^*nch$  0.0 1.0 0.896

relative Natural Colour (NC)

$lab^*lrij$  0.219 0.648 -0.761

$lab^*tce$  0.5 1.0 0.862

$lab^*ncE$  0.0 1.0 b44r

relative Inform. Technology (IT)

$olv^3*$  0.0 0.0 0.0 (1.0)

$cmyn^3*$  0.0 1.0 1.0 (0.0)

$olv^4*$  1.0 1.0 1.0 0.0

$cmyn^4*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  11.01 0.07 0.01  
 $LAB^*LABa$  11.01 0.0 0.0  
 $LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*tce$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 0,00$



blackness  $n^*$

chromaticness  $c^*$

UE100-7, 3 step scales for constant CIELAB hue 323/360 = 0.896 (left)

3 step scales for constant CIELAB hue 325/360 = 0.903 (right)

## Input: Colorimetric Reflective System NRS18

for hue  $h^* = lab^*h = 325/360 = 0.903$

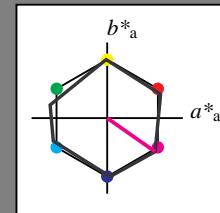
$lab^*tch$  and  $lab^*nch$

D65: hue B50R

LCH\*Ma: 57 77 325

olv\*Ma: 1.0 0.0 1.0

triangle lightness  $t^*$



%Gamut

$u^*_{rel} = 100$

%Regularity

$g^*_{H,rel} = 47$

$g^*_{C,rel} = 100$

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 0.0

$LAB^*LABa$  95.41 0.0 0.0

$LAB^*TCh$  99.99 0.01 -

relative CIELAB lab\*

$lab^*lab$  1.0 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  1.0 0.0 0.0

$lab^*ice$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)  
 $olv^3*$  1.0 0.5 1.0 (1.0)  
 $cmyn^3*$  0.0 0.5 0.0 (0.0)  
 $olv^4*$  1.0 0.5 1.0 1.0  
 $cmyn^4*$  0.0 0.5 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  76.05 31.7 -22.18

$LAB^*LABa$  76.05 31.67 -22.19

$LAB^*TCh$  75.0 38.67 324.97

relative CIELAB lab\*

$lab^*lab$  0.75 0.409 -0.286

$lab^*tch$  0.75 0.5 0.903

$lab^*nch$  0.0 0.5 0.903

relative Natural Colour (NC)

$lab^*lrj$  0.75 0.336 -0.37

$lab^*ice$  0.75 0.2 0.867

$lab^*ncE$  0.0 0.5 b46r

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 0.5  
 $cmyn^4*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  56.72 0.05 0.0

$LAB^*LABa$  56.72 0.0 0.0

$LAB^*TCh$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  0.5 0.0 0.0

$lab^*ice$  0.5 0.0 0.0

$lab^*ncE$  0.5 0.0 -

$n^* = 1,0$

relative Inform. Technology (IT)  
 $olv^3*$  1.0 0.5 1.0 (1.0)  
 $cmyn^3*$  0.0 0.5 0.0 (0.0)  
 $olv^4*$  1.0 0.5 1.0 1.0  
 $cmyn^4*$  0.0 0.5 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  76.05 31.7 -22.18

$LAB^*LABa$  76.05 31.67 -22.19

$LAB^*TCh$  75.0 38.67 324.97

relative CIELAB lab\*

$lab^*lab$  0.75 0.409 -0.286

$lab^*tch$  0.75 0.5 0.903

$lab^*nch$  0.0 0.5 0.903

relative Natural Colour (NC)

$lab^*lrj$  0.75 0.336 -0.37

$lab^*ice$  0.75 0.2 0.867

$lab^*ncE$  0.0 0.5 b46r

relative Inform. Technology (IT)  
 $olv^3*$  1.0 0.0 1.0 (1.0)  
 $cmyn^3*$  0.0 1.0 1.0 (0.0)  
 $olv^4*$  1.0 1.0 1.0 1.0  
 $cmyn^4*$  0.0 1.0 1.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  56.7 63.39 -44.38

$LAB^*LABa$  56.7 63.34 -44.39

$LAB^*TCh$  50.0 77.35 324.97

relative CIELAB lab\*

$lab^*lab$  0.5 0.819 -0.573

$lab^*tch$  0.5 1.0 0.903

$lab^*nch$  0.0 1.0 0.903

relative Natural Colour (NC)

$lab^*lrj$  0.5 0.671 -0.74

$lab^*ice$  0.5 1.0 0.867

$lab^*ncE$  0.0 1.0 b46r

relative Inform. Technology (IT)  
 $olv^3*$  0.0 0.0 0.0 (1.0)  
 $cmyn^3*$  1.0 1.0 1.0 (0.0)  
 $olv^4*$  1.0 1.0 1.0 0.0  
 $cmyn^4*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.09 0.02

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TCh$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  0.0 0.0 0.0

$lab^*ice$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 0,00$

blackness  $n^*$

chromaticness  $c^*$

0,25 0,50 0,75 1,00

## NRS18; adapted (a) CIELAB data

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

	$RMa$	$JMa$	$GMa$	$G50BMa$	$BMa$	$B50RMa$	$NMa$	$WMa$	$RCIE$	$JCIE$	$GCIE$	$BCIE$
	56.7	56.7	56.7	56.7	56.7	56.7	18.01	95.41	39.92	81.26	52.23	30.57
	70.66	-1.39	-75.46	-71.29	4.0	63.35	0.0	0.0	58.67	-2.91	-42.47	1.33
	31.47	77.37	17.4	-30.25	-77.3	-44.4	0.0	0.0	77.35	71.62	44.6	46.51
	24	91	167	203	273	325	0	0	64.99	92	162	272

$n^* = 0,00$

blackness  $n^*$

chromaticness  $c^*$

0,25 0,50 0,75 1,00

## Output: Colorimetric Reflective System ORS18

for hue  $h^* = lab^*h = 354/360 = 0.982$

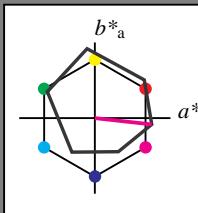
$lab^*tch$  and  $lab^*nch$

D65: hue M

LCH\*Ma: 48 76 354

olv\*Ma: 1.0 0.0 1.0

triangle lightness  $t^*$



%Gamut

$u^*_{rel} = 93$

%Regularity

$g^*_{H,rel} = 57$

$g^*_{C,rel} = 59$

relative Inform. Technology (IT)

$olv^3*$  1.0 0.5 1.0 (1.0)

$cmyn^3*$  0.0 0.5 0.0 (0.0)

$olv^4*$  1.0 0.5 1.0 1.0

$cmyn^4*$  0.0 0.5 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  95.41 -0.97 4.75

$LAB^*LABa$  95.41 0.0 0.0

$LAB^*TCh$  99.99 0.01 -

relative CIELAB lab\*

$lab^*lab$  1.0 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  1.0 0.0 0.0

$lab^*ice$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)

$olv^3*$  1.0 0.5 1.0 (1.0)

$cmyn^3*$  0.0 0.5 0.0 (0.0)

$olv^4*$  1.0 0.5 1.0 1.0

$cmyn^4*$  0.0 0.5 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  71.77 37.1 -1.01

$LAB^*LABa$  71.77 37.63 -4.17

$LAB^*TCh$  75.0 37.86 353.66

relative CIELAB lab\*

$lab^*lab$  0.695 0.497 -0.054

$lab^*tch$  0.75 0.5 0.982

$lab^*nch$  0.0 0.5 0.982

relative Natural Colour (NC)

$lab^*lrj$  0.695 0.454 -0.208

$lab^*ice$  0.75 0.5 0.932

$lab^*ncE$  0.0 0.5 b72r

$n^* = 1,0$

blackness  $n^*$

chromaticness  $c^*$

0,25 0,50 0,75 1,00

3 step scales for constant CIELAB hue 325/360 = 0.903 (left)

3 step scales for constant CIELAB hue 354/360 = 0.982 (right)

## Input: Colorimetric Reflective System NRS18

for hue  $h^* = lab^*h = 325/360 = 0.903$

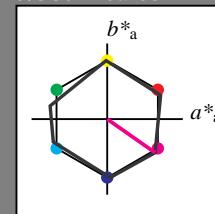
$lab^*tch$  and  $lab^*nch$

D65: hue B50R

LCH\*Ma: 57 77 325

olv\*Ma: 1.0 0.0 1.0

triangle lightness  $t^*$



## NRS18; adapted (a) CIELAB data

	$L^*=L_a^*$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	56.7	70.66	31.47	77.35	24
JMa	56.7	-1.39	77.37	77.39	91
GMa	56.7	-75.46	17.4	77.45	167
G50BMa	56.7	-71.29	-30.25	77.45	203
BMa	56.7	4.0	-77.3	77.41	273
B50RMa	56.7	63.35	-44.4	77.36	325
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	272

relative Inform. Technology (IT)  
 $olv_i3^*$  1.0 1.0 1.0 (1.0)  
 $cmyn3^*$  0.0 0.0 0.0 (0.0)  
 $olv_i4^*$  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 0.0  
 $LAB^*LABa$  95.41 0.0 0.0  
 $LAB^*TCh$  99.99 0.01 -

relative CIELAB lab\*

$lab^*lab$  1.0 0.0 0.0  
 $lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0  
 $lab^*tce$  1.0 0.0 0.0  
 $lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)  
 $olv_i3^*$  0.5 0.5 0.5 (1.0)  
 $cmyn3^*$  0.5 0.5 0.5 (0.0)  
 $olv_i4^*$  1.0 1.0 1.0 0.5  
 $cmyn4^*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  56.72 0.05 0.0  
 $LAB^*LABa$  56.72 0.0 0.0  
 $LAB^*TCh$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0  
 $lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.5 0.0 0.0  
 $lab^*tce$  0.5 0.0 0.0  
 $lab^*ncE$  0.5 0.0 -

relative Inform. Technology (IT)  
 $olv_i3^*$  0.0 0.0 0.0 (1.0)  
 $cmyn3^*$  1.0 1.0 1.0 (0.0)  
 $olv_i4^*$  1.0 1.0 1.0 0.0  
 $cmyn4^*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.09 0.02  
 $LAB^*LABa$  18.02 0.0 0.0  
 $LAB^*TCh$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0  
 $lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0  
 $lab^*tce$  0.0 0.0 -  
 $lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

%Gamut

$u^*_{rel} = 100$

%Regularity

$g^*_{H,rel} = 47$

$g^*_{C,rel} = 100$

relative Inform. Technology (IT)

$olv_i3^*$  1.0 0.5 1.0 (1.0)

$cmyn3^*$  0.0 0.5 0.0 (0.0)

$olv_i4^*$  1.0 0.5 1.0 1.0

$cmyn4^*$  0.0 0.5 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  76.05 31.7 -22.18  
 $LAB^*LABa$  76.05 31.67 -22.19  
 $LAB^*TCh$  75.0 38.67 324.97

relative CIELAB lab\*

$lab^*lab$  0.75 0.409 -0.286

$lab^*tch$  0.75 0.5 0.903

$lab^*nch$  0.0 0.5 0.903

relative Natural Colour (NC)

$lab^*lrij$  0.75 0.336 -0.37

$lab^*tce$  0.75 0.2 0.867

$lab^*ncE$  0.0 0.5 b46r

standard and adapted CIELAB

$LAB^*LAB$  56.7 63.39 -44.38  
 $LAB^*LABa$  56.7 63.34 -44.39  
 $LAB^*TCh$  50.0 77.35 324.97

relative CIELAB lab\*

$lab^*lab$  0.5 0.819 -0.573

$lab^*tch$  0.5 1.0 0.903

$lab^*nch$  0.0 1.0 0.903

relative Natural Colour (NC)

$lab^*lrij$  0.5 0.671 -0.74

$lab^*tce$  0.5 1.0 0.867

$lab^*ncE$  0.0 1.0 b46r

standard and adapted CIELAB

$LAB^*LAB$  37.36 31.74 -22.17  
 $LAB^*LABa$  37.36 31.67 -22.19  
 $LAB^*TCh$  25.01 38.67 324.97

relative CIELAB lab\*

$lab^*lab$  0.25 0.409 -0.286

$lab^*tch$  0.25 0.5 0.903

$lab^*nch$  0.5 0.5 0.903

relative Natural Colour (NC)

$lab^*lrij$  0.25 0.336 -0.37

$lab^*tce$  0.25 0.5 0.867

$lab^*ncE$  0.5 0.5 b46r

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.5 -0.46  
 $LAB^*LABa$  18.02 0.0 0.0  
 $LAB^*TCh$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*tce$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 0,00$

blackness  $n^*$

chromaticness  $c^*$

## Output: Colorimetric Reflective System MRS18

for hue  $h^* = lab^*h = 322/360 = 0.895$

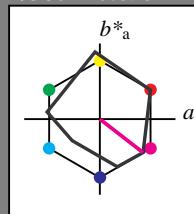
$lab^*tch$  and  $lab^*nch$

D65: hue B50R

LCH\*Ma: 35 72 322

olv\*Ma: 1.0 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	58.67	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)  
 $olv_i3^*$  1.0 1.0 1.0 (1.0)  
 $cmyn3^*$  0.0 0.0 0.0 (0.0)  
 $olv_i4^*$  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 0.0  
 $LAB^*LABa$  95.41 0.0 0.0

$LAB^*TCh$  99.99 0.01 -

relative CIELAB lab\*

$lab^*lab$  1.0 0.0 0.0  
 $lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0  
 $lab^*tce$  1.0 0.0 0.0  
 $lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)  
 $olv_i3^*$  1.0 0.5 1.0 (1.0)  
 $cmyn3^*$  0.0 0.5 0.0 (0.0)  
 $olv_i4^*$  1.0 0.5 1.0 1.0  
 $cmyn4^*$  0.0 0.0 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  95.41 0.0 0.0  
 $LAB^*LABa$  95.41 0.0 0.0

$LAB^*TCh$  99.99 0.01 -

relative CIELAB lab\*

$lab^*lab$  1.0 0.5 0.0  
 $lab^*tch$  1.0 0.5 -

$lab^*nch$  0.0 0.5 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.5 0.0  
 $lab^*tce$  1.0 0.5 0.0  
 $lab^*ncE$  0.0 0.5 -

relative Inform. Technology (IT)  
 $olv_i3^*$  0.5 0.5 0.5 (1.0)  
 $cmyn3^*$  0.5 0.5 0.5 (0.0)  
 $olv_i4^*$  1.0 0.5 1.0 0.5  
 $cmyn4^*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  56.72 0.05 0.0  
 $LAB^*LABa$  56.72 0.0 0.0

$LAB^*TCh$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 0.5 0.0  
 $lab^*tch$  0.5 0.5 -

$lab^*nch$  0.0 0.5 -

relative Natural Colour (NC)

$lab^*lrij$  0.5 0.5 0.0  
 $lab^*tce$  0.5 0.5 0.0  
 $lab^*ncE$  0.0 0.5 -

relative Inform. Technology (IT)  
 $olv_i3^*$  0.0 0.0 0.0 (1.0)  
 $cmyn3^*$  1.0 1.0 1.0 (0.0)  
 $olv_i4^*$  1.0 1.0 1.0 0.0  
 $cmyn4^*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.09 0.02  
 $LAB^*LABa$  18.02 0.0 0.0

$LAB^*TCh$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0  
 $lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0  
 $lab^*tce$  0.0 0.0 -  
 $lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

%Gamut

$u^*_{rel} = 100$

%Regularity

$g^*_{H,rel} = 47$

$g^*_{C,rel} = 100$

relative Inform. Technology (IT)

$olv_i3^*$  1.0 0.5 1.0 (1.0)

$cmyn3^*$  0.0 0.5 0.0 (0.0)

$olv_i4^*$  1.0 0.5 1.0 1.0

$cmyn4^*$  0.0 0.5 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  76.05 31.7 -22.18  
 $LAB^*LABa$  76.05 31.67 -22.19  
 $LAB^*TCh$  75.0 38.67 324.97</p

## Input: Colorimetric Reflective System NRS18

for hue  $h^* = lab^*h = 325/360 = 0.903$

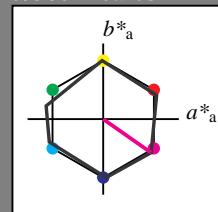
$lab^*tch$  and  $lab^*nch$

D65: hue B50R

LCH\*Ma: 57 77 325

olv\*Ma: 1.0 0.0 1.0

triangle lightness  $t^*$



## NRS18; adapted (a) CIELAB data

	$L^* = L^*_{ab}$	$a^*_{ab}$	$b^*_{ab}$	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	56.7	70.66	31.47	77.35	24
JMa	56.7	-1.39	77.37	77.39	91
GMa	56.7	-75.46	17.4	77.45	167
G50BMa	56.7	-71.29	-30.25	77.45	203
BMa	56.7	4.0	-77.3	77.41	273
B50RMa	56.7	63.35	-44.4	77.36	325
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	272

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 0.0  
 $LAB^*LABa$  95.41 0.0 0.0  
 $LAB^*TCh$  99.99 0.01 -

relative CIELAB lab\*

$lab^*lab$  1.0 0.0 0.0  
 $lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrf$  1.0 0.0 0.0  
 $lab^*ice$  1.0 0.0 0.0  
 $lab^*ncE$  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 0.5  
 $cmyn^4*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  56.72 0.05 0.0  
 $LAB^*LABa$  56.72 0.0 0.0  
 $LAB^*TCh$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0  
 $lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrf$  0.5 0.0 0.0  
 $lab^*ice$  0.5 0.0 0.0  
 $lab^*ncE$  0.5 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)  
 $olv^4*$  1.0 1.0 1.0 0.0  
 $cmyn^4*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.09 0.02  
 $LAB^*LABa$  18.02 0.0 0.0  
 $LAB^*TCh$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0  
 $lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrf$  0.0 0.0 0.0  
 $lab^*ice$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

%Gamut

$u^*_{rel} = 100$

%Regularity

$g^*_{H,rel} = 47$

$g^*_{C,rel} = 100$

relative Inform. Technology (IT)

$olv^3*$  1.0 0.5 1.0 (1.0)

$cmyn^3*$  0.0 0.5 0.0 (0.0)

$olv^4*$  1.0 0.5 1.0 1.0

$cmyn^4*$  0.0 0.5 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  76.05 31.7 -22.18  
 $LAB^*LABa$  76.05 31.67 -22.19  
 $LAB^*TCh$  75.0 38.67 324.97

relative CIELAB lab\*

$lab^*lab$  0.75 0.409 -0.286

$lab^*tch$  0.75 0.5 0.903

$lab^*nch$  0.0 0.5 0.903

relative Natural Colour (NC)

$lab^*lrf$  0.75 0.336 -0.37

$lab^*ice$  0.75 0.2 0.867

$lab^*ncE$  0.0 0.5 b46r

standard and adapted CIELAB

$LAB^*LAB$  56.7 63.39 -44.38

$LAB^*LABa$  56.7 63.34 -44.39

$LAB^*TCh$  50.0 77.35 324.97

relative CIELAB lab\*

$lab^*lab$  0.5 0.819 -0.573

$lab^*tch$  0.5 1.0 0.903

$lab^*nch$  0.0 1.0 0.903

relative Natural Colour (NC)

$lab^*lrf$  0.5 0.671 -0.74

$lab^*ice$  0.5 1.0 0.867

$lab^*ncE$  0.0 1.0 b46r

standard and adapted CIELAB

$LAB^*LAB$  37.36 31.74 -22.17

$LAB^*LABa$  37.36 31.67 -22.19

$LAB^*TCh$  25.01 38.67 324.97

relative CIELAB lab\*

$lab^*lab$  0.25 0.409 -0.286

$lab^*tch$  0.25 0.5 0.903

$lab^*nch$  0.5 0.5 0.903

relative Natural Colour (NC)

$lab^*lrf$  0.25 0.336 -0.37

$lab^*ice$  0.25 0.5 b46r

$lab^*ncE$  0.5 0.5 b46r

$n^* = 0,00$

$n^* = 0,00$

blackness  $n^*$

chromaticness  $c^*$

## Output: Colorimetric Reflective System TRS18

for hue  $h^* = lab^*h = 354/360 = 0.982$

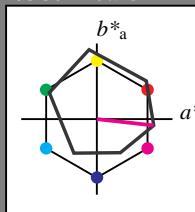
$lab^*tch$  and  $lab^*nch$

D65: hue M

LCH\*Ma: 48 76 354

olv\*Ma: 1.0 0.0 1.0

triangle lightness  $t^*$



## TRS18; adapted (a) CIELAB data

	$L^* = L^*_{ab}$	$a^*_{ab}$	$b^*_{ab}$	$C^*_{ab,a}$	$h^*_{ab,a}$
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)  
 $olv^3*$  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  
 $LAB^*LABa$  95.41 0.0 0.0  
 $LAB^*TCh$  99.99 0.01 -

relative CIELAB lab\*

$lab^*lab$  1.0 0.0 0.0  
 $lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrf$  1.0 0.0 0.0  
 $lab^*ice$  1.0 0.0 0.0  
 $lab^*ncE$  0.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  71.77 37.1 -1.01  
 $LAB^*LABa$  71.77 37.63 -4.17  
 $LAB^*TCh$  75.0 37.86 353.66

relative CIELAB lab\*

$lab^*lab$  0.695 0.497 -0.054

$lab^*tch$  0.75 0.5 0.982

$lab^*nch$  0.0 0.5 0.982

relative Natural Colour (NC)

$lab^*lrf$  0.695 0.454 -0.208  
 $lab^*ice$  0.75 0.5 0.932  
 $lab^*ncE$  0.0 0.5 b72r

standard and adapted CIELAB

$LAB^*LAB$  48.14 75.18 -6.78  
 $LAB^*LABa$  48.14 75.25 -8.35  
 $LAB^*TCh$  50.0 75.71 353.66

relative CIELAB lab\*

$lab^*lab$  0.389 0.994 -0.109

$lab^*tch$  0.5 1.0 0.982

$lab^*nch$  0.0 1.0 0.982

relative Natural Colour (NC)

$lab^*lrf$  0.389 0.909 -0.416

$lab^*ice$  0.5 1.0 0.932

$lab^*ncE$  0.0 1.0 b72r

$n^* = 0,00$

blackness  $n^*$

chromaticness  $c^*$

$n^* = 1,0$

UE100-7, 3 step scales for constant CIELAB hue 325/360 = 0.903 (left)

3 step scales for constant CIELAB hue 354/360 = 0.982 (right)

## Input: Colorimetric Reflective System NRS18

for hue  $h^* = lab^*h = 325/360 = 0.903$

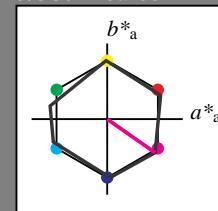
$lab^*tch$  and  $lab^*nch$

D65: hue B50R

LCH\*Ma: 57 77 325

olv\*Ma: 1.0 0.0 1.0

triangle lightness  $t^*$



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 0.0

$LAB^*LABa$  95.41 0.0 0.0

$LAB^*TCh$  99.99 0.01 -

relative CIELAB lab\*

$lab^*lab$  1.0 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

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 0.5  
 $cmyn4^*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  56.72 0.05 0.0

$LAB^*LABa$  56.72 0.0 0.0

$LAB^*TCh$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.5 0.0 0.0

$lab^*tce$  0.5 0.0 0.0

$lab^*ncE$  0.5 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

$LAB^*LAB$  18.02 0.09 0.02

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TCh$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*tce$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

NRS18; adapted (a) CIELAB data					
	$L^*=L^*_a$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	56.7	70.66	31.47	77.35	24
JMa	56.7	-1.39	77.37	77.39	91
GMa	56.7	-75.46	17.4	77.45	167
G50BMa	56.7	-71.29	-30.25	77.45	203
BMa	56.7	4.0	-77.3	77.41	273
B50RMa	56.7	63.35	-44.4	77.36	325
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	272

relative Inform. Technology (IT)  
 $olvi3^*$  1.0 0.5 1.0 (1.0)  
 $cmyn3^*$  0.0 0.5 0.0 (0.0)  
 $olvi4^*$  1.0 0.5 1.0 1.0  
 $cmyn4^*$  0.0 0.5 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  76.05 31.7 -22.18

$LAB^*LABa$  76.05 31.67 -22.19

$LAB^*TCh$  75.0 38.67 324.97

relative CIELAB lab\*

$lab^*lab$  0.75 0.409 -0.286

$lab^*tch$  0.75 0.5 0.903

$lab^*nch$  0.0 0.5 0.903

relative Natural Colour (NC)

$lab^*lrij$  0.75 0.336 -0.37

$lab^*tce$  0.75 0.2 0.867

$lab^*ncE$  0.0 0.5 b46r

relative Inform. Technology (IT)  
 $olvi3^*$  1.0 0.0 1.0 (1.0)  
 $cmyn3^*$  0.0 1.0 0.0 (0.0)  
 $olvi4^*$  1.0 0.0 1.0 1.0  
 $cmyn4^*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  56.7 63.39 -44.38

$LAB^*LABa$  56.7 63.34 -44.39

$LAB^*TCh$  50.0 77.35 324.97

relative CIELAB lab\*

$lab^*lab$  0.5 0.819 -0.573

$lab^*tch$  0.5 1.0 0.903

$lab^*nch$  0.0 1.0 0.903

relative Natural Colour (NC)

$lab^*lrij$  0.5 0.671 -0.74

$lab^*tce$  0.5 1.0 0.867

$lab^*ncE$  0.0 1.0 b46r

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 0.5 1.0 0.5  
 $cmyn4^*$  0.0 0.5 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  37.36 31.74 -22.17

$LAB^*LABa$  37.36 31.67 -22.19

$LAB^*TCh$  25.01 38.67 324.97

relative CIELAB lab\*

$lab^*lab$  0.25 0.409 -0.286

$lab^*tch$  0.25 0.5 0.903

$lab^*nch$  0.5 0.5 0.903

relative Natural Colour (NC)

$lab^*lrij$  0.25 0.336 -0.37

$lab^*tce$  0.25 0.5 b46r

$lab^*ncE$  0.5 0.5 b44r

relative Inform. Technology (IT)  
 $olvi3^*$  1.0 0.5 1.0 (1.0)  
 $cmyn3^*$  0.0 0.5 0.0 (0.0)  
 $olvi4^*$  1.0 0.5 1.0 1.0  
 $cmyn4^*$  0.0 0.5 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  56.7 63.39 -44.38

$LAB^*LABa$  56.7 63.34 -44.39

$LAB^*TCh$  50.0 77.35 324.97

relative CIELAB lab\*

$lab^*lab$  0.75 0.409 -0.286

$lab^*tch$  0.75 0.5 0.903

$lab^*nch$  0.0 0.5 0.903

relative Natural Colour (NC)

$lab^*lrij$  0.75 0.336 -0.37

$lab^*tce$  0.75 0.5 b46r

$lab^*ncE$  0.0 0.5 b44r

relative Inform. Technology (IT)  
 $olvi3^*$  1.0 0.0 1.0 (1.0)  
 $cmyn3^*$  0.0 1.0 0.0 (0.0)  
 $olvi4^*$  1.0 0.0 1.0 1.0  
 $cmyn4^*$  0.0 0.0 1.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.1 0.02

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TCh$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*tce$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 0,00$

blackness  $n^*$

chromaticness  $c^*$

0,25 0,50 0,75 1,00

$n^* = 0,50$

blackness  $n^*$

chromaticness  $c^*$

0,25 0,50 0,75 1,00

$n^* = 1,00$

## Output: Colorimetric Reflective System MRS18a

for hue  $h^* = lab^*h = 323/360 = 0.896$

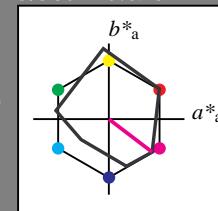
$lab^*tch$  and  $lab^*nch$

D65: hue B50R

LCH\*Ma: 35 72 323

olv\*Ma: 1.0 0.0 1.0

triangle lightness  $t^*$



%Gamut  
 $u^*_{rel} = 100$   
%Regularity  
 $g^*_{H,rel} = 47$   
 $g^*_{C,rel} = 100$

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 0.0

$LAB^*LABa$  95.41 0.0 0.0

$LAB^*TCh$  99.99 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)

$lab^*lrij$  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 (1.0)  
 $cmyn3^*$  0.5 0.5 0.5 (0.0)  
 $olvi4^*$  1.0 0.5 1.0 0.5  
 $cmyn4^*$  0.0 0.5 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  76.05 31.7 -22.18

$LAB^*LABa$  76.05 31.67 -22.19

$LAB^*TCh$  75.0 38.67 324.97

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)

$lab^*lrij$  0.75 0.0 0.0

$lab^*tce$  0.75 0.0 0.0

$lab^*ncE$  0.0 0.0 0.0

$n^* = 0,00$

blackness  $n^*$

chromaticness  $c^*$

0,25 0,50 0,75 1,00

$n^* = 0,50$

blackness  $n^*$

chromaticness  $c^*$

0,25 0,50 0,75 1,00

$n^* = 1,00$

MRS18a; adapted (a) CIELAB data					
	$L^*=L^*_a$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$


<tbl\_r cells="6" ix="2" maxcspan="1" maxrspan="1" usedcols

## Input: Colorimetric Reflective System NRS18

for hue  $h^* = lab^*h = 325/360 = 0.903$

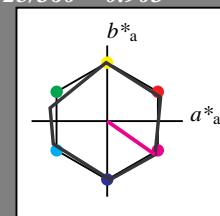
$lab^*tch$  and  $lab^*nch$

D65: hue B50R

LCH\*Ma: 57 77 325

olv\*Ma: 1.0 0.0 1.0

triangle lightness  $t^*$



%Gamut

$u^*_{rel} = 100$

%Regularity

$g^*_{H,rel} = 47$

$g^*_{C,rel} = 100$

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 0.0

$LAB^*LABa$  95.41 0.0 0.0

$LAB^*TCh$  99.99 0.01 -

relative CIELAB lab\*

$lab^*lab$  1.0 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*ice$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

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 0.5  
 $cmyn4^*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  56.72 0.05 0.0

$LAB^*LABa$  56.72 0.0 0.0

$LAB^*TCh$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.5 0.0 0.0

$lab^*ice$  0.5 0.0 0.0

$lab^*ncE$  0.5 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

$LAB^*LAB$  18.02 0.09 0.02

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TCh$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*ice$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

## NRS18; adapted (a) CIELAB data

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

RMa	56.7	70.66	31.47	77.35	24
JMa	56.7	-1.39	77.37	77.39	91
GMa	56.7	-75.46	17.4	77.45	167
G50BMa	56.7	-71.29	-30.25	77.45	203
BMa	56.7	4.0	-77.3	77.41	273
B50RMa	56.7	63.35	-44.4	77.36	325
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	272

## Output: Colorimetric Reflective System NRS18

for hue  $h^* = lab^*h = 325/360 = 0.903$

$lab^*tch$  and  $lab^*nch$

D65: hue B50R

LCH\*Ma: 57 77 325

olv\*Ma: 1.0 0.0 1.0

triangle lightness  $t^*$

## NRS18; adapted (a) CIELAB data

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

RMa	56.7	70.66	31.47	77.35	24
JMa	56.7	-1.39	77.37	77.39	91
GMa	56.7	-75.46	17.4	77.45	167
G50BMa	56.7	-71.29	-30.25	77.45	203
BMa	56.7	4.0	-77.3	77.41	273
B50RMa	56.7	63.35	-44.4	77.36	325
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	272

$n^* = 0,00$



chromaticness  $c^*$

$n^* = 1,0$

3 step scales for constant CIELAB hue 325/360 = 0.903 (right)

UE100-7, 3 step scales for constant CIELAB hue 325/360 = 0.903 (left)

$n^* = 0,00$



chromaticness  $c^*$

## Input: Colorimetric Reflective System NRS18

for hue  $h^* = lab^*h = 325/360 = 0.903$

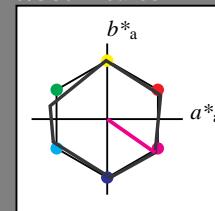
$lab^*tch$  and  $lab^*nch$

D65: hue B50R

LCH\*Ma: 57 77 325

olv\*Ma: 1.0 0.0 1.0

triangle lightness  $t^*$



## NRS18; adapted (a) CIELAB data

	$L^* = L^*_{ab}$	$a^*_{ab}$	$b^*_{ab}$	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	56.7	70.66	31.47	77.35	24
JMa	56.7	-1.39	77.37	77.39	91
GMa	56.7	-75.46	17.4	77.45	167
G50BMa	56.7	-71.29	-30.25	77.45	203
BMa	56.7	4.0	-77.3	77.41	273
B50RMa	56.7	63.35	-44.4	77.36	325
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	272

relative Inform. Technology (IT)  
 $olvi3^*$  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 0.0  
 $LAB^*LABa$  95.41 0.0 0.0  
 $LAB^*TCh$  99.99 0.01 -

relative CIELAB lab\*

$lab^*lab$  1.0 0.0 0.0  
 $lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0  
 $lab^*ice$  1.0 0.0 0.0  
 $lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)  
 $olvi3^*$  0.5 0.5 0.5 (1.0)  
 $cmyn3^*$  0.5 0.5 0.5 (0.0)  
 $olv4^*$  1.0 1.0 1.0 0.5  
 $cmyn4^*$  0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  56.72 0.05 0.0  
 $LAB^*LABa$  56.72 0.0 0.0  
 $LAB^*TCh$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0  
 $lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.5 0.0 0.0  
 $lab^*ice$  0.5 0.0 0.0  
 $lab^*ncE$  0.5 0.0 -

relative Inform. Technology (IT)  
 $olvi3^*$  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 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.09 0.02  
 $LAB^*LABa$  18.02 0.0 0.0  
 $LAB^*TCh$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0  
 $lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0  
 $lab^*ice$  0.0 0.0 -  
 $lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

%Gamut

$u^*_{rel} = 100$

%Regularity

$g^*_{H,rel} = 47$

$g^*_{C,rel} = 100$

relative Inform. Technology (IT)

$olvi3^*$  1.0 0.5 1.0 (1.0)

$cmyn3^*$  0.0 0.5 0.0 (0.0)

$olv4^*$  1.0 0.5 1.0 1.0

$cmyn4^*$  0.0 0.5 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  76.05 31.7 -22.18

$LAB^*LABa$  76.05 31.67 -22.19

$LAB^*TCh$  75.0 38.67 324.97

relative CIELAB lab\*

$lab^*lab$  0.75 0.409 -0.286

$lab^*tch$  0.75 0.5 0.903

$lab^*nch$  0.0 0.5 0.903

relative Natural Colour (NC)

$lab^*lrij$  0.75 0.336 -0.37

$lab^*ice$  0.75 0.2 0.867

$lab^*ncE$  0.0 0.5 b46r

relative Inform. Technology (IT)

$olvi3^*$  1.0 0.0 1.0 (1.0)

$cmyn3^*$  0.0 0.5 0.5 (0.0)

$olv4^*$  1.0 0.0 1.0 0.5

$cmyn4^*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  56.7 63.39 -44.38

$LAB^*LABa$  56.7 63.34 -44.39

$LAB^*TCh$  50.0 77.35 324.97

relative CIELAB lab\*

$lab^*lab$  0.5 0.819 -0.573

$lab^*tch$  0.5 1.0 0.903

$lab^*nch$  0.0 1.0 0.903

relative Natural Colour (NC)

$lab^*lrij$  0.5 0.671 -0.74

$lab^*ice$  0.5 1.0 0.867

$lab^*ncE$  0.0 1.0 b46r

relative Inform. Technology (IT)

$olvi3^*$  0.5 0.5 0.5 (1.0)

$cmyn3^*$  0.5 1.0 0.5 (0.0)

$olv4^*$  1.0 0.5 1.0 0.5

$cmyn4^*$  0.0 0.5 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  37.36 31.74 -22.17

$LAB^*LABa$  37.36 31.67 -22.19

$LAB^*TCh$  25.01 38.67 324.97

relative CIELAB lab\*

$lab^*lab$  0.25 0.409 -0.286

$lab^*tch$  0.25 0.5 0.903

$lab^*nch$  0.5 0.5 0.903

relative Natural Colour (NC)

$lab^*lrij$  0.25 0.336 -0.37

$lab^*ice$  0.25 0.5 b46r

$lab^*ncE$  0.5 0.5 b46r

$n^* = 0,00$   
  
 blackness  $n^*$

chromaticness  $c^*$

## Output: Colorimetric Reflective System NCS18

for hue  $h^* = lab^*h = 325/360 = 0.903$

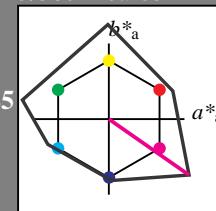
$lab^*tch$  and  $lab^*nch$

D65: hue B50R

LCH\*Ma: 44 129 325

olv\*Ma: 1.0 0.0 1.0

triangle lightness  $t^*$



## NCS18; adapted (a) CIELAB data

	$L^* = L^*_{ab}$	$a^*_{ab}$	$b^*_{ab}$	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	47.15	84.63	37.24	92.46	24
JMa	91.37	-1.27	125.03	125.03	91
GMa	63.07	-114.29	25.34	117.07	167
G50BMa	59.47	-80.61	-33.45	87.29	203
BMa	49.01	3.63	-81.2	81.29	273
B50RMa	44.06	106.07	-73.94	129.31	325
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	272

relative Inform. Technology (IT)  
 $olvi3^*$  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  
 $LAB^*TCh$  99.99 0.01 -

relative CIELAB lab\*

$lab^*lab$  1.0 0.0 0.0  
 $lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0  
 $lab^*ice$  1.0 0.0 0.0  
 $lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)  
 $olvi3^*$  0.5 0.5 0.5 (1.0)  
 $cmyn3^*$  0.5 0.5 0.5 (0.0)  
 $olv4^*$  1.0 0.5 1.0 0.5  
 $cmyn4^*$  0.0 0.5 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  56.72 0.05 0.0  
 $LAB^*LABa$  56.72 0.0 0.0  
 $LAB^*TCh$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 0.411 -0.285  
 $lab^*tch$  0.5 0.5 0.903

$lab^*nch$  0.0 0.5 0.903

relative Natural Colour (NC)

$lab^*lrij$  0.5 0.671 -0.74  
 $lab^*ice$  0.5 1.0 0.867  
 $lab^*ncE$  0.0 1.0 b46r

relative Inform. Technology (IT)  
 $olvi3^*$  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 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.09 0.02  
 $LAB^*LABa$  18.02 0.0 0.0  
 $LAB^*TCh$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0  
 $lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0  
 $lab^*ice$  0.0 0.0 -  
 $lab^*ncE$  1.0 0.0 -

relative Inform. Technology (IT)  
 $olvi3^*$  0.0 0.0 0.0 (1.0)  
 $cmyn3^*$  0.0 0.0 0.0 (0.0)  
 $olv4^*$  1.0 0.0 1.0 0.0  
 $cmyn4^*$  0.0 0.0 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  31.04 53.11 -36.93  
 $LAB^*LABa$  31.04 53.03 -36.96  
 $LAB^*TCh$  25.01 64.64 325.12

relative CIELAB lab\*

$lab^*lab$  0.168 0.41 -0.285

$lab^*tch$  0.25 0.5 0.903

$lab^*nch$  0.5 0.5 0.903

relative Natural Colour (NC)

$lab^*lrij$  0.168 0.336 -0.369  
 $lab^*ice$  0.25 0.5 0.867  
 $lab^*ncE$  0.5 0.5 b46r

$n^* = 1,0$

$n^* = 0,00$   
  
 blackness  $n^*$

chromaticness  $c^*$

$n^* = 1,0$

3 step scales for constant CIELAB hue 325/360 = 0.903 (right)

UE100-7, 3 step scales for constant CIELAB hue 325/360 = 0.903 (left)

## Input: Colorimetric Reflective System NRS18

for hue  $h^* = lab^*h = 325/360 = 0.903$

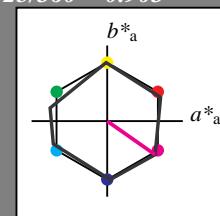
$lab^*tch$  and  $lab^*nch$

D65: hue B50R

LCH\*Ma: 57 77 325

olv\*Ma: 1.0 0.0 1.0

triangle lightness  $t^*$



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 0.0  
 $LAB^*LABa$  95.41 0.0 0.0  
 $LAB^*TCh$  99.99 0.01 -

relative CIELAB lab\*

$lab^*lab$  1.0 0.0 0.0  
 $lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0  
 $lab^*tce$  1.0 0.0 0.0  
 $lab^*ncE$  0.0 0.0 -

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 0.5  
 $cmyn4^*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  56.72 0.05 0.0  
 $LAB^*LABa$  56.72 0.0 0.0  
 $LAB^*TCh$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0  
 $lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.5 0.0 0.0  
 $lab^*tce$  0.5 0.0 0.0  
 $lab^*ncE$  0.5 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

$LAB^*LAB$  18.02 0.09 0.02  
 $LAB^*LABa$  18.02 0.0 0.0  
 $LAB^*TCh$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0  
 $lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0  
 $lab^*tce$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

## NRS18; adapted (a) CIELAB data

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

RMa	56.7	70.66	31.47	77.35	24
JMa	56.7	-1.39	77.37	77.39	91
GMa	56.7	-75.46	17.4	77.45	167
G50BMa	56.7	-71.29	-30.25	77.45	203
BMa	56.7	4.0	-77.3	77.41	273
B50RMa	56.7	63.35	-44.4	77.36	325
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	272

%Gamut

$u^*_{rel} = 100$

%Regularity

$g^*_{H,rel} = 47$

$g^*_{C,rel} = 100$

relative Inform. Technology (IT)

$olvi3^*$  1.0 0.5 1.0 (1.0)

$cmyn3^*$  0.0 0.5 0.0 (0.0)

$olvi4^*$  1.0 0.5 1.0 1.0

$cmyn4^*$  0.0 0.5 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  76.05 31.7 -22.18

$LAB^*LABa$  76.05 31.67 -22.19

$LAB^*TCh$  75.0 38.67 324.97

relative CIELAB lab\*

$lab^*lab$  0.75 0.409 -0.286

$lab^*tch$  0.75 0.5 0.903

$lab^*nch$  0.0 0.5 0.903

relative Natural Colour (NC)

$lab^*lrij$  0.75 0.336 -0.37

$lab^*tce$  0.75 0.2 0.867

$lab^*ncE$  0.0 0.5 b46r

relative Inform. Technology (IT)

$olvi3^*$  1.0 0.0 1.0 (1.0)

$cmyn3^*$  0.0 0.5 0.5 (0.0)

$olvi4^*$  1.0 0.0 1.0 0.5

$cmyn4^*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  56.7 63.39 -44.38

$LAB^*LABa$  56.7 63.34 -44.39

$LAB^*TCh$  50.0 77.35 324.97

relative CIELAB lab\*

$lab^*lab$  0.5 0.819 -0.573

$lab^*tch$  0.5 1.0 0.903

$lab^*nch$  0.0 1.0 0.903

relative Natural Colour (NC)

$lab^*lrij$  0.5 0.671 -0.74

$lab^*tce$  0.5 1.0 0.867

$lab^*ncE$  0.0 1.0 b46r

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 0.5 1.0 0.5

$cmyn4^*$  0.0 0.5 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  37.36 31.74 -22.17

$LAB^*LABa$  37.36 31.67 -22.19

$LAB^*TCh$  25.01 38.67 324.97

relative CIELAB lab\*

$lab^*lab$  0.25 0.409 -0.286

$lab^*tch$  0.25 0.5 0.903

$lab^*nch$  0.5 0.5 0.903

relative Natural Colour (NC)

$lab^*lrij$  0.25 0.336 -0.37

$lab^*tce$  0.25 0.5 b46r

$lab^*ncE$  0.5 0.5 b46r

$n^* = 0,00$

blackness  $n^*$

chromaticness  $c^*$

$n^* = 0,00$

blackness  $n^*$

chromaticness  $c^*$

## Output: Colorimetric Reflective System NRS11

for hue  $h^* = lab^*h = 325/360 = 0.903$

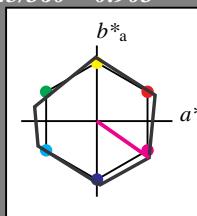
$lab^*tch$  and  $lab^*nch$

D65: hue B50R

LCH\*Ma: 53 84 325

olv\*Ma: 1.0 0.0 1.0

triangle lightness  $t^*$



%Gamut

$u^*_{rel} = 119$

%Regularity

$g^*_{H,rel} = 47$

$g^*_{C,rel} = 100$

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

$LAB^*TCh$  99.99 0.01 -

relative CIELAB lab\*

$lab^*lab$  1.0 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)

$olvi3^*$  1.0 0.5 1.0 (1.0)

$cmyn3^*$  0.0 0.5 0.5 (0.0)

$olvi4^*$  1.0 0.5 1.0 1.0

$cmyn4^*$  0.0 0.5 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  74.3 34.57 -24.19

$LAB^*LABa$  74.3 34.54 -24.2

$LAB^*TCh$  75.0 42.18 324.98

relative CIELAB lab\*

$lab^*lab$  0.75 0.409 -0.286

$lab^*tch$  0.75 0.5 0.903

$lab^*nch$  0.0 0.5 0.903

relative Natural Colour (NC)

$lab^*lrij$  0.75 0.336 -0.37

$lab^*tce$  0.75 0.5 b46r

$lab^*ncE$  0.0 0.5 b46r

$n^* = 1,0$

blackness  $n^*$

chromaticness  $c^*$

$n^* = 1,0$

blackness  $n^*$

chromaticness  $c^*$

UE100-7, 3 step scales for constant CIELAB hue 325/360 = 0.903 (left)

3 step scales for constant CIELAB hue 325/360 = 0.903 (right)

## Input: Colorimetric Reflective System NRS18

for hue  $h^* = lab^*h = 325/360 = 0.903$

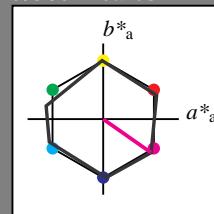
$lab^*tch$  and  $lab^*nch$

D65: hue B50R

LCH\*Ma: 57 77 325

olv\*Ma: 1.0 0.0 1.0

triangle lightness  $t^*$



### NRS18; adapted (a) CIELAB data

	$L^* = L^*_{ab}$	$a^*_{ab}$	$b^*_{ab}$	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	56.7	70.66	31.47	77.35	24
JMa	56.7	-1.39	77.37	77.39	91
GMa	56.7	-75.46	17.4	77.45	167
G50BMa	56.7	-71.29	-30.25	77.45	203
BMa	56.7	4.0	-77.3	77.41	273
B50RMa	56.7	63.35	-44.4	77.36	325
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	272

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 0.0  
 $LAB^*LABa$  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 -  
 $lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*ice$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

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 0.5  
 $cmyn4^*$  0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  56.72 0.05 0.0  
 $LAB^*LABa$  56.72 0.0 0.0  
 $LAB^*TChA$  50.0 0.01 -

relative CIELAB lab\*  
 $lab^*lab$  0.5 0.0 0.0  
 $lab^*tch$  0.5 0.0 -  
 $lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.5 0.0 0.0

$lab^*ice$  0.5 0.0 0.0

$lab^*ncE$  0.5 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

$LAB^*LAB$  18.02 0.09 0.02  
 $LAB^*LABa$  18.02 0.0 0.0  
 $LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*  
 $lab^*lab$  0.0 0.0 0.0  
 $lab^*tch$  0.0 0.0 -  
 $lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*ice$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

%Gamut

$u^*_{rel} = 100$

%Regularity

$g^*_{H,rel} = 47$

$g^*_{C,rel} = 100$

relative Inform. Technology (IT)

$olvi3^*$  1.0 0.5 1.0 (1.0)

$cmyn3^*$  0.0 0.5 0.0 (0.0)

$olvi4^*$  1.0 0.5 1.0 1.0

$cmyn4^*$  0.0 0.5 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  76.05 31.7 -22.18

$LAB^*LABa$  76.05 31.67 -22.19

$LAB^*TChA$  75.0 38.67 324.97

relative CIELAB lab\*

$lab^*lab$  0.75 0.409 -0.286

$lab^*tch$  0.75 0.5 0.903

$lab^*nch$  0.0 0.5 0.903

relative Natural Colour (NC)

$lab^*lrij$  0.75 0.336 -0.37

$lab^*ice$  0.75 0.2 0.867

$lab^*ncE$  0.0 0.5 b46r

relative Inform. Technology (IT)

$olvi3^*$  1.0 0.0 1.0 (1.0)

$cmyn3^*$  0.0 1.0 0.0 (0.0)

$olvi4^*$  1.0 1.0 1.0 0.5

$cmyn4^*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  56.7 63.39 -44.38

$LAB^*LABa$  56.7 63.34 -44.39

$LAB^*TChA$  50.0 77.35 324.97

relative CIELAB lab\*

$lab^*lab$  0.5 0.819 -0.573

$lab^*tch$  0.5 1.0 0.903

$lab^*nch$  0.0 1.0 0.903

relative Natural Colour (NC)

$lab^*lrij$  0.5 0.671 -0.74

$lab^*ice$  0.5 1.0 0.867

$lab^*ncE$  0.0 1.0 b46r

$n^* = 0,00$

blackness  $n^*$

$n^* = 0,50$

$n^* = 1,00$

chromaticness  $c^*$

## Output: Colorimetric Reflective System NCS11

for hue  $h^* = lab^*h = 325/360 = 0.903$

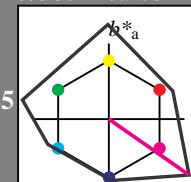
$lab^*tch$  and  $lab^*nch$

D65: hue B50R

LCH\*Ma: 44 129 325

olv\*Ma: 1.0 0.0 1.0

triangle lightness  $t^*$



### NCS11; adapted (a) CIELAB data

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

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 -

relative CIELAB lab\*

$lab^*lab$  1.0 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*ice$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  69.73 53.06 -36.95

$LAB^*LABa$  69.73 53.03 -36.95

$LAB^*TChA$  75.0 64.65 325.12

relative CIELAB lab\*

$lab^*lab$  0.696 0.41 -0.285

$lab^*tch$  0.75 0.5 0.903

$lab^*nch$  0.0 0.5 0.903

relative Natural Colour (NC)

$lab^*lrij$  0.696 0.336 -0.369

$lab^*ice$  0.75 0.5 0.867

$lab^*ncE$  0.0 0.5 b46r

$n^* = 0,00$

blackness  $n^*$

$n^* = 0,50$

$n^* = 1,00$

chromaticness  $c^*$

chromaticness  $c^*$

$n^* = 1,0$

blackness  $n^*$

$n^* = 0,50$

$n^* = 0,00$

UE100-7, 3 step scales for constant CIELAB hue 325/360 = 0.903 (left)

3 step scales for constant CIELAB hue 325/360 = 0.903 (right)

## Input: Colorimetric Reflective System NCS18

for hue  $h^* = lab^*h = 325/360 = 0.903$

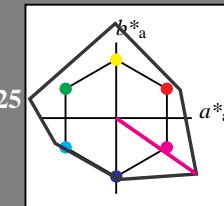
$lab^*tch$  and  $lab^*nch$

D65: hue B50R

LCH\*Ma: 44 129 325

olv\*Ma: 1.0 0.0 1.0

triangle lightness  $t^*$



relative Inform. Technology (IT)

olv*i*3\* 1.0 1.0 1.0 (1.0)

cmy*n*3\* 0.0 0.0 0.0 (0.0)

olv*i*4\* 1.0 1.0 1.0 1.0

cmy*n*4\* 0.0 0.0 0.0 0.0

standard and adapted CIELAB

LAB\*LAB 95.41 0.0 -0.01

LAB\*LAB*a* 95.41 0.0 0.0

LAB\*TCh*a* 99.99 0.01 -

relative CIELAB lab\*

lab\**lab* 1.0 0.0 0.0

lab\**tch* 1.0 0.0 -

lab\**nch* 0.0 0.0 -

relative Natural Colour (NC)

lab\**lrj* 1.0 0.0 0.0

lab\**tce* 1.0 0.0 -

lab\**ncE* 0.0 0.0 -

standard and adapted CIELAB

LAB\*LAB 69.73 53.06 -36.95

LAB\*LAB*a* 69.73 53.03 -36.96

LAB\*TCh*a* 75.0 64.64 325.12

relative CIELAB lab\*

lab\**lab* 0.668 0.41 -0.285

lab\**tch* 0.75 0.5 0.903

lab\**nch* 0.0 0.5 0.903

relative Natural Colour (NC)

lab\**lrj* 0.668 0.336 -0.369

lab\**tce* 0.75 0.2 0.867

lab\**ncE* 0.0 0.5 b46r

relative Inform. Technology (IT)

olv*i*3\* 0.5 0.5 0.5 (1.0)

cmy*n*3\* 0.5 0.5 0.5 (0.0)

olv*i*4\* 1.0 1.0 1.0 0.5

cmy*n*4\* 0.0 0.0 0.5

standard and adapted CIELAB

LAB\*LAB 56.72 0.05 0.0

LAB\*LAB*a* 56.72 0.0 0.0

LAB\*TCh*a* 50.0 0.01 -

relative CIELAB lab\*

lab\**lab* 0.5 0.0 0.0

lab\**tch* 0.5 0.0 -

lab\**nch* 0.5 0.0 -

relative Natural Colour (NC)

lab\**lrj* 0.5 0.0 0.0

lab\**tce* 0.5 0.0 -

lab\**ncE* 0.5 0.0 -

standard and adapted CIELAB

LAB\*LAB 31.04 53.11 -36.93

LAB\*LAB*a* 31.04 53.03 -36.96

LAB\*TCh*a* 25.01 64.64 325.12

relative CIELAB lab\*

lab\**lab* 0.168 0.41 -0.285

lab\**tch* 0.25 0.5 0.903

lab\**nch* 0.5 0.5 0.903

relative Natural Colour (NC)

lab\**lrj* 0.168 0.336 -0.369

lab\**tce* 0.25 0.5 0.867

lab\**ncE* 0.5 0.5 b46r

$n^* = 1,0$

$n^* = 0,00$

$n^* = 0,50$

chromaticness  $c^*$

0,25

1,00

$n^* = 0,00$

blackness  $n^*$

0,50

1,00

chromaticness  $c^*$

0,25

1,00

## Output: Colorimetric Reflective System ORS18

for hue  $h^* = lab^*h = 354/360 = 0.982$

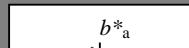
$lab^*tch$  and  $lab^*nch$

D65: hue M

LCH\*Ma: 48 76 354

olv\*Ma: 1.0 0.0 1.0

triangle lightness  $t^*$



%Gamut

$u^*_{rel} = 136$

%Regularity

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

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

standard and adapted CIELAB

LAB\*LAB 95.41 -0.97 4.75

LAB\*LAB*a* 95.41 0.0 0.0

LAB\*TCh*a* 99.99 0.01 -

relative CIELAB lab\*

lab\**lab* 1.0 0.0 0.0

lab\**tch* 1.0 0.0 -

lab\**nch* 0.0 0.0 -

relative Natural Colour (NC)

lab\**lrj* 1.0 0.0 0.0

lab\**tce* 1.0 0.0 -

lab\**ncE* 0.0 0.0 -

standard and adapted CIELAB

LAB\*LAB 71.77 37.1 -1.01

LAB\*LAB*a* 71.77 37.63 -4.17

LAB\*TCh*a* 75.0 37.86 353.66

relative CIELAB lab\*

lab\**lab* 0.695 0.497 -0.054

lab\**tch* 0.75 0.5 0.982

lab\**nch* 0.0 0.5 0.982

relative Natural Colour (NC)

lab\**lrj* 0.695 0.454 -0.208

lab\**tce* 0.75 0.5 0.932

lab\**ncE* 0.0 0.5 b72r

relative Inform. Technology (IT)

olv*i*3\* 1.0 0.5 1.0 (1.0)

cmy*n*3\* 0.0 0.5 0.0 (0.0)

olv*i*4\* 1.0 0.5 1.0 1.0

cmy*n*4\* 0.0 0.5 0.0 0.0

standard and adapted CIELAB

LAB\*LAB 48.14 75.18 -6.78

LAB\*LAB*a* 48.14 75.25 -8.35

LAB\*TCh*a* 50.0 75.71 353.66

relative CIELAB lab\*

lab\**lab* 0.389 0.994 -0.109

lab\**tch* 0.5 1.0 0.982

lab\**nch* 0.0 1.0 0.982

relative Natural Colour (NC)

lab\**lrj* 0.389 0.909 -0.416

lab\**tce* 0.5 1.0 0.932

lab\**ncE* 0.0 1.0 b72r

ORS18: adapted (a) CIELAB data

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

O*Ma* 47.94 65.37 50.52 82.62 38

Y*Ma* 90.37 -10.27 91.77 92.34 96

I*Ma* 50.9 -62.79 34.95 71.87 151

C*Ma* 58.62 -30.35 -45.01 54.3 236

V*Ma* 25.71 31.11 -44.42 54.24 305

M*Ma* 48.13 75.27 -8.35 75.73 354

N*Ma* 18.01 0.0 0.0 0.0 0

W*Ma* 95.41 0.0 0.0 0.0 0

R*CIE* 39.92 58.66 26.98 64.56 25

J*CIE* 81.26 -2.17 67.76 67.79 92

G*CIE* 52.23 -42.26 11.75 43.87 164

B*CIE* 30.57 1.15 -46.84 46.87 271

relative Inform. Technology (IT)

olv*i*3\* 1.0 0.5 1.0 (1.0)

cmy*n*3\* 0.0 0.5 0.0 (0.0)

olv*i*4\* 1.0 0.5 1.0 1.0

cmy*n*4\* 0.0 0.5 0.0 0.0

standard and adapted CIELAB

LAB\*LAB 48.14 75.18 -6.78

LAB\*LAB*a* 48.14 75.25 -8.35

LAB\*TCh*a* 50.0 75.71 353.66

relative CIELAB lab\*

lab\**lab* 0.389 0.994 -0.109

lab\**tch* 0.5 1.0 0.982

lab\**nch* 0.0 1.0 0.982

relative Natural Colour (NC)

lab\**lrj* 0.389 0.909 -0.416

lab\**tce* 0.5 1.0 0.932

lab\**ncE* 0.0 1.0 b72r

$n^* = 0,00$

$n^* = 0,50$

$n^* = 1,00$

blackness  $n^*$

0,25

1,00

chromaticness  $c^*$

0,25

1,00

blackness  $n^*$

0,25

1,00

chromaticness  $c^*$

UE100-7, 3 step scales for constant CIELAB hue 325/360 = 0.903 (left)

3 step scales for constant CIELAB hue 354/360 = 0.982 (right)

## Input: Colorimetric Reflective System NCS18

for hue  $h^* = lab^*h = 325/360 = 0.903$

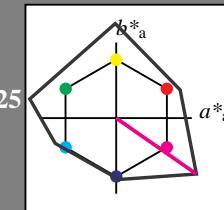
$lab^*tch$  and  $lab^*nch$

D65: hue B50R

LCH\*Ma: 44 129 325

olv\*Ma: 1.0 0.0 1.0

triangle lightness  $t^*$



## NCS18; adapted (a) CIELAB data

	$L^* = L_a^*$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	47.15	84.63	37.24	92.46	24
JMa	91.37	-1.27	125.03	125.03	91
GMa	63.07	-114.29	25.34	117.07	167
G50BMa	59.47	-80.61	-33.45	87.29	203
BMa	49.01	3.63	-81.2	81.29	273
B50RMa	44.06	106.07	-73.94	129.31	325
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	272

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

$LAB^*LABa$  95.41 0.0 0.0

$LAB^*TCh$  99.99 0.01 -

relative CIELAB lab\*

$lab^*lab$  1.0 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  1.0 0.0 0.0

$lab^*ice$  1.0 0.0 -

$lab^*ncE$  0.0 0.0 -

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

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

%Gamut

$u^*_{rel} = 136$

%Regularity

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

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

relative Inform. Technology (IT)

$olv^3*$  1.0 0.5 1.0 (1.0)

$cmyn^3*$  0.0 0.5 0.0 (0.0)

$olv^4*$  1.0 0.5 1.0 1.0

$cmyn^4*$  0.0 0.5 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  69.73 53.06 -36.95

$LAB^*LABa$  69.73 53.03 -36.96

$LAB^*TCh$  75.0 64.64 325.12

relative CIELAB lab\*

$lab^*lab$  0.668 0.41 -0.285

$lab^*tch$  0.75 0.5 0.903

$lab^*nch$  0.0 0.5 0.903

relative Natural Colour (NC)

$lab^*lrj$  0.668 0.336 -0.369

$lab^*ice$  0.75 0.5 0.867

$lab^*ncE$  0.0 0.5 b46r

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

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

$n^* = 0,00$

$n^* = 0,50$

$n^* = 1,00$

chromaticness  $c^*$

$n^* = 1,0$

$n^* = 0,00$

$n^* = 0,50$

$n^* = 1,00$

chromaticness  $c^*$

$n^* = 1,0$

$n^* = 0,00$

$n^* = 0,50$

$n^* = 1,00$

chromaticness  $c^*$

$n^* = 1,0$

$n^* = 0,00$

$n^* = 0,50$

$n^* = 1,00$

chromaticness  $c^*$

$n^* = 1,0$

$n^* = 0,00$

$n^* = 0,50$

$n^* = 1,00$

chromaticness  $c^*$

$n^* = 1,0$

$n^* = 0,00$

$n^* = 0,50$

$n^* = 1,00$

chromaticness  $c^*$

$n^* = 1,0$

$n^* = 0,00$

$n^* = 0,50$

$n^* = 1,00$

chromaticness  $c^*$

$n^* = 1,0$

$n^* = 0,00$

$n^* = 0,50$

$n^* = 1,00$

chromaticness  $c^*$

$n^* = 1,0$

$n^* = 0,00$

$n^* = 0,50$

$n^* = 1,00$

chromaticness  $c^*$

$n^* = 1,0$

$n^* = 0,00$

$n^* = 0,50$

$n^* = 1,00$

chromaticness  $c^*$

$n^* = 1,0$

$n^* = 0,00$

$n^* = 0,50$

$n^* = 1,00$

chromaticness  $c^*$

$n^* = 1,0$

$n^* = 0,00$

$n^* = 0,50$

$n^* = 1,00$

chromaticness  $c^*$

$n^* = 1,0$

$n^* = 0,00$

$n^* = 0,50$

$n^* = 1,00$

chromaticness  $c^*$

$n^* = 1,0$

$n^* = 0,00$

$n^* = 0,50$

$n^* = 1,00$

chromaticness  $c^*$

$n^* = 1,0$

$n^* = 0,00$

$n^* = 0,50$

$n^* = 1,00$

chromaticness  $c^*$

$n^* = 1,0$

$n^* = 0,00$

$n^* = 0,50$

$n^* = 1,00$

chromaticness  $c^*$

$n^* = 1,0$

$n^* = 0,00$

$n^* = 0,50$

$n^* = 1,00$

chromaticness  $c^*$

$n^* = 1,0$

$n^* = 0,00$

$n^* = 0,50$

$n^* = 1,00$

chromaticness  $c^*$

$n^* = 1,0$

$n^* = 0,00$

$n^* = 0,50$

$n^* = 1,00$

chromaticness  $c^*$

$n^* = 1,0$

$n^* = 0,00$

$n^* = 0,50$

$n^* = 1,00$

chromaticness  $c^*$

$n^* = 1,0$

$n^* = 0,00$

$n^* = 0,50$

$n^* = 1,00$

chromaticness  $c^*$

$n^* = 1,0$

$n^* = 0,00$

$n^* = 0,50$

$n^* = 1,00$

chromaticness  $c^*$

$n^* = 1,0$

$n^* = 0,00$

$n^* = 0,50$

$n^* = 1,00$

chromaticness  $c^*$

$n^* = 1,0$

$n^* = 0,00$

$n^* = 0,50$

$n^* = 1,00$

chromaticness  $c^*$

$n^* = 1,0$

$n^* = 0,00$

$n^* = 0,50$

$n^* = 1,00$

chromaticness  $c^*$

$n^* = 1,0$

$n^* = 0,00$

$n^* = 0,50$

$n^* = 1,00$

chromaticness  $c^*$

$n^* = 1,0$

$n^* = 0,00$

$n^* = 0,50$

$n^* = 1,00$

chromaticness  $c^*$

$n^* = 1,0$

$n^* = 0,00$

$n^* = 0,50$

$n^* = 1,00$

chromaticness  $c^*$

$n^* = 1,0$

$n^* = 0,00$

$n^* = 0,50$

$n^* = 1,00$

chromaticness  $c^*$

$n^* = 1,0$

$n^* = 0,00$

$n^* = 0,50$

$n^* = 1,00$

chromaticness  $c^*$

$n^* = 1,0$

$n^* = 0,00$

$n^* = 0,50$

$n^* = 1,00$

chromaticness  $c^*$

$n^* = 1,0$

$n^* = 0,00$

$n^* = 0,50$

$n^* = 1,00$

chromaticness  $c^*$

$n^* = 1,0$

$n^* = 0,00$

$n^* = 0$

### Input: Colorimetric Reflective System NCS18

for hue  $h^* = lab^*h = 325/360 = 0.903$

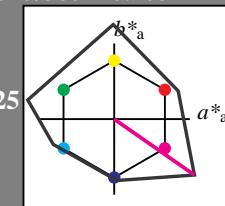
$lab^*tch$  and  $lab^*nch$

D65: hue B50R

LCH\*Ma: 44 129 325

olv\*Ma: 1.0 0.0 1.0

triangle lightness  $t^*$



### NCS18; adapted (a) CIELAB data

	$L^* = L_a^*$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	47.15	84.63	37.24	92.46	24
JMa	91.37	-1.27	125.03	125.03	91
GMa	63.07	-114.29	25.34	117.07	167
G50BMa	59.47	-80.61	-33.45	87.29	203
BMa	49.01	3.63	-81.2	81.29	273
B50RMa	44.06	106.07	-73.94	129.31	325
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	272

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

$LAB^*LABa$  95.41 0.0 0.0

$LAB^*TCh$  99.99 0.01 -

relative CIELAB lab\*

$lab^*lab$  1.0 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  1.0 0.0 0.0

$lab^*ice$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)

$olv^3*$  1.0 0.5 1.0 (1.0)

$cmyn^3*$  0.0 0.5 0.0 (0.0)

$olv^4*$  1.0 0.5 1.0 1.0

$cmyn^4*$  0.0 0.5 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  69.73 53.06 -36.95

$LAB^*LABa$  69.73 53.03 -36.96

$LAB^*TCh$  75.0 64.64 325.12

relative CIELAB lab\*

$lab^*lab$  0.668 0.41 -0.285

$lab^*tch$  0.75 0.5 0.903

$lab^*nch$  0.0 0.5 0.903

relative Natural Colour (NC)

$lab^*lrj$  0.668 0.336 -0.369

$lab^*ice$  0.75 0.5 0.867

$lab^*ncE$  0.0 0.5 b46r

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 0.5

$cmyn^4*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  56.72 0.05 0.0

$LAB^*LABa$  56.72 0.0 0.0

$LAB^*TCh$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  0.5 0.0 0.0

$lab^*ice$  0.5 0.0 0.0

$lab^*ncE$  0.5 0.0 -

$n^* = 1,0$

%Gamut

$u^*_{rel} = 136$

%Regularity

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

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

relative Inform. Technology (IT)

$olv^3*$  1.0 0.5 1.0 (1.0)

$cmyn^3*$  0.0 0.5 0.0 (0.0)

$olv^4*$  1.0 0.5 1.0 1.0

$cmyn^4*$  0.0 0.5 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  69.73 53.06 -36.95

$LAB^*LABa$  69.73 53.03 -36.96

$LAB^*TCh$  75.0 64.64 325.12

relative CIELAB lab\*

$lab^*lab$  0.668 0.41 -0.285

$lab^*tch$  0.75 0.5 0.903

$lab^*nch$  0.0 0.5 0.903

relative Natural Colour (NC)

$lab^*lrj$  0.668 0.336 -0.369

$lab^*ice$  0.75 0.5 0.867

$lab^*ncE$  0.0 0.5 b46r

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 0.5

$cmyn^4*$  0.0 0.5 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  44.06 106.12 -73.91

$LAB^*LABa$  44.06 106.05 -73.93

$LAB^*TCh$  50.0 129.28 325.12

relative CIELAB lab\*

$lab^*lab$  0.337 0.82 -0.571

$lab^*tch$  0.5 1.0 0.903

$lab^*nch$  0.0 1.0 0.903

relative Natural Colour (NC)

$lab^*lrj$  0.337 0.673 -0.739

$lab^*ice$  0.5 1.0 0.867

$lab^*ncE$  0.0 1.0 b46r

$n^* = 0,00$

blackness  $n^*$

$n^* = 0,50$

$n^* = 1,00$

$n^* = 0,00$

blackness  $n^*$

$n^* = 0,50$

$n^* = 1,00$

chromaticness  $c^*$

### Output: Colorimetric Reflective System TRS18

for hue  $h^* = lab^*h = 354/360 = 0.982$

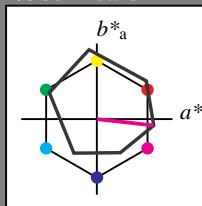
$lab^*tch$  and  $lab^*nch$

D65: hue M

LCH\*Ma: 48 76 354

olv\*Ma: 1.0 0.0 1.0

triangle lightness  $t^*$



### TRS18; adapted (a) CIELAB data

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

$olv^3*$  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

$LAB^*LABa$  95.41 0.0 0.0

$LAB^*TCh$  99.99 0.01 -

relative CIELAB lab\*

$lab^*lab$  1.0 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  1.0 0.0 0.0

$lab^*ice$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)

$olv^3*$  1.0 0.5 1.0 (1.0)

$cmyn^3*$  0.0 0.5 0.0 (0.0)

$olv^4*$  1.0 0.5 1.0 1.0

$cmyn^4*$  0.0 0.5 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  44.06 106.12 -73.91

$LAB^*LABa$  44.06 106.05 -73.93

$LAB^*TCh$  50.0 129.28 325.12

relative CIELAB lab\*

$lab^*lab$  0.337 0.82 -0.571

$lab^*tch$  0.5 1.0 0.903

$lab^*nch$  0.0 1.0 0.903

relative Natural Colour (NC)

$lab^*lrj$  0.337 0.673 -0.739

$lab^*ice$  0.5 1.0 0.867

$lab^*ncE$  0.0 1.0 b46r

$n^* = 0,00$

$n^* = 0,50$

$n^* = 1,00$

chromaticness  $c^*$

$n^* = 1,0$

blackness  $n^*$

$n^* = 0,50$

$n^* = 1,00$

chromaticness  $c^*$

UE100-7, 3 step scales for constant CIELAB hue 325/360 = 0.903 (left)

3 step scales for constant CIELAB hue 354/360 = 0.982 (right)

### Input: Colorimetric Reflective System NCS18

for hue  $h^* = lab^*h = 325/360 = 0.903$

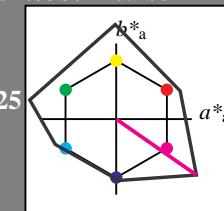
$lab^*tch$  and  $lab^*nch$

D65: hue B50R

LCH\*Ma: 44 129 325

olv\*Ma: 1.0 0.0 1.0

triangle lightness  $t^*$



### NCS18; adapted (a) CIELAB data

	$L^* = L_a^*$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	47.15	84.63	37.24	92.46	24
JMa	91.37	-1.27	125.03	125.03	91
GMa	63.07	-114.29	25.34	117.07	167
G50BMa	59.47	-80.61	-33.45	87.29	203
BMa	49.01	3.63	-81.2	81.29	273
B50RMa	44.06	106.07	-73.94	129.31	325
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	272

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

$LAB^*LABa$  95.41 0.0 0.0

$LAB^*TCh$  99.99 0.01 -

relative CIELAB lab\*

$lab^*lab$  1.0 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  1.0 0.0 0.0

$lab^*ice$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  69.73 53.06 -36.95

$LAB^*LABa$  69.73 53.03 -36.96

$LAB^*TCh$  75.0 64.64 325.12

relative CIELAB lab\*

$lab^*lab$  0.668 0.41 -0.285

$lab^*tch$  0.75 0.5 0.903

$lab^*nch$  0.0 0.5 0.903

relative Natural Colour (NC)

$lab^*lrj$  0.668 0.336 -0.369

$lab^*ice$  0.75 0.2 0.867

$lab^*ncE$  0.0 0.5 b46r

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 0.5

$cmyn^4*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  56.72 0.05 0.0

$LAB^*LABa$  56.72 0.0 0.0

$LAB^*TCh$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  0.5 0.0 0.0

$lab^*ice$  0.5 0.0 0.0

$lab^*ncE$  0.5 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  31.04 53.11 -36.93

$LAB^*LABa$  31.04 53.03 -36.96

$LAB^*TCh$  25.01 64.64 325.12

relative CIELAB lab\*

$lab^*lab$  0.168 0.41 -0.285

$lab^*tch$  0.25 0.5 0.903

$lab^*nch$  0.5 0.5 0.903

relative Natural Colour (NC)

$lab^*lrj$  0.168 0.336 -0.369

$lab^*ice$  0.25 0.5 0.867

$lab^*ncE$  0.5 0.5 b46r

$n^* = 1,0$

%Gamut

$u^*_{rel} = 136$

%Regularity

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

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

relative Inform. Technology (IT)

$olv^3*$  1.0 0.5 1.0 (1.0)

$cmyn^3*$  0.0 0.5 0.0 (0.0)

$olv^4*$  1.0 0.5 1.0 1.0

$cmyn^4*$  0.0 0.5 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  69.73 53.06 -36.95

$LAB^*LABa$  69.73 53.03 -36.96

$LAB^*TCh$  75.0 64.64 325.12

relative CIELAB lab\*

$lab^*lab$  0.668 0.41 -0.285

$lab^*tch$  0.75 0.5 0.903

$lab^*nch$  0.0 0.5 0.903

relative Natural Colour (NC)

$lab^*lrj$  0.668 0.336 -0.369

$lab^*ice$  0.75 0.2 0.867

$lab^*ncE$  0.0 0.5 b46r

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 0.5 1.0 0.5

$cmyn^4*$  0.0 0.5 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  56.72 0.05 0.0

$LAB^*LABa$  56.72 0.0 0.0

$LAB^*TCh$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  0.5 0.0 0.0

$lab^*ice$  0.5 0.0 0.0

$lab^*ncE$  0.5 0.0 -

$n^* = 0,00$

$n^* = 0,50$

$n^* = 1,00$

chromaticness  $c^*$

$n^* = 0,00$

blackness  $n^*$

### Output: Colorimetric Reflective System MRS18a

for hue  $h^* = lab^*h = 323/360 = 0.896$

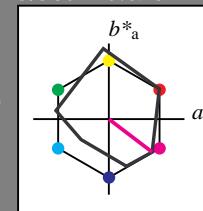
$lab^*tch$  and  $lab^*nch$

D65: hue B50R

LCH\*Ma: 35 72 323

olv\*Ma: 1.0 0.0 1.0

triangle lightness  $t^*$



	$L^* = L_a^*$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	49.63	66.8	40.02	77.87	31
JMa	90.7	-7.27	93.19	93.48	94
GMa	52.11	-69.93	11.26	70.85	171
G50BMa	45.03	-36.65	-27.13	45.61	217
BMa	36.65	23.26	-62.27	66.49	290
B50RMa	34.94	57.27	-43.6	71.99	323
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	272

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 0.01 0.0

$LAB^*LABa$  95.41 0.0 0.0

$LAB^*TCh$  99.99 0.01 -

relative CIELAB lab\*

$lab^*lab$  1.0 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  1.0 0.0 0.0

$lab^*ice$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  65.17 28.68 -21.78

$LAB^*LABa$  65.17 28.63 -21.79

$LAB^*TCh$  75.0 35.99 322.71

relative CIELAB lab\*

$lab^*lab$  0.609 0.398 -0.302

$lab^*tch$  0.75 0.5 0.896

$lab^*nch$  0.0 0.5 0.896

relative Natural Colour (NC)

$lab^*lrj$  0.609 0.324 -0.38

$lab^*ice$  0.75 0.5 0.862

$lab^*ncE$  0.0 0.5 b44r

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 0.5 1.0 0.5

$cmyn^4*$  0.0 0.5 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  34.95 57.34 -43.57

$LAB^*LABa$  34.95 57.26 -43.59

$LAB^*TCh$  50.0 71.98 322.71

relative CIELAB lab\*

$lab^*lab$  0.219 0.795 -0.605

$lab^*tch$  0.5 1.0 0.896

$lab^*nch$  0.0 1.0 0.896

relative Natural Colour (NC)

$lab^*lrj$  0.219 0.648 -0.761

$lab^*ice$  0.5 1.0 0.862

$lab^*ncE$  0.0 1.0 b44r

$n^* = 0,00$

$n^* = 0,50$

$n^* = 1,00$

relative Inform. Technology (IT)

$olv^3*$  0.

### Input: Colorimetric Reflective System NCS18

for hue  $h^* = lab^*h = 325/360 = 0.903$

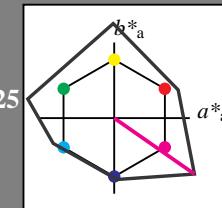
$lab^*tch$  and  $lab^*nch$

D65: hue B50R

LCH\*Ma: 44 129 325

olv\*Ma: 1.0 0.0 1.0

triangle lightness  $t^*$



### NCS18; adapted (a) CIELAB data

	$L^* = L^*_{ab}$	$a^*_{ab}$	$b^*_{ab}$	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	47.15	84.63	37.24	92.46	24
JMa	91.37	-1.27	125.03	125.03	91
GMa	63.07	-114.29	25.34	117.07	167
G50BMa	59.47	-80.61	-33.45	87.29	203
BMa	49.01	3.63	-81.2	81.29	273
B50RMa	44.06	106.07	-73.94	129.31	325
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	272

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

$LAB^*LABa$  95.41 0.0 0.0

$LAB^*TCh$  99.99 0.01 -

relative CIELAB lab\*

$lab^*lab$  1.0 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  69.73 53.06 -36.95

$LAB^*LABa$  69.73 53.03 -36.96

$LAB^*TCh$  75.0 64.64 325.12

relative CIELAB lab\*

$lab^*lab$  0.668 0.41 -0.285

$lab^*tch$  0.75 0.5 0.903

$lab^*nch$  0.0 0.5 0.903

relative Natural Colour (NC)

$lab^*lrij$  0.668 0.336 -0.369

$lab^*tce$  0.75 0.2 0.867

$lab^*ncE$  0.0 0.5 b46r

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 0.5

$cmyn^4*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  56.72 0.05 0.0

$LAB^*LABa$  56.72 0.0 0.0

$LAB^*TCh$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.5 0.0 0.0

$lab^*tce$  0.5 0.0 0.0

$lab^*ncE$  0.5 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  31.04 53.11 -36.93

$LAB^*LABa$  31.04 53.03 -36.96

$LAB^*TCh$  25.01 64.64 325.12

relative CIELAB lab\*

$lab^*lab$  0.168 0.41 -0.285

$lab^*tch$  0.25 0.5 0.903

$lab^*nch$  0.5 0.5 0.903

relative Natural Colour (NC)

$lab^*lrij$  0.168 0.336 -0.369

$lab^*tce$  0.25 0.5 0.867

$lab^*ncE$  0.5 0.5 b46r

$n^* = 1,0$

$n^* = 0,00$

$n^* = 0,50$

$n^* = 1,00$

chromaticness  $c^*$

### Output: Colorimetric Reflective System NRS18

for hue  $h^* = lab^*h = 325/360 = 0.903$

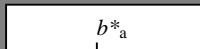
$lab^*tch$  and  $lab^*nch$

D65: hue B50R

LCH\*Ma: 57 77 325

olv\*Ma: 1.0 0.0 1.0

triangle lightness  $t^*$



### NRS18; adapted (a) CIELAB data

	$L^* = L^*_{ab}$	$a^*_{ab}$	$b^*_{ab}$	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	56.7	70.66	31.47	77.35	24
JMa	56.7	-1.39	77.37	77.39	91
GMa	56.7	-75.46	17.4	77.45	167
G50BMa	56.7	-71.29	-30.25	77.45	203
BMa	56.7	4.0	-77.3	77.41	273
B50RMa	56.7	63.35	-44.4	77.36	325
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	272

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 0.0

$LAB^*LABa$  95.41 0.0 0.0

$LAB^*TCh$  99.99 0.01 -

relative CIELAB lab\*

$lab^*lab$  1.0 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  76.05 31.7 -22.18

$LAB^*LABa$  76.05 31.67 -22.19

$LAB^*TCh$  75.0 38.67 324.97

relative CIELAB lab\*

$lab^*lab$  0.75 0.409 -0.286

$lab^*tch$  0.75 0.5 0.903

$lab^*nch$  0.0 0.5 0.903

relative Natural Colour (NC)

$lab^*lrij$  0.75 0.336 -0.37

$lab^*tce$  0.75 0.5 0.867

$lab^*ncE$  0.0 0.5 b46r

relative Inform. Technology (IT)

$olv^3*$  1.0 0.5 0.5 (1.0)

$cmyn^3*$  0.0 1.0 0.0 (0.0)

$olv^4*$  1.0 0.5 1.0 1.0

$cmyn^4*$  0.0 0.5 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  56.7 63.39 -44.38

$LAB^*LABa$  56.7 63.34 -44.39

$LAB^*TCh$  50.0 77.35 324.97

relative CIELAB lab\*

$lab^*lab$  0.5 0.819 -0.573

$lab^*tch$  0.5 1.0 0.903

$lab^*nch$  0.0 1.0 0.903

relative Natural Colour (NC)

$lab^*lrij$  0.5 0.671 -0.74

$lab^*tce$  0.5 1.0 0.867

$lab^*ncE$  0.0 1.0 b46r

$n^* = 0,00$

$n^* = 0,50$

$n^* = 1,00$

$n^* = 0,50$

$n^* = 1,00$

chromaticness  $c^*$

UE100-7, 3 step scales for constant CIELAB hue 325/360 = 0.903 (left)

3 step scales for constant CIELAB hue 325/360 = 0.903 (right)

## Input: Colorimetric Reflective System NCS18

for hue  $h^* = lab^*h = 325/360 = 0.903$

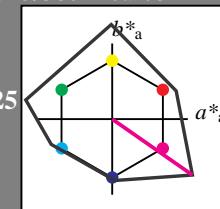
$lab^*tch$  and  $lab^*nch$

D65: hue B50R

LCH\*Ma: 44 129 325

olv\*Ma: 1.0 0.0 1.0

triangle lightness  $t^*$



relative Inform. Technology (IT)

$olv^3*$  1.0 1.0 1.0 (1.0)

$cmy^3*$  0.0 0.0 0.0 (0.0)

$olv^4*$  1.0 1.0 1.0 1.0

$cmy^4*$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 -

$lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)

$olv^3*$  0.5 0.5 0.5 (1.0)

$cmy^3*$  0.5 0.5 0.5 (0.0)

$olv^4*$  1.0 1.0 1.0 0.5

$cmy^4*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  56.72 0.05 0.0

$LAB^*LABa$  56.72 0.0 0.0

$LAB^*TChA$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.5 0.0 0.0

$lab^*tce$  0.5 0.0 -

$lab^*ncE$  0.5 0.0 -

relative Inform. Technology (IT)

$olv^3*$  0.0 0.0 0.0 (1.0)

$cmy^3*$  1.0 1.0 1.0 (0.0)

$olv^4*$  1.0 1.0 1.0 0.0

$cmy^4*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.09 0.02

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*tce$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

## NCS18; adapted (a) CIELAB data

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

RMa	47.15	84.63	37.24	92.46	24
JMa	91.37	-1.27	125.03	125.03	91
GMa	63.07	-114.29	25.34	117.07	167
G50BMa	59.47	-80.61	-33.45	87.29	203
BMa	49.01	3.63	-81.2	81.29	273
B50RMa	44.06	106.07	-73.94	129.31	325
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	272

%Gamut

$u^*_{rel} = 136$

%Regularity

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

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

relative Inform. Technology (IT)

$olv^3*$  1.0 0.5 1.0 (1.0)

$cmy^3*$  0.0 0.5 0.0 (0.0)

$olv^4*$  1.0 0.5 1.0 1.0

$cmy^4*$  0.0 0.5 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  69.73 53.06 -36.95

$LAB^*LABa$  69.73 53.03 -36.96

$LAB^*TChA$  75.0 64.64 325.12

relative CIELAB lab\*

$lab^*lab$  0.668 0.41 -0.285

$lab^*tch$  0.75 0.5 0.903

$lab^*nch$  0.0 0.5 0.903

relative Natural Colour (NC)

$lab^*lrij$  0.668 0.336 -0.369

$lab^*tce$  0.75 0.5 0.867

$lab^*ncE$  0.0 0.5 b46r

relative Inform. Technology (IT)

$olv^3*$  1.0 0.0 1.0 (1.0)

$cmy^3*$  0.5 0.5 0.5 (0.0)

$olv^4*$  1.0 1.0 1.0 0.5

$cmy^4*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  44.06 106.12 -73.91

$LAB^*LABa$  44.06 106.05 -73.93

$LAB^*TChA$  50.0 129.28 325.12

relative CIELAB lab\*

$lab^*lab$  0.337 0.82 -0.571

$lab^*tch$  0.5 1.0 0.903

$lab^*nch$  0.0 1.0 0.903

relative Natural Colour (NC)

$lab^*lrij$  0.337 0.673 -0.739

$lab^*tce$  0.5 1.0 0.867

$lab^*ncE$  0.0 1.0 b46r

relative Inform. Technology (IT)

$olv^3*$  0.5 0.0 0.5 (1.0)

$cmy^3*$  1.0 1.0 1.0 (0.0)

$olv^4*$  1.0 1.0 1.0 0.0

$cmy^4*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.09 0.02

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.168 0.41 -0.285

$lab^*tch$  0.25 0.5 0.903

$lab^*nch$  0.5 0.5 0.903

relative Natural Colour (NC)

$lab^*lrij$  0.168 0.336 -0.369

$lab^*tce$  0.25 0.5 0.867

$lab^*ncE$  0.5 0.5 b46r

$n^* = 0,00$

blackness  $n^*$

chromaticness  $c^*$

## Output: Colorimetric Reflective System NCS18

for hue  $h^* = lab^*h = 325/360 = 0.903$

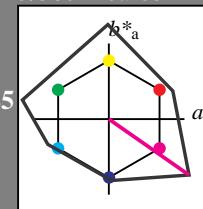
$lab^*tch$  and  $lab^*nch$

D65: hue B50R

LCH\*Ma: 44 129 325

olv\*Ma: 1.0 0.0 1.0

triangle lightness  $t^*$



%Gamut

$u^*_{rel} = 136$

%Regularity

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

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

relative Inform. Technology (IT)

$olv^3*$  1.0 0.5 1.0 (1.0)

$cmy^3*$  0.0 0.5 0.0 (0.0)

$olv^4*$  1.0 0.5 1.0 1.0

$cmy^4*$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 -

$lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)

$olv^3*$  0.5 0.0 0.5 (1.0)

$cmy^3*$  1.0 1.0 1.0 (0.0)

$olv^4*$  1.0 1.0 1.0 0.0

$cmy^4*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  44.06 106.12 -73.91

$LAB^*LABa$  44.06 106.05 -73.93

$LAB^*TChA$  50.0 129.28 325.12

relative CIELAB lab\*

$lab^*lab$  0.337 0.82 -0.571

$lab^*tch$  0.5 0.5 0.903

$lab^*nch$  1.0 1.0 0.903

relative Natural Colour (NC)

$lab^*lrij$  0.337 0.673 -0.739

$lab^*tce$  0.5 1.0 0.867

$lab^*ncE$  1.0 1.0 b46r

## NCS18; adapted (a) CIELAB data

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

RMa	47.15	84.63	37.24	92.46	24
JMa	91.37	-1.27	125.03	125.03	91
GMa	63.07	-114.29	25.34	117.07	167
G50BMa	59.47	-80.61	-33.45	87.29	203
BMa	49.01	3.63	-81.2	81.29	273
B50RMa	44.06	106.07	-73.94	129.31	325
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	272

relative Inform. Technology (IT)

$olv^3*$  1.0 0.0 1.0 (0.0)

$cmy^3*$  0.0 1.0 0.0 (0.0)

$olv^4*$  1.0 0.5 1.0 1.0

$cmy^4*$  0.0 0.5 0.0 0.0

### Input: Colorimetric Reflective System NCS18

for hue  $h^* = lab^*h = 325/360 = 0.903$

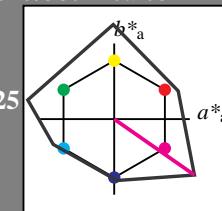
$lab^*tch$  and  $lab^*nch$

D65: hue B50R

LCH\*Ma: 44 129 325

olv\*Ma: 1.0 0.0 1.0

triangle lightness  $t^*$



### NCS18; adapted (a) CIELAB data

	$L^* = L_a^*$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	47.15	84.63	37.24	92.46	24
JMa	91.37	-1.27	125.03	125.03	91
GMa	63.07	-114.29	25.34	117.07	167
G50BMa	59.47	-80.61	-33.45	87.29	203
BMa	49.01	3.63	-81.2	81.29	273
B50RMa	44.06	106.07	-73.94	129.31	325
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	272

relative Inform. Technology (IT)

$olv_i3^*$  1.0 1.0 1.0 (1.0)

$cmyn3^*$  0.0 0.0 0.0 (0.0)

$olv_i4^*$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  69.73 53.06 -36.95

$LAB^*LABa$  69.73 53.03 -36.96

$LAB^*TChA$  75.0 64.64 325.12

relative CIELAB lab\*

$lab^*lab$  0.668 0.41 -0.285

$lab^*tch$  0.75 0.5 0.903

$lab^*nch$  0.0 0.5 0.903

relative Natural Colour (NC)

$lab^*lrij$  0.668 0.336 -0.369

$lab^*tce$  0.75 0.2 0.867

$lab^*ncE$  0.0 0.5 b46r

relative Inform. Technology (IT)

$olv_i3^*$  0.5 0.5 0.5 (1.0)

$cmyn3^*$  0.5 0.5 0.5 (0.0)

$olv_i4^*$  1.0 1.0 1.0 0.5

$cmyn4^*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  56.72 0.05 0.0

$LAB^*LABa$  56.72 0.0 0.0

$LAB^*TChA$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.5 0.0 0.0

$lab^*tce$  0.5 0.0 0.0

$lab^*ncE$  0.5 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  31.04 53.11 -36.93

$LAB^*LABa$  31.04 53.03 -36.96

$LAB^*TChA$  25.01 64.64 325.12

relative CIELAB lab\*

$lab^*lab$  0.168 0.41 -0.285

$lab^*tch$  0.25 0.5 0.903

$lab^*nch$  0.5 0.5 0.903

relative Natural Colour (NC)

$lab^*lrij$  0.168 0.336 -0.369

$lab^*tce$  0.25 0.5 0.867

$lab^*ncE$  0.5 0.5 b46r

$n^* = 1,0$

%Gamut

$u^*_{rel} = 136$

%Regularity

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

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

relative Inform. Technology (IT)

$olv_i3^*$  1.0 0.5 1.0 (1.0)

$cmyn3^*$  0.0 0.5 0.0 (0.0)

$olv_i4^*$  1.0 0.5 1.0 1.0

$cmyn4^*$  0.0 0.5 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  69.73 53.06 -36.95

$LAB^*LABa$  69.73 53.03 -36.96

$LAB^*TChA$  75.0 64.64 325.12

relative CIELAB lab\*

$lab^*lab$  0.668 0.41 -0.285

$lab^*tch$  0.75 0.5 0.903

$lab^*nch$  0.0 0.5 0.903

relative Natural Colour (NC)

$lab^*lrij$  0.668 0.336 -0.369

$lab^*tce$  0.75 0.2 0.867

$lab^*ncE$  0.0 0.5 b46r

relative Inform. Technology (IT)

$olv_i3^*$  0.5 0.5 0.5 (1.0)

$cmyn3^*$  0.5 0.5 0.5 (0.0)

$olv_i4^*$  1.0 1.0 1.0 0.5

$cmyn4^*$  0.0 0.5 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  53.21 0.04 0.0

$LAB^*LABa$  53.21 0.0 0.0

$LAB^*TChA$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.337 0.82 -0.571

$lab^*tch$  0.5 1.0 0.903

$lab^*nch$  0.0 1.0 0.903

relative Natural Colour (NC)

$lab^*lrij$  0.337 0.673 -0.739

$lab^*tce$  0.5 1.0 0.867

$lab^*ncE$  0.0 1.0 b46r

$n^* = 0,00$

$n^* = 0,00$

blackness  $n^*$

chromaticness  $c^*$

### Output: Colorimetric Reflective System NRS11

for hue  $h^* = lab^*h = 325/360 = 0.903$

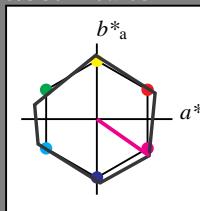
$lab^*tch$  and  $lab^*nch$

D65: hue B50R

LCH\*Ma: 53 84 325

olv\*Ma: 1.0 0.0 1.0

triangle lightness  $t^*$



### NRS11; adapted (a) CIELAB data

	$L^* = L_a^*$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	53.2	77.06	34.32	84.36	24
JMa	53.2	-1.51	84.38	84.39	91
GMa	53.2	-82.27	18.98	84.44	167
G50BMa	53.2	-77.72	-32.98	84.44	203
BMa	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)

$olv_i3^*$  1.0 1.0 1.0 (1.0)

$cmyn3^*$  0.0 0.0 0.0 (0.0)

$olv_i4^*$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  74.3 34.57 24.19

$LAB^*LABa$  74.3 34.54 24.2

$LAB^*TChA$  75.0 42.18 324.98

relative CIELAB lab\*

$lab^*lab$  0.75 0.409 -0.286

$lab^*tch$  0.75 0.5 0.903

$lab^*nch$  0.0 0.5 0.903

relative Natural Colour (NC)

$lab^*lrij$  0.75 0.336 -0.37

$lab^*tce$  0.75 0.5 0.867

$lab^*ncE$  0.0 0.5 b46r

$n^* = 0,00$

relative Inform. Technology (IT)

$olv_i3^*$  1.0 0.5 1.0 (1.0)

$cmyn3^*$  0.0 0.5 0.0 (0.0)

$olv_i4^*$  1.0 0.5 1.0 1.0

$cmyn4^*$  0.0 0.5 0.0 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 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.25 0.409 -0.286

$lab^*tch$  0.25 0.5 0.903

$lab^*nch$  0.5 0.5 0.903

relative Natural Colour (NC)

$lab^*lrij$  0.25 0.336 -0.37

$lab^*tce$  0.25 0.5 0.867

$lab^*ncE$  0.5 0.5 b46r

$n^* = 0,00$

relative Inform. Technology (IT)

$olv_i3^*$  1.0 0.0 1.0 (1.0)

$cmyn3^*$  0.0 1.0 0.0 (0.0)

$olv_i4^*$  1.0 1.0 0.0 1.0

## Input: Colorimetric Reflective System NCS18

for hue  $h^* = lab^*h = 325/360 = 0.903$

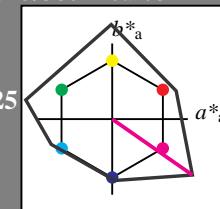
$lab^*tch$  and  $lab^*nch$

D65: hue B50R

LCH\*Ma: 44 129 325

olv\*Ma: 1.0 0.0 1.0

triangle lightness  $t^*$



%Gamut

$u^*_{rel} = 136$

%Regularity

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

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

relative Inform. Technology (IT)

$olv^3*$  1.0 1.0 1.0 (1.0)

$cmy^3*$  0.0 0.0 0.0 (0.0)

$olv^4*$  1.0 1.0 1.0 1.0

$cmy^4*$  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

$LAB^*TCh$  99.99 0.01 -

relative CIELAB lab\*

$lab^*lab$  1.0 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*ice$  1.0 0.0 -

$lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)

$olv^3*$  0.5 0.5 0.5 (1.0)

$cmy^3*$  0.5 0.5 0.5 (0.0)

$olv^4*$  1.0 1.0 1.0 0.5

$cmy^4*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  56.72 0.05 0.0

$LAB^*LABa$  56.72 0.0 0.0

$LAB^*TCh$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.5 0.0 0.0

$lab^*ice$  0.5 0.0 -

$lab^*ncE$  0.5 0.0 -

relative Inform. Technology (IT)

$olv^3*$  0.0 0.0 0.0 (1.0)

$cmy^3*$  1.0 1.0 1.0 (0.0)

$olv^4*$  1.0 1.0 1.0 0.0

$cmy^4*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.09 0.02

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TCh$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*ice$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

## NCS18; adapted (a) CIELAB data

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

RMa	47.15	84.63	37.24	92.46	24
JMa	91.37	-1.27	125.03	125.03	91
GMa	63.07	-114.29	25.34	117.07	167
G50BMa	59.47	-80.61	-33.45	87.29	203
BMa	49.01	3.63	-81.2	81.29	273
B50RMa	44.06	106.07	-73.94	129.31	325
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	272

## Output: Colorimetric Reflective System NCS11

for hue  $h^* = lab^*h = 325/360 = 0.903$

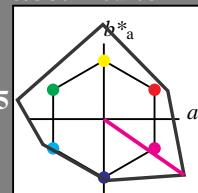
$lab^*tch$  and  $lab^*nch$

D65: hue B50R

LCH\*Ma: 44 129 325

olv\*Ma: 1.0 0.0 1.0

triangle lightness  $t^*$



%Gamut

$u^*_{rel} = 149$

%Regularity

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

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

relative Inform. Technology (IT)

$olv^3*$  1.0 1.0 1.0 (1.0)

$cmy^3*$  0.0 0.0 0.0 (0.0)

$olv^4*$  1.0 1.0 1.0 1.0

$cmy^4*$  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

$LAB^*TCh$  99.99 0.01 -

relative CIELAB lab\*

$lab^*lab$  1.0 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*ice$  1.0 0.0 -

$lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)

$olv^3*$  0.5 0.5 0.5 (1.0)

$cmy^3*$  0.5 0.5 0.5 (0.0)

$olv^4*$  1.0 1.0 1.0 0.5

$cmy^4*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  56.72 0.05 0.0

$LAB^*LABa$  56.72 0.0 0.0

$LAB^*TCh$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.0 1.0 0.903

relative Natural Colour (NC)

$lab^*lrij$  0.337 0.673 -0.739

$lab^*ice$  0.5 1.0 0.867

$lab^*ncE$  0.0 1.0 b46r

$n^* = 0,00$

blackness  $n^*$

$n^* = 0,50$

$n^* = 1,00$

$n^* = 0,00$

blackness  $n^*$

$n^* = 0,50$

$n^* = 1,00$

chromaticness  $c^*$

$n^* = 1,0$

3 step scales for constant CIELAB hue 325/360 = 0.903 (right)

## NCS11; adapted (a) CIELAB data

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

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

$n^* = 0,00$

$n^* = 0,50$

$n^* = 1,00$

chromaticness  $c^*$

$n^* = 1,0$

blackness  $n^*$

$n^* = 0,50$

$n^* = 1,00$

chromaticness  $c^*$

$n^* = 1,0$

blackness  $n^*$

$n^* = 0,50$

$n^* = 1,00$

chromaticness  $c^*$

$n^* = 1,0$

blackness  $n^*$

$n^* = 0,50$

$n^* = 1,00$

chromaticness  $c^*$

$n^* = 1,0$

blackness  $n^*$

$n^* = 0,50$

$n^* = 1,00$

chromaticness  $c^*$

$n^* = 1,0$

blackness  $n^*$

$n^* = 0,50$

$n^* = 1,00$

chromaticness  $c^*$

$n^* = 1,0$

blackness  $n^*$

$n^* = 0,50$

$n^* = 1,00$

chromaticness  $c^*$

$n^* = 1,0$

blackness  $n^*$

$n^* = 0,50$

$n^* = 1,00$

chromaticness  $c^*$

$n^* = 1,0$

blackness  $n^*$

$n^* = 0,50$

$n^* = 1,00$

chromaticness  $c^*$

$n^* = 1,0$

blackness  $n^*$

$n^* = 0,50$

$n^* = 1,00$

chromaticness  $c^*$

$n^* = 1,0$

blackness  $n^*$

$n^* = 0,50$

$n^* = 1,00$

chromaticness  $c^*$

$n^* = 1,0$

blackness  $n^*$

$n^* = 0,50$

$n^* = 1,00$

chromaticness  $c^*$

$n^* =$

## Input: Colorimetric Reflective System NRS11

for hue  $h^* = lab^*h = 325/360 = 0.903$

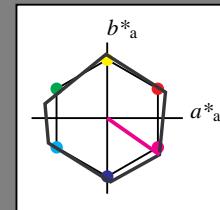
$lab^*tch$  and  $lab^*nch$

D65: hue B50R

LCH\*Ma: 53 84 325

olv\*Ma: 1.0 0.0 1.0

triangle lightness  $t^*$



## NRS11; adapted (a) CIELAB data

	$L^* = L^*_{ab}$	$a^*_{ab}$	$b^*_{ab}$	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	53.2	77.06	34.32	84.36	24
JMa	53.2	-1.51	84.38	84.39	91
GMa	53.2	-82.27	18.98	84.44	167
G50BMa	53.2	-77.72	-32.98	84.44	203
BMa	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)  
 $olv^3*$  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  
 $LAB^*LABa$  95.41 0.0 0.0  
 $LAB^*TCh$  99.99 0.01 -

relative CIELAB lab\*  
 $lab^*lab$  1.0 0.0 0.0  
 $lab^*tch$  1.0 0.0 -  
 $lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)  
 $lab^*lrij$  1.0 0.0 0.0  
 $lab^*ice$  1.0 0.0 0.0  
 $lab^*ncE$  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 0.5  
 $cmyn^4*$  0.0 0.0 0.5

standard and adapted CIELAB  
 $LAB^*LAB$  53.21 0.04 0.0  
 $LAB^*LABa$  53.21 0.0 0.0  
 $LAB^*TCh$  50.0 0.01 -

relative CIELAB lab\*  
 $lab^*lab$  0.5 0.0 0.0  
 $lab^*tch$  0.5 0.0 -  
 $lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)  
 $lab^*lrij$  0.5 0.0 0.0  
 $lab^*ice$  0.5 0.0 0.0  
 $lab^*ncE$  0.5 0.0 -

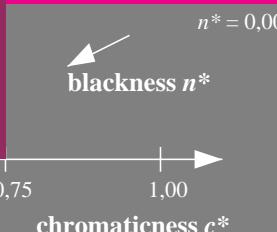
relative Inform. Technology (IT)  
 $olv^3*$  0.0 0.0 0.0 (1.0)  
 $cmyn^3*$  1.0 1.0 1.0 (0.0)  
 $olv^4*$  1.0 1.0 1.0 0.0  
 $cmyn^4*$  0.0 0.0 0.1

standard and adapted CIELAB  
 $LAB^*LAB$  11.01 0.07 0.01  
 $LAB^*LABa$  11.01 0.0 0.0  
 $LAB^*TCh$  0.01 0.01 -

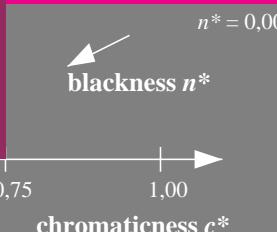
relative CIELAB lab\*  
 $lab^*lab$  0.0 0.0 0.0  
 $lab^*tch$  0.0 0.0 -  
 $lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)  
 $lab^*lrij$  0.0 0.0 0.0  
 $lab^*ice$  0.0 0.0 -  
 $lab^*ncE$  1.0 0.0 -

$n^* = 1,0$



chromaticness  $c^*$



chromaticness  $c^*$

## Output: Colorimetric Reflective System ORS18

for hue  $h^* = lab^*h = 354/360 = 0.982$

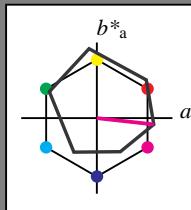
$lab^*tch$  and  $lab^*nch$

D65: hue M

LCH\*Ma: 48 76 354

olv\*Ma: 1.0 0.0 1.0

triangle lightness  $t^*$



%Gamut  
 $u^*_{rel} = 119$

%Regularity  
 $g^*_{H,rel} = 47$

g\*<sub>C,rel</sub> = 100

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  
 $LAB^*LABa$  95.41 0.0 0.0  
 $LAB^*TCh$  99.99 0.01 -

relative CIELAB lab\*  
 $lab^*lab$  1.0 0.0 0.0  
 $lab^*tch$  1.0 0.0 -  
 $lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)  
 $lab^*lrij$  1.0 0.0 0.0  
 $lab^*ice$  1.0 0.0 0.0  
 $lab^*ncE$  0.0 0.0 -

standard and adapted CIELAB  
 $LAB^*LAB$  74.3 34.57 -24.19  
 $LAB^*LABa$  74.3 34.54 -24.2  
 $LAB^*TCh$  75.0 42.18 324.98

relative CIELAB lab\*  
 $lab^*lab$  0.75 0.409 -0.286  
 $lab^*tch$  0.75 0.5 0.903  
 $lab^*nch$  0.0 0.5 0.903

relative Inform. Technology (IT)  
 $olv^3*$  1.0 0.0 1.0 (1.0)  
 $cmyn^3*$  0.0 1.0 0.0 (0.0)  
 $olv^4*$  1.0 1.0 1.0 0.5  
 $cmyn^4*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  53.2 69.12 -48.39  
 $LAB^*LABa$  53.2 69.08 -48.4  
 $LAB^*TCh$  50.0 84.35 324.98

relative CIELAB lab\*  
 $lab^*lab$  0.5 0.819 -0.573  
 $lab^*tch$  0.5 1.0 0.903  
 $lab^*nch$  0.0 1.0 0.903

relative Inform. Technology (IT)  
 $olv^3*$  0.5 0.0 0.5 (1.0)  
 $cmyn^3*$  0.5 1.0 0.5 (0.0)  
 $olv^4*$  1.0 0.5 1.0 0.5  
 $cmyn^4*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB  
 $LAB^*LAB$  53.2 69.12 -48.39  
 $LAB^*LABa$  53.2 69.08 -48.4  
 $LAB^*TCh$  50.0 84.35 324.98

relative CIELAB lab\*  
 $lab^*lab$  0.5 0.819 -0.573  
 $lab^*tch$  0.5 1.0 0.903  
 $lab^*nch$  0.0 1.0 0.903

relative Inform. Technology (IT)  
 $olv^3*$  0.0 0.0 0.0 (1.0)  
 $cmyn^3*$  1.0 1.0 1.0 (0.0)  
 $olv^4*$  1.0 1.0 1.0 0.5  
 $cmyn^4*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB  
 $LAB^*LAB$  56.71 -0.23 2.14  
 $LAB^*LABa$  56.71 0.0 0.0  
 $LAB^*TCh$  50.0 0.01 -

relative CIELAB lab\*  
 $lab^*lab$  0.5 0.0 0.0  
 $lab^*tch$  0.5 0.0 -  
 $lab^*nch$  0.5 0.0 -

relative Inform. Technology (IT)  
 $olv^3*$  0.5 0.0 0.5 (1.0)  
 $cmyn^3*$  0.5 1.0 0.5 (0.0)  
 $olv^4*$  1.0 0.5 1.0 0.5  
 $cmyn^4*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB  
 $LAB^*LAB$  33.08 37.84 -3.62  
 $LAB^*LABa$  33.08 37.63 -4.17  
 $LAB^*TCh$  25.01 37.86 353.66

relative CIELAB lab\*  
 $lab^*lab$  0.195 0.497 -0.054  
 $lab^*tch$  0.25 0.5 0.982  
 $lab^*nch$  0.5 0.5 0.982

relative Natural Colour (NC)  
 $lab^*lrij$  0.0 0.0 0.0  
 $lab^*ice$  0.0 0.0 0.0  
 $lab^*ncE$  1.0 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)  
 $olv^4*$  1.0 1.0 1.0 0.5  
 $cmyn^4*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB  
 $LAB^*LAB$  18.02 0.5 -0.46  
 $LAB^*LABa$  18.02 0.0 0.0  
 $LAB^*TCh$  0.01 0.01 -

relative CIELAB lab\*  
 $lab^*lab$  0.0 0.0 0.0  
 $lab^*tch$  0.0 0.0 -  
 $lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)  
 $lab^*lrij$  0.0 0.0 0.0  
 $lab^*ice$  0.0 0.0 0.0  
 $lab^*ncE$  1.0 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)  
 $olv^4*$  1.0 1.0 1.0 0.5  
 $cmyn^4*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB  
 $LAB^*LAB$  18.02 0.5 -0.46  
 $LAB^*LABa$  18.02 0.0 0.0  
 $LAB^*TCh$  0.01 0.01 -

relative CIELAB lab\*  
 $lab^*lab$  0.0 0.0 0.0  
 $lab^*tch$  0.0 0.0 -  
 $lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)  
 $lab^*lrij$  0.0 0.0 0.0  
 $lab^*ice$  0.0 0.0 0.0  
 $lab^*ncE$  1.0 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)  
 $olv^4*$  1.0 1.0 1.0 0.5  
 $cmyn^4*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB  
 $LAB^*LAB$  18.02 0.5 -0.46  
 $LAB^*LABa$  18.02 0.0 0.0  
 $LAB^*TCh$  0.01 0.01 -

relative CIELAB lab\*  
 $lab^*lab$  0.0 0.0 0.0  
 $lab^*tch$  0.0 0.0 -  
 $lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)  
 $lab^*lrij$  0.0 0.0 0.0  
 $lab^*ice$  0.0 0.0 0.0  
 $lab^*ncE$  1.0 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)  
 $olv^4*$  1.0 1.0 1.0 0.5  
 $cmyn^4*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB  
 $LAB^*LAB$  18.02 0.5 -0.46  
 $LAB^*LABa$  18.02 0.0 0.0  
 $LAB^*TCh$  0.01 0.01 -

relative CIELAB lab\*  
 $lab^*lab$  0.0 0.0 0.0  
 $lab^*tch$  0.0 0.0 -  
 $lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)  
 $lab^*lrij$  0.0 0.0 0.0  
 $lab^*ice$  0.0 0.0 0.0  
 $lab^*ncE$  1.0 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)  
 $olv^4*$  1.0 1.0 1.0 0.5  
 $cmyn^4*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB  
 $LAB^*LAB$  18.02 0.5 -0.46  
 $LAB^*LABa$  18.02 0.0 0.0  
 $LAB^*TCh$  0.01 0.01 -

relative CIELAB lab\*  
 $lab^*lab$  0.0 0.0 0.0  
 $lab^*tch$  0.0 0.0 -  
 $lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)  
 $lab^*lrij$  0.0 0.0 0.0  
 $lab^*ice$  0.0 0.0 0.0  
 $lab^*ncE$  1.0 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)  
 $olv^4*$  1.0 1.0 1.0 0.5  
 $cmyn^4*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB  
 $LAB^*LAB$  18.02 0.5 -0.46  
 $LAB^*LABa$  18.02 0.0 0.0  
 $LAB^*TCh$  0.01 0.01 -

relative CIELAB lab\*  
 $lab^*lab$  0.0 0.0 0.0  
 $lab^*tch$  0.0 0.0 -  
 $lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)  
 $lab^*lrij$  0.0 0.0 0.0  
 $lab^*ice$  0.0 0.0 0.0  
 $lab^*ncE$  1.0 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)  
 $olv^4*$  1.0 1.0 1.0 0.5  
 $cmyn^4*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB  
 $LAB^*LAB$  18.02 0.5 -0.46  
 $LAB^*LABa$  18.02 0.0 0.0  
 $LAB^*TCh$  0.01 0.01 -

relative CIELAB lab\*  
 $lab^*lab$  0.0 0.0 0.0  
 $lab^*tch$  0.0 0.0 -  
 $lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)  
 $lab^*lrij$  0.0 0.0 0.0  
 $lab^*ice$  0.0 0.0 0.0  
 $lab^*ncE$  1.0 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)  
 $olv^4*$  1.0 1.0 1.0 0.5  
 $cmyn^4*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB  
 $LAB^*LAB$  18.02 0.5 -0.46  
 $LAB^*LABa$  18.02 0.0 0.0  
 $LAB^*TCh$  0.01 0.01 -

relative CIELAB lab\*  
 $lab^*lab$  0.0 0.0 0.0  
 $lab^*tch$  0.0 0.0 -  
 $lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)  
 $lab^*lrij$  0.0 0.0 0.0  
 $lab^*ice$  0.0 0.0 0.0  
 $lab^*ncE$  1.0 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)  
 $olv^4*$  1.0 1.0 1.0 0.5  
 $cmyn^4*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB  
 $LAB^*LAB$  18.02 0.5 -0.46  
 $LAB^*LABa$  18.02 0.0 0.0  
 $LAB^*TCh$  0.01 0.01 -

relative CIELAB lab\*  
 $lab^*lab$  0.0 0.0 0.0  
 $lab^*tch$  0.0 0.0 -  
 $lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)  
 $lab^*lrij$  0.0 0.0 0.0  
 $lab^*ice$  0.0 0.0 0.0  
 $lab^*ncE$  1.0 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)  
 $olv^4*$  1.0 1.0 1.0 0.5  
 $cmyn^4*$  0.0 0.0 0.0 0.5

## Input: Colorimetric Reflective System NRS11

for hue  $h^* = lab^*h = 325/360 = 0.903$

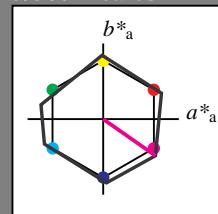
$lab^*tch$  and  $lab^*nch$

D65: hue B50R

LCH\*Ma: 53 84 325

olv\*Ma: 1.0 0.0 1.0

triangle lightness  $t^*$



## NRS11; adapted (a) CIELAB data

	$L^* = L^*_{ab}$	$a^*_{ab}$	$b^*_{ab}$	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	53.2	77.06	34.32	84.36	24
JMa	53.2	-1.51	84.38	84.39	91
GMa	53.2	-82.27	18.98	84.44	167
G50BMa	53.2	-77.72	-32.98	84.44	203
BMa	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)

$olv^3*$  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

$LAB^*LABa$  95.41 0.0 0.0

$LAB^*TCh$  99.99 0.01 -

relative CIELAB lab\*

$lab^*lab$  1.0 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  1.0 0.0 0.0

$lab^*ice$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  74.3 34.57 -24.19

$LAB^*LABa$  74.3 34.54 -24.2

$LAB^*TCh$  75.0 42.18 324.98

relative CIELAB lab\*

$lab^*lab$  0.75 0.409 -0.286

$lab^*tch$  0.75 0.5 0.903

$lab^*nch$  0.0 0.5 0.903

relative Natural Colour (NC)

$lab^*lrj$  0.75 0.336 -0.37

$lab^*ice$  0.75 0.2 0.867

$lab^*ncE$  0.0 0.5 b46r

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 0.5

$cmyn^4*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  53.21 0.04 0.0

$LAB^*LABa$  53.21 0.0 0.0

$LAB^*TCh$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  0.5 0.0 0.0

$lab^*ice$  0.5 0.0 0.0

$lab^*ncE$  0.5 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  32.1 34.6 -24.18

$LAB^*LABa$  32.1 34.54 -24.2

$LAB^*TCh$  25.01 42.18 324.98

relative CIELAB lab\*

$lab^*lab$  0.25 0.409 -0.286

$lab^*tch$  0.25 0.5 0.903

$lab^*nch$  0.5 0.5 0.903

relative Natural Colour (NC)

$lab^*lrj$  0.25 0.336 -0.37

$lab^*ice$  0.25 0.5 0.867

$lab^*ncE$  0.5 0.5 b46r

$n^* = 1,0$

relative Inform. Technology (IT)

$olv^3*$  0.0 0.0 0.0 (1.0)

$cmyn^3*$  1.0 1.0 1.0 (0.0)

$olv^4*$  1.0 1.0 1.0 0.0

$cmyn^4*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  11.01 0.07 0.01

$LAB^*LABa$  11.01 0.0 0.0

$LAB^*TCh$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  0.0 0.0 0.0

$lab^*ice$  0.0 0.0 0.0

$lab^*ncE$  1.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  11.01 0.07 0.01

$LAB^*LABa$  11.01 0.0 0.0

$LAB^*TCh$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.25 0.409 -0.286

$lab^*tch$  0.25 0.5 0.903

$lab^*nch$  0.5 0.5 0.903

relative Natural Colour (NC)

$lab^*lrj$  0.25 0.336 -0.37

$lab^*ice$  0.25 0.5 0.867

$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

## Output: Colorimetric Reflective System MRS18

for hue  $h^* = lab^*h = 322/360 = 0.895$

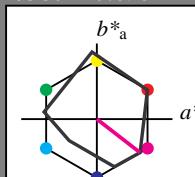
$lab^*tch$  and  $lab^*nch$

D65: hue B50R

LCH\*Ma: 35 72 322

olv\*Ma: 1.0 0.0 1.0

triangle lightness  $t^*$



## MRS18; adapted (a) CIELAB data

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

$olv^3*$  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

$LAB^*LABa$  95.41 0.0 0.0

$LAB^*TCh$  99.99 0.01 -

relative CIELAB lab\*

$lab^*lab$  1.0 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  1.0 0.0 0.0

$lab^*ice$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  74.3 34.57 -24.19

$LAB^*LABa$  74.3 34.54 -24.2

$LAB^*TCh$  75.0 42.18 324.98

relative CIELAB lab\*

$lab^*lab$  0.75 0.409 -0.286

$lab^*tch$  0.75 0.5 0.903

$lab^*nch$  0.0 0.5 0.903

relative Natural Colour (NC)

$lab^*lrj$  0.75 0.336 -0.37

$lab^*ice$  0.75 0.2 0.867

$lab^*ncE$  0.0 0.5 b46r

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 0.5

$cmyn^4*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  53.2 69.12 -48.39

$LAB^*LABa$  53.2 69.08 -48.4

$LAB^*TCh$  50.0 84.35 324.98

relative CIELAB lab\*

$lab^*lab$  0.25 0.409 -0.286

$lab^*tch$  0.25 0.5 0.903

$lab^*nch$  0.5 0.5 0.903

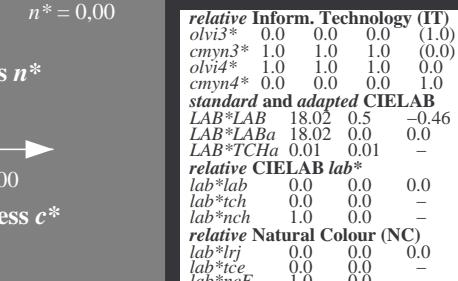
relative Natural Colour (NC)

$lab^*lrj$  0.25 0.336 -0.37

$lab^*ice$  0.25 0.5 0.867

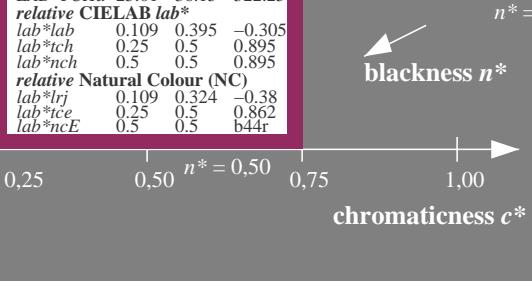
$lab^*ncE$  0.5 0.5 b46r

$n^* = 1,0$



$n^* = 1,0$

blackness  $n^*$



$n^* = 1,0$

blackness  $n^*$

UE100-7, 3 step scales for constant CIELAB hue 325/360 = 0.903 (left)

3 step scales for constant CIELAB hue 322/360 = 0.895 (right)



## Input: Colorimetric Reflective System NRS11

for hue  $h^* = lab^*h = 325/360 = 0.903$

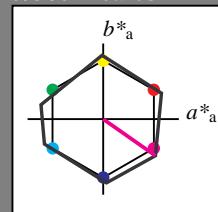
$lab^*tch$  and  $lab^*nch$

D65: hue B50R

LCH\*Ma: 53 84 325

olv\*Ma: 1.0 0.0 1.0

triangle lightness  $t^*$



## NRS11; adapted (a) CIELAB data

	$L^* = L^*_{ab}$	$a^*_{ab}$	$b^*_{ab}$	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	53.2	77.06	34.32	84.36	24
JMa	53.2	-1.51	84.38	84.39	91
GMa	53.2	-82.27	18.98	84.44	167
G50BMa	53.2	-77.72	-32.98	84.44	203
BMa	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)

$olv^3*$  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

$LAB^*LABa$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  74.3 34.57 -24.19

$LAB^*LABa$  74.3 34.54 -24.2

$LAB^*TChA$  75.0 42.18 324.98

relative CIELAB lab\*

$lab^*lab$  0.75 0.409 -0.286

$lab^*tch$  0.75 0.5 0.903

$lab^*nch$  0.0 0.5 0.903

relative Natural Colour (NC)

$lab^*lrij$  0.75 0.336 -0.37

$lab^*tce$  0.75 0.2 0.867

$lab^*ncE$  0.0 0.5 b46r

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 0.5

$cmyn^4*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  53.21 0.04 0.0

$LAB^*LABa$  53.21 0.0 0.0

$LAB^*TChA$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.5 0.0 0.0

$lab^*tce$  0.5 0.0 0.0

$lab^*ncE$  0.5 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  32.1 34.6 -24.18

$LAB^*LABa$  32.1 34.54 -24.2

$LAB^*TChA$  25.01 42.18 324.98

relative CIELAB lab\*

$lab^*lab$  0.25 0.409 -0.286

$lab^*tch$  0.25 0.5 0.903

$lab^*nch$  0.5 0.5 0.903

relative Natural Colour (NC)

$lab^*lrij$  0.25 0.336 -0.37

$lab^*tce$  0.25 0.5 0.867

$lab^*ncE$  0.5 0.5 b46r

$n^* = 1,0$

%Gamut

$u^*_{rel} = 119$

%Regularity

$g^*_{H,rel} = 47$

$g^*_{C,rel} = 100$

$n^* = 0,00$

blackness  $n^*$

chromaticness  $c^*$

## Output: Colorimetric Reflective System MRS18a

for hue  $h^* = lab^*h = 323/360 = 0.896$

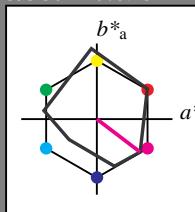
$lab^*tch$  and  $lab^*nch$

D65: hue B50R

LCH\*Ma: 35 72 323

olv\*Ma: 1.0 0.0 1.0

triangle lightness  $t^*$



## MRS18a; adapted (a) CIELAB data

	$L^* = L^*_{ab}$	$a^*_{ab}$	$b^*_{ab}$	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	49.63	66.8	40.02	77.87	31
JMa	90.7	-7.27	93.19	93.48	94
GMa	52.11	-69.93	11.26	70.85	171
G50BMa	45.03	-36.65	-27.13	45.61	217
BMa	36.65	23.26	-62.27	66.49	290
B50RMa	34.94	57.27	-43.6	71.99	323
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	272

relative Inform. Technology (IT)

$olv^3*$  1.0 0.5 1.0 (1.0)

$cmyn^3*$  0.0 0.5 0.0 (0.0)

$olv^4*$  1.0 0.5 1.0 1.0

$cmyn^4*$  0.0 0.5 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  95.41 0.01 0.0

$LAB^*LABa$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  65.17 28.68 -21.78

$LAB^*LABa$  65.17 28.63 -21.79

$LAB^*TChA$  75.0 35.99 322.71

relative CIELAB lab\*

$lab^*lab$  0.609 0.398 -0.302

$lab^*tch$  0.75 0.5 0.896

$lab^*nch$  0.0 0.5 0.896

relative Natural Colour (NC)

$lab^*lrij$  0.609 0.324 -0.38

$lab^*tce$  0.75 0.5 0.862

$lab^*ncE$  0.0 0.5 b44r

relative Inform. Technology (IT)

$olv^3*$  1.0 0.0 1.0 (1.0)

$cmyn^3*$  0.0 1.0 0.0 (0.0)

$olv^4*$  1.0 0.5 1.0 1.0

$cmyn^4*$  0.0 1.0 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  34.95 57.34 -43.57

$LAB^*LABa$  34.95 57.26 -43.59

$LAB^*TChA$  50.0 71.98 322.71

relative CIELAB lab\*

$lab^*lab$  0.219 0.795 -0.605

$lab^*tch$  0.5 1.0 0.896

$lab^*nch$  0.0 1.0 0.896

relative Natural Colour (NC)

$lab^*lrij$  0.219 0.648 -0.761

$lab^*tce$  0.5 1.0 0.862

$lab^*ncE$  0.0 1.0 b44r

$n^* = 0,00$

blackness  $n^*$

chromaticness  $c^*$

UE100-7, 3 step scales for constant CIELAB hue 325/360 = 0.903 (left)

3 step scales for constant CIELAB hue 323/360 = 0.896 (right)

## Input: Colorimetric Reflective System NRS11

for hue  $h^* = lab^*h = 325/360 = 0.903$

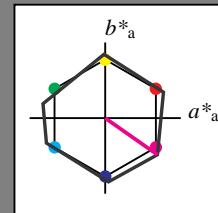
$lab^*tch$  and  $lab^*nch$

D65: hue B50R

LCH\*Ma: 53 84 325

olv\*Ma: 1.0 0.0 1.0

triangle lightness  $t^*$



relative Inform. Technology (IT)

olv13\* 1.0 1.0 1.0 (1.0)

cmyn3\* 0.0 0.0 0.0 (0.0)

olv14\* 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 0.0 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 -

standard and adapted CIELAB

LAB\*LAB 74.3 34.57 -24.19

LAB\*LABa 74.3 34.54 -24.2

LAB\*TChA 75.0 42.18 324.98

relative CIELAB lab\*

lab\*lab 0.75 0.409 -0.286

lab\*tch 0.75 0.5 0.903

lab\*nch 0.0 0.5 0.903

relative Natural Colour (NC)

lab\*lrj 0.75 0.336 -0.37

lab\*tce 0.75 0.2 0.867

lab\*ncE 0.0 0.5 b46r

relative Inform. Technology (IT)

olv13\* 0.5 0.5 0.5 (1.0)

cmyn3\* 0.5 0.5 0.5 (0.0)

olv14\* 1.0 1.0 1.0 0.5

cmyn4\* 0.0 0.0 0.5

standard and adapted CIELAB

LAB\*LAB 53.21 0.04 0.0

LAB\*LABa 53.21 0.0 0.0

LAB\*TChA 50.0 0.01 -

relative CIELAB lab\*

lab\*lab 0.5 0.0 0.0

lab\*tch 0.5 0.0 -

lab\*nch 0.5 0.0 -

relative Natural Colour (NC)

lab\*lrj 0.5 0.0 0.0

lab\*tce 0.5 0.0 0.0

lab\*ncE 0.5 0.0 -

standard and adapted CIELAB

LAB\*LAB 11.01 0.07 0.01

LAB\*LABa 11.01 0.0 0.0

LAB\*TChA 0.01 0.01 -

relative CIELAB lab\*

lab\*lab 0.0 0.0 0.0

lab\*tch 0.0 0.0 -

lab\*nch 1.0 0.0 -

relative Natural Colour (NC)

lab\*lrj 0.0 0.0 0.0

lab\*tce 0.0 0.0 -

lab\*ncE 1.0 0.0 -

$n^* = 1,0$

## NRS11; adapted (a) CIELAB data

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

RMa	53.2	77.06	34.32	84.36	24
JMa	53.2	-1.51	84.38	84.39	91
GMa	53.2	-82.27	18.98	84.44	167
G50BMa	53.2	-77.72	-32.98	84.44	203
BMa	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

%Gamut

$u^*_{rel} = 119$

%Regularity

$g^*_{H,rel} = 47$

$g^*_{C,rel} = 100$

relative Inform. Technology (IT)

olv13\* 1.0 0.5 1.0 (1.0)

cmyn3\* 0.0 0.5 0.0 (0.0)

olv14\* 1.0 0.5 1.0 1.0

cmyn4\* 0.0 0.5 0.0 0.0

standard and adapted CIELAB

LAB\*LAB 74.3 34.57 -24.19

LAB\*LABa 74.3 34.54 -24.2

LAB\*TChA 75.0 42.18 324.98

relative CIELAB lab\*

lab\*lab 0.75 0.409 -0.286

lab\*tch 0.75 0.5 0.903

lab\*nch 0.0 0.5 0.903

relative Natural Colour (NC)

lab\*lrj 0.75 0.336 -0.37

lab\*tce 0.75 0.2 0.867

lab\*ncE 0.0 0.5 b46r

standard and adapted CIELAB

LAB\*LAB 53.2 69.12 -48.39

LAB\*LABa 53.2 69.08 -48.4

LAB\*TChA 50.0 84.35 324.98

relative CIELAB lab\*

lab\*lab 0.5 0.819 -0.573

lab\*tch 0.5 1.0 0.903

lab\*nch 0.0 1.0 0.903

relative Natural Colour (NC)

lab\*lrj 0.5 0.671 -0.74

lab\*tce 0.5 1.0 0.867

lab\*ncE 0.0 1.0 b46r

relative CIELAB lab\*

lab\*lab 0.25 0.409 -0.286

lab\*tch 0.25 0.5 0.903

lab\*nch 0.5 0.5 0.903

relative Natural Colour (NC)

lab\*lrj 0.25 0.336 -0.37

lab\*tce 0.25 0.5 0.867

lab\*ncE 0.5 0.5 b46r

relative CIELAB lab\*

lab\*lab 0.1 0.409 -0.286

lab\*tch 0.1 0.5 0.903

lab\*nch 0.5 0.5 0.903

relative Natural Colour (NC)

lab\*lrj 0.1 0.336 -0.37

lab\*tce 0.1 0.5 0.867

lab\*ncE 1.0 0.5 b46r

$n^* = 0,00$

blackness  $n^*$

chromaticness  $c^*$

## Output: Colorimetric Reflective System NRS18

for hue  $h^* = lab^*h = 325/360 = 0.903$

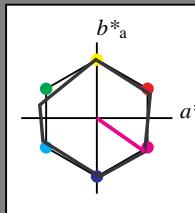
$lab^*tch$  and  $lab^*nch$

D65: hue B50R

LCH\*Ma: 57 77 325

olv\*Ma: 1.0 0.0 1.0

triangle lightness  $t^*$



%Gamut

$u^*_{rel} = 100$

%Regularity

$g^*_{H,rel} = 47$

$g^*_{C,rel} = 100$

relative Inform. Technology (IT)

olv13\* 1.0 0.5 1.0 (1.0)

cmyn3\* 0.0 0.5 0.0 (0.0)

olv14\* 1.0 0.5 1.0 1.0

cmyn4\* 0.0 0.5 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 0.0 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 -

standard and adapted CIELAB

LAB\*LAB 74.3 34.57 -24.19

LAB\*LABa 74.3 34.54 -24.2

LAB\*TChA 75.0 42.18 324.98

relative CIELAB lab\*

lab\*lab 0.75 0.409 -0.286

lab\*tch 0.75 0.5 0.903

lab\*nch 0.0 0.5 0.903

relative Natural Colour (NC)

lab\*lrj 0.75 0.336 -0.37

lab\*tce 0.75 0.2 0.867

lab\*ncE 0.0 0.5 b46r

relative CIELAB lab\*

lab\*lab 0.25 0.409 -0.286

lab\*tch 0.25 0.5 0.903

lab\*nch 0.5 0.5 0.903

relative Natural Colour (NC)

lab\*lrj 0.25 0.336 -0.37

lab\*tce 0.25 0.5 0.867

lab\*ncE 1.0 0.5 b46r

relative CIELAB lab\*

lab\*lab 0.1 0.409 -0.286

lab\*tch 0.1 0.5 0.903

lab\*nch 0.5 0.5 0.903

relative Natural Colour (NC)

lab\*lrj 0.1 0.336 -0.37

lab\*tce 0.1 0.5 0.867

lab\*ncE 1.0 0.5 b46r

relative CIELAB lab\*

lab\*lab 0.0 0.409 -0.286

lab\*tch 0.0 0.5 0.903

lab\*nch 0.5 0.5 0.903

relative Natural Colour (NC)

lab\*lrj 0.0 0.336 -0.37

lab\*tce 0.0 0.5 0.867

lab\*ncE 1.0 0.5 b46r

relative CIELAB lab\*

lab\*lab 0.0 0.409 -0.286

lab\*tch 0.0 0.5 0.903

lab\*nch 0.5 0.5 0.903

relative Natural Colour (NC)

lab\*lrj 0.0 0.336 -0.37

lab\*tce 0.0 0.5 0.867

lab\*ncE 1.0 0.5 b46r

relative CIELAB lab\*

lab\*lab 0.0 0.409 -0.286

lab\*tch 0.0 0.5 0.903

lab\*nch 0.5 0.5 0.903

relative Natural Colour (NC)

lab\*lrj 0.0 0.336 -0.37

lab\*tce 0.0 0.5 0.867

lab\*ncE 1.0 0.5 b46r

relative CIELAB lab\*

lab\*lab 0.0 0.409 -0.286

lab\*tch 0.0 0.5 0.903

lab\*nch 0.5 0.5 0.903



## Input: Colorimetric Reflective System NRS11

for hue  $h^* = lab^*h = 325/360 = 0.903$

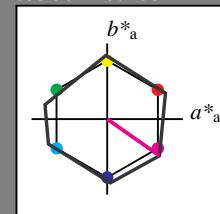
$lab^*tch$  and  $lab^*nch$

D65: hue B50R

LCH\*Ma: 53 84 325

olv\*Ma: 1.0 0.0 1.0

triangle lightness  $t^*$



%Gamut

$u^*_{rel} = 119$

%Regularity

$g^*_{H,rel} = 47$

$g^*_{C,rel} = 100$

relative Inform. Technology (IT)

$olv_i3^*$  1.0 1.0 1.0 (1.0)

$cmy_n3^*$  0.0 0.0 0.0 (0.0)

$olv_i4^*$  1.0 1.0 1.0 1.0

$cmy_n4^*$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 -

$lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)

$olv_i3^*$  0.5 0.5 0.5 (1.0)

$cmy_n3^*$  0.5 0.5 0.5 (0.0)

$olv_i4^*$  1.0 1.0 1.0 0.5

$cmy_n4^*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  53.21 0.04 0.0

$LAB^*LABa$  53.21 0.0 0.0

$LAB^*TChA$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.5 0.0 0.0

$lab^*tce$  0.5 0.0 -

$lab^*ncE$  0.5 0.0 -

relative Inform. Technology (IT)

$olv_i3^*$  0.0 0.0 0.0 (1.0)

$cmy_n3^*$  1.0 1.0 1.0 (0.0)

$olv_i4^*$  1.0 1.0 1.0 0.0

$cmy_n4^*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  11.01 0.07 0.01

$LAB^*LABa$  11.01 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*tce$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

## NRS11; adapted (a) CIELAB data

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

RMa	53.2	77.06	34.32	84.36	24
JMa	53.2	-1.51	84.38	84.39	91
GMa	53.2	-82.27	18.98	84.44	167
G50BMa	53.2	-77.72	-32.98	84.44	203
BMa	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

## Output: Colorimetric Reflective System NRS11

for hue  $h^* = lab^*h = 325/360 = 0.903$

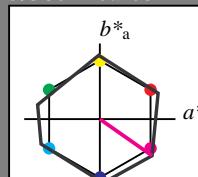
$lab^*tch$  and  $lab^*nch$

D65: hue B50R

LCH\*Ma: 53 84 325

olv\*Ma: 1.0 0.0 1.0

triangle lightness  $t^*$



%Gamut

$u^*_{rel} = 119$

%Regularity

$g^*_{H,rel} = 47$

$g^*_{C,rel} = 100$

relative Inform. Technology (IT)

$olv_i3^*$  1.0 1.0 1.0 (1.0)

$cmy_n3^*$  0.0 0.0 0.0 (0.0)

$olv_i4^*$  1.0 1.0 1.0 1.0

$cmy_n4^*$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 -

$lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)

$olv_i3^*$  0.5 0.5 0.5 (1.0)

$cmy_n3^*$  0.5 0.5 0.5 (0.0)

$olv_i4^*$  1.0 1.0 1.0 0.5

$cmy_n4^*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  53.2 69.12 -48.39

$LAB^*LABa$  53.2 69.08 -48.4

$LAB^*TChA$  50.0 84.35 324.98

relative CIELAB lab\*

$lab^*lab$  0.5 0.819 -0.573

$lab^*tch$  0.5 1.0 0.903

$lab^*nch$  0.0 1.0 0.903

relative Natural Colour (NC)

$lab^*lrij$  0.5 0.671 -0.74

$lab^*tce$  0.5 1.0 0.867

$lab^*ncE$  0.0 1.0 b46r

$n^* = 0,00$

blackness  $n^*$

chromaticness  $c^*$

$n^* = 1,0$

blackness  $n^*$

chromaticness  $c^*$

## NRS11; adapted (a) CIELAB data

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

RMa	53.2	77.06	34.32	84.36	24
JMa	53.2	-1.51	84.38	84.39	91
GMa	53.2	-82.27	18.98	84.44	167
G50BMa	53.2	-77.72	-32.98	84.44	203
BMa	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)

$olv_i3^*$  1.0 0.5 0.5 (1.0)

$cmy_n3^*$  0.5 1.0 0.5 (0.0)

$olv_i4^*$  1.0 0.5 1.0 1.0

$cmy_n4^*$  0.0 0.5 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  74.3 34.57 -24.19

$LAB^*LABa$  74.3 34.54 -24.2

$LAB^*TChA$  75.0 42.18 324.98

relative CIELAB lab\*

$lab^*lab$  0.75 0.409 -0.286

$lab^*tch$  0.75 0.5 0.903

$lab^*nch$  0.0 0.5 0.903

relative Natural Colour (NC)

$lab^*lrij$  0.75 0.336 -0.37

$lab^*tce$  0.75 0.5 0.867

$lab^*ncE$  0.0 0.5 b46r

$n^* = 0,00$

blackness  $n^*$

chromaticness  $c^*$

$n^* = 1,0$

blackness  $n^*$

chromaticness  $c^*$

## NRS11; adapted (a) CIELAB data

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

RMa	53.2	77.06	34.32	84.36	24
JMa	53.2	-1.51	84.38	84.39	91
GMa	53.2	-82.27	18.98	84.44	167
G50BMa	53.2	-77.72	-32.98	84.44	203
BMa	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

$n^* = 0,00$

blackness  $n^*$

chromaticness  $c^*$

$n^* = 1,0$

blackness  $n^*$

chromaticness  $c^*$

UE100-7, 3 step scales for constant CIELAB hue 325/360 = 0.903 (left)

3 step scales for constant CIELAB hue 325/360 = 0.903 (right)

## Input: Colorimetric Reflective System NRS11

for hue  $h^* = lab^*h = 325/360 = 0.903$

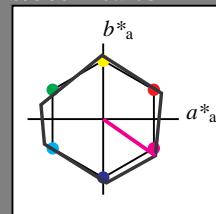
$lab^*tch$  and  $lab^*nch$

D65: hue B50R

LCH\*Ma: 53 84 325

olv\*Ma: 1.0 0.0 1.0

triangle lightness  $t^*$



### NRS11; adapted (a) CIELAB data

	$L^* = L_a^*$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	53.2	77.06	34.32	84.36	24
JMa	53.2	-1.51	84.38	84.39	91
GMa	53.2	-82.27	18.98	84.44	167
G50BMa	53.2	-77.72	-32.98	84.44	203
BMa	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)

$olv^3*$  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

$LAB^*LABa$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 -

$lab^*ncE$  0.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  74.3 34.57 -24.19

$LAB^*LABa$  74.3 34.54 -24.2

$LAB^*TChA$  75.0 42.18 324.98

relative CIELAB lab\*

$lab^*lab$  0.75 0.409 -0.286

$lab^*tch$  0.75 0.5 0.903

$lab^*nch$  0.0 0.5 0.903

relative Natural Colour (NC)

$lab^*lrij$  0.75 0.336 -0.37

$lab^*tce$  0.75 0.2 0.867

$lab^*ncE$  0.0 0.5 b46r

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 0.5

$cmyn^4*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  53.21 0.04 0.0

$LAB^*LABa$  53.21 0.0 0.0

$LAB^*TChA$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.5 0.0 0.0

$lab^*tce$  0.5 0.0 -

$lab^*ncE$  0.5 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  32.1 34.6 -24.18

$LAB^*LABa$  32.1 34.54 -24.2

$LAB^*TChA$  25.01 42.18 324.98

relative CIELAB lab\*

$lab^*lab$  0.25 0.409 -0.286

$lab^*tch$  0.25 0.5 0.903

$lab^*nch$  0.5 0.5 0.903

relative Natural Colour (NC)

$lab^*lrij$  0.25 0.336 -0.37

$lab^*tce$  0.25 0.5 0.867

$lab^*ncE$  0.5 0.5 b46r

$n^* = 1,0$

$n^* = 0,00$

$n^* = 0,50$

1,00

chromaticness  $c^*$

## Output: Colorimetric Reflective System NCS11

for hue  $h^* = lab^*h = 325/360 = 0.903$

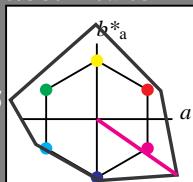
$lab^*tch$  and  $lab^*nch$

D65: hue B50R

LCH\*Ma: 44 129 325

olv\*Ma: 1.0 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

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

$LAB^*LABa$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 -

$lab^*ncE$  0.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  69.73 53.06 -36.95

$LAB^*LABa$  69.73 53.03 -36.95

$LAB^*TChA$  75.0 64.65 325.12

relative CIELAB lab\*

$lab^*lab$  0.696 0.41 -0.285

$lab^*tch$  0.75 0.5 0.903

$lab^*nch$  0.0 0.5 0.903

relative Natural Colour (NC)

$lab^*lrij$  0.696 0.336 -0.369

$lab^*tce$  0.75 0.5 0.867

$lab^*ncE$  0.0 0.5 b46r

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 0.5

$cmyn^4*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  53.21 0.04 0.0

$LAB^*LABa$  53.21 0.0 0.0

$LAB^*TChA$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 0.819 -0.573

$lab^*tch$  0.5 1.0 0.903

$lab^*nch$  0.0 1.0 0.903

relative Natural Colour (NC)

$lab^*lrij$  0.5 0.671 -0.74

$lab^*tce$  0.5 1.0 0.867

$lab^*ncE$  0.0 1.0 b46r

standard and adapted CIELAB

$LAB^*LAB$  27.53 53.1 -36.94

$LAB^*LABa$  27.53 53.03 -36.95

$LAB^*TChA$  25.01 64.65 325.12

relative CIELAB lab\*

$lab^*lab$  0.196 0.41 -0.285

$lab^*tch$  0.25 0.5 0.903

$lab^*nch$  0.5 0.5 0.903

relative Natural Colour (NC)

$lab^*lrij$  0.196 0.336 -0.369

$lab^*tce$  0.25 0.5 0.867

$lab^*ncE$  0.5 0.5 b46r

$n^* = 0,00$

$n^* = 0,50$

1,00

chromaticness  $c^*$

relative Inform. Technology (IT)

$olv^3*$  1.0 0.0 1.0 (1.0)

$cmyn^3*$  0.0 1.0 0.0 (0.0)

$olv^4*$  1.0 0.0 1.0 1.0

$cmyn^4*$  0.0 1.0 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  44.06 106.12 -73.91

$LAB^*LABa$  44.06 106.07 -73.92

$LAB^*TChA$  50.0 129.29 325.12

relative CIELAB lab\*

$lab^*lab$  0.392 0.82 -0.571

$lab^*tch$  0.5 1.0 0.903

$lab^*nch$  0.0 1.0 0.903

relative Natural Colour (NC)

$lab^*lrij$  0.392 0.673 -0.739

$lab^*tce$  0.5 1.0 0.867

$lab^*ncE$  0.0 1.0 b46r

$n^* = 0,00$

$n^* = 0,50$

1,00

chromaticness  $c^*$

UE100-7, 3 step scales for constant CIELAB hue 325/360 = 0.903 (left)

3 step scales for constant CIELAB hue 325/360 = 0.903 (right)

## Input: Colorimetric Reflective System NCS11

for hue  $h^* = lab^*h = 325/360 = 0.903$

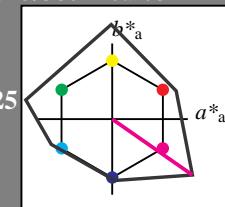
$lab^*tch$  and  $lab^*nch$

D65: hue B50R

LCH\*Ma: 44 129 325

olv\*Ma: 1.0 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

relative Inform. Technology (IT)  
 $olv_i3^*$  1.0 1.0 1.0 (1.0)  
 $cmyn3^*$  0.0 0.0 0.0 (0.0)  
 $olv_i4^*$  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 -  
 $lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)  
 $lab^*lrij$  1.0 0.0 0.0  
 $lab^*tce$  1.0 0.0 0.0  
 $lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)  
 $olv_i3^*$  0.5 0.5 0.5 (1.0)  
 $cmyn3^*$  0.5 0.5 0.5 (0.0)  
 $olv_i4^*$  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  
 $LAB^*LABa$  53.21 0.0 0.0  
 $LAB^*TChA$  50.0 0.01 -

relative CIELAB lab\*  
 $lab^*lab$  0.5 0.0 0.0  
 $lab^*tch$  0.5 0.0 -  
 $lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)  
 $lab^*lrij$  0.5 0.0 0.0  
 $lab^*tce$  0.5 0.0 0.0  
 $lab^*ncE$  0.5 0.0 -

relative Inform. Technology (IT)  
 $olv_i3^*$  0.0 0.0 0.0 (1.0)  
 $cmyn3^*$  1.0 1.0 1.0 (0.0)  
 $olv_i4^*$  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 0.0 0.0  
 $LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*  
 $lab^*lab$  0.0 0.0 0.0  
 $lab^*tch$  0.0 0.0 -  
 $lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)  
 $lab^*lrij$  0.0 0.0 0.0  
 $lab^*tce$  0.0 0.0 -  
 $lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

%Gamut  
 $u^*_{rel} = 149$   
%Regularity  
 $g^*_{H,rel} = 46$   
 $g^*_{C,rel} = 65$

relative Inform. Technology (IT)  
 $olv_i3^*$  1.0 0.5 1.0 (1.0)  
 $cmyn3^*$  0.0 0.5 0.0 (0.0)  
 $olv_i4^*$  1.0 0.5 1.0 1.0  
 $cmyn4^*$  0.0 0.5 0.0 0.0

standard and adapted CIELAB  
 $LAB^*LAB$  69.73 53.06 -36.95  
 $LAB^*LABa$  69.73 53.03 -36.95  
 $LAB^*TChA$  75.0 64.65 325.12

relative CIELAB lab\*  
 $lab^*lab$  0.696 0.41 -0.285  
 $lab^*tch$  0.75 0.5 0.903  
 $lab^*nch$  0.0 0.5 0.903

relative Natural Colour (NC)  
 $lab^*lrij$  0.696 0.336 -0.369  
 $lab^*tce$  0.75 0.2 0.867  
 $lab^*ncE$  0.0 0.5 b46r

relative Inform. Technology (IT)  
 $olv_i3^*$  0.5 0.0 0.5 (1.0)  
 $cmyn3^*$  0.5 0.0 0.5 (0.0)  
 $olv_i4^*$  1.0 0.0 1.0 0.5  
 $cmyn4^*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB  
 $LAB^*LAB$  44.06 106.12 -73.91  
 $LAB^*LABa$  44.06 106.07 -73.92  
 $LAB^*TChA$  50.0 129.29 325.12

relative CIELAB lab\*  
 $lab^*lab$  0.392 0.82 -0.571  
 $lab^*tch$  0.5 1.0 0.903  
 $lab^*nch$  0.0 1.0 0.903

relative Natural Colour (NC)  
 $lab^*lrij$  0.392 0.673 -0.739  
 $lab^*tce$  0.5 1.0 0.867  
 $lab^*ncE$  0.0 1.0 b46r

relative Inform. Technology (IT)  
 $olv_i3^*$  0.0 0.0 0.0 (1.0)  
 $cmyn3^*$  1.0 1.0 1.0 (0.0)  
 $olv_i4^*$  1.0 1.0 1.0 0.0  
 $cmyn4^*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB  
 $LAB^*LAB$  27.53 53.1 -36.94  
 $LAB^*LABa$  27.53 53.03 -36.95  
 $LAB^*TChA$  25.01 64.65 325.12

relative CIELAB lab\*  
 $lab^*lab$  0.196 0.41 -0.285  
 $lab^*tch$  0.25 0.5 0.903  
 $lab^*nch$  0.5 0.5 0.903

relative Natural Colour (NC)  
 $lab^*lrij$  0.196 0.336 -0.369  
 $lab^*tce$  0.25 0.5 0.867  
 $lab^*ncE$  0.5 0.5 b46r

$n^* = 0,00$

$n^* = 0,00$   
blackness  $n^*$

$n^* = 0,50$   
chromaticness  $c^*$

## Output: Colorimetric Reflective System ORS18

for hue  $h^* = lab^*h = 354/360 = 0.982$

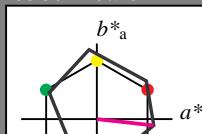
$lab^*tch$  and  $lab^*nch$

D65: hue M

LCH\*Ma: 48 76 354

olv\*Ma: 1.0 0.0 1.0

triangle lightness  $t^*$



## ORS18; adapted (a) CIELAB data

	$L^* = L_a^*$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
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)  
 $olv_i3^*$  1.0 1.0 1.0 (1.0)  
 $cmyn3^*$  0.0 0.0 0.0 (0.0)  
 $olv_i4^*$  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  
 $LAB^*LABa$  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 -  
 $lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)  
 $lab^*lrij$  1.0 0.0 0.0  
 $lab^*tce$  1.0 0.0 0.0  
 $lab^*ncE$  0.0 0.0 -

standard and adapted CIELAB  
 $LAB^*LAB$  71.77 37.1 -1.01  
 $LAB^*LABa$  71.77 37.63 -4.17  
 $LAB^*TChA$  75.0 37.86 353.66

relative CIELAB lab\*  
 $lab^*lab$  0.695 0.497 -0.054  
 $lab^*tch$  0.75 0.5 0.982  
 $lab^*nch$  0.0 0.5 0.982

relative Natural Colour (NC)  
 $lab^*lrij$  0.695 0.454 -0.208  
 $lab^*tce$  0.75 0.5 0.932  
 $lab^*ncE$  0.0 0.5 b72r

relative Inform. Technology (IT)  
 $olv_i3^*$  0.5 0.5 0.5 (1.0)  
 $cmyn3^*$  0.5 0.5 0.5 (0.0)  
 $olv_i4^*$  1.0 0.5 1.0 0.5  
 $cmyn4^*$  0.0 0.5 0.0 0.5

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 CIELAB lab\*  
 $lab^*lab$  0.392 0.82 -0.571  
 $lab^*tch$  0.5 1.0 0.903  
 $lab^*nch$  0.0 1.0 0.903

relative Natural Colour (NC)  
 $lab^*lrij$  0.392 0.673 -0.739  
 $lab^*tce$  0.5 1.0 0.867  
 $lab^*ncE$  0.0 1.0 b46r

relative Inform. Technology (IT)  
 $olv_i3^*$  0.0 0.0 0.0 (1.0)  
 $cmyn3^*$  1.0 1.0 1.0 (0.0)  
 $olv_i4^*$  1.0 1.0 1.0 0.0  
 $cmyn4^*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB  
 $LAB^*LAB$  18.02 0.5 -0.46  
 $LAB^*LABa$  18.02 0.0 0.0  
 $LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*  
 $lab^*lab$  0.195 0.497 -0.054  
 $lab^*tch$  0.25 0.5 0.982  
 $lab^*nch$  0.5 0.5 0.982

relative Natural Colour (NC)  
 $lab^*lrij$  0.195 0.454 -0.208  
 $lab^*tce$  0.25 0.5 0.932  
 $lab^*ncE$  0.5 0.5 b72r

$n^* = 1,0$

$n^* = 0,50$   
blackness  $n^*$

$n^* = 0,00$   
chromaticness  $c^*$

UE100-7, 3 step scales for constant CIELAB hue 325/360 = 0.903 (left)

3 step scales for constant CIELAB hue 354/360 = 0.982 (right)

## Input: Colorimetric Reflective System NCS11

for hue  $h^* = lab^*h = 325/360 = 0.903$

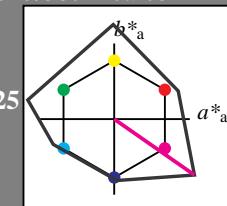
$lab^*tch$  and  $lab^*nch$

D65: hue B50R

LCH\*Ma: 44 129 325

olv\*Ma: 1.0 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

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

$LAB^*LABa$  95.41 0.0 0.0

$LAB^*TCh$  99.99 0.01 -

relative CIELAB lab\*

$lab^*lab$  1.0 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  1.0 0.0 0.0

$lab^*ice$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  69.73 53.06 -36.95

$LAB^*LABa$  69.73 53.03 -36.95

$LAB^*TCh$  75.0 64.65 325.12

relative CIELAB lab\*

$lab^*lab$  0.696 0.41 -0.285

$lab^*tch$  0.75 0.5 0.903

$lab^*nch$  0.0 0.5 0.903

relative Natural Colour (NC)

$lab^*lrj$  0.696 0.336 -0.369

$lab^*ice$  0.75 0.2 0.867

$lab^*ncE$  0.0 0.5 b46r

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 0.5

$cmyn^4*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  53.21 0.04 0.0

$LAB^*LABa$  53.21 0.0 0.0

$LAB^*TCh$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  0.5 0.0 0.0

$lab^*ice$  0.5 0.0 0.0

$lab^*ncE$  0.5 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  11.01 0.07 0.01

$LAB^*LABa$  11.01 0.0 0.0

$LAB^*TCh$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  0.0 0.0 0.0

$lab^*ice$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

%Gamut

$u^*_{rel} = 149$

%Regularity

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

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

relative Inform. Technology (IT)

$olv^3*$  1.0 0.5 1.0 (1.0)

$cmyn^3*$  0.0 0.5 0.0 (0.0)

$olv^4*$  1.0 0.5 1.0 1.0

$cmyn^4*$  0.0 0.5 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  95.41 -0.97 4.75

$LAB^*LABa$  95.41 0.0 0.0

$LAB^*TCh$  99.99 0.01 -

relative CIELAB lab\*

$lab^*lab$  1.0 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  1.0 0.0 0.0

$lab^*ice$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  69.73 53.06 -36.95

$LAB^*LABa$  69.73 53.03 -36.95

$LAB^*TCh$  75.0 64.65 325.12

relative CIELAB lab\*

$lab^*lab$  0.696 0.41 -0.285

$lab^*tch$  0.75 0.5 0.903

$lab^*nch$  0.0 0.5 0.903

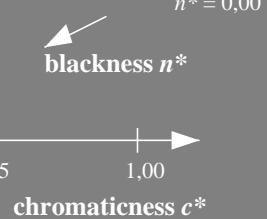
relative Natural Colour (NC)

$lab^*lrj$  0.696 0.336 -0.369

$lab^*ice$  0.75 0.2 0.867

$lab^*ncE$  0.0 0.5 b46r

$n^* = 0,00$



$n^* = 0,00$

blackness  $n^*$

$n^* = 0,50$

chromaticness  $c^*$

0,25 0,50 0,75 1,00

## Output: Colorimetric Reflective System MRS18

for hue  $h^* = lab^*h = 322/360 = 0.895$

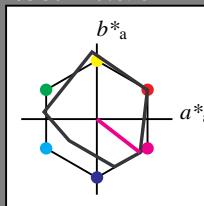
$lab^*tch$  and  $lab^*nch$

D65: hue B50R

LCH\*Ma: 35 72 322

olv\*Ma: 1.0 0.0 1.0

triangle lightness  $t^*$



%Gamut

$u^*_{rel} = 91$

%Regularity

$g^*_{H,rel} = 41$

$g^*_{C,rel} = 52$

relative Inform. Technology (IT)

$olv^3*$  1.0 0.5 1.0 (1.0)

$cmyn^3*$  0.0 0.5 0.0 (0.0)

$olv^4*$  1.0 0.5 1.0 1.0

$cmyn^4*$  0.0 0.5 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  95.41 0.0 -0.97

$LAB^*LABa$  95.41 0.0 0.0

$LAB^*TCh$  99.99 0.01 -

relative CIELAB lab\*

$lab^*lab$  1.0 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  1.0 0.0 0.0

$lab^*ice$  1.0 0.0 0.0

$lab^*ncE$  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 0.5 1.0 0.5

$cmyn^4*$  0.0 0.5 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  56.71 -0.23 2.14

$LAB^*LABa$  56.71 0.0 0.0

$LAB^*TCh$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.392 0.82 -0.571

$lab^*tch$  0.5 1.0 0.903

$lab^*nch$  0.0 1.0 0.903

relative Natural Colour (NC)

$lab^*lrj$  0.392 0.673 -0.739

$lab^*ice$  0.5 1.0 0.867

$lab^*ncE$  0.0 1.0 b44r

relative Inform. Technology (IT)

$olv^3*$  0.0 0.0 0.0 (1.0)

$cmyn^3*$  1.0 1.0 1.0 (0.0)

$olv^4*$  1.0 1.0 1.0 0.0

$cmyn^4*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.5 -0.46

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TCh$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  0.0 0.0 0.0

$lab^*ice$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

blackness  $n^*$

0,25 0,50 0,75 1,00

chromaticness  $c^*$

3 step scales for constant CIELAB hue 325/360 = 0.903 (left)

3 step scales for constant CIELAB hue 322/360 = 0.895 (right)

UE100-7, 3 step scales for constant CIELAB hue 325/360 = 0.903 (left)

UE100-7, 3 step scales for constant CIELAB hue 322/360 = 0.895 (right)

## Input: Colorimetric Reflective System NCS11

for hue  $h^* = lab^*h = 325/360 = 0.903$

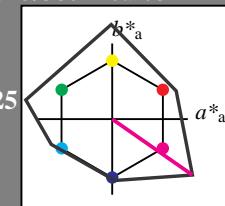
$lab^*tch$  and  $lab^*nch$

D65: hue B50R

LCH\*Ma: 44 129 325

olv\*Ma: 1.0 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

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

$LAB^*LABa$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrf$  1.0 0.0 0.0

$lab^*fce$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  69.73 53.06 -36.95

$LAB^*LABa$  69.73 53.03 -36.95

$LAB^*TChA$  75.0 64.65 325.12

relative CIELAB lab\*

$lab^*lab$  0.696 0.41 -0.285

$lab^*tch$  0.75 0.5 0.903

$lab^*nch$  0.0 0.5 0.903

relative Natural Colour (NC)

$lab^*lrf$  0.696 0.336 -0.369

$lab^*fce$  0.75 0.2 0.867

$lab^*ncE$  0.0 0.5 b46r

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 0.5

$cmyn^4*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  53.21 0.04 0.0

$LAB^*LABa$  53.21 0.0 0.0

$LAB^*TChA$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrf$  0.5 0.0 0.0

$lab^*fce$  0.5 0.0 0.0

$lab^*ncE$  0.5 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  11.01 0.07 0.01

$LAB^*LABa$  11.01 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrf$  0.0 0.0 0.0

$lab^*fce$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

%Gamut

$u^*_{rel} = 149$

%Regularity

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

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

relative Inform. Technology (IT)

$olv^3*$  1.0 0.5 1.0 (1.0)

$cmyn^3*$  0.0 0.5 0.0 (0.0)

$olv^4*$  1.0 0.5 1.0 1.0

$cmyn^4*$  0.0 0.5 0.0 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 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrf$  1.0 0.0 0.0

$lab^*fce$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  69.73 53.06 -36.95

$LAB^*LABa$  69.73 53.03 -36.95

$LAB^*TChA$  75.0 64.65 325.12

relative CIELAB lab\*

$lab^*lab$  0.696 0.41 -0.285

$lab^*tch$  0.75 0.5 0.903

$lab^*nch$  0.0 0.5 0.903

relative Natural Colour (NC)

$lab^*lrf$  0.696 0.336 -0.369

$lab^*fce$  0.75 0.2 0.867

$lab^*ncE$  0.0 0.5 b46r

relative Inform. Technology (IT)

$olv^3*$  0.0 0.0 0.0 (1.0)

$cmyn^3*$  1.0 1.0 1.0 (0.0)

$olv^4*$  1.0 1.0 1.0 0.0

$cmyn^4*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  11.01 0.07 0.01

$LAB^*LABa$  11.01 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrf$  0.0 0.0 0.0

$lab^*fce$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 0,00$

$n^* = 0,50$

$n^* = 1,00$

chromaticness  $c^*$

## Output: Colorimetric Reflective System TRS18

for hue  $h^* = lab^*h = 354/360 = 0.982$

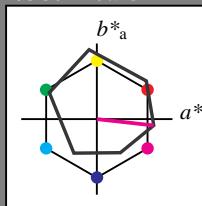
$lab^*tch$  and  $lab^*nch$

D65: hue M

LCH\*Ma: 48 76 354

olv\*Ma: 1.0 0.0 1.0

triangle lightness  $t^*$



## TRS18; adapted (a) CIELAB data

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

$olv^3*$  1.0 0.5 1.0 (1.0)

$cmyn^3*$  0.0 0.5 0.0 (0.0)

$olv^4*$  1.0 0.5 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

$LAB^*LABa$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrf$  1.0 0.0 0.0

$lab^*fce$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  69.73 53.06 -36.95

$LAB^*LABa$  69.73 53.03 -36.95

$LAB^*TChA$  75.0 64.65 325.12

relative CIELAB lab\*

$lab^*lab$  0.696 0.41 -0.285

$lab^*tch$  0.75 0.5 0.903

$lab^*nch$  0.0 0.5 0.903

relative Natural Colour (NC)

$lab^*lrf$  0.696 0.336 -0.369

$lab^*fce$  0.75 0.2 0.867

$lab^*ncE$  0.0 0.5 b46r

$n^* = 0,00$

$n^* = 0,50$

$n^* = 1,0$

chromaticness  $c^*$

3 step scales for constant CIELAB hue 325/360 = 0.903 (left)

3 step scales for constant CIELAB hue 354/360 = 0.982 (right)

## Input: Colorimetric Reflective System NCS11

for hue  $h^* = lab^*h = 325/360 = 0.903$

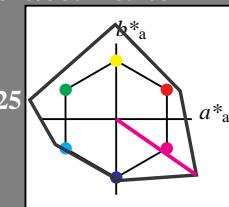
$lab^*tch$  and  $lab^*nch$

D65: hue B50R

LCH\*Ma: 44 129 325

olv\*Ma: 1.0 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

relative Inform. Technology (IT)

$olv_i3^*$  1.0 1.0 1.0 (1.0)

$cmyn3^*$  0.0 0.0 0.0 (0.0)

$olv_i4^*$  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

$LAB^*TCh$  99.99 0.01 -

relative CIELAB lab\*

$lab^*lab$  1.0 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  69.73 53.06 -36.95

$LAB^*LABa$  69.73 53.03 -36.95

$LAB^*TCh$  75.0 64.65 325.12

relative CIELAB lab\*

$lab^*lab$  0.696 0.41 -0.285

$lab^*tch$  0.75 0.5 0.903

$lab^*nch$  0.0 0.5 0.903

relative Natural Colour (NC)

$lab^*lrij$  0.696 0.336 -0.369

$lab^*tce$  0.75 0.2 0.867

$lab^*ncE$  0.0 0.5 b46r

relative Inform. Technology (IT)

$olv_i3^*$  0.5 0.5 0.5 (1.0)

$cmyn3^*$  0.5 0.5 0.5 (0.0)

$olv_i4^*$  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

$LAB^*LABa$  53.21 0.0 0.0

$LAB^*TCh$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.5 0.0 0.0

$lab^*tce$  0.5 0.0 0.0

$lab^*ncE$  0.5 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  11.01 0.07 0.01

$LAB^*LABa$  11.01 0.0 0.0

$LAB^*TCh$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*tce$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

relative Inform. Technology (IT)

$olv_i3^*$  1.0 0.5 1.0 (1.0)

$cmyn3^*$  0.0 0.5 0.0 (0.0)

$olv_i4^*$  1.0 0.5 1.0 1.0

$cmyn4^*$  0.0 0.5 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  69.73 53.06 -36.95

$LAB^*LABa$  69.73 53.03 -36.95

$LAB^*TCh$  75.0 64.65 325.12

relative CIELAB lab\*

$lab^*lab$  0.696 0.41 -0.285

$lab^*tch$  0.75 0.5 0.903

$lab^*nch$  0.0 0.5 0.903

relative Natural Colour (NC)

$lab^*lrij$  0.696 0.336 -0.369

$lab^*tce$  0.75 0.2 0.867

$lab^*ncE$  0.0 0.5 b46r

relative Inform. Technology (IT)

$olv_i3^*$  0.5 0.0 0.5 (1.0)

$cmyn3^*$  0.5 0.0 0.5 (0.0)

$olv_i4^*$  1.0 0.0 1.0 0.5

$cmyn4^*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  44.06 106.12 -73.91

$LAB^*LABa$  44.06 106.07 -73.92

$LAB^*TCh$  50.0 129.29 325.12

relative CIELAB lab\*

$lab^*lab$  0.392 0.82 -0.571

$lab^*tch$  0.5 1.0 0.903

$lab^*nch$  0.0 1.0 0.903

relative Natural Colour (NC)

$lab^*lrij$  0.392 0.673 -0.739

$lab^*tce$  0.5 1.0 0.867

$lab^*ncE$  0.0 1.0 b46r

relative Inform. Technology (IT)

$olv_i3^*$  0.0 0.0 0.0 (1.0)

$cmyn3^*$  1.0 1.0 1.0 (0.0)

$olv_i4^*$  1.0 1.0 1.0 0.0

$cmyn4^*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.1 0.02

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TCh$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

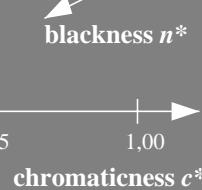
relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*tce$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 0,00$



blackness  $n^*$

$n^* = 0,00$

blackness  $n^*$

$n^* = 0,50$

$n^* = 1,00$

chromaticness  $c^*$

## Output: Colorimetric Reflective System MRS18a

for hue  $h^* = lab^*h = 323/360 = 0.896$

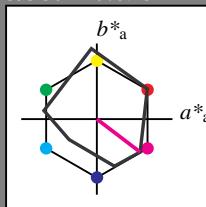
$lab^*tch$  and  $lab^*nch$

D65: hue B50R

LCH\*Ma: 35 72 323

olv\*Ma: 1.0 0.0 1.0

triangle lightness  $t^*$



relative Inform. Technology (IT)

$olv_i3^*$  1.0 1.0 1.0 (1.0)

$cmyn3^*$  0.0 0.0 0.0 (0.0)

$olv_i4^*$  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 0.01 0.0

$LAB^*LABa$  95.41 0.0 0.0

$LAB^*TCh$  99.99 0.01 -

relative CIELAB lab\*

$lab^*lab$  1.0 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  65.17 28.68 -21.78

$LAB^*LABa$  65.17 28.63 -21.79

$LAB^*TCh$  75.0 35.99 322.71

relative CIELAB lab\*

$lab^*lab$  0.609 0.398 -0.302

$lab^*tch$  0.75 0.5 0.896

$lab^*nch$  0.0 0.5 0.896

relative Natural Colour (NC)

$lab^*lrij$  0.609 0.324 -0.38

$lab^*tce$  0.75 0.5 0.862

$lab^*ncE$  0.0 0.5 b44r

$n^* = 0,00$

blackness  $n^*$

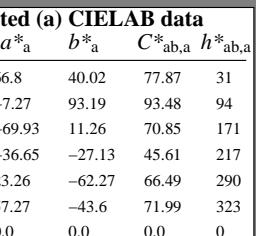
$n^* = 0,50$

$n^* = 1,00$

chromaticness  $c^*$

$n^* = 1,0$

3 step scales for constant CIELAB hue 323/360 = 0.896 (right)



	$L^* = L_a^*$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	49.63	66.8	40.02	77.87	31
JMa	90.7	-7.27	93.19	93.48	94
GMa	52.11	-69.93	11.26	70.85	171
G50BMa	45.03	-36.65	-27.13	45.61	217
BMa	36.65	23.26	-62.27	66.49	290
B50RMa	34.94	57.27	-43.6	71.99	323
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.			

## Input: Colorimetric Reflective System NCS11

for hue  $h^* = lab^*h = 325/360 = 0.903$

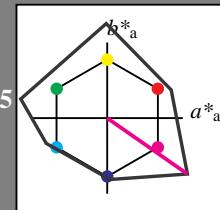
$lab^*tch$  and  $lab^*nch$

D65: hue B50R

LCH\*Ma: 44 129 325

olv\*Ma: 1.0 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

relative Inform. Technology (IT)

$olv_i3^*$  1.0 1.0 1.0 (1.0)

$cmyn3^*$  0.0 0.0 0.0 (0.0)

$olv_i4^*$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  69.73 53.06 -36.95

$LAB^*LABa$  69.73 53.03 -36.95

$LAB^*TChA$  75.0 64.65 325.12

relative CIELAB lab\*

$lab^*lab$  0.696 0.41 -0.285

$lab^*tch$  0.75 0.5 0.903

$lab^*nch$  0.0 0.5 0.903

relative Natural Colour (NC)

$lab^*lrij$  0.696 0.336 -0.369

$lab^*tce$  0.75 0.2 0.867

$lab^*ncE$  0.0 0.5 b46r

relative Inform. Technology (IT)

$olv_i3^*$  0.5 0.5 0.5 (1.0)

$cmyn3^*$  0.5 0.5 0.5 (0.0)

$olv_i4^*$  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

$LAB^*LABa$  53.21 0.0 0.0

$LAB^*TChA$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.5 0.0 0.0

$lab^*tce$  0.5 0.0 0.0

$lab^*ncE$  0.5 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  11.01 0.07 0.01

$LAB^*LABa$  11.01 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*tce$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

%Gamut

$u^*_{rel} = 149$

%Regularity

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

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

relative Inform. Technology (IT)

$olv_i3^*$  1.0 0.5 1.0 (1.0)

$cmyn3^*$  0.0 0.5 0.0 (0.0)

$olv_i4^*$  1.0 0.5 1.0 1.0

$cmyn4^*$  0.0 0.5 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  69.73 53.06 -36.95

$LAB^*LABa$  69.73 53.03 -36.95

$LAB^*TChA$  75.0 64.65 325.12

relative CIELAB lab\*

$lab^*lab$  0.696 0.41 -0.285

$lab^*tch$  0.75 0.5 0.903

$lab^*nch$  0.0 0.5 0.903

relative Natural Colour (NC)

$lab^*lrij$  0.696 0.336 -0.369

$lab^*tce$  0.75 0.2 0.867

$lab^*ncE$  0.0 0.5 b46r

standard and adapted CIELAB

$LAB^*LAB$  44.06 106.12 -73.91

$LAB^*LABa$  44.06 106.07 -73.92

$LAB^*TChA$  50.0 129.29 325.12

relative CIELAB lab\*

$lab^*lab$  0.392 0.82 -0.571

$lab^*tch$  0.5 1.0 0.903

$lab^*nch$  0.0 1.0 0.903

relative Natural Colour (NC)

$lab^*lrij$  0.392 0.673 -0.739

$lab^*tce$  0.5 1.0 0.867

$lab^*ncE$  0.0 1.0 b46r

relative Inform. Technology (IT)

$olv_i3^*$  0.0 0.0 0.0 (1.0)

$cmyn3^*$  1.0 1.0 1.0 (0.0)

$olv_i4^*$  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 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*tce$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.09 0.02

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*tce$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

relative Inform. Technology (IT)

$olv_i3^*$  0.0 0.0 0.0 (1.0)

$cmyn3^*$  1.0 1.0 1.0 (0.0)

$olv_i4^*$  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 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*tce$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

$n^* = 0,00$

blackness  $n^*$

chromaticness  $c^*$

## Output: Colorimetric Reflective System NRS18

for hue  $h^* = lab^*h = 325/360 = 0.903$

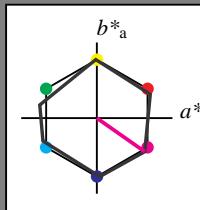
$lab^*tch$  and  $lab^*nch$

D65: hue B50R

LCH\*Ma: 57 77 325

olv\*Ma: 1.0 0.0 1.0

triangle lightness  $t^*$



## NRS18; adapted (a) CIELAB data

	$L^* = L_a^*$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	56.7	70.66	31.47	77.35	24
JMa	56.7	-1.39	77.37	77.39	91
GMa	56.7	-75.46	17.4	77.45	167
G50BMa	56.7	-71.29	-30.25	77.45	203
BMa	56.7	4.0	-77.3	77.41	273
B50RMa	56.7	63.35	-44.4	77.36	325
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	272

relative Inform. Technology (IT)

$olv_i3^*$  1.0 0.5 1.0 (1.0)

$cmyn3^*$  0.0 0.5 0.0 (0.0)

$olv_i4^*$  1.0 0.5 1.0 1.0

$cmyn4^*$  0.0 0.5 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  95.41 0.0 0.0

$LAB^*LABa$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab$

## Input: Colorimetric Reflective System NCS11

for hue  $h^* = lab^*h = 325/360 = 0.903$

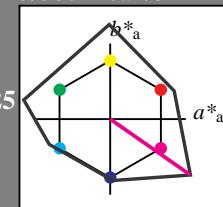
$lab^*tch$  and  $lab^*nch$

D65: hue B50R

LCH\*Ma: 44 129 325

olv\*Ma: 1.0 0.0 1.0

triangle lightness  $t^*$



relative Inform. Technology (IT)

olv*i*3\* 1.0 1.0 1.0 (1.0)

cmy*n*3\* 0.0 0.0 0.0 (0.0)

olv*i*4\* 1.0 1.0 1.0 1.0

cmy*n*4\* 0.0 0.0 0.0 0.0

standard and adapted CIELAB

LAB\*LAB 95.41 0.0 -0.01

LAB\*LAB*a* 95.41 0.0 0.0

LAB\*TCh*a* 99.99 0.01 -

relative CIELAB lab\*

lab\**lab* 1.0 0.0 0.0

lab\**tch* 1.0 0.0 -

lab\**nch* 0.0 0.0 -

relative Natural Colour (NC)

lab\**lrj* 1.0 0.0 0.0

lab\**tce* 1.0 0.0 -

lab\**ncE* 0.0 0.0 -

standard and adapted CIELAB

LAB\*LAB 69.73 53.06 -36.95

LAB\*LAB*a* 69.73 53.03 -36.95

LAB\*TCh*a* 75.0 64.65 325.12

relative CIELAB lab\*

lab\**lab* 0.696 0.41 -0.285

lab\**tch* 0.75 0.5 0.903

lab\**nch* 0.0 0.5 0.903

relative Natural Colour (NC)

lab\**lrj* 0.696 0.336 -0.369

lab\**tce* 0.75 0.2 0.867

lab\**ncE* 0.0 0.5 b46r

relative Inform. Technology (IT)

olv*i*3\* 0.5 0.5 0.5 (1.0)

cmy*n*3\* 0.5 0.5 0.5 (0.0)

olv*i*4\* 1.0 1.0 1.0 0.5

cmy*n*4\* 0.0 0.0 0.5

standard and adapted CIELAB

LAB\*LAB 53.21 0.04 0.0

LAB\*LAB*a* 53.21 0.0 0.0

LAB\*TCh*a* 50.0 0.01 -

relative CIELAB lab\*

lab\**lab* 0.5 0.0 0.0

lab\**tch* 0.5 0.0 -

lab\**nch* 0.5 0.0 -

relative Natural Colour (NC)

lab\**lrj* 0.5 0.0 0.0

lab\**tce* 0.5 0.0 -

lab\**ncE* 0.5 0.0 -

standard and adapted CIELAB

LAB\*LAB 11.01 0.07 0.01

LAB\*LAB*a* 11.01 0.0 0.0

LAB\*TCh*a* 0.01 0.01 -

relative CIELAB lab\*

lab\**lab* 0.0 0.0 0.0

lab\**tch* 0.0 0.0 -

lab\**nch* 1.0 0.0 -

relative Natural Colour (NC)

lab\**lrj* 0.0 0.0 0.0

lab\**tce* 0.0 0.0 -

lab\**ncE* 1.0 0.0 -

$n^* = 1,0$

## NCS11; adapted (a) CIELAB data

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

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 <i>Ma</i>	59.47	-80.6	-33.45	87.28	203
B <i>Ma</i>	49.01	3.65	-81.19	81.28	273
B50R <i>Ma</i>	44.06	106.09	-73.93	129.32	325
N <i>Ma</i>	10.99	0.0	0.0	0.0	0
W <i>Ma</i>	95.41	0.0	0.0	0.0	0
R <i>CIE</i>	39.92	58.69	27.98	65.01	25
J <i>CIE</i>	81.26	-2.9	71.56	71.62	92
G <i>CIE</i>	52.23	-42.45	13.59	44.59	162
B <i>CIE</i>	30.57	1.35	-46.48	46.51	272

%Gamut

$u^*_{rel} = 149$

%Regularity

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

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

relative Inform. Technology (IT)

olv*i*3\* 1.0 0.5 1.0 (1.0)

cmy*n*3\* 0.0 0.5 0.0 (0.0)

olv*i*4\* 1.0 0.5 1.0 1.0

cmy*n*4\* 0.0 0.5 0.0 0.0

standard and adapted CIELAB

LAB\*LAB 69.73 53.06 -36.95

LAB\*LAB*a* 69.73 53.03 -36.95

LAB\*TCh*a* 75.0 64.65 325.12

relative CIELAB lab\*

lab\**lab* 0.696 0.41 -0.285

lab\**tch* 0.75 0.5 0.903

lab\**nch* 0.0 0.5 0.903

relative Natural Colour (NC)

lab\**lrj* 0.696 0.336 -0.369

lab\**tce* 0.75 0.2 0.867

lab\**ncE* 0.0 0.5 b46r

standard and adapted CIELAB

LAB\*LAB 44.06 106.12 -73.91

LAB\*LAB*a* 44.06 106.07 -73.92

LAB\*TCh*a* 50.0 129.29 325.12

relative CIELAB lab\*

lab\**lab* 0.392 0.82 -0.571

lab\**tch* 0.5 1.0 0.903

lab\**nch* 0.0 1.0 0.903

relative Natural Colour (NC)

lab\**lrj* 0.392 0.673 -0.739

lab\**tce* 0.5 1.0 0.867

lab\**ncE* 0.0 1.0 b46r

relative Inform. Technology (IT)

olv*i*3\* 0.5 0.5 0.5 (1.0)

cmy*n*3\* 0.5 0.5 0.5 (0.0)

olv*i*4\* 1.0 0.5 1.0 0.5

cmy*n*4\* 0.0 0.5 0.0 0.5

standard and adapted CIELAB

LAB\*LAB 27.53 53.1 -36.94

LAB\*LAB*a* 27.53 53.03 -36.95

LAB\*TCh*a* 25.01 64.65 325.12

relative CIELAB lab\*

lab\**lab* 0.196 0.41 -0.285

lab\**tch* 0.25 0.5 0.903

lab\**nch* 0.5 0.5 0.903

relative Natural Colour (NC)

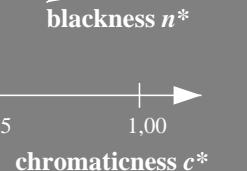
lab\**lrj* 0.196 0.336 -0.369

lab\**tce* 0.25 0.5 0.867

lab\**ncE* 0.5 0.5 b46r

$n^* = 0,00$

blackness  $n^*$



chromaticness  $c^*$



## Output: Colorimetric Reflective System NCS18

for hue  $h^* = lab^*h = 325/360 = 0.903$

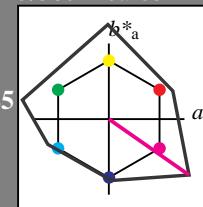
$lab^*tch$  and  $lab^*nch$

D65: hue B50R

LCH\*Ma: 44 129 325

olv\*Ma: 1.0 0.0 1.0

triangle lightness  $t^*$



%Gamut

$u^*_{rel} = 136$

%Regularity

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

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

relative Inform. Technology (IT)

olv*i*3\* 1.0 0.5 1.0 (1.0)

cmy*n*3\* 0.0 0.5 0.0 (0.0)

olv*i*4\* 1.0 0.5 1.0 1.0

cmy*n*4\* 0.0 0.5 0.0 0.0

standard and adapted CIELAB

LAB\*LAB 69.73 53.06 -36.95

LAB\*LAB*a* 69.73 53.03 -36.96

LAB\*TCh*a* 75.0 64.64 325.12

relative CIELAB lab\*

lab\**lab* 0.668 0.41 -0.285

lab\**tch* 0.75 0.5 0.903

lab\**nch* 0.0 0.5 0.903

relative Natural Colour (NC)

lab\**lrj* 0.668 0.336 -0.369

lab\**tce* 0.75 0.5 0.867

lab\**ncE* 0.0 0.5 b46r

relative Inform. Technology (IT)

olv*i*3\* 0.5 0.5 0.5 (1.0)

cmy*n*3\* 0.5 0.5 0.5 (0.0)

olv*i*4\* 1.0 0.5 1.0 0.5

cmy*n*4\* 0.0 0.5 0.0 0.5

standard and adapted CIELAB

LAB\*LAB 44.06 106.12 -73.91

LAB\*LAB*a* 44.06 106.05 -73.93

LAB\*TCh*a* 50.0 129.28 325.12

relative CIELAB lab\*

lab\**lab* 0.337 0.82 -0.571

lab\**tch* 0.5 1.0 0.903

lab\**nch* 0.0 1.0 0.903

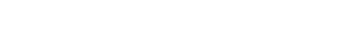
relative Natural Colour (NC)

lab\**lrj* 0.337 0.673 -0.739

lab\**tce* 0.5 1.0 0.867

lab\**ncE* 0.0 1.0 b46r

$n^* = 1,00$



blackness  $n^*$



chromaticness  $c^*$

UE100-7, 3 step scales for constant CIELAB hue 325/360 = 0.903 (left)

3 step scales for constant CIELAB hue 325/360 = 0.903 (right)

$n^* = 0,00$

blackness  $n^*$



chromaticness  $c^*$

$n^* = 1,0$



blackness  $n^*$



chromaticness  $c^*$

## Input: Colorimetric Reflective System NCS11

for hue  $h^* = lab^*h = 325/360 = 0.903$

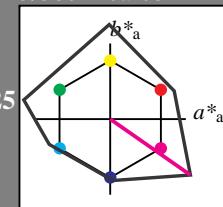
$lab^*tch$  and  $lab^*nch$

D65: hue B50R

LCH\*Ma: 44 129 325

olv\*Ma: 1.0 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

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

$LAB^*LABa$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  69.73 53.06 -36.95

$LAB^*LABa$  69.73 53.03 -36.95

$LAB^*TChA$  75.0 64.65 325.12

relative CIELAB lab\*

$lab^*lab$  0.696 0.41 -0.285

$lab^*tch$  0.75 0.5 0.903

$lab^*nch$  0.0 0.5 0.903

relative Natural Colour (NC)

$lab^*lrij$  0.696 0.336 -0.369

$lab^*tce$  0.75 0.2 0.867

$lab^*ncE$  0.0 0.5 b46r

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 0.5

$cmyn^4*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  53.21 0.04 0.0

$LAB^*LABa$  53.21 0.0 0.0

$LAB^*TChA$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.5 0.0 0.0

$lab^*tce$  0.5 0.0 0.0

$lab^*ncE$  0.5 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  11.01 0.07 0.01

$LAB^*LABa$  11.01 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*tce$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

%Gamut

$u^*_{rel} = 149$

%Regularity

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

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

relative Inform. Technology (IT)

$olv^3*$  1.0 0.5 1.0 (1.0)

$cmyn^3*$  0.0 0.5 0.0 (0.0)

$olv^4*$  1.0 0.5 1.0 1.0

$cmyn^4*$  0.0 0.5 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  69.73 53.06 -36.95

$LAB^*LABa$  69.73 53.03 -36.95

$LAB^*TChA$  75.0 64.65 325.12

relative CIELAB lab\*

$lab^*lab$  0.696 0.41 -0.285

$lab^*tch$  0.75 0.5 0.903

$lab^*nch$  0.0 0.5 0.903

relative Natural Colour (NC)

$lab^*lrij$  0.696 0.336 -0.369

$lab^*tce$  0.75 0.2 0.867

$lab^*ncE$  0.0 0.5 b46r

standard and adapted CIELAB

$LAB^*LAB$  27.53 53.1 -36.94

$LAB^*LABa$  27.53 53.03 -36.95

$LAB^*TChA$  25.01 64.65 325.12

relative CIELAB lab\*

$lab^*lab$  0.196 0.41 -0.285

$lab^*tch$  0.25 0.5 0.903

$lab^*nch$  0.5 0.5 0.903

relative Natural Colour (NC)

$lab^*lrij$  0.196 0.336 -0.369

$lab^*tce$  0.25 0.5 0.867

$lab^*ncE$  0.5 0.5 b46r

relative Inform. Technology (IT)

$olv^3*$  0.0 0.0 0.0 (1.0)

$cmyn^3*$  0.5 1.0 1.0 (0.0)

$olv^4*$  1.0 1.0 1.0 0.0

$cmyn^4*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  11.01 0.07 0.01

$LAB^*LABa$  11.01 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*tce$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  11.01 0.07 0.01

$LAB^*LABa$  11.01 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*tce$  0.0 0.0 -

$lab^*ncE$  1.0 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

$LAB^*LAB$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  69.73 53.06 -36.95

$LAB^*LABa$  69.73 53.03 -36.95

$LAB^*TChA$  75.0 64.65 325.12

relative CIELAB lab\*

$lab^*lab$  0.75 0.5 0.903

$lab^*tch$  0.0 0.5 0.903

$lab^*nch$  0.0 0.5 0.903

relative Natural Colour (NC)

$lab^*lrij$  0.75 0.5 0.903

$lab^*tce$  0.0 0.5 0.867

$lab^*ncE$  0.0 0.5 b46r

relative Inform. Technology (IT)

$olv^3*$  0.0 0.0 0.0 (1.0)

$cmyn^3*$  0.0 0.0 0.0 (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

$LAB^*LABa$  11.01 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*tce$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  69.73 53.06 -36.95

$LAB^*LABa$  69.73 53.03 -36.95

$LAB^*TChA$  75.0 64.65 325.12

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*tce$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 0,00$

blackness  $n^*$

$n^* = 0,50$

$n^* = 1,00$

chromaticness <

## Input: Colorimetric Reflective System NCS11

for hue  $h^* = lab^*h = 325/360 = 0.903$

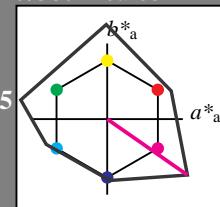
$lab^*tch$  and  $lab^*nch$

D65: hue B50R

LCH\*Ma: 44 129 325

olv\*Ma: 1.0 0.0 1.0

triangle lightness  $t^*$



relative Inform. Technology (IT)

olv13\* 1.0 1.0 1.0 (1.0)

cmyn3\* 0.0 0.0 0.0 (0.0)

olv14\* 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 0.0 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)

olv13\* 0.5 0.5 0.5 (1.0)

cmyn3\* 0.5 0.5 0.5 (0.0)

olv14\* 1.0 1.0 1.0 0.5

cmyn4\* 0.0 0.0 0.5 0.5

standard and adapted CIELAB

LAB\*LAB 53.21 0.04 0.0

LAB\*LABa 53.21 0.0 0.0

LAB\*TChA 50.0 0.01 -

relative CIELAB lab\*

lab\*lab 0.5 0.0 0.0

lab\*tch 0.5 0.0 -

lab\*nch 0.5 0.0 -

relative Natural Colour (NC)

lab\*lrj 0.5 0.0 0.0

lab\*tce 0.5 0.0 0.0

lab\*ncE 0.5 0.0 -

relative Inform. Technology (IT)

olv13\* 0.0 0.0 0.0 (1.0)

cmyn3\* 1.0 1.0 1.0 (0.0)

olv14\* 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 0.0 0.0

LAB\*TChA 0.01 0.01 -

relative CIELAB lab\*

lab\*lab 0.0 0.0 0.0

lab\*tch 0.0 0.0 -

lab\*nch 1.0 0.0 -

relative Natural Colour (NC)

lab\*lrj 0.0 0.0 0.0

lab\*tce 0.0 0.0 0.0

lab\*ncE 1.0 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
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

%Gamut

$u^*_{rel} = 149$

%Regularity

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

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

relative Inform. Technology (IT)

olv13\* 1.0 0.5 1.0 (1.0)

cmyn3\* 0.0 0.5 0.0 (0.0)

olv14\* 1.0 0.5 1.0 1.0

cmyn4\* 0.0 0.5 0.0 0.0

standard and adapted CIELAB

LAB\*LAB 69.73 53.06 -36.95

LAB\*LABa 69.73 53.03 -36.95

LAB\*TChA 75.0 64.65 325.12

relative CIELAB lab\*

lab\*lab 0.696 0.41 -0.285

lab\*tch 0.75 0.5 0.903

lab\*nch 0.0 0.5 0.903

relative Natural Colour (NC)

lab\*lrj 0.696 0.336 -0.369

lab\*tce 0.75 0.5 0.867

lab\*ncE 0.0 0.5 b46r

relative Inform. Technology (IT)

olv13\* 0.5 0.5 0.5 (1.0)

cmyn3\* 0.5 0.5 0.5 (0.0)

olv14\* 1.0 1.0 1.0 0.5

cmyn4\* 0.0 0.0 0.0 0.5

standard and adapted CIELAB

LAB\*LAB 44.06 106.12 -73.91

LAB\*LABa 44.06 106.07 -73.92

LAB\*TChA 50.0 129.29 325.12

relative CIELAB lab\*

lab\*lab 0.392 0.82 -0.571

lab\*tch 0.5 1.0 0.903

lab\*nch 0.0 1.0 0.903

relative Natural Colour (NC)

lab\*lrj 0.392 0.673 -0.739

lab\*tce 0.5 1.0 0.867

lab\*ncE 0.0 1.0 b46r

relative Inform. Technology (IT)

olv13\* 0.0 0.0 0.0 (1.0)

cmyn3\* 1.0 1.0 1.0 (0.0)

olv14\* 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 0.0 0.0

LAB\*TChA 0.01 0.01 -

relative CIELAB lab\*

lab\*lab 0.196 0.41 -0.285

lab\*tch 0.25 0.5 0.903

lab\*nch 0.5 0.5 0.903

relative Natural Colour (NC)

lab\*lrj 0.196 0.336 -0.369

lab\*tce 0.25 0.5 0.867

lab\*ncE 0.5 0.5 b46r

$n^* = 0,00$

blackness  $n^*$

chromaticness  $c^*$

## Output: Colorimetric Reflective System NCS11

for hue  $h^* = lab^*h = 325/360 = 0.903$

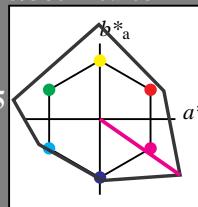
$lab^*tch$  and  $lab^*nch$

D65: hue B50R

LCH\*Ma: 44 129 325

olv\*Ma: 1.0 0.0 1.0

triangle lightness  $t^*$



%Gamut

$u^*_{rel} = 149$

%Regularity

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

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

relative Inform. Technology (IT)

olv13\* 1.0 0.5 1.0 (1.0)

cmyn3\* 0.0 0.5 0.0 (0.0)

olv14\* 1.0 0.5 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 0.0 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)

olv13\* 0.5 0.5 0.5 (1.0)

cmyn3\* 0.5 0.5 0.5 (0.0)

olv14\* 1.0 1.0 1.0 0.5

cmyn4\* 0.0 0.0 0.0 0.5

standard and adapted CIELAB

LAB\*LAB 69.73 53.06 -36.95

LAB\*LABa 69.73 53.03 -36.95

LAB\*TChA 75.0 64.65 325.12

relative CIELAB lab\*

lab\*lab 0.696 0.41 -0.285

lab\*tch 0.75 0.5 0.903

lab\*nch 0.0 0.5 0.903

relative Natural Colour (NC)

lab\*lrj 0.696 0.336 -0.369

lab\*tce 0.75 0.5 0.867

lab\*ncE 0.0 0.5 b46r

$n^* = 1,0$

3 step scales for constant CIELAB hue 325/360 = 0.903 (right)

## 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

relative Inform. Technology (IT)

olv13\* 1.0 0.5 1.0 (1.0)

cmyn3\* 0.0 0.5 0.0 (0.0)

olv14\* 1.0 0.5 1.0 1.0

cmyn4\* 0.0 0.0 0.0 0.0

standard and adapted CIELAB

LAB\*LAB 69.73 53.06 -36.95

LAB\*LABa 69.73 53.03 -36.95

LAB\*TChA 75.0 64.65 325.12

relative CIELAB lab\*

lab\*lab 0.696 0.41 -0.285

lab\*tch 0.75 0.5 0.903

lab\*nch 0.0 0.5 0.903

relative Natural Colour (NC)

lab\*lrj 0.696 0.336 -0.369

## Input: Colorimetric Reflective System ORS18

for hue  $h^* = lab^*h = 25/360 = 0.069$

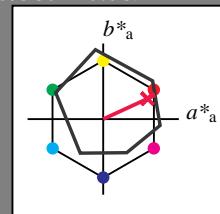
$lab^*tch$  and  $lab^*nch$

D65: hue R

LCH\*Ma: 48 75 25

olv\*Ma: 1.0 0.0 0.32

triangle lightness  $t^*$



## ORS18; adapted (a) CIELAB data

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

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)

$olv_i3^*$  1.0 1.0 1.0 (1.0)

$cmy_n3^*$  0.0 0.0 0.0 (0.0)

$olv_i4^*$  1.0 1.0 1.0 1.0

$cmy_n4^*$  0.0 0.0 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  95.41 -0.97 4.75

$LAB^*LABa$  95.41 0.0 0.0

$LAB^*TCh$  99.99 0.01 -

relative CIELAB lab\*

$lab^*lab$  1.0 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  71.7 33.75 18.92

$LAB^*LABa$  71.7 34.27 15.76

$LAB^*TCh$  75.0 37.72 24.69

relative CIELAB lab\*

$lab^*lab$  0.694 0.454 0.209

$lab^*tch$  0.75 0.5 0.069

$lab^*nch$  0.0 0.5 0.069

relative Natural Colour (NC)

$lab^*lrij$  0.694 0.5 0.0

$lab^*tce$  0.75 0.5 1.0

$lab^*ncE$  0.0 0.5 b99r

relative Inform. Technology (IT)

$olv_i3^*$  0.5 0.5 0.5 (1.0)

$cmy_n3^*$  0.5 0.5 0.5 (0.0)

$olv_i4^*$  1.0 1.0 1.0 0.5

$cmy_n4^*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  56.71 -0.23 2.14

$LAB^*LABa$  56.71 0.0 0.0

$LAB^*TCh$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.5 0.0 0.0

$lab^*tce$  0.5 0.0 0.0

$lab^*ncE$  0.5 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  48.01 68.48 33.09

$LAB^*LABa$  48.01 68.55 31.53

$LAB^*TCh$  50.0 75.45 24.7

relative CIELAB lab\*

$lab^*lab$  0.388 0.908 0.418

$lab^*tch$  0.5 1.0 0.069

$lab^*nch$  0.0 1.0 0.069

relative Natural Colour (NC)

$lab^*lrij$  0.388 1.0 0.0

$lab^*tce$  0.5 1.0 0.0

$lab^*ncE$  0.0 1.0 r00j

$n^* = 1,0$

$n^* = 0,00$

$n^* = 0,50$

$n^* = 1,00$

blackness  $n^*$

chromaticness  $c^*$

## Output: Colorimetric Reflective System ORS18

for hue  $h^* = lab^*h = 25/360 = 0.069$

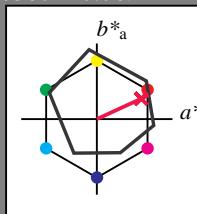
$lab^*tch$  and  $lab^*nch$

D65: hue R

LCH\*Ma: 48 75 25

olv\*Ma: 1.0 0.0 0.32

triangle lightness  $t^*$



## ORS18; adapted (a) CIELAB data

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

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)

$olv_i3^*$  1.0 1.0 1.0 (1.0)

$cmy_n3^*$  0.0 0.0 0.0 (0.0)

$olv_i4^*$  1.0 1.0 1.0 1.0

$cmy_n4^*$  0.0 0.0 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  95.41 -0.97 4.75

$LAB^*LABa$  95.41 0.0 0.0

$LAB^*TCh$  99.99 0.01 -

relative CIELAB lab\*

$lab^*lab$  1.0 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)

$olv_i3^*$  0.5 0.5 0.5 (1.0)

$cmy_n3^*$  0.5 0.5 0.5 (0.0)

$olv_i4^*$  1.0 0.5 0.661 1.0

$cmy_n4^*$  0.0 0.5 0.339 0.0

standard and adapted CIELAB

$LAB^*LAB$  71.7 33.75 18.92

$LAB^*LABa$  71.7 34.27 15.76

$LAB^*TCh$  75.0 37.72 24.69

relative CIELAB lab\*

$lab^*lab$  0.694 0.454 0.209

$lab^*tch$  0.75 0.5 0.069

$lab^*nch$  0.0 0.5 0.069

relative Natural Colour (NC)

$lab^*lrij$  0.694 0.5 0.0

$lab^*tce$  0.75 0.5 1.0

$lab^*ncE$  0.0 0.5 b99r

relative Inform. Technology (IT)

$olv_i3^*$  0.0 0.0 0.0 (1.0)

$cmy_n3^*$  1.0 1.0 1.0 (0.0)

$olv_i4^*$  1.0 1.0 1.0 0.0

$cmy_n4^*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.5 -0.46

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TCh$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*tce$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

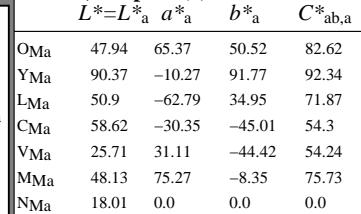
$n^* = 0,00$

$n^* = 0,50$

$n^* = 1,00$

blackness  $n^*$

chromaticness  $c^*$



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

UE100-7, 3 step scales for constant CIELAB hue 25/360 = 0.069 (left)

3 step scales for constant CIELAB hue 25/360 = 0.069 (right)

$n^* = 0,00$        $n^* = 0,50$        $n^* = 1,00$

blackness  $n^*$       chromaticness  $c^*$

## Input: Colorimetric Reflective System ORS18

for hue  $h^* = lab^*h = 25/360 = 0.069$

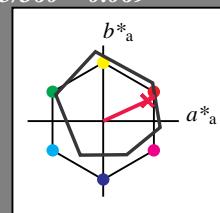
$lab^*tch$  and  $lab^*nch$

D65: hue R

LCH\*Ma: 48 75 25

olv\*Ma: 1.0 0.0 0.32

triangle lightness  $t^*$



## ORS18; adapted (a) CIELAB data

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

$olv^3*$  1.0 1.0 1.0 (1.0)

$cmy^3*$  0.0 0.0 0.0 (0.0)

$olv^4*$  1.0 1.0 1.0 1.0

$cmy^4*$  0.0 0.0 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  95.41 -0.97 4.75

$LAB^*LABa$  95.41 0.0 0.0

$LAB^*TCh$  99.99 0.01 -

relative CIELAB lab\*

$lab^*lab$  1.0 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  1.0 0.0 0.0

$lab^*ice$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  71.7 33.75 18.92

$LAB^*LABa$  71.7 34.27 15.76

$LAB^*TCh$  75.0 37.72 24.69

relative CIELAB lab\*

$lab^*lab$  0.694 0.454 0.209

$lab^*tch$  0.75 0.5 0.069

$lab^*nch$  0.0 0.5 0.069

relative Natural Colour (NC)

$lab^*lrj$  0.694 0.5 0.0

$lab^*ice$  0.75 0.5 1.0

$lab^*ncE$  0.0 0.5 b99r

relative Inform. Technology (IT)

$olv^3*$  0.5 0.5 0.5 (1.0)

$cmy^3*$  0.5 0.5 0.5 (0.0)

$olv^4*$  1.0 1.0 1.0 0.5

$cmy^4*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  56.71 -0.23 2.14

$LAB^*LABa$  56.71 0.0 0.0

$LAB^*TCh$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  0.5 0.0 0.0

$lab^*ice$  0.5 0.0 0.0

$lab^*ncE$  0.5 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  48.01 68.48 33.09

$LAB^*LABa$  48.01 68.55 31.53

$LAB^*TCh$  50.0 75.45 24.7

relative CIELAB lab\*

$lab^*lab$  0.388 0.908 0.418

$lab^*tch$  0.5 1.0 0.069

$lab^*nch$  0.0 1.0 0.069

relative Natural Colour (NC)

$lab^*lrj$  0.388 1.0 0.0

$lab^*ice$  0.5 1.0 0.0

$lab^*ncE$  0.0 1.0 r00j

relative Inform. Technology (IT)

$olv^3*$  0.0 0.0 0.0 (1.0)

$cmy^3*$  1.0 1.0 1.0 (0.0)

$olv^4*$  1.0 1.0 1.0 0.0

$cmy^4*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.5 -0.46

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TCh$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  0.0 0.0 0.0

$lab^*ice$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

$n^* = 0,00$

$n^* = 0,50$

$0,25$

$0,50$

$0,75$

$1,00$

$n^* = 0,50$

$0,25$

## Input: Colorimetric Reflective System ORS18

for hue  $h^* = lab^*h = 25/360 = 0.069$

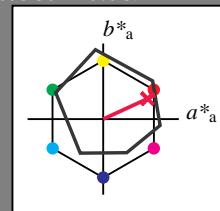
$lab^*tch$  and  $lab^*nch$

D65: hue R

LCH\*Ma: 48 75 25

olv\*Ma: 1.0 0.0 0.32

triangle lightness  $t^*$



## ORS18; adapted (a) CIELAB data

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

$olv_i3^*$  1.0 1.0 1.0 (1.0)

$cmy3^*$  0.0 0.0 0.0 (0.0)

$olv_i4^*$  1.0 1.0 1.0 1.0

$cmy4^*$  0.0 0.0 0.0 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 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  71.7 33.75 18.92

$LAB^*LABa$  71.7 34.27 15.76

$LAB^*TChA$  75.0 37.72 24.69

relative CIELAB lab\*

$lab^*lab$  0.694 0.454 0.209

$lab^*tch$  0.75 0.5 0.069

$lab^*nch$  0.0 0.5 0.069

relative Natural Colour (NC)

$lab^*lrij$  0.694 0.5 0.0

$lab^*tce$  0.75 0.5 1.0

$lab^*ncE$  0.0 0.5 b99r

relative Inform. Technology (IT)

$olv_i3^*$  0.5 0.5 0.5 (1.0)

$cmy3^*$  0.5 0.5 0.5 (0.0)

$olv_i4^*$  1.0 1.0 1.0 0.5

$cmy4^*$  0.0 0.0 0.0 0.5

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 CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.5 0.0 0.0

$lab^*tce$  0.5 0.0 0.0

$lab^*ncE$  0.5 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  48.01 68.48 33.09

$LAB^*LABa$  48.01 68.55 31.53

$LAB^*TChA$  50.0 75.45 24.7

relative CIELAB lab\*

$lab^*lab$  0.388 0.908 0.418

$lab^*tch$  0.5 1.0 0.069

$lab^*nch$  0.0 1.0 0.069

relative Natural Colour (NC)

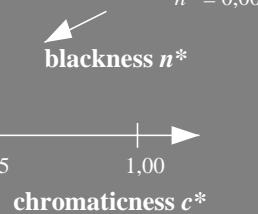
$lab^*lrij$  0.388 1.0 0.0

$lab^*tce$  0.5 1.0 0.0

$lab^*ncE$  0.0 1.0 r00j

$n^* = 1,0$

$n^* = 0,00$



chromaticness  $c^*$

## Output: Colorimetric Reflective System TRS18

for hue  $h^* = lab^*h = 25/360 = 0.069$

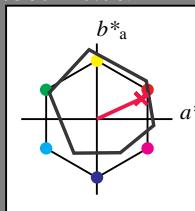
$lab^*tch$  and  $lab^*nch$

D65: hue R

LCH\*Ma: 48 75 25

olv\*Ma: 1.0 0.0 0.32

triangle lightness  $t^*$



## TRS18; adapted (a) CIELAB data

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

$olv_i3^*$  1.0 1.0 1.0 (1.0)

$cmy3^*$  0.0 0.0 0.0 (0.0)

$olv_i4^*$  1.0 1.0 1.0 1.0

$cmy4^*$  0.0 0.0 0.0 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 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)

$olv_i3^*$  0.5 0.5 0.5 (1.0)

$cmy3^*$  0.5 0.5 0.5 (0.0)

$olv_i4^*$  1.0 0.5 0.661 1.0

$cmy4^*$  0.0 0.5 0.339 0.0

standard and adapted CIELAB

$LAB^*LAB$  71.7 33.75 18.92

$LAB^*LABa$  71.7 34.27 15.76

$LAB^*TChA$  75.0 37.72 24.69

relative CIELAB lab\*

$lab^*lab$  0.694 0.454 0.209

$lab^*tch$  0.75 0.5 0.069

$lab^*nch$  0.0 0.5 0.069

relative Natural Colour (NC)

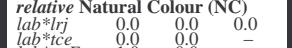
$lab^*lrij$  0.694 0.5 0.0

$lab^*tce$  0.75 0.5 1.0

$lab^*ncE$  0.0 0.5 b99r

$n^* = 1,0$

$n^* = 0,50$



chromaticness  $c^*$

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

$olv_i3^*$  1.0 0.0 0.322 (1.0)

$cmy3^*$  0.0 1.0 0.678 (0.0)

$olv_i4^*$  1.0 0.0 0.323 1.0

$cmy4^*$  0.0 1.0 0.677 0.0

standard and adapted CIELAB

$LAB^*LAB$  48.01 68.48 33.09

$LAB^*LABa$  48.01 68.55 31.53

$LAB^*TChA$  50.0 75.45 24.7

relative CIELAB lab\*

$lab^*lab$  0.694 0.454 0.209

$lab^*tch$  0.75 0.5 0.069

$lab^*nch$  0.0 0.5 0.069

relative Natural Colour (NC)

$lab^*lrij$  0.694 0.5 0.0

$lab^*tce$  0.75 0.5 1.0

$lab^*ncE$  0.0 0.5 r00j

$n^* = 0,00$



chromaticness  $c^*$

UE100-7, 3 step scales for constant CIELAB hue 25/360 = 0.069 (left)

3 step scales for constant CIELAB hue 25/360 = 0.069 (right)

### Input: Colorimetric Reflective System ORS18

for hue  $h^* = lab^*h = 25/360 = 0.069$

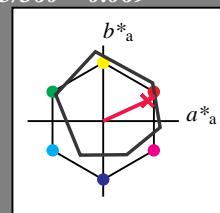
$lab^*tch$  and  $lab^*nch$

D65: hue R

LCH\*Ma: 48 75 25

olv\*Ma: 1.0 0.0 0.32

triangle lightness  $t^*$



### ORS18; adapted (a) CIELAB data

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

$olv_i3^*$  1.0 1.0 1.0 (1.0)

$cmy_n3^*$  0.0 0.0 0.0 (0.0)

$olv_i4^*$  1.0 1.0 1.0 1.0

$cmy_n4^*$  0.0 0.0 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  95.41 -0.97 4.75

$LAB^*LABa$  95.41 0.0 0.0

$LAB^*TCh$  99.99 0.01 -

relative CIELAB lab\*

$lab^*lab$  1.0 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  1.0 0.0 0.0

$lab^*ice$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  71.7 33.75 18.92

$LAB^*LABa$  71.7 34.27 15.76

$LAB^*TCh$  75.0 37.72 24.69

relative CIELAB lab\*

$lab^*lab$  0.694 0.454 0.209

$lab^*tch$  0.75 0.5 0.069

$lab^*nch$  0.0 0.5 0.069

relative Natural Colour (NC)

$lab^*lrj$  0.694 0.5 0.0

$lab^*ice$  0.75 0.5 1.0

$lab^*ncE$  0.0 0.5 b99r

relative Inform. Technology (IT)

$olv_i3^*$  0.5 0.5 0.5 (1.0)

$cmy_n3^*$  0.5 0.5 0.5 (0.0)

$olv_i4^*$  1.0 1.0 1.0 0.5

$cmy_n4^*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  56.71 -0.23 2.14

$LAB^*LABa$  56.71 0.0 0.0

$LAB^*TCh$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  0.5 0.0 0.0

$lab^*ice$  0.5 0.0 0.0

$lab^*ncE$  0.5 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  48.01 68.48 33.09

$LAB^*LABa$  48.01 68.55 31.53

$LAB^*TCh$  50.0 75.45 24.7

relative CIELAB lab\*

$lab^*lab$  0.388 0.908 0.418

$lab^*tch$  0.5 1.0 0.069

$lab^*nch$  0.0 1.0 0.069

relative Natural Colour (NC)

$lab^*lrj$  0.388 1.0 0.0

$lab^*ice$  0.5 1.0 0.0

$lab^*ncE$  0.0 1.0 r00j

$n^* = 1,0$

relative Inform. Technology (IT)

$olv_i3^*$  1.0 0.5 0.611 (1.0)

$cmy_n3^*$  0.0 0.5 0.339 (0.0)

$olv_i4^*$  1.0 0.5 0.661 1.0

$cmy_n4^*$  0.0 0.5 0.339 0.0

standard and adapted CIELAB

$LAB^*LAB$  71.7 33.75 18.92

$LAB^*LABa$  71.7 34.27 15.76

$LAB^*TCh$  75.0 37.72 24.69

relative CIELAB lab\*

$lab^*lab$  0.694 0.454 0.209

$lab^*tch$  0.75 0.5 0.069

$lab^*nch$  0.0 0.5 0.069

relative Natural Colour (NC)

$lab^*lrj$  0.694 0.5 0.0

$lab^*ice$  0.75 0.5 1.0

$lab^*ncE$  0.0 0.5 b99r

relative Inform. Technology (IT)

$olv_i3^*$  0.5 0.0 0.161 (1.0)

$cmy_n3^*$  0.5 1.0 0.839 (0.0)

$olv_i4^*$  1.0 0.5 0.661 0.5

$cmy_n4^*$  0.0 0.5 0.339 0.5

standard and adapted CIELAB

$LAB^*LAB$  33.01 34.49 16.31

$LAB^*LABa$  33.01 34.27 15.77

$LAB^*TCh$  25.01 37.73 24.7

relative CIELAB lab\*

$lab^*lab$  0.194 0.454 0.209

$lab^*tch$  0.25 0.5 0.069

$lab^*nch$  0.5 0.5 0.069

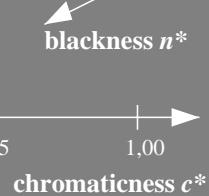
relative Natural Colour (NC)

$lab^*lrj$  0.194 0.5 0.0

$lab^*ice$  0.25 0.5 0.0

$lab^*ncE$  0.5 0.5 r00j

$n^* = 0,00$



### Output: Colorimetric Reflective System MRS18a

for hue  $h^* = lab^*h = 25/360 = 0.071$

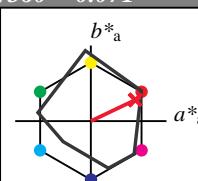
$lab^*tch$  and  $lab^*nch$

D65: hue R

LCH\*Ma: 48 73 25

olv\*Ma: 1.0 0.0 0.1

triangle lightness  $t^*$



### MRS18a; adapted (a) CIELAB data

	$L^*=L_a^*$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	49.63	66.8	40.02	77.87	31
JMa	90.7	-7.27	93.19	93.48	94
GMa	52.11	-69.93	11.26	70.85	171
G50BMa	45.03	-36.65	-27.13	45.61	217
BMa	36.65	23.26	-62.27	66.49	290
B50RMa	34.94	57.27	-43.6	71.99	323
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	272

relative Inform. Technology (IT)

$olv_i3^*$  1.0 0.5 0.552 (1.0)

$cmy_n3^*$  0.0 0.5 0.448 (0.0)

$olv_i4^*$  1.0 0.5 0.552 1.0

$cmy_n4^*$  0.0 0.5 0.448 0.0

standard and adapted CIELAB

$LAB^*LAB$  71.76 32.94 15.69

$LAB^*LABa$  71.76 32.9 15.68

$LAB^*TCh$  75.0 36.45 25.49

relative CIELAB lab\*

$lab^*lab$  0.694 0.451 0.215

$lab^*tch$  0.75 0.5 0.071

$lab^*nch$  0.0 0.5 0.071

relative Natural Colour (NC)

$lab^*lrj$  0.694 0.5 0.0

$lab^*ice$  0.75 0.5 1.0

$lab^*ncE$  0.0 0.5 b99r

relative Inform. Technology (IT)

$olv_i3^*$  0.0 0.0 0.052 (1.0)

$cmy_n3^*$  0.5 1.0 1.0 (0.0)

$olv_i4^*$  1.0 0.5 0.552 0.5

$cmy_n4^*$  0.0 0.5 0.448 0.5

standard and adapted CIELAB

$LAB^*LAB$  33.07 32.98 15.72

$LAB^*LABa$  33.07 32.9 15.69

$LAB^*TCh$  25.01 36.45 25.5

relative CIELAB lab\*

$lab^*lab$  0.195 0.451 0.215

$lab^*tch$  0.25 0.5 0.071

$lab^*nch$  0.5 0.5 0.071

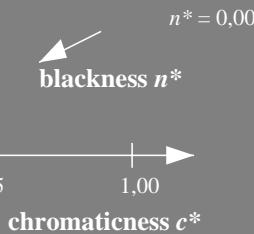
relative Natural Colour (NC)

$lab^*lrj$  0.195 0.5 0.0

$lab^*ice$  0.25 0.5 0.0

$lab^*ncE$  0.5 0.5 r00j

$n^* = 1,0$



3 step scales for constant CIELAB hue 25/360 = 0.071 (right)

UE100-7, 3 step scales for constant CIELAB hue 25/360 = 0.069 (left)

## Input: Colorimetric Reflective System ORS18

for hue  $h^* = lab^*h = 25/360 = 0.069$

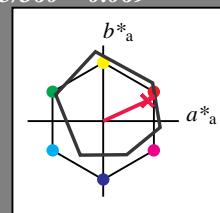
$lab^*tch$  and  $lab^*nch$

D65: hue R

LCH\*Ma: 48 75 25

olv\*Ma: 1.0 0.0 0.32

triangle lightness  $t^*$



## ORS18; adapted (a) CIELAB data

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

$olv_i3^*$  1.0 1.0 1.0 (1.0)

$cmy3^*$  0.0 0.0 0.0 (0.0)

$olv_i4^*$  1.0 1.0 1.0 1.0

$cmy4^*$  0.0 0.0 0.0 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 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  71.75 33.75 18.92

$LAB^*LABa$  71.75 34.27 15.76

$LAB^*TChA$  75.0 37.72 24.69

relative CIELAB lab\*

$lab^*lab$  0.694 0.454 0.209

$lab^*tch$  0.75 0.5 0.069

$lab^*nch$  0.0 0.5 0.069

relative Natural Colour (NC)

$lab^*lrij$  0.694 0.5 0.0

$lab^*tce$  0.75 0.5 1.0

$lab^*ncE$  0.0 0.5 b99r

relative Inform. Technology (IT)

$olv_i3^*$  0.5 0.5 0.5 (1.0)

$cmy3^*$  0.5 0.5 0.5 (0.0)

$olv_i4^*$  1.0 1.0 1.0 0.5

$cmy4^*$  0.0 0.0 0.0 0.5

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 CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.5 0.0 0.0

$lab^*tce$  0.5 0.0 0.0

$lab^*ncE$  0.5 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.5 -0.46

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*tce$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

relative Inform. Technology (IT)

$olv_i3^*$  1.0 1.0 1.0 (1.0)

$cmy3^*$  0.0 0.0 0.0 (0.0)

$olv_i4^*$  1.0 1.0 1.0 1.0

$cmy4^*$  0.0 0.0 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  33.01 34.49 16.31

$LAB^*LABa$  33.01 34.27 15.77

$LAB^*TChA$  25.01 37.73 24.7

relative CIELAB lab\*

$lab^*lab$  0.194 0.454 0.209

$lab^*tch$  0.25 0.5 0.069

$lab^*nch$  0.5 0.5 0.069

relative Natural Colour (NC)

$lab^*lrij$  0.194 0.5 0.0

$lab^*tce$  0.25 0.5 0.0

$lab^*ncE$  0.5 0.5 r00j

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.5 -0.46

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*tce$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

relative Inform. Technology (IT)

$olv_i3^*$  1.0 1.0 1.0 (1.0)

$cmy3^*$  0.0 0.0 0.0 (0.0)

$olv_i4^*$  1.0 1.0 1.0 1.0

$cmy4^*$  0.0 0.0 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  71.75 33.75 18.92

$LAB^*LABa$  71.75 34.27 15.76

$LAB^*TChA$  75.0 37.72 24.69

relative CIELAB lab\*

$lab^*lab$  0.694 0.454 0.209

$lab^*tch$  0.75 0.5 0.069

$lab^*nch$  0.0 0.5 0.069

relative Natural Colour (NC)

$lab^*lrij$  0.694 0.5 0.0

$lab^*tce$  0.75 0.5 1.0

$lab^*ncE$  0.0 0.5 b99r

standard and adapted CIELAB

$LAB^*LAB$  76.05 34.36 16.37

$LAB^*LABa$  76.05 34.33 16.36

$LAB^*TChA$  75.0 38.03 25.49

relative CIELAB lab\*

$lab^*lab$  0.75 0.451 0.215

$lab^*tch$  0.75 0.5 0.071

$lab^*nch$  0.0 0.5 0.071

relative Natural Colour (NC)

$lab^*lrij$  0.75 0.5 0.0

$lab^*tce$  0.75 0.5 0.0

$lab^*ncE$  0.0 0.5 r00j

$n^* = 0,00$

blackness  $n^*$

chromaticness  $c^*$

## Output: Colorimetric Reflective System NRS18

for hue  $h^* = lab^*h = 25/360 = 0.071$

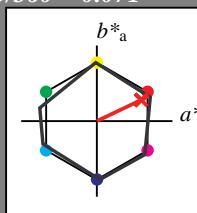
$lab^*tch$  and  $lab^*nch$

D65: hue R

LCH\*Ma: 57 76 25

olv\*Ma: 1.0 0.0 0.32

triangle lightness  $t^*$



## NRS18; adapted (a) CIELAB data

	$L^*=L_a^*$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	56.7	70.66	31.47	77.35	24
JMa	56.7	-1.39	77.37	77.39	91
GMa	56.7	-75.46	17.4	77.45	167
G50BMa	56.7	-71.29	-30.25	77.45	203
BMa	56.7	4.0	-77.3	77.41	273
B50RMa	56.7	63.35	-44.4	77.36	325
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	272

%Gamut

$u^*_{rel} = 93$

%Regularity

$g^*_{H,rel} = 57$

$g^*_{C,rel} = 59$

relative Inform. Technology (IT)

$olv_i3^*$  1.0 1.0 1.0 (1.0)

$cmy3^*$  0.0 0.0 0.0 (0.0)

$olv_i4^*$  1.0 1.0 1.0 1.0

$cmy4^*$  0.0 0.0 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  95.41 0.0 0.0

$LAB^*LABa$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)

$olv_i3^*$  0.5 0.5 0.5 (1.0)

$cmy3^*$  0.5 0.5 0.5 (0.0)

$olv_i4^*$  1.0 1.0 1.0 0.5

$cmy4^*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  76.05 34.36 16.37

$LAB^*LABa$  76.05 34.33 16.36

$LAB^*TChA$  75.0 38.03 25.49

relative CIELAB lab\*

$lab^*lab$  0.75 0.451 0.215

$lab^*tch$  0.75 0.5 0.071

$lab^*nch$  0.0 0.5 0.071

relative Natural Colour (NC)</p

## Input: Colorimetric Reflective System ORS18

for hue  $h^* = lab^*h = 25/360 = 0.069$

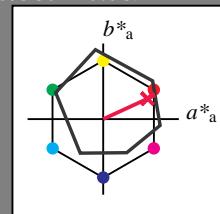
$lab^*tch$  and  $lab^*nch$

D65: hue R

LCH\*Ma: 48 75 25

olv\*Ma: 1.0 0.0 0.32

triangle lightness  $t^*$



## ORS18; adapted (a) CIELAB data

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

$olv_i3^*$  1.0 1.0 1.0 (1.0)

$cmy3^*$  0.0 0.0 0.0 (0.0)

$olv_i4^*$  1.0 1.0 1.0 1.0

$cmy4^*$  0.0 0.0 0.0 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 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  1.0 0.0 0.0

$lab^*ice$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  71.75 33.75 18.92

$LAB^*LABa$  71.75 34.27 15.76

$LAB^*TChA$  75.0 37.72 24.69

relative CIELAB lab\*

$lab^*lab$  0.694 0.454 0.209

$lab^*tch$  0.75 0.5 0.069

$lab^*nch$  0.0 0.5 0.069

relative Natural Colour (NC)

$lab^*lrj$  0.694 0.5 0.0

$lab^*ice$  0.75 0.5 1.0

$lab^*ncE$  0.0 0.5 b99r

relative Inform. Technology (IT)

$olv_i3^*$  0.5 0.5 0.5 (1.0)

$cmy3^*$  0.5 0.5 0.5 (0.0)

$olv_i4^*$  1.0 1.0 1.0 0.5

$cmy4^*$  0.0 0.0 0.0 0.5

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 CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  0.5 0.0 0.0

$lab^*ice$  0.5 0.0 0.0

$lab^*ncE$  0.5 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  48.01 68.48 33.09

$LAB^*LABa$  48.01 68.55 31.53

$LAB^*TChA$  50.0 75.45 24.7

relative CIELAB lab\*

$lab^*lab$  0.194 0.454 0.209

$lab^*tch$  0.25 0.5 0.069

$lab^*nch$  0.5 0.5 0.069

relative Natural Colour (NC)

$lab^*lrj$  0.194 0.5 0.0

$lab^*ice$  0.25 0.5 0.0

$lab^*ncE$  0.5 0.5 r00j

$n^* = 1,0$

relative Inform. Technology (IT)

$olv_i3^*$  1.0 1.0 1.0 (0.0)

$cmy3^*$  0.5 1.0 0.839 (0.0)

$olv_i4^*$  1.0 0.5 0.661 0.5

$cmy4^*$  0.0 0.5 0.339 0.5

standard and adapted CIELAB

$LAB^*LAB$  33.01 34.49 16.31

$LAB^*LABa$  33.01 34.27 15.77

$LAB^*TChA$  25.01 37.73 24.7

relative CIELAB lab\*

$lab^*lab$  0.194 0.454 0.209

$lab^*tch$  0.25 0.5 0.069

$lab^*nch$  0.5 0.5 0.069

relative Natural Colour (NC)

$lab^*lrj$  0.194 0.5 0.0

$lab^*ice$  0.25 0.5 0.0

$lab^*ncE$  0.5 0.5 r00j

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.05 -0.46

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

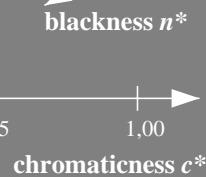
relative Natural Colour (NC)

$lab^*lrj$  0.0 0.0 0.0

$lab^*ice$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 0,00$



## Output: Colorimetric Reflective System NCS18

for hue  $h^* = lab^*h = 25/360 = 0.071$

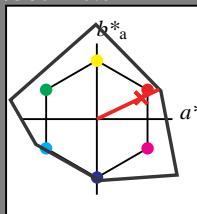
$lab^*tch$  and  $lab^*nch$

D65: hue R

LCH\*Ma: 48 91 25

olv\*Ma: 1.0 0.0 0.0

triangle lightness  $t^*$



## NCS18; adapted (a) CIELAB data

	$L^*=L_a^*$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	47.15	84.63	37.24	92.46	24
JMa	91.37	-1.27	125.03	125.03	91
GMa	63.07	-114.29	25.34	117.07	167
G50BMa	59.47	-80.61	-33.45	87.29	203
BMa	49.01	3.63	-81.2	81.29	273
B50RMa	44.06	106.07	-73.94	129.31	325
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	272

relative Inform. Technology (IT)

$olv_i3^*$  1.0 1.0 1.0 (1.0)

$cmy3^*$  0.0 0.0 0.0 (0.0)

$olv_i4^*$  1.0 1.0 1.0 1.0

$cmy4^*$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  1.0 0.0 0.0

$lab^*ice$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)

$olv_i3^*$  0.5 0.5 0.5 (1.0)

$cmy3^*$  0.5 0.5 0.5 (0.0)

$olv_i4^*$  1.0 0.512 0.5 1.0

$cmy4^*$  0.0 0.488 0.5 0.0

standard and adapted CIELAB

$LAB^*LAB$  71.81 41.31 19.68

$LAB^*LABa$  71.81 41.27 19.68

$LAB^*TChA$  75.0 45.72 25.49

relative CIELAB lab\*

$lab^*lab$  0.695 0.451 0.215

$lab^*tch$  0.75 0.5 0.071

$lab^*nch$  0.0 0.5 0.071

relative Natural Colour (NC)

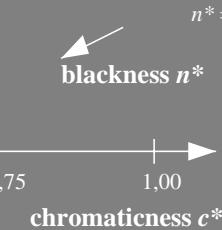
$lab^*lrj$  0.695 0.5 0.0

$lab^*ice$  0.75 0.5 0.0

$lab^*ncE$  0.0 0.5 r00j

$n^* = 1,0$

3 step scales for constant CIELAB hue 25/360 = 0.071 (right)



	$L^*=L_a^*$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	47.15	84.63	37.24	92.46	24
JMa	91.37	-1.27	125.03	125.03	91
GMa	63.07	-114.29	25.34	117.07	167
G50BMa	59.47	-80.61	-33.45	87.29	203
BMa	49.01	3.63	-81.2	81.29	273
B50RMa	44.06	106.07	-73.94	129.31	325
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	272

$n^* = 0,00$

$n^* = 0,50$

$n^* = 1,00$

$n^* = 1,0$

UE100-7, 3 step scales for constant CIELAB hue 25/360 = 0.069 (left)

## Input: Colorimetric Reflective System ORS18

for hue  $h^* = lab^*h = 25/360 = 0.069$

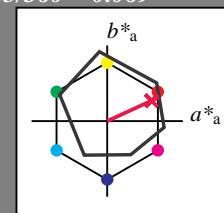
$lab^*tch$  and  $lab^*nch$

D65: hue R

LCH\*Ma: 48 75 25

olv\*Ma: 1.0 0.0 0.32

triangle lightness  $t^*$



## ORS18; adapted (a) CIELAB data

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

$olv_i3^*$  1.0 1.0 1.0 (1.0)

$cmy_n3^*$  0.0 0.0 0.0 (0.0)

$olv_i4^*$  1.0 1.0 1.0 1.0

$cmy_n4^*$  0.0 0.0 0.0 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 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*ice$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  71.7 33.75 18.92

$LAB^*LABa$  71.7 34.27 15.76

$LAB^*TChA$  75.0 37.72 24.69

relative CIELAB lab\*

$lab^*lab$  0.694 0.454 0.209

$lab^*tch$  0.75 0.5 0.069

$lab^*nch$  0.0 0.5 0.069

relative Natural Colour (NC)

$lab^*lrij$  0.694 0.5 0.0

$lab^*ice$  0.75 0.5 1.0

$lab^*ncE$  0.0 0.5 b99r

relative Inform. Technology (IT)

$olv_i3^*$  0.5 0.5 0.5 (1.0)

$cmy_n3^*$  0.5 0.5 0.5 (0.0)

$olv_i4^*$  1.0 1.0 1.0 0.5

$cmy_n4^*$  0.0 0.0 0.0 0.5

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 CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.5 0.0 0.0

$lab^*ice$  0.5 0.0 0.0

$lab^*ncE$  0.5 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  48.01 68.48 33.09

$LAB^*LABa$  48.01 68.55 31.53

$LAB^*TChA$  50.0 75.45 24.7

relative CIELAB lab\*

$lab^*lab$  0.388 0.908 0.418

$lab^*tch$  0.5 1.0 0.069

$lab^*nch$  0.0 1.0 0.069

relative Natural Colour (NC)

$lab^*lrij$  0.388 1.0 0.0

$lab^*ice$  0.5 1.0 0.0

$lab^*ncE$  0.0 1.0 r00j

$n^* = 1,0$

relative Inform. Technology (IT)

$olv_i3^*$  0.5 0.0 0.161 (1.0)

$cmy_n3^*$  0.5 1.0 0.839 (0.0)

$olv_i4^*$  1.0 0.5 0.661 0.5

$cmy_n4^*$  0.0 0.5 0.339 0.5

standard and adapted CIELAB

$LAB^*LAB$  33.01 34.49 16.31

$LAB^*LABa$  33.01 34.27 15.77

$LAB^*TChA$  25.01 37.73 24.7

relative CIELAB lab\*

$lab^*lab$  0.194 0.454 0.209

$lab^*tch$  0.25 0.5 0.069

$lab^*nch$  0.5 0.5 0.069

relative Natural Colour (NC)

$lab^*lrij$  0.194 0.5 0.0

$lab^*ice$  0.25 0.5 0.0

$lab^*ncE$  0.5 0.5 r00j

standard and adapted CIELAB

$LAB^*LAB$  11.01 0.07 0.01

$LAB^*LABa$  11.01 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*ice$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 0,00$

$n^* = 0,50$

$n^* = 1,00$

chromaticness  $c^*$

## Output: Colorimetric Reflective System NRS11

for hue  $h^* = lab^*h = 25/360 = 0.071$

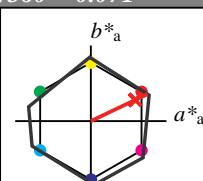
$lab^*tch$  and  $lab^*nch$

D65: hue R

LCH\*Ma: 53 83 25

olv\*Ma: 1.0 0.0 0.32

triangle lightness  $t^*$



## NRS11; adapted (a) CIELAB data

	$L^*=L_a^*$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	53.2	77.06	34.32	84.36	24
JMa	53.2	-1.51	84.38	84.39	91
GMa	53.2	-82.27	18.98	84.44	167
G50BMa	53.2	-77.72	-32.98	84.44	203
BMa	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)

$olv_i3^*$  1.0 1.0 1.0 (1.0)

$cmy_n3^*$  0.0 0.0 0.0 (0.0)

$olv_i4^*$  1.0 1.0 1.0 1.0

$cmy_n4^*$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*ice$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  74.3 37.46 17.85

$LAB^*LABa$  74.3 37.44 17.85

$LAB^*TChA$  75.0 41.47 25.49

relative CIELAB lab\*

$lab^*lab$  0.75 0.451 0.215

$lab^*tch$  0.75 0.5 0.071

$lab^*nch$  0.0 0.5 0.071

relative Natural Colour (NC)

$lab^*lrij$  0.75 0.5 0.0

$lab^*ice$  0.75 0.5 0.0

$lab^*ncE$  0.0 0.5 0.00j

relative Inform. Technology (IT)

$olv_i3^*$  0.5 0.014 0.0 (1.0)

$cmy_n3^*$  0.5 1.0 0.986 1.0 (0.0)

$olv_i4^*$  1.0 0.514 0.5 0.5

$cmy_n4^*$  0.0 0.486 0.5 0.5

standard and adapted CIELAB

$LAB^*LAB$  32.1 37.51 17.86

$LAB^*LABa$  32.1 37.45 17.84

$LAB^*TChA$  25.01 41.48 25.48

relative CIELAB lab\*

$lab^*lab$  0.25 0.451 0.215

$lab^*tch$  0.25 0.5 0.071

$lab^*nch$  0.0 0.5 0.071

relative Natural Colour (NC)

$lab^*lrij$  0.25 0.5 0.0

$lab^*ice$  0.25 0.5 1.0

$lab^*ncE$  0.5 0.5 b99r

$n^* = 1,0$

$n^* = 0,50$

$n^* = 0,00$

$n^* = 1,0$

$n^* = 0,50$

$n^* = 0,00$

UE100-7, 3 step scales for constant CIELAB hue 25/360 = 0.069 (left)

3 step scales for constant CIELAB hue 25/360 = 0.071 (right)

## Input: Colorimetric Reflective System ORS18

for hue  $h^* = lab^*h = 25/360 = 0.069$

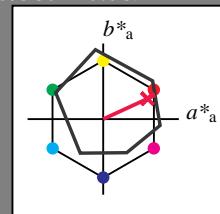
$lab^*tch$  and  $lab^*nch$

D65: hue R

LCH\*Ma: 48 75 25

olv\*Ma: 1.0 0.0 0.32

triangle lightness  $t^*$



## ORS18; adapted (a) CIELAB data

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

$olv^3*$  1.0 1.0 1.0 (1.0)

$cmy^3*$  0.0 0.0 0.0 (0.0)

$olv^4*$  1.0 1.0 1.0 1.0

$cmy^4*$  0.0 0.0 0.0 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 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  1.0 0.0 0.0

$lab^*ice$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  71.7 33.75 18.92

$LAB^*LABa$  71.7 34.27 15.76

$LAB^*TChA$  75.0 37.72 24.69

relative CIELAB lab\*

$lab^*lab$  0.694 0.454 0.209

$lab^*tch$  0.75 0.5 0.069

$lab^*nch$  0.0 0.5 0.069

relative Natural Colour (NC)

$lab^*lrj$  0.694 0.5 0.0

$lab^*ice$  0.75 0.5 1.0

$lab^*ncE$  0.0 0.5 b99r

relative Inform. Technology (IT)

$olv^3*$  0.5 0.5 0.5 (1.0)

$cmy^3*$  0.5 0.5 0.5 (0.0)

$olv^4*$  1.0 1.0 1.0 0.5

$cmy^4*$  0.0 0.0 0.0 0.5

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 CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  0.5 0.0 0.0

$lab^*ice$  0.5 0.0 0.0

$lab^*ncE$  0.5 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  48.01 68.48 33.09

$LAB^*LABa$  48.01 68.55 31.53

$LAB^*TChA$  50.0 75.45 24.7

relative CIELAB lab\*

$lab^*lab$  0.388 0.908 0.418

$lab^*tch$  0.5 1.0 0.069

$lab^*nch$  0.0 1.0 0.069

relative Natural Colour (NC)

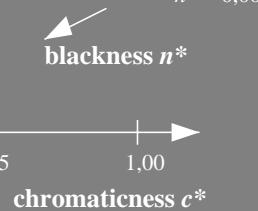
$lab^*lrj$  0.388 1.0 0.0

$lab^*ice$  0.5 1.0 0.0

$lab^*ncE$  0.0 1.0 r00j

$n^* = 1,0$

$n^* = 0,00$



$n^* = 0,50$

chromaticness  $c^*$

$n^* = 1,00$

## Output: Colorimetric Reflective System NCS11

for hue  $h^* = lab^*h = 25/360 = 0.071$

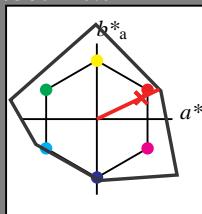
$lab^*tch$  and  $lab^*nch$

D65: hue R

LCH\*Ma: 48 91 25

olv\*Ma: 1.0 0.0 0.0

triangle lightness  $t^*$



## NCS11; adapted (a) CIELAB data

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

%Gamut

$u^*_{rel} = 93$

%Regularity

$g^*_{H,rel} = 57$

$g^*_{C,rel} = 59$

relative Inform. Technology (IT)

$olv^3*$  1.0 1.0 1.0 (1.0)

$cmy^3*$  0.0 0.0 0.0 (0.0)

$olv^4*$  1.0 1.0 1.0 1.0

$cmy^4*$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  1.0 0.0 0.0

$lab^*ice$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  71.75 33.75 18.92

$LAB^*LABa$  71.75 34.27 15.76

$LAB^*TChA$  75.0 37.72 24.69

relative CIELAB lab\*

$lab^*lab$  0.694 0.454 0.209

$lab^*tch$  0.75 0.5 0.069

$lab^*nch$  0.0 0.5 0.069

relative Natural Colour (NC)

$lab^*lrj$  0.694 0.5 0.0

$lab^*ice$  0.75 0.5 1.0

$lab^*ncE$  0.0 0.5 b99r

$n^* = 1,00$

blackness  $n^*$

$n^* = 0,50$

chromaticness  $c^*$

$n^* = 0,00$

$n^* = 1,00$

blackness  $n^*$

$n^* = 0,50$

chromaticness  $c^*$

$n^* = 0,00$

UE100-7, 3 step scales for constant CIELAB hue 25/360 = 0.069 (left)

3 step scales for constant CIELAB hue 25/360 = 0.071 (right)

## Input: Colorimetric Reflective System MRS18

for hue  $h^* = lab^*h = 25/360 = 0.069$

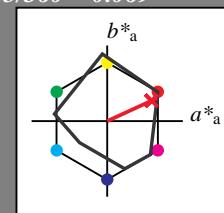
$lab^*tch$  and  $lab^*nch$

D65: hue R

LCH\*Ma: 48 73 25

olv\*Ma: 1.0 0.0 0.1

triangle lightness  $t^*$



%Gamut

$u^*_{rel} = 91$

%Regularity

$g^*_{H,rel} = 41$

$g^*_{C,rel} = 52$

relative Inform. Technology (IT)

$olv^3*$  1.0 1.0 1.0 (1.0)

$cmy^3*$  0.0 0.0 0.0 (0.0)

$olv^4*$  1.0 1.0 1.0 1.0

$cmy^4*$  0.0 0.0 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  95.41 -0.97 4.75

$LAB^*LABa$  95.41 0.0 0.0

$LAB^*TCh$  99.99 0.01 -

relative CIELAB lab\*

$lab^*lab$  1.0 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  1.0 0.0 0.0

$lab^*ice$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)

$olv^3*$  0.5 0.5 0.5 (1.0)

$cmy^3*$  0.5 0.5 0.5 (0.0)

$olv^4*$  1.0 1.0 1.0 0.5

$cmy^4*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  56.71 -0.23 2.14

$LAB^*LABa$  56.71 0.0 0.0

$LAB^*TCh$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  0.5 0.0 0.0

$lab^*ice$  0.5 0.0 0.0

$lab^*ncE$  0.5 0.0 -

relative Inform. Technology (IT)

$olv^3*$  0.0 0.0 0.0 (1.0)

$cmy^3*$  1.0 1.0 1.0 (0.0)

$olv^4*$  1.0 1.0 1.0 0.0

$cmy^4*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.5 -0.46

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TCh$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  0.0 0.0 0.0

$lab^*ice$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

## MRS18; adapted (a) CIELAB data

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

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

## Output: Colorimetric Reflective System ORS18

for hue  $h^* = lab^*h = 25/360 = 0.069$

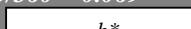
$lab^*tch$  and  $lab^*nch$

D65: hue R

LCH\*Ma: 48 75 25

olv\*Ma: 1.0 0.0 0.1

triangle lightness  $t^*$



%Gamut

$u^*_{rel} = 93$

%Regularity

$g^*_{H,rel} = 57$

$g^*_{C,rel} = 59$

relative Inform. Technology (IT)

$olv^3*$  1.0 1.0 1.0 (1.0)

$cmy^3*$  0.0 0.0 0.0 (0.0)

$olv^4*$  1.0 1.0 1.0 1.0

$cmy^4*$  0.0 0.0 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  95.41 -0.97 4.75

$LAB^*LABa$  95.41 0.0 0.0

$LAB^*TCh$  99.99 0.01 -

relative CIELAB lab\*

$lab^*lab$  1.0 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  1.0 0.0 0.0

$lab^*ice$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)

$olv^3*$  0.5 0.5 0.5 (1.0)

$cmy^3*$  0.5 0.5 0.5 (0.0)

$olv^4*$  1.0 1.0 1.0 0.5

$cmy^4*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  71.8 32.47 18.34

$LAB^*LABa$  71.8 33.0 15.17

$LAB^*TCh$  75.0 36.32 24.7

relative CIELAB lab\*

$lab^*lab$  0.695 0.454 0.209

$lab^*tch$  0.75 0.5 0.069

$lab^*nch$  0.0 0.5 0.069

relative Natural Colour (NC)

$lab^*lrj$  0.695 0.5 0.0

$lab^*ice$  0.75 0.5 1.0

$lab^*ncE$  0.0 0.5 b99r

relative Inform. Technology (IT)

$olv^3*$  0.5 0.0 0.0 (1.0)

$cmy^3*$  0.5 1.0 1.0 (0.0)

$olv^4*$  1.0 1.0 1.0 0.0

$cmy^4*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  56.71 -0.23 2.14

$LAB^*LABa$  56.71 0.0 0.0

$LAB^*TCh$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.39 0.908 0.418

$lab^*tch$  0.5 1.0 0.069

$lab^*nch$  0.0 1.0 0.069

relative Natural Colour (NC)

$lab^*lrj$  0.39 1.0 0.0

$lab^*ice$  0.5 1.0 0.0

$lab^*ncE$  0.0 1.0 r00j

$n^* = 0,00$

blackness  $n^*$

chromaticness  $c^*$

$n^* = 1,0$

blackness  $n^*$

chromaticness  $c^*$

## ORS18; adapted (a) CIELAB data

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

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

%Gamut

$u^*_{rel} = 93$

%Regularity

$g^*_{H,rel} = 57$

$g^*_{C,rel} = 59$

relative Inform. Technology (IT)

$olv^3*$  1.0 1.0 1.0 (1.0)

$cmy^3*$  0.0 0.5 0.339 (0.0)

$olv^4*$  1.0 0.5 0.661 1.0

$cmy^4*$  0.0 0.5 0.339 0.0

standard and adapted CIELAB

$LAB^*LAB$  71.7 33.75 18.92

$LAB^*LABa$  71.7 34.27 15.76

$LAB^*TCh$  75.0 37.72 24.69

relative CIELAB lab\*

$lab^*lab$  0.694 0.454 0.209

$lab^*tch$  0.75 0.5 0.069

$lab^*nch$  0.0 0.5 0.069

relative Natural Colour (NC)

$lab^*lrj$  0.694 0.5 0.0

$lab^*ice$  0.75 0.5 1.0

$lab^*ncE$  0.0 0.5 b99r

$n^* = 0,00$

blackness  $n^*$

chromaticness  $c^*$

$n^* = 1,0$

blackness  $n^*$

chromaticness  $c^*$

UE100-7, 3 step scales for constant CIELAB hue 25/360 = 0.069 (left)

3 step scales for constant CIELAB hue 25/360 = 0.069 (right)

## Input: Colorimetric Reflective System MRS18

for hue  $h^* = lab^*h = 25/360 = 0.069$

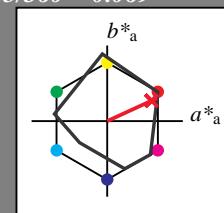
$lab^*tch$  and  $lab^*nch$

D65: hue R

LCH\*Ma: 48 73 25

olv\*Ma: 1.0 0.0 0.1

triangle lightness  $t^*$



relative Inform. Technology (IT)  
 $olv_i3^*$  1.0 1.0 1.0 (1.0)  
 $cmy_n3^*$  0.0 0.0 0.0 (0.0)

$olv_i4^*$  1.0 1.0 1.0 1.0  
 $cmy_n4^*$  0.0 0.0 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  95.41 -0.97 4.75

$LAB^*LABa$  95.41 0.0 0.0

$LAB^*TCh_a$  99.99 0.01 -

relative CIELAB lab\*

$lab^*lab$  1.0 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  1.0 0.0 0.0

$lab^*ice$  1.0 0.0 -

$lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)  
 $olv_i3^*$  0.5 0.5 0.5 (1.0)  
 $cmy_n3^*$  0.5 0.5 0.5 (0.0)

$olv_i4^*$  1.0 1.0 1.0 0.5

$cmy_n4^*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  56.71 -0.23 2.14

$LAB^*LABa$  56.71 0.0 0.0

$LAB^*TCh_a$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  0.5 0.0 0.0

$lab^*ice$  0.5 0.0 -

$lab^*ncE$  0.5 0.0 -

relative Inform. Technology (IT)  
 $olv_i3^*$  0.0 0.0 0.0 (1.0)  
 $cmy_n3^*$  1.0 1.0 1.0 (0.0)

$olv_i4^*$  1.0 1.0 1.0 0.0

$cmy_n4^*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.5 -0.46

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TCh_a$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  0.0 0.0 0.0

$lab^*ice$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

%Gamut  
 $u^*_{rel} = 91$   
%Regularity  
 $g^*_{H,rel} = 41$   
 $g^*_{C,rel} = 52$

relative Inform. Technology (IT)  
 $olv_i3^*$  1.0 0.5 0.58 (1.0)  
 $cmy_n3^*$  0.0 0.5 0.452 (0.0)

$olv_i4^*$  1.0 0.5 0.549 1.0

$cmy_n4^*$  0.0 0.5 0.451 0.0

standard and adapted CIELAB

$LAB^*LAB$  71.8 32.47 18.34

$LAB^*LABa$  71.8 33.0 15.17

$LAB^*TCh_a$  75.0 36.32 24.7

relative CIELAB lab\*

$lab^*lab$  0.695 0.454 0.209

$lab^*tch$  0.75 0.5 0.069

$lab^*nch$  0.0 0.5 0.069

relative Natural Colour (NC)

$lab^*lrj$  0.695 0.5 0.0

$lab^*ice$  0.75 0.5 1.0

$lab^*ncE$  0.0 0.5 b99r

relative Inform. Technology (IT)  
 $olv_i3^*$  0.0 0.0 0.097 (1.0)  
 $cmy_n3^*$  0.0 1.0 0.903 (0.0)

$olv_i4^*$  1.0 0.0 0.097 1.0

$cmy_n4^*$  0.0 1.0 0.903 0.0

standard and adapted CIELAB

$LAB^*LAB$  48.21 65.92 31.93

$LAB^*LABa$  48.21 66.0 30.36

$LAB^*TCh_a$  50.0 72.65 24.7

relative CIELAB lab\*

$lab^*lab$  0.39 0.908 0.418

$lab^*tch$  0.5 1.0 0.069

$lab^*nch$  0.0 1.0 0.069

relative Natural Colour (NC)

$lab^*lrj$  0.39 1.0 0.0

$lab^*ice$  0.5 1.0 0.0

$lab^*ncE$  0.0 1.0 r00j

relative Inform. Technology (IT)  
 $olv_i3^*$  1.0 0.5 0.548 (1.0)  
 $cmy_n3^*$  0.0 0.5 0.452 (0.0)

$olv_i4^*$  1.0 0.5 0.549 1.0

$cmy_n4^*$  0.0 0.5 0.451 0.0

standard and adapted CIELAB

$LAB^*LAB$  71.8 32.47 18.34

$LAB^*LABa$  71.8 33.0 15.17

$LAB^*TCh_a$  75.0 36.32 24.7

relative CIELAB lab\*

$lab^*lab$  0.695 0.454 0.209

$lab^*tch$  0.75 0.5 0.069

$lab^*nch$  0.0 0.5 0.069

relative Natural Colour (NC)

$lab^*lrj$  0.695 0.5 0.0

$lab^*ice$  0.75 0.5 1.0

$lab^*ncE$  0.0 0.5 b99r

relative Inform. Technology (IT)  
 $olv_i3^*$  1.0 1.0 1.0 (1.0)  
 $cmy_n3^*$  0.0 0.0 0.0 (0.0)

$olv_i4^*$  1.0 1.0 1.0 1.0

$cmy_n4^*$  0.0 0.0 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  71.8 32.47 18.34

$LAB^*LABa$  71.8 33.0 15.17

$LAB^*TCh_a$  75.0 36.32 24.7

relative CIELAB lab\*

$lab^*lab$  0.695 0.454 0.209

$lab^*tch$  0.75 0.5 0.069

$lab^*nch$  0.0 0.5 0.069

relative Natural Colour (NC)

$lab^*lrj$  0.695 0.5 0.0

$lab^*ice$  0.75 0.5 1.0

$lab^*ncE$  0.0 0.5 b99r

relative Inform. Technology (IT)  
 $olv_i3^*$  1.0 1.0 1.0 (1.0)  
 $cmy_n3^*$  0.0 0.0 0.0 (0.0)

$olv_i4^*$  1.0 1.0 1.0 1.0

$cmy_n4^*$  0.0 0.0 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  71.8 32.47 18.34

$LAB^*LABa$  71.8 33.0 15.17

$LAB^*TCh_a$  75.0 36.32 24.7

relative CIELAB lab\*

$lab^*lab$  0.695 0.454 0.209

$lab^*tch$  0.75 0.5 0.069

$lab^*nch$  0.0 0.5 0.069

relative Natural Colour (NC)

$lab^*lrj$  0.695 0.5 0.0

$lab^*ice$  0.75 0.5 1.0

$lab^*ncE$  0.0 0.5 b99r

relative Inform. Technology (IT)  
 $olv_i3^*$  1.0 1.0 1.0 (1.0)  
 $cmy_n3^*$  0.0 0.0 0.0 (0.0)

$olv_i4^*$  1.0 1.0 1.0 1.0

$cmy_n4^*$  0.0 0.0 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  71.8 32.47 18.34

$LAB^*LABa$  71.8 33.0 15.17

$LAB^*TCh_a$  75.0 36.32 24.7

relative CIELAB lab\*

$lab^*lab$  0.695 0.454 0.209

$lab^*tch$  0.75 0.5 0.069

$lab^*nch$  0.0 0.5 0.069

relative Natural Colour (NC)

$lab^*lrj$  0.695 0.5 0.0

$lab^*ice$  0.75 0.5 1.0

$lab^*ncE$  0.0 0.5 b99r

relative Inform. Technology (IT)  
 $olv_i3^*$  1.0 1.0 1.0 (1.0)  
 $cmy_n3^*$  0.0 0.0 0.0 (0.0)

$olv_i4^*$  1.0 1.0 1.0 1.0

$cmy_n4^*$  0.0 0.0 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  71.8 32.47 18.34

$LAB^*LABa$  71.8 33.0 15.17

$LAB^*TCh_a$  75.0 36.32 24.7

relative CIELAB lab\*

$lab^*lab$  0.695 0.454 0.209

$lab^*tch$  0.75 0.5 0.069

$lab^*nch$  0.0 0.5 0.069

relative Natural Colour (NC)

$lab^*lrj$  0.695 0.5 0.0

$lab^*ice$  0.75 0.5 1.0

$lab^*ncE$  0.0 0.5 b99r

relative Inform. Technology (IT)  
 $olv_i3^*$  1.0 1.0 1.0 (1.0)  
 $cmy_n3^*$  0.0 0.0 0.0 (0.0)

$olv_i4^*$  1.0 1.0 1.0 1.0

$cmy_n4^*$  0.0 0.0 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  71.8 32.47 18.34

$LAB^*LABa$  71.8 33.0 15.17

$LAB^*TCh_a$  75.0 36.32 24.7

relative CIELAB lab\*

$lab^*lab$  0.695 0.454 0.209

$lab^*tch$  0.75 0.5 0.069

$lab^*nch$  0.0 0.5 0.069

relative Natural Colour (NC)

$lab^*lrj$  0.695 0.5 0.0

$lab^*ice$  0.75 0.5 1.0

$lab^*ncE$  0.0 0.5 b99r

relative Inform. Technology (IT)  
 $olv_i3^*$  1.0 1.0 1.0 (1.0)  
 $cmy_n3^*$  0.0 0.0 0.0 (0.0)

$olv_i4^*$  1.0 1.0 1.0 1.0

$cmy_n4^*$  0.0 0.0 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  71.8 32.47 18.34

$LAB^*LABa$  71.8 33.0 15.17

$LAB^*TCh_a$  75.0 36.32 24.7

relative CIELAB lab\*

$lab^*lab$  0.695 0.454 0.209

$lab^*tch$  0.75 0.5 0.069

$lab^*nch$  0.0 0.5 0.069

relative Natural Colour (NC)

$lab^*lrj$  0.695 0.5 0.0

$lab^*ice$  0.75 0.5 1.0

$lab^*ncE$  0.0 0.5 b99r

relative Inform. Technology (IT)  
 $olv_i3^*$  1.0 1.0 1.0 (1.0)  
 $cmy_n3^*$  0.0 0.0 0.0 (0.0)

$olv_i4^*$  1.0 1.0 1.0 1.0

$cmy_n4^*$  0.0 0.0 0.0 0.0

## Input: Colorimetric Reflective System MRS18

for hue  $h^* = lab^*h = 25/360 = 0.069$

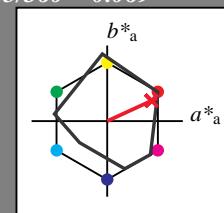
$lab^*tch$  and  $lab^*nch$

D65: hue R

LCH\*Ma: 48 73 25

olv\*Ma: 1.0 0.0 0.1

triangle lightness  $t^*$



relative Inform. Technology (IT)

olv13\* 1.0 1.0 1.0 (1.0)

cmyn3\* 0.0 0.0 0.0 (0.0)

olv14\* 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\*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 0.0 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)

olv13\* 0.5 0.5 0.5 (1.0)

cmyn3\* 0.5 0.5 0.5 (0.0)

olv14\* 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\*LABa 56.71 0.0 0.0

LAB\*TChA 50.0 0.01 -

relative CIELAB lab\*

lab\*lab 0.5 0.0 0.0

lab\*tch 0.5 0.0 -

lab\*nch 0.5 0.0 -

relative Natural Colour (NC)

lab\*lrj 0.5 0.0 0.0

lab\*tce 0.5 0.0 0.0

lab\*ncE 0.5 0.0 -

relative Inform. Technology (IT)

olv13\* 0.0 0.0 0.0 (1.0)

cmyn3\* 1.0 1.0 1.0 (0.0)

olv14\* 1.0 1.0 1.0 0.0

cmyn4\* 0.0 0.0 0.0 1.0

standard and adapted CIELAB

LAB\*LAB 18.02 0.5 -0.46

LAB\*LABa 18.02 0.0 0.0

LAB\*TChA 0.01 0.01 -

relative CIELAB lab\*

lab\*lab 0.0 0.0 0.0

lab\*tch 0.0 0.0 -

lab\*nch 1.0 0.0 -

relative Natural Colour (NC)

lab\*lrj 0.0 0.0 0.0

lab\*tce 0.0 0.0 0.0

lab\*ncE 1.0 0.0 -

$n^* = 1,0$

## MRS18; adapted (a) CIELAB data

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

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

%Gamut

$u^*_{rel} = 91$

%Regularity

$g^*_{H,rel} = 41$

$g^*_{C,rel} = 52$

relative Inform. Technology (IT)

olv13\* 1.0 0.5 0.5 (1.0)

cmyn3\* 0.0 0.5 0.5 (0.0)

olv14\* 1.0 0.5 0.5 1.0

cmyn4\* 0.0 0.5 0.5 0.0

standard and adapted CIELAB

LAB\*LAB 71.8 32.47 18.34

LAB\*LABa 71.8 33.0 15.17

LAB\*TChA 75.0 36.32 24.7

relative CIELAB lab\*

lab\*lab 0.695 0.454 0.209

lab\*tch 0.75 0.5 0.069

lab\*nch 0.0 0.5 0.069

relative Natural Colour (NC)

lab\*lrj 0.695 0.5 0.0

lab\*tce 0.75 0.5 1.0

lab\*ncE 0.0 0.5 b99r

relative Inform. Technology (IT)

olv13\* 0.5 0.5 0.5 (1.0)

cmyn3\* 0.5 0.5 0.5 (0.0)

olv14\* 1.0 1.0 1.0 0.5

cmyn4\* 0.0 0.0 0.0 0.5

standard and adapted CIELAB

LAB\*LAB 48.21 65.92 31.93

LAB\*LABa 48.21 66.0 30.36

LAB\*TChA 50.0 72.65 24.7

relative CIELAB lab\*

lab\*lab 0.39 0.908 0.418

lab\*tch 0.5 1.0 0.069

lab\*nch 0.0 1.0 0.069

relative Natural Colour (NC)

lab\*lrj 0.39 1.0 0.0

lab\*tce 0.5 1.0 0.0

lab\*ncE 0.0 1.0 r00j

relative Inform. Technology (IT)

olv13\* 0.0 0.0 0.0 (1.0)

cmyn3\* 1.0 1.0 1.0 (0.0)

olv14\* 1.0 1.0 1.0 0.0

cmyn4\* 0.0 0.0 0.0 1.0

standard and adapted CIELAB

LAB\*LAB 18.02 0.5 -0.46

LAB\*LABa 18.02 0.0 0.0

LAB\*TChA 0.01 0.01 -

relative CIELAB lab\*

lab\*lab 0.0 0.0 0.0

lab\*tch 0.0 0.0 -

lab\*nch 1.0 0.0 -

relative Natural Colour (NC)

lab\*lrj 0.0 0.0 0.0

lab\*tce 0.0 0.0 0.0

lab\*ncE 1.0 0.0 -

$n^* = 0,00$

blackness  $n^*$

chromaticness  $c^*$

## Output: Colorimetric Reflective System TRS18

for hue  $h^* = lab^*h = 25/360 = 0.069$

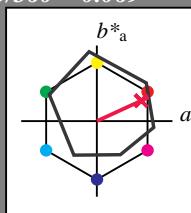
$lab^*tch$  and  $lab^*nch$

D65: hue R

LCH\*Ma: 48 75 25

olv\*Ma: 1.0 0.0 0.32

triangle lightness  $t^*$



%Gamut

$u^*_{rel} = 93$

%Regularity

$g^*_{H,rel} = 57$

$g^*_{C,rel} = 59$

relative Inform. Technology (IT)

olv13\* 1.0 1.0 1.0 (1.0)

cmyn3\* 0.0 0.0 0.0 (0.0)

olv14\* 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\*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 0.0 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)

olv13\* 0.5 0.5 0.5 (1.0)

cmyn3\* 0.5 0.5 0.5 (0.0)

olv14\* 1.0 1.0 1.0 0.5

cmyn4\* 0.0 0.0 0.0 0.5

standard and adapted CIELAB

LAB\*LAB 71.7 33.75 18.92

LAB\*LABa 71.7 34.27 15.76

LAB\*TChA 75.0 37.72 24.69

relative CIELAB lab\*

lab\*lab 0.694 0.454 0.209

lab\*tch 0.75 0.5 0.069

lab\*nch 0.0 0.5 0.069

relative Natural Colour (NC)

lab\*lrj 0.694 0.5 0.0

lab\*tce 0.75 0.5 1.0

lab\*ncE 0.0 0.5 b99r

$n^* = 1,00$

blackness  $n^*$

chromaticness  $c^*$

Input: Colorimetric Reflective System MRS18

for hue  $h^* = lab^*h = 25/360 = 0.069$

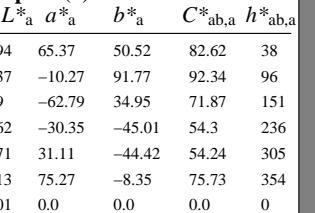
$lab^*tch$  and  $lab^*nch$

D65: hue R

LCH\*Ma: 48 75 25

olv\*Ma: 1.0 0.0 0.32

triangle lightness  $t^*$



%Gamut

$u^*_{rel} = 93$

%Regularity

$g^*_{H,rel} = 57$

$g^*_{C,rel} = 59$

relative Inform. Technology (IT)

olv13\* 1.0 1.0 1.0 (1.0)

cmyn3\* 0.0 0.0 0.0 (0.0)

olv14\* 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\*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 0.0 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)

olv13\* 0.5 0.5 0.5 (1.0)

cmyn3\* 0.5 0.5 0.5 (0.0)

olv14\* 1.0 1.0 1.0 0.5

cmyn4\* 0.0 0.0 0.0 0.5

standard and adapted CIELAB

LAB\*LAB 71.7 33.75 18.92

LAB\*LABa 71.7 34.27 15.76

LAB\*TChA 75.0 37.72 24.69

### Input: Colorimetric Reflective System MRS18

for hue  $h^* = lab^*h = 25/360 = 0.069$

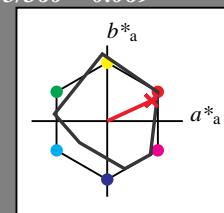
$lab^*tch$  and  $lab^*nch$

D65: hue R

LCH\*Ma: 48 73 25

olv\*Ma: 1.0 0.0 0.1

triangle lightness  $t^*$



### MRS18; adapted (a) CIELAB data

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

%Gamut

$u^*_{rel} = 91$

%Regularity

$g^*_{H,rel} = 41$

$g^*_{C,rel} = 52$

standard and adapted CIELAB

$LAB^*LAB$  95.41 -0.97 4.75

$LAB^*LABa$  95.41 0.0 0.0

$LAB^*TCh$  99.99 0.01 -

relative CIELAB lab\*

$lab^*lab$  1.0 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 -

$lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)

$olvi3^*$  1.0 0.5 0.5 (1.0)

$cmy3^*$  0.0 0.5 0.5 (0.0)

$olvi4^*$  1.0 1.0 1.0 0.5

$cmy4^*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  56.71 -0.23 2.14

$LAB^*LABa$  56.71 0.0 0.0

$LAB^*TCh$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.5 0.0 0.0

$lab^*tce$  0.5 0.0 -

$lab^*ncE$  0.5 0.0 -

relative Inform. Technology (IT)

$olvi3^*$  0.0 0.0 0.0 (1.0)

$cmy3^*$  1.0 1.0 1.0 (0.0)

$olvi4^*$  1.0 1.0 1.0 0.0

$cmy4^*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.5 -0.46

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TCh$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*tce$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

relative Inform. Technology (IT)  
 $olvi3^*$  0.0 0.0 0.0 (1.0)  
 $cmy3^*$  1.0 1.0 1.0 (0.0)  
 $olvi4^*$  1.0 1.0 1.0 0.0  
 $cmy4^*$  0.0 0.0 0.0 1.0  
standard and adapted CIELAB  
 $LAB^*LAB$  18.02 0.5 -0.46  
 $LAB^*LABa$  18.02 0.0 0.0  
 $LAB^*TCh$  0.01 0.01 -  
relative CIELAB lab\*  
 $lab^*lab$  0.0 0.0 0.0  
 $lab^*tch$  0.0 0.0 -  
 $lab^*nch$  1.0 0.0 -  
relative Natural Colour (NC)  
 $lab^*lrij$  0.0 0.0 0.0  
 $lab^*tce$  0.0 0.0 -  
 $lab^*ncE$  1.0 0.0 -

relative Inform. Technology (IT)  
 $olvi3^*$  0.0 0.0 0.0 (1.0)  
 $cmy3^*$  1.0 1.0 1.0 (0.0)  
 $olvi4^*$  1.0 1.0 1.0 0.0  
 $cmy4^*$  0.0 0.0 0.0 1.0  
standard and adapted CIELAB  
 $LAB^*LAB$  18.02 0.5 -0.46  
 $LAB^*LABa$  18.02 0.0 0.0  
 $LAB^*TCh$  0.01 0.01 -  
relative CIELAB lab\*  
 $lab^*lab$  0.0 0.0 0.0  
 $lab^*tch$  0.0 0.0 -  
 $lab^*nch$  1.0 0.0 -  
relative Natural Colour (NC)  
 $lab^*lrij$  0.0 0.0 0.0  
 $lab^*tce$  0.0 0.0 -  
 $lab^*ncE$  1.0 0.0 -

relative Inform. Technology (IT)  
 $olvi3^*$  0.0 0.0 0.0 (1.0)  
 $cmy3^*$  1.0 1.0 1.0 (0.0)  
 $olvi4^*$  1.0 1.0 1.0 0.0  
 $cmy4^*$  0.0 0.0 0.0 1.0  
standard and adapted CIELAB  
 $LAB^*LAB$  18.02 0.5 -0.46  
 $LAB^*LABa$  18.02 0.0 0.0  
 $LAB^*TCh$  0.01 0.01 -  
relative CIELAB lab\*  
 $lab^*lab$  0.0 0.0 0.0  
 $lab^*tch$  0.0 0.0 -  
 $lab^*nch$  1.0 0.0 -  
relative Natural Colour (NC)  
 $lab^*lrij$  0.0 0.0 0.0  
 $lab^*tce$  0.0 0.0 -  
 $lab^*ncE$  1.0 0.0 -

relative Inform. Technology (IT)  
 $olvi3^*$  0.0 0.0 0.0 (1.0)  
 $cmy3^*$  1.0 1.0 1.0 (0.0)  
 $olvi4^*$  1.0 1.0 1.0 0.0  
 $cmy4^*$  0.0 0.0 0.0 1.0  
standard and adapted CIELAB  
 $LAB^*LAB$  18.02 0.5 -0.46  
 $LAB^*LABa$  18.02 0.0 0.0  
 $LAB^*TCh$  0.01 0.01 -  
relative CIELAB lab\*  
 $lab^*lab$  0.0 0.0 0.0  
 $lab^*tch$  0.0 0.0 -  
 $lab^*nch$  1.0 0.0 -  
relative Natural Colour (NC)  
 $lab^*lrij$  0.0 0.0 0.0  
 $lab^*tce$  0.0 0.0 -  
 $lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

relative Inform. Technology (IT)  
 $olvi3^*$  0.0 0.0 0.0 (1.0)  
 $cmy3^*$  1.0 1.0 1.0 (0.0)  
 $olvi4^*$  1.0 1.0 1.0 0.0  
 $cmy4^*$  0.0 0.0 0.0 1.0  
standard and adapted CIELAB  
 $LAB^*LAB$  18.02 0.5 -0.46  
 $LAB^*LABa$  18.02 0.0 0.0  
 $LAB^*TCh$  0.01 0.01 -  
relative CIELAB lab\*  
 $lab^*lab$  0.0 0.0 0.0  
 $lab^*tch$  0.0 0.0 -  
 $lab^*nch$  1.0 0.0 -  
relative Natural Colour (NC)  
 $lab^*lrij$  0.0 0.0 0.0  
 $lab^*tce$  0.0 0.0 -  
 $lab^*ncE$  1.0 0.0 -

relative Inform. Technology (IT)  
 $olvi3^*$  0.0 0.0 0.0 (1.0)  
 $cmy3^*$  1.0 1.0 1.0 (0.0)  
 $olvi4^*$  1.0 1.0 1.0 0.0  
 $cmy4^*$  0.0 0.0 0.0 1.0  
standard and adapted CIELAB  
 $LAB^*LAB$  18.02 0.5 -0.46  
 $LAB^*LABa$  18.02 0.0 0.0  
 $LAB^*TCh$  0.01 0.01 -  
relative CIELAB lab\*  
 $lab^*lab$  0.0 0.0 0.0  
 $lab^*tch$  0.0 0.0 -  
 $lab^*nch$  1.0 0.0 -  
relative Natural Colour (NC)  
 $lab^*lrij$  0.0 0.0 0.0  
 $lab^*tce$  0.0 0.0 -  
 $lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

### Output: Colorimetric Reflective System MRS18a

for hue  $h^* = lab^*h = 25/360 = 0.071$

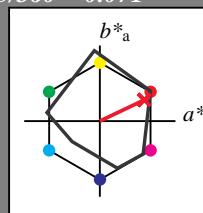
$lab^*tch$  and  $lab^*nch$

D65: hue R

LCH\*Ma: 48 73 25

olv\*Ma: 1.0 0.0 0.1

triangle lightness  $t^*$



	$L^* = L^*_{ab}$	$a^*_{ab}$	$b^*_{ab}$	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	49.63	66.96	38.37	77.18	30
JMa	90.7	-7.27	93.19	93.48	94
GMa	52.11	-69.93	11.26	70.85	171
G50BMa	45.03	-36.65	-27.13	45.61	217
BMa	36.65	23.26	-62.27	66.49	290
B50RMa	34.94	57.27	-43.6	71.99	323
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	272

%Gamut

$u^*_{rel} = 92$

%Regularity

$g^*_{H,rel} = 42$

$g^*_{C,rel} = 49$

standard and adapted CIELAB

$LAB^*LAB$  95.41 0.01 0.0

$LAB^*LABa$  95.41 0.0 0.0

$LAB^*TCh$  99.99 0.01 -

relative CIELAB lab\*

$lab^*lab$  1.0 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 -

$lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)

$olvi3^*$  1.0 0.5 0.5 (1.0)

$cmy3^*$  0.0 0.5 0.5 (0.0)

$olvi4^*$  1.0 0.5 0.5 1.0

$cmy4^*$  0.0 0.5 0.448 0.0

standard and adapted CIELAB

$LAB^*LAB$  48.21 65.92 31.93

$LAB^*LABa$  48.21 66.0 30.36

$LAB^*TCh$  50.0 72.65 24.7

relative CIELAB lab\*

$lab^*lab$  0.39 0.908 0.418

$lab^*tch$  0.5 1.0 0.069

$lab^*nch$  0.0 1.0 0.069

relative Natural Colour (NC)

$lab^*lrij$  0.39 1.0 0.0

$lab^*tce$  0.5 1.0 0.0

$lab^*ncE$  0.0 1.0 r00j

relative Inform. Technology (IT)

$olvi3^*$  0.0 0.0 0.0 (1.0)

$cmy3^*$  1.0 1.0 1.0 (0.0)

$olvi4^*$  1.0 1.0 1.0 0.0

$cmy4^*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.1 0.02

$LAB^*LABa$  18.02 0.1 0.02

$LAB^*TCh$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*tce$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

relative Inform. Technology (IT)

$olvi3^*$  1.0 0.0 0.103 (1.0)

$cmy3^*$  0.0 1.0 0.897 (0.0)

$olvi4^*$  1.0 0.0 0.104 1.0

$cmy4^*$  0.0 1.0 0.896 0.0

standard and adapted CIELAB

$LAB^*LAB$  48.11 65.86 31.39

$LAB^*LABa$  48.11 65.8 31.37

$LAB^*TCh$  50

### Input: Colorimetric Reflective System MRS18

for hue  $h^* = lab^*h = 25/360 = 0.069$

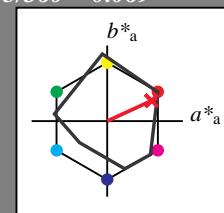
$lab^*tch$  and  $lab^*nch$

D65: hue R

LCH\*Ma: 48 73 25

olv\*Ma: 1.0 0.0 0.1

triangle lightness  $t^*$



relative Inform. Technology (IT)

olv13\* 1.0 1.0 1.0 (1.0)

cmyn3\* 0.0 0.0 0.0 (0.0)

olv14\* 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\*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 0.0 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 -

standard and adapted CIELAB

LAB\*LAB 71.8 32.47 18.34

LAB\*LABa 71.8 33.0 15.17

LAB\*TChA 75.0 36.32 24.7

relative CIELAB lab\*

lab\*lab 0.695 0.454 0.209

lab\*tch 0.75 0.5 0.069

lab\*nch 0.0 0.5 0.069

relative Natural Colour (NC)

lab\*lrj 0.695 0.5 0.0

lab\*tce 0.75 0.5 1.0

lab\*ncE 0.0 0.5 b99r

relative Inform. Technology (IT)

olv13\* 0.5 0.5 0.5 (1.0)

cmyn3\* 0.5 0.5 0.5 (0.0)

olv14\* 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\*LABa 56.71 0.0 0.0

LAB\*TChA 50.0 0.01 -

relative CIELAB lab\*

lab\*lab 0.5 0.0 0.0

lab\*tch 0.5 0.0 -

lab\*nch 0.5 0.0 -

relative Natural Colour (NC)

lab\*lrj 0.5 0.0 0.0

lab\*tce 0.5 0.0 0.0

lab\*ncE 0.5 0.0 -

standard and adapted CIELAB

LAB\*LAB 18.02 0.5 -0.46

LAB\*LABa 18.02 0.0 0.0

LAB\*TChA 0.01 0.01 -

relative CIELAB lab\*

lab\*lab 0.0 0.0 0.0

lab\*tch 0.0 0.0 -

lab\*nch 1.0 0.0 -

relative Natural Colour (NC)

lab\*lrj 0.0 0.0 0.0

lab\*tce 0.0 0.0 -

lab\*ncE 1.0 0.0 -

$n^* = 1,0$

### MRS18; adapted (a) CIELAB data

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

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

%Gamut

$u^*_{rel} = 91$

%Regularity

$g^*_{H,rel} = 41$

$g^*_{C,rel} = 52$

relative Inform. Technology (IT)

olv13\* 1.0 0.5 0.5 (1.0)

cmyn3\* 0.0 0.5 0.5 (0.0)

olv14\* 1.0 0.5 0.5 1.0

cmyn4\* 0.0 0.5 0.5 0.0

standard and adapted CIELAB

LAB\*LAB 71.8 32.47 18.34

LAB\*LABa 71.8 33.0 15.17

LAB\*TChA 75.0 36.32 24.7

relative CIELAB lab\*

lab\*lab 0.695 0.454 0.209

lab\*tch 0.75 0.5 0.069

lab\*nch 0.0 0.5 0.069

relative Natural Colour (NC)

lab\*lrj 0.695 0.5 0.0

lab\*tce 0.75 0.5 1.0

lab\*ncE 0.0 0.5 b99r

relative Inform. Technology (IT)

olv13\* 0.5 0.5 0.5 (1.0)

cmyn3\* 0.5 0.5 0.5 (0.0)

olv14\* 1.0 0.5 0.5 0.5

cmyn4\* 0.0 0.5 0.452 0.5

standard and adapted CIELAB

LAB\*LAB 48.21 65.92 31.93

LAB\*LABa 48.21 66.0 30.36

LAB\*TChA 50.0 72.65 24.7

relative CIELAB lab\*

lab\*lab 0.39 0.908 0.418

lab\*tch 0.5 1.0 0.069

lab\*nch 0.0 1.0 0.069

relative Natural Colour (NC)

lab\*lrj 0.39 1.0 0.0

lab\*tce 0.5 1.0 0.0

lab\*ncE 0.0 1.0 r00j

relative Inform. Technology (IT)

olv13\* 0.0 0.0 0.0 (1.0)

cmyn3\* 1.0 1.0 1.0 (0.0)

olv14\* 1.0 1.0 1.0 0.0

cmyn4\* 0.0 0.0 0.0 1.0

standard and adapted CIELAB

LAB\*LAB 18.02 0.5 -0.46

LAB\*LABa 18.02 0.0 0.0

LAB\*TChA 0.01 0.01 -

relative CIELAB lab\*

lab\*lab 0.195 0.454 0.209

lab\*tch 0.25 0.5 0.069

lab\*nch 0.5 0.5 0.069

relative Natural Colour (NC)

lab\*lrj 0.195 0.5 0.0

lab\*tce 0.25 0.5 0.0

lab\*ncE 0.5 0.5 r00j

$n^* = 0,00$

blackness  $n^*$

chromaticness  $c^*$

### Output: Colorimetric Reflective System NRS18

for hue  $h^* = lab^*h = 25/360 = 0.071$

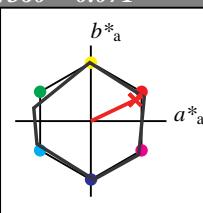
$lab^*tch$  and  $lab^*nch$

D65: hue R

LCH\*Ma: 57 76 25

olv\*Ma: 1.0 0.0 0.1

triangle lightness  $t^*$



%Gamut

$u^*_{rel} = 100$

%Regularity

$g^*_{H,rel} = 47$

$g^*_{C,rel} = 100$

relative Inform. Technology (IT)

olv13\* 1.0 1.0 1.0 (1.0)

cmyn3\* 0.0 0.0 0.0 (0.0)

olv14\* 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 0.0

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 0.0 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)

olv13\* 0.5 0.5 0.5 (1.0)

cmyn3\* 0.5 0.5 0.5 (0.0)

olv14\* 1.0 0.5 0.5 0.5

cmyn4\* 0.0 0.5 0.486 0.5

standard and adapted CIELAB

LAB\*LAB 71.8 32.47 18.34

LAB\*LABa 71.8 33.0 15.17

LAB\*TChA 75.0 36.32 24.7

relative CIELAB lab\*

lab\*lab 0.695 0.454 0.209

lab\*tch 0.75 0.5 0.069

lab\*nch 0.0 0.5 0.069

relative Natural Colour (NC)

lab\*lrj 0.695 0.5 0.0

lab\*tce 0.75 0.5 1.0

lab\*ncE 0.0 0.5 b99r

$n^* = 1,0$

3 step scales for constant CIELAB hue 25/360 = 0.071 (right)

### NRS18; adapted (a) CIELAB data

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

RMa	56.7	70.66	31.47	77.35	24
JMa	56.7	-1.39	77.37	77.39	91
GMa	56.7	-75.46	17.4	77.45	167
G50BMa	56.7	-71.29	-30.25	77.45	203
BMa	56.7	4.0	-77.3	77.41	273
B50RMa	56.7	63.35	-44.4	77.36	325
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	272

relative Inform. Technology (IT)

olv13\* 1.0 0.514 0.5 (1.0)

cmyn3\* 0.0 0.486 0.5 (0.0)

olv14\* 1.0 0.514 0.5 1.0

cmyn4\* 0.0 0.486 0.5 0.0

standard and adapted CIELAB

LAB\*LAB 76.05 34.36 16.37

LAB\*LABa 76.05 34.33 16.36

LAB\*TChA 75.0 38.03 25.49

## Input: Colorimetric Reflective System MRS18

for hue  $h^* = lab^*h = 25/360 = 0.069$

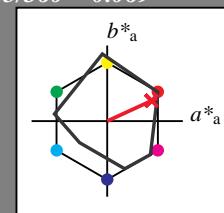
$lab^*tch$  and  $lab^*nch$

D65: hue R

LCH\*Ma: 48 73 25

olv\*Ma: 1.0 0.0 0.1

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

%Gamut

$u^*_{rel} = 91$

%Regularity

$g^*_{H,rel} = 41$

$g^*_{C,rel} = 52$

relative Inform. Technology (IT)

$olv^3*$  1.0 1.0 1.0 (1.0)

$cmy^3*$  0.0 0.0 0.0 (0.0)

$olv^4*$  1.0 1.0 1.0 1.0

$cmy^4*$  0.0 0.0 0.0 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 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  1.0 0.0 0.0

$lab^*ice$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)

$olv^3*$  0.5 0.5 0.5 (1.0)

$cmy^3*$  0.5 0.5 0.5 (0.0)

$olv^4*$  1.0 1.0 1.0 0.5

$cmy^4*$  0.0 0.0 0.0 0.5

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 CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  0.5 0.0 0.0

$lab^*ice$  0.5 0.0 0.0

$lab^*ncE$  0.5 0.0 -

relative Inform. Technology (IT)

$olv^3*$  0.0 0.0 0.0 (1.0)

$cmy^3*$  1.0 1.0 1.0 (0.0)

$olv^4*$  1.0 1.0 1.0 0.0

$cmy^4*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.5 -0.46

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

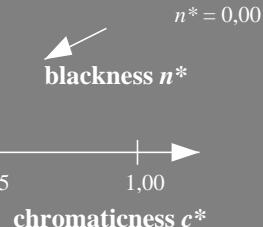
relative Natural Colour (NC)

$lab^*lrj$  0.0 0.0 0.0

$lab^*ice$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$



## Output: Colorimetric Reflective System NCS18

for hue  $h^* = lab^*h = 25/360 = 0.071$

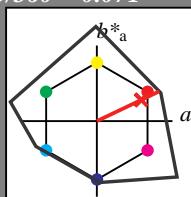
$lab^*tch$  and  $lab^*nch$

D65: hue R

LCH\*Ma: 48 91 25

olv\*Ma: 1.0 0.0 0.0

triangle lightness  $t^*$



## NCS18; adapted (a) CIELAB data

	$L^*=L_a^*$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	47.15	84.63	37.24	92.46	24
JMa	91.37	-1.27	125.03	125.03	91
GMa	63.07	-114.29	25.34	117.07	167
G50BMa	59.47	-80.61	-33.45	87.29	203
BMa	49.01	3.63	-81.2	81.29	273
B50RMa	44.06	106.07	-73.94	129.31	325
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	272

%Gamut

$u^*_{rel} = 136$

%Regularity

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

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

relative Inform. Technology (IT)

$olv^3*$  1.0 1.0 0.5 (1.0)

$cmy^3*$  0.0 0.0 0.0 (0.0)

$olv^4*$  1.0 1.0 1.0 1.0

$cmy^4*$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  1.0 0.0 0.0

$lab^*ice$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)

$olv^3*$  0.5 0.5 0.5 (1.0)

$cmy^3*$  0.5 0.5 0.5 (0.0)

$olv^4*$  1.0 0.512 0.5 0.5

$cmy^4*$  0.0 0.488 0.5 0.0

standard and adapted CIELAB

$LAB^*LAB$  48.21 82.61 39.36

$LAB^*LABa$  48.21 82.55 39.34

$LAB^*TChA$  50.0 91.45 25.48

relative CIELAB lab\*

$lab^*lab$  0.695 0.451 0.215

$lab^*tch$  0.75 0.5 0.071

$lab^*nch$  0.0 0.5 0.071

relative Natural Colour (NC)

$lab^*lrj$  0.39 1.0 0.0

$lab^*ice$  0.5 1.0 1.0

$lab^*ncE$  0.5 0.5 0.59r

relative Inform. Technology (IT)

$olv^3*$  1.0 0.024 0.0 (1.0)

$cmy^3*$  0.0 0.976 1.0 (0.0)

$olv^4*$  1.0 0.024 0.0 1.0

$cmy^4*$  0.0 0.976 1.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  48.21 82.61 39.36

$LAB^*LABa$  48.21 82.55 39.34

$LAB^*TChA$  50.0 91.45 25.48

relative CIELAB lab\*

$lab^*lab$  0.39 0.903 0.43

$lab^*tch$  0.5 1.0 0.071

$lab^*nch$  0.0 1.0 0.071

relative Natural Colour (NC)

$lab^*lrj$  0.39 1.0 0.0

$lab^*ice$  0.5 1.0 1.0

$lab^*ncE$  0.5 1.0 0.59r

$n^* = 0,00$

blackness  $n^*$

1,00

chromaticness  $c^*$

$n^* = 1,0$

3 step scales for constant CIELAB hue 25/360 = 0.069 (left)

3 step scales for constant CIELAB hue 25/360 = 0.071 (right)

## Input: Colorimetric Reflective System MRS18

for hue  $h^* = lab^*h = 25/360 = 0.069$

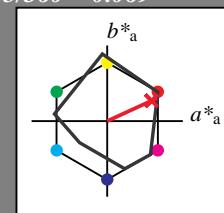
$lab^*tch$  and  $lab^*nch$

D65: hue R

LCH\*Ma: 48 73 25

olv\*Ma: 1.0 0.0 0.1

triangle lightness  $t^*$



relative Inform. Technology (IT)

olv13\* 1.0 1.0 1.0 (1.0)

cmyn3\* 0.0 0.0 0.0 (0.0)

olv14\* 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\*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 0.0 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)

olv13\* 0.5 0.5 0.5 (1.0)

cmyn3\* 0.5 0.5 0.5 (0.0)

olv14\* 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\*LABa 56.71 0.0 0.0

LAB\*TChA 50.0 0.01 -

relative CIELAB lab\*

lab\*lab 0.5 0.0 0.0

lab\*tch 0.5 0.0 -

lab\*nch 0.5 0.0 -

relative Natural Colour (NC)

lab\*lrj 0.5 0.0 0.0

lab\*tce 0.5 0.0 0.0

lab\*ncE 0.5 0.0 -

relative Inform. Technology (IT)

olv13\* 0.0 0.0 0.0 (1.0)

cmyn3\* 1.0 1.0 1.0 (0.0)

olv14\* 1.0 1.0 1.0 0.0

cmyn4\* 0.0 0.0 0.0 1.0

standard and adapted CIELAB

LAB\*LAB 18.02 0.5 -0.46

LAB\*LABa 18.02 0.0 0.0

LAB\*TChA 0.01 0.01 -

relative CIELAB lab\*

lab\*lab 0.0 0.0 0.0

lab\*tch 0.0 0.0 -

lab\*nch 1.0 0.0 -

relative Natural Colour (NC)

lab\*lrj 0.0 0.0 0.0

lab\*tce 0.0 0.0 0.0

lab\*ncE 1.0 0.0 -

$n^* = 1,0$

## MRS18; adapted (a) CIELAB data

$L^*=L^*_a \quad a^*_a \quad b^*_a \quad C^*_{ab,a} \quad h^*_{ab,a}$

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

%Gamut

$u^*_{rel} = 91$

%Regularity

$g^*_{H,rel} = 41$

$g^*_{C,rel} = 52$

relative Inform. Technology (IT)

olv13\* 1.0 0.5 0.5 (1.0)

cmyn3\* 0.0 0.5 0.5 (0.0)

olv14\* 1.0 0.5 0.5 1.0

cmyn4\* 0.0 0.5 0.5 0.0

standard and adapted CIELAB

LAB\*LAB 71.8 32.47 18.34

LAB\*LABa 71.8 33.0 15.17

LAB\*TChA 75.0 36.32 24.7

relative CIELAB lab\*

lab\*lab 0.695 0.454 0.209

lab\*tch 0.75 0.5 0.069

lab\*nch 0.0 0.5 0.069

relative Natural Colour (NC)

lab\*lrj 0.695 0.5 0.0

lab\*tce 0.75 0.5 1.0

lab\*ncE 0.0 0.5 0.699

relative Inform. Technology (IT)

olv13\* 0.5 0.0 0.089 (1.0)

cmyn3\* 0.5 1.0 0.903 (0.0)

olv14\* 1.0 0.0 0.097 1.0

cmyn4\* 0.0 1.0 0.903 0.0

standard and adapted CIELAB

LAB\*LAB 48.21 65.92 31.93

LAB\*LABa 48.21 66.0 30.36

LAB\*TChA 50.0 72.65 24.7

relative CIELAB lab\*

lab\*lab 0.39 0.908 0.418

lab\*tch 0.5 1.0 0.069

lab\*nch 0.0 1.0 0.069

relative Natural Colour (NC)

lab\*lrj 0.39 1.0 0.0

lab\*tce 0.5 1.0 0.0

lab\*ncE 0.0 1.0 0.00j

relative Inform. Technology (IT)

olv13\* 0.0 0.0 0.0 (1.0)

cmyn3\* 1.0 1.0 1.0 (0.0)

olv14\* 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 0.0 0.0

LAB\*TChA 0.01 0.01 -

relative CIELAB lab\*

lab\*lab 0.0 0.0 0.0

lab\*tch 0.0 0.0 -

lab\*nch 1.0 0.0 -

relative Natural Colour (NC)

lab\*lrj 0.0 0.0 0.0

lab\*tce 0.0 0.0 -

lab\*ncE 1.0 0.0 -

relative Inform. Technology (IT)

olv13\* 1.0 1.0 1.0 (1.0)

cmyn3\* 0.0 0.0 0.0 (0.0)

olv14\* 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 0.0 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)

olv13\* 1.0 0.514 0.5 (1.0)

cmyn3\* 0.0 0.486 0.5 (0.0)

olv14\* 1.0 0.514 0.5 1.0

cmyn4\* 0.0 0.486 0.5 0.0

standard and adapted CIELAB

LAB\*LAB 74.3 37.46 17.85

LAB\*LABa 74.3 37.44 17.85

LAB\*TChA 75.0 41.47 25.49

relative CIELAB lab\*

lab\*lab 0.75 0.451 0.215

lab\*tch 0.75 0.5 0.071

lab\*nch 0.0 0.5 0.071

relative Natural Colour (NC)

lab\*lrj 0.75 0.5 0.0

lab\*tce 0.75 0.5 0.0

lab\*ncE 0.0 0.5 0.00j

relative Inform. Technology (IT)

olv13\* 0.5 0.028 0.0 (1.0)

cmyn3\* 0.0 0.972 1.0 (0.0)

olv14\* 1.0 0.028 0.0 1.0

cmyn4\* 0.0 0.972 1.0 0.0

standard and adapted CIELAB

LAB\*LAB 53.2 74.93 35.7

LAB\*LABa 53.2 74.88 35.69

LAB\*TChA 50.0 82.95 25.48

relative CIELAB lab\*

lab\*lab 0.5 0.903 0.43

lab\*tch 0.5 1.0 0.071

lab\*nch 0.0 1.0 0.071

relative Natural Colour (NC)

lab\*lrj 0.5 1.0 0.0

lab\*tce 0.5 1.0 0.0

lab\*ncE 0.0 1.0 0.00j

relative Inform. Technology (IT)

olv13\* 1.0 0.03 0.0 (1.0)

cmyn3\* 0.0 0.93 1.0 (0.0)

olv14\* 1.0 0.03 0.0 1.0

cmyn4\* 0.0 0.93 1.0 0.0

standard and adapted CIELAB

LAB\*LAB 53.2 74.93 35.7

LAB\*LABa 53.2 74.88 35.69

LAB\*TChA 50.0 82.95 25.48

relative CIELAB lab\*

lab\*lab 0.25 0.451 0.215

lab\*tch 0.25 0.5 0.071

lab\*nch 0.0 0.5 0.071

relative Natural Colour (NC)

lab\*lrj 0.25 0.5 0.0

lab\*tce 0.25 0.5 0.0

lab\*ncE 0.0 0.5 0.00j

relative Inform. Technology (IT)

olv13\* 1.0 0.03 0.0 (1.0)

cmyn3\* 0.0 0.93 1.0 (0.0)

olv14\* 1.0 0.03 0.0 1.0

cmyn4\* 0.0 0.93 1.0 0.0

standard and adapted CIELAB

LAB\*LAB 53.2 74.93 35.7

LAB\*LABa 53.2 74.88 35.69

LAB\*TChA 50.0 82.95 25.48

relative CIELAB lab\*

lab\*lab 0.25 0.451 0.215

lab\*tch 0.25 0.5 0.071

lab\*nch 0.0 0.5 0.071

relative Natural Colour (NC)

lab\*lrj 0.25 0.5 0.0

lab\*tce 0.25 0.5 0.0

lab\*ncE 0.0 0.5 0.00j

relative Inform. Technology (IT)

olv13\* 1.0 0.03 0.0 (1.0)

cmyn3\* 0.0 0.93 1.0 (0.0)

olv14\* 1.0 0.03 0.0 1.0

cmyn4\* 0

## Input: Colorimetric Reflective System MRS18

for hue  $h^* = lab^*h = 25/360 = 0.069$

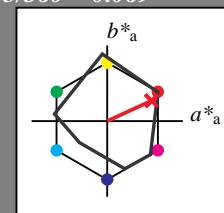
$lab^*tch$  and  $lab^*nch$

D65: hue R

LCH\*Ma: 48 73 25

olv\*Ma: 1.0 0.0 0.1

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

%Gamut

$u^*_{rel} = 91$

%Regularity

$g^*_{H,rel} = 41$

$g^*_{C,rel} = 52$

relative Inform. Technology (IT)

$olv^3*$  1.0 1.0 1.0 (1.0)

$cmy^3*$  0.0 0.0 0.0 (0.0)

$olv^4*$  1.0 1.0 1.0 1.0

$cmy^4*$  0.0 0.0 0.0 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 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  1.0 0.0 0.0

$lab^*ice$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)

$olv^3*$  0.5 0.5 0.5 (1.0)

$cmy^3*$  0.5 0.5 0.5 (0.0)

$olv^4*$  1.0 1.0 1.0 0.5

$cmy^4*$  0.0 0.0 0.0 0.5

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 CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  0.5 0.0 0.0

$lab^*ice$  0.5 0.0 0.0

$lab^*ncE$  0.5 0.0 -

relative Inform. Technology (IT)

$olv^3*$  0.0 0.0 0.0 (1.0)

$cmy^3*$  1.0 1.0 1.0 (0.0)

$olv^4*$  1.0 1.0 1.0 0.0

$cmy^4*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.5 -0.46

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

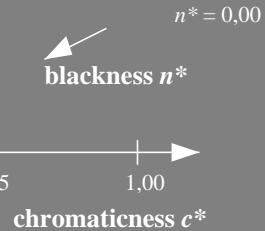
relative Natural Colour (NC)

$lab^*lrj$  0.0 0.0 0.0

$lab^*ice$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$



## Output: Colorimetric Reflective System NCS11

for hue  $h^* = lab^*h = 25/360 = 0.071$

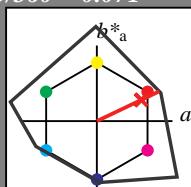
$lab^*tch$  and  $lab^*nch$

D65: hue R

LCH\*Ma: 48 91 25

olv\*Ma: 1.0 0.02 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

%Gamut

$u^*_{rel} = 149$

%Regularity

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

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

relative Inform. Technology (IT)

$olv^3*$  1.0 1.0 0.5 (1.0)

$cmy^3*$  0.0 0.0 0.0 (0.0)

$olv^4*$  1.0 1.0 1.0 1.0

$cmy^4*$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  1.0 0.0 0.0

$lab^*ice$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)

$olv^3*$  0.5 0.5 0.5 (1.0)

$cmy^3*$  0.5 0.5 0.5 (0.0)

$olv^4*$  1.0 1.0 1.0 0.5

$cmy^4*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  53.21 0.04 0.0

$LAB^*LABa$  53.21 0.0 0.0

$LAB^*TChA$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.39 0.908 0.418

$lab^*tch$  0.5 1.0 0.069

$lab^*nch$  0.0 1.0 0.069

relative Natural Colour (NC)

$lab^*lrj$  0.39 1.0 0.0

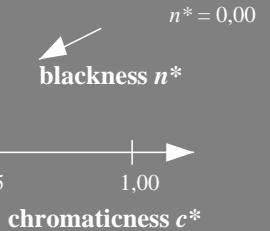
$lab^*ice$  0.5 1.0 0.0

$lab^*ncE$  0.0 1.0 0.0

$n^* = 0,00$

blackness  $n^*$

$n^* = 1,00$



$n^* = 0,00$

blackness  $n^*$

$n^* = 1,00$

chromaticness  $c^*$

UE100-7, 3 step scales for constant CIELAB hue 25/360 = 0.069 (left)

3 step scales for constant CIELAB hue 25/360 = 0.071 (right)

### Input: Colorimetric Reflective System TRS18

for hue  $h^* = lab^*h = 25/360 = 0.069$

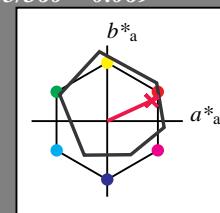
$lab^*tch$  and  $lab^*nch$

D65: hue R

LCH\*Ma: 48 75 25

olv\*Ma: 1.0 0.0 0.32

triangle lightness  $t^*$



### TRS18; adapted (a) CIELAB data

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

$olv^3*$  1.0 1.0 1.0 (1.0)

$cmy^3*$  0.0 0.0 0.0 (0.0)

$olv^4*$  1.0 1.0 1.0 1.0

$cmy^4*$  0.0 0.0 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  95.41 -0.97 4.75

$LAB^*LABa$  95.41 0.0 0.0

$LAB^*TCh$  99.99 0.01 -

relative CIELAB lab\*

$lab^*lab$  1.0 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  1.0 0.0 0.0

$lab^*ice$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)

$olv^3*$  0.5 0.5 0.5 (1.0)

$cmy^3*$  0.5 0.5 0.5 (0.0)

$olv^4*$  1.0 1.0 1.0 0.5

$cmy^4*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  56.71 -0.23 2.14

$LAB^*LABa$  56.71 0.0 0.0

$LAB^*TCh$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  0.5 0.0 0.0

$lab^*ice$  0.5 0.0 0.0

$lab^*ncE$  0.5 0.0 -

relative Inform. Technology (IT)

$olv^3*$  0.0 0.0 0.0 (1.0)

$cmy^3*$  1.0 1.0 1.0 (0.0)

$olv^4*$  1.0 1.0 1.0 0.0

$cmy^4*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.5 -0.46

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TCh$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  0.0 0.0 0.0

$lab^*ice$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

relative Inform. Technology (IT)

$olv^3*$  0.194 0.454 0.209

$lab^*tch$  0.25 0.5 0.069

$lab^*nch$  0.5 0.5 0.069

relative Natural Colour (NC)

$lab^*lrj$  0.194 0.5 0.0

$lab^*ice$  0.25 0.5 0.0

$lab^*ncE$  0.5 0.5 r00j

relative Inform. Technology (IT)

$olv^3*$  0.0 0.0 0.0 (1.0)

$lab^*tch$  1.0 1.0 0.0 (0.0)

$olv^4*$  1.0 1.0 1.0 0.0

$lab^*nch$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.5 -0.46

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TCh$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  0.0 0.0 0.0

$lab^*ice$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

relative Inform. Technology (IT)

$olv^3*$  0.0 0.0 0.0 (1.0)

$lab^*tch$  1.0 1.0 0.0 (0.0)

$olv^4*$  1.0 1.0 1.0 0.0

$lab^*nch$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.5 -0.46

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TCh$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  0.0 0.0 0.0

$lab^*ice$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

relative Inform. Technology (IT)

$olv^3*$  0.0 0.0 0.0 (1.0)

$lab^*tch$  1.0 1.0 0.0 (0.0)

$olv^4*$  1.0 1.0 1.0 0.0

$lab^*nch$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.5 -0.46

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TCh$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  0.0 0.0 0.0

$lab^*ice$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

### Output: Colorimetric Reflective System ORS18

for hue  $h^* = lab^*h = 25/360 = 0.069$

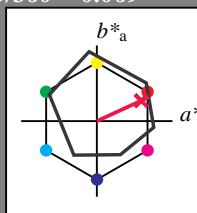
$lab^*tch$  and  $lab^*nch$

D65: hue R

LCH\*Ma: 48 75 25

olv\*Ma: 1.0 0.0 0.32

triangle lightness  $t^*$



### ORS18; adapted (a) CIELAB data

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

$olv^3*$  1.0 1.0 1.0 (1.0)

$cmy^3*$  0.0 0.0 0.0 (0.0)

$olv^4*$  1.0 1.0 1.0 1.0

$cmy^4*$  0.0 0.0 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  95.41 -0.97 4.75

$LAB^*LABa$  95.41 0.0 0.0

$LAB^*TCh$  99.99 0.01 -

relative CIELAB lab\*

$lab^*lab$  1.0 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  1.0 0.0 0.0

$lab^*ice$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)

$olv^3*$  0.5 0.5 0.5 (1.0)

$cmy^3*$  0.5 0.5 0.5 (0.0)

$olv^4*$  1.0 0.5 0.661 1.0

$cmy^4*$  0.0 0.5 0.339 0.0

standard and adapted CIELAB

$LAB^*LAB$  71.73 33.75 18.92

$LAB^*LABa$  71.73 34.27 15.76

$LAB^*TCh$  75.00 37.72 24.69

relative CIELAB lab\*

$lab^*lab$  0.694 0.454 0.209

$lab^*tch$  0.75 0.5 0.069

$lab^*nch$  0.0 0.5 0.069

relative Natural Colour (NC)

$lab^*lrj$  0.694 0.5 0.0

$lab^*ice$  0.75 0.5 1.0

$lab^*ncE$  0.0 0.5 r00j

relative Inform. Technology (IT)

$olv^3*$  0.0 0.0 0.0 (1.0)

$lab^*tch$  1.0 1.0 0.0 (0.0)

$olv^4*$  1.0 1.0 1.0 0.0

$lab^*nch$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

### Input: Colorimetric Reflective System TRS18

for hue  $h^* = lab^*h = 25/360 = 0.069$

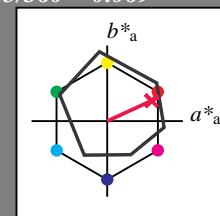
$lab^*tch$  and  $lab^*nch$

D65: hue R

LCH\*Ma: 48 75 25

olv\*Ma: 1.0 0.0 0.32

triangle lightness  $t^*$



### TRS18; adapted (a) CIELAB data

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

$olv_i3^*$  1.0 1.0 1.0 (1.0)

$cmy3^*$  0.0 0.0 0.0 (0.0)

$olv_i4^*$  1.0 1.0 1.0 1.0

$cmy4^*$  0.0 0.0 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  95.41 -0.97 4.75

$LAB^*LABa$  95.41 0.0 0.0

$LAB^*TCh$  99.99 0.01 -

relative CIELAB lab\*

$lab^*lab$  1.0 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  1.0 0.0 0.0

$lab^*ice$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  71.7 33.75 18.92

$LAB^*LABa$  71.7 34.27 15.76

$LAB^*TCh$  75.0 37.72 24.69

relative CIELAB lab\*

$lab^*lab$  0.694 0.454 0.209

$lab^*tch$  0.75 0.5 0.069

$lab^*nch$  0.0 0.5 0.069

relative Natural Colour (NC)

$lab^*lrj$  0.694 0.5 0.0

$lab^*ice$  0.75 0.5 1.0

$lab^*ncE$  0.0 0.5 b99r

relative Inform. Technology (IT)

$olv_i3^*$  0.5 0.5 0.5 (1.0)

$cmy3^*$  0.5 0.5 0.5 (0.0)

$olv_i4^*$  1.0 1.0 1.0 0.5

$cmy4^*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  56.71 -0.23 2.14

$LAB^*LABa$  56.71 0.0 0.0

$LAB^*TCh$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  0.5 0.0 0.0

$lab^*ice$  0.5 0.0 0.0

$lab^*ncE$  0.5 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  48.01 68.48 33.09

$LAB^*LABa$  48.01 68.55 31.53

$LAB^*TCh$  50.0 75.45 24.7

relative CIELAB lab\*

$lab^*lab$  0.388 0.908 0.418

$lab^*tch$  0.5 1.0 0.069

$lab^*nch$  0.0 1.0 0.069

relative Natural Colour (NC)

$lab^*lrj$  0.388 1.0 0.0

$lab^*ice$  0.5 1.0 0.0

$lab^*ncE$  0.0 1.0 r00j

$n^* = 1,0$

$n^* = 0,00$

$n^* = 0,50$

$n^* = 1,00$

### Output: Colorimetric Reflective System MRS18

for hue  $h^* = lab^*h = 25/360 = 0.069$

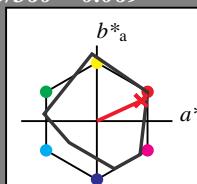
$lab^*tch$  and  $lab^*nch$

D65: hue R

LCH\*Ma: 48 73 25

olv\*Ma: 1.0 0.0 0.1

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

relative Inform. Technology (IT)

$olv_i3^*$  1.0 1.0 1.0 (1.0)

$cmy3^*$  0.0 0.0 0.0 (0.0)

$olv_i4^*$  1.0 1.0 1.0 1.0

$cmy4^*$  0.0 0.0 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  95.41 -0.97 4.75

$LAB^*LABa$  95.41 0.0 0.0

$LAB^*TCh$  99.99 0.01 -

relative CIELAB lab\*

$lab^*lab$  1.0 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  1.0 0.0 0.0

$lab^*ice$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)

$olv_i3^*$  0.5 0.5 0.5 (1.0)

$cmy3^*$  0.5 0.5 0.5 (0.0)

$olv_i4^*$  1.0 0.5 0.549 1.0

$cmy4^*$  0.0 0.5 0.451 0.0

standard and adapted CIELAB

$LAB^*LAB$  71.8 32.47 18.34

$LAB^*LABa$  71.8 33.0 15.17

$LAB^*TCh$  75.0 36.32 24.7

relative CIELAB lab\*

$lab^*lab$  0.695 0.454 0.209

$lab^*tch$  0.75 0.5 0.069

$lab^*nch$  0.0 0.5 0.069

relative Natural Colour (NC)

$lab^*lrj$  0.695 0.5 0.0

$lab^*ice$  0.75 0.5 1.0

$lab^*ncE$  0.0 0.5 b99r

relative Inform. Technology (IT)

$olv_i3^*$  1.0 0.0 0.907 (1.0)

$cmy3^*$  0.0 1.0 0.903 (0.0)

$olv_i4^*$  1.0 0.0 0.097 1.0

$cmy4^*$  0.0 1.0 0.903 0.0

standard and adapted CIELAB

$LAB^*LAB$  48.21 65.92 31.93

$LAB^*LABa$  48.21 66.0 30.36

$LAB^*TCh$  50.0 72.65 24.7

relative CIELAB lab\*

$lab^*lab$  0.39 0.908 0.418

$lab^*tch$  0.5 1.0 0.069

$lab^*nch$  0.0 1.0 0.069

relative Natural Colour (NC)

$lab^*lrj$  0.39 1.0 0.0

$lab^*ice$  0.5 1.0 0.0

$lab^*ncE$  0.0 1.0 r00j

$n^* = 0,00$

$n^* = 0,50$

$n^* = 1,00$

UE100-7, 3 step scales for constant CIELAB hue 25/360 = 0.069 (left)

3 step scales for constant CIELAB hue 25/360 = 0.069 (right)

### Input: Colorimetric Reflective System TRS18

for hue  $h^* = lab^*h = 25/360 = 0.069$

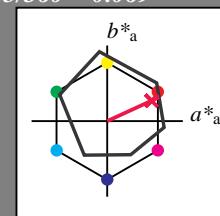
$lab^*tch$  and  $lab^*nch$

D65: hue R

LCH\*Ma: 48 75 25

olv\*Ma: 1.0 0.0 0.32

triangle lightness  $t^*$



### TRS18; adapted (a) CIELAB data

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

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)

$olv_i3^*$  1.0 1.0 1.0 (1.0)

$cmy_n3^*$  0.0 0.0 0.0 (0.0)

$olv_i4^*$  1.0 1.0 1.0 1.0

$cmy_n4^*$  0.0 0.0 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  95.41 -0.97 4.75

$LAB^*LABa$  95.41 0.0 0.0

$LAB^*TCh$  99.99 0.01 -

relative CIELAB lab\*

$lab^*lab$  1.0 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  1.0 0.0 0.0

$lab^*ice$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  71.7 33.75 18.92

$LAB^*LABa$  71.7 34.27 15.76

$LAB^*TCh$  75.0 37.72 24.69

relative CIELAB lab\*

$lab^*lab$  0.694 0.454 0.209

$lab^*tch$  0.75 0.5 0.069

$lab^*nch$  0.0 0.5 0.069

relative Natural Colour (NC)

$lab^*lrj$  0.694 0.5 0.0

$lab^*ice$  0.75 0.5 1.0

$lab^*ncE$  0.0 0.5 b99r

relative Inform. Technology (IT)

$olv_i3^*$  0.5 0.5 0.5 (1.0)

$cmy_n3^*$  0.5 0.5 0.5 (0.0)

$olv_i4^*$  1.0 1.0 1.0 0.5

$cmy_n4^*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  56.71 -0.23 2.14

$LAB^*LABa$  56.71 0.0 0.0

$LAB^*TCh$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  0.5 0.0 0.0

$lab^*ice$  0.5 0.0 0.0

$lab^*ncE$  0.5 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  33.01 34.49 16.31

$LAB^*LABa$  33.01 34.27 15.77

$LAB^*TCh$  25.01 37.73 24.7

relative CIELAB lab\*

$lab^*lab$  0.194 0.454 0.209

$lab^*tch$  0.25 0.5 0.069

$lab^*nch$  0.5 0.5 0.069

relative Natural Colour (NC)

$lab^*lrj$  0.194 0.5 0.0

$lab^*ice$  0.25 0.5 0.0

$lab^*ncE$  0.5 0.5 r00j

$n^* = 1,0$

relative Inform. Technology (IT)

$olv_i3^*$  0.5 0.0 0.161 (1.0)

$cmy_n3^*$  0.5 1.0 0.839 (0.0)

$olv_i4^*$  1.0 0.5 0.661 0.5

$cmy_n4^*$  0.0 0.5 0.339 0.5

standard and adapted CIELAB

$LAB^*LAB$  48.01 68.48 33.09

$LAB^*LABa$  48.01 68.55 31.53

$LAB^*TCh$  50.0 75.45 24.7

relative CIELAB lab\*

$lab^*lab$  0.388 0.908 0.418

$lab^*tch$  0.5 1.0 0.069

$lab^*nch$  0.0 1.0 0.069

relative Natural Colour (NC)

$lab^*lrj$  0.388 1.0 0.0

$lab^*ice$  0.5 1.0 0.0

$lab^*ncE$  0.0 1.0 r00j

relative Inform. Technology (IT)

$olv_i3^*$  0.0 0.0 0.161 (1.0)

$cmy_n3^*$  0.0 1.0 1.0 (0.0)

$olv_i4^*$  1.0 1.0 1.0 0.0

$cmy_n4^*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.5 -0.46

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TCh$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  0.0 0.0 0.0

$lab^*ice$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

relative Inform. Technology (IT)

$olv_i3^*$  0.0 0.0 0.161 (1.0)

$cmy_n3^*$  0.0 1.0 1.0 (0.0)

$olv_i4^*$  1.0 1.0 1.0 0.0

$cmy_n4^*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.5 -0.46

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TCh$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  0.0 0.0 0.0

$lab^*ice$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

$n^* = 0,00$

blackness  $n^*$

chromaticness  $c^*$

$n^* = 0,50$

blackness  $n^*$

chromaticness  $c^*$

$n^* = 1,00$

### Output: Colorimetric Reflective System TRS18

for hue  $h^* = lab^*h = 25/360 = 0.069$

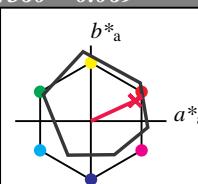
$lab^*tch$  and  $lab^*nch$

D65: hue R

LCH\*Ma: 48 75 25

olv\*Ma: 1.0 0.0 0.32

triangle lightness  $t^*$



### TRS18; adapted (a) CIELAB data

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

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)

$olv_i3^*$  1.0 1.0 1.0 (1.0)

$cmy_n3^*$  0.0 0.0 0.0 (0.0)

$olv_i4^*$  1.0 1.0 1.0 1.0

$cmy_n4^*$  0.0 0.0 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  95.41 -0.97 4.75

$LAB^*LABa$  95.41 0.0 0.0

$LAB^*TCh$  99.99 0.01 -

relative CIELAB lab\*

$lab^*lab$  1.0 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  1.0 0.0 0.0

$lab^*ice$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)

$olv_i3^*$  0.0 0.0 0.161 (1.0)

$cmy_n3^*$  0.0 1.0 1.0 (0.0)

$olv_i4^*$  1.0 1.0 1.0 0.0

$cmy_n4^*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  71.7 33.75 18.92

$LAB^*LABa$  71.7 34.27 15.76

$LAB^*TCh$  75.0 37.72 24.69

relative CIELAB lab\*

$lab^*lab$  0.694 0.454 0.209

$lab^*tch$  0.75 0.5 0.069

$lab^*nch$  0.0 0.5 0.069

relative Natural Colour (NC)

$lab^*lrj$  0.694 0.5 0.0

$lab^*ice$  0.75 0.5 1.0

$lab^*ncE$  0.0 0.5 b99r

relative Inform. Technology (IT)

$olv_i3^*$  1.0 0.0 0.322 (1.0)

$cmy_n3^*$  0.0 1.0 0.339 (0.0)

$olv_i4^*$  1.0 0.5 0.661 1.0

$cmy_n4^*$  0.0 0.5 0.339 0.0

standard and adapted CIELAB</

### Input: Colorimetric Reflective System TRS18

for hue  $h^* = lab^*h = 25/360 = 0.069$

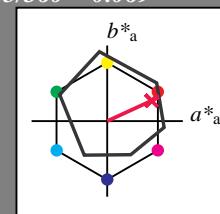
$lab^*tch$  and  $lab^*nch$

D65: hue R

LCH\*Ma: 48 75 25

olv\*Ma: 1.0 0.0 0.32

triangle lightness  $t^*$



### TRS18; adapted (a) CIELAB data

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

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)

$olv_i3^*$  1.0 1.0 1.0 (1.0)

$cmy_n3^*$  0.0 0.0 0.0 (0.0)

$olv_i4^*$  1.0 1.0 1.0 1.0

$cmy_n4^*$  0.0 0.0 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  95.41 -0.97 4.75

$LAB^*LABa$  95.41 0.0 0.0

$LAB^*TCh$  99.99 0.01 -

relative CIELAB lab\*

$lab^*lab$  1.0 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  1.0 0.0 0.0

$lab^*ice$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  71.7 33.75 18.92

$LAB^*LABa$  71.7 34.27 15.76

$LAB^*TCh$  75.0 37.72 24.69

relative CIELAB lab\*

$lab^*lab$  0.694 0.454 0.209

$lab^*tch$  0.75 0.5 0.069

$lab^*nch$  0.0 0.5 0.069

relative Natural Colour (NC)

$lab^*lrj$  0.694 0.5 0.0

$lab^*ice$  0.75 0.5 1.0

$lab^*ncE$  0.0 0.5 b99r

relative Inform. Technology (IT)

$olv_i3^*$  0.5 0.5 0.5 (1.0)

$cmy_n3^*$  0.5 0.5 0.5 (0.0)

$olv_i4^*$  1.0 1.0 1.0 0.5

$cmy_n4^*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  56.71 -0.23 2.14

$LAB^*LABa$  56.71 0.0 0.0

$LAB^*TCh$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  0.5 0.0 0.0

$lab^*ice$  0.5 0.0 0.0

$lab^*ncE$  0.5 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  48.01 68.48 33.09

$LAB^*LABa$  48.01 68.55 31.53

$LAB^*TCh$  50.0 75.45 24.7

relative CIELAB lab\*

$lab^*lab$  0.388 0.908 0.418

$lab^*tch$  0.5 1.0 0.069

$lab^*nch$  0.0 1.0 0.069

relative Natural Colour (NC)

$lab^*lrj$  0.388 1.0 0.0

$lab^*ice$  0.5 1.0 0.0

$lab^*ncE$  0.0 1.0 r00j

$n^* = 1,0$

relative Inform. Technology (IT)

$olv_i3^*$  1.0 0.5 0.61 (1.0)

$cmy_n3^*$  0.0 0.5 0.339 (0.0)

$olv_i4^*$  1.0 0.5 0.661 1.0

$cmy_n4^*$  0.0 0.5 0.339 0.0

standard and adapted CIELAB

$LAB^*LAB$  71.7 33.75 18.92

$LAB^*LABa$  71.7 34.27 15.76

$LAB^*TCh$  75.0 37.72 24.69

relative CIELAB lab\*

$lab^*lab$  0.694 0.454 0.209

$lab^*tch$  0.75 0.5 0.069

$lab^*nch$  0.0 0.5 0.069

relative Natural Colour (NC)

$lab^*lrj$  0.694 0.5 0.0

$lab^*ice$  0.75 0.5 1.0

$lab^*ncE$  0.0 0.5 b99r

standard and adapted CIELAB

$LAB^*LAB$  48.01 68.48 33.09

$LAB^*LABa$  48.01 68.55 31.53

$LAB^*TCh$  50.0 75.45 24.7

relative CIELAB lab\*

$lab^*lab$  0.388 0.908 0.418

$lab^*tch$  0.5 1.0 0.069

$lab^*nch$  0.0 1.0 0.069

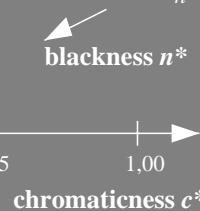
relative Natural Colour (NC)

$lab^*lrj$  0.388 1.0 0.0

$lab^*ice$  0.5 1.0 0.0

$lab^*ncE$  0.0 1.0 r00j

$n^* = 0,00$



### Output: Colorimetric Reflective System MRS18a

for hue  $h^* = lab^*h = 25/360 = 0.071$

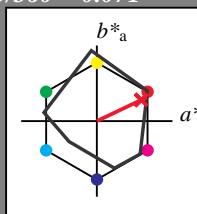
$lab^*tch$  and  $lab^*nch$

D65: hue R

LCH\*Ma: 48 73 25

olv\*Ma: 1.0 0.0 0.1

triangle lightness  $t^*$



### MRS18a; adapted (a) CIELAB data

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

RMa	49.63	66.8	40.02	77.87	31
JMa	90.7	-7.27	93.19	93.48	94
GMa	52.11	-69.93	11.26	70.85	171
G50BMa	45.03	-36.65	-27.13	45.61	217
BMa	36.65	23.26	-62.27	66.49	290
B50RMa	34.94	57.27	-43.6	71.99	323
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	272

relative Inform. Technology (IT)

$olv_i3^*$  1.0 1.0 1.0 (1.0)

$cmy_n3^*$  0.0 0.0 0.0 (0.0)

$olv_i4^*$  1.0 1.0 1.0 1.0

$cmy_n4^*$  0.0 0.0 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  95.41 0.01 0.0

$LAB^*LABa$  95.41 0.0 0.0

$LAB^*TCh$  99.99 0.01 -

relative CIELAB lab\*

$lab^*lab$  1.0 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  1.0 0.0 0.0

$lab^*ice$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  71.76 32.94 15.69

$LAB^*LABa$  71.76 32.9 15.68

$LAB^*TCh$  75.0 36.45 25.49

relative CIELAB lab\*

$lab^*lab$  0.694 0.451 0.215

$lab^*tch$  0.75 0.5 0.071

$lab^*nch$  0.0 0.5 0.071

relative Natural Colour (NC)

$lab^*lrj$  0.694 0.5 0.0

$lab^*ice$  0.75 0.5 1.0

$lab^*ncE$  0.0 0.5 b99r

relative Inform. Technology (IT)

$olv_i3^*$  0.5 0.5 0.5 (1.0)

$cmy_n3^*$  0.5 0.5 0.5 (0.0)

$olv_i4^*$  1.0 0.5 0.552 0.5

$cmy_n4^*$  0.0 0.5 0.448 0.5

standard and adapted CIELAB

$LAB^*LAB$  48.11 65.86 31.39

$LAB^*LABa$  48.11 65.8 31.37

$LAB^*TCh$  50.0 72.9 25.49

relative CIELAB lab\*

$lab^*lab$  0.389 0.902 0.43

$lab^*tch$  0.5 1.0 0.071

$lab^*nch$  0.0 1.0 0.071

relative Natural Colour (NC)

$lab^*lrj$  0.389 1.0 0.0

$lab^*ice$  0.5 1.0 0.0

$lab^*ncE$  0.0 1.0 r00j

$n^* = 1,0$

3 step scales for constant CIELAB hue 25/360 = 0.071 (right)

UE100-7, 3 step scales for constant CIELAB hue 25/360 = 0.069 (left)

### Input: Colorimetric Reflective System TRS18

for hue  $h^* = lab^*h = 25/360 = 0.069$

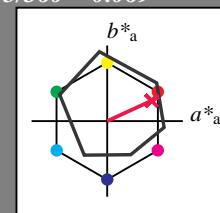
$lab^*tch$  and  $lab^*nch$

D65: hue R

LCH\*Ma: 48 75 25

olv\*Ma: 1.0 0.0 0.32

triangle lightness  $t^*$



### TRS18; adapted (a) CIELAB data

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

$olv_i3^*$  1.0 1.0 1.0 (1.0)

$cmy3^*$  0.0 0.0 0.0 (0.0)

$olv_i4^*$  1.0 1.0 1.0 1.0

$cmy4^*$  0.0 0.0 0.0 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 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  1.0 0.0 0.0

$lab^*ice$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  71.75 33.75 18.92

$LAB^*LABa$  71.75 34.27 15.76

$LAB^*TChA$  75.0 37.72 24.69

relative CIELAB lab\*

$lab^*lab$  0.694 0.454 0.209

$lab^*tch$  0.75 0.5 0.069

$lab^*nch$  0.0 0.5 0.069

relative Natural Colour (NC)

$lab^*lrj$  0.694 0.5 0.0

$lab^*ice$  0.75 0.5 1.0

$lab^*ncE$  0.0 0.5 b99r

relative Inform. Technology (IT)

$olv_i3^*$  0.5 0.5 0.5 (1.0)

$cmy3^*$  0.5 0.5 0.5 (0.0)

$olv_i4^*$  1.0 1.0 1.0 0.5

$cmy4^*$  0.0 0.0 0.0 0.5

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 CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  0.5 0.0 0.0

$lab^*ice$  0.5 0.0 0.0

$lab^*ncE$  0.5 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.5 -0.46

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  0.0 0.0 0.0

$lab^*ice$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

relative Inform. Technology (IT)

$olv_i3^*$  1.0 0.5 0.61 (1.0)

$cmy3^*$  0.0 0.5 0.339 (0.0)

$olv_i4^*$  1.0 0.5 0.661 1.0

$cmy4^*$  0.0 0.5 0.339 0.0

standard and adapted CIELAB

$LAB^*LAB$  71.75 33.75 18.92

$LAB^*LABa$  71.75 34.27 15.76

$LAB^*TChA$  75.0 37.72 24.69

relative CIELAB lab\*

$lab^*lab$  0.694 0.454 0.209

$lab^*tch$  0.75 0.5 0.069

$lab^*nch$  0.0 0.5 0.069

relative Natural Colour (NC)

$lab^*lrj$  0.694 0.5 0.0

$lab^*ice$  0.75 0.5 1.0

$lab^*ncE$  0.0 0.5 b99r

standard and adapted CIELAB

$LAB^*LAB$  48.01 68.48 33.09

$LAB^*LABa$  48.01 68.55 31.53

$LAB^*TChA$  50.0 75.45 24.7

relative CIELAB lab\*

$lab^*lab$  0.388 0.908 0.418

$lab^*tch$  0.5 1.0 0.069

$lab^*nch$  0.0 1.0 0.069

relative Natural Colour (NC)

$lab^*lrj$  0.388 1.0 0.0

$lab^*ice$  0.5 1.0 0.0

$lab^*ncE$  0.0 1.0 r00j

relative CIELAB lab\*

$lab^*lab$  0.194 0.454 0.209

$lab^*tch$  0.25 0.5 0.069

$lab^*nch$  0.5 0.5 0.069

relative Natural Colour (NC)

$lab^*lrj$  0.194 0.5 0.0

$lab^*ice$  0.25 0.5 0.0

$lab^*ncE$  0.5 0.5 r00j

relative CIELAB lab\*

$lab^*lab$  0.194 0.454 0.209

$lab^*tch$  0.25 0.5 0.069

$lab^*nch$  0.5 0.5 0.069

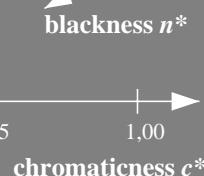
relative Natural Colour (NC)

$lab^*lrj$  0.0 0.0 0.0

$lab^*ice$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 0,00$



### Output: Colorimetric Reflective System NRS18

for hue  $h^* = lab^*h = 25/360 = 0.071$

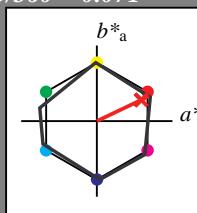
$lab^*tch$  and  $lab^*nch$

D65: hue R

LCH\*Ma: 57 76 25

olv\*Ma: 1.0 0.0 0.32

triangle lightness  $t^*$



### NRS18; adapted (a) CIELAB data

	$L^*=L_a^*$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	56.7	70.66	31.47	77.35	24
JMa	56.7	-1.39	77.37	77.39	91
GMa	56.7	-75.46	17.4	77.45	167
G50BMa	56.7	-71.29	-30.25	77.45	203
BMa	56.7	4.0	-77.3	77.41	273
B50RMa	56.7	63.35	-44.4	77.36	325
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	272

relative Inform. Technology (IT)

$olv_i3^*$  1.0 1.0 1.0 (1.0)

$cmy3^*$  0.0 0.0 0.0 (0.0)

$olv_i4^*$  1.0 1.0 1.0 1.0

$cmy4^*$  0.0 0.0 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  95.41 0.0 0.0

$LAB^*LABa$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  1.0 0.0 0.0

$lab^*ice$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  76.05 34.36 16.37

$LAB^*LABa$  76.05 34.33 16.36

$LAB^*TChA$  75.0 38.03 25.49

relative CIELAB lab\*

$lab^*lab$  0.75 0.451 0.215

$lab^*tch$  0.75 0.5 0.071

$lab^*nch$  0.0 0.5 0.071

relative Natural Colour (NC)

$lab^*lrj$  0.75 0.5 0.0

$lab^*ice$  0.75 0.5 1.0

$lab^*ncE$  0.0 0.5 r00j

relative CIELAB lab\*

$lab^*lab$  0.25 0.451 0.215

$lab^*tch$  0.25 0.5 0.071

$lab^*nch$  0.5 0.5 0.071

relative Natural Colour (NC)

$lab^*lrj$  0.25 0.5 0.0

$lab^*ice$  0.25 0.5 1.0

$lab^*ncE$  0.5 0.5 0.0

relative CIELAB lab\*

$lab^*lab$  0.25 0.451 0.215

$lab^*tch$  0.25 0.5 0.071

$lab^*nch$  0.5 0.5 0.071

relative Natural Colour (NC)

$lab^*lrj$  0.0 0.0 0.0

$lab^*ice$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n$

## Input: Colorimetric Reflective System TRS18

for hue  $h^* = lab^*h = 25/360 = 0.069$

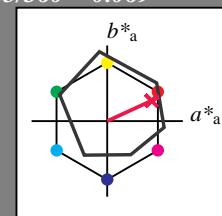
$lab^*tch$  and  $lab^*nch$

D65: hue R

LCH\*Ma: 48 75 25

olv\*Ma: 1.0 0.0 0.32

triangle lightness  $t^*$



### TRS18; adapted (a) CIELAB data

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

$olv_i3^*$  1.0 1.0 1.0 (1.0)

$cmy3^*$  0.0 0.0 0.0 (0.0)

$olv_i4^*$  1.0 1.0 1.0 1.0

$cmy4^*$  0.0 0.0 0.0 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 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  71.75 33.75 18.92

$LAB^*LABa$  71.75 34.27 15.76

$LAB^*TChA$  75.0 37.72 24.69

relative CIELAB lab\*

$lab^*lab$  0.694 0.454 0.209

$lab^*tch$  0.75 0.5 0.069

$lab^*nch$  0.0 0.5 0.069

relative Natural Colour (NC)

$lab^*lrij$  0.694 0.5 0.0

$lab^*tce$  0.75 0.5 1.0

$lab^*ncE$  0.0 0.5 b99r

relative Inform. Technology (IT)

$olv_i3^*$  0.5 0.5 0.5 (1.0)

$cmy3^*$  0.5 0.5 0.5 (0.0)

$olv_i4^*$  1.0 1.0 1.0 0.5

$cmy4^*$  0.0 0.0 0.0 0.5

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 CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.5 0.0 0.0

$lab^*tce$  0.5 0.0 0.0

$lab^*ncE$  0.5 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  48.01 68.48 33.09

$LAB^*LABa$  48.01 68.55 31.53

$LAB^*TChA$  50.0 75.45 24.7

relative CIELAB lab\*

$lab^*lab$  0.388 0.908 0.418

$lab^*tch$  0.5 1.0 0.069

$lab^*nch$  0.0 1.0 0.069

relative Natural Colour (NC)

$lab^*lrij$  0.388 1.0 0.0

$lab^*tce$  0.5 1.0 0.0

$lab^*ncE$  0.0 1.0 r00j

$n^* = 1,0$

relative Inform. Technology (IT)

$olv_i3^*$  0.0 0.0 0.0 (1.0)

$cmy3^*$  1.0 1.0 1.0 (0.0)

$olv_i4^*$  1.0 1.0 1.0 0.0

$cmy4^*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.5 -0.46

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*tce$  0.0 0.0 0.0

$lab^*ncE$  1.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.5 -0.46

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.25 0.5 0.069

$lab^*tch$  0.5 0.5 0.069

$lab^*nch$  0.5 0.5 0.069

relative Natural Colour (NC)

$lab^*lrij$  0.25 0.5 0.0

$lab^*tce$  0.25 0.5 0.0

$lab^*ncE$  0.5 0.5 r00j

relative Inform. Technology (IT)

$olv_i3^*$  1.0 1.0 1.0 (0.0)

$cmy3^*$  1.0 1.0 1.0 0.0

$olv_i4^*$  1.0 1.0 1.0 0.5

$cmy4^*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.5 -0.46

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.25 0.5 0.069

$lab^*tch$  0.5 0.5 0.069

$lab^*nch$  0.5 0.5 0.069

relative Natural Colour (NC)

$lab^*lrij$  0.25 0.5 0.0

$lab^*tce$  0.25 0.5 0.0

$lab^*ncE$  1.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.09 0.02

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*tce$  0.0 0.0 0.0

$lab^*ncE$  1.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.09 0.02

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*tce$  0.0 0.0 0.0

$lab^*ncE$  1.0 0.0 -

relative Inform. Technology (IT)

$olv_i3^*$  0.0 0.0 0.0 (1.0)

$cmy3^*$  1.0 1.0 1.0 (0.0)

$olv_i4^*$  1.0 1.0 1.0 0.5

$cmy4^*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.5 -0.46

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.25 0.5 0.069

$lab^*tch$  0.5 0.5 0.069

$lab^*nch$  0.5 0.5 0.069

relative Natural Colour (NC)

$lab^*lrij$  0.25 0.5 0.0

$lab^*tce$  0.25 0.5 0.0

$lab^*ncE$  1.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.09 0.02

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*tce$  0.0 0.0 0.0

$lab^*ncE$  1.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.09 0.02

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*tce$  0.0 0.0 0.0

$lab^*ncE$  1.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.09 0.02

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*tce$  0.0 0.0 0.0

$lab^*ncE$  1.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.09 0.02

$LAB^*LABa$

### Input: Colorimetric Reflective System TRS18

for hue  $h^* = lab^*h = 25/360 = 0.069$

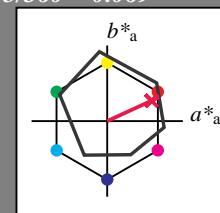
$lab^*tch$  and  $lab^*nch$

D65: hue R

LCH\*Ma: 48 75 25

olv\*Ma: 1.0 0.0 0.32

triangle lightness  $t^*$



### TRS18; adapted (a) CIELAB data

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

$olv_i3^*$  1.0 1.0 1.0 (1.0)

$cmy_n3^*$  0.0 0.0 0.0 (0.0)

$olv_i4^*$  1.0 1.0 1.0 1.0

$cmy_n4^*$  0.0 0.0 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  95.41 -0.97 4.75

$LAB^*LABa$  95.41 0.0 0.0

$LAB^*TCh$  99.99 0.01 -

relative CIELAB lab\*

$lab^*lab$  1.0 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  1.0 0.0 0.0

$lab^*ice$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)

$olv_i3^*$  0.5 0.5 0.5 (1.0)

$cmy_n3^*$  0.5 0.5 0.5 (0.0)

$olv_i4^*$  1.0 1.0 1.0 0.5

$cmy_n4^*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  56.71 -0.23 2.14

$LAB^*LABa$  56.71 0.0 0.0

$LAB^*TCh$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  0.5 0.0 0.0

$lab^*ice$  0.5 0.0 0.0

$lab^*ncE$  0.5 0.0 -

relative Inform. Technology (IT)

$olv_i3^*$  0.0 0.0 0.0 (1.0)

$cmy_n3^*$  1.0 1.0 1.0 (0.0)

$olv_i4^*$  1.0 1.0 1.0 0.0

$cmy_n4^*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.5 -0.46

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TCh$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  0.0 0.0 0.0

$lab^*ice$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

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

%Gamut

$u^*_{rel} = 93$

%Regularity

$g^*_{H,rel} = 57$

$g^*_{C,rel} = 59$

relative Inform. Technology (IT)

$olv_i3^*$  1.0 0.5 0.61 (1.0)

$cmy_n3^*$  0.0 0.5 0.339 (0.0)

$olv_i4^*$  1.0 0.5 0.661 1.0

$cmy_n4^*$  0.0 0.5 0.339 0.0

standard and adapted CIELAB

$LAB^*LAB$  71.7 33.75 18.92

$LAB^*LABa$  71.7 34.27 15.76

$LAB^*TCh$  75.0 37.72 24.69

relative CIELAB lab\*

$lab^*lab$  0.694 0.454 0.209

$lab^*tch$  0.75 0.5 0.069

$lab^*nch$  0.0 0.5 0.069

relative Natural Colour (NC)

$lab^*lrj$  0.694 0.5 0.0

$lab^*ice$  0.75 0.5 1.0

$lab^*ncE$  0.0 0.5 b99r

relative Inform. Technology (IT)

$olv_i3^*$  0.5 0.5 0.5 (1.0)

$cmy_n3^*$  0.5 0.5 0.5 (0.0)

$olv_i4^*$  1.0 1.0 1.0 0.5

$cmy_n4^*$  0.0 0.5 0.339 0.5

standard and adapted CIELAB

$LAB^*LAB$  48.01 68.48 33.09

$LAB^*LABa$  48.01 68.55 31.53

$LAB^*TCh$  50.0 75.45 24.7

relative CIELAB lab\*

$lab^*lab$  0.388 0.908 0.418

$lab^*tch$  0.5 1.0 0.069

$lab^*nch$  0.0 1.0 0.069

relative Natural Colour (NC)

$lab^*lrj$  0.388 1.0 0.0

$lab^*ice$  0.5 1.0 0.0

$lab^*ncE$  0.0 1.0 r00j

relative Inform. Technology (IT)

$olv_i3^*$  0.0 0.0 0.0 (1.0)

$cmy_n3^*$  1.0 1.0 1.0 (0.0)

$olv_i4^*$  1.0 1.0 1.0 0.0

$cmy_n4^*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  11.01 0.07 0.01

$LAB^*LABa$  11.01 0.0 0.0

$LAB^*TCh$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  0.0 0.0 0.0

$lab^*ice$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 0,00$

blackness  $n^*$

chromaticness  $c^*$

0,25 0,50 0,75 1,00

$n^* = 0,50$

blackness  $n^*$

chromaticness  $c^*$

0,25 0,50 0,75 1,00

### Output: Colorimetric Reflective System NRS11

for hue  $h^* = lab^*h = 25/360 = 0.071$

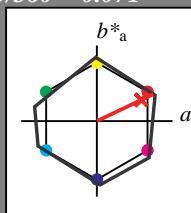
$lab^*tch$  and  $lab^*nch$

D65: hue R

LCH\*Ma: 53 83 25

olv\*Ma: 1.0 0.0 0.32

triangle lightness  $t^*$



	$L^*=L_a^*$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	53.2	77.06	34.32	84.36	24
JMa	53.2	-1.51	84.38	84.39	91
GMa	53.2	-82.27	18.98	84.44	167
G50BMa	53.2	-77.72	-32.98	84.44	203
BMa	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)

$olv_i3^*$  1.0 1.0 1.0 (1.0)

$cmy_n3^*$  0.0 0.0 0.0 (0.0)

$olv_i4^*$  1.0 1.0 1.0 1.0

$cmy_n4^*$  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

$LAB^*TCh$  99.99 0.01 -

relative CIELAB lab\*

$lab^*lab$  1.0 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  1.0 0.0 0.0

$lab^*ice$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)

$olv_i3^*$  0.5 0.5 0.5 (1.0)

$cmy_n3^*$  0.5 0.5 0.5 (0.0)

$olv_i4^*$  1.0 1.0 1.0 0.5

### Input: Colorimetric Reflective System TRS18

for hue  $h^* = lab^*h = 25/360 = 0.069$

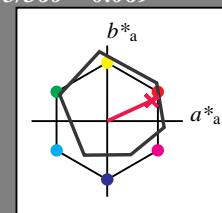
$lab^*tch$  and  $lab^*nch$

D65: hue R

LCH\*Ma: 48 75 25

olv\*Ma: 1.0 0.0 0.32

triangle lightness  $t^*$



### TRS18; adapted (a) CIELAB data

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

%Gamut

$u^*_{rel} = 93$

%Regularity

$g^*_{H,rel} = 57$

$g^*_{C,rel} = 59$

relative Inform. Technology (IT)

olv13*	1.0	1.0	1.0	(1.0)
cmyn3*	0.0	0.0	0.0	(0.0)
olv14*	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

$LAB^*LABa$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*ice$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)

olv13\* 0.5 0.5 0.5 (1.0)

cmyn3\* 0.5 0.5 0.5 (0.0)

olv14\* 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

$LAB^*LABa$  56.71 0.0 0.0

$LAB^*TChA$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.5 0.0 0.0

$lab^*ice$  0.5 0.0 0.0

$lab^*ncE$  0.5 0.0 -

relative Inform. Technology (IT)

olv13\* 0.0 0.0 0.0 (1.0)

cmyn3\* 1.0 1.0 1.0 (0.0)

olv14\* 1.0 1.0 1.0 0.0

cmyn4\* 0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.5 -0.46

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*ice$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

### TRS18; adapted (a) CIELAB data

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

$olv13^*$  1.0 1.0 1.0 (1.0)

$cmyn3^*$  0.0 0.0 0.0 (0.0)

$olv14^*$  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

$LAB^*LABa$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*ice$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)

$olv13^*$  0.5 0.5 0.5 (1.0)

$cmyn3^*$  0.5 0.5 0.5 (0.0)

$olv14^*$  1.0 1.0 1.0 0.5

$cmyn4^*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  57.1 33.75 18.92

$LAB^*LABa$  71.7 34.27 15.76

$LAB^*TChA$  75.0 37.72 24.69

relative CIELAB lab\*

$lab^*lab$  0.694 0.454 0.209

$lab^*tch$  0.75 0.5 0.069

$lab^*nch$  0.0 0.5 0.069

relative Natural Colour (NC)

$lab^*lrij$  0.694 0.5 0.0

$lab^*ice$  0.75 0.5 1.0

$lab^*ncE$  0.0 0.5 b99r

relative Inform. Technology (IT)

$olv13^*$  0.5 0.0 0.161 (1.0)

$cmyn3^*$  0.5 1.0 0.839 (0.0)

$olv14^*$  1.0 0.5 0.661 0.5

$cmyn4^*$  0.0 0.5 0.339 0.5

standard and adapted CIELAB

$LAB^*LAB$  48.01 68.48 33.09

$LAB^*LABa$  48.01 68.55 31.53

$LAB^*TChA$  50.0 75.45 24.7

relative CIELAB lab\*

$lab^*lab$  0.388 0.908 0.418

$lab^*tch$  0.5 1.0 0.069

$lab^*nch$  0.0 1.0 0.069

relative Natural Colour (NC)

$lab^*lrij$  0.388 1.0 0.0

$lab^*ice$  0.5 1.0 0.0

$lab^*ncE$  0.0 1.0 r00j

### TRS18; adapted (a) CIELAB data

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

$olv13^*$  1.0 1.0 1.0 (1.0)

$cmyn3^*$  0.0 0.0 0.0 (0.0)

$olv14^*$  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

$LAB^*LABa$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*ice$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)

$olv13^*$  0.5 0.5 0.5 (1.0)

$cmyn3^*$  0.5 0.5 0.5 (0.0)

$olv14^*$  1.0 1.0 1.0 0.5

$cmyn4^*$  0.0 0.5 0.5 0.5

standard and adapted CIELAB

$LAB^*LAB$  57.1 33.75 18.92

$LAB^*LABa$  71.7 34.27 15.76

$LAB^*TChA$  75.0 37.72 24.69

relative CIELAB lab\*

$lab^*lab$  0.694 0.454 0.209

$lab^*tch$  0.75 0.5 0.069

$lab^*nch$  0.0 0.5 0.069

relative Natural Colour (NC)

### Input: Colorimetric Reflective System MRS18a

for hue  $h^* = lab^*h = 25/360 = 0.071$

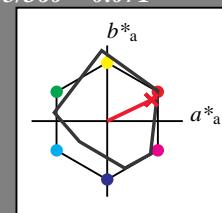
$lab^*tch$  and  $lab^*nch$

D65: hue R

LCH\*Ma: 48 73 25

olv\*Ma: 1.0 0.0 0.1

triangle lightness  $t^*$



### MRS18a; adapted (a) CIELAB data

	$L^* = L^*_{ab,a}$	$a^*_{ab,a}$	$b^*_{ab,a}$	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	49.63	66.8	40.02	77.87	31
JMa	90.7	-7.27	93.19	93.48	94
GMa	52.11	-69.93	11.26	70.85	171
G50BMa	45.03	-36.65	-27.13	45.61	217
BMa	36.65	23.26	-62.27	66.49	290
B50RMa	34.94	57.27	-43.6	71.99	323
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	272

relative Inform. Technology (IT)  
 $olv_i3^*$  1.0 1.0 1.0 (1.0)  
 $cmy3^*$  0.0 0.0 0.0 (0.0)  
 $olv_i4^*$  1.0 1.0 1.0 1.0  
 $cmy4^*$  0.0 0.0 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  95.41 0.01 0.0  
 $LAB^*LABa$  95.41 0.0 0.0  
 $LAB^*TCh$  99.99 0.01 -

relative CIELAB lab\*

$lab^*lab$  1.0 0.0 0.0  
 $lab^*tch$  1.0 0.0 -  
 $lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0  
 $lab^*tce$  1.0 0.0 0.0  
 $lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)  
 $olv_i3^*$  0.5 0.5 0.5 (1.0)  
 $cmy3^*$  0.5 0.5 0.5 (0.0)  
 $olv_i4^*$  1.0 1.0 1.0 0.5  
 $cmy4^*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  56.71 0.05 0.0  
 $LAB^*LABa$  56.71 0.0 0.0  
 $LAB^*TCh$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0  
 $lab^*tch$  0.5 0.0 -  
 $lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.5 0.0 0.0  
 $lab^*tce$  0.5 0.0 0.0  
 $lab^*ncE$  0.5 0.0 -

relative Inform. Technology (IT)  
 $olv_i3^*$  0.0 0.0 0.0 (1.0)  
 $cmy3^*$  1.0 1.0 1.0 (0.0)  
 $olv_i4^*$  1.0 1.0 1.0 0.0  
 $cmy4^*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.1 0.02  
 $LAB^*LABa$  18.02 0.0 0.0  
 $LAB^*TCh$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0  
 $lab^*tch$  0.0 0.0 -  
 $lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0  
 $lab^*tce$  0.0 0.0 -  
 $lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

relative Inform. Technology (IT)  
 $olv_i3^*$  1.0 0.5 0.552 (1.0)  
 $cmy3^*$  0.0 0.5 0.448 (0.0)  
 $olv_i4^*$  1.0 0.5 0.552 1.0  
 $cmy4^*$  0.0 0.5 0.448 0.0

standard and adapted CIELAB

$LAB^*LAB$  71.76 32.94 15.69  
 $LAB^*LABa$  71.76 32.9 15.68  
 $LAB^*TCh$  75.0 36.45 25.49

relative CIELAB lab\*

$lab^*lab$  0.694 0.451 0.215  
 $lab^*tch$  0.75 0.5 0.071  
 $lab^*nch$  0.0 0.5 0.071

relative Natural Colour (NC)

$lab^*lrij$  0.694 0.5 0.0  
 $lab^*tce$  0.75 0.5 1.0  
 $lab^*ncE$  0.0 0.5 b99r

relative Inform. Technology (IT)  
 $olv_i3^*$  1.0 0.0 0.103 (1.0)  
 $cmy3^*$  0.0 1.0 0.897 (0.0)  
 $olv_i4^*$  1.0 0.0 0.104 1.0  
 $cmy4^*$  0.0 1.0 0.896 0.0

standard and adapted CIELAB

$LAB^*LAB$  48.11 65.86 31.39  
 $LAB^*LABa$  48.11 65.8 31.37  
 $LAB^*TCh$  50.0 72.9 25.49

relative CIELAB lab\*

$lab^*lab$  0.389 0.902 0.43  
 $lab^*tch$  0.5 1.0 0.071  
 $lab^*nch$  0.0 1.0 0.071

relative Natural Colour (NC)

$lab^*lrij$  0.389 1.0 0.0  
 $lab^*tce$  0.5 1.0 0.0  
 $lab^*ncE$  0.0 1.0 r00j

relative Inform. Technology (IT)  
 $olv_i3^*$  0.5 0.0 0.052 (1.0)  
 $cmy3^*$  0.5 1.0 0.948 (0.0)  
 $olv_i4^*$  1.0 0.5 0.552 0.5  
 $cmy4^*$  0.0 0.5 0.448 0.5

standard and adapted CIELAB

$LAB^*LAB$  33.07 32.98 15.72  
 $LAB^*LABa$  33.07 32.9 15.69  
 $LAB^*TCh$  25.01 36.45 25.5

relative CIELAB lab\*

$lab^*lab$  0.195 0.451 0.215  
 $lab^*tch$  0.25 0.5 0.071  
 $lab^*nch$  0.5 0.5 0.071

relative Natural Colour (NC)

$lab^*lrij$  0.195 0.5 0.0  
 $lab^*tce$  0.25 0.5 0.0  
 $lab^*ncE$  0.5 0.5 r00j

relative Inform. Technology (IT)  
 $olv_i3^*$  0.0 0.0 0.0 (1.0)  
 $cmy3^*$  1.0 1.0 1.0 (0.0)  
 $olv_i4^*$  1.0 1.0 1.0 0.0  
 $cmy4^*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.1 0.02  
 $LAB^*LABa$  18.02 0.0 0.0  
 $LAB^*TCh$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0  
 $lab^*tch$  0.0 0.0 -  
 $lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0  
 $lab^*tce$  0.0 0.0 -  
 $lab^*ncE$  1.0 0.0 -

$n^* = 0,00$

$n^* = 0,00$   
blackness  $n^*$   
chromaticness  $c^*$

### Output: Colorimetric Reflective System ORS18

for hue  $h^* = lab^*h = 25/360 = 0.069$

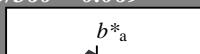
$lab^*tch$  and  $lab^*nch$

D65: hue R

LCH\*Ma: 48 75 25

olv\*Ma: 1.0 0.0 0.1

triangle lightness  $t^*$



### ORS18; adapted (a) CIELAB data

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

$olv_i3^*$  1.0 1.0 1.0 (1.0)  
 $cmy3^*$  0.0 0.0 0.0 (0.0)  
 $olv_i4^*$  1.0 1.0 1.0 1.0  
 $cmy4^*$  0.0 0.0 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  95.41 -0.97 4.75  
 $LAB^*LABa$  95.41 0.0 0.0  
 $LAB^*TCh$  99.99 0.01 -

relative CIELAB lab\*

$lab^*lab$  1.0 0.0 0.0  
 $lab^*tch$  1.0 0.0 -  
 $lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0  
 $lab^*tce$  1.0 0.0 0.0  
 $lab^*ncE$  0.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  71.75 33.75 18.92  
 $LAB^*LABa$  71.75 34.27 15.76  
 $LAB^*TCh$  75.0 37.72 24.69

relative CIELAB lab\*

$lab^*lab$  0.694 0.454 0.209  
 $lab^*tch$  0.75 0.5 0.069  
 $lab^*nch$  0.0 0.5 0.069

relative Natural Colour (NC)

$lab^*lrij$  0.694 0.5 0.0  
 $lab^*tce$  0.75 0.5 1.0  
 $lab^*ncE$  0.0 0.5 b99r

relative Inform. Technology (IT)

$olv_i3^*$  0.5 0.5 0.5 (1.0)  
 $cmy3^*$  0.5 0.5 0.5 (0.0)  
 $olv_i4^*$  1.0 0.5 0.661 1.0  
 $cmy4^*$  0.0 0.5 0.339 0.0

standard and adapted CIELAB

$LAB^*LAB$  48.01 68.48 33.09  
 $LAB^*LABa$  48.01 68.55 31.53  
 $LAB^*TCh$  50.0 75.45 24.7

relative CIELAB lab\*

$lab^*lab$  0.388 0.908 0.418  
 $lab^*tch$  0.5 1.0 0.069  
 $lab^*nch$  0.0 1.0 0.069

relative Natural Colour (NC)

$lab^*lrij$  0.388 1.0 0.0  
 $lab^*tce$  0.5 1.0 0.0  
 $lab^*ncE$  0.0 1.0 r00j

relative Inform. Technology (IT)

$olv_i3^*$  0.0 0.0 0.0 (1.0)  
 $cmy3^*$  1.0 1.0 1.0 (0.0)  
 $olv_i4^*$  1.0 1.0 1.0 0.0  
 $cmy4^*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  33.01 34.49 16.31  
 $LAB^*LABa$  33.01 34.27 15.77  
 $LAB^*TCh$  25.01 37.73 24.7

relative CIELAB lab\*

$lab^*lab$  0.194 0.454 0.209  
 $lab^*tch$  0.25 0.5 0.069  
 $lab^*nch$  0.5 0.5 0.069

relative Natural Colour (NC)

$lab^*lrij$  0.194 0.5 0.0  
 $lab^*tce$  0.25 0.5 0.0  
 $lab^*ncE$  0.5 0.5 r00j

$n^* = 1,0$

$n^* = 0,50$   
blackness  $n^*$   
chromaticness  $c^*$

$n^* = 0,50$   
3 step scales for constant CIELAB hue 25/360 = 0.069 (right)

UE100-7, 3 step scales for constant CIELAB hue 25/360 = 0.071 (left)

### Input: Colorimetric Reflective System MRS18a

for hue  $h^* = lab^*h = 25/360 = 0.071$

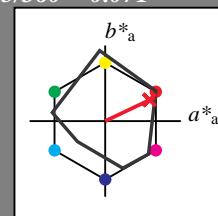
$lab^*tch$  and  $lab^*nch$

D65: hue R

LCH\*Ma: 48 73 25

olv\*Ma: 1.0 0.0 0.1

triangle lightness  $t^*$



### MRS18a; adapted (a) CIELAB data

	$L^*=L^*_a$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	49.63	66.8	40.02	77.87	31
JMa	90.7	-7.27	93.19	93.48	94
GMa	52.11	-69.93	11.26	70.85	171
G50BMa	45.03	-36.65	-27.13	45.61	217
BMa	36.65	23.26	-62.27	66.49	290
B50RMa	34.94	57.27	-43.6	71.99	323
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	272

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 0.01 0.0  
 $LAB^*LABa$  95.41 0.0 0.0  
 $LAB^*TCh$  99.99 0.01 -

relative CIELAB lab\*

$lab^*lab$  1.0 0.0 0.0  
 $lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  1.0 0.0 0.0  
 $lab^*ice$  1.0 0.0 0.0  
 $lab^*ncE$  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 0.5  
 $cmyn^4*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  56.71 0.05 0.0  
 $LAB^*LABa$  56.71 0.0 0.0  
 $LAB^*TCh$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0  
 $lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  0.5 0.0 0.0  
 $lab^*ice$  0.5 0.0 0.0  
 $lab^*ncE$  0.5 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)  
 $olv^4*$  1.0 1.0 1.0 0.0  
 $cmyn^4*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.1 0.02  
 $LAB^*LABa$  18.02 0.0 0.0  
 $LAB^*TCh$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0  
 $lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  0.0 0.0 0.0  
 $lab^*ice$  0.0 0.0 -  
 $lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

relative Inform. Technology (IT)

$olv^3*$  1.0 0.5 0.552 (1.0)

$cmyn^3*$  0.0 0.5 0.448 (0.0)

$olv^4*$  1.0 0.5 0.552 1.0

$cmyn^4*$  0.0 0.5 0.448 0.0

standard and adapted CIELAB

$LAB^*LAB$  71.76 32.94 15.69  
 $LAB^*LABa$  71.76 32.9 15.68  
 $LAB^*TCh$  75.0 36.45 25.49

relative CIELAB lab\*

$lab^*lab$  0.694 0.451 0.215

$lab^*tch$  0.75 0.5 0.071

$lab^*nch$  0.0 0.5 0.071

relative Natural Colour (NC)

$lab^*lrj$  0.694 0.5 0.0

$lab^*ice$  0.75 0.5 1.0

$lab^*ncE$  0.0 0.5 b99r

relative Inform. Technology (IT)

$olv^3*$  1.0 0.0 0.103 (1.0)

$cmyn^3*$  0.0 1.0 0.897 (0.0)

$olv^4*$  1.0 0.0 0.104 1.0

$cmyn^4*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  48.11 65.86 31.39  
 $LAB^*LABa$  48.11 65.8 31.37  
 $LAB^*TCh$  50.0 72.9 25.49

relative CIELAB lab\*

$lab^*lab$  0.389 0.902 0.43

$lab^*tch$  0.5 1.0 0.071

$lab^*nch$  0.0 1.0 0.071

relative Natural Colour (NC)

$lab^*lrj$  0.389 1.0 0.0

$lab^*ice$  0.5 1.0 0.0

$lab^*ncE$  0.0 1.0 r00j

relative Inform. Technology (IT)

$olv^3*$  0.5 0.0 0.052 (1.0)

$cmyn^3*$  0.5 1.0 0.948 (0.0)

$olv^4*$  1.0 0.5 0.552 0.5

$cmyn^4*$  0.0 0.5 0.448 0.5

standard and adapted CIELAB

$LAB^*LAB$  33.07 32.98 15.72  
 $LAB^*LABa$  33.07 32.9 15.69  
 $LAB^*TCh$  25.01 36.45 25.5

relative CIELAB lab\*

$lab^*lab$  0.195 0.451 0.215

$lab^*tch$  0.25 0.5 0.071

$lab^*nch$  0.5 0.5 0.071

relative Natural Colour (NC)

$lab^*lrj$  0.195 0.5 0.0

$lab^*ice$  0.25 0.5 0.0

$lab^*ncE$  0.5 0.5 r00j

$n^* = 0,00$

$n^* = 0,00$   
blackness  $n^*$   
chromaticness  $c^*$

### Output: Colorimetric Reflective System MRS18

for hue  $h^* = lab^*h = 25/360 = 0.069$

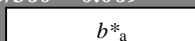
$lab^*tch$  and  $lab^*nch$

D65: hue R

LCH\*Ma: 48 73 25

olv\*Ma: 1.0 0.0 0.1

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

%Gamut

$u^*_{rel} = 92$

%Regularity

$g^*_{H,rel} = 42$

$g^*_{C,rel} = 49$

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

$LAB^*LABa$  95.41 0.0 0.0

$LAB^*TCh$  99.99 0.01 -

relative CIELAB lab\*

$lab^*lab$  1.0 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  1.0 0.0 0.0

$lab^*ice$  1.0 0.0 0.0

$lab^*ncE$  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 0.5 0.548 0.5

$cmyn^4*$  0.0 0.5 0.452 0.5

standard and adapted CIELAB

$LAB^*LAB$  71.8 32.47 18.34

$LAB^*LABa$  71.8 33.0 15.17

$LAB^*TCh$  75.0 36.32 24.7

relative CIELAB lab\*

$lab^*lab$  0.695 0.454 0.209

$lab^*tch$  0.75 0.5 0.069

$lab^*nch$  0.0 0.5 0.069

relative Natural Colour (NC)

$lab^*lrj$  0.695 0.5 0.0

$lab^*ice$  0.75 0.5 1.0

$lab^*ncE$  0.0 0.5 r00j

$n^* = 0,00$

### Input: Colorimetric Reflective System MRS18a

for hue  $h^* = lab^*h = 25/360 = 0.071$

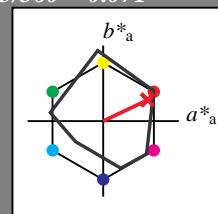
$lab^*tch$  and  $lab^*nch$

D65: hue R

LCH\*Ma: 48 73 25

olv\*Ma: 1.0 0.0 0.1

triangle lightness  $t^*$



### MRS18a; adapted (a) CIELAB data

	$L^*=L^*_a$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	49.63	66.8	40.02	77.87	31
JMa	90.7	-7.27	93.19	93.48	94
GMa	52.11	-69.93	11.26	70.85	171
G50BMa	45.03	-36.65	-27.13	45.61	217
BMa	36.65	23.26	-62.27	66.49	290
B50RMa	34.94	57.27	-43.6	71.99	323
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	272

relative Inform. Technology (IT)  
 $olv_i3^*$  1.0 1.0 1.0 (1.0)  
 $cmy3^*$  0.0 0.0 0.0 (0.0)  
 $olv_i4^*$  1.0 1.0 1.0 1.0  
 $cmy4^*$  0.0 0.0 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  95.41 0.01 0.0  
 $LAB^*LABa$  95.41 0.0 0.0  
 $LAB^*TCh$  99.99 0.01 -

relative CIELAB lab\*

$lab^*lab$  1.0 0.0 0.0  
 $lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  1.0 0.0 0.0  
 $lab^*ice$  1.0 0.0 0.0  
 $lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)  
 $olv_i3^*$  0.5 0.5 0.5 (1.0)  
 $cmy3^*$  0.5 0.5 0.5 (0.0)  
 $olv_i4^*$  1.0 1.0 1.0 0.5  
 $cmy4^*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  56.71 0.05 0.0  
 $LAB^*LABa$  56.71 0.0 0.0  
 $LAB^*TCh$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0  
 $lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  0.5 0.0 0.0  
 $lab^*ice$  0.5 0.0 0.0  
 $lab^*ncE$  0.5 0.0 -

relative Inform. Technology (IT)  
 $olv_i3^*$  0.0 0.0 0.0 (1.0)  
 $cmy3^*$  1.0 1.0 1.0 (0.0)  
 $olv_i4^*$  1.0 1.0 1.0 0.0  
 $cmy4^*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.1 0.02  
 $LAB^*LABa$  18.02 0.0 0.0  
 $LAB^*TCh$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0  
 $lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  0.0 0.0 0.0  
 $lab^*ice$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

### MRS18a; adapted (a) CIELAB data

	$L^*=L^*_a$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	49.63	66.8	40.02	77.87	31
JMa	90.7	-7.27	93.19	93.48	94
GMa	52.11	-69.93	11.26	70.85	171
G50BMa	45.03	-36.65	-27.13	45.61	217
BMa	36.65	23.26	-62.27	66.49	290
B50RMa	34.94	57.27	-43.6	71.99	323
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	272

%Gamut

$u^*_{rel} = 92$

%Regularity

$g^*_{H,rel} = 42$

$g^*_{C,rel} = 49$

relative Inform. Technology (IT)

$olv_i3^*$  1.0 0.5 0.552 (1.0)

$cmy3^*$  0.0 0.5 0.448 (0.0)

$olv_i4^*$  1.0 0.5 0.552 1.0

$cmy4^*$  0.0 0.5 0.448 0.0

standard and adapted CIELAB

$LAB^*LAB$  71.76 32.94 15.69

$LAB^*LABa$  71.76 32.9 15.68

$LAB^*TCh$  75.0 36.45 25.49

relative CIELAB lab\*

$lab^*lab$  0.694 0.451 0.215

$lab^*tch$  0.75 0.5 0.071

$lab^*nch$  0.0 0.5 0.071

relative Natural Colour (NC)

$lab^*lrj$  0.694 0.5 0.0

$lab^*ice$  0.75 0.5 1.0

$lab^*ncE$  0.0 0.5 b99r

relative Inform. Technology (IT)

$olv_i3^*$  1.0 0.0 0.103 (1.0)

$cmy3^*$  0.0 1.0 0.897 (0.0)

$olv_i4^*$  1.0 0.0 0.104 1.0

$cmy4^*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  48.11 65.86 31.39

$LAB^*LABa$  48.11 65.8 31.37

$LAB^*TCh$  50.0 72.9 25.49

relative CIELAB lab\*

$lab^*lab$  0.389 0.902 0.43

$lab^*tch$  0.5 1.0 0.071

$lab^*nch$  0.0 1.0 0.071

relative Natural Colour (NC)

$lab^*lrj$  0.389 1.0 0.0

$lab^*ice$  0.5 1.0 0.0

$lab^*ncE$  0.0 1.0 r00j

$n^* = 0,00$

$n^* = blackness n^*$

$n^* = chromaticness c^*$

### Output: Colorimetric Reflective System TRS18

for hue  $h^* = lab^*h = 25/360 = 0.069$

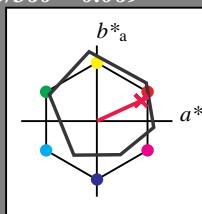
$lab^*tch$  and  $lab^*nch$

D65: hue R

LCH\*Ma: 48 75 25

olv\*Ma: 1.0 0.0 0.32

triangle lightness  $t^*$



### TRS18; adapted (a) CIELAB data

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

%Gamut

$u^*_{rel} = 93$

%Regularity

$g^*_{H,rel} = 57$

$g^*_{C,rel} = 59$

relative Inform. Technology (IT)

$olv_i3^*$  1.0 0.5 0.661 (1.0)

$cmy3^*$  0.0 0.5 0.339 (0.0)

$olv_i4^*$  1.0 0.5 0.661 1.0

$cmy4^*$  0.0 0.5 0.339 0.0

standard and adapted CIELAB

$LAB^*LAB$  95.41 -0.97 4.75

$LAB^*LABa$  95.41 0.0 0.0

$LAB^*TCh$  99.99 0.01 -

relative CIELAB lab\*

$lab^*lab$  1.0 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  1.0 0.0 0.0

$lab^*ice$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 r00j

$n^* = 0,00$

$n^* = blackness n^*$

$n^* = chromaticness c^*$

relative Inform. Technology (IT)  
 $olv_i3^*$  1.0 0.0 0.322 (1.0)  
 $cmy3^*$  0.0 1.0 0.678 (0.0)

$olv_i4^*$  1.0 0.0 0.323 1.0

$cmy4^*$  0.0 1.0 0.677 0.0

standard and adapted CIELAB

$LAB^*LAB$  48.01 68.48 33.09

$LAB^*LABa$  48.01 68.55 31.53

$LAB^*TCh$  50.0 75.45 24.7

relative CIELAB lab\*

$lab^*lab$  0.388 0.908 0.418

$lab^*tch$  0.5 1.0 0.069

$lab^*nch$  0.0 1.0 0.069

relative Natural Colour (NC)

$lab^*lrj$  0.388 1.0 0.0

$lab^*ice$  0.5 1.0 0.0

$lab^*ncE$  0.0 1.0 r00j

$n^* = 0,00$

$n^* = blackness n^*$

$n^* = chromaticness c^*$

3 step scales for constant CIELAB hue 25/360 = 0.069 (right)

UE100-7, 3 step scales for constant CIELAB hue 25/360 = 0.071 (left)

### Input: Colorimetric Reflective System MRS18a

for hue  $h^* = lab^*h = 25/360 = 0.071$

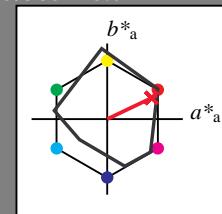
$lab^*tch$  and  $lab^*nch$

D65: hue R

LCH\*Ma: 48 73 25

olv\*Ma: 1.0 0.0 0.1

triangle lightness  $t^*$



### MRS18a; adapted (a) CIELAB data

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

RMa	49.63	66.8	40.02	77.87	31
JMa	90.7	-7.27	93.19	93.48	94
GMa	52.11	-69.93	11.26	70.85	171
G50BMa	45.03	-36.65	-27.13	45.61	217
BMa	36.65	23.26	-62.27	66.49	290
B50RMa	34.94	57.27	-43.6	71.99	323
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	272

relative Inform. Technology (IT)  
 $olv_i3^*$  1.0 1.0 1.0 (1.0)  
 $cmyn3^*$  0.0 0.0 0.0 (0.0)  
 $olv_i4^*$  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 0.01 0.0  
 $LAB^*LABa$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0  
 $lab^*tce$  1.0 0.0 0.0  
 $lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)  
 $olv_i3^*$  0.5 0.5 0.5 (1.0)  
 $cmyn3^*$  0.5 0.5 0.5 (0.0)  
 $olv_i4^*$  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 0.05 0.0  
 $LAB^*LABa$  56.71 0.0 0.0  
 $LAB^*TChA$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0  
 $lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.5 0.0 0.0  
 $lab^*tce$  0.5 0.0 0.0  
 $lab^*ncE$  0.5 0.0 -

relative Inform. Technology (IT)  
 $olv_i3^*$  0.0 0.0 0.0 (1.0)  
 $cmyn3^*$  1.0 1.0 1.0 (0.0)  
 $olv_i4^*$  1.0 1.0 1.0 0.0  
 $cmyn4^*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.1 0.02  
 $LAB^*LABa$  18.02 0.0 0.0  
 $LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0  
 $lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0  
 $lab^*tce$  0.0 0.0 -  
 $lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

relative Inform. Technology (IT)

$olv_i3^*$  1.0 0.5 0.552 (1.0)

$cmyn3^*$  0.0 0.5 0.448 (0.0)

$olv_i4^*$  1.0 0.5 0.552 1.0

$cmyn4^*$  0.0 0.5 0.448 0.0

standard and adapted CIELAB

$LAB^*LAB$  71.76 32.94 15.69  
 $LAB^*LABa$  71.76 32.9 15.68  
 $LAB^*TChA$  75.0 36.45 25.49

relative CIELAB lab\*

$lab^*lab$  0.694 0.451 0.215

$lab^*tch$  0.75 0.5 0.071

$lab^*nch$  0.0 0.5 0.071

relative Natural Colour (NC)

$lab^*lrij$  0.694 0.5 0.0

$lab^*tce$  0.75 0.5 1.0

$lab^*ncE$  0.0 0.5 b99r

relative Inform. Technology (IT)

$olv_i3^*$  1.0 0.0 0.103 (1.0)

$cmyn3^*$  0.0 1.0 0.897 (0.0)

$olv_i4^*$  1.0 0.0 0.104 1.0

$cmyn4^*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  48.11 65.86 31.39  
 $LAB^*LABa$  48.11 65.8 31.37  
 $LAB^*TChA$  50.0 72.9 25.49

relative CIELAB lab\*

$lab^*lab$  0.389 0.902 0.43

$lab^*tch$  0.5 1.0 0.071

$lab^*nch$  0.0 1.0 0.071

relative Natural Colour (NC)

$lab^*lrij$  0.389 1.0 0.0

$lab^*tce$  0.5 1.0 0.0

$lab^*ncE$  0.0 1.0 r00j

relative Inform. Technology (IT)

$olv_i3^*$  0.0 0.0 0.0 (1.0)

$cmyn3^*$  1.0 1.0 1.0 (0.0)

$olv_i4^*$  1.0 1.0 1.0 0.0

$cmyn4^*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.1 0.02  
 $LAB^*LABa$  18.02 0.0 0.0  
 $LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.195 0.451 0.215

$lab^*tch$  0.25 0.5 0.071

$lab^*nch$  0.5 0.5 0.071

relative Natural Colour (NC)

$lab^*lrij$  0.195 0.5 0.0

$lab^*tce$  0.25 0.5 0.0

$lab^*ncE$  0.5 0.5 r00j

$n^* = 0,00$

$n^* = 0,00$

blackness  $n^*$

chromaticness  $c^*$

### Output: Colorimetric Reflective System MRS18a

for hue  $h^* = lab^*h = 25/360 = 0.071$

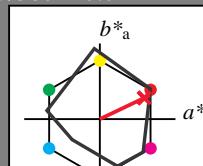
$lab^*tch$  and  $lab^*nch$

D65: hue R

LCH\*Ma: 48 73 25

olv\*Ma: 1.0 0.0 0.1

triangle lightness  $t^*$



### MRS18a; adapted (a) CIELAB data

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

RMa	49.63	66.8	40.02	77.87	31
JMa	90.7	-7.27	93.19	93.48	94
GMa	52.11	-69.93	11.26	70.85	171
G50BMa	45.03	-36.65	-27.13	45.61	217
BMa	36.65	23.26	-62.27	66.49	290
B50RMa	34.94	57.27	-43.6	71.99	323
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	272

relative Inform. Technology (IT)  
 $olv_i3^*$  1.0 1.0 1.0 (1.0)  
 $cmyn3^*$  0.0 0.0 0.0 (0.0)  
 $olv_i4^*$  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 0.01 0.0  
 $LAB^*LABa$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0  
 $lab^*tce$  1.0 0.0 0.0  
 $lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)  
 $olv_i3^*$  0.5 0.5 0.5 (1.0)  
 $cmyn3^*$  0.5 0.5 0.5 (0.0)  
 $olv_i4^*$  1.0 0.5 0.552 1.0  
 $cmyn4^*$  0.0 0.5 0.448 0.0

standard and adapted CIELAB

$LAB^*LAB$  56.71 0.05 0.0  
 $LAB^*LABa$  56.71 0.0 0.0  
 $LAB^*TChA$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.694 0.451 0.215

$lab^*tch$  0.75 0.5 0.071

$lab^*nch$  0.0 0.5 0.071

relative Natural Colour (NC)

$lab^*lrij$  0.694 0.5 0.0  
 $lab^*tce$  0.75 0.5 1.0  
 $lab^*ncE$  0.0 0.5 b99r

relative Inform. Technology (IT)  
 $olv_i3^*$  0.0 0.0 0.0 (1.0)  
 $cmyn3^*$  1.0 1.0 1.0 (0.0)  
 $olv_i4^*$  1.0 1.0 1.0 0.0  
 $cmyn4^*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.1 0.02  
 $LAB^*LABa$  18.02 0.0 0.0  
 $LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.195 0.451 0.215

$lab^*tch$  0.25 0.5 0.071

$lab^*nch$  0.5 0.5 0.071

relative Natural Colour (NC)

$lab^*lrij$  0.195 0.5 0.0  
 $lab^*tce$  0.25 0.5 0.0  
 $lab^*ncE$  0.5 0.5 r00j

$n^* = 1,0$

3 step scales for constant CIELAB hue 25/360 = 0.071 (left)

3 step scales for constant CIELAB hue 25/360 = 0.071 (right)

### Input: Colorimetric Reflective System MRS18a

for hue  $h^* = lab^*h = 25/360 = 0.071$

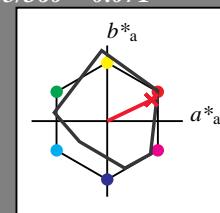
$lab^*tch$  and  $lab^*nch$

D65: hue R

LCH\*Ma: 48 73 25

olv\*Ma: 1.0 0.0 0.1

triangle lightness  $t^*$



### MRS18a; adapted (a) CIELAB data

	$L^* = L^*_{ab,a}$	$a^*_{ab,a}$	$b^*_{ab,a}$	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	49.63	66.8	40.02	77.87	31
JMa	90.7	-7.27	93.19	93.48	94
GMa	52.11	-69.93	11.26	70.85	171
G50BMa	45.03	-36.65	-27.13	45.61	217
BMa	36.65	23.26	-62.27	66.49	290
B50RMa	34.94	57.27	-43.6	71.99	323
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	272

relative Inform. Technology (IT)  
 $olvi3^*$  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 0.01 0.0  
 $LAB^*LABa$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  1.0 0.0 0.0  
 $lab^*ice$  1.0 0.0 0.0  
 $lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)  
 $olvi3^*$  0.5 0.5 0.5 (1.0)  
 $cmyn3^*$  0.5 0.5 0.5 (0.0)  
 $olv4^*$  1.0 1.0 1.0 0.5  
 $cmyn4^*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  56.71 0.05 0.0  
 $LAB^*LABa$  56.71 0.0 0.0  
 $LAB^*TChA$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0  
 $lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  0.5 0.0 0.0  
 $lab^*ice$  0.5 0.0 0.0  
 $lab^*ncE$  0.5 0.0 -

relative Inform. Technology (IT)  
 $olvi3^*$  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 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.1 0.02  
 $LAB^*LABa$  18.02 0.0 0.0  
 $LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0  
 $lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  0.0 0.0 0.0  
 $lab^*ice$  0.0 0.0 -  
 $lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

### MRS18a; adapted (a) CIELAB data

	$L^* = L^*_{ab,a}$	$a^*_{ab,a}$	$b^*_{ab,a}$	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	49.63	66.8	40.02	77.87	31
JMa	90.7	-7.27	93.19	93.48	94
GMa	52.11	-69.93	11.26	70.85	171
G50BMa	45.03	-36.65	-27.13	45.61	217
BMa	36.65	23.26	-62.27	66.49	290
B50RMa	34.94	57.27	-43.6	71.99	323
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	272

%Gamut

$u^*_{rel} = 92$

%Regularity

$g^*_{H,rel} = 42$

$g^*_{C,rel} = 49$

relative Inform. Technology (IT)

$olvi3^*$  1.0 0.5 0.552 (1.0)

$cmyn3^*$  0.0 0.5 0.448 (0.0)

$olv4^*$  1.0 0.5 0.552 1.0

$cmyn4^*$  0.0 0.5 0.448 0.0

standard and adapted CIELAB

$LAB^*LAB$  71.76 32.94 15.69

$LAB^*LABa$  71.76 32.9 15.68

$LAB^*TChA$  75.0 36.45 25.49

relative CIELAB lab\*

$lab^*lab$  0.694 0.451 0.215

$lab^*tch$  0.75 0.5 0.071

$lab^*nch$  0.0 0.5 0.071

relative Natural Colour (NC)

$lab^*lrj$  0.694 0.5 0.0

$lab^*ice$  0.75 0.5 1.0

$lab^*ncE$  0.0 0.5 b99r

relative Inform. Technology (IT)

$olvi3^*$  1.0 0.0 0.103 (1.0)

$cmyn3^*$  0.0 1.0 0.897 (0.0)

$olv4^*$  1.0 0.0 0.104 1.0

$cmyn4^*$  0.0 1.0 0.896 0.0

standard and adapted CIELAB

$LAB^*LAB$  48.11 65.86 31.39

$LAB^*LABa$  48.11 65.8 31.37

$LAB^*TChA$  50.0 72.9 25.49

relative CIELAB lab\*

$lab^*lab$  0.389 0.902 0.43

$lab^*tch$  0.5 1.0 0.071

$lab^*nch$  0.0 1.0 0.071

relative Natural Colour (NC)

$lab^*lrj$  0.389 1.0 0.0

$lab^*ice$  0.5 1.0 0.0

$lab^*ncE$  0.0 1.0 r00j

relative Inform. Technology (IT)

$olvi3^*$  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 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.09 0.02

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  0.0 0.0 0.0

$lab^*ice$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 0,00$

$n^* = 1,00$

blackness  $n^*$

chromaticness  $c^*$

### Output: Colorimetric Reflective System NRS18

for hue  $h^* = lab^*h = 25/360 = 0.071$

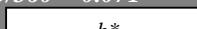
$lab^*tch$  and  $lab^*nch$

D65: hue R

LCH\*Ma: 57 76 25

olv\*Ma: 1.0 0.0 0.1

triangle lightness  $t^*$



### NRS18; adapted (a) CIELAB data

	$L^* = L^*_{ab,a}$	$a^*_{ab,a}$	$b^*_{ab,a}$	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	56.7	70.66	31.47	77.35	24
JMa	56.7	-1.39	77.37	77.39	91
GMa	56.7	-75.46	17.4	77.45	167
G50BMa	56.7	-71.29	-30.25	77.45	203
BMa	56.7	4.0	-77.3	77.41	273
B50RMa	56.7	63.35	-44.4	77.36	325
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	272

%Gamut

$u^*_{rel} = 100$

%Regularity

$g^*_{H,rel} = 47$

$g^*_{C,rel} = 100$

relative Inform. Technology (IT)

$olvi3^*$  1.0 0.514 0.5 (1.0)

$cmyn3^*$  0.0 0.486 0.5 (0.0)

$olv4^*$  1.0 0.514 0.5 1.0

$cmyn4^*$  0.0 0.486 0.5 0.0

standard and adapted CIELAB

$LAB^*LAB$  76.05 34.36 16.37

$LAB^*LABa$  76.05 34.33 16.36

$LAB^*TChA$  75.0 38.03 25.49

relative CIELAB lab\*

$lab^*lab$  0.75 0.451 0.215

$lab^*tch$  0.75 0.5 0.071

$lab^*nch$  0.0 0.5 0.071

relative Natural Colour (NC)

$lab^*lrj$  0.75 0.5 0.0

$lab^*ice$  0.75 0.5 0.0

$lab^*ncE$  0.0 0.5 r00j

relative Inform. Technology (IT)

$olvi3^*$  1.0 0.028 0.0 (1.0)

$cmyn3^*$  0.0 0.972 1.0 (0.0)

$olv4^*$  1.0 0.028 0.0 1.0

$cmyn4^*$  0.0 0.972 1.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  56.7 68.71 32.74

$LAB^*LABa$  56.7 68.66 32.72

$LAB^*TChA$  50.0 76.06 25.48

relative CIELAB lab\*

$lab^*lab$  0.5 0.903 0.43

$lab^*tch$  0.5 1.0 0.071

$lab^*nch$  0.0 1.0 0.071

relative Natural Colour (NC)

$lab^*lrj$  0.5 1.0 0.0

### Input: Colorimetric Reflective System MRS18a

for hue  $h^* = lab^*h = 25/360 = 0.071$

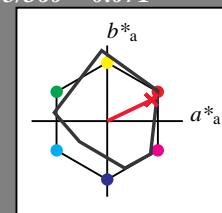
$lab^*tch$  and  $lab^*nch$

D65: hue R

LCH\*Ma: 48 73 25

olv\*Ma: 1.0 0.0 0.1

triangle lightness  $t^*$



### MRS18a; adapted (a) CIELAB data

	$L^*=L^*_a$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	49.63	66.8	40.02	77.87	31
JMa	90.7	-7.27	93.19	93.48	94
GMa	52.11	-69.93	11.26	70.85	171
G50BMa	45.03	-36.65	-27.13	45.61	217
BMa	36.65	23.26	-62.27	66.49	290
B50RMa	34.94	57.27	-43.6	71.99	323
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	272

relative Inform. Technology (IT)  
 $olv_i3^*$  1.0 1.0 1.0 (1.0)  
 $cmy3^*$  0.0 0.0 0.0 (0.0)  
 $olv_i4^*$  1.0 1.0 1.0 1.0  
 $cmy4^*$  0.0 0.0 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  95.41 0.01 0.0  
 $LAB^*LABa$  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 -  
 $lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  1.0 0.0 0.0  
 $lab^*ice$  1.0 0.0 0.0  
 $lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)  
 $olv_i3^*$  0.5 0.5 0.5 (1.0)  
 $cmy3^*$  0.5 0.5 0.5 (0.0)  
 $olv_i4^*$  1.0 1.0 1.0 0.5  
 $cmy4^*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  56.71 0.05 0.0  
 $LAB^*LABa$  56.71 0.0 0.0  
 $LAB^*TChA$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0  
 $lab^*tch$  0.5 0.0 -  
 $lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  0.5 0.0 0.0  
 $lab^*ice$  0.5 0.0 0.0  
 $lab^*ncE$  0.5 0.0 -

relative Inform. Technology (IT)  
 $olv_i3^*$  0.0 0.0 0.0 (1.0)  
 $cmy3^*$  1.0 1.0 1.0 (0.0)  
 $olv_i4^*$  1.0 1.0 1.0 0.0  
 $cmy4^*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.1 0.02  
 $LAB^*LABa$  18.02 0.0 0.0  
 $LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0  
 $lab^*tch$  0.0 0.0 -  
 $lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  0.0 0.0 0.0  
 $lab^*ice$  0.0 0.0 -  
 $lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

relative Inform. Technology (IT)  
 $olv_i3^*$  1.0 0.5 0.552 (1.0)  
 $cmy3^*$  0.0 0.5 0.448 (0.0)  
 $olv_i4^*$  1.0 0.5 0.552 1.0  
 $cmy4^*$  0.0 0.5 0.448 0.0

standard and adapted CIELAB

$LAB^*LAB$  71.76 32.94 15.69  
 $LAB^*LABa$  71.76 32.9 15.68  
 $LAB^*TChA$  75.0 36.45 25.49

relative CIELAB lab\*

$lab^*lab$  0.694 0.451 0.215  
 $lab^*tch$  0.75 0.5 0.071  
 $lab^*nch$  0.0 0.5 0.071

relative Natural Colour (NC)

$lab^*lrj$  0.694 0.5 0.0  
 $lab^*ice$  0.75 0.5 1.0  
 $lab^*ncE$  0.0 0.5 b99r

relative Inform. Technology (IT)  
 $olv_i3^*$  1.0 0.0 0.103 (1.0)  
 $cmy3^*$  0.0 1.0 0.897 (0.0)  
 $olv_i4^*$  1.0 0.0 0.104 1.0  
 $cmy4^*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  48.11 65.86 31.39  
 $LAB^*LABa$  48.11 65.8 31.37  
 $LAB^*TChA$  50.0 72.9 25.49

relative CIELAB lab\*

$lab^*lab$  0.389 0.902 0.43  
 $lab^*tch$  0.5 1.0 0.071  
 $lab^*nch$  0.0 1.0 0.071

relative Natural Colour (NC)

$lab^*lrj$  0.389 1.0 0.0  
 $lab^*ice$  0.5 1.0 0.0  
 $lab^*ncE$  0.0 1.0 r00j

relative Inform. Technology (IT)  
 $olv_i3^*$  0.5 0.0 0.052 (1.0)  
 $cmy3^*$  0.5 1.0 0.948 (0.0)  
 $olv_i4^*$  1.0 0.5 0.552 0.5  
 $cmy4^*$  0.0 0.5 0.448 0.5

standard and adapted CIELAB

$LAB^*LAB$  33.07 32.98 15.72  
 $LAB^*LABa$  33.07 32.9 15.69  
 $LAB^*TChA$  25.01 36.45 25.5

relative CIELAB lab\*

$lab^*lab$  0.195 0.451 0.215  
 $lab^*tch$  0.25 0.5 0.071  
 $lab^*nch$  0.5 0.5 0.071

relative Natural Colour (NC)

$lab^*lrj$  0.195 0.5 0.0  
 $lab^*ice$  0.25 0.5 0.0  
 $lab^*ncE$  0.5 0.5 r00j

relative Inform. Technology (IT)  
 $olv_i3^*$  0.0 0.0 0.0 (1.0)  
 $cmy3^*$  1.0 1.0 1.0 (0.0)  
 $olv_i4^*$  1.0 1.0 1.0 0.0  
 $cmy4^*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.1 0.02  
 $LAB^*LABa$  18.02 0.0 0.0  
 $LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0  
 $lab^*tch$  0.0 0.0 -  
 $lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  0.0 0.0 0.0  
 $lab^*ice$  0.0 0.0 -  
 $lab^*ncE$  1.0 0.0 -

$n^* = 0,00$

$n^* = 0,00$

blackness  $n^*$

chromaticness  $c^*$

### Output: Colorimetric Reflective System NCS18

for hue  $h^* = lab^*h = 25/360 = 0.071$

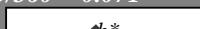
$lab^*tch$  and  $lab^*nch$

D65: hue R

LCH\*Ma: 48 91 25

olv\*Ma: 1.0 0.0 0.0

triangle lightness  $t^*$



### NCS18; adapted (a) CIELAB data

	$L^*=L^*_a$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	47.15	84.63	37.24	92.46	24
JMa	91.37	-1.27	125.03	125.03	91
GMa	63.07	-114.29	25.34	117.07	167
G50BMa	59.47	-80.61	-33.45	87.29	203
BMa	49.01	3.63	-81.2	81.29	273
B50RMa	44.06	106.07	-73.94	129.31	325
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	272

relative Inform. Technology (IT)  
 $olv_i3^*$  1.0 1.0 1.0 (1.0)  
 $cmy3^*$  0.0 0.0 0.0 (0.0)  
 $olv_i4^*$  1.0 1.0 1.0 1.0  
 $cmy4^*$  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 -  
 $lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  1.0 0.0 0.0  
 $lab^*ice$  1.0 0.0 0.0  
 $lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)  
 $olv_i3^*$  0.5 0.5 0.5 (1.0)  
 $cmy3^*$  0.5 0.5 0.5 (0.0)  
 $olv_i4^*$  1.0 0.512 0.5 1.0  
 $cmy4^*$  0.0 0.488 0.5 0.0

standard and adapted CIELAB

$LAB^*LAB$  71.81 41.31 19.68  
 $LAB^*LABa$  71.81 41.27 19.68  
 $LAB^*TChA$  75.0 45.72 25.49

relative CIELAB lab\*

$lab^*lab$  0.695 0.451 0.215  
 $lab^*tch$  0.75 0.5 0.071  
 $lab^*nch$  0.0 0.5 0.071

relative Natural Colour (NC)

$lab^*lrj$  0.695 0.5 0.0  
 $lab^*ice$  0.75 0.5 0.0  
 $lab^*ncE$  0.0 0.5 r00j

relative Inform. Technology (IT)  
 $olv_i3^*$  0.0 0.0 0.0 (1.0)  
 $cmy3^*$  1.0 1.0 1.0 (0.0)  
 $olv_i4^*$  1.0 1.0 1.0 0.0  
 $cmy4^*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  56.72 0.05 0.0  
 $LAB^*LABa$  56.72 0.0 0.0  
 $LAB^*TChA$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.389 0.902 0.43  
 $lab^*tch$  0.5 1.0 0.071  
 $lab^*nch$  0.0 1.0 0.071

relative Natural Colour (NC)

$lab^*lrj$  0.389 1.0 0.0  
 $lab^*ice$  0.5 1.0 0.0  
 $lab^*ncE$  0.0 1.0 r00j

relative Inform. Technology (IT)  
 $olv_i3^*$  0.0 0.0 0.0 (1.0)  
 $cmy3^*$  1.0 1.0 1.0 (0.0)  
 $olv_i4^*$  1.0 1.0 1.0 0.0  
 $cmy4^*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.09 0.02  
 $LAB^*LABa$  18.02 0.0 0.0  
 $LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0  
 $lab^*tch$  0.0 0.0 -  
 $lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  0.0 0.0 0.0  
 $lab^*ice$  0.0 0.0 -  
 $lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

$n^* = 0,00$

blackness  $n^*$

chromaticness  $c^*$

UE100-7, 3 step scales for constant CIELAB hue 25/360 = 0.071 (left)

3 step scales for constant CIELAB hue 25/360 = 0.071 (right)

### Input: Colorimetric Reflective System MRS18a

for hue  $h^* = lab^*h = 25/360 = 0.071$

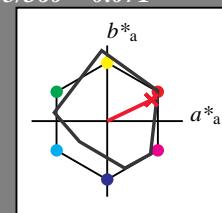
$lab^*tch$  and  $lab^*nch$

D65: hue R

LCH\*Ma: 48 73 25

olv\*Ma: 1.0 0.0 0.1

triangle lightness  $t^*$



### MRS18a; adapted (a) CIELAB data

	$L^*=L^*_a$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	49.63	66.8	40.02	77.87	31
JMa	90.7	-7.27	93.19	93.48	94
GMa	52.11	-69.93	11.26	70.85	171
G50BMa	45.03	-36.65	-27.13	45.61	217
BMa	36.65	23.26	-62.27	66.49	290
B50RMa	34.94	57.27	-43.6	71.99	323
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	272

relative Inform. Technology (IT)  
 $olvi3^*$  1.0 1.0 1.0 (1.0)  
 $cmy3^*$  0.0 0.0 0.0 (0.0)  
 $olv4^*$  1.0 1.0 1.0 1.0  
 $cmy4^*$  0.0 0.0 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  95.41 0.01 0.0  
 $LAB^*LABa$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0  
 $lab^*ice$  1.0 0.0 0.0  
 $lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)  
 $olvi3^*$  0.5 0.5 0.5 (1.0)  
 $cmy3^*$  0.5 0.5 0.5 (0.0)  
 $olv4^*$  1.0 1.0 1.0 0.5  
 $cmy4^*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  56.71 0.05 0.0  
 $LAB^*LABa$  56.71 0.0 0.0  
 $LAB^*TChA$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0  
 $lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.5 0.0 0.0  
 $lab^*ice$  0.5 0.0 0.0  
 $lab^*ncE$  0.5 0.0 -

relative Inform. Technology (IT)  
 $olvi3^*$  0.0 0.0 0.0 (1.0)  
 $cmy3^*$  1.0 1.0 1.0 (0.0)  
 $olv4^*$  1.0 1.0 1.0 0.0  
 $cmy4^*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.1 0.02  
 $LAB^*LABa$  18.02 0.0 0.0  
 $LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0  
 $lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0  
 $lab^*ice$  0.0 0.0 -  
 $lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

### MRS18a; adapted (a) CIELAB data

	$L^*=L^*_a$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	49.63	66.8	40.02	77.87	31
JMa	90.7	-7.27	93.19	93.48	94
GMa	52.11	-69.93	11.26	70.85	171
G50BMa	45.03	-36.65	-27.13	45.61	217
BMa	36.65	23.26	-62.27	66.49	290
B50RMa	34.94	57.27	-43.6	71.99	323
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	272

%Gamut

$u^*_{rel} = 92$

%Regularity

$g^*_{H,rel} = 42$

$g^*_{C,rel} = 49$

relative Inform. Technology (IT)

$olvi3^*$  1.0 0.5 0.552 (1.0)

$cmy3^*$  0.0 0.5 0.448 (0.0)

$olv4^*$  1.0 0.5 0.552 1.0

$cmy4^*$  0.0 0.5 0.448 0.0

standard and adapted CIELAB

$LAB^*LAB$  71.76 32.94 15.69  
 $LAB^*LABa$  71.76 32.9 15.68  
 $LAB^*TChA$  75.0 36.45 25.49

relative CIELAB lab\*

$lab^*lab$  0.694 0.451 0.215

$lab^*tch$  0.75 0.5 0.071

$lab^*nch$  0.0 0.5 0.071

relative Natural Colour (NC)

$lab^*lrij$  0.694 0.5 0.0

$lab^*ice$  0.75 0.5 1.0

$lab^*ncE$  0.0 0.5 b99r

relative Inform. Technology (IT)

$olvi3^*$  1.0 0.0 0.103 (1.0)

$cmy3^*$  0.0 1.0 0.897 (0.0)

$olv4^*$  1.0 0.0 0.104 1.0

$cmy4^*$  0.0 1.0 0.896 0.0

standard and adapted CIELAB

$LAB^*LAB$  48.11 65.86 31.39  
 $LAB^*LABa$  48.11 65.8 31.37  
 $LAB^*TChA$  50.0 72.9 25.49

relative CIELAB lab\*

$lab^*lab$  0.389 0.902 0.43

$lab^*tch$  0.5 1.0 0.071

$lab^*nch$  0.0 1.0 0.071

relative Natural Colour (NC)

$lab^*lrij$  0.389 1.0 0.0

$lab^*ice$  0.5 1.0 0.0

$lab^*ncE$  0.0 1.0 r00j

relative Inform. Technology (IT)

$olvi3^*$  0.0 0.0 0.0 (1.0)

$cmy3^*$  1.0 1.0 1.0 (0.0)

$olv4^*$  1.0 1.0 1.0 0.0

$cmy4^*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  11.01 0.07 0.01

$LAB^*LABa$  11.01 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*ice$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 0,00$

$n^* = 0,00$

blackness  $n^*$

chromaticness  $c^*$

### Output: Colorimetric Reflective System NRS11

for hue  $h^* = lab^*h = 25/360 = 0.071$

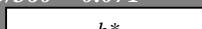
$lab^*tch$  and  $lab^*nch$

D65: hue R

LCH\*Ma: 53 83 25

olv\*Ma: 1.0 0.0 0.1

triangle lightness  $t^*$



### NRS11; adapted (a) CIELAB data

	$L^*=L^*_a$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	53.2	77.06	34.32	84.36	24
JMa	53.2	-1.51	84.38	84.39	91
GMa	53.2	-82.27	18.98	84.44	167
G50BMa	53.2	-77.72	-32.98	84.44	203
BMa	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

%Gamut

$u^*_{rel} = 119$

%Regularity

$g^*_{H,rel} = 47$

$g^*_{C,rel} = 100$

relative Inform. Technology (IT)

$olvi3^*$  1.0 0.514 0.5 (1.0)

$cmy3^*$  0.0 0.486 0.5 (0.0)

$olv4^*$  1.0 0.514 0.5 1.0

$cmy4^*$  0.0 0.486 0.5 0.0

standard and adapted CIELAB

$LAB^*LAB$  74.3 37.46 17.85  
 $LAB^*LABa$  74.3 37.44 17.85  
 $LAB^*TChA$  75.0 41.47 25.49

relative CIELAB lab\*

$lab^*lab$  0.75 0.451 0.215

$lab^*tch$  0.75 0.5 0.071

$lab^*nch$  0.0 0.5 0.071

relative Natural Colour (NC)

$lab^*lrij$  0.75 0.5 0.0

$lab^*ice$  0.75 0.5 0.0

$lab^*ncE$  0.0 0.5 r00j

relative Inform. Technology (IT)

$olvi3^*$  1.0 0.028 0.0 (1.0)

$cmy3^*$  0.0 0.972 1.0 (0.0)

$olv4^*$  1.0 0.028 0.0 1.0

$cmy4^*$  0.0 0.972 1.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  53.2 74.93 35.7  
 $LAB^*LABa$  53.2 74.88 35.69  
 $LAB^*TChA$  50.0 82.95 25.48

relative CIELAB lab\*

$lab^*lab$  0.5 0.903 0.43

$lab^*tch$  0.5 1.0 0.071

$lab^*nch$  0.0 1.0 0.071

relative Natural Colour (NC)

$lab^*lrij$  0.5 1.0 0.0

$lab^*ice$  0.5 1.0 1.0

$lab^*ncE$  0.0 1.0 b99r

$n^* = 1,0$

$n^* = 0,50$

blackness  $n^*$

### Input: Colorimetric Reflective System MRS18a

for hue  $h^* = lab^*h = 25/360 = 0.071$

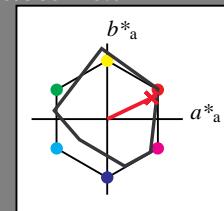
$lab^*tch$  and  $lab^*nch$

D65: hue R

LCH\*Ma: 48 73 25

olv\*Ma: 1.0 0.0 0.1

triangle lightness  $t^*$



### MRS18a; adapted (a) CIELAB data

	$L^*=L^*_a$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	49.63	66.8	40.02	77.87	31
JMa	90.7	-7.27	93.19	93.48	94
GMa	52.11	-69.93	11.26	70.85	171
G50BMa	45.03	-36.65	-27.13	45.61	217
BMa	36.65	23.26	-62.27	66.49	290
B50RMa	34.94	57.27	-43.6	71.99	323
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	272

%Gamut

$u^*_{rel} = 92$

%Regularity

$g^*_{H,rel} = 42$

$g^*_{C,rel} = 49$

relative Inform. Technology (IT)

$olv^3*$  1.0 1.0 1.0 (1.0)

$cmy^3*$  0.0 0.0 0.0 (0.0)

$olv^4*$  1.0 1.0 1.0 1.0

$cmy^4*$  0.0 0.0 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  95.41 0.01 0.0

$LAB^*LABa$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  1.0 0.0 0.0

$lab^*ice$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)

$olv^3*$  0.5 0.5 0.5 (1.0)

$cmy^3*$  0.5 0.5 0.5 (0.0)

$olv^4*$  1.0 1.0 1.0 0.5

$cmy^4*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  56.71 0.05 0.0

$LAB^*LABa$  56.71 0.0 0.0

$LAB^*TChA$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  0.5 0.0 0.0

$lab^*ice$  0.5 0.0 0.0

$lab^*ncE$  0.5 0.0 -

n\* = 1,0

relative Inform. Technology (IT)

$olv^3*$  0.0 0.0 0.0 (1.0)

$cmy^3*$  1.0 1.0 1.0 (0.0)

$olv^4*$  1.0 1.0 1.0 0.0

$cmy^4*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.1 0.02

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  0.0 0.0 0.0

$lab^*ice$  0.0 0.0 0.0

$lab^*ncE$  1.0 0.0 -

relative Inform. Technology (IT)

$olv^3*$  0.5 0.0 0.5 (1.0)

$cmy^3*$  0.5 1.0 0.94 (0.0)

$olv^4*$  1.0 0.5 0.552 0.5

$cmy^4*$  0.0 0.5 0.448 0.5

standard and adapted CIELAB

$LAB^*LAB$  33.07 32.98 15.72

$LAB^*LABa$  33.07 32.9 15.69

$LAB^*TChA$  25.01 36.45 25.5

relative CIELAB lab\*

$lab^*lab$  0.195 0.451 0.215

$lab^*tch$  0.25 0.5 0.071

$lab^*nch$  0.5 0.5 0.071

relative Natural Colour (NC)

$lab^*lrj$  0.195 0.5 0.0

$lab^*ice$  0.25 0.5 0.0

$lab^*ncE$  0.5 0.5 r00j

relative Inform. Technology (IT)

$olv^3*$  0.5 0.0 0.5 (1.0)

$cmy^3*$  0.5 0.5 0.5 (0.0)

$olv^4*$  1.0 1.0 1.0 0.5

$cmy^4*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  11.01 0.07 0.01

$LAB^*LABa$  11.01 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  0.0 0.0 0.0

$lab^*ice$  0.0 0.0 0.0

$lab^*ncE$  1.0 0.0 -

relative Inform. Technology (IT)

$olv^3*$  0.0 0.0 0.0 (1.0)

$cmy^3*$  1.0 1.0 1.0 (0.0)

$olv^4*$  1.0 1.0 1.0 0.0

$cmy^4*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.1 0.02

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  0.0 0.0 0.0

$lab^*ice$  0.0 0.0 0.0

$lab^*ncE$  1.0 0.0 -

relative Inform. Technology (IT)

$olv^3*$  0.0 0.0 0.0 (1.0)

$cmy^3*$  1.0 1.0 1.0 (0.0)

$olv^4*$  1.0 1.0 1.0 0.0

$cmy^4*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.1 0.02

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  0.0 0.0 0.0

$lab^*ice$  0.0 0.0 0.0

$lab^*ncE$  1.0 0.0 -

relative Inform. Technology (IT)

$olv^3*$  0.0 0.0 0.0 (1.0)

$cmy^3*$  1.0 1.0 1.0 (0.0)

$olv^4*$  1.0 1.0 1.0 0.0

$cmy^4*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.1 0.02

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  0.0 0.0 0.0

$lab^*ice$  0.0 0.0 0.0

$lab^*ncE$  1.0 0.0 -

relative Inform. Technology (IT)

$olv^3*$  0.0 0.0 0.0 (1.0)

$cmy^3*$  1.0 1.0 1.0 (0.0)

$olv^4*$  1.0 1.0 1.0 0.0

$cmy^4*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.1 0.02

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  0.0 0.0 0.0

$lab^*ice$  0.0 0.0 0.0

$lab^*ncE$  1.0 0.0 -

relative Inform. Technology (IT)

$olv^3*$  0.0 0.0 0.0 (1.0)

$cmy^3*$  1.0 1.0 1.0 (0.0)

$olv^4*$  1.0 1.0 1.0 0.0

$cmy^4*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.1 0.02

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  0.0 0.0 0.0

$lab^*ice$  0.0 0.0 0.0

$lab^*ncE$  1.0 0.0 -

relative Inform. Technology (IT)

$olv^3*$  0.0 0.0 0.0 (1.0)

$cmy^3*$  1.0 1.0 1.0 (0.0)

$olv^4*$  1.0 1.0 1.0 0.0

$cmy^4*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.1 0.02

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

&lt;p

### Input: Colorimetric Reflective System NRS18

for hue  $h^* = lab^*h = 25/360 = 0.071$

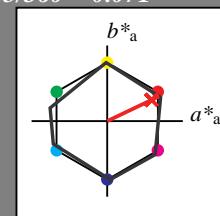
$lab^*tch$  and  $lab^*nch$

D65: hue R

LCH\*Ma: 57 76 25

olv\*Ma: 1.0 0.03 0.0

triangle lightness  $t^*$



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 0.0  
 $LAB^*LABa$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 -

$lab^*ncE$  0.0 0.0 -

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 0.5  
 $cmyn4^*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  56.72 0.05 0.0  
 $LAB^*LABa$  56.72 0.0 0.0  
 $LAB^*TChA$  50.0 0.01 -

relative CIELAB  $lab^*$

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.5 0.0 0.0

$lab^*tce$  0.5 0.0 -

$lab^*ncE$  0.5 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

$LAB^*LAB$  18.02 0.09 0.02  
 $LAB^*LABa$  18.02 0.0 0.0  
 $LAB^*TChA$  0.01 0.01 -

relative CIELAB  $lab^*$

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*tce$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

### NRS18; adapted (a) CIELAB data

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

RMa	56.7	70.66	31.47	77.35	24
JMa	56.7	-1.39	77.37	77.39	91
GMa	56.7	-75.46	17.4	77.45	167
G50BMa	56.7	-71.29	-30.25	77.45	203
BMa	56.7	4.0	-77.3	77.41	273
B50RMa	56.7	63.35	-44.4	77.36	325
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	272

%Gamut

$u^*_{rel} = 100$

%Regularity

$g^*_{H,rel} = 47$

$g^*_{C,rel} = 100$

relative Inform. Technology (IT)

$olvi3^*$  1.0 0.514 0.5 (1.0)

$cmyn3^*$  0.0 0.486 0.5 (0.0)

$olvi4^*$  1.0 0.514 0.5 1.0

$cmyn4^*$  0.0 0.486 0.5 0.0

standard and adapted CIELAB

$LAB^*LAB$  76.05 34.36 16.37

$LAB^*LABa$  76.05 34.33 16.36

$LAB^*TChA$  75.0 38.03 25.49

relative CIELAB  $lab^*$

$lab^*lab$  0.75 0.451 0.215

$lab^*tch$  0.75 0.5 0.071

$lab^*nch$  0.0 0.5 0.071

relative Natural Colour (NC)

$lab^*lrij$  0.75 0.5 0.0

$lab^*tce$  0.75 0.5 0.0

$lab^*ncE$  0.0 0.5 r00j

relative Inform. Technology (IT)

$olvi3^*$  1.0 0.028 0.0 (1.0)

$cmyn3^*$  0.5 0.5 0.5 (0.0)

$olvi4^*$  1.0 0.028 0.0 1.0

$cmyn4^*$  0.0 0.972 1.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  56.7 68.71 32.74

$LAB^*LABa$  56.7 68.66 32.72

$LAB^*TChA$  50.0 76.06 25.48

relative CIELAB  $lab^*$

$lab^*lab$  0.5 0.903 0.43

$lab^*tch$  0.5 1.0 0.071

$lab^*nch$  0.0 1.0 0.071

relative Natural Colour (NC)

$lab^*lrij$  0.5 1.0 0.0

$lab^*tce$  0.5 1.0 1.0

$lab^*ncE$  0.0 1.0 b99r

relative Inform. Technology (IT)

$olvi3^*$  0.0 0.0 0.0 (1.0)

$cmyn3^*$  1.0 0.986 1.0 (0.0)

$olvi4^*$  1.0 0.514 0.5 0.5

$cmyn4^*$  0.0 0.486 0.5 0.5

standard and adapted CIELAB

$LAB^*LAB$  37.36 34.41 16.38

$LAB^*LABa$  37.36 34.33 16.36

$LAB^*TChA$  25.01 38.03 25.48

relative CIELAB  $lab^*$

$lab^*lab$  0.25 0.451 0.215

$lab^*tch$  0.25 0.5 0.071

$lab^*nch$  0.5 0.5 0.071

relative Natural Colour (NC)

$lab^*lrij$  0.25 0.5 0.0

$lab^*tce$  0.25 0.5 1.0

$lab^*ncE$  0.5 0.5 b99r

$n^* = 0,00$

blackness  $n^*$

chromaticness  $c^*$

### Output: Colorimetric Reflective System ORS18

for hue  $h^* = lab^*h = 25/360 = 0.069$

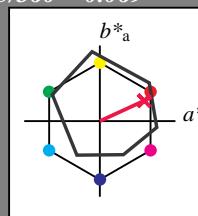
$lab^*tch$  and  $lab^*nch$

D65: hue R

LCH\*Ma: 48 75 25

olv\*Ma: 1.0 0.0 0.32

triangle lightness  $t^*$



%Gamut

$u^*_{rel} = 93$

%Regularity

$g^*_{H,rel} = 57$

$g^*_{C,rel} = 59$

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

$LAB^*LABa$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 -

$lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)

$olvi3^*$  1.0 0.5 0.5 (1.0)

$cmyn3^*$  0.5 0.5 0.5 (0.0)

$olvi4^*$  1.0 0.5 0.661 0.5

$cmyn4^*$  0.0 0.5 0.339 0.5

standard and adapted CIELAB

$LAB^*LAB$  71.7 33.75 18.92

$LAB^*LABa$  71.7 34.27 15.76

$LAB^*TChA$  75.0 37.72 24.69

relative CIELAB  $lab^*$

$lab^*lab$  0.694 0.454 0.209

$lab^*tch$  0.75 0.5 0.069

$lab^*nch$  0.0 0.5 0.069

relative Natural Colour (NC)

$lab^*lrij$  0.694 0.5 0.0

$lab^*tce$  0.75 0.5 1.0

$lab^*ncE$  0.0 0.5 b99r

$n^* = 1,0$

blackness  $n^*$

chromaticness  $c^*$

### ORS18; adapted (a) CIELAB data

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

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	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

$n^* = 0,00$

blackness  $n^*$

chromaticness  $c^*$

$n^* = 1,0$

blackness  $n^*$

chromaticness  $c^*$

UE100-7, 3 step scales for constant CIELAB hue 25/360 = 0.071 (left)

3 step scales for constant CIELAB hue 25/360 = 0.069 (right)

### Input: Colorimetric Reflective System NRS18

for hue  $h^* = lab^*h = 25/360 = 0.071$

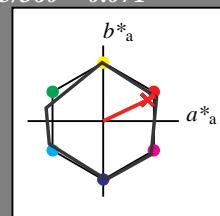
$lab^*tch$  and  $lab^*nch$

D65: hue R

LCH\*Ma: 57 76 25

olv\*Ma: 1.0 0.03 0.0

triangle lightness  $t^*$



%Gamut

$u^*_{rel} = 100$

%Regularity

$g^*_{H,rel} = 47$

$g^*_{C,rel} = 100$

relative Inform. Technology (IT)  
 $olv^3*$  1.0 1.0 1.0 (1.0)  
 $cmy^3*$  0.0 0.0 0.0 (0.0)  
 $olv^4*$  1.0 1.0 1.0 1.0  
 $cmy^4*$  0.0 0.0 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  95.41 0.0 0.0

$LAB^*LABa$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)  
 $olv^3*$  0.5 0.5 0.5 (1.0)  
 $cmy^3*$  0.5 0.5 0.5 (0.0)  
 $olv^4*$  1.0 1.0 1.0 0.5  
 $cmy^4*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  56.72 0.05 0.0

$LAB^*LABa$  56.72 0.0 0.0

$LAB^*TChA$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.5 0.0 0.0

$lab^*tce$  0.5 0.0 0.0

$lab^*ncE$  0.5 0.0 -

relative Inform. Technology (IT)  
 $olv^3*$  0.0 0.0 0.0 (1.0)  
 $cmy^3*$  1.0 1.0 1.0 (0.0)  
 $olv^4*$  1.0 1.0 1.0 0.0  
 $cmy^4*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.09 0.02

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*tce$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

### NRS18; adapted (a) CIELAB data

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

RMa	56.7	70.66	31.47	77.35	24
JMa	56.7	-1.39	77.37	77.39	91
GMa	56.7	-75.46	17.4	77.45	167
G50BMa	56.7	-71.29	-30.25	77.45	203
BMa	56.7	4.0	-77.3	77.41	273
B50RMa	56.7	63.35	-44.4	77.36	325
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	272

	relative Inform. Technology (IT)	$olv^3*$	1.0	1.0	1.0	(1.0)
$cmy^3*$	0.0	0.0	0.0	0.0	0.0	(0.0)
$olv^4*$	1.0	1.0	1.0	1.0	1.0	1.0
$cmy^4*$	0.0	0.0	0.0	0.0	0.0	0.0

standard and adapted CIELAB

$LAB^*LAB$  95.41 0.0 0.0

$LAB^*LABa$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)  
 $olv^3*$  1.0 0.514 0.5 (1.0)  
 $cmy^3*$  0.0 0.486 0.5 (0.0)  
 $olv^4*$  1.0 0.514 0.5 1.0  
 $cmy^4*$  0.0 0.486 0.5 0.0

standard and adapted CIELAB

$LAB^*LAB$  76.05 34.36 16.37

$LAB^*LABa$  76.05 34.33 16.36

$LAB^*TChA$  75.0 38.03 25.49

relative CIELAB lab\*

$lab^*lab$  0.75 0.451 0.215

$lab^*tch$  0.75 0.5 0.071

$lab^*nch$  0.0 0.5 0.071

relative Natural Colour (NC)

$lab^*lrij$  0.75 0.5 0.0

$lab^*tce$  0.75 0.5 0.0

$lab^*ncE$  0.0 0.5 r00j

relative Inform. Technology (IT)  
 $olv^3*$  0.5 0.014 0.0 (1.0)  
 $cmy^3*$  0.5 0.986 1.0 (0.0)  
 $olv^4*$  1.0 0.514 0.5 0.5  
 $cmy^4*$  0.0 0.486 0.5 0.5

standard and adapted CIELAB

$LAB^*LAB$  37.36 34.41 16.38

$LAB^*LABa$  37.36 34.33 16.36

$LAB^*TChA$  25.01 38.03 25.48

relative CIELAB lab\*

$lab^*lab$  0.25 0.451 0.215

$lab^*tch$  0.25 0.5 0.071

$lab^*nch$  0.5 0.5 0.071

relative Natural Colour (NC)

$lab^*lrij$  0.25 0.5 0.0

$lab^*tce$  0.25 0.5 1.0

$lab^*ncE$  0.5 0.5 b99r

$n^* = 0,00$

blackness  $n^*$

chromaticness  $c^*$

0,25 0,50  $n^* = 0,50$  0,75 1,00

### Output: Colorimetric Reflective System MRS18

for hue  $h^* = lab^*h = 25/360 = 0.069$

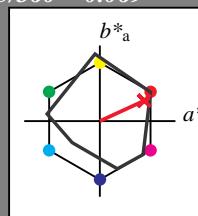
$lab^*tch$  and  $lab^*nch$

D65: hue R

LCH\*Ma: 48 73 25

olv\*Ma: 1.0 0.0 0.1

triangle lightness  $t^*$



%Gamut

$u^*_{rel} = 91$

%Regularity

$g^*_{H,rel} = 41$

$g^*_{C,rel} = 52$

relative Inform. Technology (IT)  
 $olv^3*$  1.0 1.0 1.0 (1.0)  
 $cmy^3*$  0.0 0.0 0.0 (0.0)  
 $olv^4*$  1.0 1.0 1.0 1.0  
 $cmy^4*$  0.0 0.0 0.0 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 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)  
 $olv^3*$  0.5 0.5 0.5 (1.0)  
 $cmy^3*$  0.5 0.5 0.5 (0.0)  
 $olv^4*$  1.0 0.5 0.5 0.5  
 $cmy^4*$  0.0 0.5 0.5 0.5

standard and adapted CIELAB

$LAB^*LAB$  71.8 32.47 18.34

$LAB^*LABa$  71.8 33.0 15.17

$LAB^*TChA$  75.0 36.32 24.7

relative CIELAB lab\*

$lab^*lab$  0.695 0.454 0.209

$lab^*tch$  0.75 0.5 0.069

$lab^*nch$  0.0 0.5 0.069

relative Natural Colour (NC)

$lab^*lrij$  0.695 0.5 0.0

$lab^*tce$  0.75 0.5 1.0

$lab^*ncE$  0.0 0.5 b99r

relative Inform. Technology (IT)  
 $olv^3*$  1.0 0.5 0.5 (1.0)  
 $cmy^3*$  0.5 1.0 1.0 (0.0)  
 $olv^4*$  1.0 1.0 1.0 0.0  
 $cmy^4*$  0.0 0.5 0.5 0.5

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 CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.5 0.0 0.0

$lab^*tce$  0.5 0.0 0.0

$lab^*ncE$  0.5 0.0 -

relative Inform. Technology (IT)  
 $olv^3*$  0.0 0.0 0.0 (1.0)

$cmy^3*$  0.0 0.0 0.0 (0.0)

$olv^4*$  1.0 0.5 0.5 0.5

$cmy^4*$  0.0 0.5 0.5 0.5

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.5 -0.46

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.195 0.454 0.209

$lab^*tch$  0.25 0.5 0.069

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.195 0.5 0.0

$lab^*tce$  0.25 0.5 0.0

$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

	relative Inform. Technology (IT)	$olv^3*$	1.0	1.0	1.0	(1.0)





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## Input: Colorimetric Reflective System NRS18

for hue  $h^* = lab^*h = 25/360 = 0.071$

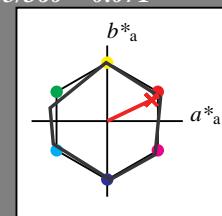
$lab^*tch$  and  $lab^*nch$

D65: hue R

LCH\*Ma: 57 76 25

olv\*Ma: 1.0 0.03 0.0

triangle lightness  $t^*$



## NRS18; adapted (a) CIELAB data

	$L^*=L_a^*$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	56.7	70.66	31.47	77.35	24
JMa	56.7	-1.39	77.37	77.39	91
GMa	56.7	-75.46	17.4	77.45	167
G50BMa	56.7	-71.29	-30.25	77.45	203
BMa	56.7	4.0	-77.3	77.41	273
B50RMa	56.7	63.35	-44.4	77.36	325
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	272

relative Inform. Technology (IT)  
 $olv_i3^*$  1.0 1.0 1.0 (1.0)  
 $cmyn3^*$  0.0 0.0 0.0 (0.0)  
 $olv_i4^*$  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 0.0  
 $LAB^*LABa$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0  
 $lab^*tce$  1.0 0.0 0.0  
 $lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)  
 $olv_i3^*$  0.5 0.5 0.5 (1.0)  
 $cmyn3^*$  0.5 0.5 0.5 (0.0)  
 $olv_i4^*$  1.0 1.0 1.0 0.5  
 $cmyn4^*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  56.72 0.05 0.0  
 $LAB^*LABa$  56.72 0.0 0.0  
 $LAB^*TChA$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0  
 $lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.5 0.0 0.0  
 $lab^*tce$  0.5 0.0 0.0  
 $lab^*ncE$  0.5 0.0 -

relative Inform. Technology (IT)  
 $olv_i3^*$  0.0 0.0 0.0 (1.0)  
 $cmyn3^*$  1.0 1.0 1.0 (0.0)  
 $olv_i4^*$  1.0 1.0 1.0 0.0  
 $cmyn4^*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.09 0.02  
 $LAB^*LABa$  18.02 0.0 0.0  
 $LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0  
 $lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0  
 $lab^*tce$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

relative Inform. Technology (IT)

$olv_i3^*$  1.0 0.514 0.5 (1.0)

$cmyn3^*$  0.0 0.486 0.5 (0.0)

$olv_i4^*$  1.0 0.514 0.5 1.0

$cmyn4^*$  0.0 0.486 0.5 0.0

standard and adapted CIELAB

$LAB^*LAB$  76.05 34.36 16.37  
 $LAB^*LABa$  76.05 34.33 16.36  
 $LAB^*TChA$  75.0 38.03 25.49

relative CIELAB lab\*

$lab^*lab$  0.75 0.451 0.215

$lab^*tch$  0.75 0.5 0.071

$lab^*nch$  0.0 0.5 0.071

relative Natural Colour (NC)

$lab^*lrij$  0.75 0.5 0.0

$lab^*tce$  0.75 0.5 0.0

$lab^*ncE$  0.0 0.5 r00j

relative Inform. Technology (IT)

$olv_i3^*$  1.0 0.028 0.0 (1.0)

$cmyn3^*$  0.5 0.5 0.5 (0.0)

$olv_i4^*$  1.0 0.028 0.0 1.0

$cmyn4^*$  0.0 0.972 1.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  56.7 68.71 32.74  
 $LAB^*LABa$  56.7 68.66 32.72  
 $LAB^*TChA$  50.0 76.06 25.48

relative CIELAB lab\*

$lab^*lab$  0.5 0.903 0.43

$lab^*tch$  0.5 1.0 0.071

$lab^*nch$  0.0 1.0 0.071

relative Natural Colour (NC)

$lab^*lrij$  0.5 1.0 0.0

$lab^*tce$  0.5 1.0 1.0

$lab^*ncE$  0.0 1.0 b99r

relative Inform. Technology (IT)

$olv_i3^*$  0.0 0.0 0.0 (1.0)

$cmyn3^*$  1.0 1.0 1.0 (0.0)

$olv_i4^*$  1.0 1.0 1.0 0.0

$cmyn4^*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.5 -0.46  
 $LAB^*LABa$  18.02 0.0 0.0  
 $LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.451 0.215

$lab^*tch$  0.25 0.5 0.071

$lab^*nch$  0.5 0.5 0.071

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*tce$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

## Output: Colorimetric Reflective System TRS18

for hue  $h^* = lab^*h = 25/360 = 0.069$

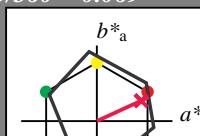
$lab^*tch$  and  $lab^*nch$

D65: hue R

LCH\*Ma: 48 75 25

olv\*Ma: 1.0 0.0 0.32

triangle lightness  $t^*$



## TRS18; adapted (a) CIELAB data

	$L^*=L_a^*$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
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)  
 $olv_i3^*$  1.0 1.0 1.0 (1.0)  
 $cmyn3^*$  0.0 0.0 0.0 (0.0)  
 $olv_i4^*$  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 0.0  
 $LAB^*LABa$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0  
 $lab^*tce$  1.0 0.0 0.0  
 $lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)  
 $olv_i3^*$  0.5 0.5 0.5 (1.0)  
 $cmyn3^*$  0.5 0.5 0.5 (0.0)  
 $olv_i4^*$  1.0 1.0 1.0 0.5  
 $cmyn4^*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  56.72 0.05 0.0  
 $LAB^*LABa$  56.72 0.0 0.0  
 $LAB^*TChA$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0  
 $lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.5 0.0 0.0  
 $lab^*tce$  0.5 0.0 0.0  
 $lab^*ncE$  0.5 0.0 -

relative Inform. Technology (IT)  
 $olv_i3^*$  0.0 0.0 0.0 (1.0)  
 $cmyn3^*$  1.0 1.0 1.0 (0.0)  
 $olv_i4^*$  1.0 1.0 1.0 0.0  
 $cmyn4^*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.09 0.02  
 $LAB^*LABa$  18.02 0.0 0.0  
 $LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0  
 $lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0  
 $lab^*tce$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

relative Inform. Technology (IT)

$olv_i3^*$  1.0 0.986 1.0 (0.0)

$cmyn3^*$  0.5 0.986 1.0 (0.0)

$olv_i4^*$  1.0 0.514 0.5 0.5

$cmyn4^*$  0.0 0.486 0.5 0.5

standard and adapted CIELAB

$LAB^*LAB$  37.36 34.41 16.38  
 $LAB^*LABa$  37.36 34.33 16.36  
 $LAB^*TChA$  25.01 38.03 25.48

relative CIELAB lab\*

$lab^*lab$  0.25 0.451 0.215

$lab^*tch$  0.25 0.5 0.071

$lab^*nch$  0.5 0.5 0.071

relative Natural Colour (NC)

$lab^*lrij$  0.25 0.5 0.0

$lab^*tce$  0.25 0.5 1.0

$lab^*ncE$  0.5 0.5 b99r

relative Inform. Technology (IT)

$olv_i3^*$  0.0 0.0 0.0 (1.0)

$cmyn3^*$  1.0 1.0 1.0 (0.0)

$olv_i4^*$  1.0 1.0 1.0 0.0

$cmyn4^*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.5 -0.46  
 $LAB^*LABa$  18.02 0.0 0.0  
 $LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.25 0.451 0.215

$lab^*tch$  0.25 0.5 0.071

$lab^*nch$  0.5 0.5 0.071

relative Natural Colour (NC)

$lab^*lrij$  0.25 0.5 0.0

$lab^*tce$  0.25 0.5 1.0

$lab^*ncE$  0.5 0.5 b99r

relative Inform. Technology (IT)

<math

### Input: Colorimetric Reflective System NRS18

for hue  $h^* = lab^*h = 25/360 = 0.071$

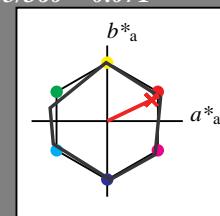
$lab^*tch$  and  $lab^*nch$

D65: hue R

LCH\*Ma: 57 76 25

olv\*Ma: 1.0 0.03 0.0

triangle lightness  $t^*$



relative Inform. Technology (IT)  
 $olvi3^*$  1.0 1.0 1.0 (1.0)  
 $cmy3^*$  0.0 0.0 0.0 (0.0)  
 $olvi4^*$  1.0 1.0 1.0 1.0  
 $cmy4^*$  0.0 0.0 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  95.41 0.0 0.0  
 $LAB^*LABa$  95.41 0.0 0.0  
 $LAB^*TCh$  99.99 0.01 -

relative CIELAB lab\*

$lab^*lab$  1.0 0.0 0.0  
 $lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0  
 $lab^*ice$  1.0 0.0 0.0  
 $lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)  
 $olvi3^*$  0.5 0.5 0.5 (1.0)  
 $cmy3^*$  0.5 0.5 0.5 (0.0)  
 $olvi4^*$  1.0 1.0 1.0 0.5  
 $cmy4^*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  56.72 0.05 0.0  
 $LAB^*LABa$  56.72 0.0 0.0  
 $LAB^*TCh$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0  
 $lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.5 0.0 0.0  
 $lab^*ice$  0.5 0.0 0.0  
 $lab^*ncE$  0.5 0.0 -

relative Inform. Technology (IT)  
 $olvi3^*$  0.0 0.0 0.0 (1.0)  
 $cmy3^*$  1.0 1.0 1.0 (0.0)  
 $olvi4^*$  1.0 1.0 1.0 0.0  
 $cmy4^*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.09 0.02  
 $LAB^*LABa$  18.02 0.0 0.0  
 $LAB^*TCh$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0  
 $lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0  
 $lab^*ice$  0.0 0.0 -  
 $lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

### NRS18; adapted (a) CIELAB data

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

RMa	56.7	70.66	31.47	77.35	24
JMa	56.7	-1.39	77.37	77.39	91
GMa	56.7	-75.46	17.4	77.45	167
G50BMa	56.7	-71.29	-30.25	77.45	203
BMa	56.7	4.0	-77.3	77.41	273
B50RMa	56.7	63.35	-44.4	77.36	325
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	272

%Gamut

$u^*_{rel} = 100$

%Regularity

$g^*_{H,rel} = 47$

$g^*_{C,rel} = 100$

relative Inform. Technology (IT)

$olvi3^*$  1.0 0.514 0.5 (1.0)

$cmy3^*$  0.0 0.486 0.5 (0.0)

$olvi4^*$  1.0 0.514 0.5 1.0

$cmy4^*$  0.0 0.486 0.5 0.0

standard and adapted CIELAB

$LAB^*LAB$  76.05 34.36 16.37

$LAB^*LABa$  76.05 34.33 16.36

$LAB^*TCh$  75.0 38.03 25.49

relative CIELAB lab\*

$lab^*lab$  0.75 0.451 0.215

$lab^*tch$  0.75 0.5 0.071

$lab^*nch$  0.0 0.5 0.071

relative Natural Colour (NC)

$lab^*lrij$  0.75 0.5 0.0

$lab^*ice$  0.75 0.5 0.0

$lab^*ncE$  0.0 0.5 r00j

relative Inform. Technology (IT)

$olvi3^*$  1.0 0.028 0.0 (1.0)

$cmy3^*$  0.5 0.5 0.5 (0.0)

$olvi4^*$  1.0 0.028 0.0 1.0

$cmy4^*$  0.0 0.972 1.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  56.7 68.71 32.74

$LAB^*LABa$  56.7 68.66 32.72

$LAB^*TCh$  50.0 76.06 25.48

relative CIELAB lab\*

$lab^*lab$  0.5 0.903 0.43

$lab^*tch$  0.5 1.0 0.071

$lab^*nch$  0.0 1.0 0.071

relative Natural Colour (NC)

$lab^*lrij$  0.5 1.0 0.0

$lab^*ice$  0.5 1.0 1.0

$lab^*ncE$  0.0 1.0 b99r

relative Inform. Technology (IT)

$olvi3^*$  0.0 0.0 0.0 (1.0)

$cmy3^*$  1.0 1.0 1.0 (0.0)

$olvi4^*$  1.0 1.0 1.0 0.0

$cmy4^*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.1 0.02

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TCh$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*ice$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 0,00$

blackness  $n^*$

chromaticness  $c^*$

### Output: Colorimetric Reflective System MRS18a

for hue  $h^* = lab^*h = 25/360 = 0.071$

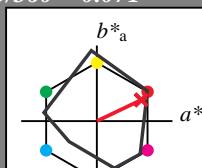
$lab^*tch$  and  $lab^*nch$

D65: hue R

LCH\*Ma: 48 73 25

olv\*Ma: 1.0 0.0 0.1

triangle lightness  $t^*$



%Gamut

$u^*_{rel} = 92$

%Regularity

$g^*_{H,rel} = 42$

$g^*_{C,rel} = 49$

relative Inform. Technology (IT)

$olvi3^*$  1.0 0.5 0.5 (1.0)

$cmy3^*$  0.0 0.5 0.448 (0.0)

$olvi4^*$  1.0 0.5 0.552 1.0

$cmy4^*$  0.0 0.5 0.448 0.0

standard and adapted CIELAB

$LAB^*LAB$  95.41 0.01 0.0

$LAB^*LABa$  95.41 0.0 0.0

$LAB^*TCh$  99.99 0.01 -

relative CIELAB lab\*

$lab^*lab$  1.0 0.5 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*ice$  1.0 0.0 1.0

$lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)

$olvi3^*$  0.5 0.5 0.552 (1.0)

$cmy3^*$  0.5 1.0 0.948 (0.0)

$olvi4^*$  1.0 0.5 0.552 0.5

$cmy4^*$  0.0 0.5 0.448 0.5

standard and adapted CIELAB

$LAB^*LAB$  71.76 32.94 15.69

$LAB^*LABa$  71.76 32.9 15.68

$LAB^*TCh$  75.0 36.45 25.49

relative CIELAB lab\*

$lab^*lab$  0.694 0.451 0.215

$lab^*tch$  0.75 0.5 0.071

$lab^*nch$  0.0 1.0 0.071

relative Natural Colour (NC)

$lab^*lrij$  0.694 0.5 0.0

$lab^*ice$  0.75 0.5 1.0

$lab^*ncE$  0.0 0.5 b99r

$n^* = 1,0$

3 step scales for constant CIELAB hue 25/360 = 0.071 (left)

3 step scales for constant CIELAB hue 25/360 = 0.071 (right)

### Input: Colorimetric Reflective System NRS18

for hue  $h^* = lab^*h = 25/360 = 0.071$

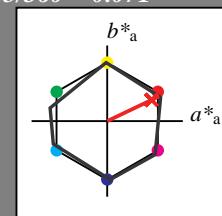
$lab^*tch$  and  $lab^*nch$

D65: hue R

LCH\*Ma: 57 76 25

olv\*Ma: 1.0 0.03 0.0

triangle lightness  $t^*$



%Gamut

$u^*_{rel} = 100$

%Regularity

$g^*_{H,rel} = 47$

$g^*_{C,rel} = 100$

relative Inform. Technology (IT)

$olv13^*$  1.0 1.0 1.0 (1.0)

$cmyn3^*$  0.0 0.0 0.0 (0.0)

$olv14^*$  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 0.0

$LAB^*LABa$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*ice$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  76.05 34.36 16.37

$LAB^*LABa$  76.05 34.33 16.36

$LAB^*TChA$  75.0 38.03 25.49

relative CIELAB lab\*

$lab^*lab$  0.75 0.451 0.215

$lab^*tch$  0.75 0.5 0.071

$lab^*nch$  0.0 0.5 0.071

relative Natural Colour (NC)

$lab^*lrij$  0.75 0.5 0.0

$lab^*ice$  0.75 0.5 0.0

$lab^*ncE$  0.0 0.5 r00j

relative Inform. Technology (IT)

$olv13^*$  0.5 0.5 0.5 (1.0)

$cmyn3^*$  0.5 0.5 0.5 (0.0)

$olv14^*$  1.0 1.0 1.0 0.5

$cmyn4^*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  56.72 0.05 0.0

$LAB^*LABa$  56.72 0.0 0.0

$LAB^*TChA$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.5 0.0 0.0

$lab^*ice$  0.5 0.0 0.0

$lab^*ncE$  0.5 0.0 -

relative Inform. Technology (IT)

$olv13^*$  0.0 0.0 0.0 (1.0)

$cmyn3^*$  1.0 1.0 1.0 (0.0)

$olv14^*$  1.0 1.0 1.0 0.0

$cmyn4^*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.09 0.02

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*ice$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

relative Inform. Technology (IT)

$olv13^*$  0.5 0.014 0.0 (1.0)

$cmyn3^*$  0.5 0.986 1.0 (0.0)

$olv14^*$  1.0 0.514 0.5 0.5

$cmyn4^*$  0.0 0.486 0.5 0.5

standard and adapted CIELAB

$LAB^*LAB$  37.36 34.41 16.38

$LAB^*LABa$  37.36 34.33 16.36

$LAB^*TChA$  25.01 38.03 25.48

relative CIELAB lab\*

$lab^*lab$  0.25 0.451 0.215

$lab^*tch$  0.25 0.5 0.071

$lab^*nch$  0.5 0.5 0.071

relative Natural Colour (NC)

$lab^*lrij$  0.25 0.5 0.0

$lab^*ice$  0.25 0.5 1.0

$lab^*ncE$  0.5 0.5 b99r

relative Inform. Technology (IT)

$olv13^*$  0.0 0.0 0.0 (1.0)

$cmyn3^*$  1.0 1.0 1.0 (0.0)

$olv14^*$  1.0 1.0 1.0 0.0

$cmyn4^*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.09 0.02

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*ice$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

relative Inform. Technology (IT)

$olv13^*$  0.0 0.0 0.0 (1.0)

$cmyn3^*$  1.0 1.0 1.0 (0.0)

$olv14^*$  1.0 1.0 1.0 0.0

$cmyn4^*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.09 0.02

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*ice$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

relative Inform. Technology (IT)

$olv13^*$  0.0 0.0 0.0 (1.0)

$cmyn3^*$  1.0 1.0 1.0 (0.0)

$olv14^*$  1.0 1.0 1.0 0.0

$cmyn4^*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.09 0.02

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*ice$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

relative Inform. Technology (IT)

$olv13^*$  0.0 0.0 0.0 (1.0)

$cmyn3^*$  1.0 1.0 1.0 (0.0)

$olv14^*$  1.0 1.0 1.0 0.0

$cmyn4^*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.09 0.02

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*ice$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

relative Inform. Technology (IT)

$olv13^*$  0.0 0.0 0.0 (1.0)

$cmyn3^*$  1.0 1.0 1.0 (0.0)

$olv14^*$  1.0 1.0 1.0 0.0

$cmyn4^*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.09 0.02

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*ice$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

relative Inform. Technology (IT)

$olv13^*$  0.0 0.0 0.0 (1.0)

$cmyn3^*$  1.0 1.0 1.0 (0.0)

$olv14^*$  1.0 1.0 1.0 0.0

$cmyn4^*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.09 0.02

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*ice$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

relative Inform. Technology (IT)

$olv13^*$  0.0 0.0 0.0 (1.0)

$cmyn3^*$  1.0 1.0 1.0 (0.0)

$olv14^*$  1.0 1.0 1.0 0.0

$cmyn4^*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.09 0.02

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*ice$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

### Input: Colorimetric Reflective System NRS18

for hue  $h^* = lab^*h = 25/360 = 0.071$

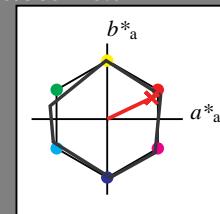
$lab^*tch$  and  $lab^*nch$

D65: hue R

LCH\*Ma: 57 76 25

olv\*Ma: 1.0 0.03 0.0

triangle lightness  $t^*$



### NRS18; adapted (a) CIELAB data

	$L^*=L_a^*$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	56.7	70.66	31.47	77.35	24
JMa	56.7	-1.39	77.37	77.39	91
GMa	56.7	-75.46	17.4	77.45	167
G50BMa	56.7	-71.29	-30.25	77.45	203
BMa	56.7	4.0	-77.3	77.41	273
B50RMa	56.7	63.35	-44.4	77.36	325
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	272

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 0.0  
 $LAB^*LABa$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

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 0.5  
 $cmyn4^*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  56.72 0.05 0.0  
 $LAB^*LABa$  56.72 0.0 0.0  
 $LAB^*TChA$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.5 0.0 0.0

$lab^*tce$  0.5 0.0 0.0

$lab^*ncE$  0.5 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

$LAB^*LAB$  18.02 0.09 0.02  
 $LAB^*LABa$  18.02 0.0 0.0  
 $LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*tce$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

### NRS18; adapted (a) CIELAB data

	$L^*=L_a^*$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	56.7	70.66	31.47	77.35	24
JMa	56.7	-1.39	77.37	77.39	91
GMa	56.7	-75.46	17.4	77.45	167
G50BMa	56.7	-71.29	-30.25	77.45	203
BMa	56.7	4.0	-77.3	77.41	273
B50RMa	56.7	63.35	-44.4	77.36	325
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	272

%Gamut  
 $u^*_{rel} = 100$   
%Regularity  
 $g^*_{H,rel} = 47$   
 $g^*_{C,rel} = 100$

relative Inform. Technology (IT)  
 $olvi3^*$  1.0 0.514 0.5 (1.0)  
 $cmyn3^*$  0.0 0.486 0.5 (0.0)  
 $olvi4^*$  1.0 0.514 0.5 1.0  
 $cmyn4^*$  0.0 0.486 0.5 0.0

standard and adapted CIELAB

$LAB^*LAB$  76.05 34.36 16.37  
 $LAB^*LABa$  76.05 34.33 16.36  
 $LAB^*TChA$  75.0 38.03 25.49

relative CIELAB lab\*

$lab^*lab$  0.75 0.451 0.215  
 $lab^*tch$  0.75 0.5 0.071  
 $lab^*nch$  0.0 0.5 0.071

relative Natural Colour (NC)

$lab^*lrij$  0.75 0.5 0.0

$lab^*tce$  0.75 0.5 0.0

$lab^*ncE$  0.0 0.5 r00j

relative Inform. Technology (IT)  
 $olvi3^*$  1.0 0.028 0.0 (1.0)  
 $cmyn3^*$  0.5 0.5 0.5 (0.0)  
 $olvi4^*$  1.0 0.028 0.0 1.0  
 $cmyn4^*$  0.0 0.972 1.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  56.7 68.71 32.74  
 $LAB^*LABa$  56.7 68.66 32.72  
 $LAB^*TChA$  50.0 76.06 25.48

relative CIELAB lab\*

$lab^*lab$  0.5 0.903 0.43  
 $lab^*tch$  0.5 1.0 0.071  
 $lab^*nch$  0.0 1.0 0.071

relative Natural Colour (NC)

$lab^*lrij$  0.5 1.0 0.0

$lab^*tce$  0.5 1.0 1.0

$lab^*ncE$  0.0 1.0 b99r

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

$LAB^*LAB$  18.02 0.09 0.02  
 $LAB^*LABa$  18.02 0.0 0.0  
 $LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0  
 $lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*tce$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 0,00$

$n^* = 0,50$   
 $n^* = 1,00$   
chromaticness  $c^*$

blackness  $n^*$

### Output: Colorimetric Reflective System NCS18

for hue  $h^* = lab^*h = 25/360 = 0.071$

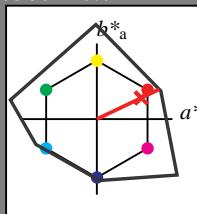
$lab^*tch$  and  $lab^*nch$

D65: hue R

LCH\*Ma: 48 91 25

olv\*Ma: 1.0 0.02 0.0

triangle lightness  $t^*$



### NCS18; adapted (a) CIELAB data

	$L^*=L_a^*$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	47.15	84.63	37.24	92.46	24
JMa	91.37	-1.27	125.03	125.03	91
GMa	63.07	-114.29	25.34	117.07	167
G50BMa	59.47	-80.61	-33.45	87.29	203
BMa	49.01	3.63	-81.2	81.29	273
B50RMa	44.06	106.07	-73.94	129.31	325
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	272

%Gamut  
 $u^*_{rel} = 136$   
%Regularity  
 $g^*_{H,rel} = 46$   
 $g^*_{C,rel} = 65$

relative Inform. Technology (IT)  
 $olvi3^*$  1.0 0.512 0.5 (1.0)  
 $cmyn3^*$  0.0 0.488 0.5 (0.0)  
 $olvi4^*$  1.0 0.512 0.5 1.0  
 $cmyn4^*$  0.0 0.488 0.5 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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)  
 $olvi3^*$  0.0 0.0 0.0 (1.0)  
 $cmyn3^*$  0.5 0.5 0.5 (0.0)

$olvi4^*$  1.0 0.512 0.5 0.5

$cmyn4^*$  0.0 0.488 0.5 0.5

standard and adapted CIELAB

$LAB^*LAB$  56.72 0.05 0.0  
 $LAB^*LABa$  56.72 0.0 0.0  
 $LAB^*TChA$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 0.903 0.43  
 $lab^*tch$  0.5 1.0 0.071  
 $lab^*nch$  0.0 1.0 0.071

relative Natural Colour (NC)

$lab^*lrij$  0.5 1.0 0.0

$lab^*tce$  0.5 1.0 1.0

$lab^*ncE$  0.5 0.5 b99r

$n^* = 0,00$

relative Inform. Technology (IT)  
 $olvi3^*$  1.0 0.024 0.0 (1.0)  
 $cmyn3^*$  0.0 0.976 1.0 (0.0)  
 $olvi4^*$  1.0 0.024 0.0 1.0  
 $cmyn4^*$  0.0 0.976 1.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  48.21 82.61 39.36  
 $LAB^*LABa$  48.21 82.55 39.34  
 $LAB^*TChA$  50.0 91.45 25.48

relative CIELAB lab\*

$lab^*lab$  0.39 0.903 0.43  
 $lab^*tch$  0.5 1.0 0.071  
 $lab^*nch$  0.0 1.0 0.071

relative Natural Colour (NC)

$lab^*lrij$  0.39 1.0 0.0

$lab^*tce$  0.5 1.0 1.0

$lab^*ncE$  0.0 1.0 b99r

$n^* = 0,00$

$n^* = 0,50$

$n^* = 1,00$

$n^* = 0,50$

$n^* = 1,00$ </p

### Input: Colorimetric Reflective System NRS18

for hue  $h^* = lab^*h = 25/360 = 0.071$

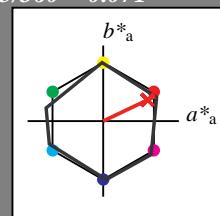
$lab^*tch$  and  $lab^*nch$

D65: hue R

LCH\*Ma: 57 76 25

olv\*Ma: 1.0 0.03 0.0

triangle lightness  $t^*$



relative Inform. Technology (IT)  
 $olvi3^*$  1.0 1.0 1.0 (1.0)  
 $cmy3^*$  0.0 0.0 0.0 (0.0)  
 $olv4^*$  1.0 1.0 1.0 1.0  
 $cmy4^*$  0.0 0.0 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  95.41 0.0 0.0  
 $LAB^*LABa$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0  
 $lab^*ice$  1.0 0.0 0.0  
 $lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)  
 $olvi3^*$  0.5 0.5 0.5 (1.0)  
 $cmy3^*$  0.5 0.5 0.5 (0.0)  
 $olv4^*$  1.0 1.0 1.0 0.5  
 $cmy4^*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  56.72 0.05 0.0  
 $LAB^*LABa$  56.72 0.0 0.0  
 $LAB^*TChA$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0  
 $lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.5 0.0 0.0  
 $lab^*ice$  0.5 0.0 0.0  
 $lab^*ncE$  0.5 0.0 -

relative Inform. Technology (IT)  
 $olvi3^*$  0.0 0.0 0.0 (1.0)  
 $cmy3^*$  1.0 1.0 1.0 (0.0)  
 $olv4^*$  1.0 1.0 1.0 0.0  
 $cmy4^*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.09 0.02  
 $LAB^*LABa$  18.02 0.0 0.0  
 $LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0  
 $lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0  
 $lab^*ice$  0.0 0.0 -  
 $lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

### NRS18; adapted (a) CIELAB data

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

RMa	56.7	70.66	31.47	77.35	24
JMa	56.7	-1.39	77.37	77.39	91
GMa	56.7	-75.46	17.4	77.45	167
G50BMa	56.7	-71.29	-30.25	77.45	203
BMa	56.7	4.0	-77.3	77.41	273
B50RMa	56.7	63.35	-44.4	77.36	325
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	272

%Gamut

$u^*_{rel} = 100$

%Regularity

$g^*_{H,rel} = 47$

$g^*_{C,rel} = 100$

relative Inform. Technology (IT)

$olvi3^*$  1.0 0.514 0.5 (1.0)

$cmy3^*$  0.0 0.486 0.5 (0.0)

$olv4^*$  1.0 0.514 0.5 1.0

$cmy4^*$  0.0 0.486 0.5 0.0

standard and adapted CIELAB

$LAB^*LAB$  76.05 34.36 16.37

$LAB^*LABa$  76.05 34.33 16.36

$LAB^*TChA$  75.0 38.03 25.49

relative CIELAB lab\*

$lab^*lab$  0.75 0.451 0.215

$lab^*tch$  0.75 0.5 0.071

$lab^*nch$  0.0 0.5 0.071

relative Natural Colour (NC)

$lab^*lrij$  0.75 0.5 0.0

$lab^*ice$  0.75 0.5 0.0

$lab^*ncE$  0.0 0.5 r00j

relative Inform. Technology (IT)

$olvi3^*$  1.0 0.028 0.0 (1.0)

$cmy3^*$  0.5 0.5 0.5 (0.0)

$olv4^*$  1.0 0.028 0.0 1.0

$cmy4^*$  0.0 0.972 1.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  56.7 68.71 32.74

$LAB^*LABa$  56.7 68.66 32.72

$LAB^*TChA$  50.0 76.06 25.48

relative CIELAB lab\*

$lab^*lab$  0.5 0.903 0.43

$lab^*tch$  0.5 1.0 0.071

$lab^*nch$  0.0 1.0 0.071

relative Natural Colour (NC)

$lab^*lrij$  0.5 1.0 0.0

$lab^*ice$  0.5 1.0 1.0

$lab^*ncE$  0.0 1.0 b99r

relative Inform. Technology (IT)

$olvi3^*$  0.5 0.014 0.0 (1.0)

$cmy3^*$  0.5 0.986 1.0 (0.0)

$olv4^*$  1.0 0.514 0.5 0.5

$cmy4^*$  0.0 0.486 0.5 0.5

standard and adapted CIELAB

$LAB^*LAB$  37.36 34.41 16.38

$LAB^*LABa$  37.36 34.33 16.36

$LAB^*TChA$  25.01 38.03 25.48

relative CIELAB lab\*

$lab^*lab$  0.25 0.451 0.215

$lab^*tch$  0.25 0.5 0.071

$lab^*nch$  0.5 0.5 0.071

relative Natural Colour (NC)

$lab^*lrij$  0.25 0.5 0.0

$lab^*ice$  0.25 0.5 1.0

$lab^*ncE$  0.5 0.5 b99r

$n^* = 0,00$

blackness  $n^*$

chromaticness  $c^*$

### Output: Colorimetric Reflective System NRS11

for hue  $h^* = lab^*h = 25/360 = 0.071$

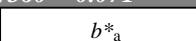
$lab^*tch$  and  $lab^*nch$

D65: hue R

LCH\*Ma: 53 83 25

olv\*Ma: 1.0 0.03 0.0

triangle lightness  $t^*$



%Gamut

$u^*_{rel} = 119$

%Regularity

$g^*_{H,rel} = 47$

$g^*_{C,rel} = 100$

relative Inform. Technology (IT)

$olvi3^*$  1.0 0.514 0.5 (1.0)

$cmy3^*$  0.0 0.486 0.5 (0.0)

$olv4^*$  1.0 0.514 0.5 1.0

$cmy4^*$  0.0 0.486 0.5 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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*ice$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)

$olvi3^*$  1.0 0.028 0.0 (1.0)

$cmy3^*$  0.9 0.972 1.0 (0.0)

$olv4^*$  1.0 0.028 0.0 1.0

$cmy4^*$  0.0 0.972 1.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  74.3 37.46 17.85

$LAB^*LABa$  74.3 37.44 17.85

$LAB^*TChA$  75.0 41.47 25.49

relative CIELAB lab\*

$lab^*lab$  0.75 0.451 0.215

$lab^*tch$  0.75 0.5 0.071

$lab^*nch$  0.0 0.5 0.071

relative Natural Colour (NC)

$lab^*lrij$  0.75 0.5 0.0

$lab^*ice$  0.75 0.5 1.0

$lab^*ncE$  0.0 0.5 b99r

$n^* = 1,0$

3 step scales for constant CIELAB hue 25/360 = 0.071 (left)

3 step scales for constant CIELAB hue 25/360 = 0.071 (right)

### Input: Colorimetric Reflective System NRS18

for hue  $h^* = lab^*h = 25/360 = 0.071$

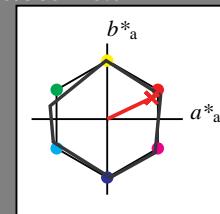
$lab^*tch$  and  $lab^*nch$

D65: hue R

LCH\*Ma: 57 76 25

olv\*Ma: 1.0 0.03 0.0

triangle lightness  $t^*$



### NRS18; adapted (a) CIELAB data

	$L^*=L_a^*$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	56.7	70.66	31.47	77.35	24
JMa	56.7	-1.39	77.37	77.39	91
GMa	56.7	-75.46	17.4	77.45	167
G50BMa	56.7	-71.29	-30.25	77.45	203
BMa	56.7	4.0	-77.3	77.41	273
B50RMa	56.7	63.35	-44.4	77.36	325
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	272

relative Inform. Technology (IT)  
 $olv_i3^*$  1.0 1.0 1.0 (1.0)  
 $cmyn3^*$  0.0 0.0 0.0 (0.0)  
 $olv_i4^*$  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 0.0  
 $LAB^*LABa$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0  
 $lab^*ice$  1.0 0.0 0.0  
 $lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)  
 $olv_i3^*$  0.5 0.5 0.5 (1.0)  
 $cmyn3^*$  0.5 0.5 0.5 (0.0)  
 $olv_i4^*$  1.0 1.0 1.0 0.5  
 $cmyn4^*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  56.72 0.05 0.0  
 $LAB^*LABa$  56.72 0.0 0.0  
 $LAB^*TChA$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0  
 $lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.5 0.0 0.0  
 $lab^*ice$  0.5 0.0 0.0  
 $lab^*ncE$  0.5 0.0 -

relative Inform. Technology (IT)  
 $olv_i3^*$  0.0 0.0 0.0 (1.0)  
 $cmyn3^*$  1.0 1.0 1.0 (0.0)  
 $olv_i4^*$  1.0 1.0 1.0 0.0  
 $cmyn4^*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.09 0.02  
 $LAB^*LABa$  18.02 0.0 0.0  
 $LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0  
 $lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0  
 $lab^*ice$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

relative Inform. Technology (IT)

$olv_i3^*$  1.0 0.514 0.5 (1.0)  
 $cmyn3^*$  0.0 0.486 0.5 (0.0)

$olv_i4^*$  1.0 0.514 0.5 1.0

$cmyn4^*$  0.0 0.486 0.5 0.0

standard and adapted CIELAB

$LAB^*LAB$  76.05 34.36 16.37  
 $LAB^*LABa$  76.05 34.33 16.36  
 $LAB^*TChA$  75.0 38.03 25.49

relative CIELAB lab\*

$lab^*lab$  0.75 0.451 0.215

$lab^*tch$  0.75 0.5 0.071

$lab^*nch$  0.0 0.5 0.071

relative Natural Colour (NC)

$lab^*lrij$  0.75 0.5 0.0  
 $lab^*ice$  0.75 0.5 0.0  
 $lab^*ncE$  0.0 0.5 r00j

relative Inform. Technology (IT)

$olv_i3^*$  1.0 0.028 0.0 (1.0)

$cmyn3^*$  0.5 0.5 0.5 (0.0)

$olv_i4^*$  1.0 0.028 0.0 1.0

$cmyn4^*$  0.0 0.972 1.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  56.7 68.71 32.74  
 $LAB^*LABa$  56.7 68.66 32.72  
 $LAB^*TChA$  50.0 76.06 25.48

relative CIELAB lab\*

$lab^*lab$  0.5 0.903 0.43

$lab^*tch$  0.5 1.0 0.071

$lab^*nch$  0.0 1.0 0.071

relative Natural Colour (NC)

$lab^*lrij$  0.5 1.0 0.0  
 $lab^*ice$  0.5 1.0 1.0  
 $lab^*ncE$  0.0 1.0 b99r

relative Inform. Technology (IT)

$olv_i3^*$  0.5 0.014 0.0 (1.0)

$cmyn3^*$  0.5 0.986 1.0 (0.0)

$olv_i4^*$  1.0 0.514 0.5 0.5

$cmyn4^*$  0.0 0.486 0.5 0.5

standard and adapted CIELAB

$LAB^*LAB$  37.36 34.41 16.38  
 $LAB^*LABa$  37.36 34.33 16.36  
 $LAB^*TChA$  25.01 38.03 25.48

relative CIELAB lab\*

$lab^*lab$  0.25 0.451 0.215

$lab^*tch$  0.25 0.5 0.071

$lab^*nch$  0.5 0.5 0.071

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0  
 $lab^*ice$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

### Output: Colorimetric Reflective System NCS11

for hue  $h^* = lab^*h = 25/360 = 0.071$

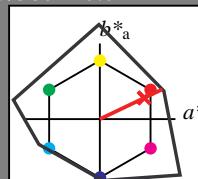
$lab^*tch$  and  $lab^*nch$

D65: hue R

LCH\*Ma: 48 91 25

olv\*Ma: 1.0 0.02 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

relative Inform. Technology (IT)  
 $olv_i3^*$  1.0 1.0 1.0 (1.0)  
 $cmyn3^*$  0.0 0.0 0.0 (0.0)  
 $olv_i4^*$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0  
 $lab^*ice$  1.0 0.0 0.0  
 $lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)

$olv_i3^*$  0.5 0.5 0.5 (1.0)

$cmyn3^*$  0.5 0.5 0.5 (0.0)

$olv_i4^*$  1.0 0.512 0.5 1.0

$cmyn4^*$  0.0 0.488 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 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0  
 $lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.5 1.0 0.0  
 $lab^*ice$  0.5 1.0 1.0  
 $lab^*ncE$  0.5 0.0 -

relative Inform. Technology (IT)

$olv_i3^*$  0.5 0.012 0.0 (1.0)

$cmyn3^*$  0.5 0.988 1.0 (0.0)

$olv_i4^*$  1.0 0.512 0.5 0.5

$cmyn4^*$  0.0 0.488 0.5 0.5

standard and adapted CIELAB

$LAB^*LAB$  11.01 0.07 0.01  
 $LAB^*LABa$  11.01 0.0 0.0  
 $LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0  
 $lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0  
 $lab^*ice$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

3 step scales for constant CIELAB hue 25/360 = 0.071 (left)

3 step scales for constant CIELAB hue 25/360 = 0.071 (right)

$n^* = 0,00$

$n^* = 0,50$

$n^* = 1,00$

$n^* = 0,00$

$n^* = 0,50$

$n^* = 1,00$

$n^* = 0,00$

$n^* = 0,50$

$n^* = 1,00$

### Input: Colorimetric Reflective System NCS18

for hue  $h^* = lab^*h = 25/360 = 0.071$

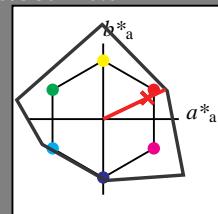
$lab^*tch$  and  $lab^*nch$

D65: hue R

LCH\*Ma: 48 91 25

olv\*Ma: 1.0 0.02 0.0

triangle lightness  $t^*$



### NCS18; adapted (a) CIELAB data

	$L^*=L_a^*$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	47.15	84.63	37.24	92.46	24
JMa	91.37	-1.27	125.03	125.03	91
GMa	63.07	-114.29	25.34	117.07	167
G50BMa	59.47	-80.61	-33.45	87.29	203
BMa	49.01	3.63	-81.2	81.29	273
B50RMa	44.06	106.07	-73.94	129.31	325
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	272

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

$LAB^*LABa$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 -

$lab^*ncE$  0.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  71.81 41.31 19.68

$LAB^*LABa$  71.81 41.27 19.68

$LAB^*TChA$  75.0 45.72 25.49

relative CIELAB lab\*

$lab^*lab$  0.695 0.451 0.215

$lab^*tch$  0.75 0.5 0.071

$lab^*nch$  0.0 0.5 0.071

relative Natural Colour (NC)

$lab^*lrij$  0.695 0.5 0.0

$lab^*tce$  0.75 0.5 0.0

$lab^*ncE$  0.0 0.5 r00j

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 0.5

$cmyn^4*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  56.72 0.05 0.0

$LAB^*LABa$  56.72 0.0 0.0

$LAB^*TChA$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.5 0.0 0.0

$lab^*tce$  0.5 0.0 -

$lab^*ncE$  0.5 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  33.11 41.36 19.69

$LAB^*LABa$  33.11 41.28 19.67

$LAB^*TChA$  25.01 45.73 25.47

relative CIELAB lab\*

$lab^*lab$  0.195 0.451 0.215

$lab^*tch$  0.25 0.5 0.071

$lab^*nch$  0.5 0.5 0.071

relative Natural Colour (NC)

$lab^*lrij$  0.195 0.5 0.0

$lab^*tce$  0.25 0.5 1.0

$lab^*ncE$  0.5 0.5 b99r

$n^* = 1,0$

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

relative Inform. Technology (IT)		
$olv^3*$	1.0	0.024 0.0 (1.0)
$cmyn^3*$	0.0	0.976 1.0 (0.0)
$olv^4*$	1.0	0.024 0.0 1.0
$cmyn^4*$	0.0	0.976 1.0 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 0.5
$cmyn^4*$	0.0	0.488 0.5 0.5

relative Inform. Technology (IT)		
$olv^3*$	0.5	0.012 0.0 (1.0)
$cmyn^3*$	0.5	0.988 1.0 (0.0)
$olv^4*$	1.0	0.512 0.5 0.5
$cmyn^4*$	0.0	0.488 0.5 0.5

relative Inform. Technology (IT)		
$olv^3*$	0.5	0.012 0.0 (1.0)
$cmyn^3*$	0.5	0.988 1.0 (0.0)
$olv^4*$	1.0	0.512 0.5 0.5
$cmyn^4*$	0.0	0.488 0.5 0.5

relative Inform. Technology (IT)		
$olv^3*$	0.5	0.012 0.0 (1.0)
$cmyn^3*$	0.5	0.988 1.0 (0.0)
$olv^4*$	1.0	0.512 0.5 0.5
$cmyn^4*$	0.0	0.488 0.5 0.5

relative Inform. Technology (IT)		
$olv^3*$	0.5	0.012 0.0 (1.0)
$cmyn^3*$	0.5	0.988 1.0 (0.0)
$olv^4*$	1.0	0.512 0.5 0.5
$cmyn^4*$	0.0	0.488 0.5 0.5

$n^* = 0,00$	$n^* = 0,50$	$n^* = 1,00$

chromaticness  $c^*$

blackness  $n^*$

$n^* = 0,00$

$n^* = 0,50$

$n^* = 1,00$

$n^* = 0,00$

$n^* = 0,50$

$n^* = 1,00$

$n^* = 0,00$

$n^* = 0,50$

$n^* = 1,00$

$n^* = 0,00$

$n^* = 0,50$

$n^* = 1,00$

$n^* = 0,00$

$n^* = 0,50$

$n^* = 1,00$

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$n^* = 0,50$

$n^* = 1,00$

$n^* = 0,00$

$n^* = 0,50$

$n^* = 1,00$

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$n^* = 0,50$

$n^* = 1,00$

$n^* = 0,00$

$n^* = 0,50$

$n^* = 1,00$

$n^* = 0,00$

$n^* = 0,50$

$n^* = 1,00$

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$n^* = 0,00$

$n^* = 0,50$

$n^* = 1,00$

$n^* = 0,00$

$n^* = 0,50$

$n^* = 1,00$

$n^* = 0,00$

$n^* = 0,50$

$n^* = 1,00$

$n^* = 0,00$

$n^* = 0,50$

$n^* = 1,00$

$n^* = 0,00$

$n^* = 0,50$

$n^* = 1,00$

$n^* = 0,00$

$n^* = 0,50$

$n^* = 1,00$

$n^* = 0,00$

$n^* = 0,50$

$n^* = 1,00$

$n^* = 0,00$

$n^* = 0,50$

$n^* = 1,00$

$n^* = 0,00$

$n^* = 0,50$

$n^* = 1,00$

$n^* = 0,00$

$n^* = 0,50$

$n^* = 1,00$

$n^* = 0,00$

## Input: Colorimetric Reflective System NCS18

for hue  $h^* = lab^*h = 25/360 = 0.071$

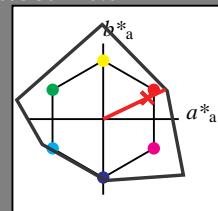
$lab^*tch$  and  $lab^*nch$

D65: hue R

LCH\*Ma: 48 91 25

olv\*Ma: 1.0 0.02 0.0

triangle lightness  $t^*$



## NCS18; adapted (a) CIELAB data

	$L^* = L^*_{ab}$	$a^*_{ab}$	$b^*_{ab}$	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	47.15	84.63	37.24	92.46	24
JMa	91.37	-1.27	125.03	125.03	91
GMa	63.07	-114.29	25.34	117.07	167
G50BMa	59.47	-80.61	-33.45	87.29	203
BMa	49.01	3.63	-81.2	81.29	273
B50RMa	44.06	106.07	-73.94	129.31	325
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	272

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

$LAB^*LABa$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  71.81 41.31 19.68

$LAB^*LABa$  71.81 41.27 19.68

$LAB^*TChA$  75.0 45.72 25.49

relative CIELAB lab\*

$lab^*lab$  0.695 0.451 0.215

$lab^*tch$  0.75 0.5 0.071

$lab^*nch$  0.0 0.5 0.071

relative Natural Colour (NC)

$lab^*lrij$  0.695 0.5 0.0

$lab^*tce$  0.75 0.5 0.0

$lab^*ncE$  0.0 0.5 r00j

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 0.5

$cmyn^4*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  56.72 0.05 0.0

$LAB^*LABa$  56.72 0.0 0.0

$LAB^*TChA$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.5 0.0 0.0

$lab^*tce$  0.5 0.0 0.0

$lab^*ncE$  0.5 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  48.21 82.61 39.36

$LAB^*LABa$  48.21 82.55 39.34

$LAB^*TChA$  50.0 91.45 25.48

relative CIELAB lab\*

$lab^*lab$  0.39 0.903 0.43

$lab^*tch$  0.5 1.0 0.071

$lab^*nch$  0.0 1.0 0.071

relative Natural Colour (NC)

$lab^*lrij$  0.39 1.0 0.0

$lab^*tce$  0.5 1.0 1.0

$lab^*ncE$  0.0 1.0 b99r

$n^* = 1,0$

relative Inform. Technology (IT)

$olv^3*$  0.0 0.0 0.0 (1.0)

$cmyn^3*$  1.0 1.0 1.0 (0.0)

$olv^4*$  1.0 1.0 1.0 0.0

$cmyn^4*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.09 0.02

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*tce$  0.0 0.0 0.0

$lab^*ncE$  1.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.09 0.02

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*tce$  0.0 0.0 0.0

$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

## Output: Colorimetric Reflective System MRS18

for hue  $h^* = lab^*h = 25/360 = 0.069$

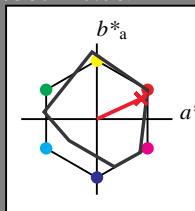
$lab^*tch$  and  $lab^*nch$

D65: hue R

LCH\*Ma: 48 73 25

olv\*Ma: 1.0 0.0 0.1

triangle lightness  $t^*$



## MRS18; adapted (a) CIELAB data

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

$olv^3*$  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

$LAB^*LABa$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  71.8 32.47 18.34

$LAB^*LABa$  71.8 33.0 15.17

$LAB^*TChA$  75.0 36.32 24.7

relative CIELAB lab\*

$lab^*lab$  0.695 0.454 0.209

$lab^*tch$  0.75 0.5 0.069

$lab^*nch$  0.0 0.5 0.069

relative Natural Colour (NC)

$lab^*lrij$  0.695 0.5 0.0

$lab^*tce$  0.75 0.5 1.0

$lab^*ncE$  0.0 0.5 b99r

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 0.5 0.548 0.5

$cmyn^4*$  0.0 0.5 0.452 0.5

standard and adapted CIELAB

$LAB^*LAB$  48.21 65.92 31.93

$LAB^*LABa$  48.21 66.0 30.36

$LAB^*TChA$  50.0 72.65 24.7

relative CIELAB lab\*

$lab^*lab$  0.39 0.908 0.418

$lab^*tch$  0.5 1.0 0.069

$lab^*nch$  0.0 1.0 0.069

relative Natural Colour (NC)

$lab^*lrij$  0.39 1.0 0.0

$lab^*tce$  0.5 1.0 0.0

$lab^*ncE$  0.0 1.0 r00j

$n^* = 1,0$

$n^* = 0,00$

blackness  $n^*$

$n^* = 1,00$

chromaticness  $c^*$

$n^* = 1,0$

$n^* = 0,00$

blackness  $n^*$

$n^* = 1,00$

chromaticness  $c^*$

UE100-7, 3 step scales for constant CIELAB hue 25/360 = 0.071 (left)

3 step scales for constant CIELAB hue 25/360 = 0.069 (right)

### Input: Colorimetric Reflective System NCS18

for hue  $h^* = lab^*h = 25/360 = 0.071$

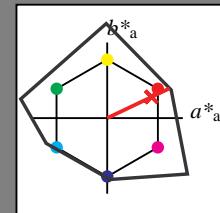
$lab^*tch$  and  $lab^*nch$

D65: hue R

LCH\*Ma: 48 91 25

olv\*Ma: 1.0 0.02 0.0

triangle lightness  $t^*$



### NCS18; adapted (a) CIELAB data

	$L^*=L_a^*$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	47.15	84.63	37.24	92.46	24
JMa	91.37	-1.27	125.03	125.03	91
GMa	63.07	-114.29	25.34	117.07	167
G50BMa	59.47	-80.61	-33.45	87.29	203
BMa	49.01	3.63	-81.2	81.29	273
B50RMa	44.06	106.07	-73.94	129.31	325
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	272

relative Inform. Technology (IT)

$olv_i3^*$  1.0 1.0 1.0 (1.0)

$cmyn3^*$  0.0 0.0 0.0 (0.0)

$olv_i4^*$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  71.81 41.31 19.68

$LAB^*LABa$  71.81 41.27 19.68

$LAB^*TChA$  75.0 45.72 25.49

relative CIELAB lab\*

$lab^*lab$  0.695 0.451 0.215

$lab^*tch$  0.75 0.5 0.071

$lab^*nch$  0.0 0.5 0.071

relative Natural Colour (NC)

$lab^*lrij$  0.695 0.5 0.0

$lab^*tce$  0.75 0.5 0.0

$lab^*ncE$  0.0 0.5 r00j

relative Inform. Technology (IT)

$olv_i3^*$  0.5 0.5 0.5 (1.0)

$cmyn3^*$  0.5 0.5 0.5 (0.0)

$olv_i4^*$  1.0 1.0 1.0 0.5

$cmyn4^*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  56.72 0.05 0.0

$LAB^*LABa$  56.72 0.0 0.0

$LAB^*TChA$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.5 0.0 0.0

$lab^*tce$  0.5 0.0 0.0

$lab^*ncE$  0.5 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  48.21 82.61 39.36

$LAB^*LABa$  48.21 82.55 39.34

$LAB^*TChA$  50.0 91.45 25.48

relative CIELAB lab\*

$lab^*lab$  0.39 0.903 0.43

$lab^*tch$  0.5 1.0 0.071

$lab^*nch$  0.0 1.0 0.071

relative Natural Colour (NC)

$lab^*lrij$  0.39 1.0 0.0

$lab^*tce$  0.5 1.0 1.0

$lab^*ncE$  0.0 1.0 b99r

$n^* = 1,0$

relative Inform. Technology (IT)

$olv_i3^*$  1.0 0.512 0.5 (1.0)

$cmyn3^*$  0.0 0.488 0.5 (0.0)

$olv_i4^*$  1.0 0.512 0.5 1.0

$cmyn4^*$  0.0 0.488 0.5 0.0

standard and adapted CIELAB

$LAB^*LAB$  71.81 41.31 19.68

$LAB^*LABa$  71.81 41.27 19.68

$LAB^*TChA$  75.0 45.72 25.49

relative CIELAB lab\*

$lab^*lab$  0.695 0.451 0.215

$lab^*tch$  0.75 0.5 0.071

$lab^*nch$  0.0 0.5 0.071

relative Natural Colour (NC)

$lab^*lrij$  0.695 0.5 0.0

$lab^*tce$  0.75 0.5 0.0

$lab^*ncE$  0.0 0.5 r00j

relative Inform. Technology (IT)

$olv_i3^*$  1.0 0.024 0.0 (1.0)

$cmyn3^*$  0.0 0.976 1.0 (0.0)

$olv_i4^*$  1.0 0.024 0.0 1.0

$cmyn4^*$  0.0 0.976 1.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  48.21 82.61 39.36

$LAB^*LABa$  48.21 82.55 39.34

$LAB^*TChA$  50.0 91.45 25.48

relative CIELAB lab\*

$lab^*lab$  0.39 0.903 0.43

$lab^*tch$  0.5 1.0 0.071

$lab^*nch$  0.0 1.0 0.071

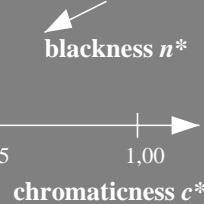
relative Natural Colour (NC)

$lab^*lrij$  0.39 1.0 0.0

$lab^*tce$  0.5 1.0 1.0

$lab^*ncE$  0.0 1.0 b99r

$n^* = 0,00$



### Output: Colorimetric Reflective System TRS18

for hue  $h^* = lab^*h = 25/360 = 0.069$

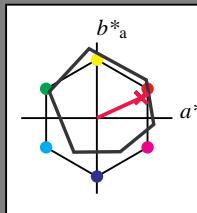
$lab^*tch$  and  $lab^*nch$

D65: hue R

LCH\*Ma: 48 75 25

olv\*Ma: 1.0 0.0 0.32

triangle lightness  $t^*$



### TRS18; adapted (a) CIELAB data

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

$olv_i3^*$  1.0 1.0 1.0 (1.0)

$cmyn3^*$  0.0 0.0 0.0 (0.0)

$olv_i4^*$  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

$LAB^*LABa$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  71.71 33.75 18.92

$LAB^*LABa$  71.71 34.27 15.76

$LAB^*TChA$  75.0 37.72 24.69

relative CIELAB lab\*

$lab^*lab$  0.694 0.454 0.209

$lab^*tch$  0.75 0.5 0.069

$lab^*nch$  0.0 0.5 0.069

relative Natural Colour (NC)

$lab^*lrij$  0.694 0.5 0.0

$lab^*tce$  0.75 0.5 1.0

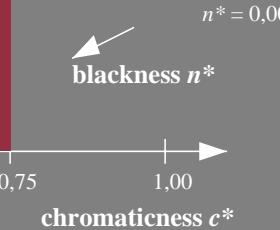
$lab^*ncE$  0.0 0.5 b99r

$n^* = 0,00$

$n^* = 1,0$

blackness  $n^*$

chromaticness  $c^*$



### relative Inform. Technology (IT)

$olv_i3^*$  1.0 0.5 0.5 (1.0)

$cmyn3^*$  0.0 0.5 0.5 (0.0)

$olv_i4^*$  1.0 0.5 0.661 1.0

$cmyn4^*$  0.0 0.5 0.339 (0.0)

relative Natural Colour (NC)

$lab^*lrij$  0.694 0.5 0.0

$lab^*tce$  0.75 0.5 1.0

$lab^*ncE$  0.0 0.5 b99r

relative Inform. Technology (IT)

$olv_i3^*$  1.0 1.0 1.0 (1.0)

$cmyn3^*$  0.0 1.0 1.0 (0.0)

$olv_i4^*$  1.0 1.0 1.0 1.0

$cmyn4^*$  0.0 1.0 0.539 0.5

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.5 -0.46

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.194 0.454 0.209

$lab^*tch$  0.25 0.5 0.069

$lab^*nch$  0.5 0.5 0.069

relative Natural Colour (NC)

### Input: Colorimetric Reflective System NCS18

for hue  $h^* = lab^*h = 25/360 = 0.071$

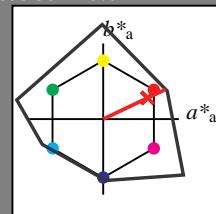
$lab^*tch$  and  $lab^*nch$

D65: hue R

LCH\*Ma: 48 91 25

olv\*Ma: 1.0 0.02 0.0

triangle lightness  $t^*$



### NCS18; adapted (a) CIELAB data

	$L^*=L^*_a$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	47.15	84.63	37.24	92.46	24
JMa	91.37	-1.27	125.03	125.03	91
GMa	63.07	-114.29	25.34	117.07	167
G50BMa	59.47	-80.61	-33.45	87.29	203
BMa	49.01	3.63	-81.2	81.29	273
B50RMa	44.06	106.07	-73.94	129.31	325
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	272

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

$LAB^*LABa$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  71.81 41.31 19.68

$LAB^*LABa$  71.81 41.27 19.68

$LAB^*TChA$  75.0 45.72 25.49

relative CIELAB lab\*

$lab^*lab$  0.695 0.451 0.215

$lab^*tch$  0.75 0.5 0.071

$lab^*nch$  0.0 0.5 0.071

relative Natural Colour (NC)

$lab^*lrij$  0.695 0.5 0.0

$lab^*tce$  0.75 0.5 0.0

$lab^*ncE$  0.0 0.5 r00j

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 0.5

$cmyn^4*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  56.72 0.05 0.0

$LAB^*LABa$  56.72 0.0 0.0

$LAB^*TChA$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.5 0.0 0.0

$lab^*tce$  0.5 0.0 0.0

$lab^*ncE$  0.5 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  48.21 82.61 39.36

$LAB^*LABa$  48.21 82.55 39.34

$LAB^*TChA$  50.0 91.45 25.48

relative CIELAB lab\*

$lab^*lab$  0.39 0.903 0.43

$lab^*tch$  0.5 1.0 0.071

$lab^*nch$  0.0 1.0 0.071

relative Natural Colour (NC)

$lab^*lrij$  0.39 1.0 0.0

$lab^*tce$  0.5 1.0 1.0

$lab^*ncE$  0.0 1.0 b99r

$n^* = 1,0$

	$L^*=L^*_a$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
$olv^3*$	1.0	0.512	0.5	(1.0)	
$cmyn^3*$	0.0	0.488	0.5	(0.0)	
$olv^4*$	1.0	0.512	0.5	1.0	
$cmyn^4*$	0.0	0.488	0.5	0.0	

	$L^*=L^*_a$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
$olv^3*$	1.0	0.024	0.0	(1.0)	
$cmyn^3*$	0.5	0.976	1.0	(0.0)	
$olv^4*$	1.0	0.024	0.0	1.0	
$cmyn^4*$	0.0	0.976	1.0	0.0	

	$L^*=L^*_a$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
$olv^3*$	0.5	0.012	0.0	(1.0)	
$cmyn^3*$	0.5	0.988	1.0	(0.0)	
$olv^4*$	1.0	0.512	0.5	0.5	
$cmyn^4*$	0.0	0.488	0.5	0.5	

	$L^*=L^*_a$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
$olv^3*$	0.0	0.195	0.451	0.215	
$cmyn^3*$	0.25	0.5	0.071		
$olv^4*$	0.5	0.5	0.071		
$cmyn^4*$	0.0	0.195	0.1		

$n^* = 0,00$

	$L^*=L^*_a$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
$olv^3*$	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	

	$L^*=L^*_a$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
$olv^3*$	1.0	0.024	0.0	(1.0)	
$cmyn^3*$	0.5	0.976	1.0	(0.0)	
$olv^4*$	1.0	0.024	0.0	1.0	
$cmyn^4*$	0.0	0.976	1.0	0.0	

	$L^*=L^*_a$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
$olv^3*$	0.0	0.195	0.451	0.215	
$cmyn^3*$	0.25	0.5	0.071		
$olv^4*$	0.5	0.5	0.071		
$cmyn^4*$	0.0	0.195	0.1		

$n^* = 0,50$

$n^* = 1,00$

	$L^*=L^*_a$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
$olv^3*$	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	

$n^* = 0,00$

$n^* = 1,0$

### Output: Colorimetric Reflective System MRS18a

for hue  $h^* = lab^*h = 25/360 = 0.071$

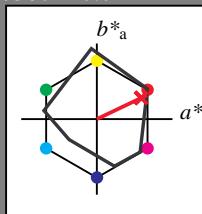
$lab^*tch$  and  $lab^*nch$

D65: hue R

LCH\*Ma: 48 73 25

olv\*Ma: 1.0 0.0 0.1

triangle lightness  $t^*$



	$L^*=L^*_a$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	49.15	84.63	37.24	92.46	24
JMa	91.37	-1.27	125.03	125.03	91
GMa	63.07	-114.29	25.34	117.07	167
G50BMa	59.47	-80.61	-33.45	87.29	203
BMa	49.01	3.63	-81.2	81.29	273
B50RMa	44.06	106.07	-73.94	129.31	325
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	272

relative Inform. Technology (IT)

$olv^3*$  1.0 1.0 1.0 (1.0)

### Input: Colorimetric Reflective System NCS18

for hue  $h^* = lab^*h = 25/360 = 0.071$

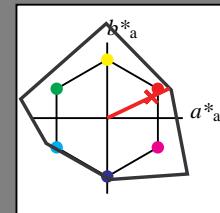
$lab^*tch$  and  $lab^*nch$

D65: hue R

LCH\*Ma: 48 91 25

olv\*Ma: 1.0 0.02 0.0

triangle lightness  $t^*$



### NCS18; adapted (a) CIELAB data

	$L^* = L^*_{ab}$	$a^*_{ab}$	$b^*_{ab}$	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	47.15	84.63	37.24	92.46	24
JMa	91.37	-1.27	125.03	125.03	91
GMa	63.07	-114.29	25.34	117.07	167
G50BMa	59.47	-80.61	-33.45	87.29	203
BMa	49.01	3.63	-81.2	81.29	273
B50RMa	44.06	106.07	-73.94	129.31	325
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	272

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

$LAB^*LABa$  95.41 0.0 0.0

$LAB^*TCh$  99.99 0.01 -

relative CIELAB lab\*

$lab^*lab$  1.0 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  1.0 0.0 0.0

$lab^*ice$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  71.81 41.31 19.68

$LAB^*LABa$  71.81 41.27 19.68

$LAB^*TCh$  75.0 45.72 25.49

relative CIELAB lab\*

$lab^*lab$  0.695 0.451 0.215

$lab^*tch$  0.75 0.5 0.071

$lab^*nch$  0.0 0.5 0.071

relative Natural Colour (NC)

$lab^*lrj$  0.695 0.5 0.0

$lab^*ice$  0.75 0.5 0.0

$lab^*ncE$  0.0 0.5 r00j

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 0.5

$cmyn^4*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  56.72 0.05 0.0

$LAB^*LABa$  56.72 0.0 0.0

$LAB^*TCh$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  0.5 0.0 0.0

$lab^*ice$  0.5 0.0 0.0

$lab^*ncE$  0.5 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  33.11 41.36 19.69

$LAB^*LABa$  33.11 41.28 19.67

$LAB^*TCh$  25.01 45.73 25.47

relative CIELAB lab\*

$lab^*lab$  0.195 0.451 0.215

$lab^*tch$  0.25 0.5 0.071

$lab^*nch$  0.5 0.5 0.071

relative Natural Colour (NC)

$lab^*lrj$  0.195 0.5 0.0

$lab^*ice$  0.25 0.5 1.0

$lab^*ncE$  0.5 0.5 b99r

$n^* = 1,0$

relative Inform. Technology (IT)

$olv^3*$  1.0 0.512 0.5 (1.0)

$cmyn^3*$  0.0 0.488 0.5 (0.0)

$olv^4*$  1.0 0.512 0.5 1.0

$cmyn^4*$  0.0 0.488 0.5 0.0

standard and adapted CIELAB

$LAB^*LAB$  71.81 41.31 19.68

$LAB^*LABa$  71.81 41.27 19.68

$LAB^*TCh$  75.0 45.72 25.49

relative CIELAB lab\*

$lab^*lab$  0.695 0.451 0.215

$lab^*tch$  0.75 0.5 0.071

$lab^*nch$  0.0 0.5 0.071

relative Natural Colour (NC)

$lab^*lrj$  0.695 0.5 0.0

$lab^*ice$  0.75 0.5 0.0

$lab^*ncE$  0.0 0.5 r00j

standard and adapted CIELAB

$LAB^*LAB$  48.21 82.61 39.36

$LAB^*LABa$  48.21 82.55 39.34

$LAB^*TCh$  50.0 91.45 25.48

relative CIELAB lab\*

$lab^*lab$  0.39 0.903 0.43

$lab^*tch$  0.5 1.0 0.071

$lab^*nch$  0.0 1.0 0.071

relative Natural Colour (NC)

$lab^*lrj$  0.39 1.0 0.0

$lab^*ice$  0.5 1.0 1.0

$lab^*ncE$  0.0 1.0 b99r

relative CIELAB lab\*

$lab^*lab$  0.195 0.451 0.215

$lab^*tch$  0.25 0.5 0.071

$lab^*nch$  0.5 0.5 0.071

relative Natural Colour (NC)

$lab^*lrj$  0.195 0.5 0.0

$lab^*ice$  0.25 0.5 1.0

$lab^*ncE$  0.5 0.5 b99r

relative CIELAB lab\*

$lab^*lab$  0.195 0.451 0.215

$lab^*tch$  0.25 0.5 0.071

$lab^*nch$  0.5 0.5 0.071

relative Natural Colour (NC)

$lab^*lrj$  0.0 0.0 0.0

$lab^*ice$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

relative CIELAB lab\*

$lab^*lab$  0.195 0.451 0.215

$lab^*tch$  0.25 0.5 0.071

$lab^*nch$  0.5 0.5 0.071

relative Natural Colour (NC)

$lab^*lrj$  0.0 0.0 0.0

$lab^*ice$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

relative CIELAB lab\*

$lab^*lab$  0.195 0.451 0.215

$lab^*tch$  0.25 0.5 0.071

$lab^*nch$  0.5 0.5 0.071

relative Natural Colour (NC)

$lab^*lrj$  0.0 0.0 0.0

$lab^*ice$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

relative CIELAB lab\*

$lab^*lab$  0.195 0.451 0.215

$lab^*tch$  0.25 0.5 0.071

$lab^*nch$  0.5 0.5 0.071

relative Natural Colour (NC)

$lab^*lrj$  0.0 0.0 0.0

$lab^*ice$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

relative CIELAB lab\*

$lab^*lab$  0.195 0.451 0.215

$lab^*tch$  0.25 0.5 0.071

$lab^*nch$  0.5 0.5 0.071

relative Natural Colour (NC)

$lab^*lrj$  0.0 0.0 0.0

$lab^*ice$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

relative CIELAB lab\*

$lab^*lab$  0.195 0.451 0.215

$lab^*tch$  0.25 0.5 0.071

$lab^*nch$  0.5 0.5 0.071

relative Natural Colour (NC)

$lab^*lrj$  0.0 0.0 0.0

$lab^*ice$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

relative CIELAB lab\*

$lab^*lab$  0.195 0.451 0.215

$lab^*tch$  0.25 0.5 0.071

$lab^*nch$  0.5 0.5 0.071

relative Natural Colour (NC)

$lab^*lrj$  0.0 0.0 0.0

$lab^*ice$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

relative CIELAB lab\*

$lab^*lab$  0.195 0.451 0.215

$lab^*tch$  0.25 0.5 0.071

$lab^*nch$  0.5 0.5 0.071

relative Natural Colour (NC)

$lab^*lrj$  0.0 0.0 0.0

$lab^*ice$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

relative CIELAB lab\*

$lab^*lab$  0.195 0.451 0.215

$lab^*tch$  0.25 0.5 0.071

$lab^*nch$  0.5 0.5 0.071

relative Natural Colour (NC)

$lab^*lrj$  0.0 0.0 0.0

$lab^*ice$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

relative CIELAB lab\*

$lab^*lab$  0.195 0.451 0.215

$lab^*tch$  0.25 0.5 0.071

$lab^*nch$  0.5 0.5 0.071

relative Natural Colour (NC)

$lab^*lrj$  0.0 0.0 0.0

$lab^*ice$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

relative CIELAB lab\*

$lab^*lab$  0.195 0.451 0.215

$lab^*tch$  0.25 0.5 0.071

$lab^*nch$  0.5 0.5 0.071

relative Natural Colour (NC)

### Input: Colorimetric Reflective System NCS18

for hue  $h^* = lab^*h = 25/360 = 0.071$

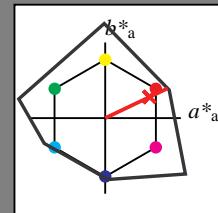
$lab^*tch$  and  $lab^*nch$

D65: hue R

LCH\*Ma: 48 91 25

olv\*Ma: 1.0 0.02 0.0

triangle lightness  $t^*$



### NCS18; adapted (a) CIELAB data

	$L^*=L_a^*$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	47.15	84.63	37.24	92.46	24
JMa	91.37	-1.27	125.03	125.03	91
GMa	63.07	-114.29	25.34	117.07	167
G50BMa	59.47	-80.61	-33.45	87.29	203
BMa	49.01	3.63	-81.2	81.29	273
B50RMa	44.06	106.07	-73.94	129.31	325
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	272

relative Inform. Technology (IT)

$olv^3*$  1.0 1.0 1.0 (1.0)

$cmyn3*$  0.0 0.0 0.0 (0.0)

$olv^4*$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  71.81 41.31 19.68

$LAB^*LABa$  71.81 41.27 19.68

$LAB^*TChA$  75.0 45.72 25.49

relative CIELAB lab\*

$lab^*lab$  0.695 0.451 0.215

$lab^*tch$  0.75 0.5 0.071

$lab^*nch$  0.0 0.5 0.071

relative Natural Colour (NC)

$lab^*lrij$  0.695 0.5 0.0

$lab^*tce$  0.75 0.5 0.0

$lab^*ncE$  0.0 0.5 r00j

relative Inform. Technology (IT)

$olv^3*$  0.5 0.5 0.5 (1.0)

$cmyn3*$  0.5 0.5 0.5 (0.0)

$olv^4*$  1.0 1.0 1.0 0.5

$cmyn4*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  56.72 0.05 0.0

$LAB^*LABa$  56.72 0.0 0.0

$LAB^*TChA$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.5 0.0 0.0

$lab^*tce$  0.5 0.0 0.0

$lab^*ncE$  0.5 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  48.21 82.61 39.36

$LAB^*LABa$  48.21 82.55 39.34

$LAB^*TChA$  50.0 91.45 25.48

relative CIELAB lab\*

$lab^*lab$  0.39 0.903 0.43

$lab^*tch$  0.5 1.0 0.071

$lab^*nch$  0.0 1.0 0.071

relative Natural Colour (NC)

$lab^*lrij$  0.39 1.0 0.0

$lab^*tce$  0.5 1.0 1.0

$lab^*ncE$  0.0 1.0 b99r

$n^* = 1,0$

relative Inform. Technology (IT)

$olv^3*$  0.0 0.0 0.0 (1.0)

$cmyn3*$  1.0 1.0 1.0 (0.0)

$olv^4*$  1.0 1.0 1.0 0.0

$cmyn4*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.09 0.02

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*tce$  0.0 0.0 0.0

$lab^*ncE$  1.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.09 0.02

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.195 0.451 0.215

$lab^*tch$  0.25 0.5 0.071

$lab^*nch$  0.5 0.5 0.071

relative Natural Colour (NC)

$lab^*lrij$  0.195 0.5 0.0

$lab^*tce$  0.25 0.5 1.0

$lab^*ncE$  0.5 0.5 b99r

$n^* = 1,0$

$n^* = 0,00$

blackness  $n^*$

chromaticness  $c^*$

### Output: Colorimetric Reflective System NCS18

for hue  $h^* = lab^*h = 25/360 = 0.071$

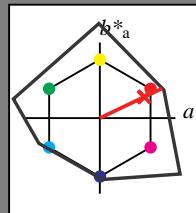
$lab^*tch$  and  $lab^*nch$

D65: hue R

LCH\*Ma: 48 91 25

olv\*Ma: 1.0 0.02 0.0

triangle lightness  $t^*$



### NCS18; adapted (a) CIELAB data

	$L^*=L_a^*$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	47.15	84.63	37.24	92.46	24
JMa	91.37	-1.27	125.03	125.03	91
GMa	63.07	-114.29	25.34	117.07	167
G50BMa	59.47	-80.61	-33.45	87.29	203
BMa	49.01	3.63	-81.2	81.29	273
B50RMa	44.06	106.07	-73.94	129.31	325
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	272

relative Inform. Technology (IT)

$olv^3*$  1.0 1.0 1.0 (1.0)

$cmyn3*$  0.0 0.0 0.0 (0.0)

$olv^4*$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  71.81 41.31 19.68

$LAB^*LABa$  71.81 41.27 19.68

$LAB^*TChA$  75.0 45.72 25.49

relative CIELAB lab\*

$lab^*lab$  0.695 0.451 0.215

$lab^*tch$  0.75 0.5 0.071

$lab^*nch$  0.0 0.5 0.071

relative Natural Colour (NC)

$lab^*lrij$  0.695 0.5 0.0

$lab^*tce$  0.75 0.5 0.0

$lab^*ncE$  0.0 0.5 r00j

relative Inform. Technology (IT)

$olv^3*$  0.5 0.5 0.5 (1.0)

$cmyn3*$  0.5 0.5 0.5 (0.0)

$olv^4*$  1.0 1.0 1.0 0.5

$cmyn4*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  56.72 0.05 0.0

$LAB^*LABa$  56.72 0.0 0.0

$LAB^*TChA$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.39 0.903 0.43

$lab^*tch$  0.5 1.0 0.071

$lab^*nch$  0.0 1.0 0.071

relative Natural Colour (NC)

$lab^*lrij$  0.39 1.0 0.0

$lab^*tce$  0.5 1.0 1.0

$lab^*ncE$  0.0 1.0 b99r

standard and adapted CIELAB

$LAB^*LAB$  48.21 82.61 39.36

$LAB^*LABa$  48.21 82.55 39.34

$LAB^*TChA$  50.0 91.45 25.48

relative CIELAB lab\*

$lab^*lab$  0.195 0.451 0.215

$lab^*tch$  0.25 0.5 0.071

$lab^*nch$  0.5 0.5 0.071

relative Natural Colour (NC)

$lab^*lrij$  0.195 0.5 0.0

$lab^*tce$  0.25 0.5 1.0

$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

blackness  $n^*$

chromaticness  $c^*$

### Input: Colorimetric Reflective System NCS18

for hue  $h^* = lab^*h = 25/360 = 0.071$

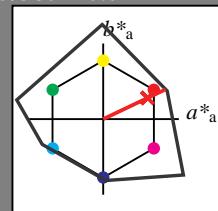
$lab^*tch$  and  $lab^*nch$

D65: hue R

LCH\*Ma: 48 91 25

olv\*Ma: 1.0 0.02 0.0

triangle lightness  $t^*$



### NCS18; adapted (a) CIELAB data

	$L^* = L^*_{ab}$	$a^*_{ab}$	$b^*_{ab}$	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	47.15	84.63	37.24	92.46	24
JMa	91.37	-1.27	125.03	125.03	91
GMa	63.07	-114.29	25.34	117.07	167
G50BMa	59.47	-80.61	-33.45	87.29	203
BMa	49.01	3.63	-81.2	81.29	273
B50RMa	44.06	106.07	-73.94	129.31	325
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	272

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

$LAB^*LABa$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*ice$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  71.81 41.31 19.68

$LAB^*LABa$  71.81 41.27 19.68

$LAB^*TChA$  75.0 45.72 25.49

relative CIELAB lab\*

$lab^*lab$  0.695 0.451 0.215

$lab^*tch$  0.75 0.5 0.071

$lab^*nch$  0.0 0.5 0.071

relative Natural Colour (NC)

$lab^*lrij$  0.695 0.5 0.0

$lab^*ice$  0.75 0.5 0.0

$lab^*ncE$  0.0 0.5 r00j

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 0.5

$cmyn^4*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  56.72 0.05 0.0

$LAB^*LABa$  56.72 0.0 0.0

$LAB^*TChA$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.5 0.0 0.0

$lab^*ice$  0.5 0.0 0.0

$lab^*ncE$  0.5 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  48.21 82.61 39.36

$LAB^*LABa$  48.21 82.55 39.34

$LAB^*TChA$  50.0 91.45 25.48

relative CIELAB lab\*

$lab^*lab$  0.39 0.903 0.43

$lab^*tch$  0.5 1.0 0.071

$lab^*nch$  0.0 1.0 0.071

relative Natural Colour (NC)

$lab^*lrij$  0.39 1.0 0.0

$lab^*ice$  0.5 1.0 1.0

$lab^*ncE$  0.0 1.0 b99r

$n^* = 1,0$

relative Inform. Technology (IT)

$olv^3*$  1.0 0.512 0.5 (1.0)

$cmyn^3*$  0.0 0.488 0.5 (0.0)

$olv^4*$  1.0 0.512 0.5 1.0

$cmyn^4*$  0.0 0.488 0.5 0.0

standard and adapted CIELAB

$LAB^*LAB$  71.81 41.31 19.68

$LAB^*LABa$  71.81 41.27 19.68

$LAB^*TChA$  75.0 45.72 25.49

relative CIELAB lab\*

$lab^*lab$  0.695 0.451 0.215

$lab^*tch$  0.75 0.5 0.071

$lab^*nch$  0.0 0.5 0.071

relative Natural Colour (NC)

$lab^*lrij$  0.695 0.5 0.0

$lab^*ice$  0.75 0.5 0.0

$lab^*ncE$  0.0 0.5 r00j

relative Inform. Technology (IT)

$olv^3*$  1.0 0.024 0.0 (1.0)

$cmyn^3*$  0.5 0.976 1.0 (0.0)

$olv^4*$  1.0 0.024 0.0 1.0

$cmyn^4*$  0.0 0.976 1.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  48.21 82.61 39.36

$LAB^*LABa$  48.21 82.55 39.34

$LAB^*TChA$  50.0 91.45 25.48

relative CIELAB lab\*

$lab^*lab$  0.39 0.903 0.43

$lab^*tch$  0.5 1.0 0.071

$lab^*nch$  0.0 1.0 0.071

relative Natural Colour (NC)

$lab^*lrij$  0.39 1.0 0.0

$lab^*ice$  0.5 1.0 1.0

$lab^*ncE$  0.0 1.0 b99r

relative Inform. Technology (IT)

$olv^3*$  0.0 0.0 0.0 (1.0)

$cmyn^3*$  1.0 1.0 1.0 (0.0)

$olv^4*$  1.0 1.0 1.0 0.0

$cmyn^4*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  33.11 41.36 19.67

$LAB^*LABa$  33.11 41.28 19.67

$LAB^*TChA$  25.01 45.73 25.47

relative CIELAB lab\*

$lab^*lab$  0.195 0.451 0.215

$lab^*tch$  0.25 0.5 0.071

$lab^*nch$  0.5 0.5 0.071

relative Natural Colour (NC)

$lab^*lrij$  0.195 0.5 0.0

$lab^*ice$  0.25 0.5 1.0

$lab^*ncE$  0.5 0.5 b99r

relative Inform. Technology (IT)

$olv^3*$  0.0 0.0 0.0 (1.0)

$cmyn^3*$  1.0 1.0 1.0 (0.0)

$olv^4*$  1.0 1.0 1.0 0.0

$cmyn^4*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  11.01 0.07 0.01

$LAB^*LABa$  11.01 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*ice$  0.0 0.0 -

$lab^*ncE$  1.0 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)

$olv^4*$  1.0 1.0 1.0 0.0

$cmyn^4*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  11.01 0.07 0.01

$LAB^*LABa$  11.01 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*ice$  0.0 0.0 -

$lab^*ncE$  1.0 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)

$olv^4*$  1.0 1.0 1.0 0.0

$cmyn^4*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  11.01 0.07 0.01

$LAB^*LABa$  11.01 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*ice$  0.0 0.0 -

$lab^*ncE$  1.0 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)

$olv^4*$  1.0 1.0 1.0 0.0

$cmyn^4*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  11.01 0.07 0.01

$LAB^*LABa$  11.01 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*ice$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

relative Inform. Technology (IT)

$olv^3*$  0.0 0.0 0.0 (1.0)

### Input: Colorimetric Reflective System NCS18

for hue  $h^* = lab^*h = 25/360 = 0.071$

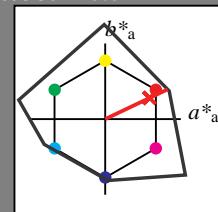
$lab^*tch$  and  $lab^*nch$

D65: hue R

LCH\*Ma: 48 91 25

olv\*Ma: 1.0 0.02 0.0

triangle lightness  $t^*$



### NCS18; adapted (a) CIELAB data

	$L^* = L^*_{ab}$	$a^*_{ab}$	$b^*_{ab}$	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	47.15	84.63	37.24	92.46	24
JMa	91.37	-1.27	125.03	125.03	91
GMa	63.07	-114.29	25.34	117.07	167
G50BMa	59.47	-80.61	-33.45	87.29	203
BMa	49.01	3.63	-81.2	81.29	273
B50RMa	44.06	106.07	-73.94	129.31	325
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	272

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

$LAB^*LABa$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  71.81 41.31 19.68

$LAB^*LABa$  71.81 41.27 19.68

$LAB^*TChA$  75.0 45.72 25.49

relative CIELAB lab\*

$lab^*lab$  0.695 0.451 0.215

$lab^*tch$  0.75 0.5 0.071

$lab^*nch$  0.0 0.5 0.071

relative Natural Colour (NC)

$lab^*lrij$  0.695 0.5 0.0

$lab^*tce$  0.75 0.5 0.0

$lab^*ncE$  0.0 0.5 r00j

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 0.5

$cmyn^4*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  56.72 0.05 0.0

$LAB^*LABa$  56.72 0.0 0.0

$LAB^*TChA$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.5 0.0 0.0

$lab^*tce$  0.5 0.0 0.0

$lab^*ncE$  0.5 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  48.21 82.61 39.36

$LAB^*LABa$  48.21 82.55 39.34

$LAB^*TChA$  50.0 91.45 25.48

relative CIELAB lab\*

$lab^*lab$  0.39 0.903 0.43

$lab^*tch$  0.5 1.0 0.071

$lab^*nch$  0.0 1.0 0.071

relative Natural Colour (NC)

$lab^*lrij$  0.39 1.0 0.0

$lab^*tce$  0.5 1.0 1.0

$lab^*ncE$  0.0 1.0 b99r

$n^* = 1,0$

### Output: Colorimetric Reflective System NCS11

for hue  $h^* = lab^*h = 25/360 = 0.071$

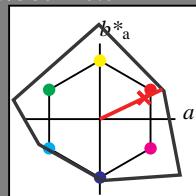
$lab^*tch$  and  $lab^*nch$

D65: hue R

LCH\*Ma: 48 91 25

olv\*Ma: 1.0 0.02 0.0

triangle lightness  $t^*$



### NCS11; adapted (a) CIELAB data

	$L^* = L^*_{ab}$	$a^*_{ab}$	$b^*_{ab}$	$C^*_{ab,a}$	$h^*_{ab,a}$
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	-81.2	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)

$olv^3*$  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

$LAB^*LABa$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  71.81 41.31 19.68

$LAB^*LABa$  71.81 41.28 19.68

$LAB^*TChA$  75.0 45.73 25.49

relative CIELAB lab\*

$lab^*lab$  0.72 0.451 0.215

$lab^*tch$  0.75 0.5 0.071

$lab^*nch$  0.0 0.5 0.071

relative Natural Colour (NC)

$lab^*lrij$  0.72 0.5 0.0

$lab^*tce$  0.75 0.5 0.0

$lab^*ncE$  0.0 0.5 r00j

relative Inform. Technology (IT)

$olv^3*$  0.5 0.024 0.0 (1.0)

$cmyn^3*$  0.5 0.488 0.5 (0.0)

$olv^4*$  1.0 0.512 0.5 1.0

$cmyn^4*$  0.0 0.488 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 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.441 0.903 0.43

$lab^*tch$  0.5 1.0 0.071

$lab^*nch$  0.0 1.0 0.071

relative Natural Colour (NC)

$lab^*lrij$  0.441 1.0 0.0

$lab^*tce$  0.5 1.0 1.0

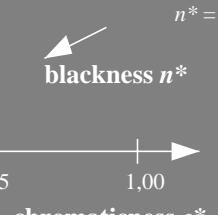
$lab^*ncE$  0.0 1.0 b99r

$n^* = 0,00$

blackness  $n^*$

chromaticness  $c^*$

$n^* = 1,0$



$n^* = 1,0$

3 step scales for constant CIELAB hue 25/360 = 0.071 (right)

## Input: Colorimetric Reflective System NRS11

for hue  $h^* = lab^*h = 25/360 = 0.071$

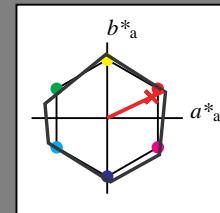
$lab^*tch$  and  $lab^*nch$

D65: hue R

LCH\*Ma: 53 83 25

olv\*Ma: 1.0 0.03 0.0

triangle lightness  $t^*$



## NRS11; adapted (a) CIELAB data

	$L^*=L_a^*$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	53.2	77.06	34.32	84.36	24
JMa	53.2	-1.51	84.38	84.39	91
GMa	53.2	-82.27	18.98	84.44	167
G50BMa	53.2	-77.72	-32.98	84.44	203
BMa	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)

$olv_i3^*$  1.0 1.0 1.0 (1.0)

$cmy3^*$  0.0 0.0 0.0 (0.0)

$olv_i4^*$  1.0 1.0 1.0 1.0

$cmy4^*$  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

$LAB^*TCh$  99.99 0.01 -

relative CIELAB lab\*

$lab^*lab$  1.0 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)

$olv_i3^*$  0.5 0.5 0.5 (1.0)

$cmy3^*$  0.5 0.5 0.5 (0.0)

$olv_i4^*$  1.0 1.0 1.0 0.5

$cmy4^*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  53.21 0.04 0.0

$LAB^*LABa$  53.21 0.0 0.0

$LAB^*TCh$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.5 0.0 0.0

$lab^*tce$  0.5 0.0 0.0

$lab^*ncE$  0.5 0.0 -

relative Inform. Technology (IT)

$olv_i3^*$  0.0 0.0 0.0 (1.0)

$cmy3^*$  1.0 1.0 1.0 (0.0)

$olv_i4^*$  1.0 1.0 1.0 0.0

$cmy4^*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  11.01 0.07 0.01

$LAB^*LABa$  11.01 0.0 0.0

$LAB^*TCh$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*tce$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

%Gamut

$u^*_{rel} = 119$

%Regularity

$g^*_{H,rel} = 47$

$g^*_{C,rel} = 100$

relative Inform. Technology (IT)

$olv_i3^*$  1.0 0.514 0.5 (1.0)

$cmy3^*$  0.0 0.486 0.5 (0.0)

$olv_i4^*$  1.0 0.514 0.5 1.0

$cmy4^*$  0.0 0.486 0.5 0.0

standard and adapted CIELAB

$LAB^*LAB$  74.3 37.46 17.85

$LAB^*LABa$  74.3 37.44 17.85

$LAB^*TCh$  75.0 41.47 25.49

relative CIELAB lab\*

$lab^*lab$  0.75 0.451 0.215

$lab^*tch$  0.75 0.5 0.071

$lab^*nch$  0.0 0.5 0.071

relative Natural Colour (NC)

$lab^*lrij$  0.75 0.5 0.0

$lab^*tce$  0.75 0.5 0.0

$lab^*ncE$  0.0 0.5 r00j

relative Inform. Technology (IT)

$olv_i3^*$  1.0 0.028 0.0 (1.0)

$cmy3^*$  0.5 0.972 1.0 (0.0)

$olv_i4^*$  1.0 0.028 0.0 1.0

$cmy4^*$  0.0 0.972 1.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  53.2 74.93 35.7

$LAB^*LABa$  53.2 74.88 35.69

$LAB^*TCh$  50.0 82.95 25.48

relative CIELAB lab\*

$lab^*lab$  0.5 0.903 0.43

$lab^*tch$  0.5 1.0 0.071

$lab^*nch$  0.0 1.0 0.071

relative Natural Colour (NC)

$lab^*lrij$  0.5 1.0 0.0

$lab^*tce$  0.5 1.0 1.0

$lab^*ncE$  0.0 1.0 b99r

relative Inform. Technology (IT)

$olv_i3^*$  0.5 0.014 0.0 (1.0)

$cmy3^*$  0.5 0.986 1.0 (0.0)

$olv_i4^*$  1.0 0.514 0.5 0.5

$cmy4^*$  0.0 0.486 0.5 0.5

standard and adapted CIELAB

$LAB^*LAB$  32.1 37.51 17.86

$LAB^*LABa$  32.1 37.45 17.84

$LAB^*TCh$  25.01 41.48 25.48

relative CIELAB lab\*

$lab^*lab$  0.25 0.451 0.215

$lab^*tch$  0.25 0.5 0.071

$lab^*nch$  0.5 0.5 0.071

relative Natural Colour (NC)

$lab^*lrij$  0.25 0.5 0.0

$lab^*tce$  0.25 0.5 1.0

$lab^*ncE$  0.5 0.5 b99r

relative Inform. Technology (IT)

$olv_i3^*$  0.0 0.0 0.0 (1.0)

$cmy3^*$  1.0 1.0 1.0 (0.0)

$olv_i4^*$  1.0 1.0 1.0 0.0

$cmy4^*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  11.01 0.07 0.01

$LAB^*LABa$  11.01 0.0 0.0

$LAB^*TCh$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*tce$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

relative Inform. Technology (IT)

$olv_i3^*$  0.0 0.0 0.0 (1.0)

$cmy3^*$  1.0 1.0 1.0 (0.0)

$olv_i4^*$  1.0 1.0 1.0 0.0

$cmy4^*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  11.01 0.07 0.01

$LAB^*LABa$  11.01 0.0 0.0

$LAB^*TCh$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*tce$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

relative Inform. Technology (IT)

$olv_i3^*$  0.0 0.0 0.0 (1.0)

$cmy3^*$  1.0 1.0 1.0 (0.0)

$olv_i4^*$  1.0 1.0 1.0 0.0

$cmy4^*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  11.01 0.07 0.01

$LAB^*LABa$  11.01 0.0 0.0

$LAB^*TCh$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*tce$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

relative Inform. Technology (IT)

$olv_i3^*$  0.0 0.0 0.0 (1.0)

$cmy3^*$  1.0 1.0 1.0 (0.0)

$olv_i4^*$  1.0 1.0 1.0 0.0

$cmy4^*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  11.01 0.07 0.01

$LAB^*LABa$  11.01 0.0 0.0

$LAB^*TCh$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*tce$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

relative Inform. Technology (IT)

$olv_i3^*$  0.0 0.0 0.0 (1.0)

$cmy3^*$  1.0 1.0 1.0 (0.0)

$olv_i4^*$  1.0 1.0 1.0 0.0

$cmy4^*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

</div

## Input: Colorimetric Reflective System NRS11

for hue  $h^* = lab^*h = 25/360 = 0.071$

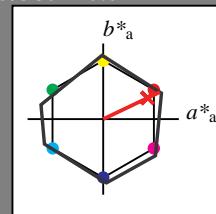
$lab^*tch$  and  $lab^*nch$

D65: hue R

LCH\*Ma: 53 83 25

olv\*Ma: 1.0 0.03 0.0

triangle lightness  $t^*$



### NRS11; adapted (a) CIELAB data

	$L^*=L_a^*$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	53.2	77.06	34.32	84.36	24
JMa	53.2	-1.51	84.38	84.39	91
GMa	53.2	-82.27	18.98	84.44	167
G50BMa	53.2	-77.72	-32.98	84.44	203
BMa	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)

$olv^3*$  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

$LAB^*LABa$  95.41 0.0 0.0

$LAB^*TCh$  99.99 0.01 -

relative CIELAB  $lab^*$

$lab^*lab$  1.0 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  1.0 0.0 0.0

$lab^*ice$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  74.3 37.46 17.85

$LAB^*LABa$  74.3 37.44 17.85

$LAB^*TCh$  75.0 41.47 25.49

relative CIELAB  $lab^*$

$lab^*lab$  0.75 0.451 0.215

$lab^*tch$  0.75 0.5 0.071

$lab^*nch$  0.0 0.5 0.071

relative Natural Colour (NC)

$lab^*lrj$  0.75 0.5 0.0

$lab^*ice$  0.75 0.5 0.0

$lab^*ncE$  0.0 0.5 r00j

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 0.5

$cmyn^4*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  53.21 0.04 0.0

$LAB^*LABa$  53.21 0.0 0.0

$LAB^*TCh$  50.0 0.01 -

relative CIELAB  $lab^*$

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  0.5 0.0 0.0

$lab^*ice$  0.5 0.0 0.0

$lab^*ncE$  0.5 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  32.1 37.51 17.86

$LAB^*LABa$  32.1 37.45 17.84

$LAB^*TCh$  25.01 41.48 25.48

relative CIELAB  $lab^*$

$lab^*lab$  0.25 0.451 0.215

$lab^*tch$  0.25 0.5 0.071

$lab^*nch$  0.5 0.5 0.071

relative Natural Colour (NC)

$lab^*lrj$  0.25 0.5 0.0

$lab^*ice$  0.25 0.5 1.0

$lab^*ncE$  0.5 0.5 b99r

$n^* = 1,0$

relative Inform. Technology (IT)

$olv^3*$  1.0 0.514 0.5 (1.0)

$cmyn^3*$  0.0 0.486 0.5 (0.0)

$olv^4*$  1.0 0.514 0.5 1.0

$cmyn^4*$  0.0 0.486 0.5 0.0

standard and adapted CIELAB

$LAB^*LAB$  74.3 37.46 17.85

$LAB^*LABa$  74.3 37.44 17.85

$LAB^*TCh$  75.0 41.47 25.49

relative CIELAB  $lab^*$

$lab^*lab$  0.75 0.451 0.215

$lab^*tch$  0.75 0.5 0.071

$lab^*nch$  0.0 0.5 0.071

relative Natural Colour (NC)

$lab^*lrj$  0.75 0.5 0.0

$lab^*ice$  0.75 0.5 0.0

$lab^*ncE$  0.0 0.5 r00j

standard and adapted CIELAB

$LAB^*LAB$  53.2 37.46 17.85

$LAB^*LABa$  53.2 37.44 17.85

$LAB^*TCh$  50.0 41.47 25.49

relative CIELAB  $lab^*$

$lab^*lab$  0.5 0.044 0.0 (1.0)

$cmyn^3*$  0.5 0.986 1.0 (0.0)

$olv^4*$  1.0 0.514 0.5 0.5

$cmyn^4*$  0.0 0.486 0.5 0.5

standard and adapted CIELAB

$LAB^*LAB$  53.2 37.51 17.86

$LAB^*LABa$  53.2 37.45 17.84

$LAB^*TCh$  25.01 41.48 25.48

relative CIELAB  $lab^*$

$lab^*lab$  0.25 0.451 0.215

$lab^*tch$  0.25 0.5 0.071

$lab^*nch$  0.5 0.5 0.071

relative Natural Colour (NC)

$lab^*lrj$  0.25 0.5 0.0

$lab^*ice$  0.25 0.5 1.0

$lab^*ncE$  0.5 0.5 b99r

standard and adapted CIELAB

$LAB^*LAB$  32.1 37.51 17.86

$LAB^*LABa$  32.1 37.45 17.84

$LAB^*TCh$  25.01 41.48 25.48

relative CIELAB  $lab^*$

$lab^*lab$  0.25 0.451 0.215

$lab^*tch$  0.25 0.5 0.071

$lab^*nch$  0.5 0.5 0.071

relative Natural Colour (NC)

$lab^*lrj$  0.25 0.5 0.0

$lab^*ice$  0.25 0.5 1.0

$lab^*ncE$  0.5 0.5 b99r

$n^* = 0,00$

$n^* = 0,50$

$n^* = 1,00$

chromaticness  $c^*$

## Output: Colorimetric Reflective System MRS18

for hue  $h^* = lab^*h = 25/360 = 0.069$

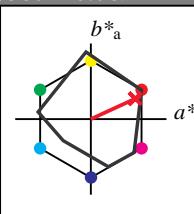
$lab^*tch$  and  $lab^*nch$

D65: hue R

LCH\*Ma: 48 73 25

olv\*Ma: 1.0 0.0 0.1

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

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

$LAB^*LABa$  95.41 0.0 0.0

$LAB^*TCh$  99.99 0.01 -

relative CIELAB  $lab^*$

$lab^*lab$  1.0 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  1.0 0.0 0.0

$lab^*ice$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  71.8 32.47 18.34

$LAB^*LABa$  71.8 33.0 15.17

$LAB^*TCh$  75.0 36.32 24.7

relative CIELAB  $lab^*$

$lab^*lab$  0.695 0.454 0.209

$lab^*tch$  0.75 0.5 0.069

$lab^*nch$  0.0 0.5 0.069

relative Natural Colour (NC)

$lab^*lrj$  0.695 0.5 0.0

$lab^*ice$  0.75 0.5 1.0

$lab^*ncE$  0.0 0.5 b99r

relative Inform. Technology (IT)

$olv^3*$  0.0 0.0 0.0 (1.0)

$cmyn^3*$  0.5 1.0 1.0 (0.0)

$olv^4*$  1.0 1.0 1.0 0.5

$cmyn^4*$  0.0 0.5 0.452 0.5

standard and adapted CIELAB

$LAB^*LAB$  33.11 33.21 15.74

$LAB^*LABa$  33.11 33.0 15.18

$LAB^*TCh$  25.01 36.33 24.71

relative CIELAB  $lab^*$

$lab^*lab$  0.195 0.454 0.209

## Input: Colorimetric Reflective System NRS11

for hue  $h^* = lab^*h = 25/360 = 0.071$

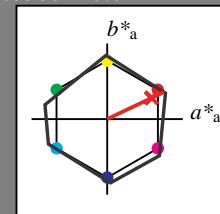
$lab^*tch$  and  $lab^*nch$

D65: hue R

LCH\*Ma: 53 83 25

olv\*Ma: 1.0 0.03 0.0

triangle lightness  $t^*$



## NRS11; adapted (a) CIELAB data

	$L^*=L_a^*$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	53.2	77.06	34.32	84.36	24
JMa	53.2	-1.51	84.38	84.39	91
GMa	53.2	-82.27	18.98	84.44	167
G50BMa	53.2	-77.72	-32.98	84.44	203
BMa	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)

$olv_i3^*$  1.0 1.0 1.0 (1.0)

$cmy3^*$  0.0 0.0 0.0 (0.0)

$olv_i4^*$  1.0 1.0 1.0 1.0

$cmy4^*$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 -

$lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)

$olv_i3^*$  0.5 0.5 0.5 (1.0)

$cmy3^*$  0.5 0.5 0.5 (0.0)

$olv_i4^*$  1.0 1.0 1.0 0.5

$cmy4^*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  53.21 0.04 0.0

$LAB^*LABa$  53.21 0.0 0.0

$LAB^*TChA$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.5 0.0 0.0

$lab^*tce$  0.5 0.0 -

$lab^*ncE$  0.5 0.0 -

relative Inform. Technology (IT)

$olv_i3^*$  0.0 0.0 0.0 (1.0)

$cmy3^*$  1.0 1.0 1.0 (0.0)

$olv_i4^*$  1.0 1.0 1.0 0.0

$cmy4^*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  11.01 0.07 0.01

$LAB^*LABa$  11.01 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*tce$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

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

%Gamut

$u^*_{rel} = 119$

%Regularity

$g^*_{H,rel} = 47$

$g^*_{C,rel} = 100$

relative Inform. Technology (IT)

$olv_i3^*$  1.0 0.514 0.5 (1.0)

$cmy3^*$  0.0 0.486 0.5 (0.0)

$olv_i4^*$  1.0 0.514 0.5 1.0

$cmy4^*$  0.0 0.486 0.5 0.0

standard and adapted CIELAB

$LAB^*LAB$  74.3 37.46 17.85

$LAB^*LABa$  74.3 37.44 17.85

$LAB^*TChA$  75.0 41.47 25.49

relative CIELAB lab\*

$lab^*lab$  0.75 0.451 0.215

$lab^*tch$  0.75 0.5 0.071

$lab^*nch$  0.0 0.5 0.071

relative Natural Colour (NC)

$lab^*lrij$  0.75 0.5 0.0

$lab^*tce$  0.75 0.5 0.0

$lab^*ncE$  0.0 0.5 r00j

relative Inform. Technology (IT)

$olv_i3^*$  1.0 0.028 0.0 (1.0)

$cmy3^*$  0.5 0.972 1.0 (0.0)

$olv_i4^*$  1.0 0.028 0.0 1.0

$cmy4^*$  0.0 0.972 1.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  53.2 74.93 35.7

$LAB^*LABa$  53.2 74.88 35.69

$LAB^*TChA$  50.0 82.95 25.48

relative CIELAB lab\*

$lab^*lab$  0.5 0.903 0.43

$lab^*tch$  0.5 1.0 0.071

$lab^*nch$  0.0 1.0 0.071

relative Natural Colour (NC)

$lab^*lrij$  0.5 1.0 0.0

$lab^*tce$  0.5 1.0 1.0

$lab^*ncE$  0.0 1.0 b99r

relative Inform. Technology (IT)

$olv_i3^*$  0.0 0.0 0.0 (1.0)

$cmy3^*$  1.0 1.0 1.0 (0.0)

$olv_i4^*$  1.0 1.0 1.0 0.0

$cmy4^*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.5 -0.46

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*tce$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 0,00$

blackness  $n^*$

chromaticness  $c^*$

## Output: Colorimetric Reflective System TRS18

for hue  $h^* = lab^*h = 25/360 = 0.069$

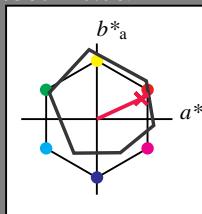
$lab^*tch$  and  $lab^*nch$

D65: hue R

LCH\*Ma: 48 75 25

olv\*Ma: 1.0 0.0 0.32

triangle lightness  $t^*$



%Gamut

$u^*_{rel} = 93$

%Regularity

$g^*_{H,rel} = 57$

$g^*_{C,rel} = 59$

relative Inform. Technology (IT)

$olv_i3^*$  1.0 0.5 0.661 (1.0)

$cmy3^*$  0.0 0.5 0.339 (0.0)

$olv_i4^*$  1.0 0.5 0.661 1.0

$cmy4^*$  0.0 0.5 0.339 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 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 1.0

$lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)

$olv_i3^*$  1.0 0.5 0.661 (1.0)

$cmy3^*$  0.0 0.5 0.339 (0.0)

$olv_i4^*$  1.0 0.5 0.661 1.0

$cmy4^*$  0.0 0.5 0.339 0.0

standard and adapted CIELAB

$LAB^*LAB$  71.7 33.75 18.92

$LAB^*LABa$  71.7 34.27 15.76

$LAB^*TChA$  75.0 37.72 24.69

relative CIELAB lab\*

$lab^*lab$  0.694 0.454 0.209

$lab^*tch$  0.75 0.5 0.069

$lab^*nch$  0.0 0.5 0.069

relative Natural Colour (NC)

$lab^*lrij$  0.694 0.5 0.0

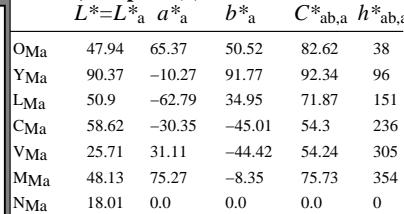
$lab^*tce$  0.75 0.5 1.0

$lab^*ncE$  0.0 0.5 b99r

$n^* = 0,00$

blackness  $n^*$

chromaticness  $c^*$



%Gamut

$u^*_{rel} = 93$

%Regularity

$g^*_{H,rel} = 57$

## Input: Colorimetric Reflective System NRS11

for hue  $h^* = lab^*h = 25/360 = 0.071$

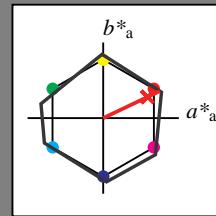
$lab^*tch$  and  $lab^*nch$

D65: hue R

LCH\*Ma: 53 83 25

olv\*Ma: 1.0 0.03 0.0

triangle lightness  $t^*$



## NRS11; adapted (a) CIELAB data

	$L^*=L^*_{a,a}$	$a^*_{a,a}$	$b^*_{a,a}$	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	53.2	77.06	34.32	84.36	24
JMa	53.2	-1.51	84.38	84.39	91
GMa	53.2	-82.27	18.98	84.44	167
G50BMa	53.2	-77.72	-32.98	84.44	203
BMa	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)

$olv^3*$  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

$LAB^*LABa$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  1.0 0.0 0.0

$lab^*ice$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  74.3 37.46 17.85

$LAB^*LABa$  74.3 37.44 17.85

$LAB^*TChA$  75.0 41.47 25.49

relative CIELAB lab\*

$lab^*lab$  0.75 0.451 0.215

$lab^*tch$  0.75 0.5 0.071

$lab^*nch$  0.0 0.5 0.071

relative Natural Colour (NC)

$lab^*lrj$  0.75 0.5 0.0

$lab^*ice$  0.75 0.5 0.0

$lab^*ncE$  0.0 0.5 r00j

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 0.5

$cmyn^4*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  53.21 0.04 0.0

$LAB^*LABa$  53.21 0.0 0.0

$LAB^*TChA$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  0.5 0.0 0.0

$lab^*ice$  0.5 0.0 0.0

$lab^*ncE$  0.5 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  32.1 37.51 17.86

$LAB^*LABa$  32.1 37.45 17.84

$LAB^*TChA$  25.01 41.48 25.48

relative CIELAB lab\*

$lab^*lab$  0.25 0.451 0.215

$lab^*tch$  0.25 0.5 0.071

$lab^*nch$  0.5 0.5 0.071

relative Natural Colour (NC)

$lab^*lrj$  0.25 0.5 0.0

$lab^*ice$  0.25 0.5 1.0

$lab^*ncE$  0.5 0.5 b99r

$n^* = 1,0$

relative Inform. Technology (IT)

$olv^3*$  0.0 0.0 0.0 (1.0)

$cmyn^3*$  1.0 1.0 1.0 (0.0)

$olv^4*$  1.0 1.0 1.0 0.0

$cmyn^4*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  11.01 0.07 0.01

$LAB^*LABa$  11.01 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  0.0 0.0 0.0

$lab^*ice$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  11.01 0.07 0.01

$LAB^*LABa$  11.01 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  0.0 0.0 0.0

$lab^*ice$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

%Gamut

$u^*_{rel} = 119$

%Regularity

$g^*_{H,rel} = 47$

$g^*_{C,rel} = 100$

relative Inform. Technology (IT)

$olv^3*$  1.0 0.014 0.0 (1.0)

$cmyn^3*$  0.5 0.986 1.0 (0.0)

$olv^4*$  1.0 0.514 0.5 0.5

$cmyn^4*$  0.0 0.486 0.5 0.5

standard and adapted CIELAB

$LAB^*LAB$  53.2 37.51 17.86

$LAB^*LABa$  32.1 37.45 17.84

$LAB^*TChA$  25.01 41.48 25.48

relative CIELAB lab\*

$lab^*lab$  0.25 0.451 0.215

$lab^*tch$  0.25 0.5 0.071

$lab^*nch$  0.5 0.5 0.071

relative Natural Colour (NC)

$lab^*lrj$  0.25 0.5 0.0

$lab^*ice$  0.25 0.5 1.0

$lab^*ncE$  0.5 0.5 b99r

$n^* = 0,00$

blackness  $n^*$

chromaticness  $c^*$

$n^* = 0,50$

$n^* = 1,00$

$n^* = 0,00$

blackness  $n^*$

chromaticness  $c^*$

## Output: Colorimetric Reflective System MRS18a

for hue  $h^* = lab^*h = 25/360 = 0.071$

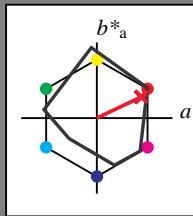
$lab^*tch$  and  $lab^*nch$

D65: hue R

LCH\*Ma: 48 73 25

olv\*Ma: 1.0 0.0 0.1

triangle lightness  $t^*$



## MRS18a; adapted (a) CIELAB data

	$L^*=L^*_{a,a}$	$a^*_{a,a}$	$b^*_{a,a}$	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	49.63	66.8	40.02	77.87	31
JMa	90.7	-7.27	93.19	93.48	94
GMa	52.11	-69.93	11.26	70.85	171
G50BMa	45.03	-36.65	-27.13	45.61	217
BMa	36.65	23.26	-62.27	66.49	290
B50RMa	34.94	57.27	-43.6	71.99	323
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	272

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 0.01 0.0

$LAB^*LABa$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  1.0 0.0 0.0

$lab^*ice$  1.0 0.0 0.0

$lab^*ncE$  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 0.5 0.5 0.5

$cmyn^4*$  0.0 0.5 0.5 0.5

standard and adapted CIELAB

$LAB^*LAB$  53.2 37.46 17.85

$LAB^*LABa$  74.3 37.44 17.85

$LAB^*TChA$  75.0 41.47 25.49

relative CIELAB lab\*

$lab^*lab$  0.75 0.451 0.215

$lab^*tch$  0.75 0.5 0.071

$lab^*nch$  0.0 0.5 0.071

relative Natural Colour (NC)

$lab^*lrj$  0.75 0.5 0.0

$lab^*ice$  0.75 0.5 1.0

$lab^*ncE$  0.0 0.5 r00j

$n^* = 0,00$

blackness  $n^*$

$n$

## Input: Colorimetric Reflective System NRS11

for hue  $h^* = lab^*h = 25/360 = 0.071$

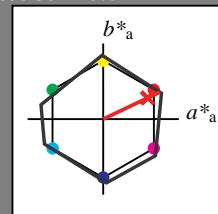
$lab^*tch$  and  $lab^*nch$

D65: hue R

LCH\*Ma: 53 83 25

olv\*Ma: 1.0 0.03 0.0

triangle lightness  $t^*$



relative Inform. Technology (IT)  
 $olv_i3^*$  1.0 1.0 1.0 (1.0)  
 $cmyn3^*$  0.0 0.0 0.0 (0.0)

$olv_i4^*$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)  
 $olv_i3^*$  0.5 0.5 0.5 (1.0)  
 $cmyn3^*$  0.5 0.5 0.5 (0.0)

$olv_i4^*$  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

$LAB^*LABa$  53.21 0.0 0.0

$LAB^*TChA$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.5 0.0 0.0

$lab^*tce$  0.5 0.0 0.0

$lab^*ncE$  0.5 0.0 -

relative Inform. Technology (IT)  
 $olv_i3^*$  0.0 0.0 0.0 (1.0)  
 $cmyn3^*$  1.0 1.0 1.0 (0.0)

$olv_i4^*$  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 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*tce$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

## NRS11; adapted (a) CIELAB data

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

RMa	53.2	77.06	34.32	84.36	24
JMa	53.2	-1.51	84.38	84.39	91
GMa	53.2	-82.27	18.98	84.44	167
G50BMa	53.2	-77.72	-32.98	84.44	203
BMa	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

%Gamut

$u^*_{rel} = 119$

%Regularity

$g^*_{H,rel} = 47$

$g^*_{C,rel} = 100$

relative Inform. Technology (IT)

$olv_i3^*$  1.0 0.514 0.5 (1.0)

$cmyn3^*$  0.0 0.486 0.5 (0.0)

$olv_i4^*$  1.0 0.514 0.5 1.0

$cmyn4^*$  0.0 0.486 0.5 0.0

standard and adapted CIELAB

$LAB^*LAB$  74.3 37.46 17.85

$LAB^*LABa$  74.3 37.44 17.85

$LAB^*TChA$  75.0 41.47 25.49

relative CIELAB lab\*

$lab^*lab$  0.75 0.451 0.215

$lab^*tch$  0.75 0.5 0.071

$lab^*nch$  0.0 0.5 0.071

relative Natural Colour (NC)

$lab^*lrij$  0.75 0.5 0.0

$lab^*tce$  0.75 0.5 0.0

$lab^*ncE$  0.0 0.5 r00j

relative Inform. Technology (IT)

$olv_i3^*$  1.0 0.028 0.0 (1.0)

$cmyn3^*$  0.5 0.972 1.0 (0.0)

$olv_i4^*$  1.0 0.028 0.0 1.0

$cmyn4^*$  0.0 0.972 1.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  53.2 74.93 35.7

$LAB^*LABa$  53.2 74.88 35.69

$LAB^*TChA$  50.0 82.95 25.48

relative CIELAB lab\*

$lab^*lab$  0.5 0.903 0.43

$lab^*tch$  0.5 1.0 0.071

$lab^*nch$  0.0 1.0 0.071

relative Natural Colour (NC)

$lab^*lrij$  0.5 1.0 0.0

$lab^*tce$  0.5 1.0 1.0

$lab^*ncE$  0.0 1.0 b99r

relative Inform. Technology (IT)

$olv_i3^*$  0.5 0.014 0.0 (1.0)

$cmyn3^*$  0.5 0.986 1.0 (0.0)

$olv_i4^*$  1.0 0.514 0.5 0.5

$cmyn4^*$  0.0 0.486 0.5 0.5

standard and adapted CIELAB

$LAB^*LAB$  32.1 37.51 17.86

$LAB^*LABa$  32.1 37.45 17.84

$LAB^*TChA$  25.01 41.48 25.48

relative CIELAB lab\*

$lab^*lab$  0.25 0.451 0.215

$lab^*tch$  0.25 0.5 0.071

$lab^*nch$  0.5 0.5 0.071

relative Natural Colour (NC)

$lab^*lrij$  0.25 0.5 0.0

$lab^*tce$  0.25 0.5 1.0

$lab^*ncE$  0.5 0.5 b99r

$n^* = 0,00$

blackness  $n^*$

$n^* = 0,50$

chromaticness  $c^*$

## Output: Colorimetric Reflective System NRS18

for hue  $h^* = lab^*h = 25/360 = 0.071$

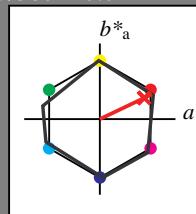
$lab^*tch$  and  $lab^*nch$

D65: hue R

LCH\*Ma: 57 76 25

olv\*Ma: 1.0 0.03 0.0

triangle lightness  $t^*$



%Gamut

$u^*_{rel} = 100$

%Regularity

$g^*_{H,rel} = 47$

$g^*_{C,rel} = 100$

relative Inform. Technology (IT)

$olv_i3^*$  1.0 0.514 0.5 (1.0)

$cmyn3^*$  0.0 0.486 0.5 (0.0)

$olv_i4^*$  1.0 0.514 0.5 1.0

$cmyn4^*$  0.0 0.486 0.5 0.0

standard and adapted CIELAB

$LAB^*LAB$  95.41 0.0 0.0

$LAB^*LABa$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)

$olv_i3^*$  1.0 0.028 0.0 (1.0)

$cmyn3^*$  0.5 0.972 1.0 (0.0)

$olv_i4^*$  1.0 0.028 0.0 1.0

$cmyn4^*$  0.0 0.972 1.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  74.3 37.46 17.85

$LAB^*LABa$  74.3 37.44 17.85

$LAB^*TChA$  75.0 41.47 25.49

relative CIELAB lab\*

$lab^*lab$  0.75 0.451 0.215

$lab^*tch$  0.75 0.5 0.071

$lab^*nch$  0.0 0.5 0.071

relative Natural Colour (NC)

$lab^*lrij$  0.75 0.5 0.0

$lab^*tce$  0.75 0.5 0.0

$lab^*ncE$  0.0 0.5 r00j

$n^* = 1,0$

3 step scales for constant CIELAB hue 25/360 = 0.071 (left)

3 step scales for constant CIELAB hue 25/360 = 0.071 (right)

## NRS18; adapted (a) CIELAB data

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

RMa	56.7	70.66	31.47	77.35	24
JMa	56.7	-1.39	77.37	77.39	91
GMa	56.7	-75.46	17.4	77.45	167
G50BMa	56.7	-71.29	-30.25	77.45	203
BMa	56.7	4.0	-77.3	77.41	273
B50RMa	56.7	63.35	-44.4	77.36	325
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	272

relative Inform. Technology (IT)

$olv_i3^*$  1.0 0.028 0.0 (1.0)

$cmyn3^*$  0.0 0.972 1.0 (0.0)

$olv_i4^*$  1.0 0.028 0.0 1.0

$cmyn4^*$

## Input: Colorimetric Reflective System NRS11

for hue  $h^* = lab^*h = 25/360 = 0.071$

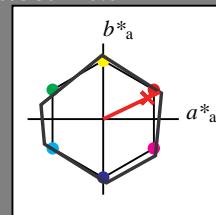
$lab^*tch$  and  $lab^*nch$

D65: hue R

LCH\*Ma: 53 83 25

olv\*Ma: 1.0 0.03 0.0

triangle lightness  $t^*$



### NRS11; adapted (a) CIELAB data

	$L^*=L_a^*$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	53.2	77.06	34.32	84.36	24
JMa	53.2	-1.51	84.38	84.39	91
GMa	53.2	-82.27	18.98	84.44	167
G50BMa	53.2	-77.72	-32.98	84.44	203
BMa	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)

$olv_i3^*$  1.0 1.0 1.0 (1.0)

$cmyn3^*$  0.0 0.0 0.0 (0.0)

$olv_i4^*$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  74.3 37.46 17.85

$LAB^*LABa$  74.3 37.44 17.85

$LAB^*TChA$  75.0 41.47 25.49

relative CIELAB lab\*

$lab^*lab$  0.75 0.451 0.215

$lab^*tch$  0.75 0.5 0.071

$lab^*nch$  0.0 0.5 0.071

relative Natural Colour (NC)

$lab^*lrij$  0.75 0.5 0.0

$lab^*tce$  0.75 0.5 0.0

$lab^*ncE$  0.0 0.5 r00j

relative Inform. Technology (IT)

$olv_i3^*$  0.5 0.5 0.5 (1.0)

$cmyn3^*$  0.5 0.5 0.5 (0.0)

$olv_i4^*$  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

$LAB^*LABa$  53.21 0.0 0.0

$LAB^*TChA$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.5 0.0 0.0

$lab^*tce$  0.5 0.0 0.0

$lab^*ncE$  0.5 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  32.1 37.51 17.86

$LAB^*LABa$  32.1 37.45 17.84

$LAB^*TChA$  25.01 41.48 25.48

relative CIELAB lab\*

$lab^*lab$  0.25 0.451 0.215

$lab^*tch$  0.25 0.5 0.071

$lab^*nch$  0.5 0.5 0.071

relative Natural Colour (NC)

$lab^*lrij$  0.25 0.5 0.0

$lab^*tce$  0.25 0.5 1.0

$lab^*ncE$  0.5 0.5 b99r

$n^* = 1,0$

$n^* = 0,00$

$n^* = 0,50$

$n^* = 1,00$

chromaticness  $c^*$

## Output: Colorimetric Reflective System NCS18

for hue  $h^* = lab^*h = 25/360 = 0.071$

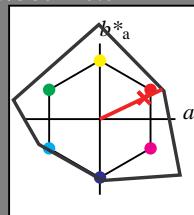
$lab^*tch$  and  $lab^*nch$

D65: hue R

LCH\*Ma: 48 91 25

olv\*Ma: 1.0 0.02 0.0

triangle lightness  $t^*$



### NCS18; adapted (a) CIELAB data

	$L^*=L_a^*$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	47.15	84.63	37.24	92.46	24
JMa	91.37	-1.27	125.03	125.03	91
GMa	63.07	-114.29	25.34	117.07	167
G50BMa	59.47	-80.61	-33.45	87.29	203
BMa	49.01	3.63	-81.2	81.29	273
B50RMa	44.06	106.07	-73.94	129.31	325
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	272

relative Inform. Technology (IT)

$olv_i3^*$  1.0 1.0 1.0 (1.0)

$cmyn3^*$  0.0 0.0 0.0 (0.0)

$olv_i4^*$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  74.3 37.46 17.85

$LAB^*LABa$  74.3 37.44 17.85

$LAB^*TChA$  75.0 41.47 25.49

relative CIELAB lab\*

$lab^*lab$  0.695 0.451 0.215

$lab^*tch$  0.75 0.5 0.071

$lab^*nch$  0.0 0.5 0.071

relative Natural Colour (NC)

$lab^*lrij$  0.695 0.5 0.0

$lab^*tce$  0.75 0.5 0.0

$lab^*ncE$  0.0 0.5 r00j

relative Inform. Technology (IT)

$olv_i3^*$  0.5 0.024 0.0 (1.0)

$cmyn3^*$  0.0 0.976 1.0 (0.0)

$olv_i4^*$  1.0 0.024 0.0 1.0

$cmyn4^*$  0.0 0.976 1.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  48.21 82.61 39.36

$LAB^*LABa$  48.21 82.55 39.34

$LAB^*TChA$  50.0 91.45 25.48

relative CIELAB lab\*

$lab^*lab$  0.39 0.903 0.43

$lab^*tch$  0.5 1.0 0.071

$lab^*nch$  0.0 1.0 0.071

relative Natural Colour (NC)

$lab^*lrij$  0.39 1.0 0.0

$lab^*tce$  0.5 1.0 1.0

$lab^*ncE$  0.0 1.0 b99r

$n^* = 0,00$

$n^* = 1,0$

$n^* = 0,50$

$n^* = 1,00$

chromaticness  $c^*$

UE100-7, 3 step scales for constant CIELAB hue 25/360 = 0.071 (left)

3 step scales for constant CIELAB hue 25/360 = 0.071 (right)

## Input: Colorimetric Reflective System NRS11

for hue  $h^* = lab^*h = 25/360 = 0.071$

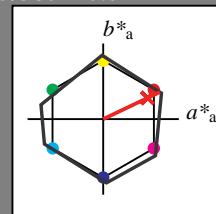
$lab^*tch$  and  $lab^*nch$

D65: hue R

LCH\*Ma: 53 83 25

olv\*Ma: 1.0 0.03 0.0

triangle lightness  $t^*$



relative Inform. Technology (IT)

olv*i*3\* 1.0 1.0 1.0 (1.0)

cmy*n*3\* 0.0 0.0 0.0 (0.0)

olv*i*4\* 1.0 1.0 1.0 1.0

cmy*n*4\* 0.0 0.0 0.0 0.0

standard and adapted CIELAB

LAB\*LAB 95.41 0.0 -0.01

LAB\*LAB*a* 95.41 0.0 0.0

LAB\*TCh*a* 99.99 0.01 -

relative CIELAB lab\*

lab\**lab* 1.0 0.0 0.0

lab\**tch* 1.0 0.0 -

lab\**nch* 0.0 0.0 -

relative Natural Colour (NC)

lab\**lrj* 1.0 0.0 0.0

lab\**tce* 1.0 0.0 -

lab\**ncE* 0.0 0.0 -

relative Inform. Technology (IT)

olv*i*3\* 0.5 0.5 0.5 (1.0)

cmy*n*3\* 0.5 0.5 0.5 (0.0)

olv*i*4\* 1.0 1.0 1.0 0.5

cmy*n*4\* 0.0 0.0 0.0 0.5

standard and adapted CIELAB

LAB\*LAB 53.21 0.04 0.0

LAB\*LAB*a* 53.21 0.0 0.0

LAB\*TCh*a* 50.0 0.01 -

relative CIELAB lab\*

lab\**lab* 0.5 0.0 0.0

lab\**tch* 0.5 0.0 -

lab\**nch* 0.5 0.0 -

relative Natural Colour (NC)

lab\**lrj* 0.5 0.0 0.0

lab\**tce* 0.5 0.0 -

lab\**ncE* 0.5 0.0 -

relative Inform. Technology (IT)

olv*i*3\* 0.0 0.0 0.0 (1.0)

cmy*n*3\* 1.0 1.0 1.0 (0.0)

olv*i*4\* 1.0 1.0 1.0 0.0

cmy*n*4\* 0.0 0.0 0.0 1.0

standard and adapted CIELAB

LAB\*LAB 11.01 0.07 0.01

LAB\*LAB*a* 11.01 0.0 0.0

LAB\*TCh*a* 0.01 0.01 -

relative CIELAB lab\*

lab\**lab* 0.0 0.0 0.0

lab\**tch* 0.0 0.0 -

lab\**nch* 1.0 0.0 -

relative Natural Colour (NC)

lab\**lrj* 0.0 0.0 0.0

lab\**tce* 0.0 0.0 -

lab\**ncE* 1.0 0.0 -

$n^* = 1,0$

%Gamut

$u^*_{rel} = 119$

%Regularity

$g^*_{H,rel} = 47$

$g^*_{C,rel} = 100$

## NRS11; adapted (a) CIELAB data

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

RMa	53.2	77.06	34.32	84.36	24
JMa	53.2	-1.51	84.38	84.39	91
GMa	53.2	-82.27	18.98	84.44	167
G50BMa	53.2	-77.72	-32.98	84.44	203
BMa	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

## Output: Colorimetric Reflective System NRS11

for hue  $h^* = lab^*h = 25/360 = 0.071$

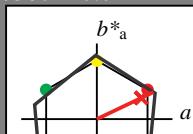
$lab^*tch$  and  $lab^*nch$

D65: hue R

LCH\*Ma: 53 83 25

olv\*Ma: 1.0 0.03 0.0

triangle lightness  $t^*$



%Gamut

$u^*_{rel} = 119$

%Regularity

$g^*_{H,rel} = 47$

$g^*_{C,rel} = 100$

## NRS11; adapted (a) CIELAB data

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

RMa	53.2	77.06	34.32	84.36	24
JMa	53.2	-1.51	84.38	84.39	91
GMa	53.2	-82.27	18.98	84.44	167
G50BMa	53.2	-77.72	-32.98	84.44	203
BMa	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)

olv*i*3\* 1.0 0.514 0.5 (1.0)

cmy*n*3\* 0.0 0.486 0.5 (0.0)

olv*i*4\* 1.0 0.514 0.5 1.0

cmy*n*4\* 0.0 0.486 0.5 0.0

## standard and adapted CIELAB

LAB\*LAB 95.41 0.0 -0.01

LAB\*LAB*a* 95.41 0.0 0.0

LAB\*TCh*a* 99.99 0.01 -

## relative CIELAB lab\*

lab\**lab* 1.0 0.0 0.0

lab\**tch* 1.0 0.0 -

lab\**nch* 0.0 0.0 -

## relative Natural Colour (NC)

lab\**lrj* 1.0 0.0 0.0

lab\**tce* 1.0 0.0 -

lab\**ncE* 0.0 0.0 -

## relative Inform. Technology (IT)

olv*i*3\* 0.5 0.28 0.0 (1.0)

cmy*n*3\* 0.5 0.5 0.5 (0.0)

olv*i*4\* 1.0 0.28 0.0 1.0

cmy*n*4\* 0.0 0.0 0.0 0.5

## standard and adapted CIELAB

LAB\*LAB 53.2 0.04 0.0

LAB\*LAB*a* 53.2 0.0 0.0

LAB\*TCh*a* 50.0 0.01 -

## relative CIELAB lab\*

lab\**lab* 0.5 0.903 0.43

lab\**tch* 0.5 0.071 0.071

lab\**nch* 0.0 1.0 0.071

## relative Natural Colour (NC)

lab\**lrj* 0.5 1.0 0.0

lab\**tce* 0.5 1.0 0.0

lab\**ncE* 0.0 1.0 0.0

## relative Inform. Technology (IT)

olv*i*3\* 0.0 0.0 0.0 (1.0)

cmy*n*3\* 1.0 1.0 1.0 (0.0)

olv*i*4\* 1.0 1.0 1.0 0.0

cmy*n*4\* 0.0 0.0 0.0 1.0

## standard and adapted CIELAB

LAB\*LAB 11.01 0.07 0.01

LAB\*LAB*a* 11.01 0.0 0.0

LAB\*TCh*a* 0.01 0.01 -

## relative CIELAB lab\*

lab\**lab* 0.0 0.451 0.215

lab\**tch* 0.25 0.5 0.071

lab\**nch* 0.5 0.5 0.071

## relative Natural Colour (NC)

lab\**lrj* 0.25 0.5 0.0

lab\**tce* 0.25 0.5 1.0

lab\**ncE* 0.5 0.5 0.5

$n^* = 1,0$

blackness  $n^*$

$n^* = 0,0$

chromaticness  $c^*$

$n^* = 0,50$

$n^* = 1,00$

$n^* = 0,25$

$n^* = 0,50$

$n^* = 1,00$

$n^* = 0,75$

$n^* = 1,00$

$n^* = 0,25$

$n^* = 0,50$

$n^* = 1,00$

$n^* = 0,75$

$n^* = 1,00$

$n^* = 0,50$

$n^* = 1,00$

$n^* = 0,25$

$n^* = 0,50$

$n^* = 1,00$

$n^* = 0,75$

$n^* = 1,00$

$n^* = 0,50$

$n^* = 1,00$

$n^* = 0,25$

$n^* = 0,50$

$n^* = 1,00$

$n^* = 0,75$

$n^* = 1,00$

$n^* = 0,50$

$n^* = 1,00$

$n^* = 0,25$

$n^* = 0,50$

$n^* = 1,00$

$n^* = 0,75$

$n^* = 1,00$

$n^* = 0,50$

$n^* = 1,00$

$n^* = 0,25$

$n^* = 0,50$

$n^* = 1,00$

$n^* = 0,75$

$n^* = 1,00$

$n^* = 0,50$

$n^* = 1,00$

$n^* = 0,25$

$n^* = 0,50$

$n^* = 1,00$

$n^* = 0,75$

## Input: Colorimetric Reflective System NRS11

for hue  $h^* = lab^*h = 25/360 = 0.071$

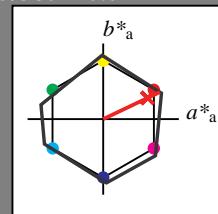
$lab^*tch$  and  $lab^*nch$

D65: hue R

LCH\*Ma: 53 83 25

olv\*Ma: 1.0 0.03 0.0

triangle lightness  $t^*$



### NRS11; adapted (a) CIELAB data

	$L^*=L_a^*$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	53.2	77.06	34.32	84.36	24
JMa	53.2	-1.51	84.38	84.39	91
GMa	53.2	-82.27	18.98	84.44	167
G50BMa	53.2	-77.72	-32.98	84.44	203
BMa	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)

$olv_i3^*$  1.0 1.0 1.0 (1.0)

$cmyn3^*$  0.0 0.0 0.0 (0.0)

$olv_i4^*$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  1.0 0.0 0.0

$lab^*ice$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  74.3 37.46 17.85

$LAB^*LABa$  74.3 37.44 17.85

$LAB^*TChA$  75.0 41.47 25.49

relative CIELAB lab\*

$lab^*lab$  0.75 0.451 0.215

$lab^*tch$  0.75 0.5 0.071

$lab^*nch$  0.0 0.5 0.071

relative Natural Colour (NC)

$lab^*lrj$  0.75 0.5 0.0

$lab^*ice$  0.75 0.5 0.0

$lab^*ncE$  0.0 0.5 r00j

relative Inform. Technology (IT)

$olv_i3^*$  0.5 0.5 0.5 (1.0)

$cmyn3^*$  0.5 0.5 0.5 (0.0)

$olv_i4^*$  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

$LAB^*LABa$  53.21 0.0 0.0

$LAB^*TChA$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  0.5 0.0 0.0

$lab^*ice$  0.5 0.0 0.0

$lab^*ncE$  0.5 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  32.1 37.51 17.86

$LAB^*LABa$  32.1 37.45 17.84

$LAB^*TChA$  25.01 41.48 25.48

relative CIELAB lab\*

$lab^*lab$  0.25 0.451 0.215

$lab^*tch$  0.25 0.5 0.071

$lab^*nch$  0.5 0.5 0.071

relative Natural Colour (NC)

$lab^*lrj$  0.25 0.5 0.0

$lab^*ice$  0.25 0.5 1.0

$lab^*ncE$  0.5 0.5 b99r

$n^* = 1,0$

relative Inform. Technology (IT)

$olv_i3^*$  1.0 0.514 0.5 (1.0)

$cmyn3^*$  0.0 0.486 0.5 (0.0)

$olv_i4^*$  1.0 0.514 0.5 1.0

$cmyn4^*$  0.0 0.486 0.5 0.0

standard and adapted CIELAB

$LAB^*LAB$  74.3 37.46 17.85

$LAB^*LABa$  74.3 37.44 17.85

$LAB^*TChA$  75.0 41.47 25.49

relative CIELAB lab\*

$lab^*lab$  0.75 0.451 0.215

$lab^*tch$  0.75 0.5 0.071

$lab^*nch$  0.0 0.5 0.071

relative Natural Colour (NC)

$lab^*lrj$  0.75 0.5 0.0

$lab^*ice$  0.75 0.5 0.0

$lab^*ncE$  0.0 0.5 r00j

relative Inform. Technology (IT)

$olv_i3^*$  1.0 0.028 0.0 (1.0)

$cmyn3^*$  0.0 0.972 1.0 (0.0)

$olv_i4^*$  1.0 0.028 0.0 1.0

$cmyn4^*$  0.0 0.972 1.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  53.2 37.46 35.7

$LAB^*LABa$  53.2 37.48 35.69

$LAB^*TChA$  50.0 82.95 25.48

relative CIELAB lab\*

$lab^*lab$  0.5 0.903 0.43

$lab^*tch$  0.5 1.0 0.071

$lab^*nch$  0.0 1.0 0.071

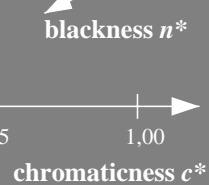
relative Natural Colour (NC)

$lab^*lrj$  0.5 1.0 0.0

$lab^*ice$  0.5 1.0 1.0

$lab^*ncE$  0.0 1.0 b99r

$n^* = 0,00$



## Output: Colorimetric Reflective System NCS11

for hue  $h^* = lab^*h = 25/360 = 0.071$

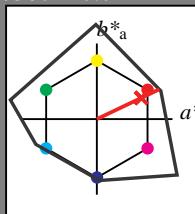
$lab^*tch$  and  $lab^*nch$

D65: hue R

LCH\*Ma: 48 91 25

olv\*Ma: 1.0 0.02 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

relative Inform. Technology (IT)

$olv_i3^*$  1.0 1.0 1.0 (1.0)

$cmyn3^*$  0.0 0.0 0.0 (0.0)

$olv_i4^*$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  1.0 0.0 0.0

$lab^*ice$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  71.81 41.31 19.68

$LAB^*LABa$  71.81 41.28 19.68

$LAB^*TChA$  75.0 45.73 25.49

relative CIELAB lab\*

$lab^*lab$  0.72 0.451 0.215

$lab^*tch$  0.75 0.5 0.071

$lab^*nch$  0.0 0.5 0.071

relative Natural Colour (NC)

$lab^*lrj$  0.72 0.5 0.0

$lab^*ice$  0.75 0.5 0.0

$lab^*ncE$  0.0 0.5 r00j

$n^* = 0,00$

$n^* = 1,0$

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

relative Inform. Technology (IT)

$olv_i3^*$  1.0 0.512 0.5 (1.0)

$cmyn3^*$  0.0 0.488 0.5 (0.0)

$olv_i4^*$  1.0 0.512 0.5 1.0

$cmyn4^*$  0.0 0.488 0.5 0.0

standard and adapted CIELAB

$LAB^*LAB$  95.41 0.0 -0.01

## Input: Colorimetric Reflective System NCS11

for hue  $h^* = lab^*h = 25/360 = 0.071$

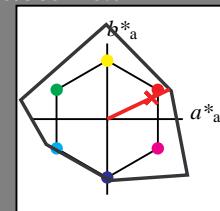
$lab^*tch$  and  $lab^*nch$

D65: hue R

LCH\*Ma: 48 91 25

olv\*Ma: 1.0 0.02 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

relative Inform. Technology (IT)

$olv_i3^*$  1.0 1.0 1.0 (1.0)

$cmyn3^*$  0.0 0.0 0.0 (0.0)

$olv_i4^*$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  71.81 41.31 19.68

$LAB^*LABa$  71.81 41.28 19.68

$LAB^*TChA$  75.0 45.73 25.49

relative CIELAB lab\*

$lab^*lab$  0.72 0.451 0.215

$lab^*tch$  0.75 0.5 0.071

$lab^*nch$  0.0 0.5 0.071

relative Natural Colour (NC)

$lab^*lrij$  0.72 0.5 0.0

$lab^*tce$  0.75 0.5 0.0

$lab^*ncE$  0.0 0.5 r00j

relative Inform. Technology (IT)

$olv_i3^*$  0.5 0.5 0.5 (1.0)

$cmyn3^*$  0.5 0.5 0.5 (0.0)

$olv_i4^*$  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

$LAB^*LABa$  53.21 0.0 0.0

$LAB^*TChA$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.5 0.0 0.0

$lab^*tce$  0.5 0.0 0.0

$lab^*ncE$  0.5 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  11.01 0.07 0.01

$LAB^*LABa$  11.01 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*tce$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

relative Inform. Technology (IT)

$olv_i3^*$  1.0 0.512 0.5 (1.0)

$cmyn3^*$  0.0 0.488 0.5 (0.0)

$olv_i4^*$  1.0 0.512 0.5 1.0

$cmyn4^*$  0.0 0.488 0.5 0.0

standard and adapted CIELAB

$LAB^*LAB$  71.81 41.31 19.68

$LAB^*LABa$  71.81 41.28 19.68

$LAB^*TChA$  75.0 45.73 25.49

relative CIELAB lab\*

$lab^*lab$  0.72 0.451 0.215

$lab^*tch$  0.75 0.5 0.071

$lab^*nch$  0.0 0.5 0.071

relative Natural Colour (NC)

$lab^*lrij$  0.72 0.5 0.0

$lab^*tce$  0.75 0.5 0.0

$lab^*ncE$  0.0 0.5 r00j

relative Inform. Technology (IT)

$olv_i3^*$  1.0 0.024 0.0 (1.0)

$cmyn3^*$  0.5 0.976 1.0 (0.0)

$olv_i4^*$  1.0 0.024 0.0 1.0

$cmyn4^*$  0.0 0.976 1.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  48.21 82.61 39.36

$LAB^*LABa$  48.21 82.57 39.35

$LAB^*TChA$  50.0 91.46 25.48

relative CIELAB lab\*

$lab^*lab$  0.441 0.903 0.43

$lab^*tch$  0.5 1.0 0.071

$lab^*nch$  0.0 1.0 0.071

relative Natural Colour (NC)

$lab^*lrij$  0.441 1.0 0.0

$lab^*tce$  0.5 1.0 1.0

$lab^*ncE$  0.0 1.0 b99r

relative Inform. Technology (IT)

$olv_i3^*$  0.0 0.0 0.0 (1.0)

$cmyn3^*$  1.0 1.0 1.0 (0.0)

$olv_i4^*$  1.0 1.0 1.0 0.0

$cmyn4^*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.5 -0.46

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*tce$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 0,00$

$n^* = 0,50$

$n^* = 1,00$

chromaticness  $c^*$

## Output: Colorimetric Reflective System ORS18

for hue  $h^* = lab^*h = 25/360 = 0.069$

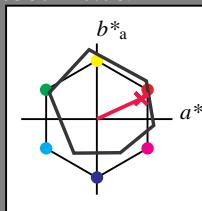
$lab^*tch$  and  $lab^*nch$

D65: hue R

LCH\*Ma: 48 75 25

olv\*Ma: 1.0 0.0 0.32

triangle lightness  $t^*$



## ORS18; adapted (a) CIELAB data

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

$olv_i3^*$  1.0 1.0 1.0 (1.0)

$cmyn3^*$  0.0 0.0 0.0 (0.0)

$olv_i4^*$  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

$LAB^*LABa$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)

$olv_i3^*$  0.5 0.5 0.5 (1.0)

$cmyn3^*$  0.5 0.5 0.5 (0.0)

$olv_i4^*$  1.0 0.5 0.661 1.0

$cmyn4^*$  0.0 0.5 0.339 0.0

standard and adapted CIELAB

$LAB^*LAB$  71.75 33.75 18.92

$LAB^*LABa$  71.75 34.27 15.76

$LAB^*TChA$  75.0 37.72 24.69

relative CIELAB lab\*

$lab^*lab$  0.694 0.454 0.209

$lab^*tch$  0.75 0.5 0.069

$lab^*nch$  0.0 0.5 0.069

relative Natural Colour (NC)

$lab^*lrij$  0.694 0.5 0.0

$lab^*tce$  0.75 0.5 1.0

$lab^*ncE$  0.0 0.5 b99r

relative Inform. Technology (IT)

$olv_i3^*$  0.0 0.0 0.0 (1.0)

$cmyn3^*$  1.0 1.0 1.0 (0.0)

$olv_i4^*$  1.0 1.0 1.0 0.5

$cmyn4^*$  0.0 0.0 0.5 0.5

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.5 -0.46

## Input: Colorimetric Reflective System NCS11

for hue  $h^* = lab^*h = 25/360 = 0.071$

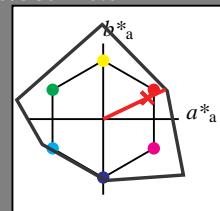
$lab^*tch$  and  $lab^*nch$

D65: hue R

LCH\*Ma: 48 91 25

olv\*Ma: 1.0 0.02 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

relative Inform. Technology (IT)

$olv_i3^*$  1.0 1.0 1.0 (1.0)

$cmy3^*$  0.0 0.0 0.0 (0.0)

$olv_i4^*$  1.0 1.0 1.0 1.0

$cmy4^*$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 -

$lab^*ncE$  0.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  71.81 41.31 19.68

$LAB^*LABa$  71.81 41.28 19.68

$LAB^*TChA$  75.0 45.73 25.49

relative CIELAB lab\*

$lab^*lab$  0.72 0.451 0.215

$lab^*tch$  0.75 0.5 0.071

$lab^*nch$  0.0 0.5 0.071

relative Natural Colour (NC)

$lab^*lrij$  0.72 0.5 0.0

$lab^*tce$  0.75 0.5 0.0

$lab^*ncE$  0.0 0.5 r00j

relative Inform. Technology (IT)

$olv_i3^*$  0.5 0.5 0.5 (1.0)

$cmy3^*$  0.5 0.5 0.5 (0.0)

$olv_i4^*$  1.0 1.0 1.0 0.5

$cmy4^*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  53.21 0.04 0.0

$LAB^*LABa$  53.21 0.0 0.0

$LAB^*TChA$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.5 0.0 0.0

$lab^*tce$  0.5 0.0 -

$lab^*ncE$  0.5 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  48.21 82.61 39.36

$LAB^*LABa$  48.21 82.57 39.35

$LAB^*TChA$  50.0 91.46 25.48

relative CIELAB lab\*

$lab^*lab$  0.441 0.903 0.43

$lab^*tch$  0.5 1.0 0.071

$lab^*nch$  0.0 1.0 0.071

relative Natural Colour (NC)

$lab^*lrij$  0.441 1.0 0.0

$lab^*tce$  0.5 1.0 1.0

$lab^*ncE$  0.0 1.0 b99r

$n^* = 1,0$

relative Inform. Technology (IT)

$olv_i3^*$  1.0 0.512 0.5 (1.0)

$cmy3^*$  0.0 0.488 0.5 (0.0)

$olv_i4^*$  1.0 0.512 0.5 1.0

$cmy4^*$  0.0 0.488 0.5 0.0

standard and adapted CIELAB

$LAB^*LAB$  71.81 41.31 19.68

$LAB^*LABa$  71.81 41.28 19.68

$LAB^*TChA$  75.0 45.73 25.49

relative CIELAB lab\*

$lab^*lab$  0.72 0.451 0.215

$lab^*tch$  0.75 0.5 0.071

$lab^*nch$  0.0 0.5 0.071

relative Natural Colour (NC)

$lab^*lrij$  0.72 0.5 0.0

$lab^*tce$  0.75 0.5 0.0

$lab^*ncE$  0.0 0.5 r00j

relative Inform. Technology (IT)

$olv_i3^*$  1.0 0.024 0.0 (1.0)

$cmy3^*$  0.0 0.976 1.0 (0.0)

$olv_i4^*$  1.0 0.024 0.0 1.0

$cmy4^*$  0.0 0.976 1.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  48.21 82.61 39.36

$LAB^*LABa$  48.21 82.57 39.35

$LAB^*TChA$  50.0 91.46 25.48

relative CIELAB lab\*

$lab^*lab$  0.441 0.903 0.43

$lab^*tch$  0.5 1.0 0.071

$lab^*nch$  0.0 1.0 0.071

relative Natural Colour (NC)

$lab^*lrij$  0.441 1.0 0.0

$lab^*tce$  0.5 1.0 1.0

$lab^*ncE$  0.0 1.0 b99r

relative Inform. Technology (IT)

$olv_i3^*$  0.5 0.012 0.0 (1.0)

$cmy3^*$  0.5 0.988 1.0 (0.0)

$olv_i4^*$  1.0 0.512 0.5 0.5

$cmy4^*$  0.0 0.488 0.5 0.5

standard and adapted CIELAB

$LAB^*LAB$  29.6 41.35 19.67

$LAB^*LABa$  29.6 41.29 19.67

$LAB^*TChA$  25.01 45.73 25.47

relative CIELAB lab\*

$lab^*lab$  0.22 0.451 0.215

$lab^*tch$  0.25 0.5 0.071

$lab^*nch$  0.5 0.5 0.071

relative Natural Colour (NC)

$lab^*lrij$  0.22 0.5 0.0

$lab^*tce$  0.25 0.5 1.0

$lab^*ncE$  0.5 0.5 b99r

relative Inform. Technology (IT)

$olv_i3^*$  0.0 0.0 0.0 (1.0)

$cmy3^*$  1.0 1.0 1.0 (0.0)

$olv_i4^*$  1.0 1.0 1.0 1.0

$cmy4^*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  11.01 0.07 0.01

$LAB^*LABa$  11.01 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*tce$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

relative Inform. Technology (IT)

$olv_i3^*$  0.0 0.0 0.0 (1.0)

$cmy3^*$  1.0 1.0 1.0 (0.0)

$olv_i4^*$  1.0 1.0 1.0 1.0

$cmy4^*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  11.01 0.07 0.01

$LAB^*LABa$  11.01 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*tce$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

relative Inform. Technology (IT)

$olv_i3^*$  0.0 0.0 0.0 (1.0)

$cmy3^*$  1.0 1.0 1.0 (0.0)

$olv_i4^*$  1.0 1.0 1.0 1.0

$cmy4^*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  11.01 0.07 0.01

$LAB^*LABa$  11.01 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*tce$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

relative Inform. Technology (IT)

$olv_i3^*$  0.0 0.0 0.0 (1.0)

$cmy3^*$  1.0 1.0 1.0 (0.0)

$olv_i4^*$  1.0 1.0 1.0 1.0

$cmy4^*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  11.01 0.07 0.01

$LAB^*LABa$  11.01 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*tce$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

relative Inform. Technology (IT)

$olv_i3^*$  0.0 0.0 0.0 (1.0)

## Input: Colorimetric Reflective System NCS11

for hue  $h^* = lab^*h = 25/360 = 0.071$

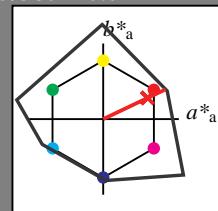
$lab^*tch$  and  $lab^*nch$

D65: hue R

LCH\*Ma: 48 91 25

olv\*Ma: 1.0 0.02 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

relative Inform. Technology (IT)

$olv_i3^*$  1.0 1.0 1.0 (1.0)

$cmyn3^*$  0.0 0.0 0.0 (0.0)

$olv_i4^*$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  71.81 41.31 19.68

$LAB^*LABa$  71.81 41.28 19.68

$LAB^*TChA$  75.0 45.73 25.49

relative CIELAB lab\*

$lab^*lab$  0.72 0.451 0.215

$lab^*tch$  0.75 0.5 0.071

$lab^*nch$  0.0 0.5 0.071

relative Natural Colour (NC)

$lab^*lrij$  0.72 0.5 0.0

$lab^*tce$  0.75 0.5 0.0

$lab^*ncE$  0.0 0.5 r00j

relative Inform. Technology (IT)

$olv_i3^*$  0.5 0.5 0.5 (1.0)

$cmyn3^*$  0.5 0.5 0.5 (0.0)

$olv_i4^*$  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

$LAB^*LABa$  53.21 0.0 0.0

$LAB^*TChA$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.5 0.0 0.0

$lab^*tce$  0.5 0.0 0.0

$lab^*ncE$  0.5 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  48.21 82.61 39.36

$LAB^*LABa$  48.21 82.57 39.35

$LAB^*TChA$  50.0 91.46 25.48

relative CIELAB lab\*

$lab^*lab$  0.441 0.903 0.43

$lab^*tch$  0.5 1.0 0.071

$lab^*nch$  0.0 1.0 0.071

relative Natural Colour (NC)

$lab^*lrij$  0.441 1.0 0.0

$lab^*tce$  0.5 1.0 1.0

$lab^*ncE$  0.0 1.0 b99r

$n^* = 1,0$

relative Inform. Technology (IT)

$olv_i3^*$  0.0 0.0 0.0 (1.0)

$cmyn3^*$  1.0 1.0 1.0 (0.0)

$olv_i4^*$  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 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*tce$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.5 -0.46

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*tce$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 0,00$

relative Inform. Technology (IT)

$olv_i3^*$  1.0 1.0 1.0 (1.0)

$cmyn3^*$  0.0 0.0 0.0 (0.0)

$olv_i4^*$  1.0 1.0 1.0 1.0

$cmyn4^*$  0.0 0.0 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  71.75 33.75 18.92

$LAB^*LABa$  71.75 34.27 15.76

$LAB^*TChA$  75.0 37.72 24.69

relative CIELAB lab\*

$lab^*lab$  0.694 0.454 0.209

$lab^*tch$  0.75 0.5 0.069

$lab^*nch$  0.0 0.5 0.069

relative Natural Colour (NC)

$lab^*lrij$  0.694 0.5 0.0

$lab^*tce$  0.75 0.5 1.0

$lab^*ncE$  0.0 0.5 b99r

$n^* = 0,00$

relative Inform. Technology (IT)

$olv_i3^*$  1.0 1.0 1.0 (1.0)

$cmyn3^*$  0.0 0.0 0.0 (0.0)

$olv_i4^*$  1.0 1.0 1.0 1.0

$cmyn4^*$  0.0 0.0 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  48.01 68.48 33.09

$LAB^*LABa$  48.01 68.55 31.53

$LAB^*TChA$  50.0 75.45 24.7

relative CIELAB lab\*

$lab^*lab$  0.388 0.908 0.418

$lab^*tch$  0.5 1.0 0.069

$lab^*nch$  0.0 1.0 0.069

relative Natural Colour (NC)

$lab^*lrij$  0.388 1.0 0.0

$lab^*tce$  0.5 1.0 0.0

$lab^*ncE$  0.0 1.0 r00j

$n^* = 0,00$

relative Inform. Technology (IT)

$olv_i3^*$  1.0 1.0 1.0 (1.0)

$cmyn3^*$  0.0 0.0 0.0 (0.0)

$olv_i4^*$  1.0 1.0 1.0 1.0

$cmyn4^*$  0.0 0.0 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  33.01 34.49 16.31

$LAB^*LABa$  33.01 34.27 15.77

$LAB^*TChA$  25.01 37.73 24.7

relative CIELAB lab\*

$lab^*lab$  0.194 0.454 0.209

$lab^*tch$  0.25 0.5 0.069

$lab^*nch$  0.5 0.5 0.069

relative Natural Colour (NC)

$lab^*lrij$  0.194 0.5 0.0

$lab^*tce$  0.25 0.5 0.0

$lab^*ncE$  0.5 0.5 r00j

$n^* = 0,00$

relative Inform. Technology (IT)

$olv_i3^*$  1.0 1.0 1.0 (1.0)

$cmyn3^*$  0.0 0.0 0.0 (0.0)

$olv_i4^*$  1.0 1.0 1.0 1.0

$cmyn4^*$  0.0 0.0 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  33.01 34.49 16.31

$LAB^*LABa$  33.01 34.27 15.77

$LAB^*TChA$  25.01 37.73 24.7

relative CIELAB lab\*

$lab^*lab$  0.194 0.454 0.209

$lab^*tch$  0.25 0.5 0.069

$lab^*nch$  0.5 0.5 0.069

relative Natural Colour (NC)

$lab^*lrij$  0.194 0.5 0.0

$lab^*tce$  0.25 0.5 0.0

$lab^*ncE$  0.5 0.5 r00j

$n^* = 0,00$

relative Inform. Technology (IT)

$olv_i3^*$  1.0 1.0 1.0 (1.0)

$cmyn3^*$  0.0 0.0 0.0 (0.0)

$olv_i4^*$  1.0 1.0 1.0 1.0

$cmyn4^*$  0.0 0.0 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  33.01 34.49 16.31

$LAB^*LABa$  33.01 34.27 15.77

$LAB^*TChA$  25.01 37.73 24.7

relative CIELAB lab\*

$lab^*lab$  0.194 0.454 0.209

$lab^*tch$  0.25 0.5 0.069

$lab^*nch$  0.5 0.5 0.069

relative Natural Colour (NC)

$lab^*lrij$  0.194 0.5 0.0

$lab^*tce$  0.25 0.5 0.0

$lab^*ncE$  0.5 0.5 r00j

$n^* = 0,00$

relative Inform. Technology (IT)

$olv_i3^*$  1.0 1.0 1.0 (1.0)

$cmyn3^*$  0.0 0.0 0.0 (0.0)

## Input: Colorimetric Reflective System NCS11

for hue  $h^* = lab^*h = 25/360 = 0.071$

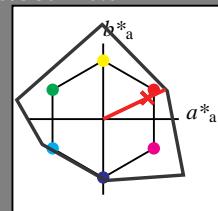
$lab^*tch$  and  $lab^*nch$

D65: hue R

LCH\*Ma: 48 91 25

olv\*Ma: 1.0 0.02 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

relative Inform. Technology (IT)

$olv_i3^*$  1.0 1.0 1.0 (1.0)

$cmy_n3^*$  0.0 0.0 0.0 (0.0)

$olv_i4^*$  1.0 1.0 1.0 1.0

$cmy_n4^*$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  71.81 41.31 19.68

$LAB^*LABa$  71.81 41.28 19.68

$LAB^*TChA$  75.0 45.73 25.49

relative CIELAB lab\*

$lab^*lab$  0.72 0.451 0.215

$lab^*tch$  0.75 0.5 0.071

$lab^*nch$  0.0 0.5 0.071

relative Natural Colour (NC)

$lab^*lrij$  0.72 0.5 0.0

$lab^*tce$  0.75 0.5 0.0

$lab^*ncE$  0.0 0.5 r00j

relative Inform. Technology (IT)

$olv_i3^*$  0.5 0.5 0.5 (1.0)

$cmy_n3^*$  0.5 0.5 0.5 (0.0)

$olv_i4^*$  1.0 1.0 1.0 0.5

$cmy_n4^*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  53.21 0.04 0.0

$LAB^*LABa$  53.21 0.0 0.0

$LAB^*TChA$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.5 0.0 0.0

$lab^*tce$  0.5 0.0 0.0

$lab^*ncE$  0.5 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  48.21 82.61 39.36

$LAB^*LABa$  48.21 82.57 39.35

$LAB^*TChA$  50.0 91.46 25.48

relative CIELAB lab\*

$lab^*lab$  0.441 0.903 0.43

$lab^*tch$  0.5 1.0 0.071

$lab^*nch$  0.0 1.0 0.071

relative Natural Colour (NC)

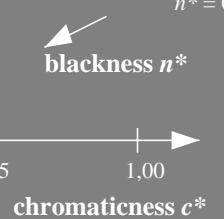
$lab^*lrij$  0.441 1.0 0.0

$lab^*tce$  0.5 1.0 1.0

$lab^*ncE$  0.0 1.0 b99r

$n^* = 1,0$

$n^* = 0,00$



chromaticness  $c^*$

## Output: Colorimetric Reflective System MRS18a

for hue  $h^* = lab^*h = 25/360 = 0.071$

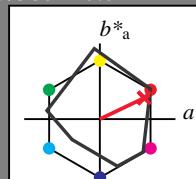
$lab^*tch$  and  $lab^*nch$

D65: hue R

LCH\*Ma: 48 73 25

olv\*Ma: 1.0 0.0 0.1

triangle lightness  $t^*$



## MRS18a; adapted (a) CIELAB data

	$L^*=L_a^*$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	49.63	66.8	40.02	77.87	31
JMa	90.7	-7.27	93.19	93.48	94
GMa	52.11	-69.93	11.26	70.85	171
G50BMa	45.03	-36.65	-27.13	45.61	217
BMa	36.65	23.26	-62.27	66.49	290
B50RMa	34.94	57.27	-43.6	71.99	323
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	272

relative Inform. Technology (IT)

$olv_i3^*$  1.0 1.0 1.0 (1.0)

$cmy_n3^*$  0.0 0.0 0.0 (0.0)

$olv_i4^*$  1.0 1.0 1.0 1.0

$cmy_n4^*$  0.0 0.0 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  95.41 0.01 0.0

$LAB^*LABa$  95.41 0.0 0.0

$LAB^*TChA$  99.99 0.01 -

relative CIELAB lab\*

$lab^*lab$  1.0 0.512 0.5 (1.0)

$lab^*tch$  0.0 0.488 0.5 (0.0)

$lab^*nch$  0.0 0.512 0.5 1.0

$cmy_n4^*$  0.0 0.488 0.5 0.0

standard and adapted CIELAB

$LAB^*LAB$  71.81 41.31 19.68

$LAB^*LABa$  71.81 41.28 19.68

$LAB^*TChA$  75.0 45.73 25.49

relative CIELAB lab\*

$lab^*lab$  0.72 0.451 0.215

$lab^*tch$  0.75 0.5 0.071

$lab^*nch$  0.0 0.5 0.071

relative Natural Colour (NC)

$lab^*lrij$  0.72 0.5 0.0

$lab^*tce$  0.75 0.5 0.0

$lab^*ncE$  0.0 0.5 r00j

relative Inform. Technology (IT)

$olv_i3^*$  0.5 0.5 0.5 (1.0)

$cmy_n3^*$  0.5 1.0 1.0 (0.0)

$olv_i4^*$  1.0 1.0 1.0 0.0

$cmy_n4^*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  53.21 0.04 0.0

$LAB^*LABa$  53.21 0.0 0.0

$LAB^*TChA$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.441 0.903 0.43

$lab^*tch$  0.5 1.0 0.071

$lab^*nch$  0.0 1.0 0.071

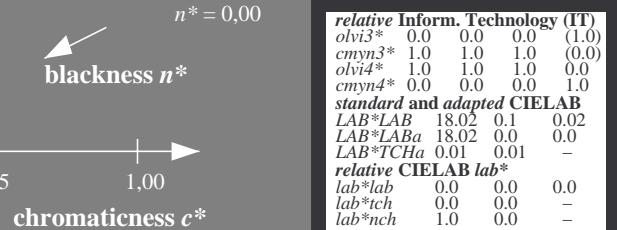
relative Natural Colour (NC)

$lab^*lrij$  0.441 1.0 0.0

$lab^*tce$  0.5 1.0 1.0

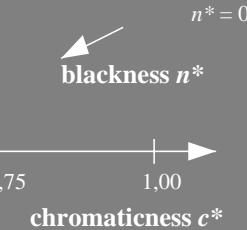
$lab^*ncE$  0.0 1.0 b99r

$n^* = 1,0$



chromaticness  $c^*$

$n^* = 1,0$



chromaticness  $c^*$

UE100-7, 3 step scales for constant CIELAB hue 25/360 = 0.071 (left)

3 step scales for constant CIELAB hue 25/360 = 0.071 (right)

## Input: Colorimetric Reflective System NCS11

for hue  $h^* = lab^*h = 25/360 = 0.071$

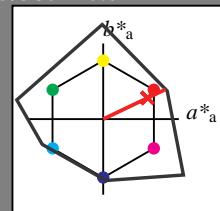
$lab^*tch$  and  $lab^*nch$

D65: hue R

LCH\*Ma: 48 91 25

olv\*Ma: 1.0 0.02 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

relative Inform. Technology (IT)  
 $olv_i3^*$  1.0 1.0 1.0 (1.0)  
 $cmy3^*$  0.0 0.0 0.0 (0.0)  
 $olv_i4^*$  1.0 1.0 1.0 1.0  
 $cmy4^*$  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 -  
 $lab^*nch$  0.0 0.0 -  
**relative Natural Colour (NC)**  
 $lab^*lrij$  1.0 0.0 0.0  
 $lab^*tce$  1.0 0.0 -  
 $lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)  
 $olv_i3^*$  0.5 0.5 0.5 (1.0)  
 $cmy3^*$  0.5 0.5 0.5 (0.0)  
 $olv_i4^*$  1.0 1.0 1.0 0.5  
 $cmy4^*$  0.0 0.0 0.0 0.5  
**standard and adapted CIELAB**  
 $LAB^*LAB$  53.21 0.04 0.0  
 $LAB^*LABa$  53.21 0.0 0.0  
 $LAB^*TChA$  50.0 0.01 -  
**relative CIELAB lab\***  
 $lab^*lab$  0.5 0.0 0.0  
 $lab^*tch$  0.5 0.0 -  
 $lab^*nch$  0.5 0.0 -  
**relative Natural Colour (NC)**  
 $lab^*lrij$  0.5 0.0 0.0  
 $lab^*tce$  0.5 0.0 -  
 $lab^*ncE$  0.5 0.0 -

relative Inform. Technology (IT)  
 $olv_i3^*$  0.0 0.0 0.0 (1.0)  
 $cmy3^*$  1.0 1.0 1.0 (0.0)  
 $olv_i4^*$  1.0 1.0 1.0 0.0  
 $cmy4^*$  0.0 0.0 0.0 1.0  
**standard and adapted CIELAB**  
 $LAB^*LAB$  11.01 0.07 0.01  
 $LAB^*LABa$  11.01 0.0 0.0  
 $LAB^*TChA$  0.01 0.01 -  
**relative CIELAB lab\***  
 $lab^*lab$  0.0 0.0 0.0  
 $lab^*tch$  0.0 0.0 -  
 $lab^*nch$  1.0 0.0 -  
**relative Natural Colour (NC)**  
 $lab^*lrij$  0.0 0.0 0.0  
 $lab^*tce$  0.0 0.0 -  
 $lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

relative Inform. Technology (IT)  
 $olv_i3^*$  1.0 0.512 0.5 (1.0)  
 $cmy3^*$  0.0 0.488 0.5 (0.0)  
 $olv_i4^*$  1.0 0.512 0.5 1.0  
 $cmy4^*$  0.0 0.488 0.5 0.0  
**standard and adapted CIELAB**  
 $LAB^*LAB$  71.81 41.31 19.68  
 $LAB^*LABa$  71.81 41.28 19.68  
 $LAB^*TChA$  75.0 45.73 25.49

**relative CIELAB lab\***  
 $lab^*lab$  0.72 0.451 0.215  
 $lab^*tch$  0.75 0.5 0.071  
 $lab^*nch$  0.0 0.5 0.071  
**relative Natural Colour (NC)**  
 $lab^*lrij$  0.72 0.5 0.0  
 $lab^*tce$  0.75 0.5 0.0  
 $lab^*ncE$  0.0 0.5 r00j

relative Inform. Technology (IT)  
 $olv_i3^*$  0.5 0.012 0.0 (1.0)  
 $cmy3^*$  0.5 0.988 1.0 (0.0)  
 $olv_i4^*$  1.0 0.512 0.5 0.5  
 $cmy4^*$  0.0 0.488 0.5 0.5  
**standard and adapted CIELAB**  
 $LAB^*LAB$  29.6 41.35 19.69  
 $LAB^*LABa$  29.6 41.29 19.67  
 $LAB^*TChA$  25.01 45.73 25.47

**relative CIELAB lab\***  
 $lab^*lab$  0.22 0.451 0.215  
 $lab^*tch$  0.25 0.5 0.071  
 $lab^*nch$  0.5 0.5 0.071  
**relative Natural Colour (NC)**  
 $lab^*lrij$  0.22 0.5 0.0  
 $lab^*tce$  0.25 0.5 1.0  
 $lab^*ncE$  0.5 0.5 b99r

$n^* = 0,00$

relative Inform. Technology (IT)  
 $olv_i3^*$  1.0 0.024 0.0 (1.0)  
 $cmy3^*$  0.5 0.976 1.0 (0.0)  
 $olv_i4^*$  1.0 0.024 0.0 1.0  
 $cmy4^*$  0.0 0.976 1.0 0.0  
**standard and adapted CIELAB**  
 $LAB^*LAB$  48.21 82.61 39.36  
 $LAB^*LABa$  48.21 82.57 39.35  
 $LAB^*TChA$  50.0 91.46 25.48

**relative CIELAB lab\***

$lab^*lab$  0.441 0.903 0.43  
 $lab^*tch$  0.5 1.0 0.071  
 $lab^*nch$  0.0 1.0 0.071

**relative Natural Colour (NC)**

$lab^*lrij$  0.441 1.0 0.0  
 $lab^*tce$  0.5 1.0 1.0  
 $lab^*ncE$  0.0 1.0 b99r

$n^* = 0,00$

blackness  $n^*$

chromaticness  $c^*$

0,25 0,50 0,75 1,00

## Output: Colorimetric Reflective System NRS18

for hue  $h^* = lab^*h = 25/360 = 0.071$

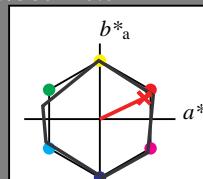
$lab^*tch$  and  $lab^*nch$

D65: hue R

LCH\*Ma: 57 76 25

olv\*Ma: 1.0 0.03 0.0

triangle lightness  $t^*$



### NRS18; adapted (a) CIELAB data

	$L^*=L_a^*$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	56.7	70.66	31.47	77.35	24
JMa	56.7	-1.39	77.37	77.39	91
GMa	56.7	-75.46	17.4	77.45	167
G50BMa	56.7	-71.29	-30.25	77.45	203
BMa	56.7	4.0	-77.3	77.41	273
B50RMa	56.7	63.35	-44.4	77.36	325
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	272

relative Inform. Technology (IT)  
 $olv_i3^*$  1.0 1.0 1.0 (1.0)  
 $cmy3^*$  0.0 0.0 0.0 (0.0)  
 $olv_i4^*$  1.0 1.0 1.0 1.0  
 $cmy4^*$  0.0 0.0 0.0 0.0  
**standard and adapted CIELAB**  
 $LAB^*LAB$  95.41 0.0 0.0  
 $LAB^*LABa$  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 -  
 $lab^*nch$  0.0 0.0 -  
**relative Natural Colour (NC)**  
 $lab^*lrij$  1.0 0.0 0.0  
 $lab^*tce$  1.0 0.0 -  
 $lab^*ncE$  0.0 0.0 -

**standard and adapted CIELAB**  
 $LAB^*LAB$  76.05 34.36 16.37  
 $LAB^*LABa$  76.05 34.33 16.36  
 $LAB^*TChA$  75.0 38.03 25.49

**relative CIELAB lab\***  
 $lab^*lab$  0.75 0.451 0.215  
 $lab^*tch$  0.75 0.5 0.071  
 $lab^*nch$  0.0 0.5 0.071

**relative Natural Colour (NC)**  
 $lab^*lrij$  0.75 0.5 0.0  
 $lab^*tce$  0.75 0.5 0.0  
 $lab^*ncE$  0.0 0.5 r00j

$n^* = 0,00$

relative Inform. Technology (IT)  
 $olv_i3^*$  0.5 0.028 0.0 (1.0)  
 $cmy3^*$  0.0 0.972 1.0 (0.0)  
 $olv_i4^*$  1.0 0.028 0.0 1.0  
 $cmy4^*$  0.0 0.972 1.0 0.0  
**standard and adapted CIELAB**  
 $LAB^*LAB$  56.7 68.71 32.74  
 $LAB^*LABa$  56.7 68.66 32.72  
 $LAB^*TChA$  50.0 76.06 25.48

**relative CIELAB lab\***  
 $lab^*lab$  0.5 0.903 0.43  
 $lab^*tch$  0.5 1.0 0.071  
 $lab^*nch$  0.0 1.0 0.071

**relative Natural Colour (NC)**  
 $lab^*lrij$  0.5 1.0 0.0  
 $lab^*tce$  0.5 1.0 1.0  
 $lab^*ncE$  0.0 1.0 b99r

$n^* = 1,0$

relative Inform. Technology (IT)  
 $olv_i3^*$  1.0 0.014 0.0 (1.0)  
 $cmy3^*$  0.5 0.986 1.0 (0.0)  
 $olv_i4^*$  1.0 0.514 0.5 0.5  
 $cmy4^*$  0.0 0.486 0.5 0.5  
**standard and adapted CIELAB**  
 $LAB^*LAB$  37.36 34.41 16.38  
 $LAB^*LABa$  37.36 34.33 16.36  
 $LAB^*TChA$  25.01 38.03 25.48

**relative CIELAB lab\***  
 $lab^*lab$  0.25 0.451 0.215  
 $lab^*tch$  0.25 0.5 0.071  
 $lab^*nch$  0.5 0.5 0.071

**relative Natural Colour (NC)**  
 $lab^*lrij$  0.25 0.5 0.0  
 $lab^*tce$  0.25 0.5 1.0  
 $lab^*ncE$  0.5 0.5 b99r

$n^* = 0,00$

blackness  $n^*$

chromaticness  $c^*$

0,25 0,50 0,75 1,00

$n^* = 1,0$

UE100-7, 3 step scales for constant CIELAB hue 25/360 = 0.071 (left)

3 step scales for constant CIELAB hue 25/360 = 0.071 (right)

## Input: Colorimetric Reflective System NCS11

for hue  $h^* = lab^*h = 25/360 = 0.071$

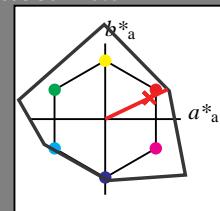
$lab^*tch$  and  $lab^*nch$

D65: hue R

LCH\*Ma: 48 91 25

olv\*Ma: 1.0 0.02 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

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

$LAB^*LABa$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrf$  1.0 0.0 0.0

$lab^*fce$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  71.81 41.31 19.68

$LAB^*LABa$  71.81 41.28 19.68

$LAB^*TChA$  75.0 45.73 25.49

relative CIELAB lab\*

$lab^*lab$  0.72 0.451 0.215

$lab^*tch$  0.75 0.5 0.071

$lab^*nch$  0.0 0.5 0.071

relative Natural Colour (NC)

$lab^*lrf$  0.72 0.5 0.0

$lab^*fce$  0.75 0.5 0.0

$lab^*ncE$  0.0 0.5 r00j

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 0.5

$cmyn^4*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  53.21 0.04 0.0

$LAB^*LABa$  53.21 0.0 0.0

$LAB^*TChA$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrf$  0.5 0.0 0.0

$lab^*fce$  0.5 0.0 0.0

$lab^*ncE$  0.5 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  11.01 0.07 0.01

$LAB^*LABa$  11.01 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrf$  0.0 0.0 0.0

$lab^*fce$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

relative Inform. Technology (IT)

$olv^3*$  0.0 0.0 0.0 (1.0)

$cmyn^3*$  1.0 1.0 1.0 (0.0)

$olv^4*$  1.0 1.0 1.0 0.0

$cmyn^4*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  11.01 0.07 0.01

$LAB^*LABa$  11.01 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrf$  0.0 0.0 0.0

$lab^*fce$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  11.01 0.07 0.01

$LAB^*LABa$  11.01 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrf$  0.0 0.0 0.0

$lab^*fce$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

## Output: Colorimetric Reflective System NCS18

for hue  $h^* = lab^*h = 25/360 = 0.071$

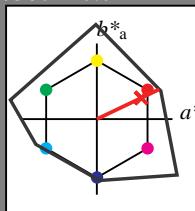
$lab^*tch$  and  $lab^*nch$

D65: hue R

LCH\*Ma: 48 91 25

olv\*Ma: 1.0 0.02 0.0

triangle lightness  $t^*$



### NCS18; adapted (a) CIELAB data

	$L^*=L^*_a$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	47.15	84.63	37.24	92.46	24
JMa	91.37	-1.27	125.03	125.03	91
GMa	63.07	-114.29	25.34	117.07	167
G50BMa	59.47	-80.61	-33.45	87.29	203
BMa	49.01	3.63	-81.2	81.29	273
B50RMa	44.06	106.07	-73.94	129.31	325
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	272

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

$LAB^*LABa$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrf$  1.0 0.0 0.0

$lab^*fce$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  71.81 41.31 19.68

$LAB^*LABa$  71.81 41.28 19.68

$LAB^*TChA$  75.0 45.73 25.49

relative CIELAB lab\*

$lab^*lab$  0.695 0.451 0.215

$lab^*tch$  0.75 0.5 0.071

$lab^*nch$  0.0 0.5 0.071

relative Natural Colour (NC)

$lab^*lrf$  0.695 0.5 0.0

$lab^*fce$  0.75 0.5 0.0

$lab^*ncE$  0.0 0.5 r00j

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 0.512 0.5 0.5

$cmyn^4*$  0.0 0.488 0.5 0.0

standard and adapted CIELAB

$LAB^*LAB$  48.21 82.61 39.36

$LAB^*LABa$  48.21 82.55 39.34

$LAB^*TChA$  50.0 91.45 25.48

relative CIELAB lab\*

$lab^*lab$  0.39 0.903 0.43

$lab^*tch$  0.5 1.0 0.071

$lab^*nch$  0.0 1.0 0.071

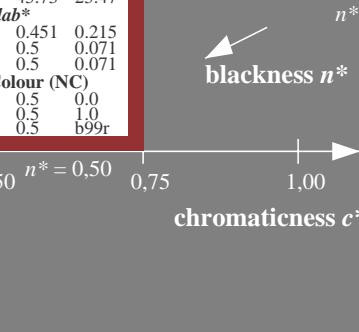
relative Natural Colour (NC)

$lab^*lrf$  0.39 1.0 0.0

$lab^*fce$  0.5 1.0 1.0

$lab^*ncE$  0.0 1.0 b99r

$n^* = 1,0$



3 step scales for constant CIELAB hue 25/360 = 0.071 (right)



$n^* = 1,0$

## Input: Colorimetric Reflective System NCS11

for hue  $h^* = lab^*h = 25/360 = 0.071$

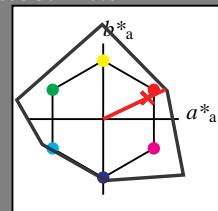
$lab^*tch$  and  $lab^*nch$

D65: hue R

LCH\*Ma: 48 91 25

olv\*Ma: 1.0 0.02 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

relative Inform. Technology (IT)

$olv_i3^*$  1.0 1.0 1.0 (1.0)

$cmy3^*$  0.0 0.0 0.0 (0.0)

$olv_i4^*$  1.0 1.0 1.0 1.0

$cmy4^*$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*ice$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  71.81 41.31 19.68

$LAB^*LABa$  71.81 41.28 19.68

$LAB^*TChA$  75.0 45.73 25.49

relative CIELAB lab\*

$lab^*lab$  0.72 0.451 0.215

$lab^*tch$  0.75 0.5 0.071

$lab^*nch$  0.0 0.5 0.071

relative Natural Colour (NC)

$lab^*lrij$  0.72 0.5 0.0

$lab^*ice$  0.75 0.5 0.0

$lab^*ncE$  0.0 0.5 r00j

relative Inform. Technology (IT)

$olv_i3^*$  0.5 0.5 0.5 (1.0)

$cmy3^*$  0.5 0.5 0.5 (0.0)

$olv_i4^*$  1.0 1.0 1.0 0.5

$cmy4^*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  53.21 0.04 0.0

$LAB^*LABa$  53.21 0.0 0.0

$LAB^*TChA$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.5 0.0 0.0

$lab^*ice$  0.5 0.0 0.0

$lab^*ncE$  0.5 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  11.01 0.07 0.01

$LAB^*LABa$  11.01 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*ice$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

relative Inform. Technology (IT)

$olv_i3^*$  1.0 0.512 0.5 (1.0)

$cmy3^*$  0.0 0.488 0.5 (0.0)

$olv_i4^*$  1.0 0.512 0.5 1.0

$cmy4^*$  0.0 0.488 0.5 0.0

standard and adapted CIELAB

$LAB^*LAB$  71.81 41.31 19.68

$LAB^*LABa$  71.81 41.28 19.68

$LAB^*TChA$  75.0 45.73 25.49

relative CIELAB lab\*

$lab^*lab$  0.72 0.451 0.215

$lab^*tch$  0.75 0.5 0.071

$lab^*nch$  0.0 0.5 0.071

relative Natural Colour (NC)

$lab^*lrij$  0.72 0.5 0.0

$lab^*ice$  0.75 0.5 0.0

$lab^*ncE$  0.0 0.5 r00j

standard and adapted CIELAB

$LAB^*LAB$  48.21 82.61 39.36

$LAB^*LABa$  48.21 82.57 39.35

$LAB^*TChA$  50.0 91.46 25.48

relative CIELAB lab\*

$lab^*lab$  0.441 0.903 0.43

$lab^*tch$  0.5 1.0 0.071

$lab^*nch$  0.0 1.0 0.071

relative Natural Colour (NC)

$lab^*lrij$  0.441 1.0 0.0

$lab^*ice$  0.5 1.0 1.0

$lab^*ncE$  0.0 1.0 b99r

relative Inform. Technology (IT)

$olv_i3^*$  1.0 0.028 0.0 (1.0)

$cmy3^*$  0.0 0.972 1.0 (0.0)

$olv_i4^*$  1.0 0.028 0.0 1.0

$cmy4^*$  0.0 0.972 1.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  53.2 74.93 35.7

$LAB^*LABa$  53.2 74.88 35.69

$LAB^*TChA$  50.0 82.95 25.48

relative CIELAB lab\*

$lab^*lab$  0.5 0.903 0.43

$lab^*tch$  0.5 1.0 0.071

$lab^*nch$  0.0 1.0 0.071

relative Natural Colour (NC)

$lab^*lrij$  0.5 1.0 0.0

$lab^*ice$  0.5 1.0 1.0

$lab^*ncE$  0.5 0.5 b99r

relative Inform. Technology (IT)

$olv_i3^*$  1.0 0.5 0.5 (1.0)

$cmy3^*$  0.5 0.986 1.0 (0.0)

$olv_i4^*$  1.0 0.514 0.5 0.5

$cmy4^*$  0.0 0.486 0.5 0.5

standard and adapted CIELAB

$LAB^*LAB$  32.1 37.51 17.86

$LAB^*LABa$  32.1 37.45 17.84

$LAB^*TChA$  25.01 41.48 25.48

relative CIELAB lab\*

$lab^*lab$  0.25 0.451 0.215

$lab^*tch$  0.25 0.5 0.071

$lab^*nch$  0.5 0.5 0.071

relative Natural Colour (NC)

$lab^*lrij$  0.25 0.5 0.0

$lab^*ice$  0.25 0.5 1.0

$lab^*ncE$  0.5 0.5 b99r

relative Inform. Technology (IT)

$olv_i3^*$  1.0 0.5 0.5 (1.0)

$cmy3^*$  0.5 0.986 1.0 (0.0)

$olv_i4^*$  1.0 0.514 0.5 0.5

$cmy4^*$  0.0 0.486 0.5 0.5

standard and adapted CIELAB

$LAB^*LAB$  29.6 41.35 19.67

$LAB^*LABa$  29.6 41.29 19.67

$LAB^*TChA$  25.01 45.73 25.47

relative CIELAB lab\*

$lab^*lab$  0.22 0.451 0.215

$lab^*tch$  0.25 0.5 0.071

$lab^*nch$  0.5 0.5 0.071

relative Natural Colour (NC)

$lab^*lrij$  0.22 0.5 0.0

$lab^*ice$  0.25 0.5 1.0

$lab^*ncE$  0.5 0.5 b99r

relative Inform. Technology (IT)

$olv_i3^*$  1.0 0.5 0.5 (1.0)

$cmy3^*$  0.5 0.986 1.0 (0.0)

$olv_i4^*$  1.0 0.514 0.5 0.5

$cmy4^*$  0.0 0.486 0.5 0.5

standard and adapted CIELAB

$LAB^*LAB$  11.01 0.07 0.01

$LAB^*LABa$  11.01 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*ice$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

relative Inform. Technology (IT)

$olv_i3^*$  1.0 0.5 0.5 (1.0)

$cmy3^*$  0.5 0.986 1.0 (0.0)

$olv_i4^*$  1.0 0.514 0.5 0.5

$cmy4^*$  0.0 0.486 0.5 0.5

standard and adapted CIELAB

$LAB^*LAB$  11.01 0.07 0.01

$LAB^*LABa$  11.01 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*ice$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

relative Inform. Technology (IT)

$olv_i3^*$  1.0 0.5 0.5 (1.0)

$cmy3^*$  0.5 0.986 1.0 (0.0)

$olv_i4^*$  1.0 0.514 0.5 0.5

$cmy4^*$  0.0 0.486 0.5 0.5

standard and adapted CIELAB

$LAB^*LAB$  11

## Input: Colorimetric Reflective System NCS11

for hue  $h^* = lab^*h = 25/360 = 0.071$

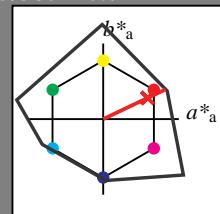
$lab^*tch$  and  $lab^*nch$

D65: hue R

LCH\*Ma: 48 91 25

olv\*Ma: 1.0 0.02 0.0

triangle lightness  $t^*$



relative Inform. Technology (IT)

$olv13^*$  1.0 1.0 1.0 (1.0)

$cmyn3^*$  0.0 0.0 0.0 (0.0)

$olv14^*$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 -

$lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)

$olv13^*$  0.5 0.5 0.5 (1.0)

$cmyn3^*$  0.5 0.5 0.5 (0.0)

$olv14^*$  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

$LAB^*LABa$  53.21 0.0 0.0

$LAB^*TChA$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.5 0.0 0.0

$lab^*tce$  0.5 0.0 -

$lab^*ncE$  0.5 0.0 -

relative Inform. Technology (IT)

$olv13^*$  0.0 0.0 0.0 (1.0)

$cmyn3^*$  1.0 1.0 1.0 (0.0)

$olv14^*$  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 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*tce$  0.0 0.0 -

$lab^*ncE$  1.0 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
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

%Gamut

$u^*_{rel} = 149$

%Regularity

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

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

relative Inform. Technology (IT)

$olv13^*$  1.0 0.512 0.5 (1.0)

$cmyn3^*$  0.0 0.488 0.5 (0.0)

$olv14^*$  1.0 0.512 0.5 1.0

$cmyn4^*$  0.0 0.488 0.5 0.0

standard and adapted CIELAB

$LAB^*LAB$  71.81 41.31 19.68

$LAB^*LABa$  71.81 41.28 19.68

$LAB^*TChA$  75.0 45.73 25.49

relative CIELAB lab\*

$lab^*lab$  0.72 0.451 0.215

$lab^*tch$  0.75 0.5 0.071

$lab^*nch$  0.0 0.5 0.071

relative Natural Colour (NC)

$lab^*lrij$  0.72 0.5 0.0

$lab^*tce$  0.75 0.5 0.0

$lab^*ncE$  0.0 0.5 r00j

relative Inform. Technology (IT)

$olv13^*$  1.0 0.024 0.0 (1.0)

$cmyn3^*$  0.5 0.5 0.5 (0.0)

$olv14^*$  1.0 0.024 0.0 1.0

$cmyn4^*$  0.0 0.976 1.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  48.21 82.61 39.36

$LAB^*LABa$  48.21 82.57 39.35

$LAB^*TChA$  50.0 91.46 25.48

relative CIELAB lab\*

$lab^*lab$  0.441 0.903 0.43

$lab^*tch$  0.5 1.0 0.071

$lab^*nch$  0.0 1.0 0.071

relative Natural Colour (NC)

$lab^*lrij$  0.441 1.0 0.0

$lab^*tce$  0.5 1.0 1.0

$lab^*ncE$  0.0 1.0 b99r

relative Inform. Technology (IT)

$olv13^*$  0.0 0.0 0.0 (1.0)

$cmyn3^*$  1.0 1.0 1.0 (0.0)

$olv14^*$  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 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*tce$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 0,00$

blackness  $n^*$

chromaticness  $c^*$

## Output: Colorimetric Reflective System NCS11

for hue  $h^* = lab^*h = 25/360 = 0.071$

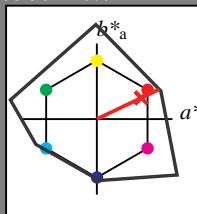
$lab^*tch$  and  $lab^*nch$

D65: hue R

LCH\*Ma: 48 91 25

olv\*Ma: 1.0 0.02 0.0

triangle lightness  $t^*$



%Gamut

$u^*_{rel} = 149$

%Regularity

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

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

relative Inform. Technology (IT)

$olv13^*$  1.0 0.512 0.5 (1.0)

$cmyn3^*$  0.0 0.488 0.5 (0.0)

$olv14^*$  1.0 0.512 0.5 1.0

$cmyn4^*$  0.0 0.488 0.5 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 0.512 0.5 (1.0)

$lab^*tch$  0.0 0.0 0.0

$lab^*nch$  0.0 0.0 0.0

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 -

$lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)

$olv13^*$  1.0 0.512 0.5 (1.0)

$cmyn3^*$  0.0 0.488 0.5 (0.0)

$olv14^*$  1.0 0.512 0.5 1.0

$cmyn4^*$  0.0 0.488 0.5 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 0.512 0.5 (1.0)

$lab^*tch$  0.0 0.0 0.0

$lab^*nch$  0.0 0.0 0.0

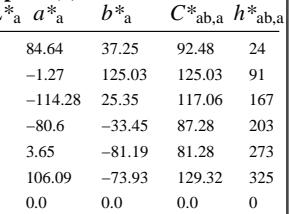
relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 -

$lab^*ncE$  0.0 0.0 -

$n^* = 1,0$



%Gamut

$u^*_{rel} = 149$

%Regularity

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

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

relative Inform. Technology (IT)

$olv13^*$  1.0 0.512 0.5 (1.0)

$cmyn3^*$  0.0 0.488 0.5 (0.0)

$olv14^*$  1.0 0.512 0.5 1.0

$cmyn4^*$  0.0 0.488 0.5 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 0.512 0.5 (1.0)

$lab^*tch$  0.0 0.0 0.0

$lab^*nch$  0.0 0.0 0.0

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 -

$lab^*ncE$  0.0 0.0 -

relative Inform.

## Input: Colorimetric Reflective System ORS18

for hue  $h^* = lab^*h = 92/360 = 0.255$

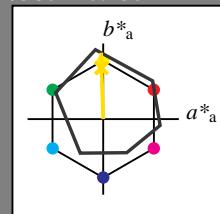
$lab^*tch$  and  $lab^*nch$

D65: hue J

LCH\*Ma: 86 88 92

olv\*Ma: 1.0 0.9 0.0

triangle lightness  $t^*$



## ORS18; adapted (a) CIELAB data

	$L^* = L^*_{ab}$	$a^*_{ab}$	$b^*_{ab}$	$C^*_{ab,a}$	$h^*_{ab,a}$
O Ma	47.94	65.37	50.52	82.62	38
Y Ma	90.37	-10.27	91.77	92.34	96
L Ma	50.9	-62.79	34.95	71.87	151
C Ma	58.62	-30.35	-45.01	54.3	236
V Ma	25.71	31.11	-44.42	54.24	305
M Ma	48.13	75.27	-8.35	75.73	354
N Ma	18.01	0.0	0.0	0.0	0
W Ma	95.41	0.0	0.0	0.0	0
R CIE	39.92	58.66	26.98	64.56	25
J CIE	81.26	-2.17	67.76	67.79	92
G CIE	52.23	-42.26	11.75	43.87	164
B CIE	30.57	1.15	-46.84	46.87	271

relative Inform. Technology (IT)

$olv^3*$  1.0 1.0 1.0 (1.0)

$cmy^3*$  0.0 0.0 0.0 (0.0)

$olv^4*$  1.0 1.0 1.0 1.0

$cmy^4*$  0.0 0.0 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  95.41 -0.97 4.75

$LAB^*LABa$  95.41 0.0 0.0

$LAB^*TCh$  99.99 0.01 -

relative CIELAB lab\*

$lab^*lab$  1.0 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  1.0 0.0 0.0

$lab^*ice$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  90.8 -2.3 48.29

$LAB^*LABa$  90.8 -1.41 43.85

$LAB^*TCh$  75.0 43.87 91.85

relative CIELAB lab\*

$lab^*lab$  0.94 -0.015 0.5

$lab^*tch$  0.75 0.5 0.255

$lab^*nch$  0.0 0.5 0.255

relative Natural Colour (NC)

$lab^*lrj$  0.94 0.0 0.5

$lab^*ice$  0.75 0.5 0.25

$lab^*ncE$  0.0 0.5 j00g

relative Inform. Technology (IT)

$olv^3*$  0.5 0.5 0.5 (1.0)

$cmy^3*$  0.5 0.5 0.5 (0.0)

$olv^4*$  1.0 1.0 1.0 0.5

$cmy^4*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  56.71 -0.23 2.14

$LAB^*LABa$  56.71 0.0 0.0

$LAB^*TCh$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  0.5 0.0 0.0

$lab^*ice$  0.5 0.0 0.0

$lab^*ncE$  0.5 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.5 -0.46

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TCh$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  0.0 0.0 0.0

$lab^*ice$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

	$L^* = L^*_{ab}$	$a^*_{ab}$	$b^*_{ab}$	$C^*_{ab,a}$	$h^*_{ab,a}$
O Ma	47.94	65.37	50.52	82.62	38
Y Ma	90.37	-10.27	91.77	92.34	96
L Ma	50.9	-62.79	34.95	71.87	151
C Ma	58.62	-30.35	-45.01	54.3	236
V Ma	25.71	31.11	-44.42	54.24	305
M Ma	48.13	75.27	-8.35	75.73	354
N Ma	18.01	0.0	0.0	0.0	0
W Ma	95.41	0.0	0.0	0.0	0
R CIE	39.92	58.66	26.98	64.56	25
J CIE	81.26	-2.17	67.76	67.79	92
G CIE	52.23	-42.26	11.75	43.87	164
B CIE	30.57	1.15	-46.84	46.87	271

	$L^* = L^*_{ab}$	$a^*_{ab}$	$b^*_{ab}$	$C^*_{ab,a}$	$h^*_{ab,a}$
O Ma	47.94	65.37	50.52	82.62	38
Y Ma	90.37	-10.27	91.77	92.34	96
L Ma	50.9	-62.79	34.95	71.87	151
C Ma	58.62	-30.35	-45.01	54.3	236
V Ma	25.71	31.11	-44.42	54.24	305
M Ma	48.13	75.27	-8.35	75.73	354
N Ma	18.01	0.0	0.0	0.0	0
W Ma	95.41	0.0	0.0	0.0	0
R CIE	39.92	58.66	26.98	64.56	25
J CIE	81.26	-2.17	67.76	67.79	92
G CIE	52.23	-42.26	11.75	43.87	164
B CIE	30.57	1.15	-46.84	46.87	271

%Gamut

$u^*_{rel} = 93$

%Regularity

$g^*_{H,rel} = 57$

$g^*_{C,rel} = 59$

$n^* = 0,00$

blackness  $n^*$

$n^* = 0,50$

chromaticness  $c^*$

$n^* = 1,00$

↑

## Output: Colorimetric Reflective System ORS18

for hue  $h^* = lab^*h = 92/360 = 0.255$

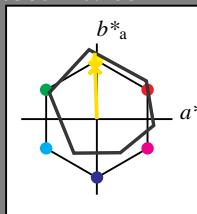
$lab^*tch$  and  $lab^*nch$

D65: hue J

LCH\*Ma: 86 88 92

olv\*Ma: 1.0 0.9 0.0

triangle lightness  $t^*$



%Gamut

$u^*_{rel} = 93$

%Regularity

$g^*_{H,rel} = 57$

$g^*_{C,rel} = 59$

relative Inform. Technology (IT)

$olv^3*$  1.0 1.0 1.0 (1.0)

$cmy^3*$  0.0 0.0 0.0 (0.0)

$olv^4*$  1.0 1.0 1.0 1.0

$cmy^4*$  0.0 0.0 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  95.41 -0.97 4.75

$LAB^*LABa$  95.41 0.0 0.0

$LAB^*TCh$  99.99 0.01 -

relative CIELAB lab\*

$lab^*lab$  1.0 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  1.0 0.0 0.0

$lab^*ice$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  90.8 -2.3 48.29

$LAB^*LABa$  90.8 -1.41 43.85

$LAB^*TCh$  75.0 43.87 91.85

relative CIELAB lab\*

$lab^*lab$  0.94 -0.015 0.5

$lab^*tch$  0.75 0.5 0.255

$lab^*nch$  0.0 0.5 0.255

relative Natural Colour (NC)

$lab^*lrj$  0.94 0.0 0.5

$lab^*ice$  0.75 0.5 0.25

$lab^*ncE$  0.0 0.5 j00g

$n^* = 0,00$

blackness  $n^*$

	$L^* = L^*_{ab}$	$a^*_{ab}$	$b^*_{ab}$	$C^*_{ab,a}$	$h^*_{ab,a}$
O Ma	47.94	65.37	50.52	82.62	38
Y Ma	90.37	-10.27	91.77	92.34	96
L Ma	50.9	-62.79	34.95	71.87	151
C Ma	58.62	-30.35	-45.01	54.3	236
V Ma	25.71	31.11	-44.42	54.24	305
M Ma	48.13	75.27	-8.35	75.73	354
N Ma	18.01	0.0	0.0	0.0	0
W Ma	95.41	0.0	0.0	0.0	0
R CIE	39.92	58.66	26.98	64.56	25
J CIE	81.26	-2.17	67.76	67.79	92
G CIE	52.23	-42.26	11.75	43.87	164
B CIE	30.57	1.15	-46.84	46.87	271

$n^* = 0,50$

blackness  $n^*$

$n^* = 1,00$

chromaticness  $c^*$

$n^* = 0,00$

blackness  $n^*$

$n^* = 1,00$

chromaticness  $c^*$

3 step scales for constant CIELAB hue 92/360 = 0.255 (left)

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

UE100-7, 3 step scales for constant CIELAB hue 92/360 = 0.255 (left)

## Input: Colorimetric Reflective System ORS18

for hue  $h^* = lab^*h = 92/360 = 0.255$

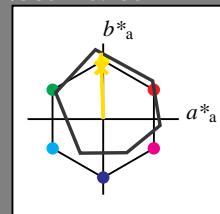
$lab^*tch$  and  $lab^*nch$

D65: hue J

LCH\*Ma: 86 88 92

olv\*Ma: 1.0 0.9 0.0

triangle lightness  $t^*$



## ORS18; adapted (a) CIELAB data

	$L^* = L^*_{ab}$	$a^*_{ab}$	$b^*_{ab}$	$C^*_{ab,a}$	$h^*_{ab,a}$
O Ma	47.94	65.37	50.52	82.62	38
Y Ma	90.37	-10.27	91.77	92.34	96
L Ma	50.9	-62.79	34.95	71.87	151
C Ma	58.62	-30.35	-45.01	54.3	236
V Ma	25.71	31.11	-44.42	54.24	305
M Ma	48.13	75.27	-8.35	75.73	354
N Ma	18.01	0.0	0.0	0.0	0
W Ma	95.41	0.0	0.0	0.0	0
R CIE	39.92	58.66	26.98	64.56	25
J CIE	81.26	-2.17	67.76	67.79	92
G CIE	52.23	-42.26	11.75	43.87	164
B CIE	30.57	1.15	-46.84	46.87	271

relative Inform. Technology (IT)

olv*i*3\* 1.0 1.0 1.0 (1.0)

cmy*n*3\* 0.0 0.0 0.0 (0.0)

olv*i*4\* 1.0 1.0 1.0 1.0

cmy*n*4\* 0.0 0.0 0.0 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 0.0 0.0

lab\*tch 1.0 0.0 -

lab\*nch 0.0 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 -

standard and adapted CIELAB

LAB\*LAB 90.8 -2.3 48.29

LAB\*LABa 90.8 -1.41 43.85

LAB\*TChA 75.0 43.87 91.85

relative CIELAB lab\*

lab\*lab 0.94 -0.015 0.5

lab\*tch 0.75 0.5 0.255

lab\*nch 0.0 0.5 0.255

relative Natural Colour (NC)

lab\*lrj 0.94 0.0 0.5

lab\*tce 0.75 0.5 0.25

lab\*ncE 0.0 0.5 j00g

relative Inform. Technology (IT)

olv*i*3\* 0.5 0.5 0.5 (1.0)

cmy*n*3\* 0.5 0.5 0.5 (0.0)

olv*i*4\* 1.0 1.0 1.0 0.5

cmy*n*4\* 0.0 0.0 0.5

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 CIELAB lab\*

lab\*lab 0.5 0.0 0.0

lab\*tch 0.5 0.0 -

lab\*nch 0.5 0.0 -

relative Natural Colour (NC)

lab\*lrj 0.5 0.0 0.0

lab\*tce 0.5 0.0 0.0

lab\*ncE 0.5 0.0 -

standard and adapted CIELAB

LAB\*LAB 18.02 0.5 -0.46

LAB\*LABa 18.02 0.0 0.0

LAB\*TChA 0.01 0.01 -

relative CIELAB lab\*

lab\*lab 0.0 0.0 0.0

lab\*tch 0.0 0.0 -

lab\*nch 1.0 0.0 -

relative Natural Colour (NC)

lab\*lrj 0.0 0.0 0.0

lab\*tce 0.0 0.0 -

lab\*ncE 1.0 0.0 -

$n^* = 1,0$

relative Inform. Technology (IT)

olv*i*3\* 0.0 0.0 0.0 (1.0)

cmy*n*3\* 1.0 1.0 1.0 (0.0)

olv*i*4\* 1.0 1.0 1.0 0.0

cmy*n*4\* 0.0 0.0 1.0

standard and adapted CIELAB

LAB\*LAB 18.02 0.5 -0.46

LAB\*LABa 18.02 0.0 0.0

LAB\*TChA 0.01 0.01 -

relative CIELAB lab\*

lab\*lab 0.44 -0.015 0.5

lab\*tch 0.25 0.5 0.255

lab\*nch 0.5 0.5 0.255

relative Natural Colour (NC)

lab\*lrj 0.44 0.0 0.5

lab\*tce 0.25 0.5 0.25

lab\*ncE 0.5 0.5 r99j

standard and adapted CIELAB

LAB\*LAB 18.02 0.5 -0.46

LAB\*LABa 18.02 0.0 0.0

LAB\*TChA 0.01 0.01 -

relative CIELAB lab\*

lab\*lab 0.44 -0.015 0.5

lab\*tch 0.25 0.5 0.255

lab\*nch 0.5 0.5 0.255

relative Natural Colour (NC)

lab\*lrj 0.44 0.0 0.5

lab\*tce 0.25 0.5 0.25

lab\*ncE 0.5 0.5 r99j

$n^* = 0,00$

$n^* = 0,00$

blackness  $n^*$

$n^* = 0,50$

$c^*$

$c^*$

## Output: Colorimetric Reflective System MRS18

for hue  $h^* = lab^*h = 92/360 = 0.255$

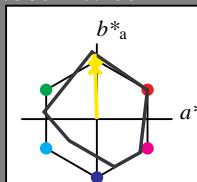
$lab^*tch$  and  $lab^*nch$

D65: hue J

LCH\*Ma: 89 86 92

olv\*Ma: 1.0 0.95 0.0

triangle lightness  $t^*$



## MRS18; adapted (a) CIELAB data

	$L^* = L^*_{ab}$	$a^*_{ab}$	$b^*_{ab}$	$C^*_{ab,a}$	$h^*_{ab,a}$
R Ma	49.63	66.96	38.37	77.18	30
J Ma	90.7	-6.36	88.75	88.98	94
G Ma	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
R CIE	39.92	58.66	26.98	64.56	25
J CIE	81.26	-2.17	67.76	67.79	92
G CIE	52.23	-42.26	11.75	43.87	164
B CIE	30.57	1.15	-46.84	46.87	271

relative Inform. Technology (IT)

olv*i*3\* 1.0 1.0 1.0 (1.0)

cmy*n*3\* 0.0 0.0 0.0 (0.0)

olv*i*4\* 1.0 1.0 1.0 1.0

cmy*n*4\* 0.0 0.0 0.0 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 0.0 0.0

lab\*tch 1.0 0.0 -

lab\*nch 0.0 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 -

standard and adapted CIELAB

LAB\*LAB 92.04 -2.3 47.67

LAB\*LABa 92.04 -1.39 43.14

LAB\*TChA 75.0 43.16 91.85

relative CIELAB lab\*

lab\*lab 0.957 0.0 -0.015 0.5

lab\*tch 0.75 0.5 0.255

lab\*nch 0.0 0.5 0.255

relative Natural Colour (NC)

lab\*lrj 0.957 0.0 0.5

lab\*tce 0.75 0.5 0.25

lab\*ncE 0.0 0.5 j00g

relative Inform. Technology (IT)

olv*i*3\* 0.5 0.5 0.5 (1.0)

cmy*n*3\* 0.5 0.5 0.5 (0.0)

olv*i*4\* 1.0 1.0 1.0 0.5

cmy*n*4\* 0.0 0.0 0.0 0.5

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 CIELAB lab\*

lab\*lab 0.881 -0.031 0.999

lab\*tch 0.5 1.0 0.255

lab\*nch 0.0 1.0 0.255

relative Natural Colour (NC)

lab\*lrj 0.881 0.0 1.0

lab\*tce 0.5 1.0 0.25

lab\*ncE 0.0 1.0 -

standard and adapted CIELAB

LAB\*LAB 18.02 0.5 -0.46

LAB\*LABa 18.02 0.0 0.0

LAB\*TChA 0.01 0.01 -

relative CIELAB lab\*

lab\*lab 0.457 -0.015 0.5

lab\*tch 0.25 0.5 0.255

lab\*nch 0.5 0.5 0.255

relative Natural Colour (NC)

lab\*lrj 0.457 0.0 0.5

lab\*tce 0.25 0.5 0.25

lab\*ncE 0.5 0.5 r99j

$n^* = 1,0$

$n^* = 0,50$

blackness  $n^*$

</

## Input: Colorimetric Reflective System ORS18

for hue  $h^* = lab^*h = 92/360 = 0.255$

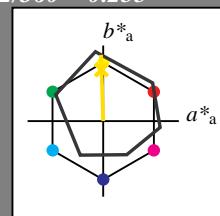
$lab^*tch$  and  $lab^*nch$

D65: hue J

LCH\*Ma: 86 88 92

olv\*Ma: 1.0 0.9 0.0

triangle lightness  $t^*$



## ORS18; adapted (a) CIELAB data

	$L^* = L_a^*$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
O Ma	47.94	65.37	50.52	82.62	38
Y Ma	90.37	-10.27	91.77	92.34	96
L Ma	50.9	-62.79	34.95	71.87	151
C Ma	58.62	-30.35	-45.01	54.3	236
V Ma	25.71	31.11	-44.42	54.24	305
M Ma	48.13	75.27	-8.35	75.73	354
N Ma	18.01	0.0	0.0	0.0	0
W Ma	95.41	0.0	0.0	0.0	0
R CIE	39.92	58.66	26.98	64.56	25
J CIE	81.26	-2.17	67.76	67.79	92
G CIE	52.23	-42.26	11.75	43.87	164
B CIE	30.57	1.15	-46.84	46.87	271

relative Inform. Technology (IT)

$olv_i3^*$  1.0 1.0 1.0 (1.0)

$cmy_n3^*$  0.0 0.0 0.0 (0.0)

$olv_i4^*$  1.0 1.0 1.0 1.0

$cmy_n4^*$  0.0 0.0 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  95.41 -0.97 4.75

$LAB^*LABa$  95.41 0.0 0.0

$LAB^*TCh$  99.99 0.01 -

relative CIELAB lab\*

$lab^*lab$  1.0 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  1.0 0.0 0.0

$lab^*ice$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  90.8 -2.3 48.29

$LAB^*LABa$  90.8 -1.41 43.85

$LAB^*TCh$  75.0 43.87 91.85

relative CIELAB lab\*

$lab^*lab$  0.94 -0.015 0.5

$lab^*tch$  0.75 0.5 0.255

$lab^*nch$  0.0 0.5 0.255

relative Natural Colour (NC)

$lab^*lrj$  0.94 0.0 0.5

$lab^*ice$  0.75 0.5 0.25

$lab^*ncE$  0.0 0.5 j00g

relative Inform. Technology (IT)

$olv_i3^*$  0.5 0.5 0.5 (1.0)

$cmy_n3^*$  0.5 0.5 0.5 (0.0)

$olv_i4^*$  1.0 1.0 1.0 0.5

$cmy_n4^*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  56.71 -0.23 2.14

$LAB^*LABa$  56.71 0.0 0.0

$LAB^*TCh$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  0.5 0.0 0.0

$lab^*ice$  0.5 0.0 0.0

$lab^*ncE$  0.5 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.5 -0.46

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TCh$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  0.0 0.0 0.0

$lab^*ice$  0.0 0.0 -

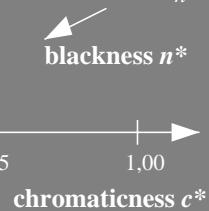
$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

	$L^* = L_a^*$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
O Ma	0.0	0.0	0.0	(1.0)	
Y Ma	1.0	1.0	1.0	(0.0)	
L Ma	1.0	1.0	1.0	0.0	
C Ma	0.0	0.0	0.0	1.0	
V Ma	0.44	-0.015	0.5		
M Ma	0.25	0.5	0.255		
N Ma	0.5	0.5	0.255		
W Ma	0.0	1.0	0.255		
R CIE	0.94	-0.015	0.5		
J CIE	0.75	0.5	0.255		
G CIE	0.5	0.5	0.255		
B CIE	0.0	1.0	0.255		

	$L^* = L_a^*$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
O Ma	0.0	0.0	0.0	(1.0)	
Y Ma	1.0	1.0	1.0	(0.0)	
L Ma	1.0	1.0	1.0	0.0	
C Ma	0.0	0.0	0.0	1.0	
V Ma	0.44	-0.015	0.5		
M Ma	0.25	0.5	0.255		
N Ma	0.5	0.5	0.255		
W Ma	0.0	1.0	0.255		
R CIE	0.94	-0.015	0.5		
J CIE	0.75	0.5	0.255		
G CIE	0.5	0.5	0.255		
B CIE	0.0	1.0	0.255		

$n^* = 0,00$



chromaticness  $c^*$

$n^* = 0,00$

blackness  $n^*$

$n^* = 0,50$

$n^* = 1,00$

## Output: Colorimetric Reflective System TRS18

for hue  $h^* = lab^*h = 92/360 = 0.255$

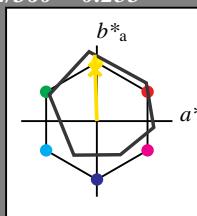
$lab^*tch$  and  $lab^*nch$

D65: hue J

LCH\*Ma: 86 88 92

olv\*Ma: 1.0 0.9 0.0

triangle lightness  $t^*$



## TRS18; adapted (a) CIELAB data

	$L^* = L_a^*$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
O Ma	47.94	65.37	50.52	82.62	38
Y Ma	90.37	-10.27	91.77	92.34	96
L Ma	50.9	-62.79	34.95	71.87	151
C Ma	58.62	-30.35	-45.01	54.3	236
V Ma	25.71	31.11	-44.42	54.24	305
M Ma	48.13	75.27	-8.35	75.73	354
N Ma	18.01	0.0	0.0	0.0	0
W Ma	95.41	0.0	0.0	0.0	0
R CIE	39.92	58.66	26.98	64.56	25
J CIE	81.26	-2.17	67.76	67.79	92
G CIE	52.23	-42.26	11.75	43.87	164
B CIE	30.57	1.15	-46.84	46.87	271

relative Inform. Technology (IT)

$olv_i3^*$  1.0 1.0 1.0 (1.0)

$cmy_n3^*$  0.0 0.0 0.0 (0.0)

$olv_i4^*$  1.0 1.0 1.0 1.0

$cmy_n4^*$  0.0 0.0 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  95.41 -0.97 4.75

$LAB^*LABa$  95.41 0.0 0.0

$LAB^*TCh$  99.99 0.01 -

relative CIELAB lab\*

$lab^*lab$  1.0 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  1.0 0.0 0.0

$lab^*ice$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

relative CIELAB lab\*

$lab^*lab$  0.94 -0.015 0.5

$lab^*tch$  0.75 0.5 0.255

$lab^*nch$  0.0 0.5 0.255

relative Natural Colour (NC)

$lab^*lrj$  0.94 0.0 0.5

$lab^*ice$  0.75 0.5 0.25

$lab^*ncE$  0.0 0.5 j00g

relative Inform. Technology (IT)

$olv_i3^*$  0.5 0.5 0.5 (1.0)

$cmy_n3^*$  0.5 0.5 0.5 (0.0)

$olv_i4^*$  1.0 1.0 1.0 0.5

$cmy_n4^*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  56.71 -0.23 2.14

$LAB^*LABa$  56.71 -2.82 87.69

$LAB^*TCh$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  0.5 0.0 0.0

$lab^*ice$  0.5 0.0 -

$lab^*ncE$  0.5 0.0 -

$n^* = 1,0$

	$L^* = L_a^*$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
O Ma	47.94	65.37	50.52	82.62	38
Y Ma	90.37	-10.27	91.77	92.34	96
L Ma	50.9	-62.79	34.95	71.87	151
C Ma	58.62	-30.35	-45.01	54.3	236</

## Input: Colorimetric Reflective System ORS18

for hue  $h^* = lab^*h = 92/360 = 0.255$

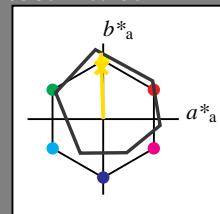
$lab^*tch$  and  $lab^*nch$

D65: hue J

LCH\*Ma: 86 88 92

olv\*Ma: 1.0 0.9 0.0

triangle lightness  $t^*$



## ORS18; adapted (a) CIELAB data

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

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)

olv*i*3\* 1.0 1.0 1.0 (1.0)

cmy*n*3\* 0.0 0.0 0.0 (0.0)

olv*i*4\* 1.0 1.0 1.0 1.0

cmy*n*4\* 0.0 0.0 0.0 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 0.0 0.0

lab\*tch 1.0 0.0 -

lab\*nch 0.0 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)

olv*i*3\* 0.5 0.5 0.5 (1.0)

cmy*n*3\* 0.5 0.5 0.5 (0.0)

olv*i*4\* 1.0 1.0 1.0 0.5

cmy*n*4\* 0.0 0.0 0.0 0.5

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 CIELAB lab\*

lab\*lab 0.5 0.0 0.0

lab\*tch 0.5 0.0 -

lab\*nch 0.5 0.0 -

relative Natural Colour (NC)

lab\*lrj 0.5 0.0 0.0

lab\*tce 0.5 0.0 0.0

lab\*ncE 0.5 0.0 -

relative Inform. Technology (IT)

olv*i*3\* 0.0 0.0 0.0 (1.0)

cmy*n*3\* 1.0 1.0 1.0 (0.0)

olv*i*4\* 1.0 1.0 1.0 0.0

cmy*n*4\* 0.0 0.0 0.0 1.0

standard and adapted CIELAB

LAB\*LAB 18.02 0.5 -0.46

LAB\*LABa 18.02 0.0 0.0

LAB\*TChA 0.01 0.01 -

relative CIELAB lab\*

lab\*lab 0.0 0.0 0.0

lab\*tch 0.0 0.0 -

lab\*nch 1.0 0.0 -

relative Natural Colour (NC)

lab\*lrj 0.0 0.0 0.0

lab\*tce 0.0 0.0 0.0

lab\*ncE 1.0 0.0 -

$n^* = 1,0$

relative Inform. Technology (IT)

olv*i*3\* 0.5 0.451 0.0 (1.0)

cmy*n*3\* 0.5 0.549 1.0 (0.0)

olv*i*4\* 1.0 0.951 0.5 0.5

cmy*n*4\* 0.0 0.049 0.5 0.5

standard and adapted CIELAB

LAB\*LAB 52.1 -1.55 45.68

LAB\*LABa 52.1 -1.4 43.84

LAB\*TChA 25.01 43.87 91.84

relative CIELAB lab\*

lab\*lab 0.44 -0.015 0.5

lab\*tch 0.25 0.5 0.255

lab\*nch 0.5 0.5 0.255

relative Natural Colour (NC)

lab\*lrj 0.44 0.0 0.5

lab\*tce 0.25 0.5 0.25

lab\*ncE 0.5 0.5 r99

relative Inform. Technology (IT)

olv*i*3\* 0.0 0.0 0.0 (1.0)

cmy*n*3\* 1.0 1.0 1.0 (0.0)

olv*i*4\* 1.0 1.0 1.0 0.0

cmy*n*4\* 0.0 0.0 0.0 1.0

standard and adapted CIELAB

LAB\*LAB 18.02 0.2 0.02

LAB\*LABa 18.02 0.1 0.02

LAB\*TChA 0.01 0.01 -

relative CIELAB lab\*

lab\*lab 0.0 0.0 0.0

lab\*tch 0.0 0.0 -

lab\*nch 1.0 0.0 -

relative Natural Colour (NC)

lab\*lrj 0.0 0.0 0.0

lab\*tce 0.0 0.0 0.0

lab\*ncE 1.0 0.0 -

relative Inform. Technology (IT)

olv*i*3\* 0.0 0.0 0.0 (1.0)

cmy*n*3\* 1.0 1.0 1.0 (0.0)

olv*i*4\* 1.0 1.0 1.0 0.0

cmy*n*4\* 0.0 0.0 0.0 1.0

standard and adapted CIELAB

LAB\*LAB 18.02 0.2 0.02

LAB\*LABa 18.02 0.1 0.02

LAB\*TChA 0.01 0.01 -

relative CIELAB lab\*

lab\*lab 0.0 0.0 0.0

lab\*tch 0.0 0.0 -

lab\*nch 1.0 0.0 -

relative Natural Colour (NC)

lab\*lrj 0.0 0.0 0.0

lab\*tce 0.0 0.0 0.0

lab\*ncE 1.0 0.0 -

relative Inform. Technology (IT)

olv*i*3\* 0.0 0.0 0.0 (1.0)

cmy*n*3\* 1.0 1.0 1.0 (0.0)

olv*i*4\* 1.0 1.0 1.0 0.0

cmy*n*4\* 0.0 0.0 0.0 1.0

standard and adapted CIELAB

LAB\*LAB 18.02 0.2 0.02

LAB\*LABa 18.02 0.1 0.02

LAB\*TChA 0.01 0.01 -

relative CIELAB lab\*

lab\*lab 0.0 0.0 0.0

lab\*tch 0.0 0.0 -

lab\*nch 1.0 0.0 -

relative Natural Colour (NC)

lab\*lrj 0.0 0.0 0.0

lab\*tce 0.0 0.0 0.0

lab\*ncE 1.0 0.0 -

relative Inform. Technology (IT)

olv*i*3\* 0.0 0.0 0.0 (1.0)

cmy*n*3\* 1.0 1.0 1.0 (0.0)

olv*i*4\* 1.0 1.0 1.0 0.0

cmy*n*4\* 0.0 0.0 0.0 1.0

standard and adapted CIELAB

LAB\*LAB 18.02 0.2 0.02

LAB\*LABa 18.02 0.1 0.02

LAB\*TChA 0.01 0.01 -

relative CIELAB lab\*

lab\*lab 0.0 0.0 0.0

lab\*tch 0.0 0.0 -

lab\*nch 1.0 0.0 -

relative Natural Colour (NC)

lab\*lrj 0.0 0.0 0.0

lab\*tce 0.0 0.0 0.0

lab\*ncE 1.0 0.0 -

relative Inform. Technology (IT)

olv*i*3\* 0.0 0.0 0.0 (1.0)

cmy*n*3\* 1.0 1.0 1.0 (0.0)

olv*i*4\* 1.0 1.0 1.0 0.0

cmy*n*4\* 0.0 0.0 0.0 1.0

standard and adapted CIELAB

LAB\*LAB 18.02 0.2 0.02

LAB\*LABa 18.02 0.1 0.02

LAB\*TChA 0.01 0.01 -

relative CIELAB lab\*

lab\*lab 0.0 0.0 0.0

lab\*tch 0.0 0.0 -

lab\*nch 1.0 0.0 -

relative Natural Colour (NC)

lab\*lrj 0.0 0.0 0.0

lab\*tce 0.0 0.0 0.0

lab\*ncE 1.0 0.0 -

relative Inform. Technology (IT)

olv*i*3\* 0.0 0.0 0.0 (1.0)

cmy*n*3\* 1.0 1.0 1.0 (0.0)

olv*i*4\* 1.0 1.0 1.0 0.0

cmy*n*4\* 0.0 0.0 0.0 1.0

standard and adapted CIELAB

LAB\*LAB 18.02 0.2 0.02

LAB\*LABa 18.02 0.1 0.02

LAB\*TChA 0.01 0.01 -

relative CIELAB lab\*

lab\*lab 0.0 0.0 0.0

lab\*tch 0.0 0.0 -

lab\*nch 1.0 0.0 -

relative Natural Colour (NC)

lab\*lrj 0.0 0.0 0.0

lab\*tce 0.0 0.0 0.0

lab\*ncE 1.0 0.0 -

relative Inform. Technology (IT)

olv*i*3\* 0.0 0.0 0.0 (1.0)

cmy*n*3\* 1.0 1.0 1.0 (0.0)

olv*i*4\* 1.0 1.0 1.0 0.0

cmy*n*4\* 0.0 0.0 0.0 1.0

standard and adapted CIELAB

LAB\*LAB 18.02 0.2 0.02

LAB\*LABa 18.02 0.1 0.02

LAB\*TChA 0.01 0.01 -

relative CIELAB lab\*

lab\*lab 0.0 0.0 0.0

lab\*tch 0.0 0.0 -

lab\*nch 1.0 0.0 -

relative Natural Colour (NC)

lab\*lrj 0.0 0.0 0.0

lab\*tce 0.0 0.0 0.0

lab\*ncE 1.0 0.0 -

relative Inform. Technology (IT)

olv*i*3\* 0.0 0.0 0.0 (1.0)

cmy*n*3\* 1.0 1.0 1.0 (0.0)

olv*i*4\* 1.0 1.0 1.0 0.0

## Input: Colorimetric Reflective System ORS18

for hue  $h^* = lab^*h = 92/360 = 0.255$

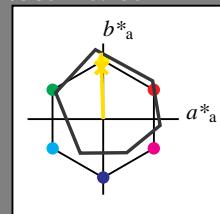
$lab^*tch$  and  $lab^*nch$

D65: hue J

LCH\*Ma: 86 88 92

olv\*Ma: 1.0 0.9 0.0

triangle lightness  $t^*$



## ORS18; adapted (a) CIELAB data

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

$olv^3*$  1.0 1.0 1.0 (1.0)

$cmy^3*$  0.0 0.0 0.0 (0.0)

$olv^4*$  1.0 1.0 1.0 1.0

$cmy^4*$  0.0 0.0 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  95.41 -0.97 4.75

$LAB^*LABa$  95.41 0.0 0.0

$LAB^*TCh$  99.99 0.01 -

relative CIELAB lab\*

$lab^*lab$  1.0 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  1.0 0.0 0.0

$lab^*ice$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  90.8 -2.3 48.29

$LAB^*LABa$  90.8 -1.41 43.85

$LAB^*TCh$  75.0 43.87 91.85

relative CIELAB lab\*

$lab^*lab$  0.94 -0.015 0.5

$lab^*tch$  0.75 0.5 0.255

$lab^*nch$  0.0 0.5 0.255

relative Natural Colour (NC)

$lab^*lrj$  0.94 0.0 0.5

$lab^*ice$  0.75 0.5 0.25

$lab^*ncE$  0.0 0.5 j00g

relative Inform. Technology (IT)

$olv^3*$  0.5 0.5 0.5 (1.0)

$cmy^3*$  0.5 0.5 0.5 (0.0)

$olv^4*$  1.0 1.0 1.0 0.5

$cmy^4*$  0.0 0.0 0.5 0.5

standard and adapted CIELAB

$LAB^*LAB$  56.71 -0.23 2.14

$LAB^*LABa$  56.71 0.0 0.0

$LAB^*TCh$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  0.5 0.0 0.0

$lab^*ice$  0.5 0.0 0.0

$lab^*ncE$  0.5 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.5 -0.46

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TCh$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  0.0 0.0 0.0

$lab^*ice$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

relative Inform. Technology (IT)

$olv^3*$  0.0 0.0 0.0 (1.0)

$cmy^3*$  1.0 1.0 1.0 (0.0)

$olv^4*$  1.0 1.0 1.0 0.0

$cmy^4*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.5 -0.46

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TCh$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  0.0 0.0 0.0

$lab^*ice$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

%Gamut

$u^*_{rel} = 93$

%Regularity

$g^*_{H,rel} = 57$

$g^*_{C,rel} = 59$

$n^* = 0,00$

blackness  $n^*$

chromaticness  $c^*$

0,25 0,50 0,75 1,00

## Output: Colorimetric Reflective System NRS18

for hue  $h^* = lab^*h = 92/360 = 0.256$

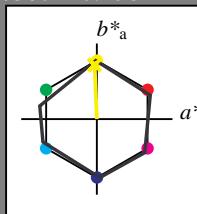
$lab^*tch$  and  $lab^*nch$

D65: hue J

LCH\*Ma: 57 76 92

olv\*Ma: 0.98 1.0 0.0

triangle lightness  $t^*$



## NRS18; adapted (a) CIELAB data

	$L^* = L_a^*$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	56.7	70.66	31.47	77.35	24
JMa	56.7	-1.39	77.37	77.39	91
GMa	56.7	-75.46	17.4	77.45	167
G50BMa	56.7	-71.29	-30.25	77.45	203
BMa	56.7	4.0	-77.3	77.41	273
B50RMa	56.7	63.35	-44.4	77.36	325
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	272

relative Inform. Technology (IT)

$olv^3*$  1.0 1.0 1.0 (1.0)

$cmy^3*$  0.0 0.0 0.0 (0.0)

$olv^4*$  1.0 1.0 1.0 1.0

$cmy^4*$  0.0 0.0 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  95.41 0.0 0.0

$LAB^*LABa$  95.41 0.0 0.0

$LAB^*TCh$  99.99 0.01 -

relative CIELAB lab\*

$lab^*lab$  1.0 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  1.0 0.0 0.0

$lab^*ice$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)

$olv^3*$  0.989 1.0 0.5 (1.0)

$cmy^3*$  0.011 0.0 0.5 (0.0)

$olv^4*$  0.989 1.0 0.5 1.0

$cmy^4*$  0.011 0.0 0.5 0.0

standard and adapted CIELAB

$LAB^*LAB$  76.05 -1.5 38.01

$LAB^*LABa$  76.05 -1.53 38.00

$LAB^*TCh$  75.0 38.03 92.32

relative CIELAB lab\*

$lab^*lab$  0.75 -0.019 0.499

$lab^*tch$  0.75 0.5 0.256

$lab^*nch$  0.0 0.5 0.256

relative Natural Colour (NC)

$lab^*lrj$  0.75 0.0 0.5

$lab^*ice$  0.75 0.5 0.25

$lab^*ncE$  0.0 0.5 r99j

relative Inform. Technology (IT)

$olv^3*$  0.489 0.5 0.0 (1.0)

$cmy^3*$  0.511 0.5 1.0 (0.0)

$olv^4*$  0.989 1.0 0.5 0.5

$cmy^4*$  0.011 0.0 0.5 0.5

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.09 0.02

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TCh$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  0.0 0.0 0.0

$lab^*ice$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

	$L^* = L_a^*$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	56.7	70.66	31.47	77.35	24
JMa	56.7	-1.39	77.37	77.39	91
GMa	56.7	-75.46	17.4	77.45	167
G50BMa	56.7	-71.29	-30.25	77.45	203
BMa	56.7	4.0	-77.3	77.41	273
B50RMa	56.7	63.35	-44.4	77.36	325
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162

## Input: Colorimetric Reflective System ORS18

for hue  $h^* = lab^*h = 92/360 = 0.255$

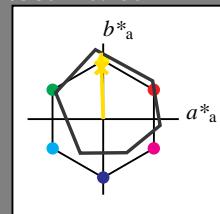
$lab^*tch$  and  $lab^*nch$

D65: hue J

LCH\*Ma: 86 88 92

olv\*Ma: 1.0 0.9 0.0

triangle lightness  $t^*$



## ORS18; adapted (a) CIELAB data

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

%Gamut

$u^*_{rel} = 93$

%Regularity

$g^*_{H,rel} = 57$

$g^*_{C,rel} = 59$

relative Inform. Technology (IT)

$olv^3*$  1.0 1.0 1.0 (1.0)

$cmy^3*$  0.0 0.0 0.0 (0.0)

$olv^4*$  1.0 1.0 1.0 1.0

$cmy^4*$  0.0 0.0 0.0 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 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)

$olv^3*$  0.5 0.5 0.5 (1.0)

$cmy^3*$  0.5 0.5 0.5 (0.0)

$olv^4*$  1.0 1.0 1.0 0.5

$cmy^4*$  0.0 0.0 0.0 0.5

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 CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.5 0.0 0.0

$lab^*tce$  0.5 0.0 0.0

$lab^*ncE$  0.5 0.0 -

relative Inform. Technology (IT)

$olv^3*$  0.0 0.0 0.0 (1.0)

$cmy^3*$  1.0 1.0 1.0 (0.0)

$olv^4*$  1.0 1.0 1.0 0.0

$cmy^4*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.5 -0.46

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*tce$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

$n^* = 0,00$

$n^* = 0,50$

$n^* = 0,00$   
blackness  $n^*$   
 $n^* = 0,50$   
 $n^* = 1,00$   
chromaticness  $c^*$

## Output: Colorimetric Reflective System NCS18

for hue  $h^* = lab^*h = 92/360 = 0.256$

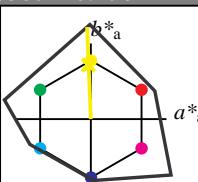
$lab^*tch$  and  $lab^*nch$

D65: hue J

LCH\*Ma: 90 122 92

olv\*Ma: 0.97 1.0 0.0

triangle lightness  $t^*$



## NCS18; adapted (a) CIELAB data

	$L^* = L^*_{ab}$	$a^*_{ab}$	$b^*_{ab}$	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	47.15	84.63	37.24	92.46	24
JMa	91.37	-1.27	125.03	125.03	91
GMa	63.07	-114.29	25.34	117.07	167
G50BMa	59.47	-80.61	-33.45	87.29	203
BMa	49.01	3.63	-81.2	81.29	273
B50RMa	44.06	106.07	-73.94	129.31	325
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	272

%Gamut

$u^*_{rel} = 136$

%Regularity

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

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

relative Inform. Technology (IT)

$olv^3*$  1.0 1.0 1.0 (1.0)

$cmy^3*$  0.0 0.0 0.0 (0.0)

$olv^4*$  1.0 1.0 1.0 1.0

$cmy^4*$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)

$olv^3*$  0.984 1.0 0.5 (1.0)

$cmy^3*$  0.016 0.0 0.5 (0.0)

$olv^4*$  0.984 1.0 0.5 1.0

$cmy^4*$  0.016 0.0 0.5 0.0

standard and adapted CIELAB

$LAB^*LAB$  92.92 -2.45 60.89

$LAB^*LABa$  92.92 -2.46 60.89

$LAB^*TChA$  75.0 60.94 92.32

relative CIELAB lab\*

$lab^*lab$  0.968 -0.019 0.499

$lab^*tch$  0.75 0.5 0.256

$lab^*nch$  0.0 0.5 0.256

relative Natural Colour (NC)

$lab^*lrij$  0.968 0.0 0.5

$lab^*tce$  0.75 0.5 0.25

$lab^*ncE$  0.0 0.5 0.259

relative Inform. Technology (IT)

$olv^3*$  0.967 1.0 0.0 (1.0)

$cmy^3*$  0.033 0.0 1.0 (0.0)

$olv^4*$  0.968 1.0 0.0 1.0

$cmy^4*$  0.032 0.0 1.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  90.45 -4.93 121.76

$LAB^*LABa$  90.45 -4.94 121.77

$LAB^*TChA$  50.0 121.87 92.33

relative CIELAB lab\*

$lab^*lab$  0.936 -0.04 0.999

$lab^*tch$  0.5 1.0 0.256

$lab^*nch$  0.0 1.0 0.256

relative Natural Colour (NC)

$lab^*lrij$  0.936 0.0 1.0

$lab^*tce$  0.5 1.0 0.25

$lab^*ncE$  0.0 1.0 0.259

$n^* = 1,0$

$n^* = 0,00$

$n^* = 0,50$

$n^* = 1,00$

$n^* = 0,00$   
blackness  $n^*$   
 $n^* = 0,50$   
 $n^* = 1,00$   
chromaticness  $c^*$

UE100-7, 3 step scales for constant CIELAB hue 92/360 = 0.255 (left)

3 step scales for constant CIELAB hue 92/360 = 0.256 (right)

## Input: Colorimetric Reflective System ORS18

for hue  $h^* = lab^*h = 92/360 = 0.255$

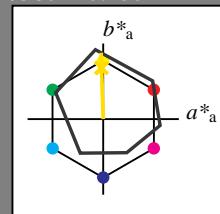
$lab^*tch$  and  $lab^*nch$

D65: hue J

LCH\*Ma: 86 88 92

olv\*Ma: 1.0 0.9 0.0

triangle lightness  $t^*$



### ORS18; adapted (a) CIELAB data

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

$olv_i3^*$  1.0 1.0 1.0 (1.0)

$cmy_n3^*$  0.0 0.0 0.0 (0.0)

$olv_i4^*$  1.0 1.0 1.0 1.0

$cmy_n4^*$  0.0 0.0 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  95.41 -0.97 4.75

$LAB^*LABa$  95.41 0.0 0.0

$LAB^*TCh$  99.99 0.01 -

relative CIELAB lab\*

$lab^*lab$  1.0 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  1.0 0.0 0.0

$lab^*ice$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  90.8 -2.3 48.29

$LAB^*LABa$  90.8 -1.41 43.85

$LAB^*TCh$  75.0 43.87 91.85

relative CIELAB lab\*

$lab^*lab$  0.94 -0.015 0.5

$lab^*tch$  0.75 0.5 0.255

$lab^*nch$  0.0 0.5 0.255

relative Natural Colour (NC)

$lab^*lrj$  0.94 0.0 0.5

$lab^*ice$  0.75 0.5 0.25

$lab^*ncE$  0.0 0.5 j00g

relative Inform. Technology (IT)

$olv_i3^*$  0.5 0.5 0.5 (1.0)

$cmy_n3^*$  0.5 0.5 0.5 (0.0)

$olv_i4^*$  1.0 1.0 1.0 0.5

$cmy_n4^*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  56.71 -0.23 2.14

$LAB^*LABa$  56.71 0.0 0.0

$LAB^*TCh$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  0.5 0.0 0.0

$lab^*ice$  0.5 0.0 0.0

$lab^*ncE$  0.5 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.5 -0.46

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TCh$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  0.0 0.0 0.0

$lab^*ice$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

relative Inform. Technology (IT)

$olv_i3^*$  0.0 0.0 0.0 (1.0)

$cmy_n3^*$  1.0 1.0 1.0 (0.0)

$olv_i4^*$  1.0 1.0 1.0 0.0

$cmy_n4^*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.5 -0.46

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TCh$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  0.0 0.0 0.0

$lab^*ice$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 0,00$

relative Inform. Technology (IT)

$olv_i3^*$  1.0 0.901 0.0 (1.0)

$cmy_n3^*$  0.5 0.5 0.5 (0.0)

$olv_i4^*$  1.0 1.0 1.0 0.5

$cmy_n4^*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  86.19 -3.62 91.83

$LAB^*LABa$  86.19 -2.82 87.69

$LAB^*TCh$  50.0 87.73 91.85

relative CIELAB lab\*

$lab^*lab$  0.881 -0.031 0.999

$lab^*tch$  0.5 1.0 0.255

$lab^*nch$  0.0 1.0 0.255

relative Natural Colour (NC)

$lab^*lrj$  0.881 0.0 1.0

$lab^*ice$  0.5 1.0 0.25

$lab^*ncE$  0.0 1.0 j00g

$n^* = 0,50$

## Output: Colorimetric Reflective System NRS11

for hue  $h^* = lab^*h = 92/360 = 0.256$

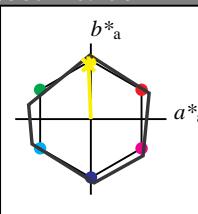
$lab^*tch$  and  $lab^*nch$

D65: hue J

LCH\*Ma: 53 83 92

olv\*Ma: 0.98 1.0 0.0

triangle lightness  $t^*$



### NRS11; adapted (a) CIELAB data

	$L^* = L_a^*$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	53.2	77.06	34.32	84.36	24
JMa	53.2	-1.51	84.38	84.39	91
GMa	53.2	-82.27	18.98	84.44	167
G50BMa	53.2	-77.72	-32.98	84.44	203
BMa	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)

$olv_i3^*$  1.0 1.0 1.0 (1.0)

$cmy_n3^*$  0.0 0.0 0.0 (0.0)

$olv_i4^*$  1.0 1.0 1.0 1.0

$cmy_n4^*$  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

$LAB^*TCh$  99.99 0.01 -

relative CIELAB lab\*

$lab^*lab$  1.0 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  1.0 0.0 0.0

$lab^*ice$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)

$olv_i3^*$  0.989 1.0 0.5 (1.0)

$cmy_n3^*$  0.011 0.0 0.5 (0.0)

$olv_i4^*$  0.989 1.0 0.5 1.0

$cmy_n4^*$  0.011 0.0 0.5 0.0

standard and adapted CIELAB

$LAB^*LAB$  74.3 0.0 -1.64

$LAB^*LABa$  74.3 -1.67 41.44

$LAB^*TCh$  75.0 41.47 92.32

relative CIELAB lab\*

$lab^*lab$  0.75 -0.019 0.499

$lab^*tch$  0.75 0.5 0.256

$lab^*nch$  0.0 0.5 0.256

relative Natural Colour (NC)

$lab^*lrj$  0.75 0.0 0.5

$lab^*ice$  0.75 0.5 0.25

$lab^*ncE$  0.0 0.5 r99j

relative Inform. Technology (IT)

$olv_i3^*$  0.489 0.5 0.0 (1.0)

$cmy_n3^*$  0.511 0.5 1.0 (0.0)

$olv_i4^*$  0.989 1.0 0.5 0.5

$cmy_n4^*$  0.011 0.0 0.5 0.5

standard and adapted CIELAB

$LAB^*LAB$  11.01 0.07 0.01

$LAB^*LABa$  11.01 0.0 0.0

$LAB^*TCh$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

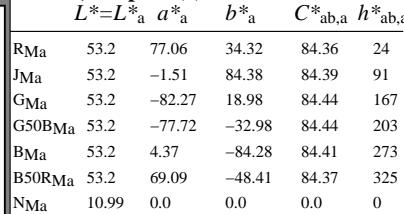
relative Natural Colour (NC)

$lab^*lrj$  0.0 0.0 0.0

$lab^*ice$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 0,00$



relative Inform. Technology (IT)

$olv_i3^*$  0.977 1.0 0.0 (1.0)

## Input: Colorimetric Reflective System ORS18

for hue  $h^* = lab^*h = 92/360 = 0.255$

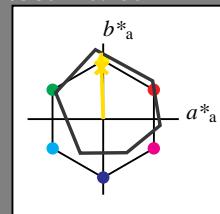
$lab^*tch$  and  $lab^*nch$

D65: hue J

LCH\*Ma: 86 88 92

olv\*Ma: 1.0 0.9 0.0

triangle lightness  $t^*$



## ORS18; adapted (a) CIELAB data

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

%Gamut

$u^*_{rel} = 93$

%Regularity

$g^*_{H,rel} = 57$

$g^*_{C,rel} = 59$

relative Inform. Technology (IT)

$olv^3* 1.0 \quad 1.0 \quad 1.0 \quad (1.0)$

$cmy^3* 0.0 \quad 0.0 \quad 0.0 \quad (0.0)$

$olv^4* 1.0 \quad 1.0 \quad 1.0 \quad 1.0$

$cmy^4* 0.0 \quad 0.0 \quad 0.0 \quad 0.0$

standard and adapted CIELAB

$LAB^*LAB \quad 95.41 \quad -0.97 \quad 4.75$

$LAB^*LABa \quad 95.41 \quad 0.0 \quad 0.0$

$LAB^*TCh \quad 99.99 \quad 0.01 \quad -$

relative CIELAB lab\*

$lab^*lab \quad 1.0 \quad 0.0 \quad 0.0$

$lab^*tch \quad 1.0 \quad 0.0 \quad -$

$lab^*nch \quad 0.0 \quad 0.0 \quad -$

relative Natural Colour (NC)

$lab^*lrij \quad 1.0 \quad 0.0 \quad 0.0$

$lab^*tce \quad 1.0 \quad 0.0 \quad -$

$lab^*ncE \quad 0.0 \quad 0.0 \quad -$

relative Inform. Technology (IT)

$olv^3* 0.5 \quad 0.5 \quad 0.5 \quad (1.0)$

$cmy^3* 0.5 \quad 0.5 \quad 0.5 \quad (0.0)$

$olv^4* 1.0 \quad 1.0 \quad 1.0 \quad 0.5$

$cmy^4* 0.0 \quad 0.0 \quad 0.0 \quad 0.5$

standard and adapted CIELAB

$LAB^*LAB \quad 56.71 \quad -0.23 \quad 2.14$

$LAB^*LABa \quad 56.71 \quad 0.0 \quad 0.0$

$LAB^*TCh \quad 50.0 \quad 0.01 \quad -$

relative CIELAB lab\*

$lab^*lab \quad 0.5 \quad 0.0 \quad 0.0$

$lab^*tch \quad 0.5 \quad 0.0 \quad -$

$lab^*nch \quad 0.5 \quad 0.0 \quad -$

relative Natural Colour (NC)

$lab^*lrij \quad 0.5 \quad 0.0 \quad 0.0$

$lab^*tce \quad 0.5 \quad 0.0 \quad -$

$lab^*ncE \quad 0.5 \quad 0.0 \quad -$

relative Inform. Technology (IT)

$olv^3* 0.0 \quad 0.0 \quad 0.0 \quad (1.0)$

$cmy^3* 1.0 \quad 1.0 \quad 1.0 \quad (0.0)$

$olv^4* 1.0 \quad 1.0 \quad 1.0 \quad 0.0$

$cmy^4* 0.0 \quad 0.0 \quad 0.0 \quad 1.0$

standard and adapted CIELAB

$LAB^*LAB \quad 18.02 \quad 0.5 \quad -0.46$

$LAB^*LABa \quad 18.02 \quad 0.0 \quad 0.0$

$LAB^*TCh \quad 0.01 \quad 0.01 \quad -$

relative CIELAB lab\*

$lab^*lab \quad 0.0 \quad 0.0 \quad 0.0$

$lab^*tch \quad 0.0 \quad 0.0 \quad -$

$lab^*nch \quad 1.0 \quad 0.0 \quad -$

relative Natural Colour (NC)

$lab^*lrij \quad 0.0 \quad 0.0 \quad 0.0$

$lab^*tce \quad 0.0 \quad 0.0 \quad -$

$lab^*ncE \quad 1.0 \quad 0.0 \quad -$

$n^* = 1,0$

relative CIELAB lab\*

$lab^*lab \quad 0.44 \quad -0.015 \quad 0.5$

$lab^*tch \quad 0.25 \quad 0.5 \quad 0.255$

$lab^*nch \quad 0.5 \quad 0.5 \quad 0.255$

relative Natural Colour (NC)

$lab^*lrij \quad 0.44 \quad 0.0 \quad 0.5$

$lab^*tce \quad 0.25 \quad 0.5 \quad 0.25$

$lab^*ncE \quad 0.5 \quad 0.5 \quad r99j$

relative Inform. Technology (IT)

$olv^3* 0.0 \quad 0.0 \quad 0.0 \quad (1.0)$

$cmy^3* 1.0 \quad 1.0 \quad 1.0 \quad (0.0)$

$olv^4* 1.0 \quad 1.0 \quad 1.0 \quad 0.0$

$cmy^4* 0.0 \quad 0.0 \quad 0.0 \quad 1.0$

standard and adapted CIELAB

$LAB^*LAB \quad 18.02 \quad 0.5 \quad -0.46$

$LAB^*LABa \quad 18.02 \quad 0.0 \quad 0.0$

$LAB^*TCh \quad 0.01 \quad 0.01 \quad -$

relative CIELAB lab\*

$lab^*lab \quad 0.0 \quad 0.0 \quad 0.0$

$lab^*tch \quad 0.0 \quad 0.0 \quad -$

$lab^*nch \quad 1.0 \quad 0.0 \quad -$

relative Natural Colour (NC)

$lab^*lrij \quad 0.0 \quad 0.0 \quad 0.0$

$lab^*tce \quad 0.0 \quad 0.0 \quad -$

$lab^*ncE \quad 1.0 \quad 0.0 \quad -$

$n^* = 1,0$

$n^* = 0,00$

$n^* = 0,50$

$n^* = 1,00$

blackness  $n^*$

chromaticness  $c^*$

## Output: Colorimetric Reflective System NCS11

for hue  $h^* = lab^*h = 92/360 = 0.256$

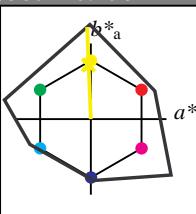
$lab^*tch$  and  $lab^*nch$

D65: hue J

LCH\*Ma: 90 122 92

olv\*Ma: 0.97 1.0 0.0

triangle lightness  $t^*$



## NCS11; adapted (a) CIELAB data

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

%Gamut

$u^*_{rel} = 149$

%Regularity

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

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

relative Inform. Technology (IT)

$olv^3* 0.984 \quad 1.0 \quad 0.5 \quad (1.0)$

$cmy^3* 0.016 \quad 0.0 \quad 0.5 \quad (0.0)$

$olv^4* 0.984 \quad 1.0 \quad 0.5 \quad 1.0$

$cmy^4* 0.016 \quad 0.0 \quad 0.5 \quad 0.0$

standard and adapted CIELAB

$LAB^*LAB \quad 92.92 \quad -2.44 \quad 60.89$

$LAB^*LABa \quad 92.92 \quad -2.46 \quad 60.89$

$LAB^*TCh \quad 75.0 \quad 60.94 \quad 92.32$

relative CIELAB lab\*

$lab^*lab \quad 0.971 \quad -0.019 \quad 0.499$

$lab^*tch \quad 0.75 \quad 0.5 \quad 0.256$

$lab^*nch \quad 0.0 \quad 0.5 \quad 0.256$

relative Natural Colour (NC)

$lab^*lrij \quad 0.971 \quad 0.0 \quad 0.5$

$lab^*tce \quad 0.75 \quad 0.5 \quad 0.25$

$lab^*ncE \quad 0.0 \quad 0.5 \quad r99j$

relative Inform. Technology (IT)

$olv^3* 0.967 \quad 1.0 \quad 0.0 \quad (1.0)$

$cmy^3* 0.033 \quad 0.0 \quad 1.0 \quad (0.0)$

$olv^4* 0.968 \quad 1.0 \quad 0.0 \quad 1.0$

$cmy^4* 0.032 \quad 0.0 \quad 1.0 \quad 0.0$

standard and adapted CIELAB

$LAB^*LAB \quad 90.45 \quad -4.92 \quad 121.77$

$LAB^*LABa \quad 90.45 \quad -4.93 \quad 121.77$

$LAB^*TCh \quad 50.0 \quad 121.87 \quad 92.32$

relative CIELAB lab\*

$lab^*lab \quad 0.941 \quad -0.04 \quad 0.999$

$lab^*tch \quad 0.5 \quad 1.0 \quad 0.256$

$lab^*nch \quad 0.0 \quad 1.0 \quad 0.256$

relative Natural Colour (NC)

$lab^*lrij \quad 0.941 \quad 0.0 \quad 0.5$

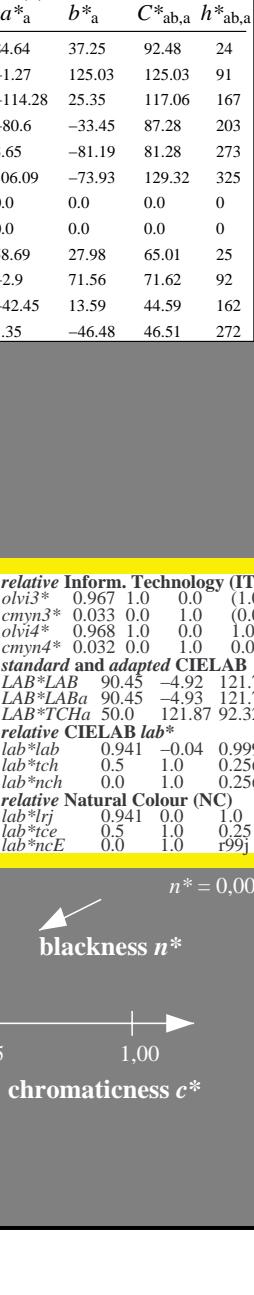
$lab^*tce \quad 0.5 \quad 1.0 \quad 0.25$

$lab^*ncE \quad 0.0 \quad 1.0 \quad r99j$

$n^* = 0,00$

$n^* = 0,50$

$n^* = 1,00$



$n^* = 1,0$

$n^* = 0,50$

$n^* = 1,00$

chromaticness  $c^*$

UE100-7, 3 step scales for constant CIELAB hue 92/360 = 0.255 (left)

3 step scales for constant CIELAB hue 92/360 = 0.256 (right)

## Input: Colorimetric Reflective System MRS18

for hue  $h^* = lab^*h = 92/360 = 0.255$

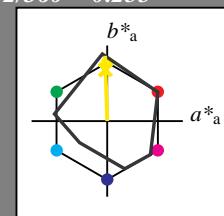
$lab^*tch$  and  $lab^*nch$

D65: hue J

LCH\*Ma: 89 86 92

olv\*Ma: 1.0 0.95 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
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

%Gamut

$u^*_{rel} = 91$

%Regularity

$g^*_{H,rel} = 41$

$g^*_{C,rel} = 52$

relative Inform. Technology (IT)

$olv^3*$  1.0 1.0 1.0 (1.0)

$cmy^3*$  0.0 0.0 0.0 (0.0)

$olv^4*$  1.0 1.0 1.0 1.0

$cmy^4*$  0.0 0.0 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  95.41 -0.97 4.75

$LAB^*LABa$  95.41 0.0 0.0

$LAB^*TCh$  99.99 0.01 -

relative CIELAB lab\*

$lab^*lab$  1.0 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  1.0 0.0 0.0

$lab^*ice$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  92.04 -2.3 47.67

$LAB^*LABa$  92.04 -1.39 43.14

$LAB^*TCh$  75.0 43.16 91.85

relative CIELAB lab\*

$lab^*lab$  0.957 -0.015 0.5

$lab^*tch$  0.75 0.5 0.255

$lab^*nch$  0.0 0.5 0.255

relative Natural Colour (NC)

$lab^*lrj$  0.957 0.0 0.5

$lab^*ice$  0.75 0.5 0.25

$lab^*ncE$  0.0 0.5 j00g

relative Inform. Technology (IT)

$olv^3*$  0.5 0.5 0.5 (1.0)

$cmy^3*$  0.5 0.5 0.5 (0.0)

$olv^4*$  1.0 1.0 1.0 0.5

$cmy^4*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  56.71 -0.23 2.14

$LAB^*LABa$  56.71 0.0 0.0

$LAB^*TCh$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  0.5 0.0 0.0

$lab^*ice$  0.5 0.0 0.0

$lab^*ncE$  0.5 0.0 -

relative Inform. Technology (IT)

$olv^3*$  0.0 0.0 0.0 (1.0)

$cmy^3*$  1.0 1.0 1.0 (0.0)

$olv^4*$  1.0 1.0 1.0 0.0

$cmy^4*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.5 -0.46

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TCh$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  0.0 0.0 0.0

$lab^*ice$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

$n^* = 0,00$

blackness  $n^*$

chromaticness  $c^*$

## Output: Colorimetric Reflective System ORS18

for hue  $h^* = lab^*h = 92/360 = 0.255$

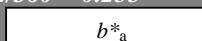
$lab^*tch$  and  $lab^*nch$

D65: hue J

LCH\*Ma: 86 88 92

olv\*Ma: 1.0 0.9 0.0

triangle lightness  $t^*$



### ORS18; adapted (a) CIELAB data

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

%Gamut

$u^*_{rel} = 93$

%Regularity

$g^*_{H,rel} = 57$

$g^*_{C,rel} = 59$

relative Inform. Technology (IT)

$olv^3*$  1.0 1.0 1.0 (1.0)

$cmy^3*$  0.0 0.0 0.0 (0.0)

$olv^4*$  1.0 1.0 1.0 1.0

$cmy^4*$  0.0 0.0 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  95.41 -0.97 4.75

$LAB^*LABa$  95.41 0.0 0.0

$LAB^*TCh$  99.99 0.01 -

relative CIELAB lab\*

$lab^*lab$  1.0 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  1.0 0.0 0.0

$lab^*ice$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)

$olv^3*$  0.5 0.5 0.5 (1.0)

$cmy^3*$  0.5 0.5 0.5 (0.0)

$olv^4*$  1.0 0.951 0.5 0.5

$cmy^4*$  0.0 0.049 0.5 0.0

standard and adapted CIELAB

$LAB^*LAB$  88.68 -3.62 90.58

$LAB^*LABa$  88.68 -2.77 86.27

$LAB^*TCh$  50.0 86.32 91.85

relative CIELAB lab\*

$lab^*lab$  0.913 -0.031 0.999

$lab^*tch$  0.5 1.0 0.255

$lab^*nch$  0.0 1.0 0.255

relative Natural Colour (NC)

$lab^*lrj$  0.913 0.0 1.0

$lab^*ice$  0.5 1.0 0.25

$lab^*ncE$  0.0 1.0 -

relative Inform. Technology (IT)

$olv^3*$  0.0 0.0 0.0 (1.0)

$cmy^3*$  1.0 1.0 1.0 (0.0)

$olv^4*$  1.0 1.0 1.0 0.0

$cmy^4*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.5 -0.46

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TCh$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  0.0 0.0 0.0

$lab^*ice$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

$n^* = 0,00$

blackness  $n^*$

chromaticness  $c^*$

3 step scales for constant CIELAB hue 92/360 = 0.255 (left)

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



## Input: Colorimetric Reflective System MRS18

for hue  $h^* = lab^*h = 92/360 = 0.255$

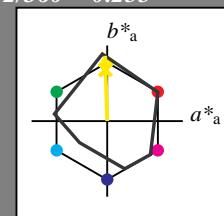
$lab^*tch$  and  $lab^*nch$

D65: hue J

LCH\*Ma: 89 86 92

olv\*Ma: 1.0 0.95 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
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)

$olv^3*$  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

$LAB^*LABa$  95.41 0.0 0.0

$LAB^*TCh$  99.99 0.01 -

relative CIELAB lab\*

$lab^*lab$  1.0 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  1.0 0.0 0.0

$lab^*ice$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  92.04 -2.3 47.67

$LAB^*LABa$  92.04 -1.39 43.14

$LAB^*TCh$  75.0 43.16 91.85

relative CIELAB lab\*

$lab^*lab$  0.957 -0.015 0.5

$lab^*tch$  0.75 0.5 0.255

$lab^*nch$  0.0 0.5 0.255

relative Natural Colour (NC)

$lab^*lrj$  0.957 0.0 0.5

$lab^*ice$  0.75 0.5 0.25

$lab^*ncE$  0.0 0.5 j00g

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 0.5

$cmyn^4*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  56.71 -0.23 2.14

$LAB^*LABa$  56.71 0.0 0.0

$LAB^*TCh$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  0.5 0.0 0.0

$lab^*ice$  0.5 0.0 0.0

$lab^*ncE$  0.5 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.5 -0.46

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TCh$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  0.0 0.0 0.0

$lab^*ice$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

$n^* = 0,00$

blackness  $n^*$

chromaticness  $c^*$

## Output: Colorimetric Reflective System TRS18

for hue  $h^* = lab^*h = 92/360 = 0.255$

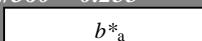
$lab^*tch$  and  $lab^*nch$

D65: hue J

LCH\*Ma: 86 88 92

olv\*Ma: 1.0 0.9 0.0

triangle lightness  $t^*$



### TRS18; adapted (a) CIELAB data

	$L^* = L^*_a$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
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)

$olv^3*$  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

$LAB^*LABa$  95.41 0.0 0.0

$LAB^*TCh$  99.99 0.01 -

relative CIELAB lab\*

$lab^*lab$  1.0 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  1.0 0.0 0.0

$lab^*ice$  1.0 0.0 0.0

$lab^*ncE$  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 0.5

$cmyn^4*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  88.68 -3.62 90.58

$LAB^*LABa$  88.68 -2.77 86.27

$LAB^*TCh$  50.0 86.32 91.85

relative CIELAB lab\*

$lab^*lab$  0.913 -0.031 0.999

$lab^*tch$  0.5 1.0 0.255

$lab^*nch$  0.0 1.0 0.255

relative Natural Colour (NC)

$lab^*lrj$  0.913 0.0 1.0

$lab^*ice$  0.5 1.0 0.25

$lab^*ncE$  0.0 1.0 -

relative Inform. Technology (IT)

$olv^3*$  0.0 0.0 0.0 (1.0)

$cmyn^3*$  1.0 1.0 1.0 (0.0)

$olv^4*$  1.0 1.0 1.0 0.0

$cmyn^4*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.5 -0.46

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TCh$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.44 -0.015 0.5

$lab^*tch$  0.25 0.5 0.255

$lab^*nch$  0.5 0.5 0.255

relative Natural Colour (NC)

$lab^*lrj$  0.44 0.0 0.5

$lab^*ice$  0.25 0.5 0.25

$lab^*ncE$  0.5 0.5 r99j

$n^* = 0,00$

blackness  $n^*$

chromaticness  $c^*$

UE100-7, 3 step scales for constant CIELAB hue 92/360 = 0.255 (left)

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

## Input: Colorimetric Reflective System MRS18

for hue  $h^* = lab^*h = 92/360 = 0.255$

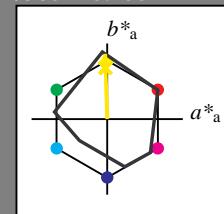
$lab^*tch$  and  $lab^*nch$

D65: hue J

LCH\*Ma: 89 86 92

olv\*Ma: 1.0 0.95 0.0

triangle lightness  $t^*$



## MRS18; adapted (a) CIELAB data

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

%Gamut

$u^*_{rel} = 91$

%Regularity

$g^*_{H,rel} = 41$

$g^*_{C,rel} = 52$

relative Inform. Technology (IT)

$olv^3* 1.0 \quad 1.0 \quad 1.0 \quad (1.0)$

$cmy^3* 0.0 \quad 0.0 \quad 0.0 \quad (0.0)$

$olv^4* 1.0 \quad 1.0 \quad 1.0 \quad 1.0$

$cmy^4* 0.0 \quad 0.0 \quad 0.0 \quad 0.0$

standard and adapted CIELAB

$LAB^*LAB \quad 95.41 \quad -0.97 \quad 4.75$

$LAB^*LABa \quad 95.41 \quad 0.0 \quad 0.0$

$LAB^*TCh \quad 99.99 \quad 0.01 \quad -$

relative CIELAB lab\*

$lab^*lab \quad 1.0 \quad 0.0 \quad 0.0$

$lab^*tch \quad 1.0 \quad 0.0 \quad -$

$lab^*nch \quad 0.0 \quad 0.0 \quad -$

relative Natural Colour (NC)

$lab^*lrj \quad 1.0 \quad 0.0 \quad 0.0$

$lab^*ice \quad 1.0 \quad 0.0 \quad -$

$lab^*ncE \quad 0.0 \quad 0.0 \quad -$

relative Inform. Technology (IT)

$olv^3* 0.5 \quad 0.5 \quad 0.5 \quad (1.0)$

$cmy^3* 0.5 \quad 0.5 \quad 0.5 \quad (0.0)$

$olv^4* 1.0 \quad 1.0 \quad 1.0 \quad 0.5$

$cmy^4* 0.0 \quad 0.0 \quad 0.0 \quad 0.5$

standard and adapted CIELAB

$LAB^*LAB \quad 56.71 \quad -0.23 \quad 2.14$

$LAB^*LABa \quad 56.71 \quad 0.0 \quad 0.0$

$LAB^*TCh \quad 50.0 \quad 0.01 \quad -$

relative CIELAB lab\*

$lab^*lab \quad 0.5 \quad 0.0 \quad 0.0$

$lab^*tch \quad 0.5 \quad 0.0 \quad -$

$lab^*nch \quad 0.5 \quad 0.0 \quad -$

relative Natural Colour (NC)

$lab^*lrj \quad 0.5 \quad 0.0 \quad 0.0$

$lab^*ice \quad 0.5 \quad 0.0 \quad -$

$lab^*ncE \quad 0.5 \quad 0.0 \quad -$

relative Inform. Technology (IT)

$olv^3* 0.0 \quad 0.0 \quad 0.0 \quad (1.0)$

$cmy^3* 1.0 \quad 1.0 \quad 1.0 \quad (0.0)$

$olv^4* 1.0 \quad 1.0 \quad 1.0 \quad 0.0$

$cmy^4* 0.0 \quad 0.0 \quad 0.0 \quad 1.0$

standard and adapted CIELAB

$LAB^*LAB \quad 18.02 \quad 0.5 \quad -0.46$

$LAB^*LABa \quad 18.02 \quad 0.0 \quad 0.0$

$LAB^*TCh \quad 0.01 \quad 0.01 \quad -$

relative CIELAB lab\*

$lab^*lab \quad 0.0 \quad 0.0 \quad 0.0$

$lab^*tch \quad 0.0 \quad 0.0 \quad -$

$lab^*nch \quad 1.0 \quad 0.0 \quad -$

relative Natural Colour (NC)

$lab^*lrj \quad 0.0 \quad 0.0 \quad 0.0$

$lab^*ice \quad 0.0 \quad 0.0 \quad -$

$lab^*ncE \quad 1.0 \quad 0.0 \quad -$

$n^* = 1,0$

relative Inform. Technology (IT)

$olv^3* 0.5 \quad 0.524 \quad 1.0 \quad (0.0)$

$olv^4* 1.0 \quad 0.976 \quad 0.5 \quad 0.5$

$cmy^4* 0.0 \quad 0.024 \quad 0.5 \quad 0.5$

standard and adapted CIELAB

$LAB^*LAB \quad 88.68 \quad -3.62 \quad 90.58$

$LAB^*LABa \quad 88.68 \quad -2.77 \quad 86.27$

$LAB^*TCh \quad 50.0 \quad 0.01 \quad 91.85$

relative CIELAB lab\*

$lab^*lab \quad 0.913 \quad -0.031 \quad 0.999$

$lab^*tch \quad 0.5 \quad 1.0 \quad 0.255$

$lab^*nch \quad 0.0 \quad 1.0 \quad 0.255$

relative Natural Colour (NC)

$lab^*lrj \quad 0.913 \quad 0.0 \quad 1.0$

$lab^*ice \quad 0.5 \quad 1.0 \quad 0.25$

$lab^*ncE \quad 0.0 \quad 1.0 \quad 0.01$

$n^* = 0,00$

$n^* = 0,00$   
blackness  $n^*$   
 $0,25 \quad 0,50 \quad 0,75 \quad 1,00$   
chromaticness  $c^*$

## Output: Colorimetric Reflective System MRS18a

for hue  $h^* = lab^*h = 92/360 = 0.256$

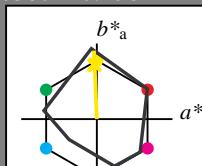
$lab^*tch$  and  $lab^*nch$

D65: hue J

LCH\*Ma: 89 91 92

olv\*Ma: 1.0 0.95 0.0

triangle lightness  $t^*$



## MRS18a; adapted (a) CIELAB data

	$L^* = L^*_{ab}$	$a^*_{ab}$	$b^*_{ab}$	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	49.63	66.8	40.02	77.87	31
JMa	90.7	-7.27	93.19	93.48	94
GMa	52.11	-69.93	11.26	70.85	171
G50BMa	45.03	-36.65	-27.13	45.61	217
BMa	36.65	23.26	-62.27	66.49	290
B50RMa	34.94	57.27	-43.6	71.99	323
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	272

%Gamut

$u^*_{rel} = 92$

%Regularity

$g^*_{H,rel} = 42$

$g^*_{C,rel} = 49$

relative Inform. Technology (IT)

$olv^3* 1.0 \quad 0.976 \quad 0.5 \quad (1.0)$

$cmy^3* 0.0 \quad 0.024 \quad 0.5 \quad (0.0)$

$olv^4* 1.0 \quad 0.976 \quad 0.5 \quad 1.0$

$cmy^4* 0.0 \quad 0.024 \quad 0.5 \quad 0.0$

standard and adapted CIELAB

$LAB^*LAB \quad 92.06 \quad -1.83 \quad 45.31$

$LAB^*LABa \quad 92.06 \quad -1.84 \quad 45.31$

$LAB^*TCh \quad 75.0 \quad 45.35 \quad 92.34$

relative CIELAB lab\*

$lab^*lab \quad 0.957 \quad -0.019 \quad 0.499$

$lab^*tch \quad 0.75 \quad 0.5 \quad 0.257$

$lab^*nch \quad 0.0 \quad 0.5 \quad 0.257$

relative Natural Colour (NC)

$lab^*lrj \quad 0.957 \quad 0.0 \quad 0.5$

$lab^*ice \quad 0.75 \quad 0.5 \quad 0.25$

$lab^*ncE \quad 0.0 \quad 0.5 \quad 0.01$

$n^* = 0,00$

$n^* = 0,00$

blackness  $n^*$

$0,25 \quad 0,50 \quad 0,75 \quad 1,00$

chromaticness  $c^*$

relative Inform. Technology (IT)

$olv^3* 0.0 \quad 0.0 \quad 0.0 \quad (1.0)$

$olv^4* 1.0 \quad 1.0 \quad 1.0 \quad (0.0)$

$cmy^4* 0.0 \quad 0.0 \quad 0.0 \quad 1.0$

standard and adapted CIELAB

$LAB^*LAB \quad 18.02 \quad 0.1 \quad 0.02$

$LAB^*LABa \quad 18.02 \quad 0.0 \quad 0.0$

$LAB^*TCh \quad 0.01 \quad 0.01 \quad -$

relative CIELAB lab\*

$lab^*lab \quad 0.0 \quad 0.0 \quad 0.0$

$lab^*tch \quad 0.0 \quad 0.0 \quad -$

$lab^*nch \quad 1.0 \quad 0.0 \quad -$

relative Natural Colour (NC)

$lab^*lrj \quad 0.0 \quad 0.0 \quad 0.0$

$lab^*ice \quad 0.0 \quad 0.0 \quad -$

$lab^*ncE \quad 1.0 \quad 0.0 \quad -$

$n^* = 1,0$

$n^* = 1,0$

blackness  $n^*$

$0,25 \quad 0,50 \quad 0,75 \quad 1,00$

chromaticness  $c^*$

UE100-7, 3 step scales for constant CIELAB hue 92/360 = 0.255 (left)

3 step scales for constant CIELAB hue 92/360 = 0.256 (right)

## Input: Colorimetric Reflective System MRS18

for hue  $h^* = lab^*h = 92/360 = 0.255$

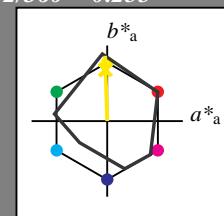
$lab^*tch$  and  $lab^*nch$

D65: hue J

LCH\*Ma: 89 86 92

olv\*Ma: 1.0 0.95 0.0

triangle lightness  $t^*$



### MRS18; adapted (a) CIELAB data

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

%Gamut

$u^*_{rel} = 91$

%Regularity

$g^*_{H,rel} = 41$

$g^*_{C,rel} = 52$

relative Inform. Technology (IT)

$olv^3* 1.0 \quad 1.0 \quad 1.0 \quad (1.0)$

$cmyn^3* 0.0 \quad 0.0 \quad 0.0 \quad (0.0)$

$olv^4* 1.0 \quad 1.0 \quad 1.0 \quad 1.0$

$cmyn^4* 0.0 \quad 0.0 \quad 0.0 \quad 0.0$

standard and adapted CIELAB

$LAB^*LAB \quad 95.41 \quad -0.97 \quad 4.75$

$LAB^*LABa \quad 95.41 \quad 0.0 \quad 0.0$

$LAB^*TCh \quad 99.99 \quad 0.01 \quad -$

relative CIELAB lab\*

$lab^*lab \quad 1.0 \quad 0.0 \quad 0.0$

$lab^*tch \quad 1.0 \quad 0.0 \quad -$

$lab^*nch \quad 0.0 \quad 0.0 \quad -$

relative Natural Colour (NC)

$lab^*lrij \quad 1.0 \quad 0.0 \quad 0.0$

$lab^*tce \quad 1.0 \quad 0.0 \quad -$

$lab^*ncE \quad 0.0 \quad 0.0 \quad -$

relative Inform. Technology (IT)

$olv^3* 0.5 \quad 0.5 \quad 0.5 \quad (1.0)$

$cmyn^3* 0.5 \quad 0.5 \quad 0.5 \quad (0.0)$

$olv^4* 1.0 \quad 1.0 \quad 1.0 \quad 0.5$

$cmyn^4* 0.0 \quad 0.0 \quad 0.0 \quad 0.5$

standard and adapted CIELAB

$LAB^*LAB \quad 56.71 \quad -0.23 \quad 2.14$

$LAB^*LABa \quad 56.71 \quad 0.0 \quad 0.0$

$LAB^*TCh \quad 50.0 \quad 0.01 \quad -$

relative CIELAB lab\*

$lab^*lab \quad 0.5 \quad 0.0 \quad 0.0$

$lab^*tch \quad 0.5 \quad 0.0 \quad -$

$lab^*nch \quad 0.5 \quad 0.0 \quad -$

relative Natural Colour (NC)

$lab^*lrij \quad 0.5 \quad 0.0 \quad 0.0$

$lab^*tce \quad 0.5 \quad 0.0 \quad -$

$lab^*ncE \quad 0.5 \quad 0.0 \quad -$

relative Inform. Technology (IT)

$olv^3* 0.0 \quad 0.0 \quad 0.0 \quad (1.0)$

$cmyn^3* 1.0 \quad 1.0 \quad 1.0 \quad (0.0)$

$olv^4* 1.0 \quad 1.0 \quad 1.0 \quad 0.0$

$cmyn^4* 0.0 \quad 0.0 \quad 0.0 \quad 1.0$

standard and adapted CIELAB

$LAB^*LAB \quad 18.02 \quad 0.5 \quad -0.46$

$LAB^*LABa \quad 18.02 \quad 0.0 \quad 0.0$

$LAB^*TCh \quad 0.01 \quad 0.01 \quad -$

relative CIELAB lab\*

$lab^*lab \quad 0.0 \quad 0.0 \quad 0.0$

$lab^*tch \quad 0.0 \quad 0.0 \quad -$

$lab^*nch \quad 1.0 \quad 0.0 \quad -$

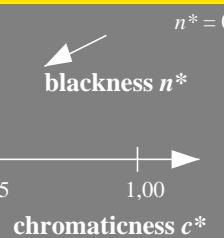
relative Natural Colour (NC)

$lab^*lrij \quad 0.0 \quad 0.0 \quad 0.0$

$lab^*tce \quad 0.0 \quad 0.0 \quad -$

$lab^*ncE \quad 1.0 \quad 0.0 \quad -$

$n^* = 1,0$



$n^* = 0,00$

$n^* = 0,50$

$n^* = 1,00$

chromaticness  $c^*$

## Output: Colorimetric Reflective System NRS18

for hue  $h^* = lab^*h = 92/360 = 0.256$

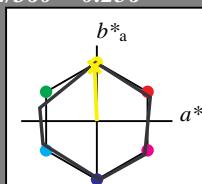
$lab^*tch$  and  $lab^*nch$

D65: hue J

LCH\*Ma: 57 76 92

olv\*Ma: 0.98 1.0 0.0

triangle lightness  $t^*$



%Gamut

$u^*_{rel} = 100$

%Regularity

$g^*_{H,rel} = 47$

$g^*_{C,rel} = 100$

relative Inform. Technology (IT)

$olv^3* 1.0 \quad 1.0 \quad 1.0 \quad (1.0)$

$cmyn^3* 0.0 \quad 0.0 \quad 0.0 \quad (0.0)$

$olv^4* 1.0 \quad 1.0 \quad 1.0 \quad 1.0$

$cmyn^4* 0.0 \quad 0.0 \quad 0.0 \quad 0.0$

standard and adapted CIELAB

$LAB^*LAB \quad 95.41 \quad 0.0 \quad 0.0$

$LAB^*LABa \quad 95.41 \quad 0.0 \quad 0.0$

$LAB^*TCh \quad 99.99 \quad 0.01 \quad -$

relative CIELAB lab\*

$lab^*lab \quad 1.0 \quad 0.976 \quad 0.5 \quad (1.0)$

$lab^*tch \quad 1.0 \quad 0.024 \quad 0.5 \quad (0.0)$

$lab^*nch \quad 0.0 \quad 0.0 \quad 0.976 \quad 1.0$

$cmyn4* 0.0 \quad 0.024 \quad 0.5 \quad 0.0$

relative Natural Colour (NC)

$lab^*lrij \quad 1.0 \quad 0.0 \quad 0.0$

$lab^*tce \quad 1.0 \quad 0.0 \quad -$

$lab^*ncE \quad 0.0 \quad 0.0 \quad -$

relative Inform. Technology (IT)

$olv^3* 0.989 \quad 1.0 \quad 0.5 \quad (1.0)$

$cmyn3* 0.011 \quad 0.0 \quad 0.5 \quad (0.0)$

$olv^4* 0.989 \quad 1.0 \quad 0.5 \quad 1.0$

$cmyn4* 0.011 \quad 0.0 \quad 0.5 \quad 0.0$

standard and adapted CIELAB

$LAB^*LAB \quad 76.05 \quad -1.5 \quad 38.01$

$LAB^*LABa \quad 76.05 \quad -1.53 \quad 38.0$

$LAB^*TCh \quad 75.0 \quad 38.03 \quad 92.32$

relative CIELAB lab\*

$lab^*lab \quad 0.75 \quad -0.019 \quad 0.499$

$lab^*tch \quad 0.75 \quad 0.5 \quad 0.256$

$lab^*nch \quad 0.0 \quad 0.5 \quad 0.256$

relative Natural Colour (NC)

$lab^*lrij \quad 0.75 \quad 0.0 \quad 0.5$

$lab^*tce \quad 0.75 \quad 0.5 \quad 0.25$

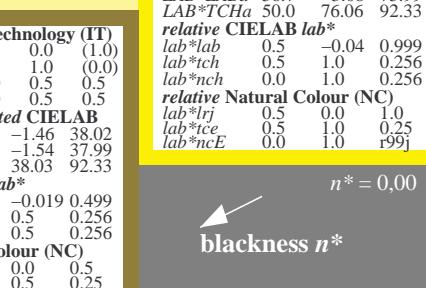
$lab^*ncE \quad 0.0 \quad 0.5 \quad r99j$

$n^* = 1,0$

3 step scales for constant CIELAB hue 92/360 = 0.256 (right)

	$L^* = L^*_{ab}$	$a^*_{ab}$	$b^*_{ab}$	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	56.7	70.66	31.47	77.35	24
JMa	56.7	-1.39	77.37	77.39	91
GMa	56.7	-75.46	17.4	77.45	167
G50BMa	56.7	-71.29	-30.25	77.45	203
BMa	56.7	4.0	-77.3	77.41	273
B50RMa	56.7	63.35	-44.4	77.36	325
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	272

	$L^* = L^*_{ab}$	$a^*_{ab}$	$b^*_{ab}$	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	0.977	1.0	0.0	(1.0)	
JMa	0.023	0.0	1.0	(0.0)	
GMa	0.977	1.0	0.0	1.0	
G50BMa	0.023	0.0	1.0	0.0	
BMa	0.567	0.0	0.0	0.0	
B50RMa	0.567	0.0	0.0	0.0	
NMa	0.0	0.0	0.0	0.0	
WMa	0.977	1.0	0.0	1.0	
RCIE	0.011	0.0	0.5	0.0	
JCIE	0.567	0.0	0.0	0.0	
GCIE	0.011	0.0	0.5	0.0	
BCIE	0.0	0.0	0.0	0.0	



$n^* = 0,00$

$n^* = 0,50$

$n^* = 1,00$

chromaticness  $c^*$

## Input: Colorimetric Reflective System MRS18

for hue  $h^* = lab^*h = 92/360 = 0.255$

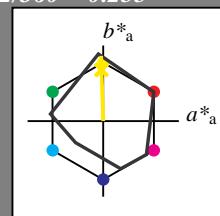
$lab^*tch$  and  $lab^*nch$

D65: hue J

LCH\*Ma: 89 86 92

olv\*Ma: 1.0 0.95 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
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

%Gamut

$u^*_{rel} = 91$

%Regularity

$g^*_{H,rel} = 41$

$g^*_{C,rel} = 52$

relative Inform. Technology (IT)  
 $olv^3*$  1.0 1.0 1.0 (1.0)  
 $cmy^3*$  0.0 0.0 0.0 (0.0)  
 $olv^4*$  1.0 1.0 1.0 1.0  
 $cmy^4*$  0.0 0.0 0.0 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 0.0 0.0  
 $lab^*tch$  1.0 0.0 -  
 $lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)  
 $lab^*lrij$  1.0 0.0 0.0  
 $lab^*tce$  1.0 0.0 0.0  
 $lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)  
 $olv^3*$  0.5 0.5 0.5 (1.0)  
 $cmy^3*$  0.5 0.5 0.5 (0.0)  
 $olv^4*$  1.0 1.0 1.0 0.5  
 $cmy^4*$  0.0 0.0 0.0 0.5

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 CIELAB lab\*  
 $lab^*lab$  0.5 0.0 0.0  
 $lab^*tch$  0.5 0.0 -  
 $lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)  
 $lab^*lrij$  0.5 0.0 0.0  
 $lab^*tce$  0.5 0.0 0.0  
 $lab^*ncE$  0.5 0.0 -

relative Inform. Technology (IT)  
 $olv^3*$  0.0 0.0 0.0 (1.0)  
 $cmy^3*$  1.0 1.0 1.0 (0.0)  
 $olv^4*$  1.0 1.0 1.0 0.0  
 $cmy^4*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB  
 $LAB^*LAB$  18.02 0.05 -0.46  
 $LAB^*LABa$  18.02 0.0 0.0  
 $LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*  
 $lab^*lab$  0.0 0.0 0.0  
 $lab^*tch$  0.0 0.0 -  
 $lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)  
 $lab^*lrij$  0.0 0.0 0.0  
 $lab^*tce$  0.0 0.0 -  
 $lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

relative Inform. Technology (IT)  
 $olv^3*$  0.0 0.0 0.0 (1.0)  
 $cmy^3*$  1.0 1.0 1.0 (0.0)  
 $olv^4*$  1.0 1.0 1.0 0.0  
 $cmy^4*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB  
 $LAB^*LAB$  18.02 0.05 -0.46  
 $LAB^*LABa$  18.02 0.0 0.0  
 $LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*  
 $lab^*lab$  0.0 0.0 0.0  
 $lab^*tch$  0.0 0.0 -  
 $lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)  
 $lab^*lrij$  0.0 0.0 0.0  
 $lab^*tce$  0.0 0.0 -  
 $lab^*ncE$  1.0 0.0 -

$n^* = 0,00$

relative Inform. Technology (IT)  
 $olv^3*$  1.0 0.951 0.0 (1.0)  
 $cmy^3*$  0.0 0.049 1.0 (0.0)  
 $olv^4*$  1.0 0.951 0.0 1.0  
 $cmy^4*$  0.0 0.049 1.0 0.0

standard and adapted CIELAB  
 $LAB^*LAB$  88.68 -3.62 90.58  
 $LAB^*LABa$  88.68 -2.77 86.27  
 $LAB^*TChA$  50.0 86.32 91.85

relative CIELAB lab\*  
 $lab^*lab$  0.913 -0.031 0.999  
 $lab^*tch$  0.5 1.0 0.255  
 $lab^*nch$  0.0 1.0 0.255

relative Natural Colour (NC)  
 $lab^*lrij$  0.913 0.0 1.0  
 $lab^*tce$  0.5 1.0 0.25  
 $lab^*ncE$  0.0 1.0 0.00g

relative Inform. Technology (IT)  
 $olv^3*$  0.5 0.5 0.5 (1.0)  
 $cmy^3*$  0.5 0.5 0.5 (0.0)  
 $olv^4*$  1.0 1.0 1.0 0.5  
 $cmy^4*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB  
 $LAB^*LAB$  56.72 0.05 0.0  
 $LAB^*LABa$  56.72 0.0 0.0  
 $LAB^*TChA$  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 0.0

relative Natural Colour (NC)  
 $lab^*lrij$  0.913 0.0 1.0  
 $lab^*tce$  0.5 1.0 0.25  
 $lab^*ncE$  0.0 1.0 0.00g

relative Inform. Technology (IT)  
 $olv^3*$  0.0 0.0 0.0 (1.0)  
 $cmy^3*$  1.0 1.0 1.0 (0.0)  
 $olv^4*$  1.0 1.0 1.0 0.0  
 $cmy^4*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB  
 $LAB^*LAB$  18.02 0.09 0.02  
 $LAB^*LABa$  18.02 0.0 0.0  
 $LAB^*TChA$  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)  
 $lab^*lrij$  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)  
 $olv^3*$  0.0 0.0 0.0 (1.0)  
 $cmy^3*$  1.0 1.0 1.0 (0.0)  
 $olv^4*$  1.0 1.0 1.0 0.0  
 $cmy^4*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB  
 $LAB^*LAB$  18.02 0.09 0.02  
 $LAB^*LABa$  18.02 0.0 0.0  
 $LAB^*TChA$  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)  
 $lab^*lrij$  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)  
 $olv^3*$  0.0 0.0 0.0 (1.0)  
 $cmy^3*$  1.0 1.0 1.0 (0.0)  
 $olv^4*$  1.0 1.0 1.0 0.0  
 $cmy^4*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB  
 $LAB^*LAB$  18.02 0.09 0.02  
 $LAB^*LABa$  18.02 0.0 0.0  
 $LAB^*TChA$  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)  
 $lab^*lrij$  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)  
 $olv^3*$  0.0 0.0 0.0 (1.0)  
 $cmy^3*$  1.0 1.0 1.0 (0.0)  
 $olv^4*$  1.0 1.0 1.0 0.0  
 $cmy^4*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB  
 $LAB^*LAB$  18.02 0.09 0.02  
 $LAB^*LABa$  18.02 0.0 0.0  
 $LAB^*TChA$  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)  
 $lab^*lrij$  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)  
 $olv^3*$  0.0 0.0 0.0 (1.0)  
 $cmy^3*$  1.0 1.0 1.0 (0.0)  
 $olv^4*$  1.0 1.0 1.0 0.0  
 $cmy^4*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB  
 $LAB^*LAB$  18.02 0.09 0.02  
 $LAB^*LABa$  18.02 0.0 0.0  
 $LAB^*TChA$  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)  
 $lab^*lrij$  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)  
 $olv^3*$  0.0 0.0 0.0 (1.0)  
 $cmy^3*$  1.0 1.0 1.0 (0.0)  
 $olv^4*$  1.0 1.0 1.0 0.0  
 $cmy^4*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB  
 $LAB^*LAB$  18.02 0.09 0.02  
 $LAB^*LABa$  18.02 0.0 0.0  
 $LAB^*TChA$  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)  
 $lab^*lrij$  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)  
 $olv^3*$  0.0 0.0 0.0 (1.0)  
 $cmy^3*$  1.0 1.0 1.0 (0.0)  
 $olv^4*$  1.0 1.0 1.0 0.0  
 $cmy^4*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB  
 $LAB^*LAB$  18.02 0.09 0.02  
 $LAB^*LABa$  18.02 0.0 0.0  
 $LAB^*TChA$  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)  
 $lab^*lrij$  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)  
 $olv^3*$  0.0 0.0 0.0 (1.0)  
 $cmy^3*$  1.0 1.0 1.0 (0.0)  
 $olv^4*$  1.0 1.0 1.0 0.0  
 $cmy^4*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB  
 $LAB^*LAB$  18.02 0.09 0.02  
 $LAB^*LABa$  18.02 0.0 0.0  
 $LAB^*TChA$  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)  
 $lab^*lrij$  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)  
 $olv^3*$  0.0 0.0 0.0 (1.0)  
 $cmy^3*$  1.0 1.0 1.0 (0.0)  
 $olv^4*$  1.0 1.0 1.0 0.0  
 $cmy^4*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB  
 $LAB^*LAB$  18.02 0.09 0.02  
 $LAB^*LABa$  18.02 0.0 0.0  
 $LAB^*TChA$  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)  
 $lab^*lrij$  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)  
 $olv^3*$  0.0 0.0 0.0 (1.0)  
 $cmy^3*$  1.0 1.0 1.0 (0.0)  
 $olv^4*$  1.0 1.0 1.0 0.0  
 $cmy^4*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB  
 $LAB^*LAB$  18.02 0.09 0.02  
 $LAB^*LABa$  18.02 0.0 0.0  
 $LAB^*TChA$  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)  
 $lab^*lrij$  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)  
 $olv^3*$  0.0 0.0 0.0 (1.0)  
 $cmy^3*$  1.0 1.0 1.0 (0.0)  
 $olv^4*$  1.0 1.0 1.0 0.0  
 $cmy^4*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB  
 $LAB^*LAB$  18.02 0.09 0.02  
 $LAB^*LABa$  18.02 0.0 0.0  
 $LAB^*TChA$  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)  
 $lab^*lrij$  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)  
 $olv^3*$  0.0 0.0 0.0 (1.0)  
 $cmy^3*$  1.0 1.0 1.0 (0.0)  
 $olv^4*$  1.0 1.0 1.0 0.0  
 $cmy^4*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB  
 $LAB^*LAB$  18.02 0.09 0.02  
 $LAB^*LABa$  18.02 0.0 0.0  
 $LAB^*TChA$  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)  
 $lab^*lrij$  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)  
 $olv^3*$  0.0 0.0 0.0 (1.0)  
 $cmy^3*$  1.0 1.0 1.0 (0.0)  
 $olv^4*$  1.0 1.0 1.0 0.0  
 $cmy^4*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB  
 $LAB^*LAB$  18.02 0.09 0.02  
 $LAB^*LABa$  18.02 0.0 0.0  
 $LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*  
 $lab^*lab$  0.0 0.0 0.0  
<math

## Input: Colorimetric Reflective System MRS18

for hue  $h^* = lab^*h = 92/360 = 0.255$

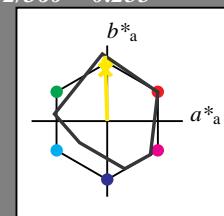
$lab^*tch$  and  $lab^*nch$

D65: hue J

LCH\*Ma: 89 86 92

olv\*Ma: 1.0 0.95 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
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)

$olv^3*$  1.0 1.0 1.0 (1.0)

$cmy3*$  0.0 0.0 0.0 (0.0)

$olv^4*$  1.0 1.0 1.0 1.0

$cmy4*$  0.0 0.0 0.0 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 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  1.0 0.0 0.0

$lab^*ice$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  92.04 -2.3 47.67

$LAB^*LABa$  92.04 -1.39 43.14

$LAB^*TChA$  75.0 43.16 91.85

relative CIELAB lab\*

$lab^*lab$  0.957 -0.015 0.5

$lab^*tch$  0.75 0.5 0.255

$lab^*nch$  0.0 0.5 0.255

relative Natural Colour (NC)

$lab^*lrj$  0.957 0.0 0.5

$lab^*ice$  0.75 0.5 0.25

$lab^*ncE$  0.0 0.5 j00g

relative Inform. Technology (IT)

$olv^3*$  0.5 0.5 0.5 (1.0)

$cmy3*$  0.5 0.5 0.5 (0.0)

$olv^4*$  1.0 1.0 1.0 0.5

$cmy4*$  0.0 0.0 0.0 0.5

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 CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  0.5 0.0 0.0

$lab^*ice$  0.5 0.0 0.0

$lab^*ncE$  0.5 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.5 -0.46

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  0.0 0.0 0.0

$lab^*ice$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

relative Inform. Technology (IT)

$olv^3*$  0.0 0.0 0.0 (1.0)

$cmy3*$  1.0 1.0 1.0 (0.0)

$olv^4*$  1.0 1.0 1.0 0.0

$cmy4*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.5 -0.46

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  0.0 0.0 0.0

$lab^*ice$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.5 -0.46

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  0.0 0.0 0.0

$lab^*ice$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

## Output: Colorimetric Reflective System NRS11

for hue  $h^* = lab^*h = 92/360 = 0.256$

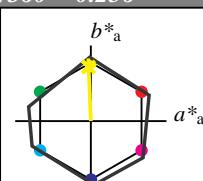
$lab^*tch$  and  $lab^*nch$

D65: hue J

LCH\*Ma: 53 83 92

olv\*Ma: 0.98 1.0 0.0

triangle lightness  $t^*$



### NRS11; adapted (a) CIELAB data

	$L^* = L^*_a$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	53.2	77.06	34.32	84.36	24
JMa	53.2	-1.51	84.38	84.39	91
GMa	53.2	-82.27	18.98	84.44	167
G50BMa	53.2	-77.72	-32.98	84.44	203
BMa	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)

$olv^3*$  1.0 1.0 1.0 (1.0)

$cmy3*$  0.0 0.0 0.0 (0.0)

$olv^4*$  1.0 1.0 1.0 1.0

$cmy4*$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  1.0 0.0 0.0

$lab^*ice$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)

$olv^3*$  0.989 1.0 0.5 (1.0)

$cmy3*$  0.011 0.0 0.5 (0.0)

$olv^4*$  0.989 1.0 0.5 1.0

$cmy4*$  0.011 0.0 0.5 0.0

standard and adapted CIELAB

$LAB^*LAB$  74.3 -1.64 41.44

$LAB^*LABa$  74.3 -1.67 41.44

$LAB^*TChA$  75.0 41.47 92.32

relative CIELAB lab\*

$lab^*lab$  0.75 -0.019 0.499

$lab^*tch$  0.75 0.5 0.256

$lab^*nch$  0.0 0.5 0.256

relative Natural Colour (NC)

$lab^*lrj$  0.75 0.0 0.5

$lab^*ice$  0.75 0.5 0.25

$lab^*ncE$  0.0 0.5 r99j

relative Inform. Technology (IT)

$olv^3*$  0.977 1.0 0.0 (1.0)

$cmy3*$  0.023 0.0 1.0 (0.0)

$olv^4*$  0.977 1.0 0.0 1.0

$cmy4*$  0.023 0.0 1.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  53.2 -3.31 82.87

$LAB^*LABa$  53.2 -3.35 82.86

$LAB^*TChA$  50.0 82.93 92.32

relative CIELAB lab\*

$lab^*lab$  0.5 -0.04 0.999

$lab^*tch$  0.5 1.0 0.256

$lab^*nch$  0.0 1.0 0.256

relative Natural Colour (NC)

$lab^*lrj$  0.5 0.0 1.0

$lab^*ice$  0.5 1.0 0.25

$lab^*ncE$  0.0 1.0 r99j

$n^* = 0,00$

$n^* = 1,0$

UE100-7, 3 step scales for constant CIELAB hue 92/360 = 0.255 (left)

3 step scales for constant CIELAB hue 92/360 = 0.256 (right)

## Input: Colorimetric Reflective System MRS18

for hue  $h^* = lab^*h = 92/360 = 0.255$

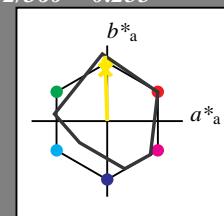
$lab^*tch$  and  $lab^*nch$

D65: hue J

LCH\*Ma: 89 86 92

olv\*Ma: 1.0 0.95 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
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

%Gamut

$u^*_{rel} = 91$

%Regularity

$g^*_{H,rel} = 41$

$g^*_{C,rel} = 52$

relative Inform. Technology (IT)

$olv^3*$  1.0 1.0 1.0 (1.0)

$cmy^3*$  0.0 0.0 0.0 (0.0)

$olv^4*$  1.0 1.0 1.0 1.0

$cmy^4*$  0.0 0.0 0.0 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 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)

$olv^3*$  0.5 0.5 0.5 (1.0)

$cmy^3*$  0.5 0.5 0.5 (0.0)

$olv^4*$  1.0 1.0 1.0 0.5

$cmy^4*$  0.0 0.0 0.0 0.5

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 CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.5 0.0 0.0

$lab^*tce$  0.5 0.0 0.0

$lab^*ncE$  0.5 0.0 -

relative Inform. Technology (IT)

$olv^3*$  0.0 0.0 0.0 (1.0)

$cmy^3*$  1.0 1.0 1.0 (0.0)

$olv^4*$  1.0 1.0 1.0 0.0

$cmy^4*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.5 -0.46

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

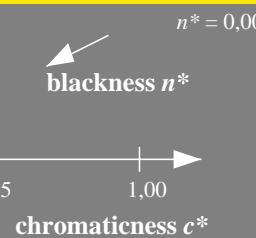
relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

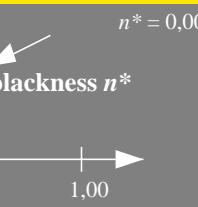
$lab^*tce$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$



chromaticness  $c^*$



chromaticness  $c^*$

## Output: Colorimetric Reflective System NCS11

for hue  $h^* = lab^*h = 92/360 = 0.256$

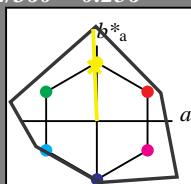
$lab^*tch$  and  $lab^*nch$

D65: hue J

LCH\*Ma: 90 122 92

olv\*Ma: 0.97 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

%Gamut

$u^*_{rel} = 149$

%Regularity

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

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

relative Inform. Technology (IT)

$olv^3*$  1.0 1.0 1.0 (1.0)

$cmy^3*$  0.0 0.0 0.0 (0.0)

$olv^4*$  1.0 1.0 1.0 1.0

$cmy^4*$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)

$olv^3*$  0.5 0.5 0.5 (1.0)

$cmy^3*$  0.5 0.5 0.5 (0.0)

$olv^4*$  1.0 1.0 1.0 0.5

$cmy^4*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  53.21 0.04 0.0

$LAB^*LABa$  53.21 0.0 0.0

$LAB^*TChA$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

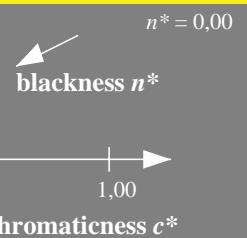
$lab^*lrij$  0.0 0.0 0.0

$lab^*tce$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 0,00$

blackness  $n^*$



chromaticness  $c^*$

$n^* = 0,00$

blackness  $n^*$

chromaticness  $c^*$

UE100-7, 3 step scales for constant CIELAB hue 92/360 = 0.255 (left)

3 step scales for constant CIELAB hue 92/360 = 0.256 (right)

## Input: Colorimetric Reflective System TRS18

for hue  $h^* = lab^*h = 92/360 = 0.255$

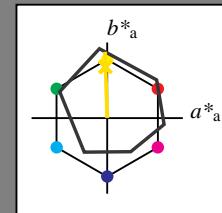
$lab^*tch$  and  $lab^*nch$

D65: hue J

LCH\*Ma: 86 88 92

olv\*Ma: 1.0 0.9 0.0

triangle lightness  $t^*$



### TRS18; adapted (a) CIELAB data

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

$olv_i3^*$  1.0 1.0 1.0 (1.0)

$cmy_n3^*$  0.0 0.0 0.0 (0.0)

$olv_i4^*$  1.0 1.0 1.0 1.0

$cmy_n4^*$  0.0 0.0 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  95.41 -0.97 4.75

$LAB^*LABa$  95.41 0.0 0.0

$LAB^*TCh$  99.99 0.01 -

relative CIELAB lab\*

$lab^*lab$  1.0 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  1.0 0.0 0.0

$lab^*ice$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  90.8 -2.3 48.29

$LAB^*LABa$  90.8 -1.41 43.85

$LAB^*TCh$  75.0 43.87 91.85

relative CIELAB lab\*

$lab^*lab$  0.94 -0.015 0.5

$lab^*tch$  0.75 0.5 0.255

$lab^*nch$  0.0 0.5 0.255

relative Natural Colour (NC)

$lab^*lrj$  0.94 0.0 0.5

$lab^*ice$  0.75 0.5 0.25

$lab^*ncE$  0.0 0.5 j00g

relative Inform. Technology (IT)

$olv_i3^*$  0.5 0.5 0.5 (1.0)

$cmy_n3^*$  0.5 0.5 0.5 (0.0)

$olv_i4^*$  1.0 1.0 1.0 0.5

$cmy_n4^*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  56.71 -0.23 2.14

$LAB^*LABa$  56.71 0.0 0.0

$LAB^*TCh$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  0.5 0.0 0.0

$lab^*ice$  0.5 0.0 0.0

$lab^*ncE$  0.5 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.5 -0.46

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TCh$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  0.0 0.0 0.0

$lab^*ice$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

relative Inform. Technology (IT)

$olv_i3^*$  0.0 0.0 0.0 (1.0)

$cmy_n3^*$  1.0 1.0 1.0 (0.0)

$olv_i4^*$  1.0 1.0 1.0 0.0

$cmy_n4^*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.5 -0.46

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TCh$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.44 -0.015 0.5

$lab^*tch$  0.25 0.5 0.255

$lab^*nch$  0.5 0.5 0.255

relative Natural Colour (NC)

$lab^*lrj$  0.44 0.0 0.5

$lab^*ice$  0.25 0.5 0.25

$lab^*ncE$  0.5 0.5 r99j

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.5 -0.46

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TCh$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  0.0 0.0 0.0

$lab^*ice$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

## Output: Colorimetric Reflective System ORS18

for hue  $h^* = lab^*h = 92/360 = 0.255$

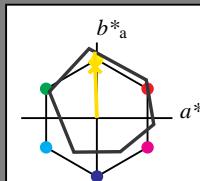
$lab^*tch$  and  $lab^*nch$

D65: hue J

LCH\*Ma: 86 88 92

olv\*Ma: 1.0 0.9 0.0

triangle lightness  $t^*$



### ORS18; adapted (a) CIELAB data

	$L^* = L_a^*$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
O Ma	47.94	65.37	50.52	82.62	38
Y Ma	90.37	-10.27	91.77	92.34	96
L Ma	50.9	-62.79	34.95	71.87	151
C Ma	58.62	-30.35	-45.01	54.3	236
V Ma	25.71	31.11	-44.42	54.24	305
M Ma	48.13	75.27	-8.35	75.73	354
N Ma	18.01	0.0	0.0	0.0	0
W Ma	95.41	0.0	0.0	0.0	0
R CIE	39.92	58.66	26.98	64.56	25
J CIE	81.26	-2.17	67.76	67.79	92
G CIE	52.23	-42.26	11.75	43.87	164
B CIE	30.57	1.15	-46.84	46.87	271

relative Inform. Technology (IT)

$olv_i3^*$  1.0 1.0 1.0 (1.0)

$cmy_n3^*$  0.0 0.0 0.0 (0.0)

$olv_i4^*$  1.0 1.0 1.0 1.0

$cmy_n4^*$  0.0 0.0 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  95.41 -0.97 4.75

$LAB^*LABa$  95.41 0.0 0.0

$LAB^*TCh$  99.99 0.01 -

relative CIELAB lab\*

$lab^*lab$  1.0 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  1.0 0.0 0.0

$lab^*ice$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  90.8 -2.3 48.29

$LAB^*LABa$  90.8 -1.41 43.85

$LAB^*TCh$  75.0 43.87 91.85

relative CIELAB lab\*

$lab^*lab$  0.94 -0.015 0.5

$lab^*tch$  0.75 0.5 0.255

$lab^*nch$  0.0 0.5 0.255

relative Natural Colour (NC)

$lab^*lrj$  0.94 0.0 0.5

$lab^*ice$  0.75 0.5 0.25

$lab^*ncE$  0.0 0.5 j00g

relative Inform. Technology (IT)

$olv_i3^*$  0.0 0.0 0.0 (1.0)

$cmy_n3^*$  0.5 0.5 0.5 (0.0)

$olv_i4^*$  1.0 1.0 1.0 0.5

$cmy_n4^*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  56.71 -0.23 2.14

$LAB^*LABa$  56.71 0.0 0.0

$LAB^*TCh$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  0.881 0.0 0.0

$lab^*ice$  0.5 0.0 0.25

$lab^*ncE$  0.5 0.0 r99j

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.5 -0.46

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TCh$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.44 -0.015 0.5

$lab^*tch$  0.25 0.5 0.255

$lab^*nch$  0.5 0.5 0.255

relative Natural Colour (NC)

$lab^*lrj$  0.44 0.0 0.5

$lab^*ice$  0.25 0.5 0.25

$lab^*ncE$  1.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.5 -0.46

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TCh$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

## Input: Colorimetric Reflective System TRS18

for hue  $h^* = lab^*h = 92/360 = 0.255$

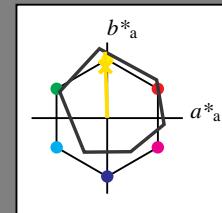
$lab^*tch$  and  $lab^*nch$

D65: hue J

LCH\*Ma: 86 88 92

olv\*Ma: 1.0 0.9 0.0

triangle lightness  $t^*$



### TRS18; adapted (a) CIELAB data

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

%Gamut

$u^*_{rel} = 93$

%Regularity

$g^*_{H,rel} = 57$

$g^*_{C,rel} = 59$

relative Inform. Technology (IT)

olv*i*3\* 1.0 1.0 1.0 (1.0)

cmy*n*3\* 0.0 0.0 0.0 (0.0)

olv*i*4\* 1.0 1.0 1.0 1.0

cmy*n*4\* 0.0 0.0 0.0 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 0.0 0.0

lab\*tch 1.0 0.0 -

lab\*nch 0.0 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)

olv*i*3\* 0.5 0.5 0.5 (1.0)

cmy*n*3\* 0.5 0.5 0.5 (0.0)

olv*i*4\* 1.0 1.0 1.0 0.5

cmy*n*4\* 0.0 0.0 0.5 0.5

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 CIELAB lab\*

lab\*lab 0.5 0.0 0.0

lab\*tch 0.5 0.0 -

lab\*nch 0.5 0.0 -

relative Natural Colour (NC)

lab\*lrj 0.5 0.0 0.0

lab\*tce 0.5 0.0 0.0

lab\*ncE 0.5 0.0 -

relative Inform. Technology (IT)

olv*i*3\* 0.0 0.0 0.0 (1.0)

cmy*n*3\* 1.0 1.0 1.0 (0.0)

olv*i*4\* 1.0 1.0 1.0 0.0

cmy*n*4\* 0.0 0.0 1.0

standard and adapted CIELAB

LAB\*LAB 18.02 0.5 -0.46

LAB\*LABa 18.02 0.0 0.0

LAB\*TChA 0.01 0.01 -

relative CIELAB lab\*

lab\*lab 0.0 0.0 0.0

lab\*tch 0.0 0.0 -

lab\*nch 1.0 0.0 -

relative Natural Colour (NC)

lab\*lrj 0.0 0.0 0.0

lab\*tce 0.0 0.0 -

lab\*ncE 1.0 0.0 -

$n^* = 1,0$

$n^* = 0,00$

$n^* = 0,50$

$n^* = 1,00$

chromaticness  $c^*$

## Output: Colorimetric Reflective System MRS18

for hue  $h^* = lab^*h = 92/360 = 0.255$

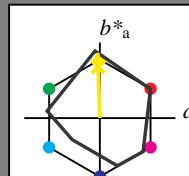
$lab^*tch$  and  $lab^*nch$

D65: hue J

LCH\*Ma: 89 86 92

olv\*Ma: 1.0 0.95 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
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

%Gamut

$u^*_{rel} = 91$

%Regularity

$g^*_{H,rel} = 41$

$g^*_{C,rel} = 52$

relative Inform. Technology (IT)

olv*i*3\* 1.0 0.976 0.5 (1.0)

cmy*n*3\* 0.0 0.024 0.5 (0.0)

olv*i*4\* 1.0 0.976 0.5 1.0

cmy*n*4\* 0.0 0.024 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 0.0 0.0

lab\*tch 1.0 0.0 -

lab\*nch 0.0 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)

olv*i*3\* 0.5 0.951 0.0 (1.0)

cmy*n*3\* 0.0 0.049 1.0 (0.0)

olv*i*4\* 1.0 0.951 0.0 1.0

cmy*n*4\* 0.0 0.049 1.0 0.0

standard and adapted CIELAB

LAB\*LAB 86.19 -3.62 91.83

LAB\*LABa 86.19 -2.82 87.69

LAB\*TChA 50.0 0.01 -

relative CIELAB lab\*

lab\*lab 0.881 -0.031 0.999

lab\*tch 0.5 1.0 0.255

lab\*nch 0.0 1.0 0.255

relative Natural Colour (NC)

lab\*lrj 0.881 0.0 1.0

lab\*tce 0.5 1.0 0.25

lab\*ncE 0.0 1.0 0.25

$n^* = 1,0$

relative Inform. Technology (IT)

olv*i*3\* 0.5 0.476 0.0 (1.0)

cmy*n*3\* 0.5 0.524 1.0 (0.0)

olv*i*4\* 1.0 0.976 0.5 0.5

cmy*n*4\* 0.0 0.024 0.5 0.5

standard and adapted CIELAB

LAB\*LAB 18.02 0.5 -0.46

LAB\*LABa 18.02 0.0 0.0

LAB\*TChA 0.01 0.01 -

relative CIELAB lab\*

lab\*lab 0.457 -0.015 0.5

lab\*tch 0.25 0.5 0.255

lab\*nch 0.5 0.5 0.255

relative Natural Colour (NC)

lab\*lrj 0.457 0.0 0.5

lab\*tce 0.25 0.5 0.25

lab\*ncE 0.5 0.5 0.25

$n^* = 0,00$

blackness  $n^*$

$n^* = 0,50$

$n^* = 0,50$

$n^* = 1,00$

chromaticness  $c^*$

$n^* = 1,0$

$n^* = 0,50$

$n^* = 1,00$

chromaticness  $c^*$

$n^* = 0,00$

$n^* = 0,50$

$n^* = 1,00$

chromaticness  $c^*$

$n^* = 0,50$

$n^* = 1,00$

$n^* = 1,00$

chromaticness  $c^*$

$n^* = 0,00$

$n^* = 0,50$

$n^* = 1,00$

chromaticness  $c^*$

$n^* = 0,50$

$n^* = 1,00$

$n^* = 1,00$

chromaticness  $c^*$

$n^* = 0,00$

$n^* = 0,50$

$n^* = 1,00$

chromaticness  $c^*$

$n^* = 0,00$

$n^* = 0,50$

$n^* = 1,00$

chromaticness  $c^*$

$n^* = 0,00$

$n^* = 0,50$

$n^* = 1,00$

chromaticness  $c^*$

$n^* = 0,00$

$n^* = 0,50$

$n^* = 1,00$

chromaticness  $c^*$

$n^* = 0,00$

$n^* = 0,50$

$n^* = 1,00$

chromaticness  $c^*$

$n^* = 0,00$

$n^* = 0,50$

$n^* = 1,00$

chromaticness  $c^*$

## Input: Colorimetric Reflective System TRS18

for hue  $h^* = lab^*h = 92/360 = 0.255$

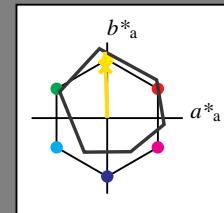
$lab^*tch$  and  $lab^*nch$

D65: hue J

LCH\*Ma: 86 88 92

olv\*Ma: 1.0 0.9 0.0

triangle lightness  $t^*$



### TRS18; adapted (a) CIELAB data

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

$olv_i3^*$  1.0 1.0 1.0 (1.0)

$cmy_n3^*$  0.0 0.0 0.0 (0.0)

$olv_i4^*$  1.0 1.0 1.0 1.0

$cmy_n4^*$  0.0 0.0 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  95.41 -0.97 4.75

$LAB^*LABa$  95.41 0.0 0.0

$LAB^*TCh$  99.99 0.01 -

relative CIELAB lab\*

$lab^*lab$  1.0 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  1.0 0.0 0.0

$lab^*ice$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  90.8 -2.3 48.29

$LAB^*LABa$  90.8 -1.41 43.85

$LAB^*TCh$  75.0 43.87 91.85

relative CIELAB lab\*

$lab^*lab$  0.94 -0.015 0.5

$lab^*tch$  0.75 0.5 0.255

$lab^*nch$  0.0 0.5 0.255

relative Natural Colour (NC)

$lab^*lrj$  0.94 0.0 0.5

$lab^*ice$  0.75 0.5 0.25

$lab^*ncE$  0.0 0.5 j00g

relative Inform. Technology (IT)

$olv_i3^*$  0.5 0.5 0.5 (1.0)

$cmy_n3^*$  0.5 0.5 0.5 (0.0)

$olv_i4^*$  1.0 1.0 1.0 0.5

$cmy_n4^*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  56.71 -0.23 2.14

$LAB^*LABa$  56.71 0.0 0.0

$LAB^*TCh$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  0.5 0.0 0.0

$lab^*ice$  0.5 0.0 0.0

$lab^*ncE$  0.5 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.5 -0.46

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TCh$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  0.0 0.0 0.0

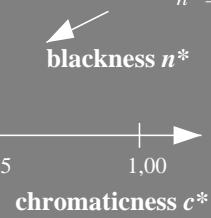
$lab^*ice$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

	$L^* = L_a^*$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
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 1.0				
standard and adapted CIELAB					
$LAB^*LAB$	18.02 0.5 -0.46				
$LAB^*LABa$	18.02 0.0 0.0				
$LAB^*TCh$	0.01 0.01 -				
relative CIELAB lab*					
$lab^*lab$	0.44 -0.015 0.5				
$lab^*tch$	0.25 0.5 0.255				
$lab^*nch$	0.5 0.5 0.255				
relative Natural Colour (NC)					
$lab^*lrj$	0.44 0.0 0.5				
$lab^*ice$	0.25 0.5 0.25				
$lab^*ncE$	0.5 0.5 r99j				

$n^* = 0,00$



$n^* = 0,50$

$n^* = 0,00$

$n^* = 1,00$

$n^* = 1,25$

$n^* = 0,75$

$n^* = 0,25$

$n^* = 0,50$

$n^* = 0,00$

$n^* = 1,00$

$n^* = 1,25$

$n^* = 0,75$

$n^* = 0,25$

$n^* = 0,50$

$n^* = 0,00$

$n^* = 1,00$

$n^* = 1,25$

$n^* = 0,75$

$n^* = 0,25$

$n^* = 0,50$

$n^* = 0,00$

$n^* = 1,00$

$n^* = 1,25$

$n^* = 0,75$

$n^* = 0,25$

$n^* = 0,50$

$n^* = 0,00$

$n^* = 1,00$

$n^* = 1,25$

$n^* = 0,75$

$n^* = 0,25$

$n^* = 0,50$

$n^* = 0,00$

$n^* = 1,00$

$n^* = 1,25$

$n^* = 0,75$

$n^* = 0,25$

$n^* = 0,50$

$n^* = 0,00$

$n^* = 1,00$

$n^* = 1,25$

$n^* = 0,75$

$n^* = 0,25$

$n^* = 0,50$

$n^* = 0,00$

$n^* = 1,00$

$n^* = 1,25$

$n^* = 0,75$

$n^* = 0,25$

$n^* = 0,50$

$n^* = 0,00$

$n^* = 1,00$

$n^* = 1,25$

$n^* = 0,75$

$n^* = 0,25$

$n^* = 0,50$

$n^* = 0,00$

$n^* = 1,00$

$n^* = 1,25$

$n^* = 0,75$

$n^* = 0,25$

$n^* = 0,50$

$n^* = 0,00$

$n^* = 1,00$

$n^* = 1,25$

$n^* = 0,75$

$n^* = 0,25$

$n^* = 0,50$

$n^* = 0,00$

$n^* = 1,00$

$n^* = 1,25$

$n^* = 0,75$

$n^* = 0,25$

$n^* = 0,50$

$n^* = 0,00$

$n^* = 1,00$

$n^* = 1,25$

$n^* = 0,75$

$n^* = 0,25$

$n^* = 0,50$

$n^* = 0,00$

$n^* = 1,00$

$n^* = 1,25$

$n^* = 0,75$

$n^* = 0,25$

$n^* = 0,50$

$n^* = 0,00$

$n^* = 1,00$

$n^* = 1,25$

$n^* = 0,75$

$n^* = 0,25$

$n^* = 0,50$

$n^* = 0,00$

$n^* = 1,00$

$n^* = 1,25$

$n^* = 0,75$

$n^* = 0,25$

$n^* = 0,50$

$n^* = 0,00$

$n^* = 1,00$

$n^* = 1,25$

$n^* = 0,75$

$n^* = 0,25$

$n^* = 0,50$

$n^* = 0,00$

$n^* = 1,00$

$n^* = 1,25$

$n^* = 0,75$

$n^* = 0,25$

$n^* = 0,50$

$n^* = 0,00$

$n^* = 1,00$

$n^* = 1,25$

$n^* = 0,75$

$n^* = 0,25$

$n^* = 0,50$

$n^* = 0,00$

## Input: Colorimetric Reflective System TRS18

for hue  $h^* = lab^*h = 92/360 = 0.255$

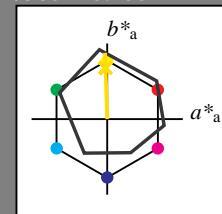
$lab^*tch$  and  $lab^*nch$

D65: hue J

LCH\*Ma: 86 88 92

olv\*Ma: 1.0 0.9 0.0

triangle lightness  $t^*$



### TRS18; adapted (a) CIELAB data

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

%Gamut

$u^*_{rel} = 93$

%Regularity

$g^*_{H,rel} = 57$

$g^*_{C,rel} = 59$

relative Inform. Technology (IT)

$olv^3*$  1.0 1.0 1.0 (1.0)

$cmy^3*$  0.0 0.0 0.0 (0.0)

$olv^4*$  1.0 1.0 1.0 1.0

$cmy^4*$  0.0 0.0 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$

95.41 -0.97 4.75

$LAB^*LABa$

95.41 0.0 0.0

$LAB^*TCh$

99.99 0.01 -

relative CIELAB lab\*

$lab^*lab$

1.0 0.0 0.0

$lab^*tch$

1.0 0.0 -

$lab^*nch$

0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$

1.0 0.0 0.0

$lab^*ice$

1.0 0.0 0.0

$lab^*ncE$

0.0 0.0 -

relative Inform. Technology (IT)

$olv^3*$  0.5 0.5 0.5 (1.0)

$cmy^3*$  0.5 0.5 0.5 (0.0)

$olv^4*$  1.0 1.0 1.0 0.5

$cmy^4*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$

56.71 -0.23 2.14

$LAB^*LABa$

56.71 0.0 0.0

$LAB^*TCh$

50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$

0.5 0.0 0.0

$lab^*tch$

0.5 0.0 -

$lab^*nch$

0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrj$

0.5 0.0 0.0

$lab^*ice$

0.5 0.0 0.0

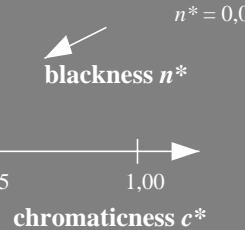
$lab^*ncE$

0.5 0.0 -

$n^* = 1,0$

$n^* = 0,00$

$n^* = 0,50$



chromaticness  $c^*$

## Output: Colorimetric Reflective System MRS18a

for hue  $h^* = lab^*h = 92/360 = 0.256$

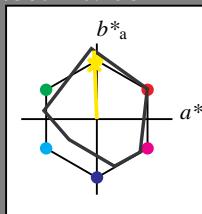
$lab^*tch$  and  $lab^*nch$

D65: hue J

LCH\*Ma: 89 91 92

olv\*Ma: 1.0 0.95 0.0

triangle lightness  $t^*$



### MRS18a; adapted (a) CIELAB data

	$L^* = L^*_{ab}$	$a^*_{ab}$	$b^*_{ab}$	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	49.63	66.8	40.02	77.87	31
JMa	90.7	-7.27	93.19	93.48	94
GMa	52.11	-69.93	11.26	70.85	171
G50BMa	45.03	-36.65	-27.13	45.61	217
BMa	36.65	23.26	-62.27	66.49	290
B50RMa	34.94	57.27	-43.6	71.99	323
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	272

%Gamut

$u^*_{rel} = 92$

%Regularity

$g^*_{H,rel} = 42$

$g^*_{C,rel} = 49$

relative Inform. Technology (IT)

$olv^3*$  1.0 1.0 1.0 (1.0)

$cmy^3*$  0.0 0.0 0.0 (0.0)

$olv^4*$  1.0 1.0 1.0 1.0

$cmy^4*$  0.0 0.0 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$

92.06 -1.83 45.31

$LAB^*LABa$

92.06 -1.84 45.31

$LAB^*TCh$

75.0 45.35 92.34

relative CIELAB lab\*

$lab^*lab$

0.957 -0.019 0.499

$lab^*tch$

0.75 0.5 0.257

$lab^*nch$

0.0 0.5 0.257

relative Natural Colour (NC)

$lab^*lrj$

0.957 0.0 0.5

$lab^*ice$

0.75 0.5 0.25

$lab^*ncE$

0.0 0.5 0.25

relative Inform. Technology (IT)

$olv^3*$  0.5 0.5 0.5 (1.0)

$cmy^3*$  0.5 0.524 1.0 (0.0)

$olv^4*$  1.0 0.976 0.5 0.5

$cmy^4*$  0.0 0.024 0.5 0.5

standard and adapted CIELAB

$LAB^*LAB$

88.71 -3.67 90.61

$LAB^*LABa$

88.71 -3.69 90.61

$LAB^*TCh$

50.0 90.68 92.34

relative CIELAB lab\*

$lab^*lab$

0.913 -0.04 0.999

$lab^*tch$

0.5 1.0 0.256

$lab^*nch$

0.0 1.0 0.256

relative Natural Colour (NC)

$lab^*lrj$

0.913 0.0 1.0

$lab^*ice$

0.5 1.0 0.25

$lab^*ncE$

0.0 1.0 0.25

$n^* = 1,0$

$n^* = 0,00$

$n^* = 0,50$

$n^* = 1,00$

chromaticness  $c^*$

$n^* = 1,0$

$n^* = 0,00$

$n^* = 0,50$

$n^* = 1,00$

chromaticness  $c^*$

UE100-7, 3 step scales for constant CIELAB hue 92/360 = 0.255 (left)

3 step scales for constant CIELAB hue 92/360 = 0.256 (right)

## Input: Colorimetric Reflective System TRS18

for hue  $h^* = lab^*h = 92/360 = 0.255$

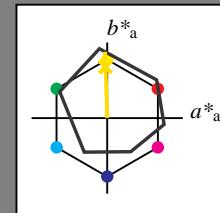
$lab^*tch$  and  $lab^*nch$

D65: hue J

LCH\*Ma: 86 88 92

olv\*Ma: 1.0 0.9 0.0

triangle lightness  $t^*$



### TRS18; adapted (a) CIELAB data

	$L^* = L^*_a$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
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)

$olv^3*$  1.0 1.0 1.0 (1.0)

$cmy^3*$  0.0 0.0 0.0 (0.0)

$olv^4*$  1.0 1.0 1.0 1.0

$cmy^4*$  0.0 0.0 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  95.41 -0.97 4.75

$LAB^*LABa$  95.41 0.0 0.0

$LAB^*TCh$  99.99 0.01 -

relative CIELAB lab\*

$lab^*lab$  1.0 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  1.0 0.0 0.0

$lab^*ice$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  90.8 -2.3 48.29

$LAB^*LABa$  90.8 -1.41 43.85

$LAB^*TCh$  75.0 43.87 91.85

relative CIELAB lab\*

$lab^*lab$  0.94 -0.015 0.5

$lab^*tch$  0.75 0.5 0.255

$lab^*nch$  0.0 0.5 0.255

relative Natural Colour (NC)

$lab^*lrj$  0.94 0.0 0.5

$lab^*ice$  0.75 0.5 0.25

$lab^*ncE$  0.0 0.5 j00g

relative Inform. Technology (IT)

$olv^3*$  0.5 0.5 0.5 (1.0)

$cmy^3*$  0.5 0.5 0.5 (0.0)

$olv^4*$  1.0 1.0 1.0 0.5

$cmy^4*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  56.71 -0.23 2.14

$LAB^*LABa$  56.71 0.0 0.0

$LAB^*TCh$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  0.5 0.0 0.0

$lab^*ice$  0.5 0.0 0.0

$lab^*ncE$  0.5 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.5 -0.46

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TCh$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  0.0 0.0 0.0

$lab^*ice$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

relative Inform. Technology (IT)

$olv^3*$  0.0 0.0 0.0 (1.0)

$cmy^3*$  1.0 1.0 1.0 (0.0)

$olv^4*$  1.0 1.0 1.0 0.0

$cmy^4*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.5 -0.46

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TCh$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.44 -0.015 0.5

$lab^*tch$  0.25 0.5 0.255

$lab^*nch$  0.5 0.5 0.255

relative Natural Colour (NC)

$lab^*lrj$  0.44 0.0 0.5

$lab^*ice$  0.25 0.5 0.25

$lab^*ncE$  0.5 0.5 r99j

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.5 -0.46

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TCh$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  0.0 0.0 0.0

$lab^*ice$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

$n^* = 0,00$

blackness  $n^*$

$n^* = 0,50$

$n^* = 1,00$

chromaticness  $c^*$

## Output: Colorimetric Reflective System NRS18

for hue  $h^* = lab^*h = 92/360 = 0.256$

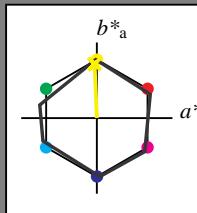
$lab^*tch$  and  $lab^*nch$

D65: hue J

LCH\*Ma: 57 76 92

olv\*Ma: 0.98 1.0 0.0

triangle lightness  $t^*$



### NRS18; adapted (a) CIELAB data

	$L^* = L^*_a$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	56.7	70.66	31.47	77.35	24
JMa	56.7	-1.39	77.37	77.39	91
GMa	56.7	-75.46	17.4	77.45	167
G50BMa	56.7	-71.29	-30.25	77.45	203
BMa	56.7	4.0	-77.3	77.41	273
B50RMa	56.7	63.35	-44.4	77.36	325
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	272

relative Inform. Technology (IT)

$olv^3*$  1.0 1.0 1.0 (1.0)

$cmy^3*$  0.0 0.0 0.0 (0.0)

$olv^4*$  1.0 1.0 1.0 1.0

$cmy^4*$  0.0 0.0 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  95.41 0.0 0.0

$LAB^*LABa$  95.41 0.0 0.0

$LAB^*TCh$  99.99 0.01 -

relative CIELAB lab\*

$lab^*lab$  1.0 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  1.0 0.0 0.0

$lab^*ice$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  86.19 -3.62 91.83

$LAB^*LABa$  86.19 -2.82 87.69

$LAB^*TCh$  50.0 87.73 91.85

relative CIELAB lab\*

$lab^*lab$  0.881 -0.031 0.999

$lab^*tch$  0.5 1.0 0.255

$lab^*nch$  0.0 1.0 0.255

relative Natural Colour (NC)

$lab^*lrj$  0.881 0.0 1.0

$lab^*ice$  0.5 1.0 0.25

$lab^*ncE$  0.0 1.0 -

relative Inform. Technology (IT)

$olv^3*$  0.0 0.0 0.0 (1.0)

$cmy^3*$  1.0 1.0 1.0 (0.0)

$olv^4*$  1.0 1.0 1.0 0.0

$cmy^4*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.09 0.02

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TCh$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.25 -0.019 0.499

$lab^*tch$  0.25 0.5 0.256

$lab^*nch$  0.0 1.0 0.256

relative Natural Colour (NC)

$lab^*lrj$  0.25 0.0 0.5

$lab^*ice$  0.25 0.5 0.25

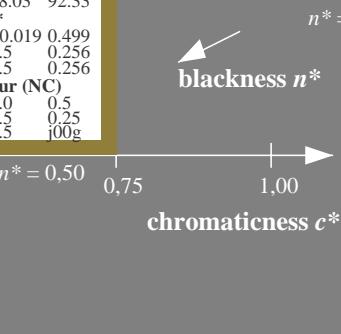
$lab^*ncE$  0.5 0.5 j00g

$n^* = 0,00$

blackness  $n^*$

$n^* = 0,50$

$n^* = 1,00$



### NRS18; adapted (a) CIELAB data

	$L^* = L^*_a$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	56.7	70.66	31.47	77.35	24
JMa	56.7	-1.3			

## Input: Colorimetric Reflective System TRS18

for hue  $h^* = lab^*h = 92/360 = 0.255$

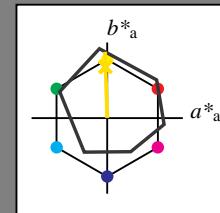
$lab^*tch$  and  $lab^*nch$

D65: hue J

LCH\*Ma: 86 88 92

olv\*Ma: 1.0 0.9 0.0

triangle lightness  $t^*$



### TRS18; adapted (a) CIELAB data

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

%Gamut

$u^*_{rel} = 93$

%Regularity

$g^*_{H,rel} = 57$

$g^*_{C,rel} = 59$

relative Inform. Technology (IT)

$olv13^*$  1.0 1.0 1.0 (1.0)

$cmy3^*$  0.0 0.0 0.0 (0.0)

$olv4^*$  1.0 1.0 1.0 1.0

$cmy4^*$  0.0 0.0 0.0 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 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)

$olv13^*$  0.5 0.5 0.5 (1.0)

$cmy3^*$  0.5 0.5 0.5 (0.0)

$olv4^*$  1.0 1.0 1.0 0.5

$cmy4^*$  0.0 0.0 0.0 0.5

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 CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.5 0.0 0.0

$lab^*tce$  0.5 0.0 0.0

$lab^*ncE$  0.5 0.0 -

relative Inform. Technology (IT)

$olv13^*$  0.0 0.0 0.0 (1.0)

$cmy3^*$  1.0 1.0 1.0 (0.0)

$olv4^*$  1.0 1.0 1.0 0.0

$cmy4^*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.5 -0.46

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*tce$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

relative Inform. Technology (IT)

$olv13^*$  0.0 0.0 0.0 (1.0)

$cmy3^*$  1.0 1.0 1.0 (0.0)

$olv4^*$  1.0 1.0 1.0 0.0

$cmy4^*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.5 -0.46

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*tce$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

relative Inform. Technology (IT)

$olv13^*$  0.0 0.0 0.0 (1.0)

$cmy3^*$  1.0 1.0 1.0 (0.0)

$olv4^*$  1.0 1.0 1.0 0.0

$cmy4^*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.5 -0.46

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*tce$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

relative Inform. Technology (IT)

$olv13^*$  0.0 0.0 0.0 (1.0)

$cmy3^*$  1.0 1.0 1.0 (0.0)

$olv4^*$  1.0 1.0 1.0 0.0

$cmy4^*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.5 -0.46

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*tce$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

relative Inform. Technology (IT)

$olv13^*$  0.0 0.0 0.0 (1.0)

$cmy3^*$  1.0 1.0 1.0 (0.0)

$olv4^*$  1.0 1.0 1.0 0.0

$cmy4^*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.5 -0.46

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*tce$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

relative Inform. Technology (IT)

$olv13^*$  0.0 0.0 0.0 (1.0)

$cmy3^*$  1.0 1.0 1.0 (0.0)

$olv4^*$  1.0 1.0 1.0 0.0

$cmy4^*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.5 -0.46

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*tce$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

relative Inform. Technology (IT)

$olv13^*$  0.0 0.0 0.0 (1.0)

$cmy3^*$  1.0 1.0 1.0 (0.0)

$olv4^*$  1.0 1.0 1.0 0.0

$cmy4^*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.5 -0.46

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*tce$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

relative Inform. Technology (IT)

$olv13^*$  0.0 0.0 0.0 (1.0)

$cmy3^*$  1.0 1.0 1.0 (0.0)

$olv4^*$  1.0 1.0 1.0 0.0

$cmy4^*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.5 -0.46

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*tce$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

relative Inform. Technology (IT)

$olv13^*$  0.0 0.0 0.0 (1.0)

$cmy3^*$  1.0 1.0 1.0 (0.0)

$olv4^*$  1.0 1.0 1.0 0.0

$cmy4^*$  0.0 0.0 0.0 1.0

## Input: Colorimetric Reflective System TRS18

for hue  $h^* = lab^*h = 92/360 = 0.255$

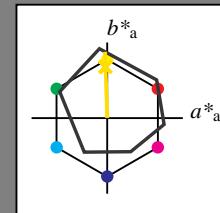
$lab^*tch$  and  $lab^*nch$

D65: hue J

LCH\*Ma: 86 88 92

olv\*Ma: 1.0 0.9 0.0

triangle lightness  $t^*$



### TRS18; adapted (a) CIELAB data

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

olv*i3*\* 1.0 1.0 1.0 (1.0)

cmy*n3*\* 0.0 0.0 0.0 (0.0)

olv*i4*\* 1.0 1.0 1.0 1.0

cmy*n4*\* 0.0 0.0 0.0 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 0.0 0.0

lab\*tch 1.0 0.0 -

lab\*nch 0.0 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 -

standard and adapted CIELAB

LAB\*LAB 90.8 -2.3 48.29

LAB\*LABa 90.8 -1.41 43.85

LAB\*TChA 75.0 43.87 91.85

relative CIELAB lab\*

lab\*lab 0.94 -0.015 0.5

lab\*tch 0.75 0.5 0.255

lab\*nch 0.0 0.5 0.255

relative Natural Colour (NC)

lab\*lrj 0.94 0.0 0.5

lab\*tce 0.75 0.5 0.25

lab\*ncE 0.0 0.5 j00g

relative Inform. Technology (IT)

olv*i3*\* 0.5 0.5 0.5 (1.0)

cmy*n3*\* 0.5 0.5 0.5 (0.0)

olv*i4*\* 1.0 1.0 1.0 0.5

cmy*n4*\* 0.0 0.0 0.0 0.5

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 CIELAB lab\*

lab\*lab 0.5 0.0 0.0

lab\*tch 0.5 0.0 -

lab\*nch 0.5 0.0 -

relative Natural Colour (NC)

lab\*lrj 0.5 0.0 0.0

lab\*tce 0.5 0.0 0.0

lab\*ncE 0.5 0.0 -

standard and adapted CIELAB

LAB\*LAB 52.1 -1.55 45.68

LAB\*LABa 52.1 -1.4 43.84

LAB\*TChA 25.01 43.87 91.84

relative CIELAB lab\*

lab\*lab 0.44 -0.015 0.5

lab\*tch 0.25 0.5 0.255

lab\*nch 0.5 0.5 0.255

relative Natural Colour (NC)

lab\*lrj 0.44 0.0 0.5

lab\*tce 0.25 0.5 0.25

lab\*ncE 0.5 0.5 r99j

$n^* = 1,0$

	$L^* = L_a^*$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
OLV	0.0	0.0	0.0	(1.0)	
CMY	1.0	1.0	1.0	(0.0)	
OLV	1.0	1.0	1.0	0.0	
CMY	0.0	0.0	0.0	1.0	
OLV	0.5	0.5	0.5	(1.0)	
CMY	0.5	0.5	0.5	(0.0)	
OLV	1.0	1.0	1.0	1.0	
CMY	0.0	0.0	0.0	0.5	
OLV	0.5	0.5	0.5	0.5	
CMY	0.5	0.5	0.5	0.5	
OLV	1.0	1.0	1.0	0.5	
CMY	0.0	0.0	0.0	0.5	
OLV	0.5	0.5	0.5	0.5	
CMY	0.5	0.5	0.5	0.5	
OLV	1.0	1.0	1.0	0.5	
CMY	0.0	0.0	0.0	0.5	
OLV	0.5	0.5	0.5	0.5	
CMY	0.5	0.5	0.5	0.5	
OLV	1.0	1.0	1.0	0.5	
CMY	0.0	0.0	0.0	0.5	
OLV	0.5	0.5	0.5	0.5	
CMY	0.5	0.5	0.5	0.5	
OLV	1.0	1.0	1.0	0.5	
CMY	0.0	0.0	0.0	0.5	
OLV	0.5	0.5	0.5	0.5	
CMY	0.5	0.5	0.5	0.5	
OLV	1.0	1.0	1.0	0.5	
CMY	0.0	0.0	0.0	0.5	
OLV	0.5	0.5	0.5	0.5	
CMY	0.5	0.5	0.5	0.5	
OLV	1.0	1.0	1.0	0.5	
CMY	0.0	0.0	0.0	0.5	
OLV	0.5	0.5	0.5	0.5	
CMY	0.5	0.5	0.5	0.5	
OLV	1.0	1.0	1.0	0.5	
CMY	0.0	0.0	0.0	0.5	
OLV	0.5	0.5	0.5	0.5	
CMY	0.5	0.5	0.5	0.5	
OLV	1.0	1.0	1.0	0.5	
CMY	0.0	0.0	0.0	0.5	
OLV	0.5	0.5	0.5	0.5	
CMY	0.5	0.5	0.5	0.5	
OLV	1.0	1.0	1.0	0.5	
CMY	0.0	0.0	0.0	0.5	
OLV	0.5	0.5	0.5	0.5	
CMY	0.5	0.5	0.5	0.5	
OLV	1.0	1.0	1.0	0.5	
CMY	0.0	0.0	0.0	0.5	
OLV	0.5	0.5	0.5	0.5	
CMY	0.5	0.5	0.5	0.5	
OLV	1.0	1.0	1.0	0.5	
CMY	0.0	0.0	0.0	0.5	
OLV	0.5	0.5	0.5	0.5	
CMY	0.5	0.5	0.5	0.5	
OLV	1.0	1.0	1.0	0.5	
CMY	0.0	0.0	0.0	0.5	
OLV	0.5	0.5	0.5	0.5	
CMY	0.5	0.5	0.5	0.5	
OLV	1.0	1.0	1.0	0.5	
CMY	0.0	0.0	0.0	0.5	
OLV	0.5	0.5	0.5	0.5	
CMY	0.5	0.5	0.5	0.5	
OLV	1.0	1.0	1.0	0.5	
CMY	0.0	0.0	0.0	0.5	
OLV	0.5	0.5	0.5	0.5	
CMY	0.5	0.5	0.5	0.5	
OLV	1.0	1.0	1.0	0.5	
CMY	0.0	0.0	0.0	0.5	
OLV	0.5	0.5	0.5	0.5	
CMY	0.5	0.5	0.5	0.5	
OLV	1.0	1.0	1.0	0.5	
CMY	0.0	0.0	0.0	0.5	
OLV	0.5	0.5	0.5	0.5	
CMY	0.5	0.5	0.5	0.5	
OLV	1.0	1.0	1.0	0.5	
CMY	0.0	0.0	0.0	0.5	
OLV	0.5	0.5	0.5	0.5	
CMY	0.5	0.5	0.5	0.5	
OLV	1.0	1.0	1.0	0.5	
CMY	0.0	0.0	0.0	0.5	
OLV	0.5	0.5	0.5	0.5	
CMY	0.5	0.5	0.5	0.5	
OLV	1.0	1.0	1.0	0.5	
CMY	0.0	0.0	0.0	0.5	
OLV	0.5	0.5	0.5	0.5	
CMY	0.5	0.5	0.5	0.5	
OLV	1.0	1.0	1.0	0.5	
CMY	0.0	0.0	0.0	0.5	
OLV	0.5	0.5	0.5	0.5	
CMY	0.5	0.5	0.5	0.5	
OLV	1.0	1.0	1.0	0.5	
CMY	0.0	0.0	0.0	0.5	
OLV	0.5	0.5	0.5	0.5	
CMY	0.5	0.5	0.5	0.5	
OLV	1.0	1.0	1.0	0.5	
CMY	0.0	0.0	0.0	0.5	
OLV	0.5	0.5	0.5	0.5	
CMY	0.5	0.5	0.5	0.5	
OLV	1.0	1.0	1.0	0.5	
CMY	0.0	0.0	0.0	0.5	
OLV	0.5	0.5	0.5	0.5	
CMY	0.5	0.5	0.5	0.5	
OLV	1.0	1.0	1.0	0.5	
CMY	0.0	0.0	0.0	0.5	
OLV	0.5	0.5	0.5	0.5	
CMY	0.5	0.5	0.5	0.5	
OLV	1.0	1.0	1.0	0.5	
CMY	0.0	0.0	0.0	0.5	
OLV	0.5	0.5	0.5	0.5	
CMY	0.5	0.5	0.5	0.5	
OLV	1.0	1.0	1.0	0.5	
CMY	0.0	0.0	0.0	0.5	
OLV	0.5	0.5	0.5	0.5	
CMY	0.5	0.5	0.5	0.5	
OLV	1.0	1.0	1.0	0.5	
CMY	0.0	0.0	0.0	0.5	
OLV	0.5	0.5	0.5	0.5	
CMY	0.5	0.5	0.5	0.5	
OLV	1.0	1.0	1.0	0.5	
CMY	0.0	0.0	0.0	0.5	
OLV	0.5	0.5	0.5	0.5	
CMY	0.5	0.5	0.5	0.5	
OLV	1.0	1.0	1.0	0.5	
CMY	0.0	0.0	0.0	0.5	
OLV	0.5	0.5	0.5	0.5	
CMY	0.5	0.5	0.5	0.5	
OLV	1.0	1.0	1.0	0.5	
CMY	0.0	0.0	0.0	0.5	
OLV	0.5	0.5	0.5	0.5	
CMY	0.5	0.5	0.5	0.5	
OLV	1.0	1.0	1.0	0.5	
CMY	0.0	0.0	0.0	0.5	
OLV	0.5	0.5	0.5	0.5	
CMY	0.5	0.5	0.5	0.5	
OLV	1.0	1.0	1.0	0.5	
CMY	0.0	0.0	0.0	0.5	
OLV	0.5	0.5	0.5	0.5	
CMY	0.5	0.5	0.5	0.5</td	

### Input: Colorimetric Reflective System TRS18

for hue  $h^* = lab^*h = 92/360 = 0.255$

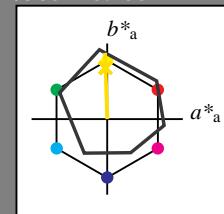
$lab^*tch$  and  $lab^*nch$

D65: hue J

LCH\*Ma: 86 88 92

olv\*Ma: 1.0 0.9 0.0

triangle lightness  $t^*$



### TRS18; adapted (a) CIELAB data

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

%Gamut

$u^*_{rel} = 93$

%Regularity

$g^*_{H,rel} = 57$

$g^*_{C,rel} = 59$

relative Inform. Technology (IT)

$olv^3*$  1.0 1.0 1.0 (1.0)

$cmy^3*$  0.0 0.0 0.0 (0.0)

$olv^4*$  1.0 1.0 1.0 1.0

$cmy^4*$  0.0 0.0 0.0 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 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)

$olv^3*$  1.0 0.951 0.5 (1.0)

$cmy^3*$  0.0 0.049 0.5 (0.0)

$olv^4*$  1.0 0.951 0.5 1.0

$cmy^4*$  0.0 0.049 0.5 0.0

standard and adapted CIELAB

$LAB^*LAB$  90.8 -2.3 48.29

$LAB^*LABa$  90.8 -1.41 43.85

$LAB^*TChA$  75.0 43.87 91.85

relative CIELAB lab\*

$lab^*lab$  0.94 -0.015 0.5

$lab^*tch$  0.75 0.5 0.255

$lab^*nch$  0.0 0.5 0.255

relative Natural Colour (NC)

$lab^*lrij$  0.94 0.0 0.5

$lab^*tce$  0.75 0.5 0.25

$lab^*ncE$  0.0 0.5 j00g

relative Inform. Technology (IT)

$olv^3*$  0.5 0.5 0.5 (1.0)

$cmy^3*$  0.5 0.5 0.5 (0.0)

$olv^4*$  1.0 1.0 1.0 0.5

$cmy^4*$  0.0 0.0 0.0 0.5

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 CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.5 0.0 0.0

$lab^*tce$  0.5 0.0 0.0

$lab^*ncE$  0.5 0.0 -

relative Inform. Technology (IT)

$olv^3*$  0.0 0.0 0.0 (1.0)

$cmy^3*$  1.0 1.0 1.0 (0.0)

$olv^4*$  1.0 1.0 1.0 0.0

$cmy^4*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.5 -0.46

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*tce$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

$n^* = 0,00$



blackness  $n^*$

### Output: Colorimetric Reflective System NCS11

for hue  $h^* = lab^*h = 92/360 = 0.256$

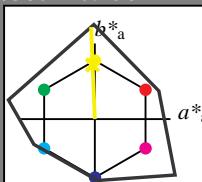
$lab^*tch$  and  $lab^*nch$

D65: hue J

LCH\*Ma: 90 122 92

olv\*Ma: 0.97 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

%Gamut

$u^*_{rel} = 149$

%Regularity

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

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

relative Inform. Technology (IT)

$olv^3*$  1.0 1.0 1.0 (1.0)

$cmy^3*$  0.0 0.0 0.0 (0.0)

$olv^4*$  1.0 1.0 1.0 1.0

$cmy^4*$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)

$olv^3*$  0.984 1.0 0.5 (1.0)

$cmy^3*$  0.016 0.0 0.5 (0.0)

$olv^4*$  0.984 1.0 0.5 1.0

$cmy^4*$  0.016 0.0 0.5 0.0

standard and adapted CIELAB

$LAB^*LAB$  86.19 -3.62 91.83

$LAB^*LABa$  86.19 -2.82 87.69

$LAB^*TChA$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.881 -0.031 0.999

$lab^*tch$  0.5 1.0 0.255

$lab^*nch$  0.0 1.0 0.255

relative Natural Colour (NC)

$lab^*lrij$  0.881 0.0 1.0

$lab^*tce$  0.5 1.0 0.25

$lab^*ncE$  0.0 1.0 -

relative Inform. Technology (IT)

$olv^3*$  0.0 0.0 0.0 (1.0)

$cmy^3*$  1.0 1.0 1.0 (0.0)

$olv^4*$  1.0 1.0 1.0 1.0

$cmy^4*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  52.1 -1.55 45.68

$LAB^*LABa$  52.1 -1.4 43.84

$LAB^*TChA$  25.01 43.87 91.84

relative CIELAB lab\*

$lab^*lab$  0.44 -0.015 0.5

$lab^*tch$  0.25 0.5 0.255

$lab^*nch$  0.5 0.5 0.255

relative Natural Colour (NC)

$lab^*lrij$  0.44 0.0 0.5

$lab^*tce$  0.25 0.5 0.25

$lab^*ncE$  0.5 0.5 -

relative Inform. Technology (IT)

$olv^3*$  0.0 0.0 0.0 (1.0)

$cmy^3*$  1.0 1.0 1.0 (0.0)

$olv^4*$  1.0 1.0 1.0 1.0

$cmy^4*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.5 -0.46

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*tce$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

relative Inform. Technology (IT)

$olv^3*$  0.941 1.0 1.0 (1.0)

### Input: Colorimetric Reflective System MRS18a

for hue  $h^* = lab^*h = 92/360 = 0.256$

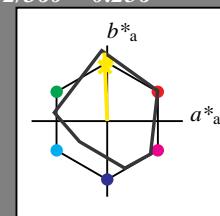
$lab^*tch$  and  $lab^*nch$

D65: hue J

LCH\*Ma: 89 91 92

olv\*Ma: 1.0 0.95 0.0

triangle lightness  $t^*$



### MRS18a; adapted (a) CIELAB data

	$L^*=L^*_{ab}$	$a^*_{ab}$	$b^*_{ab}$	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	49.63	66.8	40.02	77.87	31
JMa	90.7	-7.27	93.19	93.48	94
GMa	52.11	-69.93	11.26	70.85	171
G50BMa	45.03	-36.65	-27.13	45.61	217
BMa	36.65	23.26	-62.27	66.49	290
B50RMa	34.94	57.27	-43.6	71.99	323
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	272

relative Inform. Technology (IT)  
 $olv^3*$  1.0 1.0 1.0 (1.0)  
 $cmy^3*$  0.0 0.0 0.0 (0.0)  
 $olv^4*$  1.0 1.0 1.0 1.0  
 $cmy^4*$  0.0 0.0 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  95.41 0.01 0.0  
 $LAB^*LABa$  95.41 0.0 0.0  
 $LAB^*TCh$  99.99 0.01 -

relative CIELAB lab\*

$lab^*lab$  1.0 0.0 0.0  
 $lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0  
 $lab^*tce$  1.0 0.0 0.0  
 $lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)  
 $olv^3*$  0.5 0.5 0.5 (1.0)  
 $cmy^3*$  0.5 0.5 0.5 (0.0)  
 $olv^4*$  1.0 1.0 1.0 0.5  
 $cmy^4*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  56.71 0.05 0.0  
 $LAB^*LABa$  56.71 0.0 0.0  
 $LAB^*TCh$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0  
 $lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.5 0.0 0.0  
 $lab^*tce$  0.5 0.0 0.0  
 $lab^*ncE$  0.5 0.0 -

relative Inform. Technology (IT)  
 $olv^3*$  0.0 0.0 0.0 (1.0)  
 $cmy^3*$  1.0 1.0 1.0 (0.0)  
 $olv^4*$  1.0 1.0 1.0 0.0  
 $cmy^4*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.1 0.02  
 $LAB^*LABa$  18.02 0.0 0.0  
 $LAB^*TCh$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0  
 $lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0  
 $lab^*tce$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

%Gamut  
 $u^*_{rel} = 92$   
%Regularity  
 $g^*_{H,rel} = 42$   
 $g^*_{C,rel} = 49$

relative Inform. Technology (IT)  
 $olv^3*$  1.0 0.976 0.5 (1.0)  
 $cmy^3*$  0.0 0.024 0.5 (0.0)  
 $olv^4*$  1.0 0.976 0.5 1.0  
 $cmy^4*$  0.0 0.024 0.5 0.0

standard and adapted CIELAB

$LAB^*LAB$  92.06 -1.83 45.31  
 $LAB^*LABa$  92.06 -1.84 45.31  
 $LAB^*TCh$  75.0 45.35 92.34

relative CIELAB lab\*

$lab^*lab$  0.957 -0.019 0.499  
 $lab^*tch$  0.75 0.5 0.257  
 $lab^*nch$  0.0 0.5 0.257

relative Natural Colour (NC)

$lab^*lrij$  0.957 0.0 0.5  
 $lab^*tce$  0.75 0.5 0.25  
 $lab^*ncE$  0.0 0.5 j00g

relative Inform. Technology (IT)  
 $olv^3*$  1.0 0.952 0.0 (1.0)  
 $cmy^3*$  0.5 0.5 0.5 (0.0)  
 $olv^4*$  1.0 0.952 0.0 0.5  
 $cmy^4*$  0.0 0.048 1.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  88.71 -3.67 90.61  
 $LAB^*LABa$  88.71 -3.69 90.61  
 $LAB^*TCh$  50.0 90.68 92.34

relative CIELAB lab\*

$lab^*lab$  0.913 -0.04 0.999  
 $lab^*tch$  0.5 1.0 0.256  
 $lab^*nch$  0.0 1.0 0.256

relative Natural Colour (NC)

$lab^*lrij$  0.913 0.0 1.0  
 $lab^*tce$  0.5 1.0 0.25  
 $lab^*ncE$  0.0 1.0 j00g

relative Inform. Technology (IT)  
 $olv^3*$  0.0 0.0 0.0 (1.0)  
 $cmy^3*$  1.0 1.0 1.0 (0.0)  
 $olv^4*$  1.0 1.0 1.0 0.0  
 $cmy^4*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  53.36 -1.78 45.32  
 $LAB^*LABa$  53.36 -1.84 45.3  
 $LAB^*TCh$  25.01 45.34 92.33

relative CIELAB lab\*

$lab^*lab$  0.457 -0.019 0.499  
 $lab^*tch$  0.25 0.5 0.256  
 $lab^*nch$  0.5 0.5 0.256

relative Natural Colour (NC)

$lab^*lrij$  0.457 0.0 0.5  
 $lab^*tce$  0.25 0.5 0.25  
 $lab^*ncE$  0.5 0.5 r99j

$n^* = 0,00$

$n^* = 0,00$   
blackness  $n^*$   
chromaticness  $c^*$

### Output: Colorimetric Reflective System ORS18

for hue  $h^* = lab^*h = 92/360 = 0.255$

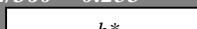
$lab^*tch$  and  $lab^*nch$

D65: hue J

LCH\*Ma: 86 88 92

olv\*Ma: 1.0 0.9 0.0

triangle lightness  $t^*$



### ORS18; adapted (a) CIELAB data

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

%Gamut

$u^*_{rel} = 93$

%Regularity

$g^*_{H,rel} = 57$

$g^*_{C,rel} = 59$

relative Inform. Technology (IT)

$olv^3*$  1.0 0.951 0.5 (1.0)

$cmy^3*$  0.0 0.049 0.5 (0.0)

$olv^4*$  1.0 0.951 0.5 1.0

$cmy^4*$  0.0 0.049 0.5 0.0

standard and adapted CIELAB

$LAB^*LAB$  95.41 -0.97 47.5

$LAB^*LABa$  95.41 0.0 0.0

$LAB^*TCh$  99.99 0.01 -

relative CIELAB lab\*

$lab^*lab$  1.0 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)

$olv^3*$  0.5 0.451 0.0 (1.0)

$cmy^3*$  0.5 0.549 1.0 (0.0)

$olv^4*$  1.0 0.951 0.5 0.5

$cmy^4*$  0.0 0.049 0.5 0.5

standard and adapted CIELAB

$LAB^*LAB$  86.19 -3.62 91.83

$LAB^*LABa$  86.19 -2.82 87.69

$LAB^*TCh$  50.0 87.73 91.85

relative CIELAB lab\*

$lab^*lab$  0.881 -0.031 0.999

$lab^*tch$  0.5 1.0 0.255

$lab^*nch$  0.0 1.0 0.255

relative Natural Colour (NC)

$lab^*lrij$  0.881 0.0 1.0

$lab^*tce$  0.5 1.0 0.25

$lab^*ncE$  0.0 1.0 j00g

$n^* = 0,00$

$n^* = 0,00$

blackness  $n^*$

chromaticness  $c^*$

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

UE100-7, 3 step scales for constant CIELAB hue 92/360 = 0.256 (left)

### Input: Colorimetric Reflective System MRS18a

for hue  $h^* = lab^*h = 92/360 = 0.256$

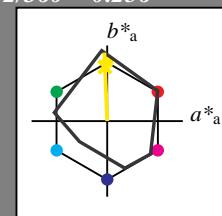
$lab^*tch$  and  $lab^*nch$

D65: hue J

LCH\*Ma: 89 91 92

olv\*Ma: 1.0 0.95 0.0

triangle lightness  $t^*$



### MRS18a; adapted (a) CIELAB data

	$L^*=L^*_a$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	49.63	66.8	40.02	77.87	31
JMa	90.7	-7.27	93.19	93.48	94
GMa	52.11	-69.93	11.26	70.85	171
G50BMa	45.03	-36.65	-27.13	45.61	217
BMa	36.65	23.26	-62.27	66.49	290
B50RMa	34.94	57.27	-43.6	71.99	323
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	272

relative Inform. Technology (IT)  
 $olv_i3^*$  1.0 1.0 1.0 (1.0)  
 $cmy3^*$  0.0 0.0 0.0 (0.0)  
 $olv_i4^*$  1.0 1.0 1.0 1.0  
 $cmy4^*$  0.0 0.0 0.0 0.0

standard and adapted CIELAB  
 $LAB^*LAB$  95.41 0.01 0.0  
 $LAB^*LABa$  95.41 0.0 0.0  
 $LAB^*TCh$  99.99 0.01 -

relative CIELAB lab\*  
 $lab^*lab$  1.0 0.0 0.0  
 $lab^*tch$  1.0 0.0 -  
 $lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)  
 $lab^*lrij$  1.0 0.0 0.0  
 $lab^*tce$  1.0 0.0 0.0  
 $lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)  
 $olv_i3^*$  0.5 0.5 0.5 (1.0)  
 $cmy3^*$  0.5 0.5 0.5 (0.0)  
 $olv_i4^*$  1.0 1.0 1.0 0.5  
 $cmy4^*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB  
 $LAB^*LAB$  56.71 0.05 0.0  
 $LAB^*LABa$  56.71 0.0 0.0  
 $LAB^*TCh$  50.0 0.01 -

relative CIELAB lab\*  
 $lab^*lab$  0.5 0.0 0.0  
 $lab^*tch$  0.5 0.0 -  
 $lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)  
 $lab^*lrij$  0.5 0.0 0.0  
 $lab^*tce$  0.5 0.0 0.0  
 $lab^*ncE$  0.5 0.0 -

relative Inform. Technology (IT)  
 $olv_i3^*$  0.0 0.0 0.0 (1.0)  
 $cmy3^*$  1.0 1.0 1.0 (0.0)  
 $olv_i4^*$  1.0 1.0 1.0 0.0  
 $cmy4^*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB  
 $LAB^*LAB$  18.02 0.1 0.02  
 $LAB^*LABa$  18.02 0.0 0.0  
 $LAB^*TCh$  0.01 0.01 -

relative CIELAB lab\*  
 $lab^*lab$  0.0 0.0 0.0  
 $lab^*tch$  0.0 0.0 -  
 $lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)  
 $lab^*lrij$  0.0 0.0 0.0  
 $lab^*tce$  0.0 0.0 -  
 $lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

%Gamut

$u^*_{rel} = 92$

%Regularity

$g^*_{H,rel} = 42$

$g^*_{C,rel} = 49$

relative Inform. Technology (IT)

$olv_i3^*$  1.0 0.976 0.5 (1.0)

$cmy3^*$  0.0 0.024 0.5 (0.0)

$olv_i4^*$  1.0 0.976 0.5 1.0

$cmy4^*$  0.0 0.024 0.5 0.0

standard and adapted CIELAB

$LAB^*LAB$  92.06 -1.83 45.31

$LAB^*LABa$  92.06 -1.84 45.31

$LAB^*TCh$  75.0 45.35 92.34

relative CIELAB lab\*

$lab^*lab$  0.957 -0.019 0.499

$lab^*tch$  0.75 0.5 0.257

$lab^*nch$  0.0 0.5 0.257

relative Natural Colour (NC)

$lab^*lrij$  0.957 0.0 0.5

$lab^*tce$  0.75 0.5 0.25

$lab^*ncE$  0.0 0.5 j00g

relative Inform. Technology (IT)

$olv_i3^*$  1.0 0.952 0.0 (1.0)

$cmy3^*$  0.5 0.5 0.5 (0.0)

$olv_i4^*$  1.0 0.952 0.0 0.5

$cmy4^*$  0.0 0.048 1.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  88.71 -3.67 90.61

$LAB^*LABa$  88.71 -3.69 90.61

$LAB^*TCh$  50.0 90.68 92.34

relative CIELAB lab\*

$lab^*lab$  0.913 -0.04 0.999

$lab^*tch$  0.5 1.0 0.256

$lab^*nch$  0.0 1.0 0.256

relative Natural Colour (NC)

$lab^*lrij$  0.913 0.0 1.0

$lab^*tce$  0.5 1.0 0.25

$lab^*ncE$  0.0 1.0 j00g

relative Inform. Technology (IT)

$olv_i3^*$  0.0 0.0 0.0 (1.0)

$cmy3^*$  1.0 1.0 1.0 (0.0)

$olv_i4^*$  1.0 1.0 1.0 0.0

$cmy4^*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.1 0.02

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TCh$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*tce$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 0,00$

blackness  $n^*$

chromaticness  $c^*$

### Output: Colorimetric Reflective System MRS18

for hue  $h^* = lab^*h = 92/360 = 0.255$

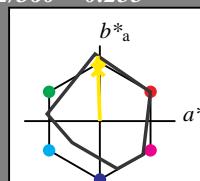
$lab^*tch$  and  $lab^*nch$

D65: hue J

LCH\*Ma: 89 86 92

olv\*Ma: 1.0 0.95 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
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)  
 $olv_i3^*$  1.0 1.0 1.0 (1.0)  
 $cmy3^*$  0.0 0.0 0.0 (0.0)  
 $olv_i4^*$  1.0 1.0 1.0 1.0  
 $cmy4^*$  0.0 0.0 0.0 0.0

standard and adapted CIELAB  
 $LAB^*LAB$  95.41 -0.97 4.75  
 $LAB^*LABa$  95.41 0.0 0.0  
 $LAB^*TCh$  99.99 0.01 -

relative CIELAB lab\*  
 $lab^*lab$  1.0 0.0 0.0  
 $lab^*tch$  1.0 0.0 -  
 $lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)  
 $lab^*lrij$  1.0 0.0 0.0  
 $lab^*tce$  1.0 0.0 0.0  
 $lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)  
 $olv_i3^*$  1.0 0.976 0.5 (1.0)  
 $cmy3^*$  0.0 0.024 0.5 (0.0)  
 $olv_i4^*$  1.0 0.976 0.5 1.0  
 $cmy4^*$  0.0 0.024 0.5 0.0

standard and adapted CIELAB  
 $LAB^*LAB$  92.04 -2.3 47.67  
 $LAB^*LABa$  92.04 -1.39 43.14  
 $LAB^*TCh$  75.0 43.16 91.85

relative CIELAB lab\*  
 $lab^*lab$  0.957 -0.015 0.5  
 $lab^*tch$  0.75 0.5 0.255  
 $lab^*nch$  0.0 0.5 0.255

relative Natural Colour (NC)  
 $lab^*lrij$  0.957 0.0 0.5  
 $lab^*tce$  0.75 0.5 0.25  
 $lab^*ncE$  0.0 0.5 j00g

relative Inform. Technology (IT)  
 $olv_i3^*$  0.5 0.476 0.0 (1.0)  
 $cmy3^*$  0.5 0.524 1.0 (0.0)  
 $olv_i4^*$  1.0 0.976 0.5 0.5  
 $cmy4^*$  0.0 0.024 0.5 0.5

standard and adapted CIELAB  
 $LAB^*LAB$  56.71 -0.23 2.14  
 $LAB^*LABa$  56.71 0.0 0.0  
 $LAB^*TCh$  50.0 0.01 -

relative CIELAB lab\*  
 $lab^*lab$  0.5 0.0 0.0  
 $lab^*tch$  0.5 0.0 -  
 $lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)  
 $lab^*lrij$  0.913 0.0 1.0  
 $lab^*tce$  0.5 0.0 0.0  
 $lab^*ncE$  0.5 0.0 -

$n^* = 1,0$

relative Inform. Technology (IT)  
 $olv_i3^*$  1.0 0.951 0.0 (1.0)  
 $cmy3^*$  0.0 0.049 1.0 (0.0)  
 $olv_i4^*$  1.0 0.951 0.0 1.0  
 $cmy4^*$  0.0 0.049 1.0 0.0

standard and adapted CIELAB  
 $LAB^*LAB$  88.68 -3.62 90.58  
 $LAB^*LABa$  88.68 -2.77 86.27  
 $LAB^*TCh$  50.0 86.32 91.85

relative CIELAB lab\*  
 $lab^*lab$  0.913 -0.031 0.999  
 $lab^*tch$  0.5 1.0 0.255  
 $lab^*nch$  0.0 1.0 0.255

relative Natural Colour (NC)  
 $lab^*lrij$  0.913 0.0 1.0  
 $lab^*tce$  0.5 1.0 0.25  
 $lab^*ncE$  0.0 1.0 j00g

$n^* = 0,00$

blackness  $n^*$

chromaticness  $c^*$

UE100-7, 3 step scales for constant CIELAB hue 92/360 = 0.256 (left)

3 step scales for constant CIELAB hue 92/360 = 0.255 (right)

### Input: Colorimetric Reflective System MRS18a

for hue  $h^* = lab^*h = 92/360 = 0.256$

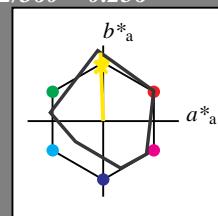
$lab^*tch$  and  $lab^*nch$

D65: hue J

LCH\*Ma: 89 91 92

olv\*Ma: 1.0 0.95 0.0

triangle lightness  $t^*$



### MRS18a; adapted (a) CIELAB data

	$L^*=L^*_a$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	49.63	66.8	40.02	77.87	31
JMa	90.7	-7.27	93.19	93.48	94
GMa	52.11	-69.93	11.26	70.85	171
G50BMa	45.03	-36.65	-27.13	45.61	217
BMa	36.65	23.26	-62.27	66.49	290
B50RMa	34.94	57.27	-43.6	71.99	323
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	272

relative Inform. Technology (IT)  
 $olv_i3^*$  1.0 1.0 1.0 (1.0)  
 $cmy3^*$  0.0 0.0 0.0 (0.0)  
 $olv_i4^*$  1.0 1.0 1.0 1.0  
 $cmy4^*$  0.0 0.0 0.0 0.0

standard and adapted CIELAB  
 $LAB^*LAB$  95.41 0.01 0.0  
 $LAB^*LABa$  95.41 0.0 0.0  
 $LAB^*TCh$  99.99 0.01 -

relative CIELAB lab\*  
 $lab^*lab$  1.0 0.0 0.0  
 $lab^*tch$  1.0 0.0 -  
 $lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)  
 $lab^*lrj$  1.0 0.0 0.0  
 $lab^*ice$  1.0 0.0 0.0  
 $lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)  
 $olv_i3^*$  0.5 0.5 0.5 (1.0)  
 $cmy3^*$  0.5 0.5 0.5 (0.0)  
 $olv_i4^*$  1.0 1.0 1.0 0.5  
 $cmy4^*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB  
 $LAB^*LAB$  56.71 0.05 0.0  
 $LAB^*LABa$  56.71 0.0 0.0  
 $LAB^*TCh$  50.0 0.01 -

relative CIELAB lab\*  
 $lab^*lab$  0.5 0.0 0.0  
 $lab^*tch$  0.5 0.0 -  
 $lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)  
 $lab^*lrj$  0.5 0.0 0.0  
 $lab^*ice$  0.5 0.0 0.0  
 $lab^*ncE$  0.5 0.0 -

relative Inform. Technology (IT)  
 $olv_i3^*$  0.0 0.0 0.0 (1.0)  
 $cmy3^*$  1.0 1.0 1.0 (0.0)  
 $olv_i4^*$  1.0 1.0 1.0 0.0  
 $cmy4^*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB  
 $LAB^*LAB$  18.02 0.1 0.02  
 $LAB^*LABa$  18.02 0.0 0.0  
 $LAB^*TCh$  0.01 0.01 -

relative CIELAB lab\*  
 $lab^*lab$  0.0 0.0 0.0  
 $lab^*tch$  0.0 0.0 -  
 $lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)  
 $lab^*lrj$  0.0 0.0 0.0  
 $lab^*ice$  0.0 0.0 -  
 $lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

### MRS18a; adapted (a) CIELAB data

	$L^*=L^*_a$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	49.63	66.8	40.02	77.87	31
JMa	90.7	-7.27	93.19	93.48	94
GMa	52.11	-69.93	11.26	70.85	171
G50BMa	45.03	-36.65	-27.13	45.61	217
BMa	36.65	23.26	-62.27	66.49	290
B50RMa	34.94	57.27	-43.6	71.99	323
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	272

%Gamut

$u^*_{rel} = 92$

%Regularity

$g^*_{H,rel} = 42$

$g^*_{C,rel} = 49$

relative Inform. Technology (IT)

$olv_i3^*$  1.0 0.976 0.5 (1.0)

$cmy3^*$  0.0 0.024 0.5 (0.0)

$olv_i4^*$  1.0 0.976 0.5 1.0

$cmy4^*$  0.0 0.024 0.5 0.0

standard and adapted CIELAB

$LAB^*LAB$  92.06 -1.83 45.31

$LAB^*LABa$  92.06 -1.84 45.31

$LAB^*TCh$  75.0 45.35 92.34

relative CIELAB lab\*

$lab^*lab$  0.957 -0.019 0.499

$lab^*tch$  0.75 0.5 0.257

$lab^*nch$  0.0 0.5 0.257

relative Natural Colour (NC)

$lab^*lrj$  0.957 0.0 0.5

$lab^*ice$  0.75 0.5 0.25

$lab^*ncE$  0.0 0.5 j00g

relative Inform. Technology (IT)

$olv_i3^*$  1.0 0.952 0.0 (1.0)

$cmy3^*$  0.5 0.048 1.0 (0.0)

$olv_i4^*$  1.0 0.952 0.0 1.0

$cmy4^*$  0.0 0.048 1.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  88.71 -3.67 90.61

$LAB^*LABa$  88.71 -3.69 90.61

$LAB^*TCh$  50.0 90.68 92.34

relative CIELAB lab\*

$lab^*lab$  0.913 -0.04 0.999

$lab^*tch$  0.5 1.0 0.256

$lab^*nch$  0.0 1.0 0.256

relative Natural Colour (NC)

$lab^*lrj$  0.913 0.0 1.0

$lab^*ice$  0.5 1.0 0.25

$lab^*ncE$  0.0 1.0 j00g

$n^* = 0,00$

blackness  $n^*$

chromaticness  $c^*$

### Output: Colorimetric Reflective System TRS18

for hue  $h^* = lab^*h = 92/360 = 0.255$

$lab^*tch$  and  $lab^*nch$

D65: hue J

LCH\*Ma: 86 88 92

olv\*Ma: 1.0 0.9 0.0

triangle lightness  $t^*$

### TRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
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

%Gamut

$u^*_{rel} = 93$

%Regularity

$g^*_{H,rel} = 57$

$g^*_{C,rel} = 59$

relative Inform. Technology (IT)

$olv_i3^*$  1.0 0.951 0.5 (1.0)

$cmy3^*$  0.0 0.049 0.5 (0.0)

$olv_i4^*$  1.0 0.951 0.5 1.0

$cmy4^*$  0.0 0.049 0.5 0.0

standard and adapted CIELAB

$LAB^*LAB$  90.8 -2.3 48.29

$LAB^*LABa$  90.8 -1.41 43.85

$LAB^*TCh$  75.0 43.87 91.85

relative CIELAB lab\*

$lab^*lab$  0.94 -0.015 0.5

$lab^*tch$  0.75 0.5 0.255

$lab^*nch$  0.0 0.5 0.255

relative Natural Colour (NC)

$lab^*lrj$  0.94 0.0 0.5

$lab^*ice$  0.75 0.5 0.25

$lab^*ncE$  0.0 0.5 j00g

relative Inform. Technology (IT)

$olv_i3^*$  0.5 0.451 0.0 (1.0)

$cmy3^*$  0.5 0.549 1.0 (0.0)

$olv_i4^*$  1.0 0.951 0.5 0.5

$cmy4^*$  0.0 0.049 0.5 0.5

standard and adapted CIELAB

$LAB^*LAB$  86.19 -3.62 91.83

$LAB^*LABa$  86.19 -2.82 87.69

$LAB^*TCh$  50.0 87.73 91.85

relative CIELAB lab\*

$lab^*lab$  0.881 -0.031 0.999

$lab^*tch$  0.5 1.0 0.255

$lab^*nch$  0.0 1.0 0.255

relative Natural Colour (NC)

$lab^*lrj$  0.881 0.0 1.0

$lab^*ice$  0.5 1.0 0.25

$lab^*ncE$  0.0 1.0 j00g

### TRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
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

%Gamut

$u^*_{rel} = 93$

%Regularity

$g^*_{H,rel} = 57$

### Input: Colorimetric Reflective System MRS18a

for hue  $h^* = lab^*h = 92/360 = 0.256$

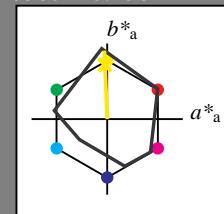
$lab^*tch$  and  $lab^*nch$

D65: hue J

LCH\*Ma: 89 91 92

olv\*Ma: 1.0 0.95 0.0

triangle lightness  $t^*$



### MRS18a; adapted (a) CIELAB data

$L^*=L^*_{ab}$   $a^*_{ab}$   $b^*_{ab}$   $C^*_{ab,a}$   $h^*_{ab,a}$

RMa	49.63	66.8	40.02	77.87	31
JMa	90.7	-7.27	93.19	93.48	94
GMa	52.11	-69.93	11.26	70.85	171
G50BMa	45.03	-36.65	-27.13	45.61	217
BMa	36.65	23.26	-62.27	66.49	290
B50RMa	34.94	57.27	-43.6	71.99	323
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	272

relative Inform. Technology (IT)  
 $olv_i3^*$  1.0 1.0 1.0 (1.0)  
 $cmy3^*$  0.0 0.0 0.0 (0.0)  
 $olv_i4^*$  1.0 1.0 1.0 1.0  
 $cmy4^*$  0.0 0.0 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  95.41 0.01 0.0  
 $LAB^*LABa$  95.41 0.0 0.0  
 $LAB^*TCh$  99.99 0.01 -

relative CIELAB lab\*

$lab^*lab$  1.0 0.0 0.0  
 $lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0  
 $lab^*tce$  1.0 0.0 0.0  
 $lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)  
 $olv_i3^*$  0.5 0.5 0.5 (1.0)  
 $cmy3^*$  0.5 0.5 0.5 (0.0)  
 $olv_i4^*$  1.0 1.0 1.0 0.5  
 $cmy4^*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  56.71 0.05 0.0  
 $LAB^*LABa$  56.71 0.0 0.0  
 $LAB^*TCh$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0  
 $lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.5 0.0 0.0  
 $lab^*tce$  0.5 0.0 0.0  
 $lab^*ncE$  0.5 0.0 -

relative Inform. Technology (IT)  
 $olv_i3^*$  0.0 0.0 0.0 (1.0)  
 $cmy3^*$  1.0 1.0 1.0 (0.0)  
 $olv_i4^*$  1.0 1.0 1.0 0.0  
 $cmy4^*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.1 0.02  
 $LAB^*LABa$  18.02 0.0 0.0  
 $LAB^*TCh$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0  
 $lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0  
 $lab^*tce$  0.0 0.0 -  
 $lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

%Gamut  
 $u^*_{rel} = 92$   
%Regularity  
 $g^*_{H,rel} = 42$   
 $g^*_{C,rel} = 49$

relative Inform. Technology (IT)  
 $olv_i3^*$  1.0 0.976 0.5 (1.0)  
 $cmy3^*$  0.0 0.024 0.5 (0.0)  
 $olv_i4^*$  1.0 0.976 0.5 1.0  
 $cmy4^*$  0.0 0.024 0.5 0.0

standard and adapted CIELAB

$LAB^*LAB$  92.06 -1.83 45.31  
 $LAB^*LABa$  92.06 -1.84 45.31  
 $LAB^*TCh$  75.0 45.35 92.34

relative CIELAB lab\*

$lab^*lab$  0.957 -0.019 0.499  
 $lab^*tch$  0.75 0.5 0.257  
 $lab^*nch$  0.0 0.5 0.257

relative Natural Colour (NC)

$lab^*lrij$  0.957 0.0 0.5  
 $lab^*tce$  0.75 0.5 0.25  
 $lab^*ncE$  0.0 0.5 j00g

relative Inform. Technology (IT)  
 $olv_i3^*$  1.0 0.952 0.0 (1.0)  
 $cmy3^*$  0.5 0.5 0.5 (0.0)  
 $olv_i4^*$  1.0 0.952 0.0 0.5  
 $cmy4^*$  0.0 0.048 1.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  88.71 -3.67 90.61  
 $LAB^*LABa$  88.71 -3.69 90.61  
 $LAB^*TCh$  50.0 90.68 92.34

relative CIELAB lab\*

$lab^*lab$  0.913 -0.04 0.999  
 $lab^*tch$  0.5 1.0 0.256  
 $lab^*nch$  0.0 1.0 0.256

relative Natural Colour (NC)

$lab^*lrij$  0.913 0.0 1.0  
 $lab^*tce$  0.5 1.0 0.25  
 $lab^*ncE$  0.0 1.0 j00g

relative Inform. Technology (IT)  
 $olv_i3^*$  0.5 0.476 0.0 (1.0)  
 $cmy3^*$  0.5 0.524 1.0 (0.0)  
 $olv_i4^*$  1.0 0.976 0.5 0.5  
 $cmy4^*$  0.0 0.024 0.5 0.5

standard and adapted CIELAB

$LAB^*LAB$  53.36 -1.78 45.32  
 $LAB^*LABa$  53.36 -1.84 45.3  
 $LAB^*TCh$  25.01 45.34 92.33

relative CIELAB lab\*

$lab^*lab$  0.457 -0.019 0.499  
 $lab^*tch$  0.25 0.5 0.256  
 $lab^*nch$  0.5 0.5 0.256

relative Natural Colour (NC)

$lab^*lrij$  0.457 0.0 0.5  
 $lab^*tce$  0.25 0.5 0.25  
 $lab^*ncE$  0.5 0.5 r99j

$n^* = 0,00$

$n^* = 0,00$   
blackness  $n^*$   
chromaticness  $c^*$

### Output: Colorimetric Reflective System MRS18a

for hue  $h^* = lab^*h = 92/360 = 0.256$

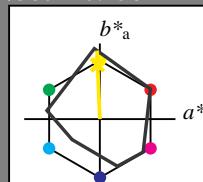
$lab^*tch$  and  $lab^*nch$

D65: hue J

LCH\*Ma: 89 91 92

olv\*Ma: 1.0 0.95 0.0

triangle lightness  $t^*$



### MRS18a; adapted (a) CIELAB data

$L^*=L^*_{ab}$   $a^*_{ab}$   $b^*_{ab}$   $C^*_{ab,a}$   $h^*_{ab,a}$

RMa	49.63	66.8	40.02	77.87	31
JMa	90.7	-7.27	93.19	93.48	94
GMa	52.11	-69.93	11.26	70.85	171
G50BMa	45.03	-36.65	-27.13	45.61	217
BMa	36.65	23.26	-62.27	66.49	290
B50RMa	34.94	57.27	-43.6	71.99	323
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	272

relative Inform. Technology (IT)  
 $olv_i3^*$  1.0 1.0 1.0 (1.0)  
 $cmy3^*$  0.0 0.0 0.0 (0.0)  
 $olv_i4^*$  1.0 1.0 1.0 1.0  
 $cmy4^*$  0.0 0.0 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  95.41 0.01 0.0  
 $LAB^*LABa$  95.41 0.0 0.0  
 $LAB^*TCh$  99.99 0.01 -

relative CIELAB lab\*

$lab^*lab$  1.0 0.0 0.0  
 $lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0  
 $lab^*tce$  1.0 0.0 0.0  
 $lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)  
 $olv_i3^*$  0.5 0.5 0.5 (1.0)  
 $cmy3^*$  0.5 0.5 0.5 (0.0)  
 $olv_i4^*$  1.0 0.976 0.5 1.0  
 $cmy4^*$  0.0 0.048 1.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  92.06 -1.83 45.31  
 $LAB^*LABa$  92.06 -1.84 45.31  
 $LAB^*TCh$  75.0 45.34 92.34

relative CIELAB lab\*

$lab^*lab$  0.957 -0.019 0.499  
 $lab^*tch$  0.75 0.5 0.257  
 $lab^*nch$  0.0 0.5 0.257

relative Natural Colour (NC)

$lab^*lrij$  0.957 0.0 0.5  
 $lab^*tce$  0.75 0.5 0.25  
 $lab^*ncE$  0.0 0.5 j00g

relative Inform. Technology (IT)  
 $olv_i3^*$  0.0 0.0 0.0 (1.0)  
 $cmy3^*$  0.0 0.048 1.0 (0.0)  
 $olv_i4^*$  1.0 0.976 0.5 0.5  
 $cmy4^*$  0.0 0.024 0.5 0.5

standard and adapted CIELAB

$LAB^*LAB$  88.71 -3.67 90.61  
 $LAB^*LABa$  88.71 -3.69 90.61  
 $LAB^*TCh$  50.0 90.68 92.34

relative CIELAB lab\*

$lab^*lab$  0.913 -0.04 0.999  
 $lab^*tch$  0.5 1.0 0.256  
 $lab^*nch$  0.0 1.0 0.256

relative Natural Colour (NC)

$lab^*lrij$  0.913 0.0 1.0  
 $lab^*tce$  0.5 1.0 0.25  
 $lab^*ncE$  0.0 1.0 j00g

relative Inform. Technology (IT)  
 $olv_i3^*$  0.5 0.476 0.0 (1.0)  
 $cmy3^*$  0.5 0.524 1.0 (0.0)  
 $olv_i4^*$  1.0 0.976 0.5 0.5  
 $cmy4^*$  0.0 0.024 0.5 0.5

standard and adapted CIELAB

$LAB^*LAB$  53.36 -1.78 45.32  
 $LAB^*LABa$  53.36 -1.84 45.3  
 $LAB^*TCh$  25.01 45.34 92.33

relative CIELAB lab\*

$lab^*lab$  0.457 -0.019 0.499  
 $lab^*tch$  0.25 0.5 0.256  
 $lab^*nch$  0.5 0.5 0.256

relative Natural Colour (NC)

$lab^*lrij$  0.457 0.0 0.5  
 $lab^*tce$  0.25 0.5 0.25  
 $lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

$n^* = 0,50$   
blackness  $n^*$   
chromaticness  $c^*$

3 step scales for constant CIELAB hue 92/360 = 0.256 (left)

3 step scales for constant CIELAB hue 92/360 = 0.256 (right)

UE100-7, 3 step scales for constant CIELAB hue 92/360 = 0.256 (left)

$n^* = 0,00$   
blackness  $n^*$   
chromaticness  $c^*$

### Input: Colorimetric Reflective System MRS18a

for hue  $h^* = lab^*h = 92/360 = 0.256$

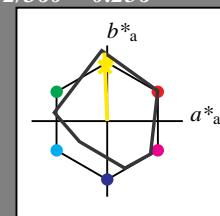
$lab^*tch$  and  $lab^*nch$

D65: hue J

LCH\*Ma: 89 91 92

olv\*Ma: 1.0 0.95 0.0

triangle lightness  $t^*$



### MRS18a; adapted (a) CIELAB data

	$L^*=L^*_a$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	49.63	66.8	40.02	77.87	31
JMa	90.7	-7.27	93.19	93.48	94
GMa	52.11	-69.93	11.26	70.85	171
G50BMa	45.03	-36.65	-27.13	45.61	217
BMa	36.65	23.26	-62.27	66.49	290
B50RMa	34.94	57.27	-43.6	71.99	323
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	272

relative Inform. Technology (IT)  
 $olv_i3^*$  1.0 1.0 1.0 (1.0)  
 $cmy3^*$  0.0 0.0 0.0 (0.0)  
 $olv_i4^*$  1.0 1.0 1.0 1.0  
 $cmy4^*$  0.0 0.0 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  95.41 0.01 0.0  
 $LAB^*LABa$  95.41 0.0 0.0  
 $LAB^*TCh$  99.99 0.01 -

relative CIELAB lab\*

$lab^*lab$  1.0 0.0 0.0  
 $lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0  
 $lab^*ice$  1.0 0.0 0.0  
 $lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)  
 $olv_i3^*$  0.5 0.5 0.5 (1.0)  
 $cmy3^*$  0.5 0.5 0.5 (0.0)  
 $olv_i4^*$  1.0 1.0 1.0 0.5  
 $cmy4^*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  56.71 0.05 0.0  
 $LAB^*LABa$  56.71 0.0 0.0  
 $LAB^*TCh$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0  
 $lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.5 0.0 0.0  
 $lab^*ice$  0.5 0.0 0.0  
 $lab^*ncE$  0.5 0.0 -

relative Inform. Technology (IT)  
 $olv_i3^*$  0.0 0.0 0.0 (1.0)  
 $cmy3^*$  1.0 1.0 1.0 (0.0)  
 $olv_i4^*$  1.0 1.0 1.0 0.0  
 $cmy4^*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.1 0.02  
 $LAB^*LABa$  18.02 0.0 0.0  
 $LAB^*TCh$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0  
 $lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0  
 $lab^*ice$  0.0 0.0 -  
 $lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

%Gamut  
 $u^*_{rel} = 92$   
%Regularity  
 $g^*_{H,rel} = 42$   
 $g^*_{C,rel} = 49$

relative Inform. Technology (IT)  
 $olv_i3^*$  1.0 0.976 0.5 (1.0)  
 $cmy3^*$  0.0 0.024 0.5 (0.0)  
 $olv_i4^*$  1.0 0.976 0.5 1.0  
 $cmy4^*$  0.0 0.024 0.5 0.0

standard and adapted CIELAB

$LAB^*LAB$  92.06 -1.83 45.31  
 $LAB^*LABa$  92.06 -1.84 45.31  
 $LAB^*TCh$  75.0 45.35 92.34

relative CIELAB lab\*

$lab^*lab$  0.957 -0.019 0.499  
 $lab^*tch$  0.75 0.5 0.257  
 $lab^*nch$  0.0 0.5 0.257

relative Natural Colour (NC)

$lab^*lrij$  0.957 0.0 0.5  
 $lab^*ice$  0.75 0.5 0.25  
 $lab^*ncE$  0.0 0.5 j00g

relative Inform. Technology (IT)  
 $olv_i3^*$  1.0 0.952 0.0 (1.0)  
 $cmy3^*$  0.5 0.5 0.5 (0.0)  
 $olv_i4^*$  1.0 0.952 0.0 1.0  
 $cmy4^*$  0.0 0.048 1.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  88.71 -3.67 90.61  
 $LAB^*LABa$  88.71 -3.69 90.61  
 $LAB^*TCh$  50.0 90.68 92.34

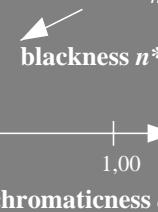
relative CIELAB lab\*

$lab^*lab$  0.913 -0.04 0.999  
 $lab^*tch$  0.5 1.0 0.256  
 $lab^*nch$  0.0 1.0 0.256

relative Natural Colour (NC)

$lab^*lrij$  0.913 0.0 1.0  
 $lab^*ice$  0.5 1.0 0.25  
 $lab^*ncE$  0.0 1.0 j00g

$n^* = 0,00$



chromaticness  $c^*$

### Output: Colorimetric Reflective System NRS18

for hue  $h^* = lab^*h = 92/360 = 0.256$

$lab^*tch$  and  $lab^*nch$

D65: hue J

LCH\*Ma: 57 76 92

olv\*Ma: 0.98 1.0 0.0

triangle lightness  $t^*$

$b^*_a$

%Gamut  
 $u^*_{rel} = 100$   
%Regularity  
 $g^*_{H,rel} = 47$   
 $g^*_{C,rel} = 100$

### NRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	56.7	70.66	31.47	77.35	24
JMa	56.7	-1.39	77.37	77.39	91
GMa	56.7	-75.46	17.4	77.45	167
G50BMa	56.7	-71.29	-30.25	77.45	203
BMa	56.7	4.0	-77.3	77.41	273
B50RMa	56.7	63.35	-44.4	77.36	325
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	272

relative Inform. Technology (IT)  
 $olv_i3^*$  0.989 1.0 0.5 (1.0)  
 $cmy3^*$  0.011 0.0 0.5 (0.0)  
 $olv_i4^*$  0.989 1.0 0.5 1.0  
 $cmy4^*$  0.011 0.0 0.5 0.0

standard and adapted CIELAB

$LAB^*LAB$  76.05 -1.5 38.01  
 $LAB^*LABa$  76.05 -1.53 38.0  
 $LAB^*TCh$  75.0 38.03 92.32

relative CIELAB lab\*

$lab^*lab$  0.75 -0.019 0.499  
 $lab^*tch$  0.75 0.5 0.256  
 $lab^*nch$  0.0 0.5 0.256

relative Natural Colour (NC)

$lab^*lrij$  0.75 0.0 0.5  
 $lab^*ice$  0.75 0.5 0.25  
 $lab^*ncE$  0.0 0.5 r99j

relative Inform. Technology (IT)  
 $olv_i3^*$  0.977 1.0 0.0 (1.0)  
 $cmy3^*$  0.023 0.0 1.0 (0.0)  
 $olv_i4^*$  0.977 1.0 0.0 1.0  
 $cmy4^*$  0.023 0.0 1.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  56.7 -3.03 76.01  
 $LAB^*LABa$  56.7 -3.08 75.99  
 $LAB^*TCh$  50.0 76.06 92.33

relative CIELAB lab\*

$lab^*lab$  0.5 -0.04 0.999  
 $lab^*tch$  0.5 1.0 0.256  
 $lab^*nch$  0.0 1.0 0.256

relative Natural Colour (NC)

$lab^*lrij$  0.5 0.0 1.0  
 $lab^*ice$  0.5 1.0 0.25  
 $lab^*ncE$  0.0 1.0 r99j

$n^* = 0,00$

blackness  $n^*$

chromaticness  $c^*$

relative Inform. Technology (IT)  
 $olv_i3^*$  0.0 0.0 0.0 (1.0)  
 $cmy3^*$  1.0 1.0 1.0 (0.0)  
 $olv_i4^*$  1.0 1.0 1.0 0.0  
 $cmy4^*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.09 0.02  
 $LAB^*LABa$  18.02 0.0 0.0  
 $LAB^*TCh$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0  
 $lab^*tch$  0.0 0.0 -  
 $lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0  
 $lab^*ice$  0.0 0.0 -  
 $lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

3 step scales for constant CIELAB hue 92/360 = 0.256 (right)

UE100-7, 3 step scales for constant CIELAB hue 92/360 = 0.256 (left)

### Input: Colorimetric Reflective System MRS18a

for hue  $h^* = lab^*h = 92/360 = 0.256$

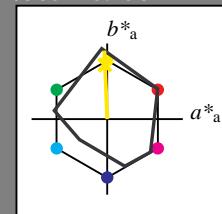
$lab^*tch$  and  $lab^*nch$

D65: hue J

LCH\*Ma: 89 91 92

olv\*Ma: 1.0 0.95 0.0

triangle lightness  $t^*$



### MRS18a; adapted (a) CIELAB data

	$L^*=L_a^*$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	49.63	66.8	40.02	77.87	31
JMa	90.7	-7.27	93.19	93.48	94
GMa	52.11	-69.93	11.26	70.85	171
G50BMa	45.03	-36.65	-27.13	45.61	217
BMa	36.65	23.26	-62.27	66.49	290
B50RMa	34.94	57.27	-43.6	71.99	323
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	272

%Gamut

$u^*_{rel} = 92$

%Regularity

$g^*_{H,rel} = 42$

$g^*_{C,rel} = 49$

relative Inform. Technology (IT)

$olv^3*$  1.0 1.0 1.0 (1.0)

$cmy^3*$  0.0 0.0 0.0 (0.0)

$olv^4*$  1.0 1.0 1.0 1.0

$cmy^4*$  0.0 0.0 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  95.41 0.01 0.0

$LAB^*LABa$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tice$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)

$olv^3*$  0.5 0.5 0.5 (1.0)

$cmy^3*$  0.5 0.5 0.5 (0.0)

$olv^4*$  1.0 1.0 1.0 0.5

$cmy^4*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  56.71 0.05 0.0

$LAB^*LABa$  56.71 0.0 0.0

$LAB^*TChA$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.5 0.0 0.0

$lab^*tice$  0.5 0.0 0.0

$lab^*ncE$  0.5 0.0 -

$n^* = 1,0$

relative Inform. Technology (IT)

$olv^3*$  0.5 0.476 0.0 (1.0)

$cmy^3*$  0.5 0.524 1.0 (0.0)

$olv^4*$  1.0 0.976 0.5 0.5

$cmy^4*$  0.0 0.024 0.5 0.5

standard and adapted CIELAB

$LAB^*LAB$  53.36 -1.78 45.32

$LAB^*LABa$  53.36 -1.84 45.3

$LAB^*TChA$  25.01 45.34 92.33

relative CIELAB lab\*

$lab^*lab$  0.457 -0.019 0.499

$lab^*tch$  0.25 0.5 0.256

$lab^*nch$  0.5 0.5 0.256

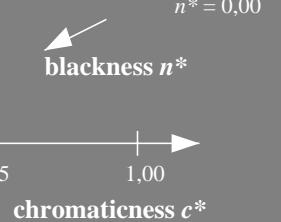
relative Natural Colour (NC)

$lab^*lrij$  0.457 0.0 0.5

$lab^*tice$  0.25 0.5 0.25

$lab^*ncE$  0.5 0.5 r99j

$n^* = 0,00$



UE100-7, 3 step scales for constant CIELAB hue 92/360 = 0.256 (left)

### Output: Colorimetric Reflective System NCS18

for hue  $h^* = lab^*h = 92/360 = 0.256$

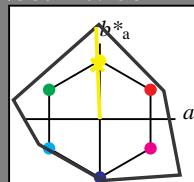
$lab^*tch$  and  $lab^*nch$

D65: hue J

LCH\*Ma: 90 122 92

olv\*Ma: 0.97 1.0 0.0

triangle lightness  $t^*$



### NCS18; adapted (a) CIELAB data

	$L^*=L_a^*$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	47.15	84.63	37.24	92.46	24
JMa	91.37	-1.27	125.03	125.03	91
GMa	63.07	-114.29	25.34	117.07	167
G50BMa	59.47	-80.61	-33.45	87.29	203
BMa	49.01	3.63	-81.2	81.29	273
B50RMa	44.06	106.07	-73.94	129.31	325
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	272

%Gamut

$u^*_{rel} = 136$

%Regularity

$g^*_{H,rel} = 46$

$g^*_{C,rel} = 65$

relative Inform. Technology (IT)

$olv^3*$  1.0 1.0 1.0 (1.0)

$cmy^3*$  0.0 0.0 0.0 (0.0)

$olv^4*$  1.0 1.0 1.0 1.0

$cmy^4*$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tice$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)

$olv^3*$  0.984 1.0 0.5 (1.0)

$cmy^3*$  0.016 0.0 0.5 (0.0)

$olv^4*$  0.984 1.0 0.5 1.0

$cmy^4*$  0.016 0.0 0.5 0.0

standard and adapted CIELAB

$LAB^*LAB$  92.92 -2.45 60.89

$LAB^*LABa$  92.92 -2.46 60.89

$LAB^*TChA$  75.0 60.94 92.32

relative CIELAB lab\*

$lab^*lab$  0.968 -0.019 0.499

$lab^*tch$  0.75 0.5 0.256

$lab^*nch$  0.0 0.5 0.256

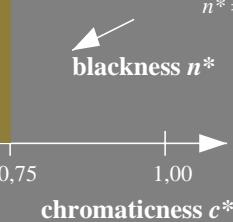
relative Natural Colour (NC)

$lab^*lrij$  0.968 0.0 0.5

$lab^*tice$  0.75 0.5 0.25

$lab^*ncE$  0.0 0.5 r99j

$n^* = 0,00$



3 step scales for constant CIELAB hue 92/360 = 0.256 (right)

### Input: Colorimetric Reflective System MRS18a

for hue  $h^* = lab^*h = 92/360 = 0.256$

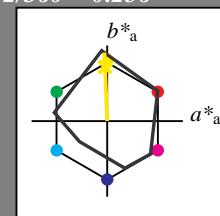
$lab^*tch$  and  $lab^*nch$

D65: hue J

LCH\*Ma: 89 91 92

olv\*Ma: 1.0 0.95 0.0

triangle lightness  $t^*$



### MRS18a; adapted (a) CIELAB data

$L^*=L^*_{a,a}$   $a^*_{a,a}$   $b^*_{a,a}$   $C^*_{ab,a}$   $h^*_{ab,a}$

RMa	49.63	66.8	40.02	77.87	31
JMa	90.7	-7.27	93.19	93.48	94
GMa	52.11	-69.93	11.26	70.85	171
G50BMa	45.03	-36.65	-27.13	45.61	217
BMa	36.65	23.26	-62.27	66.49	290
B50RMa	34.94	57.27	-43.6	71.99	323
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	272

relative Inform. Technology (IT)  
 $olv_i3^*$  1.0 1.0 1.0 (1.0)  
 $cmy3^*$  0.0 0.0 0.0 (0.0)  
 $olv_i4^*$  1.0 1.0 1.0 1.0  
 $cmy4^*$  0.0 0.0 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  95.41 0.01 0.0  
 $LAB^*LABa$  95.41 0.0 0.0  
 $LAB^*TCh$  99.99 0.01 -

relative CIELAB lab\*

$lab^*lab$  1.0 0.0 0.0  
 $lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  1.0 0.0 0.0  
 $lab^*ice$  1.0 0.0 0.0  
 $lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)  
 $olv_i3^*$  0.5 0.5 0.5 (1.0)  
 $cmy3^*$  0.5 0.5 0.5 (0.0)  
 $olv_i4^*$  1.0 1.0 1.0 0.5  
 $cmy4^*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  56.71 0.05 0.0  
 $LAB^*LABa$  56.71 0.0 0.0  
 $LAB^*TCh$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0  
 $lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  0.5 0.0 0.0  
 $lab^*ice$  0.5 0.0 0.0  
 $lab^*ncE$  0.5 0.0 -

relative Inform. Technology (IT)  
 $olv_i3^*$  0.0 0.0 0.0 (1.0)  
 $cmy3^*$  1.0 1.0 1.0 (0.0)

$olv_i4^*$  1.0 1.0 1.0 0.0

$cmy4^*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.1 0.02  
 $LAB^*LABa$  18.02 0.0 0.0  
 $LAB^*TCh$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0  
 $lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  0.0 0.0 0.0  
 $lab^*ice$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

%Gamut  
 $u^*_{rel} = 92$   
%Regularity  
 $g^*_{H,rel} = 42$   
 $g^*_{C,rel} = 49$

relative Inform. Technology (IT)  
 $olv_i3^*$  1.0 0.976 0.5 (1.0)  
 $cmy3^*$  0.0 0.024 0.5 (0.0)  
 $olv_i4^*$  1.0 0.976 0.5 1.0  
 $cmy4^*$  0.0 0.024 0.5 0.0

standard and adapted CIELAB

$LAB^*LAB$  92.06 -1.83 45.31  
 $LAB^*LABa$  92.06 -1.84 45.31  
 $LAB^*TCh$  75.0 45.35 92.34

relative CIELAB lab\*

$lab^*lab$  0.957 -0.019 0.499  
 $lab^*tch$  0.75 0.5 0.257  
 $lab^*nch$  0.0 0.5 0.257

relative Natural Colour (NC)

$lab^*lrj$  0.957 0.0 0.5  
 $lab^*ice$  0.75 0.5 0.25  
 $lab^*ncE$  0.0 0.5 j00g

relative Inform. Technology (IT)  
 $olv_i3^*$  1.0 0.952 0.0 (1.0)  
 $cmy3^*$  0.5 0.5 0.5 (0.0)  
 $olv_i4^*$  1.0 0.952 0.0 1.0  
 $cmy4^*$  0.0 0.048 1.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  88.71 -3.67 90.61  
 $LAB^*LABa$  88.71 -3.69 90.61  
 $LAB^*TCh$  50.0 90.68 92.34

relative CIELAB lab\*

$lab^*lab$  0.913 -0.04 0.999  
 $lab^*tch$  0.5 1.0 0.256  
 $lab^*nch$  0.0 1.0 0.256

relative Natural Colour (NC)

$lab^*lrj$  0.913 0.0 1.0  
 $lab^*ice$  0.5 1.0 0.25  
 $lab^*ncE$  0.0 1.0 j00g

relative Inform. Technology (IT)  
 $olv_i3^*$  0.5 0.476 0.0 (1.0)  
 $cmy3^*$  0.5 0.524 1.0 (0.0)

$olv_i4^*$  1.0 0.976 0.5 0.5

$cmy4^*$  0.0 0.024 0.5 0.5

standard and adapted CIELAB

$LAB^*LAB$  53.36 -1.78 45.32  
 $LAB^*LABa$  53.36 -1.84 45.3  
 $LAB^*TCh$  25.01 45.34 92.33

relative CIELAB lab\*

$lab^*lab$  0.457 -0.019 0.499  
 $lab^*tch$  0.25 0.5 0.256  
 $lab^*nch$  0.5 0.5 0.256

relative Natural Colour (NC)

$lab^*lrj$  0.457 0.0 0.5  
 $lab^*ice$  0.25 0.5 0.25  
 $lab^*ncE$  0.5 0.5 r99j

$n^* = 0,00$

$n^* = 0,00$   
blackness  $n^*$   
chromaticness  $c^*$

### Output: Colorimetric Reflective System NRS11

for hue  $h^* = lab^*h = 92/360 = 0.256$

$lab^*tch$  and  $lab^*nch$

D65: hue J

LCH\*Ma: 53 83 92

olv\*Ma: 0.98 1.0 0.0

triangle lightness  $t^*$

$b^*_{a,a}$

%Gamut

$u^*_{rel} = 119$

%Regularity

$g^*_{H,rel} = 47$

$g^*_{C,rel} = 100$

relative Inform. Technology (IT)  
 $olv_i3^*$  1.0 1.0 1.0 (1.0)  
 $cmy3^*$  0.0 0.0 0.0 (0.0)  
 $olv_i4^*$  1.0 1.0 1.0 1.0  
 $cmy4^*$  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  
 $LAB^*TCh$  99.99 0.01 -

relative CIELAB lab\*

$lab^*lab$  1.0 0.0 0.0  
 $lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  1.0 0.0 0.0  
 $lab^*ice$  1.0 0.0 0.0  
 $lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)  
 $olv_i3^*$  0.989 1.0 0.5 (1.0)  
 $cmy3^*$  0.011 0.0 0.5 (0.0)

$olv_i4^*$  0.989 1.0 0.5 1.0

$cmy4^*$  0.011 0.0 0.5 0.0

standard and adapted CIELAB

$LAB^*LAB$  74.3 -1.64 41.44  
 $LAB^*LABa$  74.3 -1.67 41.44  
 $LAB^*TCh$  75.0 41.47 92.32

relative CIELAB lab\*

$lab^*lab$  0.75 -0.019 0.499  
 $lab^*tch$  0.75 0.5 0.256  
 $lab^*nch$  0.0 0.5 0.256

relative Natural Colour (NC)

$lab^*lrj$  0.75 0.0 0.5  
 $lab^*ice$  0.75 0.5 0.25  
 $lab^*ncE$  0.0 0.5 r99j

relative Inform. Technology (IT)  
 $olv_i3^*$  0.489 0.5 0.0 (1.0)  
 $cmy3^*$  0.511 0.5 1.0 (0.0)

$olv_i4^*$  0.989 1.0 0.5 0.5

$cmy4^*$  0.011 0.0 0.5 0.5

standard and adapted CIELAB

$LAB^*LAB$  53.21 -0.04 0.0  
 $LAB^*LABa$  53.21 0.0 0.0  
 $LAB^*TCh$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0  
 $lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  0.5 0.0 0.0  
 $lab^*ice$  0.5 0.0 0.0  
 $lab^*ncE$  0.5 0.0 -

$n^* = 1,0$

3 step scales for constant CIELAB hue 92/360 = 0.256 (right)

3 step scales for constant CIELAB hue 92/360 = 0.256 (left)

### NRS11; adapted (a) CIELAB data

$L^*=L^*_{a,a}$   $a^*_{a,a}$   $b^*_{a,a}$   $C^*_{ab,a}$   $h^*_{ab,a}$

RMa	53.2	77.06	34.32	84.36	24
JMa	53.2	-1.51	84.38	84.39	91
GMa	53.2	-82.27	18.98	84.44	167
G50BMa	53.2	-77.72	-32.98	84.44	203
BMa	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)  
 $olv_i3^*$  0.977 1.0 0.0 (1.0)  
 $cmy3^*$  0.023 0.0 1.0 (0.0)  
 $olv_i4^*$  0.977 1.0 0.0 1.0  
 $cmy4^*$  0.023 0.0 1.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  53.2 -3.31 82.87  
 $LAB^*LABa$  53.2 -3.35 82.86  
 $LAB^*TCh$  50.0 82.93 92.32

relative CIELAB lab\*

$lab^*lab$  0.5 -0.04 0.999  
 $lab^*tch$  0.5 1.0 0.256  
 $lab^*nch$  0.0 1.0 0.256

relative Natural Colour (NC)

$lab^*lrj$  0.5 0.0 1.0  
 $lab^*ice$  0.5 1.0 0.25  
 $lab^*ncE$  0.0 1.0 r99j

$n^* = 0,00$

$n^* = 0,50$

$n^* = 1,00$

chromaticness  $c^*$

### Input: Colorimetric Reflective System MRS18a

for hue  $h^* = lab^*h = 92/360 = 0.256$

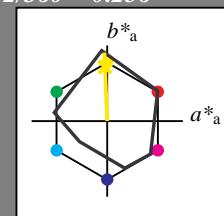
$lab^*tch$  and  $lab^*nch$

D65: hue J

LCH\*Ma: 89 91 92

olv\*Ma: 1.0 0.95 0.0

triangle lightness  $t^*$



### MRS18a; adapted (a) CIELAB data

	$L^*=L^*_a$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	49.63	66.8	40.02	77.87	31
JMa	90.7	-7.27	93.19	93.48	94
GMa	52.11	-69.93	11.26	70.85	171
G50BMa	45.03	-36.65	-27.13	45.61	217
BMa	36.65	23.26	-62.27	66.49	290
B50RMa	34.94	57.27	-43.6	71.99	323
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	272

%Gamut

$u^*_{rel} = 92$

%Regularity

$g^*_{H,rel} = 42$

$g^*_{C,rel} = 49$

relative Inform. Technology (IT)

$olv^3*$  1.0 1.0 1.0 (1.0)  
 $cmy^3*$  0.0 0.0 0.0 (0.0)  
 $olv^4*$  1.0 1.0 1.0 1.0  
 $cmy^4*$  0.0 0.0 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  95.41 0.01 0.0  
 $LAB^*LABa$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0  
 $lab^*tce$  1.0 0.0 0.0  
 $lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)

$olv^3*$  0.5 0.5 0.5 (1.0)  
 $cmy^3*$  0.5 0.5 0.5 (0.0)

$olv^4*$  1.0 1.0 1.0 0.5

$cmy^4*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  56.71 0.05 0.0  
 $LAB^*LABa$  56.71 0.0 0.0  
 $LAB^*TChA$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0  
 $lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.5 0.0 0.0  
 $lab^*tce$  0.5 0.0 0.0  
 $lab^*ncE$  0.5 0.0 -

relative Inform. Technology (IT)

$olv^3*$  0.0 0.0 0.0 (1.0)

$cmy^3*$  1.0 1.0 1.0 (0.0)

$olv^4*$  1.0 1.0 1.0 0.0

$cmy^4*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.1 0.02  
 $LAB^*LABa$  18.02 0.0 0.0  
 $LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0  
 $lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0  
 $lab^*tce$  0.0 0.0 0.0  
 $lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

### Output: Colorimetric Reflective System NCS11

for hue  $h^* = lab^*h = 92/360 = 0.256$

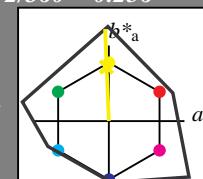
$lab^*tch$  and  $lab^*nch$

D65: hue J

LCH\*Ma: 90 122 92

olv\*Ma: 0.97 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

%Gamut

$u^*_{rel} = 149$

%Regularity

$g^*_{H,rel} = 46$

$g^*_{C,rel} = 65$

relative Inform. Technology (IT)

$olv^3*$  1.0 1.0 1.0 (1.0)  
 $cmy^3*$  0.0 0.0 0.0 (0.0)  
 $olv^4*$  1.0 1.0 1.0 1.0  
 $cmy^4*$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0  
 $lab^*tce$  1.0 0.0 0.0  
 $lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)

$olv^3*$  0.984 1.0 0.5 (1.0)

$cmy^3*$  0.016 0.0 0.5 (0.0)

$olv^4*$  0.984 1.0 0.5 1.0

$cmy^4*$  0.016 0.0 0.5 0.0

standard and adapted CIELAB

$LAB^*LAB$  92.92 -2.44 60.89  
 $LAB^*LABa$  92.92 -2.46 60.89  
 $LAB^*TChA$  75.0 60.94 92.32

relative CIELAB lab\*

$lab^*lab$  0.971 -0.019 0.499  
 $lab^*tch$  0.75 0.5 0.256

$lab^*nch$  0.0 0.5 0.256

relative Natural Colour (NC)

$lab^*lrij$  0.971 0.0 0.5  
 $lab^*tce$  0.75 0.5 0.25  
 $lab^*ncE$  0.0 0.5 r99j

relative Inform. Technology (IT)

$olv^3*$  0.967 1.0 0.0 (1.0)

$cmy^3*$  0.033 0.0 1.0 (0.0)

$olv^4*$  0.968 1.0 0.0 1.0

$cmy^4*$  0.032 0.0 1.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  90.45 -4.92 121.77  
 $LAB^*LABa$  90.45 -4.93 121.77  
 $LAB^*TChA$  50.0 121.87 92.32

relative CIELAB lab\*

$lab^*lab$  0.941 -0.04 0.999  
 $lab^*tch$  0.5 1.0 0.256

$lab^*nch$  0.0 1.0 0.256

relative Natural Colour (NC)

$lab^*lrij$  0.941 0.0 1.0  
 $lab^*tce$  0.5 1.0 0.25  
 $lab^*ncE$  0.0 1.0 r99j

relative Inform. Technology (IT)

$olv^3*$  0.967 1.0 0.0 (1.0)

$cmy^3*$  0.033 0.0 1.0 (0.0)

$olv^4*$  0.968 1.0 0.0 1.0

$cmy^4*$  0.032 0.0 1.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  90.45 -4.92 121.77  
 $LAB^*LABa$  90.45 -4.93 121.77  
 $LAB^*TChA$  50.0 121.87 92.32

relative CIELAB lab\*

$lab^*lab$  0.941 -0.04 0.999  
 $lab^*tch$  0.5 1.0 0.256

$lab^*nch$  0.0 1.0 0.256

relative Natural Colour (NC)

$lab^*lrij$  0.941 0.0 1.0  
 $lab^*tce$  0.5 1.0 0.25  
 $lab^*ncE$  0.0 1.0 r99j

$n^* = 0,00$

blackness  $n^*$

$n^* = 1,0$

chromaticness  $c^*$

UE100-7, 3 step scales for constant CIELAB hue 92/360 = 0.256 (left)

3 step scales for constant CIELAB hue 92/360 = 0.256 (right)

## Input: Colorimetric Reflective System NRS18

for hue  $h^* = lab^*h = 92/360 = 0.256$

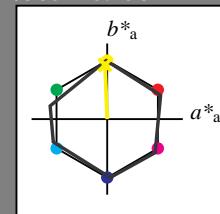
$lab^*tch$  and  $lab^*nch$

D65: hue J

LCH\*Ma: 57 76 92

olv\*Ma: 0.98 1.0 0.0

triangle lightness  $t^*$



%Gamut

$u^*_{rel} = 100$

%Regularity

$g^*_{H,rel} = 47$

$g^*_{C,rel} = 100$

relative Inform. Technology (IT)  
 $olv_i3^*$  1.0 1.0 1.0 (1.0)  
 $cmy_n3^*$  0.0 0.0 0.0 (0.0)  
 $olv_i4^*$  1.0 1.0 1.0 1.0  
 $cmy_n4^*$  0.0 0.0 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  95.41 0.0 0.0

$LAB^*LABa$  95.41 0.0 0.0

$LAB^*TCh_a$  99.99 0.01 -

relative CIELAB lab\*

$lab^*lab$  1.0 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)  
 $olv_i3^*$  0.989 1.0 0.5 (1.0)  
 $cmy_n3^*$  0.011 0.0 0.5 (0.0)  
 $olv_i4^*$  0.989 1.0 0.5 1.0  
 $cmy_n4^*$  0.011 0.0 0.5 0.0

standard and adapted CIELAB

$LAB^*LAB$  76.05 -1.5 38.01

$LAB^*LABa$  76.05 -1.53 38.0

$LAB^*TCh_a$  75.0 38.03 92.32

relative CIELAB lab\*

$lab^*lab$  0.75 -0.019 0.499

$lab^*tch$  0.75 0.5 0.256

$lab^*nch$  0.0 0.5 0.256

relative Natural Colour (NC)

$lab^*lrij$  0.75 0.0 0.5

$lab^*tce$  0.75 0.5 0.25

$lab^*ncE$  0.0 0.5 r99j

relative Inform. Technology (IT)  
 $olv_i3^*$  0.489 0.5 0.0 (1.0)  
 $cmy_n3^*$  0.511 0.5 1.0 (0.0)  
 $olv_i4^*$  0.989 1.0 0.5 0.5  
 $cmy_n4^*$  0.011 0.0 0.5 0.5

standard and adapted CIELAB

$LAB^*LAB$  56.72 0.05 0.0

$LAB^*LABa$  56.72 0.0 0.0

$LAB^*TCh_a$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.5 0.0 0.0

$lab^*tce$  0.5 0.0 0.0

$lab^*ncE$  0.5 0.0 -

relative Inform. Technology (IT)  
 $olv_i3^*$  0.0 0.0 0.0 (1.0)  
 $cmy_n3^*$  1.0 1.0 1.0 (0.0)  
 $olv_i4^*$  1.0 1.0 1.0 0.0  
 $cmy_n4^*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.09 0.02

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TCh_a$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*tce$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

$n^* = 0,00$

$n^* = 0,50$

$n^* = 1,00$

$chromaticness c^*$

## Output: Colorimetric Reflective System ORS18

for hue  $h^* = lab^*h = 92/360 = 0.255$

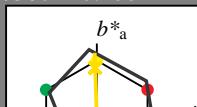
$lab^*tch$  and  $lab^*nch$

D65: hue J

LCH\*Ma: 86 88 92

olv\*Ma: 1.0 0.9 0.0

triangle lightness  $t^*$



%Gamut

$u^*_{rel} = 93$

%Regularity

$g^*_{H,rel} = 57$

$g^*_{C,rel} = 59$

relative Inform. Technology (IT)  
 $olv_i3^*$  1.0 1.0 1.0 (1.0)  
 $cmy_n3^*$  0.0 0.0 0.0 (0.0)  
 $olv_i4^*$  1.0 1.0 1.0 1.0  
 $cmy_n4^*$  0.0 0.0 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  95.41 -0.97 4.75

$LAB^*LABa$  95.41 0.0 0.0

$LAB^*TCh_a$  99.99 0.01 -

relative CIELAB lab\*

$lab^*lab$  1.0 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)  
 $olv_i3^*$  1.0 0.951 0.5 (1.0)  
 $cmy_n3^*$  0.0 0.049 0.5 (0.0)  
 $olv_i4^*$  1.0 0.951 0.5 1.0  
 $cmy_n4^*$  0.0 0.049 0.5 0.0

standard and adapted CIELAB

$LAB^*LAB$  90.8 -2.3 48.29

$LAB^*LABa$  90.8 -1.41 43.85

$LAB^*TCh_a$  75.0 43.87 91.85

relative CIELAB lab\*

$lab^*lab$  0.94 -0.015 0.5

$lab^*tch$  0.75 0.5 0.255

$lab^*nch$  0.0 0.5 0.255

relative Natural Colour (NC)

$lab^*lrij$  0.94 0.0 0.5

$lab^*tce$  0.75 0.5 0.25

$lab^*ncE$  0.0 0.5 j00g

relative Inform. Technology (IT)  
 $olv_i3^*$  0.5 0.451 0.0 (1.0)  
 $cmy_n3^*$  0.5 0.549 1.0 (0.0)  
 $olv_i4^*$  1.0 0.951 0.5 0.5  
 $cmy_n4^*$  0.0 0.049 0.5 0.5

standard and adapted CIELAB

$LAB^*LAB$  56.71 -0.23 2.14

$LAB^*LABa$  56.71 0.0 0.0

$LAB^*TCh_a$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 -0.04 0.999

$lab^*tch$  0.5 1.0 0.256

$lab^*nch$  0.0 1.0 0.256

relative Natural Colour (NC)

$lab^*lrij$  0.5 0.0 1.0

$lab^*tce$  0.5 1.0 0.25

$lab^*ncE$  0.0 1.0 r99j

relative Inform. Technology (IT)  
 $olv_i3^*$  0.0 0.0 0.0 (1.0)  
 $cmy_n3^*$  1.0 1.0 1.0 (0.0)  
 $olv_i4^*$  1.0 1.0 1.0 0.0  
 $cmy_n4^*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.5 -0.46

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TCh_a$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*tce$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

$n^* = 0,00$

$n^* = 0,50$

$n^* = 1,00$

$blackness n^*$

$n^* = 0,00$

$n^* = 0,00$

$n^* = 0,50$

$n^* = 1,00$

$blackness n^*$

	$L^*=L^*_{a,a}$	$a^*_{a,a}$	$b^*_{a,a}$	$C^*_{ab,a}$	$h^*_{ab,a}$
O $M_a$	47.94	65.37	50.52	82.62	38
Y $M_a$	90.37	-10.27	91.77	92.34	96
I $M_a$	50.9	-62.79	34.95	71.87	151
C $M_a$	58.62	-30.35	-45.01	54.3	236
V $M_a$	25.71	31.11	-44.42	54.24	305
M $M_a$	18.01	0.0	0.0	0.0	0
W $M_a$	95.41	0.0	0.0	0.0	0
R $CIE$	39.92	58.66	26.98	64.56	25
J $CIE$	81.26	-2.17	67.76	67.79	92
G $CIE$	52.23	-42.26	11.75	43.87	164
B $CIE$	30.57	1.15	-46.84	46.87	271

	$L^*=L^*_{a,a}$	$a^*_{a,a}$	$b^*_{a,a}$	$C^*_{ab,a}$	$h^*_{ab,a}$
O $V_m$	86.88	-3.62	91.83	86.19	2.25
A $L_m$	86.19	-2.82	87.69	86.19	2.25
A $TCh_a$	50.0	87.73	91.85	50.0	87.73
A $LCh_a$	52.1	-1.4	43.84	52.1	-1.4
A $LCh_b$	25.01	43.87	91.84	25.01	43.87
A $LCh_c$	0.44	-0.015 0.5	0.255	0.44	-0.015 0.5
A $LCh_d$	0.25	0.5	0.255	0.25	0.5
A $LCh_e$	0.5	0.5	0.255	0.5	0.5
A $LCh_f$	0.0	1.0	0.255	0.0	1.0
A $LCh_g$	0.881	0.0	1.0	0.881	0.0
A $LCh_h$	0.5	1.0	0.255	0.5	1.0
A $LCh_i$	0.25	0.5	0.255	0.25	0.5
A $LCh_j$	0.5	0.5	0.255	0.5	0.5
A $LCh_k$	0.0	1.0	0.255	0.0	1.0
A $LCh_l$	0.44	-0.015 0.5	0.255	0.44	-0.015 0.5
A $LCh_m$	0.25	0.5	0.255	0.25	0.5
A $LCh_n$	0.5	0.5	0.255	0.5	0.5
A $LCh_o$	0.0	1.0	0.255	0.0	1.0
A $LCh_p$	0.881	0.0	1.0	0.881	0.0
A $LCh_q$	0.5	1.0	0.255	0.5	1.0
A $LCh_r$	0.25	0.5	0.255	0.25	0.5
A $LCh_s$	0.5	0.5	0.255	0.5	0.5
A $LCh_t$	0.0	1.0	0.255	0.0	1.0
A $LCh_u$ </					



## Input: Colorimetric Reflective System NRS18

for hue  $h^* = lab^*h = 92/360 = 0.256$

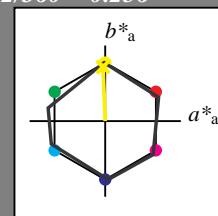
$lab^*tch$  and  $lab^*nch$

D65: hue J

LCH\*Ma: 57 76 92

olv\*Ma: 0.98 1.0 0.0

triangle lightness  $t^*$



%Gamut

$u^*_{rel} = 100$

%Regularity

$g^*_{H,rel} = 47$

$g^*_{C,rel} = 100$

relative Inform. Technology (IT)

$olv^3*$  1.0 1.0 1.0 (1.0)

$cmy^3*$  0.0 0.0 0.0 (0.0)

$olv^4*$  1.0 1.0 1.0 1.0

$cmy^4*$  0.0 0.0 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  95.41 0.0 0.0

$LAB^*LABa$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrf$  1.0 0.0 0.0

$lab^*ice$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)

$olv^3*$  0.5 0.5 0.5 (1.0)

$cmy^3*$  0.5 0.5 0.5 (0.0)

$olv^4*$  1.0 1.0 1.0 0.5

$cmy^4*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  56.72 0.05 0.0

$LAB^*LABa$  56.72 0.0 0.0

$LAB^*TChA$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrf$  0.5 0.0 0.0

$lab^*ice$  0.5 0.0 0.0

$lab^*ncE$  0.5 0.0 -

relative Inform. Technology (IT)

$olv^3*$  0.0 0.0 0.0 (1.0)

$cmy^3*$  1.0 1.0 1.0 (0.0)

$olv^4*$  1.0 1.0 1.0 0.0

$cmy^4*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.09 0.02

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrf$  0.0 0.0 0.0

$lab^*ice$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

## NRS18; adapted (a) CIELAB data

	$L^*=L^*_{a,a}$	$a^*_{a,a}$	$b^*_{a,a}$	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	56.7	70.66	31.47	77.35	24
JMa	56.7	-1.39	77.37	77.39	91
GMa	56.7	-75.46	17.4	77.45	167
G50BMa	56.7	-71.29	-30.25	77.45	203
BMa	56.7	4.0	-77.3	77.41	273
B50RMa	56.7	63.35	-44.4	77.36	325
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	272

## Output: Colorimetric Reflective System TRS18

for hue  $h^* = lab^*h = 92/360 = 0.255$

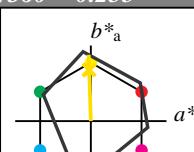
$lab^*tch$  and  $lab^*nch$

D65: hue J

LCH\*Ma: 86 88 92

olv\*Ma: 1.0 0.9 0.0

triangle lightness  $t^*$



%Gamut

$u^*_{rel} = 93$

%Regularity

$g^*_{H,rel} = 57$

$g^*_{C,rel} = 59$

relative Inform. Technology (IT)

$olv^3*$  1.0 1.0 1.0 (1.0)

$cmy^3*$  0.0 0.0 0.0 (0.0)

$olv^4*$  1.0 1.0 1.0 1.0

$cmy^4*$  0.0 0.0 0.0 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 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrf$  1.0 0.0 0.0

$lab^*ice$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)

$olv^3*$  0.5 0.5 0.5 (1.0)

$cmy^3*$  0.5 0.5 0.5 (0.0)

$olv^4*$  1.0 1.0 1.0 0.5

$cmy^4*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  76.05 -1.5 38.01

$LAB^*LABa$  76.05 -1.53 38.0

$LAB^*TChA$  75.0 38.03 92.32

relative CIELAB lab\*

$lab^*lab$  0.75 -0.019 0.499

$lab^*tch$  0.75 0.5 0.256

$lab^*nch$  0.0 0.5 0.256

relative Natural Colour (NC)

$lab^*lrf$  0.75 0.0 0.5

$lab^*ice$  0.75 0.5 0.25

$lab^*ncE$  0.0 0.5 r99j

relative Inform. Technology (IT)

$olv^3*$  0.977 1.0 0.0 (1.0)

$cmy^3*$  0.023 0.0 1.0 (0.0)

$olv^4*$  0.977 1.0 0.0 1.0

$cmy^4*$  0.023 0.0 1.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  56.7 -3.03 76.01

$LAB^*LABa$  56.7 -3.08 75.99

$LAB^*TChA$  50.0 76.06 92.33

relative CIELAB lab\*

$lab^*lab$  0.5 -0.04 0.999

$lab^*tch$  0.5 1.0 0.256

$lab^*nch$  0.0 1.0 0.256

relative Natural Colour (NC)

$lab^*lrf$  0.5 0.0 1.0

$lab^*ice$  0.5 1.0 0.25

$lab^*ncE$  0.0 1.0 r99j

$n^* = 0,00$

blackness  $n^*$

chromaticness  $c^*$

$n^* = 1,0$

## TRS18; adapted (a) CIELAB data

	$L^*=L^*_{a,a}$	$a^*_{a,a}$	$b^*_{a,a}$	$C^*_{ab,a}$	$h^*_{ab,a}$
O Ma	47.94	65.37	50.52	82.62	38
Y Ma	90.37	-10.27	91.77	92.34	96
I Ma	50.9	-62.79	34.95	71.87	151
C Ma	58.62	-30.35	-45.01	54.3	236
V Ma	25.71	31.11	-44.42	54.24	305
M Ma	48.13	75.27	-8.35	75.73	354
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
BCIE	30.57	1.15	-46.84	46.87	271

relative Inform. Technology (IT)

$olv^3*$  1.0 0.951 0.5 (1.0)

$cmy^3*$  0.0 0.049 0.5 (0.0)

$olv^4*$  1.0 0.951 0.5 1.0

$cmy^4*$  0.0 0.049 0.5 0.0

standard and adapted CIELAB

$LAB^*LAB$  90.8 -2.3 48.29

$LAB^*LABa$  90.8 -1.41 43.85

$LAB^*TChA$  75.0 43.87 91.85

relative CIELAB lab\*

$lab^*lab$  0.94 -0.015 0.5

$lab^*tch$  0.75 0.5 0.255

$lab^*nch$  0.0 0.5 0.255

relative Natural Colour (NC)

$lab^*lrf$  0.94 0.0 0.5

$lab^*ice$  0.75 0.5 0.25

$lab^*ncE$  0.0 0.5 j00g

$n^* = 0,00$

blackness  $n^*$

chromaticness  $c^*$

$n^* = 1,0$

UE100-7, 3 step scales for constant CIELAB hue 92/360 = 0.256 (left)

3 step scales for constant CIELAB hue 92/360 = 0.255 (right)

## Input: Colorimetric Reflective System NRS18

for hue  $h^* = lab^*h = 92/360 = 0.256$

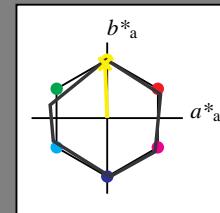
$lab^*tch$  and  $lab^*nch$

D65: hue J

LCH\*Ma: 57 76 92

olv\*Ma: 0.98 1.0 0.0

triangle lightness  $t^*$



**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 0.0  
 $LAB^*LABa$  95.41 0.0 0.0  
 $LAB^*TCh$  99.99 0.01 -

**relative CIELAB lab\***

$lab^*lab$  1.0 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

**relative Natural Colour (NC)**

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

**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 0.5

$cmyn4^*$  0.0 0.0 0.0 0.5

**standard and adapted CIELAB**

$LAB^*LAB$  56.72 0.05 0.0  
 $LAB^*LABa$  56.72 0.0 0.0  
 $LAB^*TCh$  50.0 0.01 -

**relative CIELAB lab\***

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

**relative Natural Colour (NC)**

$lab^*lrij$  0.5 0.0 0.0

$lab^*tce$  0.5 0.0 0.0

$lab^*ncE$  0.5 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**

$LAB^*LAB$  18.02 0.09 0.02  
 $LAB^*LABa$  18.02 0.0 0.0  
 $LAB^*TCh$  0.01 0.01 -

**relative CIELAB lab\***

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

**relative Natural Colour (NC)**

$lab^*lrij$  0.0 0.0 0.0

$lab^*tce$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

## NRS18; adapted (a) CIELAB data

$L^*=L_a^*$   $a^*_a$   $b^*_a$   $C^*_{ab,a}$   $h^*_{ab,a}$

RMa	56.7	70.66	31.47	77.35	24
JMa	56.7	-1.39	77.37	77.39	91
GMa	56.7	-75.46	17.4	77.45	167
G50BMa	56.7	-71.29	-30.25	77.45	203
BMa	56.7	4.0	-77.3	77.41	273
B50RMa	56.7	63.35	-44.4	77.36	325
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	272

%Gamut

$u^*_{rel} = 100$

%Regularity

$g^*_{H,rel} = 47$

$g^*_{C,rel} = 100$

**relative Inform. Technology (IT)**

$olvi3^*$  0.989 1.0 0.5 (1.0)

$cmyn3^*$  0.011 0.0 0.5 (0.0)

$olvi4^*$  0.989 1.0 0.5 1.0

$cmyn4^*$  0.011 0.0 0.5 0.0

**standard and adapted CIELAB**

$LAB^*LAB$  76.05 -1.5 38.01  
 $LAB^*LABa$  76.05 -1.53 38.0  
 $LAB^*TCh$  75.0 38.03 92.32

**relative CIELAB lab\***

$lab^*lab$  0.75 -0.019 0.499

$lab^*tch$  0.75 0.5 0.256

$lab^*nch$  0.0 0.5 0.256

**relative Natural Colour (NC)**

$lab^*lrij$  0.75 0.0 0.5

$lab^*tce$  0.75 0.5 0.25

$lab^*ncE$  0.0 0.5 r99j

**relative Inform. Technology (IT)**

$olvi3^*$  0.977 1.0 0.0 (1.0)

$cmyn3^*$  0.023 0.0 1.0 (0.0)

$olvi4^*$  0.977 1.0 0.0 1.0

$cmyn4^*$  0.023 0.0 1.0 0.0

**standard and adapted CIELAB**

$LAB^*LAB$  56.7 -3.03 76.01  
 $LAB^*LABa$  56.7 -3.08 75.99  
 $LAB^*TCh$  50.0 76.06 92.33

**relative CIELAB lab\***

$lab^*lab$  0.5 -0.04 0.999

$lab^*tch$  0.5 1.0 0.256

$lab^*nch$  0.0 1.0 0.256

**relative Natural Colour (NC)**

$lab^*lrij$  0.5 0.0 1.0

$lab^*tce$  0.5 1.0 0.25

$lab^*ncE$  0.0 1.0 r99j

**relative Inform. Technology (IT)**

$olvi3^*$  0.489 0.5 0.0 (1.0)

$cmyn3^*$  0.511 0.5 1.0 (0.0)

$olvi4^*$  0.989 1.0 0.5 0.5

$cmyn4^*$  0.011 0.0 0.5 0.5

**standard and adapted CIELAB**

$LAB^*LAB$  37.36 -1.46 38.02  
 $LAB^*LABa$  37.36 -1.54 37.99  
 $LAB^*TCh$  25.01 38.03 92.33

**relative CIELAB lab\***

$lab^*lab$  0.25 -0.019 0.499

$lab^*tch$  0.25 0.5 0.256

$lab^*nch$  0.5 0.5 0.256

**relative Natural Colour (NC)**

$lab^*lrij$  0.25 0.0 0.5

$lab^*tce$  0.25 0.5 0.25

$lab^*ncE$  0.5 0.5 100g

$n^* = 0,00$

blackness  $n^*$

chromaticness  $c^*$

## Output: Colorimetric Reflective System MRS18a

for hue  $h^* = lab^*h = 92/360 = 0.256$

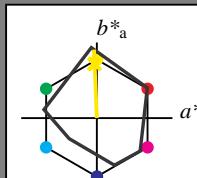
$lab^*tch$  and  $lab^*nch$

D65: hue J

LCH\*Ma: 89 91 92

olv\*Ma: 1.0 0.95 0.0

triangle lightness  $t^*$



%Gamut

$u^*_{rel} = 100$

%Regularity

$g^*_{H,rel} = 47$

$g^*_{C,rel} = 100$

**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 0.01 0.0  
 $LAB^*LABa$  95.41 0.0 0.0  
 $LAB^*TCh$  99.99 0.01 -

**relative CIELAB lab\***

$lab^*lab$  1.0 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

**relative Natural Colour (NC)**

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

**relative Inform. Technology (IT)**

$olvi3^*$  0.972 1.0 0.5 (1.0)

$cmyn3^*$  0.024 0.0 0.5 (0.0)

$olvi4^*$  1.0 0.976 0.5 1.0

$cmyn4^*$  0.0 0.024 0.5 0.0

**standard and adapted CIELAB**

$LAB^*LAB$  92.06 -1.83 45.31  
 $LAB^*LABa$  92.06 -1.84 45.31  
 $LAB^*TCh$  75.0 45.35 92.34

**relative CIELAB lab\***

$lab^*lab$  0.957 -0.019 0.499

$lab^*tch$  0.75 0.5 0.257

$lab^*nch$  0.0 0.5 0.257

**relative Natural Colour (NC)**

$lab^*lrij$  0.957 0.0 0.5

$lab^*tce$  0.75 0.5 0.25

$lab^*ncE$  0.0 0.5 100g

## MRS18a; adapted (a) CIELAB data

$L^*=L_a^*$   $a^*_a$   $b^*_a$   $C^*_{ab,a}$   $h^*_{ab,a}$

RMa	49.63	66.8	40.02	77.87	31
JMa	90.7	-7.27	93.19	93.48	94
GMa	52.11	-69.93	11.26	70.85	171
G50BMa	45.03	-36.65	-27.13	45.61	217
BMa	36.65	23.26	-62.27	66.49	290
B50RMa	34.94	57.27	-43.6	71.99	323
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	272

**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**

$LAB^*LAB$  92.06 -1.83 45.31  
 $LAB^*LABa$  92.06 -1.84 45.31  
 $LAB^*TCh$  75.0 45.35 92.34

**relative CIELAB lab\***

$lab^*lab$  0.952 0.0 0.0

$lab^*tch$  0.048 1.0 0.0

$lab^*nch$  0.952 0.0 1.0

**relative Natural Colour (NC)**

$lab^*lrij$  0.952 0.0 0.0

</div

## Input: Colorimetric Reflective System NRS18

for hue  $h^* = lab^*h = 92/360 = 0.256$

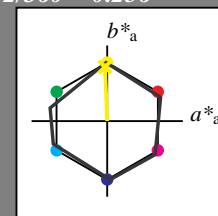
$lab^*tch$  and  $lab^*nch$

D65: hue J

LCH\*Ma: 57 76 92

olv\*Ma: 0.98 1.0 0.0

triangle lightness  $t^*$



%Gamut

$u^*_{rel} = 100$

%Regularity

$g^*_{H,rel} = 47$

$g^*_{C,rel} = 100$

relative Inform. Technology (IT)

$olv13^*$  1.0 1.0 1.0 (1.0)

$cmyn3^*$  0.0 0.0 0.0 (0.0)

$olv14^*$  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 0.0

$LAB^*LABa$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrf$  1.0 0.0 0.0

$lab^*ice$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)

$olv13^*$  0.5 0.5 0.5 (1.0)

$cmyn3^*$  0.5 0.5 0.5 (0.0)

$olv14^*$  1.0 1.0 1.0 0.5

$cmyn4^*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  56.72 0.05 0.0

$LAB^*LABa$  56.72 0.0 0.0

$LAB^*TChA$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrf$  0.5 0.0 0.0

$lab^*ice$  0.5 0.0 0.0

$lab^*ncE$  0.5 0.0 -

relative Inform. Technology (IT)

$olv13^*$  0.0 0.0 0.0 (1.0)

$cmyn3^*$  1.0 1.0 1.0 (0.0)

$olv14^*$  1.0 1.0 1.0 0.0

$cmyn4^*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.09 0.02

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrf$  0.0 0.0 0.0

$lab^*ice$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

## NRS18; adapted (a) CIELAB data

$L^*=L^*_{a,a}$   $a^*_{a,a}$   $b^*_{a,a}$   $C^*_{ab,a}$   $h^*_{ab,a}$

RMa	56.7	70.66	31.47	77.35	24
JMa	56.7	-1.39	77.37	77.39	91
GMa	56.7	-75.46	17.4	77.45	167
G50BMa	56.7	-71.29	-30.25	77.45	203
BMa	56.7	4.0	-77.3	77.41	273
B50RMa	56.7	63.35	-44.4	77.36	325
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	272

## Output: Colorimetric Reflective System NRS18

for hue  $h^* = lab^*h = 92/360 = 0.256$

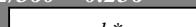
$lab^*tch$  and  $lab^*nch$

D65: hue J

LCH\*Ma: 57 76 92

olv\*Ma: 0.98 1.0 0.0

triangle lightness  $t^*$



%Gamut

$u^*_{rel} = 100$

%Regularity

$g^*_{H,rel} = 47$

$g^*_{C,rel} = 100$

relative Inform. Technology (IT)

$olv13^*$  1.0 1.0 1.0 (1.0)

$cmyn3^*$  0.0 0.0 0.0 (0.0)

$olv14^*$  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 0.0

$LAB^*LABa$  95.41 0.0 0.0

$LAB^*TChA$  99.99 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.989 1.0 0.5 (1.0)

$lab^*tch$  0.011 0.0 0.5 (0.0)

$lab^*nch$  0.011 0.0 1.0 1.0

relative Natural Colour (NC)

$lab^*lrf$  1.0 0.0 0.0

$lab^*ice$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)

$olv13^*$  0.989 1.0 0.5 (1.0)

$cmyn3^*$  0.011 0.0 0.5 (0.0)

$olv14^*$  0.989 1.0 0.5 1.0

$cmyn4^*$  0.011 0.0 0.5 0.0

standard and adapted CIELAB

$LAB^*LAB$  76.05 -1.5 38.01

$LAB^*LABa$  76.05 -1.53 38.0

$LAB^*TChA$  75.0 38.03 92.32

relative CIELAB lab\*

$lab^*lab$  0.75 -0.019 0.499

$lab^*tch$  0.75 0.5 0.256

$lab^*nch$  0.0 0.5 0.256

relative Natural Colour (NC)

$lab^*lrf$  0.75 0.0 0.5

$lab^*ice$  0.75 0.5 0.25

$lab^*ncE$  0.0 1.0 r99j

relative Inform. Technology (IT)

$olv13^*$  0.977 1.0 0.0 (1.0)

$cmyn3^*$  0.023 0.0 1.0 (0.0)

$olv14^*$  0.977 1.0 0.0 1.0

$cmyn4^*$  0.023 0.0 1.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  56.7 -3.03 76.01

$LAB^*LABa$  56.7 -3.08 75.99

$LAB^*TChA$  50.0 76.06 92.33

relative CIELAB lab\*

$lab^*lab$  0.5 -0.04 0.999

$lab^*tch$  0.5 1.0 0.256

$lab^*nch$  0.0 1.0 0.256

relative Natural Colour (NC)

$lab^*lrf$  0.5 0.0 1.0

$lab^*ice$  0.5 1.0 0.25

$lab^*ncE$  0.0 1.0 -

$n^* = 0,00$

blackness  $n^*$

chromaticness  $c^*$

$n^* = 1,0$

UE100-7, 3 step scales for constant CIELAB hue 92/360 = 0.256 (left)

3 step scales for constant CIELAB hue 92/360 = 0.256 (right)

## NRS18; adapted (a) CIELAB data

$L^*=L^*_{a,a}$   $a^*_{a,a}$   $b^*_{a,a}$   $C^*_{ab,a}$   $h^*_{ab,a}$

RMa	56.7	70.66	31.47	77.35	24
JMa	56.7	-1.39	77.37	77.39	91
GMa	56.7	-75.46	17.4	77.45	167
G50BMa	56.7	-71.29	-30.25	77.45	203
BMa	56.7	4.0	-77.3	77.41	273
B50RMa	56.7	63.35	-44.4	77.36	325
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	272

relative Inform. Technology (IT)	$olv13^*$ 0.977 1.0 0.0 (1.0)
$cmyn3^*$ 0.023 0.0 1.0 (0.0)	
$olv14^*$ 0.977 1.0 0.0 1.0	
$cmyn4^*$ 0.023 0.0 1.0 0.0	
standard and adapted CIELAB	
$LAB^*LAB$ 76.05 -1.5 38.01	
$LAB^*LABa$ 76.05 -1.53 38.0	
$LAB^*TChA$ 75.0 38.03 92.32	
relative CIELAB lab*	
$lab^*lab$ 0.75 -0.019 0.499	
$lab^*tch$ 0.75 0.5 0.256	
$lab^*nch$ 0.0 1.0 0.256	
relative Natural Colour (NC)	
$lab^*lrf$ 0.75 0.0 0.5	
$lab^*ice$ 0.75 0.5 0.25	
$lab^*ncE$ 0.0 1.0 r99j	

$n^* = 0,00$

blackness  $n^*$

chromaticness  $c^*$

## Input: Colorimetric Reflective System NRS18

for hue  $h^* = lab^*h = 92/360 = 0.256$

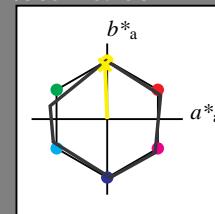
$lab^*tch$  and  $lab^*nch$

D65: hue J

LCH\*Ma: 57 76 92

olv\*Ma: 0.98 1.0 0.0

triangle lightness  $t^*$



### NRS18; adapted (a) CIELAB data

	$L^*=L_a^*$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	56.7	70.66	31.47	77.35	24
JMa	56.7	-1.39	77.37	77.39	91
GMa	56.7	-75.46	17.4	77.45	167
G50BMa	56.7	-71.29	-30.25	77.45	203
BMa	56.7	4.0	-77.3	77.41	273
B50RMa	56.7	63.35	-44.4	77.36	325
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	272

relative Inform. Technology (IT)  
 $olv_i3^*$  1.0 1.0 1.0 (1.0)  
 $cmy3^*$  0.0 0.0 0.0 (0.0)  
 $olv_i4^*$  1.0 1.0 1.0 1.0  
 $cmy4^*$  0.0 0.0 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  95.41 0.0 0.0  
 $LAB^*LABa$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0  
 $lab^*ice$  1.0 0.0 0.0  
 $lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)  
 $olv_i3^*$  0.5 0.5 0.5 (1.0)  
 $cmy3^*$  0.5 0.5 0.5 (0.0)  
 $olv_i4^*$  1.0 1.0 1.0 0.5  
 $cmy4^*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  56.72 0.05 0.0  
 $LAB^*LABa$  56.72 0.0 0.0  
 $LAB^*TChA$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0  
 $lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.5 0.0 0.0  
 $lab^*ice$  0.5 0.0 0.0  
 $lab^*ncE$  0.5 0.0 -

relative Inform. Technology (IT)  
 $olv_i3^*$  0.0 0.0 0.0 (1.0)  
 $cmy3^*$  1.0 1.0 1.0 (0.0)  
 $olv_i4^*$  1.0 1.0 1.0 0.0  
 $cmy4^*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.09 0.02  
 $LAB^*LABa$  18.02 0.0 0.0  
 $LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0  
 $lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0  
 $lab^*ice$  0.0 0.0 -  
 $lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

%Gamut  
 $u^*_{rel} = 100$   
%Regularity  
 $g^*_{H,rel} = 47$   
 $g^*_{C,rel} = 100$

relative Inform. Technology (IT)  
 $olv_i3^*$  0.989 1.0 0.5 (1.0)  
 $cmy3^*$  0.011 0.0 0.5 (0.0)  
 $olv_i4^*$  0.989 1.0 0.5 1.0  
 $cmy4^*$  0.011 0.0 0.5 0.0

standard and adapted CIELAB

$LAB^*LAB$  76.05 -1.5 38.01  
 $LAB^*LABa$  76.05 -1.53 38.0  
 $LAB^*TChA$  75.0 38.03 92.32

relative CIELAB lab\*

$lab^*lab$  0.75 -0.019 0.499  
 $lab^*tch$  0.75 0.5 0.256  
 $lab^*nch$  0.0 0.5 0.256

relative Natural Colour (NC)

$lab^*lrij$  0.75 0.0 0.5  
 $lab^*ice$  0.75 0.5 0.25  
 $lab^*ncE$  0.0 0.5 r99j

relative Inform. Technology (IT)  
 $olv_i3^*$  0.977 1.0 0.0 (1.0)  
 $cmy3^*$  0.023 0.0 1.0 (0.0)  
 $olv_i4^*$  0.977 1.0 0.0 1.0  
 $cmy4^*$  0.023 0.0 1.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  56.7 -3.03 76.01  
 $LAB^*LABa$  56.7 -3.08 75.99  
 $LAB^*TChA$  50.0 76.06 92.33

relative CIELAB lab\*

$lab^*lab$  0.5 -0.04 0.999  
 $lab^*tch$  0.5 1.0 0.256  
 $lab^*nch$  0.0 1.0 0.256

relative Natural Colour (NC)

$lab^*lrij$  0.5 0.0 1.0  
 $lab^*ice$  0.5 1.0 0.25  
 $lab^*ncE$  0.0 1.0 r99j

$n^* = 0,00$   
blackness  $n^*$   
chromaticness  $c^*$

## Output: Colorimetric Reflective System NCS18

for hue  $h^* = lab^*h = 92/360 = 0.256$

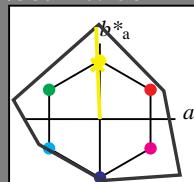
$lab^*tch$  and  $lab^*nch$

D65: hue J

LCH\*Ma: 90 122 92

olv\*Ma: 0.97 1.0 0.0

triangle lightness  $t^*$



### NCS18; adapted (a) CIELAB data

	$L^*=L_a^*$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	47.15	84.63	37.24	92.46	24
JMa	91.37	-1.27	125.03	125.03	91
GMa	63.07	-114.29	25.34	117.07	167
G50BMa	59.47	-80.61	-33.45	87.29	203
BMa	49.01	3.63	-81.2	81.29	273
B50RMa	44.06	106.07	-73.94	129.31	325
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	272

relative Inform. Technology (IT)  
 $olv_i3^*$  1.0 1.0 1.0 (1.0)  
 $cmy3^*$  0.0 0.0 0.0 (0.0)  
 $olv_i4^*$  1.0 1.0 1.0 1.0  
 $cmy4^*$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0  
 $lab^*ice$  1.0 0.0 0.0  
 $lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)  
 $olv_i3^*$  0.984 1.0 0.5 (1.0)  
 $cmy3^*$  0.016 0.0 0.5 (0.0)  
 $olv_i4^*$  0.984 1.0 0.5 1.0  
 $cmy4^*$  0.016 0.0 0.5 0.0

standard and adapted CIELAB

$LAB^*LAB$  92.92 -2.45 60.89  
 $LAB^*LABa$  92.92 -2.46 60.89  
 $LAB^*TChA$  75.0 60.94 92.32

relative CIELAB lab\*

$lab^*lab$  0.968 -0.019 0.499  
 $lab^*tch$  0.75 0.5 0.256  
 $lab^*nch$  0.0 0.5 0.256

relative Natural Colour (NC)

$lab^*lrij$  0.968 0.0 0.5  
 $lab^*ice$  0.75 0.5 0.25  
 $lab^*ncE$  0.0 0.5 r99j

relative Inform. Technology (IT)  
 $olv_i3^*$  0.5 0.5 0.5 (1.0)  
 $cmy3^*$  0.5 0.5 0.5 (0.0)  
 $olv_i4^*$  1.0 1.0 1.0 0.5  
 $cmy4^*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  56.72 0.05 0.0  
 $LAB^*LABa$  56.72 0.0 0.0  
 $LAB^*TChA$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0  
 $lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.5 0.0 0.0  
 $lab^*ice$  0.5 0.0 0.0  
 $lab^*ncE$  0.5 0.0 0.0

$n^* = 1,0$

3 step scales for constant CIELAB hue 92/360 = 0.256 (left)

3 step scales for constant CIELAB hue 92/360 = 0.256 (right)

## Input: Colorimetric Reflective System NRS18

for hue  $h^* = lab^*h = 92/360 = 0.256$

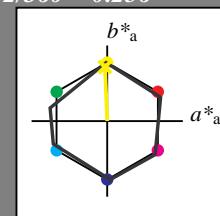
$lab^*tch$  and  $lab^*nch$

D65: hue J

LCH\*Ma: 57 76 92

olv\*Ma: 0.98 1.0 0.0

triangle lightness  $t^*$



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 0.0

$LAB^*LABa$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*ice$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

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 0.5  
 $cmyn4^*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  56.72 0.05 0.0

$LAB^*LABa$  56.72 0.0 0.0

$LAB^*TChA$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.5 0.0 0.0

$lab^*ice$  0.5 0.0 0.0

$lab^*ncE$  0.5 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

$LAB^*LAB$  18.02 0.09 0.02

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*ice$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

## NRS18; adapted (a) CIELAB data

$L^*=L^*_{a,a}$   $a^*_{a,a}$   $b^*_{a,a}$   $C^*_{ab,a}$   $h^*_{ab,a}$

RMa	56.7	70.66	31.47	77.35	24
JMa	56.7	-1.39	77.37	77.39	91
GMa	56.7	-75.46	17.4	77.45	167
G50BMa	56.7	-71.29	-30.25	77.45	203
BMa	56.7	4.0	-77.3	77.41	273
B50RMa	56.7	63.35	-44.4	77.36	325
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	272

%Gamut

$u^*_{rel} = 100$

%Regularity

$g^*_{H,rel} = 47$

$g^*_{C,rel} = 100$

relative Inform. Technology (IT)

$olvi3^*$  0.989 1.0 0.5 (1.0)

$cmyn3^*$  0.011 0.0 0.5 (0.0)

$olvi4^*$  0.989 1.0 0.5 1.0

$cmyn4^*$  0.011 0.0 0.5 0.0

standard and adapted CIELAB

$LAB^*LAB$  76.05 -1.5 38.01

$LAB^*LABa$  76.05 -1.53 38.0

$LAB^*TChA$  75.0 38.03 92.32

relative CIELAB lab\*

$lab^*lab$  0.75 -0.019 0.499

$lab^*tch$  0.75 0.5 0.256

$lab^*nch$  0.0 0.5 0.256

relative Natural Colour (NC)

$lab^*lrij$  0.75 0.0 0.5

$lab^*ice$  0.75 0.5 0.25

$lab^*ncE$  0.0 0.5 r99j

relative Inform. Technology (IT)

$olvi3^*$  0.977 1.0 0.0 (1.0)

$cmyn3^*$  0.023 0.0 1.0 (0.0)

$olvi4^*$  0.977 1.0 0.0 1.0

$cmyn4^*$  0.023 0.0 1.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  56.7 -3.03 76.01

$LAB^*LABa$  56.7 -3.08 75.99

$LAB^*TChA$  50.0 76.06 92.33

relative CIELAB lab\*

$lab^*lab$  0.5 -0.04 0.999

$lab^*tch$  0.5 1.0 0.256

$lab^*nch$  0.0 1.0 0.256

relative Natural Colour (NC)

$lab^*lrij$  0.5 0.0 1.0

$lab^*ice$  0.5 1.0 0.25

$lab^*ncE$  0.0 1.0 r99j

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 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*ice$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 0,00$

blackness  $n^*$

$n^* = 0,50$

chromaticness  $c^*$

## Output: Colorimetric Reflective System NRS11

for hue  $h^* = lab^*h = 92/360 = 0.256$

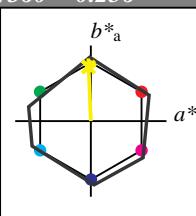
$lab^*tch$  and  $lab^*nch$

D65: hue J

LCH\*Ma: 53 83 92

olv\*Ma: 0.98 1.0 0.0

triangle lightness  $t^*$



%Gamut

$u^*_{rel} = 119$

%Regularity

$g^*_{H,rel} = 47$

$g^*_{C,rel} = 100$

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 -

relative CIELAB lab\*

$lab^*lab$  1.0 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*ice$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)

$olvi3^*$  0.989 1.0 0.5 (1.0)

$cmyn3^*$  0.989 1.0 0.5 (0.0)

$olvi4^*$  0.989 1.0 0.5 1.0

$cmyn4^*$  0.989 1.0 0.5 0.0

standard and adapted CIELAB

$LAB^*LAB$  74.3 -1.64 41.44

$LAB^*LABa$  74.3 -1.67 41.44

$LAB^*TChA$  75.0 41.47 92.32

relative CIELAB lab\*

$lab^*lab$  0.75 -0.019 0.499

$lab^*tch$  0.75 0.5 0.256

$lab^*nch$  0.0 0.5 0.256

relative Natural Colour (NC)

$lab^*lrij$  0.75 0.0 0.5

$lab^*ice$  0.75 0.5 0.25

$lab^*ncE$  0.0 0.5 r99j

$n^* = 1,0$

blackness  $n^*$

$n^* = 0,50$

chromaticness  $c^*$

## NRS11; adapted (a) CIELAB data

$L^*=L^*_{a,a}$   $a^*_{a,a}$   $b^*_{a,a}$   $C^*_{ab,a}$   $h^*_{ab,a}$

RMa	53.2	77.06	34.32	84.36	24
JMa	53.2	-1.51	84.38	84.39	91
GMa	53.2	-82.27	18.98	84.44	167
G50BMa	53.2	-77.72	-32.98	84.44	203
BMa	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

%Gamut

$u^*_{rel} = 119$

%Regularity

$g^*_{H,rel} = 47$

$g^*_{C,rel} = 100$

relative Inform. Technology (IT)

$olvi3^*$  0.977 1.0 0.0 (1.0)

$cmyn3^*$  0.023 0.0 1.0 (0.0)

$olvi4^*$  0

## Input: Colorimetric Reflective System NRS18

for hue  $h^* = lab^*h = 92/360 = 0.256$

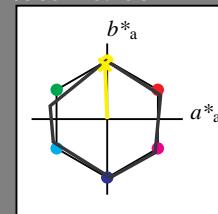
$lab^*tch$  and  $lab^*nch$

D65: hue J

LCH\*Ma: 57 76 92

olv\*Ma: 0.98 1.0 0.0

triangle lightness  $t^*$



### NRS18; adapted (a) CIELAB data

	$L^*=L_a^*$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	56.7	70.66	31.47	77.35	24
JMa	56.7	-1.39	77.37	77.39	91
GMa	56.7	-75.46	17.4	77.45	167
G50BMa	56.7	-71.29	-30.25	77.45	203
BMa	56.7	4.0	-77.3	77.41	273
B50RMa	56.7	63.35	-44.4	77.36	325
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	272

relative Inform. Technology (IT)  
 $olv_i3^*$  1.0 1.0 1.0 (1.0)  
 $cmyn3^*$  0.0 0.0 0.0 (0.0)  
 $olv_i4^*$  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 0.0  
 $LAB^*LABa$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0  
 $lab^*ice$  1.0 0.0 0.0  
 $lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)  
 $olv_i3^*$  0.5 0.5 0.5 (1.0)  
 $cmyn3^*$  0.5 0.5 0.5 (0.0)  
 $olv_i4^*$  1.0 1.0 1.0 0.5  
 $cmyn4^*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  56.72 0.05 0.0  
 $LAB^*LABa$  56.72 0.0 0.0  
 $LAB^*TChA$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0  
 $lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.5 0.0 0.0  
 $lab^*ice$  0.5 0.0 0.0  
 $lab^*ncE$  0.5 0.0 -

relative Inform. Technology (IT)  
 $olv_i3^*$  0.0 0.0 0.0 (1.0)  
 $cmyn3^*$  1.0 1.0 1.0 (0.0)  
 $olv_i4^*$  1.0 1.0 1.0 0.0  
 $cmyn4^*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.09 0.02  
 $LAB^*LABa$  18.02 0.0 0.0  
 $LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0  
 $lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0  
 $lab^*ice$  0.0 0.0 -  
 $lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

%Gamut

$u^*_{rel} = 100$

%Regularity

$g^*_{H,rel} = 47$

$g^*_{C,rel} = 100$

relative Inform. Technology (IT)

$olv_i3^*$  0.989 1.0 0.5 (1.0)

$cmyn3^*$  0.011 0.0 0.5 (0.0)

$olv_i4^*$  0.989 1.0 0.5 1.0

$cmyn4^*$  0.011 0.0 0.5 0.0

standard and adapted CIELAB

$LAB^*LAB$  76.05 -1.5 38.01  
 $LAB^*LABa$  76.05 -1.53 38.0

$LAB^*TChA$  75.0 38.03 92.32

relative CIELAB lab\*

$lab^*lab$  0.75 -0.019 0.499

$lab^*tch$  0.75 0.5 0.256

$lab^*nch$  0.0 0.5 0.256

relative Natural Colour (NC)

$lab^*lrij$  0.75 0.0 0.5

$lab^*ice$  0.75 0.5 0.25

$lab^*ncE$  0.0 0.5 r99j

relative Inform. Technology (IT)

$olv_i3^*$  0.977 1.0 0.0 (1.0)

$cmyn3^*$  0.023 0.0 1.0 (0.0)

$olv_i4^*$  0.977 1.0 0.0 1.0

$cmyn4^*$  0.023 0.0 1.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  56.7 -3.03 76.01  
 $LAB^*LABa$  56.7 -3.08 75.99

$LAB^*TChA$  50.0 76.06 92.33

relative CIELAB lab\*

$lab^*lab$  0.5 -0.04 0.999

$lab^*tch$  0.5 1.0 0.256

$lab^*nch$  0.0 1.0 0.256

relative Natural Colour (NC)

$lab^*lrij$  0.5 0.0 1.0

$lab^*ice$  0.5 1.0 0.25

$lab^*ncE$  0.0 1.0 r99j

n\* = 0,00

blackness  $n^*$

chromaticness  $c^*$

## Output: Colorimetric Reflective System NCS11

for hue  $h^* = lab^*h = 92/360 = 0.256$

$lab^*tch$  and  $lab^*nch$

D65: hue J

LCH\*Ma: 90 122 92

olv\*Ma: 0.97 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

relative Inform. Technology (IT)

$olv_i3^*$  1.0 1.0 1.0 (1.0)

$cmyn3^*$  0.0 0.0 0.0 (0.0)

$olv_i4^*$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0  
 $lab^*ice$  1.0 0.0 0.0  
 $lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)

$olv_i3^*$  0.984 1.0 0.5 (1.0)

$cmyn3^*$  0.016 0.0 0.5 (0.0)

$olv_i4^*$  0.984 1.0 0.5 1.0

$cmyn4^*$  0.016 0.0 0.5 0.0

standard and adapted CIELAB

$LAB^*LAB$  92.92 -2.44 60.89  
 $LAB^*LABa$  92.92 -2.46 60.89

$LAB^*TChA$  75.0 60.94 92.32

relative CIELAB lab\*

$lab^*lab$  0.971 -0.019 0.499

$lab^*tch$  0.75 0.5 0.256

$lab^*nch$  0.0 0.5 0.256

relative Natural Colour (NC)

$lab^*lrij$  0.971 0.0 0.5

$lab^*ice$  0.75 0.5 0.25

$lab^*ncE$  0.0 0.5 r99j

$n^* = 0,00$

blackness  $n^*$

$n^* = 1,0$

relative Inform. Technology (IT)

$olv_i3^*$  0.0 0.0 0.0 (1.0)

$cmyn3^*$  1.0 1.0 1.0 (0.0)

$olv_i4^*$  1.0 1.0 1.0 1.0

$cmyn4^*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  11.01 0.07 0.01  
 $LAB^*LABa$  11.01 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*ice$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 0,50$

blackness  $n^*$

$n^* = 1,0$

relative Inform. Technology (IT)

$olv_i3^*$  0.484 0.5 0.0 (1.0)

$cmyn3^*$  0.516 0.5 1.0 (0.0)

$olv_i4^*$  0.984 1.0 0.5 0.5

$cmyn4^*$  0.016 0.0 0.5 0.5

standard and adapted CIELAB

$LAB^*LAB$  50.72 -2.42 60.89  
 $LAB^*LABa$  50.72 -2.47 60.88

$LAB^*TChA$  25.01 60.93 92.33

relative CIELAB lab\*

$lab^*lab$  0.471 -0.019 0.499

$lab^*tch$  0.25 0.5 0.256

$lab^*nch$  0.0 0.5 0.256

relative Natural Colour (NC)

$lab^*lrij$  0.471 0.0 0.5

$lab^*ice$  0.25 0.5 0.25

$lab^*ncE$  0.5 0.5 100g

$n^* = 0,50$

blackness  $n^*$

$n^* = 1,0$

UE100-7, 3 step scales for constant CIELAB hue 92/360 = 0.256 (left)

3 step scales for constant CIELAB hue 92/360 = 0.256 (right)

$n^* = 0,00$

blackness  $n^*$

$n^* = 1,0$

blackness  $n^*$

## Input: Colorimetric Reflective System NCS18

for hue  $h^* = lab^*h = 92/360 = 0.256$

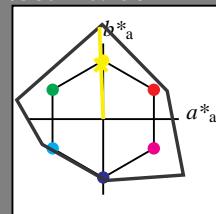
$lab^*tch$  and  $lab^*nch$

D65: hue J

LCH\*Ma: 90 122 92

olv\*Ma: 0.97 1.0 0.0

triangle lightness  $t^*$



### NCS18; adapted (a) CIELAB data

	$L^* = L^*_{ab}$	$a^*_{ab}$	$b^*_{ab}$	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	47.15	84.63	37.24	92.46	24
JMa	91.37	-1.27	125.03	125.03	91
GMa	63.07	-114.29	25.34	117.07	167
G50BMa	59.47	-80.61	-33.45	87.29	203
BMa	49.01	3.63	-81.2	81.29	273
B50RMa	44.06	106.07	-73.94	129.31	325
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	272

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

$LAB^*LABa$  95.41 0.0 0.0

$LAB^*TCh$  99.99 0.01 -

relative CIELAB lab\*

$lab^*lab$  1.0 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  1.0 0.0 0.0

$lab^*ice$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  92.92 -2.45 60.89

$LAB^*LABa$  92.92 -2.46 60.89

$LAB^*TCh$  75.0 60.94 92.32

relative CIELAB lab\*

$lab^*lab$  0.968 -0.019 0.499

$lab^*tch$  0.75 0.5 0.256

$lab^*nch$  0.0 0.5 0.256

relative Natural Colour (NC)

$lab^*lrj$  0.968 0.0 0.5

$lab^*ice$  0.75 0.5 0.25

$lab^*ncE$  0.0 0.5 r99j

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 0.5

$cmyn^4*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  56.72 0.05 0.0

$LAB^*LABa$  56.72 0.0 0.0

$LAB^*TCh$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  0.5 0.0 0.0

$lab^*ice$  0.5 0.0 0.0

$lab^*ncE$  0.5 0.0 -

$n^* = 1,0$

%Gamut

$u^*_{rel} = 136$

%Regularity

$g^*_{H,rel} = 46$

$g^*_{C,rel} = 65$

relative Inform. Technology (IT)

$olv^3*$  0.984 1.0 0.5 (1.0)

$cmyn^3*$  0.016 0.0 0.5 (0.0)

$olv^4*$  0.984 1.0 0.5 1.0

$cmyn^4*$  0.016 0.0 0.5 0.0

standard and adapted CIELAB

$LAB^*LAB$  92.92 -2.45 60.89

$LAB^*LABa$  92.92 -2.46 60.89

$LAB^*TCh$  75.0 60.94 92.32

relative CIELAB lab\*

$lab^*lab$  0.968 -0.019 0.499

$lab^*tch$  0.75 0.5 0.256

$lab^*nch$  0.0 0.5 0.256

relative Natural Colour (NC)

$lab^*lrj$  0.968 0.0 0.5

$lab^*ice$  0.75 0.5 0.25

$lab^*ncE$  0.0 0.5 r99j

standard and adapted CIELAB

$LAB^*LAB$  90.45 -4.93 121.76

$LAB^*LABa$  90.45 -4.94 121.77

$LAB^*TCh$  50.0 121.87 92.33

relative CIELAB lab\*

$lab^*lab$  0.936 -0.04 0.999

$lab^*tch$  0.5 1.0 0.256

$lab^*nch$  0.0 1.0 0.256

relative Natural Colour (NC)

$lab^*lrj$  0.936 0.0 1.0

$lab^*ice$  0.5 1.0 0.25

$lab^*ncE$  0.0 1.0 r99j

standard and adapted CIELAB

$LAB^*LAB$  54.23 -2.41 60.89

$LAB^*LABa$  54.23 -2.47 60.88

$LAB^*TCh$  25.01 60.93 92.33

relative CIELAB lab\*

$lab^*lab$  0.468 -0.019 0.499

$lab^*tch$  0.25 0.5 0.256

$lab^*nch$  0.5 0.5 0.256

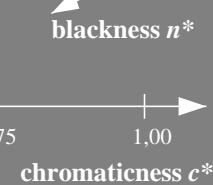
relative Natural Colour (NC)

$lab^*lrj$  0.468 0.0 0.5

$lab^*ice$  0.25 0.5 0.25

$lab^*ncE$  0.5 0.5 100g

$n^* = 0,00$



## Output: Colorimetric Reflective System ORS18

for hue  $h^* = lab^*h = 92/360 = 0.255$

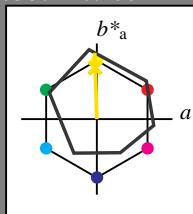
$lab^*tch$  and  $lab^*nch$

D65: hue J

LCH\*Ma: 86 88 92

olv\*Ma: 1.0 0.9 0.0

triangle lightness  $t^*$



### ORS18; adapted (a) CIELAB data

	$L^* = L^*_{ab}$	$a^*_{ab}$	$b^*_{ab}$	$C^*_{ab,a}$	$h^*_{ab,a}$
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)

$olv^3*$  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

$LAB^*LABa$  95.41 0.0 0.0

$LAB^*TCh$  99.99 0.01 -

relative CIELAB lab\*

$lab^*lab$  1.0 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  1.0 0.0 0.0

$lab^*ice$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  90.8 -2.3 48.29

$LAB^*LABa$  90.8 -1.41 43.85

$LAB^*TCh$  75.0 43.87 91.85

relative CIELAB lab\*

$lab^*lab$  0.94 -0.015 0.5

$lab^*tch$  0.75 0.5 0.255

$lab^*nch$  0.0 0.5 0.255

relative Natural Colour (NC)

$lab^*lrj$  0.94 0.0 0.5

$lab^*ice$  0.75 0.5 0.25

$lab^*ncE$  0.0 0.5 0.25

j00g

relative Inform. Technology (IT)

$olv^3*$  1.0 0.901 0.0 (1.0)

$cmyn^3*$  0.0 0.099 1.0 (0.0)

$olv^4*$  1.0 0.902 0.0 1.0

$cmyn^4*$  0.0 0.098 1.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  86.19 -3.62 91.83

$LAB^*LABa$  86.19 -2.82 87.69

$LAB^*TCh$  50.0 87.73 91.85

relative CIELAB lab\*

$lab^*lab$  0.881 -0.031 0.999

$lab^*tch$  0.5 1.0 0.255

$lab^*nch$  0.0 1.0 0.255

relative Natural Colour (NC)

$lab^*lrj$  0.881 0.0 1.0

$lab^*ice$  0.5 1.0 0.25

$lab^*ncE$  0.0 1.0 j00g

$n^* = 0,00$

blackness  $n^*$

## Input: Colorimetric Reflective System NCS18

for hue  $h^* = lab^*h = 92/360 = 0.256$

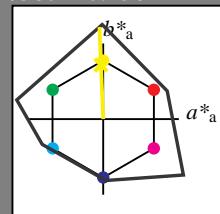
$lab^*tch$  and  $lab^*nch$

D65: hue J

LCH\*Ma: 90 122 92

olv\*Ma: 0.97 1.0 0.0

triangle lightness  $t^*$



### NCS18; adapted (a) CIELAB data

	$L^*=L_a^*$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	47.15	84.63	37.24	92.46	24
JMa	91.37	-1.27	125.03	125.03	91
GMa	63.07	-114.29	25.34	117.07	167
G50BMa	59.47	-80.61	-33.45	87.29	203
BMa	49.01	3.63	-81.2	81.29	273
B50RMa	44.06	106.07	-73.94	129.31	325
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	272

relative Inform. Technology (IT)

$olv_i3^*$  1.0 1.0 1.0 (1.0)

$cmy_n3^*$  0.0 0.0 0.0 (0.0)

$olv_i4^*$  1.0 1.0 1.0 1.0

$cmy_n4^*$  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

$LAB^*TCh$  99.99 0.01 -

relative CIELAB lab\*

$lab^*lab$  1.0 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  1.0 0.0 0.0

$lab^*ice$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  92.92 -2.45 60.89

$LAB^*LABa$  92.92 -2.46 60.89

$LAB^*TCh$  75.00 60.94 92.32

relative CIELAB lab\*

$lab^*lab$  0.968 -0.019 0.499

$lab^*tch$  0.75 0.5 0.256

$lab^*nch$  0.0 0.5 0.256

relative Natural Colour (NC)

$lab^*lrj$  0.968 0.0 0.5

$lab^*ice$  0.75 0.5 0.25

$lab^*ncE$  0.0 0.5 r99j

relative Inform. Technology (IT)

$olv_i3^*$  0.5 0.5 0.5 (1.0)

$cmy_n3^*$  0.5 0.5 0.5 (0.0)

$olv_i4^*$  1.0 1.0 1.0 0.5

$cmy_n4^*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  56.72 0.05 0.0

$LAB^*LABa$  56.72 0.0 0.0

$LAB^*TCh$  50.00 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  0.5 0.0 0.0

$lab^*ice$  0.5 0.0 0.0

$lab^*ncE$  0.5 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.09 0.02

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TCh$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  0.0 0.0 0.0

$lab^*ice$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

%Gamut  
 $u^*_{rel} = 136$   
%Regularity  
 $g^*_{H,rel} = 46$   
 $g^*_{C,rel} = 65$

relative Inform. Technology (IT)  
 $olv_i3^*$  0.984 1.0 0.5 (1.0)  
 $cmy_n3^*$  0.016 0.0 0.5 (0.0)  
 $olv_i4^*$  0.984 1.0 0.5 1.0  
 $cmy_n4^*$  0.016 0.0 0.5 0.0  
standard and adapted CIELAB  
 $LAB^*LAB$  92.92 -2.45 60.89  
 $LAB^*LABa$  92.92 -2.46 60.89  
 $LAB^*TCh$  75.00 60.94 92.32  
relative CIELAB lab\*  
 $lab^*lab$  0.984 1.0 0.5 (1.0)  
 $lab^*tch$  0.0 0.0 -  
 $lab^*nch$  0.0 0.0 -  
relative Natural Colour (NC)  
 $lab^*lrj$  1.0 0.0 0.0  
 $lab^*ice$  1.0 0.0 0.0  
 $lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)  
 $olv_i3^*$  0.967 1.0 0.0 (1.0)  
 $cmy_n3^*$  0.033 0.0 1.0 (0.0)  
 $olv_i4^*$  0.968 1.0 0.0 1.0  
 $cmy_n4^*$  0.032 0.0 1.0 0.0  
standard and adapted CIELAB  
 $LAB^*LAB$  90.45 -4.93 121.76  
 $LAB^*LABa$  90.45 -4.94 121.77  
 $LAB^*TCh$  50.00 121.87 92.33  
relative CIELAB lab\*  
 $lab^*lab$  0.936 -0.04 0.999  
 $lab^*tch$  0.5 1.0 0.256  
 $lab^*nch$  0.0 1.0 0.256  
relative Natural Colour (NC)  
 $lab^*lrj$  0.936 0.0 1.0  
 $lab^*ice$  0.5 1.0 0.25  
 $lab^*ncE$  0.0 1.0 r99j

relative Inform. Technology (IT)  
 $olv_i3^*$  0.484 0.5 0.0 (1.0)  
 $cmy_n3^*$  0.516 0.5 1.0 (0.0)  
 $olv_i4^*$  0.984 1.0 0.5 0.5  
 $cmy_n4^*$  0.016 0.0 0.5 0.5  
standard and adapted CIELAB  
 $LAB^*LAB$  54.23 -2.41 60.89  
 $LAB^*LABa$  54.23 -2.47 60.88  
 $LAB^*TCh$  25.01 60.93 92.33  
relative CIELAB lab\*  
 $lab^*lab$  0.468 -0.019 0.499  
 $lab^*tch$  0.25 0.5 0.256  
 $lab^*nch$  0.5 0.5 0.256  
relative Natural Colour (NC)  
 $lab^*lrj$  0.468 0.0 0.5  
 $lab^*ice$  0.25 0.5 0.25  
 $lab^*ncE$  0.5 0.5 100g

relative Inform. Technology (IT)  
 $olv_i3^*$  0.0 0.0 0.0 (1.0)  
 $cmy_n3^*$  1.0 1.0 1.0 (0.0)  
 $olv_i4^*$  1.0 1.0 1.0 0.0  
 $cmy_n4^*$  0.0 0.0 0.0 1.0  
standard and adapted CIELAB  
 $LAB^*LAB$  18.02 0.09 0.02  
 $LAB^*LABa$  18.02 0.0 0.0  
 $LAB^*TCh$  0.01 0.01 -  
relative CIELAB lab\*  
 $lab^*lab$  0.0 0.0 0.0  
 $lab^*tch$  0.0 0.0 -  
 $lab^*nch$  1.0 0.0 -  
relative Natural Colour (NC)  
 $lab^*lrj$  0.0 0.0 0.0  
 $lab^*ice$  0.0 0.0 -  
 $lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

$n^* = 0,00$   
blackness  $n^*$   
chromaticness  $c^*$

## Output: Colorimetric Reflective System MRS18

for hue  $h^* = lab^*h = 92/360 = 0.255$

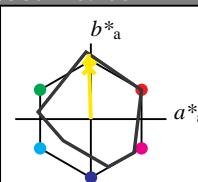
$lab^*tch$  and  $lab^*nch$

D65: hue J

LCH\*Ma: 89 86 92

olv\*Ma: 1.0 0.95 0.0

triangle lightness  $t^*$



	$L^*=L_a^*$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
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	58.67	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)  
 $olv_i3^*$  1.0 1.0 1.0 (1.0)  
 $cmy_n3^*$  0.0 0.0 0.0 (0.0)  
 $olv_i4^*$  1.0 1.0 1.0 1.0  
 $cmy_n4^*$  0.0 0.0 0.0 0.0  
standard and adapted CIELAB  
 $LAB^*LAB$  95.41 -0.97 4.75  
 $LAB^*LABa$  95.41 0.0 0.0  
 $LAB^*TCh$  99.99 0.01 -

relative CIELAB lab\*

$lab^*lab$  1.0 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  1.0 0.0 0.0

$lab^*ice$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  92.04 -2.3 47.67

$LAB^*LABa$  92.04 -1.39 43.14

$LAB^*TCh$  75.00 43.16 91.85

relative CIELAB lab\*

$lab^*lab$  0.957 -0.015 0.5

$lab^*tch$  0.75 0.5 0.255

$lab^*nch$  0.0 0.5 0.255

relative Natural Colour (NC)

$lab^*lrj$  0.957 0.0 0.5

$lab^*ice$  0.75 0.5 0.25

$lab^*ncE$  0.0 0.5 j00g

relative Inform. Technology (IT)  
 $olv_i3^*$  0.5 0.5 0.5 (1.0)  
 $cmy_n3^*$  0.5 0.5 0.5 (0.0)  
 $olv_i4^*$  1.0 0.976 0.5 0.5  
 $cmy_n4^*$  0.0 0.024 0.5 0.0  
standard and adapted CIELAB  
 $LAB^*LAB$  56.71 -0.23 2.14

$LAB^*LABa$  56.71 0.0 0.0

$LAB^*TCh$  50.00 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.936 -0.04 0.999

$lab^*tch$  0.5 1.0 0.256

$lab^*nch$  0.0 1.0 0.256

relative Natural Colour (NC)

$lab^*lrj$  0.936 0.0 1.0

$lab^*ice$  0.5 1.0 0.25

$lab^*ncE$  0.0 1.0 -

standard and adapted CIELAB

$LAB^*LAB$  53.35 -1.55 45.05

$LAB^*LABa$  53.35 -1.38 43.13

$LAB^*TCh$  25.01 43.16 91.84

relative CIELAB lab\*

$lab^*lab$  0.457 -0.015 0.5

$lab^*tch$  0.25 0.5 0.255

$lab^*nch$  0.5 0.5 0.255

relative Natural Colour (NC)

$lab^*lrj$  0.457 0.0 0.5

$lab^*ice$  0.25 0.5 0.25

$lab^*ncE$  0.5 0.5 r99j

$n^* = 0,00$

$n^* = 1,0$   
blackness  $n^*$   
chromaticness  $c^*$

3 step scales for constant CIELAB hue 92/360 = 0.255 (right)

## Input: Colorimetric Reflective System NCS18

for hue  $h^* = lab^*h = 92/360 = 0.256$

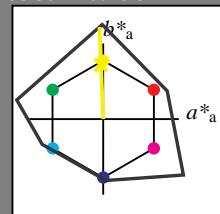
$lab^*tch$  and  $lab^*nch$

D65: hue J

LCH\*Ma: 90 122 92

olv\*Ma: 0.97 1.0 0.0

triangle lightness  $t^*$



## NCS18; adapted (a) CIELAB data

	$L^* = L^*_{ab}$	$a^*_{ab}$	$b^*_{ab}$	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	47.15	84.63	37.24	92.46	24
JMa	91.37	-1.27	125.03	125.03	91
GMa	63.07	-114.29	25.34	117.07	167
G50BMa	59.47	-80.61	-33.45	87.29	203
BMa	49.01	3.63	-81.2	81.29	273
B50RMa	44.06	106.07	-73.94	129.31	325
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	272

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

$LAB^*LABa$  95.41 0.0 0.0

$LAB^*TCh$  99.99 0.01 -

relative CIELAB lab\*

$lab^*lab$  1.0 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  1.0 0.0 0.0

$lab^*ice$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  95.41 -0.97 4.75

$LAB^*LABa$  95.41 0.0 0.0

$LAB^*TCh$  99.99 0.01 -

relative CIELAB lab\*

$lab^*lab$  1.0 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  1.0 0.0 0.0

$lab^*ice$  1.0 0.0 0.0

$lab^*ncE$  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 0.5

$cmyn^4*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  56.72 0.05 0.0

$LAB^*LABa$  56.72 0.0 0.0

$LAB^*TCh$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  0.5 0.0 0.0

$lab^*ice$  0.5 0.0 0.0

$lab^*ncE$  0.5 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.09 0.02

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TCh$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  0.0 0.0 0.0

$lab^*ice$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

%Gamut

$u^*_{rel} = 136$

%Regularity

$g^*_{H,rel} = 46$

$g^*_{C,rel} = 65$

relative Inform. Technology (IT)

$olv^3*$  0.984 1.0 0.5 (1.0)

$cmyn^3*$  0.016 0.0 0.5 (0.0)

$olv^4*$  0.984 1.0 0.5 1.0

$cmyn^4*$  0.016 0.0 0.5 0.0

standard and adapted CIELAB

$LAB^*LAB$  92.92 -2.45 60.89

$LAB^*LABa$  92.92 -2.46 60.89

$LAB^*TCh$  75.0 60.94 92.32

relative CIELAB lab\*

$lab^*lab$  0.968 -0.019 0.499

$lab^*tch$  0.75 0.5 0.256

$lab^*nch$  0.0 0.5 0.256

relative Natural Colour (NC)

$lab^*lrj$  0.968 0.0 0.5

$lab^*ice$  0.75 0.5 0.25

$lab^*ncE$  0.0 0.5 r99j

standard and adapted CIELAB

$LAB^*LAB$  90.45 -4.93 121.76

$LAB^*LABa$  90.45 -4.94 121.77

$LAB^*TCh$  50.0 121.87 92.33

relative CIELAB lab\*

$lab^*lab$  0.936 -0.04 0.999

$lab^*tch$  0.5 1.0 0.256

$lab^*nch$  0.0 1.0 0.256

relative Natural Colour (NC)

$lab^*lrj$  0.936 0.0 1.0

$lab^*ice$  0.5 1.0 0.25

$lab^*ncE$  0.0 1.0 r99j

standard and adapted CIELAB

$LAB^*LAB$  54.23 -2.41 60.89

$LAB^*LABa$  54.23 -2.47 60.88

$LAB^*TCh$  25.01 60.93 92.33

relative CIELAB lab\*

$lab^*lab$  0.468 -0.019 0.499

$lab^*tch$  0.25 0.5 0.256

$lab^*nch$  0.5 0.5 0.256

relative Natural Colour (NC)

$lab^*lrj$  0.468 0.0 0.5

$lab^*ice$  0.25 0.5 0.25

$lab^*ncE$  0.5 0.5 100g

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.09 0.02

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TCh$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  0.0 0.0 0.0

$lab^*ice$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 0,00$

$n^* = 0,50$

$n^* = 1,00$

chromaticness  $c^*$

## Output: Colorimetric Reflective System TRS18

for hue  $h^* = lab^*h = 92/360 = 0.255$

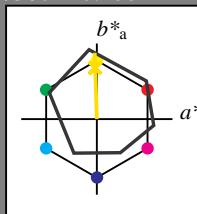
$lab^*tch$  and  $lab^*nch$

D65: hue J

LCH\*Ma: 86 88 92

olv\*Ma: 1.0 0.9 0.0

triangle lightness  $t^*$



## TRS18; adapted (a) CIELAB data

	$L^* = L^*_{ab}$	$a^*_{ab}$	$b^*_{ab}$	$C^*_{ab,a}$	$h^*_{ab,a}$
O Ma	47.94	65.37	50.52	82.62	38
Y Ma	90.37	-10.27	91.77	92.34	96
I Ma	50.9	-62.79	34.95	71.87	151
C Ma	58.62	-30.35	-45.01	54.3	236
V Ma	25.71	31.11	-44.42	54.24	305
M Ma	18.01	0.0	0.0	0.0	0
W Ma	95.41	0.0	0.0	0.0	0
R CIE	39.92	58.66	26.98	64.56	25
J CIE	81.26	-2.17	67.76	67.79	92
G CIE	52.23	-42.26	11.75	43.87	164
B CIE	30.57	1.15	-46.84	46.87	271

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

$LAB^*LABa$  95.41 0.0 0.0

$LAB^*TCh$  99.99 0.01 -

relative CIELAB lab\*

$lab^*lab$  1.0 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  1.0 0.0 0.0

$lab^*ice$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  90.8 -2.3 48.29

$LAB^*LABa$  90.8 -1.41 43.85

$LAB^*TCh$  75.0 43.87 91.85

relative CIELAB lab\*

$lab^*lab$  0.94 -0.015 0.5

$lab^*tch$  0.75 0.5 0.255

$lab^*nch$  0.0 0.5 0.255

relative Natural Colour (NC)

$lab^*lrj$  0.94 0.0 0.5

$lab^*ice$  0.75 0.5 0.25

$lab^*ncE$  0.0 0.5 j00g

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 0.951 0.5 0.5

$cmyn^4*$  0.0 0.0 0.5 0.5

standard and adapted CIELAB

$LAB^*$

## Input: Colorimetric Reflective System NCS18

for hue  $h^* = lab^*h = 92/360 = 0.256$

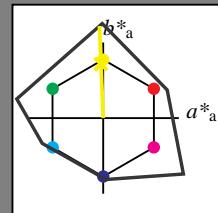
$lab^*tch$  and  $lab^*nch$

D65: hue J

LCH\*Ma: 90 122 92

olv\*Ma: 0.97 1.0 0.0

triangle lightness  $t^*$



## NCS18; adapted (a) CIELAB data

	$L^* = L^*_{a,a}$	$a^*_{a,a}$	$b^*_{a,a}$	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	47.15	84.63	37.24	92.46	24
JMa	91.37	-1.27	125.03	125.03	91
GMa	63.07	-114.29	25.34	117.07	167
G50BMa	59.47	-80.61	-33.45	87.29	203
BMa	49.01	3.63	-81.2	81.29	273
B50RMa	44.06	106.07	-73.94	129.31	325
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	272

relative Inform. Technology (IT)

$olv^3*$  1.0 1.0 1.0 (1.0)

$cmy^3*$  0.0 0.0 0.0 (0.0)

$olv^4*$  1.0 1.0 1.0 1.0

$cmy^4*$  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

$LAB^*TCh$  99.99 0.01 -

relative CIELAB lab\*

$lab^*lab$  1.0 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  92.92 -2.45 60.89

$LAB^*LABa$  92.92 -2.46 60.89

$LAB^*TCh$  75.00 60.94 92.32

relative CIELAB lab\*

$lab^*lab$  0.968 -0.019 0.499

$lab^*tch$  0.75 0.5 0.256

$lab^*nch$  0.0 0.5 0.256

relative Natural Colour (NC)

$lab^*lrij$  0.968 0.0 0.5

$lab^*tce$  0.75 0.5 0.25

$lab^*ncE$  0.0 0.5 r99j

relative Inform. Technology (IT)

$olv^3*$  0.5 0.5 0.5 (1.0)

$cmy^3*$  0.5 0.5 0.5 (0.0)

$olv^4*$  1.0 1.0 1.0 0.5

$cmy^4*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  56.72 0.05 0.0

$LAB^*LABa$  56.72 0.0 0.0

$LAB^*TCh$  50.00 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.5 0.0 0.0

$lab^*tce$  0.5 0.0 0.0

$lab^*ncE$  0.5 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.09 0.02

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TCh$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*tce$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

	$L^* = L^*_{a,a}$	$a^*_{a,a}$	$b^*_{a,a}$	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	49.63	66.8	40.02	77.87	31
JMa	90.7	-7.27	93.19	93.48	94
GMa	52.11	-69.93	11.26	70.85	171
G50BMa	45.03	-36.65	-27.13	45.61	217
BMa	36.65	23.26	-62.27	66.49	290
B50RMa	34.94	57.27	-43.6	71.99	323
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	272

%Gamut

$u^*_{rel} = 136$

%Regularity

$g^*_{H,rel} = 46$

$g^*_{C,rel} = 65$

relative Inform. Technology (IT)

$olv^3*$  1.0 0.984 1.0 (1.0)

$cmy^3*$  0.0 0.0 0.0 (0.0)

$olv^4*$  1.0 0.984 1.0 0.5 1.0

$cmy^4*$  0.0 0.0 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  95.41 0.01 0.0

$LAB^*LABa$  95.41 0.0 0.0

$LAB^*TCh$  99.99 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.984 1.0 0.5 (1.0)

$lab^*tch$  0.016 0.0 0.5 (0.0)

$lab^*nch$  0.016 0.0 0.5 1.0

$cmy^4*$  0.016 0.0 0.5 0.0

standard and adapted CIELAB

$LAB^*LAB$  92.92 -2.45 60.89

$LAB^*LABa$  92.92 -2.46 60.89

$LAB^*TCh$  75.00 60.94 92.32

relative CIELAB lab\*

$lab^*lab$  0.968 -0.019 0.499

$lab^*tch$  0.75 0.5 0.256

$lab^*nch$  0.0 0.5 0.256

relative Natural Colour (NC)

$lab^*lrij$  0.968 0.0 0.5

$lab^*tce$  0.75 0.5 0.25

$lab^*ncE$  0.0 0.5 r99j

relative Inform. Technology (IT)

$olv^3*$  0.5 0.484 0.5 (1.0)

$cmy^3*$  0.5 0.516 0.5 (0.0)

$olv^4*$  0.984 1.0 0.5 0.5

$cmy^4*$  0.016 0.0 0.5 0.5

standard and adapted CIELAB

$LAB^*LAB$  56.72 0.05 0.0

$LAB^*LABa$  56.72 0.0 0.0

$LAB^*TCh$  50.00 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.484 0.5 0.0

$lab^*tch$  0.25 0.5 0.256

$lab^*nch$  0.5 0.5 0.256

relative Natural Colour (NC)

$lab^*lrij$  0.486 0.0 0.5

$lab^*tce$  0.25 0.5 0.25

$lab^*ncE$  0.5 0.5 100g

$n^* = 0,00$

	$L^* = L^*_{a,a}$	$a^*_{a,a}$	$b^*_{a,a}$	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	49.63	66.8	40.02	77.87	31
JMa	90.7	-7.27	93.19	93.48	94
GMa	52.11	-69.93	11.26	70.85	171
G50BMa	45.03	-36.65	-27.13	45.61	217
BMa	36.65	23.26	-62.27	66.49	290
B50RMa	34.94	57.27	-43.6	71.99	323
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	272

relative Inform. Technology (IT)

$olv^3*$  1.0 0.976 0.5 (1.0)

$cmy^3*$  0.0 0.0 0.0 (0.0)

$olv^4*$  1.0 0.976 0.5 1.0

$cmy^4*$  0.0 0.0 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  95.41 0.01 0.0

$LAB^*LABa$  95.41 0.0 0.0

$LAB^*TCh$  99.99 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.976 0.5 0.0

$lab^*tch$  0.024 0.5 (0.0)

$lab^*nch$  0.0 0.5 0.0

relative Natural Colour (NC)

$lab^*lrij$  0.976 0.5 0.5

$lab^*tce$  0.024 0.5 0.0

$lab^*ncE$  0.0 0.5 0.0

relative Inform. Technology (IT)

$olv^3*$  0.5 0.476 0.0 (1.0)

$cmy^3*$  0.5 0.524 1.0 (0.0)

$olv^4*$  1.0 0.976 0.5 0.5

$cmy^4*$  0.0 0.024 0.5 0.5

standard and adapted CIELAB

$LAB^*LAB$  56.71 0.05 0.0

$LAB^*LABa$  56.71 0.0 0.0

$LAB^*TCh$  50.00 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.476 0.0 0.0

$lab^*tch$  0.25 0.5 0.256

$lab^*nch$  0.5 0.5 0.256

relative Natural Colour (NC)

$lab^*lrij$  0.476 0.0 0.0

$lab^*tce$  0.024 0.5 0.25

$lab^*ncE$  1.0 0.0 0.0

$n$

## Input: Colorimetric Reflective System NCS18

for hue  $h^* = lab^*h = 92/360 = 0.256$

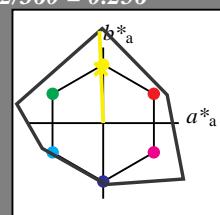
$lab^*tch$  and  $lab^*nch$

D65: hue J

LCH\*Ma: 90 122 92

olv\*Ma: 0.97 1.0 0.0

triangle lightness  $t^*$



### NCS18; adapted (a) CIELAB data

	$L^* = L^*_{ab}$	$a^*_{ab}$	$b^*_{ab}$	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	47.15	84.63	37.24	92.46	24
JMa	91.37	-1.27	125.03	125.03	91
GMa	63.07	-114.29	25.34	117.07	167
G50BMa	59.47	-80.61	-33.45	87.29	203
BMa	49.01	3.63	-81.2	81.29	273
B50RMa	44.06	106.07	-73.94	129.31	325
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	272

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

$LAB^*LABa$  95.41 0.0 0.0

$LAB^*TCh$  99.99 0.01 -

relative CIELAB lab\*

$lab^*lab$  1.0 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  1.0 0.0 0.0

$lab^*ice$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  92.92 -2.45 60.89

$LAB^*LABa$  92.92 -2.46 60.89

$LAB^*TCh$  75.00 60.94 92.32

relative CIELAB lab\*

$lab^*lab$  0.968 -0.019 0.499

$lab^*tch$  0.75 0.5 0.256

$lab^*nch$  0.0 0.5 0.256

relative Natural Colour (NC)

$lab^*lrj$  0.968 0.0 0.5

$lab^*ice$  0.75 0.5 0.25

$lab^*ncE$  0.0 0.5 r99j

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 0.5

$cmyn^4*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  56.72 0.05 0.0

$LAB^*LABa$  56.72 0.0 0.0

$LAB^*TCh$  50.00 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  0.5 0.0 0.0

$lab^*ice$  0.5 0.0 0.0

$lab^*ncE$  0.5 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.09 0.02

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TCh$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  0.0 0.0 0.0

$lab^*ice$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

%Gamut

$u^*_{rel} = 136$

%Regularity

$g^*_{H,rel} = 46$

$g^*_{C,rel} = 65$

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

$LAB^*LABa$  95.41 0.0 0.0

$LAB^*TCh$  99.99 0.01 -

relative CIELAB lab\*

$olv^3*$  0.984 1.0 0.5 (1.0)

$cmyn^3*$  0.016 0.0 0.5 (0.0)

$olv^4*$  0.984 1.0 0.5 1.0

$cmyn^4*$  0.016 0.0 0.5 0.0

standard and adapted CIELAB

$LAB^*LAB$  92.92 -2.45 60.89

$LAB^*LABa$  92.92 -2.46 60.89

$LAB^*TCh$  75.00 60.94 92.32

relative CIELAB lab\*

$olv^3*$  0.967 1.0 0.0 (1.0)

$cmyn^3*$  0.033 0.0 1.0 (0.0)

$olv^4*$  0.968 1.0 0.5 1.0

$cmyn^4*$  0.032 0.0 1.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  90.45 -4.93 121.76

$LAB^*LABa$  90.45 -4.94 121.77

$LAB^*TCh$  50.00 121.87 92.33

relative CIELAB lab\*

$olv^3*$  0.936 -0.04 0.999

$lab^*tch$  0.5 1.0 0.256

$lab^*nch$  0.0 1.0 0.256

relative Natural Colour (NC)

$lab^*lrj$  0.936 0.0 1.0

$lab^*ice$  0.5 1.0 0.25

$lab^*ncE$  0.0 1.0 r99j

$n^* = 0,00$

blackness  $n^*$

$n^* = 0,50$

chromaticness  $c^*$

## Output: Colorimetric Reflective System NRS18

for hue  $h^* = lab^*h = 92/360 = 0.256$

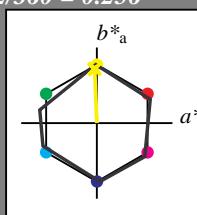
$lab^*tch$  and  $lab^*nch$

D65: hue J

LCH\*Ma: 57 76 92

olv\*Ma: 0.98 1.0 0.0

triangle lightness  $t^*$



### NRS18; adapted (a) CIELAB data

	$L^* = L^*_{ab}$	$a^*_{ab}$	$b^*_{ab}$	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	56.7	70.66	31.47	77.35	24
JMa	56.7	-1.39	77.37	77.39	91
GMa	56.7	-75.46	17.4	77.45	167
G50BMa	56.7	-71.29	-30.25	77.45	203
BMa	56.7	4.0	-77.3	77.41	273
B50RMa	56.7	63.35	-44.4	77.36	325
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	272

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

$LAB^*LABa$  95.41 0.0 0.0

$LAB^*TCh$  99.99 0.01 -

relative CIELAB lab\*

$lab^*lab$  1.0 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  1.0 0.0 0.0

$lab^*ice$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)

$olv^3*$  0.989 1.0 0.5 (1.0)

$cmyn^3*$  0.011 0.0 0.5 (0.0)

$olv^4*$  0.989 1.0 0.5 1.0

$cmyn^4*$  0.011 0.0 0.5 0.0

standard and adapted CIELAB

$LAB^*LAB$  76.05 -1.5 38.01

$LAB^*LABa$  76.05 -1.53 38.00

$LAB^*TCh$  50.00 38.03 92.32

relative CIELAB lab\*

$lab^*lab$  0.75 -0.019 0.499

$lab^*tch$  0.75 0.5 0.256

$lab^*nch$  0.0 0.5 0.256

relative Natural Colour (NC)

$lab^*lrj$  0.75 0.0 0.5

$lab^*ice$  0.75 0.5 0.25

$lab^*ncE$  0.0 0.5 r99j

$n^* = 0,00$

blackness  $n^*$

$n^* = 0,50$

chromaticness  $c^*$

3 step scales for constant CIELAB hue 92/360 = 0.256 (left)

3 step scales for constant CIELAB hue 92/360 = 0.256 (right)

## Input: Colorimetric Reflective System NCS18

for hue  $h^* = lab^*h = 92/360 = 0.256$

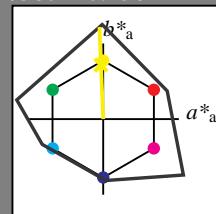
$lab^*tch$  and  $lab^*nch$

D65: hue J

LCH\*Ma: 90 122 92

olv\*Ma: 0.97 1.0 0.0

triangle lightness  $t^*$



## NCS18; adapted (a) CIELAB data

	$L^* = L_a^*$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	47.15	84.63	37.24	92.46	24
JMa	91.37	-1.27	125.03	125.03	91
GMa	63.07	-114.29	25.34	117.07	167
G50BMa	59.47	-80.61	-33.45	87.29	203
BMa	49.01	3.63	-81.2	81.29	273
B50RMa	44.06	106.07	-73.94	129.31	325
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	272

relative Inform. Technology (IT)

$olv_i3^*$  1.0 1.0 1.0 (1.0)

$cmy_n3^*$  0.0 0.0 0.0 (0.0)

$olv_i4^*$  1.0 1.0 1.0 1.0

$cmy_n4^*$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 0.0

$lab^*ncE$  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\*

$lab^*lab$  0.5 0.5 0.5 (1.0)

$cmy_n3^*$  0.5 0.5 0.5 (0.0)

$olv_i4^*$  1.0 1.0 1.0 0.5

$cmy_n4^*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  56.72 0.05 0.0

$LAB^*LABa$  56.72 0.0 0.0

$LAB^*TChA$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.5 0.0 0.0

$lab^*tce$  0.5 0.0 0.0

$lab^*ncE$  0.5 0.0 -

relative Inform. Technology (IT)

$olv_i3^*$  0.0 0.0 0.0 (1.0)

$cmy_n3^*$  1.0 1.0 1.0 (0.0)

$olv_i4^*$  1.0 1.0 1.0 0.0

$cmy_n4^*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.09 0.02

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*tce$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

%Gamut

$u^*_{rel} = 136$

%Regularity

$g^*_{H,rel} = 46$

$g^*_{C,rel} = 65$

relative Inform. Technology (IT)

$olv_i3^*$  0.984 1.0 0.5 (1.0)

$cmy_n3^*$  0.016 0.0 0.5 (0.0)

$olv_i4^*$  0.984 1.0 0.5 1.0

$cmy_n4^*$  0.016 0.0 0.5 0.0

standard and adapted CIELAB

$LAB^*LAB$  92.92 -2.45 60.89

$LAB^*LABa$  92.92 -2.46 60.89

$LAB^*TChA$  75.0 60.94 92.32

relative CIELAB lab\*

$lab^*lab$  0.968 -0.019 0.499

$lab^*tch$  0.75 0.5 0.256

$lab^*nch$  0.0 0.5 0.256

relative Natural Colour (NC)

$lab^*lrij$  0.968 0.0 0.5

$lab^*tce$  0.75 0.5 0.25

$lab^*ncE$  0.0 0.5 r99j

standard and adapted CIELAB

$LAB^*LAB$  90.45 -4.93 121.76

$LAB^*LABa$  90.45 -4.94 121.77

$LAB^*TChA$  50.0 121.87 92.33

relative CIELAB lab\*

$lab^*lab$  0.936 -0.04 0.999

$lab^*tch$  0.5 1.0 0.256

$lab^*nch$  0.0 1.0 0.256

relative Natural Colour (NC)

$lab^*lrij$  0.936 0.0 1.0

$lab^*tce$  0.5 1.0 0.25

$lab^*ncE$  0.0 1.0 r99j

relative Inform. Technology (IT)

$olv_i3^*$  0.967 1.0 0.0 (1.0)

$cmy_n3^*$  0.033 0.0 1.0 (0.0)

$olv_i4^*$  0.968 1.0 0.5 1.0

$cmy_n4^*$  0.032 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  56.72 0.05 0.0

$LAB^*LABa$  56.72 0.0 0.0

$LAB^*TChA$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.948 0.5 0.0 (1.0)

$cmy_n3^*$  0.516 0.5 0.0 (0.0)

$olv_i4^*$  0.984 1.0 0.5 0.5

$cmy_n4^*$  0.016 0.0 0.5 0.5

standard and adapted CIELAB

$LAB^*LAB$  54.23 -2.41 60.89

$LAB^*LABa$  54.23 -2.47 60.88

$LAB^*TChA$  25.01 60.93 92.33

relative CIELAB lab\*

$lab^*lab$  0.468 -0.019 0.499

$lab^*tch$  0.25 0.5 0.256

$lab^*nch$  0.5 0.5 0.256

relative Natural Colour (NC)

$lab^*lrij$  0.468 0.0 0.5

$lab^*tce$  0.25 0.5 0.25

$lab^*ncE$  0.5 0.5 j00g

relative Inform. Technology (IT)

$olv_i3^*$  0.0 0.0 0.0 (1.0)

$cmy_n3^*$  0.516 0.5 1.0 (0.0)

$olv_i4^*$  0.984 1.0 0.5 0.5

$cmy_n4^*$  0.0 0.0 1.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.09 0.02

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*tce$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

relative Inform. Technology (IT)

$olv_i3^*$  0.0 0.0 0.0 (1.0)

$cmy_n3^*$  0.0 0.0 0.0 (0.0)

$olv_i4^*$  0.0 0.0 0.0 0.0

$cmy_n4^*$  0.0 0.0 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.09 0.02

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.468 -0.019 0.499

$lab^*tch$  0.25 0.5 0.256

$lab^*nch$  0.5 0.5 0.256

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*tce$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

relative Inform. Technology (IT)

$olv_i3^*$  0.0 0.0 0.0 (1.0)

$cmy_n3^*$  0.0 0.0 0.0 (0.0)

$olv_i4^*$  0.0 0.0 0.0 0.0

$cmy_n4^*$  0.0 0.0 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.09 0.02

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.468 -0.019 0.499

$lab^*tch$  0.25 0.5 0.256

$lab^*nch$  0.5 0.5 0.256

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*tce$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

relative Inform. Technology (IT)

$olv_i3^*$  0.0 0.0 0.0 (1.0)

$cmy_n3^*$  0.0 0.0 0.0 (0.0)

$olv_i4^*$  0.0 0.0 0.0 0.0

$cmy_n4^*$  0.0 0.0 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.09 0.02

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.468 -0.019 0.499

$lab^*tch$  0.25 0.5 0.256

$lab^$

## Input: Colorimetric Reflective System NCS18

for hue  $h^* = lab^*h = 92/360 = 0.256$

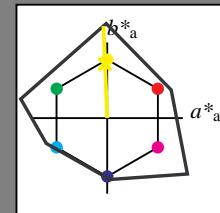
$lab^*tch$  and  $lab^*nch$

D65: hue J

LCH\*Ma: 90 122 92

olv\*Ma: 0.97 1.0 0.0

triangle lightness  $t^*$



### NCS18; adapted (a) CIELAB data

	$L^*=L_a^*$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	47.15	84.63	37.24	92.46	24
JMa	91.37	-1.27	125.03	125.03	91
GMa	63.07	-114.29	25.34	117.07	167
G50BMa	59.47	-80.61	-33.45	87.29	203
BMa	49.01	3.63	-81.2	81.29	273
B50RMa	44.06	106.07	-73.94	129.31	325
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	272

relative Inform. Technology (IT)

$olv_i3^*$  1.0 1.0 1.0 (1.0)

$cmyn3^*$  0.0 0.0 0.0 (0.0)

$olv_i4^*$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  92.92 -2.45 60.89

$LAB^*LABa$  92.92 -2.46 60.89

$LAB^*TChA$  75.0 60.94 92.32

relative CIELAB lab\*

$lab^*lab$  0.968 -0.019 0.499

$lab^*tch$  0.75 0.5 0.256

$lab^*nch$  0.0 0.5 0.256

relative Natural Colour (NC)

$lab^*lrij$  0.968 0.0 0.5

$lab^*tce$  0.75 0.5 0.25

$lab^*ncE$  0.0 0.5 r99j

relative Inform. Technology (IT)

$olv_i3^*$  0.5 0.5 0.5 (1.0)

$cmyn3^*$  0.5 0.5 0.5 (0.0)

$olv_i4^*$  1.0 1.0 1.0 0.5

$cmyn4^*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  56.72 0.05 0.0

$LAB^*LABa$  56.72 0.0 0.0

$LAB^*TChA$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.5 0.0 0.0

$lab^*tce$  0.5 0.0 0.0

$lab^*ncE$  0.5 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.09 0.02

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*tce$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

%Gamut  
 $u^*_{rel} = 136$   
%Regularity  
 $g^*_{H,rel} = 46$   
 $g^*_{C,rel} = 65$

relative Inform. Technology (IT)  
 $olv_i3^*$  0.984 1.0 0.5 (1.0)  
 $cmyn3^*$  0.016 0.0 0.5 (0.0)  
 $olv_i4^*$  0.984 1.0 0.5 1.0  
 $cmyn4^*$  0.016 0.0 0.5 0.0

relative Inform. Technology (IT)  
 $olv_i3^*$  0.967 1.0 0.0 (1.0)  
 $cmyn3^*$  0.033 0.0 1.0 (0.0)  
 $olv_i4^*$  0.968 1.0 0.0 1.0  
 $cmyn4^*$  0.032 0.0 1.0 0.0

relative Inform. Technology (IT)  
 $olv_i3^*$  0.484 0.5 0.0 (1.0)  
 $cmyn3^*$  0.516 0.5 1.0 (0.0)  
 $olv_i4^*$  0.984 1.0 0.5 0.5  
 $cmyn4^*$  0.016 0.0 0.5 0.5

relative Inform. Technology (IT)  
 $olv_i3^*$  0.468 -0.019 0.499  
 $lab^*tch$  0.25 0.5 0.256  
 $lab^*nch$  0.5 0.5 0.256

relative Inform. Technology (IT)  
 $olv_i3^*$  0.0 0.0 0.0 (1.0)  
 $cmyn3^*$  1.0 1.0 1.0 (0.0)  
 $olv_i4^*$  1.0 1.0 1.0 0.0  
 $cmyn4^*$  0.0 0.0 0.0 1.0

relative Inform. Technology (IT)  
 $olv_i3^*$  0.0 0.0 0.0 (1.0)  
 $cmyn3^*$  1.0 1.0 1.0 (0.0)  
 $olv_i4^*$  1.0 1.0 1.0 0.0  
 $cmyn4^*$  0.0 0.0 0.0 1.0

$n^* = 0,00$   
blackness  $n^*$   
chromaticness  $c^*$

## Output: Colorimetric Reflective System NRS11

for hue  $h^* = lab^*h = 92/360 = 0.256$

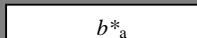
$lab^*tch$  and  $lab^*nch$

D65: hue J

LCH\*Ma: 53 83 92

olv\*Ma: 0.98 1.0 0.0

triangle lightness  $t^*$



### NRS11; adapted (a) CIELAB data

	$L^*=L_a^*$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	53.2	77.06	34.32	84.36	24
JMa	53.2	-1.51	84.38	84.39	91
GMa	53.2	-82.27	18.98	84.44	167
G50BMa	53.2	-77.72	-32.98	84.44	203
BMa	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)  
 $olv_i3^*$  1.0 1.0 1.0 (1.0)  
 $cmyn3^*$  0.0 0.0 0.0 (0.0)  
 $olv_i4^*$  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

-

$lab^*nch$

0.0

0.5

0.256

relative Natural Colour (NC)

$lab^*lrij$

1.0

0.0

0.0

$lab^*tce$

1.0

0.0

-

$lab^*ncE$

1.0

0.0

-

relative Natural Colour (NC)

$lab^*lrij$

1.0

0.0

0.0

$lab^*tce$

1.0

0.0

-

$lab^*ncE$

1.0

0.0

-

relative Inform. Technology (IT)

$olv_i3^*$

0.989

1.0

0.5

0.256

$cmyn3^*$

0.511

0.5

0.256

$olv_i4^*$

0.989

1.0

0.5

0.256

$cmyn4^*$

0.011

0.0

0.5

0.256

relative Inform. Technology (IT)

$olv_i3^*$

0.489

0.5

0.256

$cmyn3^*$

0.511

0.5

0.256

$olv_i4^*$

0.989

1.0

0.5

0.256

$cmyn4^*$

0.011

0.0

0.5

0.256

relative Inform. Technology (IT)

$olv_i3^*$

0.977

1.0

0.0

## Input: Colorimetric Reflective System NCS18

for hue  $h^* = lab^*h = 92/360 = 0.256$

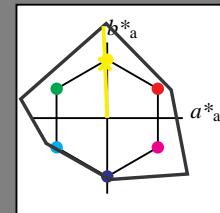
$lab^*tch$  and  $lab^*nch$

D65: hue J

LCH\*Ma: 90 122 92

olv\*Ma: 0.97 1.0 0.0

triangle lightness  $t^*$



%Gamut

$u^*_{rel} = 136$

%Regularity

$g^*_{H,rel} = 46$

$g^*_{C,rel} = 65$

relative Inform. Technology (IT)

$olv^3*$  1.0 1.0 1.0 (1.0)

$cmy^3*$  0.0 0.0 0.0 (0.0)

$olv^4*$  1.0 1.0 1.0 1.0

$cmy^4*$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)

$olv^3*$  0.5 0.5 0.5 (1.0)

$cmy^3*$  0.5 0.5 0.5 (0.0)

$olv^4*$  1.0 1.0 1.0 0.5

$cmy^4*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  56.72 0.05 0.0

$LAB^*LABa$  56.72 0.0 0.0

$LAB^*TChA$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.5 0.0 0.0

$lab^*tce$  0.5 0.0 0.0

$lab^*ncE$  0.5 0.0 -

relative Inform. Technology (IT)

$olv^3*$  0.0 0.0 0.0 (1.0)

$cmy^3*$  1.0 1.0 1.0 (0.0)

$olv^4*$  1.0 1.0 1.0 0.0

$cmy^4*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.09 0.02

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*tce$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

## NCS18; adapted (a) CIELAB data

$L^*=L^*_{a,a}$   $a^*_{a,a}$   $b^*_{a,a}$   $C^*_{ab,a}$   $h^*_{ab,a}$

RMa	47.15	84.63	37.24	92.46	24
JMa	91.37	-1.27	125.03	125.03	91
GMa	63.07	-114.29	25.34	117.07	167
G50BMa	59.47	-80.61	-33.45	87.29	203
BMa	49.01	3.63	-81.2	81.29	273
B50RMa	44.06	106.07	-73.94	129.31	325
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	272

## Output: Colorimetric Reflective System NCS11

for hue  $h^* = lab^*h = 92/360 = 0.256$

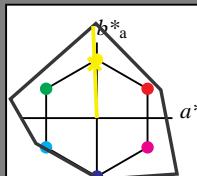
$lab^*tch$  and  $lab^*nch$

D65: hue J

LCH\*Ma: 90 122 92

olv\*Ma: 0.97 1.0 0.0

triangle lightness  $t^*$



%Gamut

$u^*_{rel} = 149$

%Regularity

$g^*_{H,rel} = 46$

$g^*_{C,rel} = 65$

relative Inform. Technology (IT)

$olv^3*$  1.0 1.0 1.0 (1.0)

$cmy^3*$  0.0 0.0 0.0 (0.0)

$olv^4*$  1.0 1.0 1.0 1.0

$cmy^4*$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)

$olv^3*$  0.984 1.0 0.5 (1.0)

$cmy^3*$  0.016 0.0 0.5 (0.0)

$olv^4*$  0.984 1.0 0.5 1.0

$cmy^4*$  0.016 0.0 0.5 0.0

standard and adapted CIELAB

$LAB^*LAB$  92.92 -2.44 60.89

$LAB^*LABa$  92.92 -2.46 60.89

$LAB^*TChA$  75.0 60.94 92.32

relative CIELAB lab\*

$lab^*lab$  0.971 -0.019 0.499

$lab^*tch$  0.75 0.5 0.256

$lab^*nch$  0.0 0.5 0.256

relative Natural Colour (NC)

$lab^*lrij$  0.971 0.0 0.5

$lab^*tce$  0.75 0.5 0.25

$lab^*ncE$  0.0 0.5 0.25

$n^* = 0,00$

blackness  $n^*$

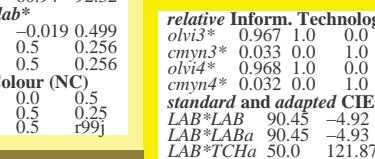
chromaticness  $c^*$

$n^* = 1,0$

## NCS11; adapted (a) CIELAB data

$L^*=L^*_{a,a}$   $a^*_{a,a}$   $b^*_{a,a}$   $C^*_{ab,a}$   $h^*_{ab,a}$

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



relative Inform. Technology (IT)

$olv^3*$  0.967 1.0 0.0 (1.0)

$cmy^3*$  0.033 0.0 1.0 (0.0)

$olv^4*$  0.968 1.0 0.5 1.0

$cmy^4*$  0.016 0.0 0.5 0.0

standard and adapted CIELAB

$LAB^*LAB$  92.92 -2.44 60.89

$LAB^*LABa$  92.92 -2.46 60.89

$LAB^*TChA$  75.0 60.94 92.32

relative CIELAB lab\*

$lab^*lab$  0.971 -0.019 0.499

$lab^*tch$  0.75 0.5 0.256

$lab^*nch$  0.0 0.5 0.256

relative Natural Colour (NC)

$lab^*lrij$  0.971 0.0 0.5

$lab^*tce$  0.75 0.5 0.25

$lab^*ncE$  0.0 0.5 0.25

$n^* = 0,00$

blackness  $n^*$

chromaticness  $c^*$

$n^* = 1,0$

$n^* = 0,00$

blackness  $n^*$

chromaticness  $c^*$

$n^* = 1,0$

UE100-7, 3 step scales for constant CIELAB hue 92/360 = 0.256 (left)

3 step scales for constant CIELAB hue 92/360 = 0.256 (right)

## Input: Colorimetric Reflective System NRS11

for hue  $h^* = lab^*h = 92/360 = 0.256$

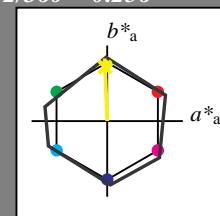
$lab^*tch$  and  $lab^*nch$

D65: hue J

LCH\*Ma: 53 83 92

olv\*Ma: 0.98 1.0 0.0

triangle lightness  $t^*$



## NRS11; adapted (a) CIELAB data

	$L^*=L_a^*$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	53.2	77.06	34.32	84.36	24
JMa	53.2	-1.51	84.38	84.39	91
GMa	53.2	-82.27	18.98	84.44	167
G50BMa	53.2	-77.72	-32.98	84.44	203
BMa	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)

$olv_i3^*$  1.0 1.0 1.0 (1.0)

$cmy_n3^*$  0.0 0.0 0.0 (0.0)

$olv_i4^*$  1.0 1.0 1.0 1.0

$cmy_n4^*$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  74.3 -1.64 41.44

$LAB^*LABa$  74.3 -1.67 41.44

$LAB^*TChA$  75.0 41.47 92.32

relative CIELAB lab\*

$lab^*lab$  0.75 -0.019 0.499

$lab^*tch$  0.75 0.5 0.256

$lab^*nch$  0.0 0.5 0.256

relative Natural Colour (NC)

$lab^*lrij$  0.75 0.0 0.5

$lab^*tce$  0.75 0.5 0.25

$lab^*ncE$  0.0 0.5 r99j

relative Inform. Technology (IT)

$olv_i3^*$  0.5 0.5 0.5 (1.0)

$cmy_n3^*$  0.5 0.5 0.5 (0.0)

$olv_i4^*$  1.0 1.0 1.0 0.5

$cmy_n4^*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  53.21 0.04 0.0

$LAB^*LABa$  53.21 0.0 0.0

$LAB^*TChA$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.5 0.0 0.0

$lab^*tce$  0.5 0.0 0.0

$lab^*ncE$  0.5 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  11.01 0.07 0.01

$LAB^*LABa$  11.01 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*tce$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

%Gamut  
 $u^*_{rel} = 119$   
%Regularity  
 $g^*_{H,rel} = 47$   
 $g^*_{C,rel} = 100$

relative Inform. Technology (IT)  
 $olv_i3^*$  0.989 1.0 0.5 (1.0)  
 $cmy_n3^*$  0.011 0.0 0.5 (0.0)  
 $olv_i4^*$  0.989 1.0 0.5 1.0  
 $cmy_n4^*$  0.011 0.0 0.5 0.0

relative Inform. Technology (IT)  
 $olv_i3^*$  0.977 1.0 0.0 (1.0)  
 $cmy_n3^*$  0.023 0.0 1.0 (0.0)  
 $olv_i4^*$  0.977 1.0 0.0 1.0  
 $cmy_n4^*$  0.023 0.0 1.0 0.5

relative Inform. Technology (IT)  
 $olv_i3^*$  0.489 0.5 0.0 (1.0)  
 $cmy_n3^*$  0.511 0.5 1.0 (0.0)  
 $olv_i4^*$  0.989 1.0 0.5 0.5  
 $cmy_n4^*$  0.011 0.0 0.5 0.5

relative Inform. Technology (IT)  
 $olv_i3^*$  0.25 -0.019 0.499  
 $lab^*tch$  0.25 0.5 0.256  
 $lab^*nch$  0.5 0.5 0.256

$n^* = 0,00$   
blackness  $n^*$   
chromaticness  $c^*$

## Output: Colorimetric Reflective System ORS18

for hue  $h^* = lab^*h = 92/360 = 0.255$

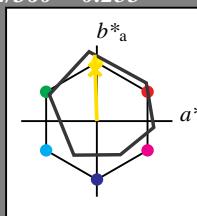
$lab^*tch$  and  $lab^*nch$

D65: hue J

LCH\*Ma: 86 88 92

olv\*Ma: 1.0 0.9 0.0

triangle lightness  $t^*$



%Gamut  
 $u^*_{rel} = 93$   
%Regularity  
 $g^*_{H,rel} = 57$   
 $g^*_{C,rel} = 59$

relative Inform. Technology (IT)  
 $olv_i3^*$  1.0 1.0 1.0 (1.0)  
 $cmy_n3^*$  0.0 0.0 0.0 (0.0)  
 $olv_i4^*$  1.0 1.0 1.0 1.0  
 $cmy_n4^*$  0.0 0.0 0.0 0.0

relative Inform. Technology (IT)  
 $olv_i3^*$  1.0 0.951 0.5 (1.0)  
 $cmy_n3^*$  0.0 0.049 0.5 (0.0)  
 $olv_i4^*$  1.0 0.951 0.5 1.0  
 $cmy_n4^*$  0.0 0.049 0.5 0.0

relative Inform. Technology (IT)  
 $olv_i3^*$  0.5 0.5 0.5 (1.0)  
 $cmy_n3^*$  0.5 0.5 0.5 (0.0)  
 $olv_i4^*$  1.0 0.5 0.5 0.5  
 $cmy_n4^*$  0.0 0.049 0.5 0.5

relative Inform. Technology (IT)  
 $olv_i3^*$  0.5 0.451 0.0 (1.0)  
 $cmy_n3^*$  0.5 0.549 1.0 (0.0)  
 $olv_i4^*$  1.0 0.951 0.5 0.5  
 $cmy_n4^*$  0.0 0.049 0.5 0.5

relative Inform. Technology (IT)  
 $olv_i3^*$  0.0 0.0 0.0 (1.0)  
 $cmy_n3^*$  1.0 1.0 1.0 (0.0)  
 $olv_i4^*$  1.0 1.0 1.0 0.0  
 $cmy_n4^*$  0.0 0.0 0.0 1.0

relative Inform. Technology (IT)  
 $olv_i3^*$  0.44 -0.015 0.5  
 $lab^*tch$  0.25 0.5 0.255  
 $lab^*nch$  0.5 0.5 0.255

	$L^*=L_a^*$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
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)  
 $olv_i3^*$  1.0 0.901 0.0 (1.0)  
 $cmy_n3^*$  0.0 0.099 1.0 (0.0)  
 $olv_i4^*$  1.0 0.902 0.0 1.0  
 $cmy_n4^*$  0.0 0.098 1.0 0.0

relative Inform. Technology (IT)  
 $olv_i3^*$  86.19 -3.62 91.83  
 $lab^*LABa$  86.19 -2.82 87.69  
 $LAB*TChA$  50.0 87.73 91.85

relative Inform. Technology (IT)  
 $olv_i3^*$  0.5 0.451 0.0 (1.0)  
 $cmy_n3^*$  0.5 0.549 1.0 (0.0)  
 $olv_i4^*$  1.0 0.951 0.5 0.5  
 $cmy_n4^*$  0.0 0.049 0.5 0.5

relative Inform. Technology (IT)  
 $olv_i3^*$  0.44 -0.015 0.5  
 $lab^*tch$  0.25 0.5 0.255  
 $lab^*nch$  0.5 0.5 0.255

3 step scales for constant CIELAB hue 92/360 = 0.255 (right)

$n^* = 0,00$

blackness  $n^*$

chromaticness  $c^*$

## Input: Colorimetric Reflective System NRS11

for hue  $h^* = lab^*h = 92/360 = 0.256$

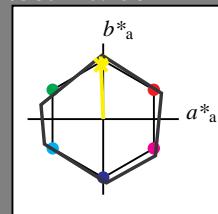
$lab^*tch$  and  $lab^*nch$

D65: hue J

LCH\*Ma: 53 83 92

olv\*Ma: 0.98 1.0 0.0

triangle lightness  $t^*$



### NRS11; adapted (a) CIELAB data

	$L^*=L_a^*$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	53.2	77.06	34.32	84.36	24
JMa	53.2	-1.51	84.38	84.39	91
GMa	53.2	-82.27	18.98	84.44	167
G50BMa	53.2	-77.72	-32.98	84.44	203
BMa	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)

$olv_i3^*$  1.0 1.0 1.0 (1.0)

$cmy_n3^*$  0.0 0.0 0.0 (0.0)

$olv_i4^*$  1.0 1.0 1.0 1.0

$cmy_n4^*$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  74.3 -1.64 41.44

$LAB^*LABa$  74.3 -1.67 41.44

$LAB^*TChA$  75.0 41.47 92.32

relative CIELAB  $lab^*$

$lab^*lab$  0.75 -0.019 0.499

$lab^*tch$  0.75 0.5 0.256

$lab^*nch$  0.0 0.5 0.256

relative Natural Colour (NC)

$lab^*lrij$  0.75 0.0 0.5

$lab^*tce$  0.75 0.5 0.25

$lab^*ncE$  0.0 0.5 r99j

relative Inform. Technology (IT)

$olv_i3^*$  0.5 0.5 0.5 (1.0)

$cmy_n3^*$  0.5 0.5 0.5 (0.0)

$olv_i4^*$  1.0 1.0 1.0 0.5

$cmy_n4^*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  53.21 0.04 0.0

$LAB^*LABa$  53.21 0.0 0.0

$LAB^*TChA$  50.0 0.01 -

relative CIELAB  $lab^*$

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.5 0.0 0.0

$lab^*tce$  0.5 0.0 0.0

$lab^*ncE$  0.5 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  11.01 0.07 0.01

$LAB^*LABa$  11.01 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB  $lab^*$

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*tce$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

%Gamut  
 $u^*_{rel} = 119$   
%Regularity  
 $g^*_{H,rel} = 47$   
 $g^*_{C,rel} = 100$

relative Inform. Technology (IT)  
 $olv_i3^*$  0.989 1.0 0.5 (1.0)  
 $cmy_n3^*$  0.011 0.0 0.5 (0.0)  
 $olv_i4^*$  0.989 1.0 0.5 1.0  
 $cmy_n4^*$  0.011 0.0 0.5 0.0

relative Inform. Technology (IT)  
 $olv_i3^*$  0.977 1.0 0.0 (1.0)  
 $cmy_n3^*$  0.023 0.0 1.0 (0.0)  
 $olv_i4^*$  0.977 1.0 0.0 1.0  
 $cmy_n4^*$  0.023 0.0 1.0 0.5

relative Inform. Technology (IT)  
 $olv_i3^*$  0.489 0.5 0.0 (1.0)  
 $cmy_n3^*$  0.511 0.5 1.0 (0.0)  
 $olv_i4^*$  0.989 1.0 0.5 0.5  
 $cmy_n4^*$  0.011 0.0 0.5 0.5

relative Inform. Technology (IT)  
 $olv_i3^*$  0.25 -0.019 0.499  
 $lab^*tch$  0.25 0.5 0.256  
 $lab^*nch$  0.5 0.5 0.256

relative CIELAB lab\*  
 $lab^*lab$  0.25 -0.019 0.499  
 $lab^*tch$  0.25 0.5 0.256  
 $lab^*nch$  0.5 0.5 0.256

relative CIELAB lab\*  
 $lab^*lab$  0.25 0.0 0.5  
 $lab^*tch$  0.25 0.5 0.256  
 $lab^*nch$  0.5 0.5 0.256

relative CIELAB lab\*  
 $lab^*lab$  0.25 -0.019 0.499  
 $lab^*tch$  0.25 0.5 0.256  
 $lab^*nch$  0.5 0.5 0.256

relative CIELAB lab\*  
 $lab^*lab$  0.25 -0.019 0.499  
 $lab^*tch$  0.25 0.5 0.256  
 $lab^*nch$  0.5 0.5 0.256

relative CIELAB lab\*  
 $lab^*lab$  0.25 -0.019 0.499  
 $lab^*tch$  0.25 0.5 0.256  
 $lab^*nch$  0.5 0.5 0.256

relative CIELAB lab\*  
 $lab^*lab$  0.25 -0.019 0.499  
 $lab^*tch$  0.25 0.5 0.256  
 $lab^*nch$  0.5 0.5 0.256

relative CIELAB lab\*  
 $lab^*lab$  0.25 -0.019 0.499  
 $lab^*tch$  0.25 0.5 0.256  
 $lab^*nch$  0.5 0.5 0.256

relative CIELAB lab\*  
 $lab^*lab$  0.25 -0.019 0.499  
 $lab^*tch$  0.25 0.5 0.256  
 $lab^*nch$  0.5 0.5 0.256

relative CIELAB lab\*  
 $lab^*lab$  0.25 -0.019 0.499  
 $lab^*tch$  0.25 0.5 0.256  
 $lab^*nch$  0.5 0.5 0.256

relative CIELAB lab\*  
 $lab^*lab$  0.25 -0.019 0.499  
 $lab^*tch$  0.25 0.5 0.256  
 $lab^*nch$  0.5 0.5 0.256

relative CIELAB lab\*  
 $lab^*lab$  0.25 -0.019 0.499  
 $lab^*tch$  0.25 0.5 0.256  
 $lab^*nch$  0.5 0.5 0.256

relative CIELAB lab\*  
 $lab^*lab$  0.25 -0.019 0.499  
 $lab^*tch$  0.25 0.5 0.256  
 $lab^*nch$  0.5 0.5 0.256

relative CIELAB lab\*  
 $lab^*lab$  0.25 -0.019 0.499  
 $lab^*tch$  0.25 0.5 0.256  
 $lab^*nch$  0.5 0.5 0.256

relative CIELAB lab\*  
 $lab^*lab$  0.25 -0.019 0.499  
 $lab^*tch$  0.25 0.5 0.256  
 $lab^*nch$  0.5 0.5 0.256

relative CIELAB lab\*  
 $lab^*lab$  0.25 -0.019 0.499  
 $lab^*tch$  0.25 0.5 0.256  
 $lab^*nch$  0.5 0.5 0.256

relative CIELAB lab\*  
 $lab^*lab$  0.25 -0.019 0.499  
 $lab^*tch$  0.25 0.5 0.256  
 $lab^*nch$  0.5 0.5 0.256

relative CIELAB lab\*  
 $lab^*lab$  0.25 -0.019 0.499  
 $lab^*tch$  0.25 0.5 0.256  
 $lab^*nch$  0.5 0.5 0.256

relative CIELAB lab\*  
 $lab^*lab$  0.25 -0.019 0.499  
 $lab^*tch$  0.25 0.5 0.256  
 $lab^*nch$  0.5 0.5 0.256

relative CIELAB lab\*  
 $lab^*lab$  0.25 -0.019 0.499  
 $lab^*tch$  0.25 0.5 0.256  
 $lab^*nch$  0.5 0.5 0.256

relative CIELAB lab\*  
 $lab^*lab$  0.25 -0.019 0.499  
 $lab^*tch$  0.25 0.5 0.256  
 $lab^*nch$  0.5 0.5 0.256

relative CIELAB lab\*  
 $lab^*lab$  0.25 -0.019 0.499  
 $lab^*tch$  0.25 0.5 0.256  
 $lab^*nch$  0.5 0.5 0.256

relative CIELAB lab\*  
 $lab^*lab$  0.25 -0.019 0.499  
 $lab^*tch$  0.25 0.5 0.256  
 $lab^*nch$  0.5 0.5 0.256

relative CIELAB lab\*  
 $lab^*lab$  0.25 -0.019 0.499  
 $lab^*tch$  0.25 0.5 0.256  
 $lab^*nch$  0.5 0.5 0.256

relative CIELAB lab\*  
 $lab^*lab$  0.25 -0.019 0.499  
 $lab^*tch$  0.25 0.5 0.256  
 $lab^*nch$  0.5 0.5 0.256

relative CIELAB lab\*  
 $lab^*lab$  0.25 -0.019 0.499  
 $lab^*tch$  0.25 0.5 0.256  
 $lab^*nch$  0.5 0.5 0.256

relative CIELAB lab\*  
 $lab^*lab$  0.25 -0.019 0.499  
 $lab^*tch$  0.25 0.5 0.256  
 $lab^*nch$  0.5 0.5 0.256

relative CIELAB lab\*  
 $lab^*lab$  0.25 -0.019 0.499  
 $lab^*tch$  0.25 0.5 0.256  
 $lab^*nch$  0.5 0.5 0.256

relative CIELAB lab\*  
 $lab^*lab$  0.25 -0.019 0.499  
 $lab^*tch$  0.25 0.5 0.256  
 $lab^*nch$  0.5 0.5 0.256

relative CIELAB lab\*  
 $lab^*lab$  0.25 -0.019 0.499  
 $lab^*tch$  0.25 0.5 0.256  
 $lab^*nch$  0.5 0.5 0.256

relative CIELAB lab\*  
 $lab^*lab$  0.25 -0.019 0.499  
 $lab^*tch$  0.25 0.5 0.256  
 $lab^*nch$  0.5 0.5 0.256

relative CIELAB lab\*  
 $lab^*lab$  0.25 -0.019 0.499  
 $lab^*tch$  0.25 0.5 0.256  
 $lab^*nch$  0.5 0.5 0.256

relative CIELAB lab\*  
 $lab^*lab$  0.25 -0.019 0.499  
 $lab^*tch$  0.25 0.5 0.256  
 $lab^*nch$  0.5 0.5 0.256

relative CIELAB lab\*  
 $lab^*lab$  0.25 -0.019 0.499  
 $lab^*tch$  0.25 0.5 0.256  
 $lab^*nch$  0.5 0.5 0.256

relative CIELAB lab\*  
 $lab^*lab$  0.25 -0.019 0.499  
 $lab^*tch$  0.25 0.5 0.256  
 $lab^*nch$  0.5 0.5 0.256

relative CIELAB lab\*  
 $lab^*lab$  0.25 -0.019 0.499  
 $lab^*tch$  0.25 0.5 0.256  
 $lab^*nch$  0.5 0.5 0.256

relative CIELAB lab\*  
 $lab^*lab$  0.25 -0.019 0.499  
 $lab^*tch$  0.25 0.5 0.256  
 $lab^*nch$  0.5 0.5 0.256

relative CIELAB lab\*  
 $lab^*lab$  0.25 -0.019 0.499  
 $lab^*tch$  0.25 0.5 0.256  
 $lab^*nch$  0.5 0.5 0.256

relative CIELAB lab\*  
 $lab^*lab$  0.25 -0.019 0.499  
 $lab^*tch$  0.25 0.5 0.256  
 $lab^*nch$  0.5 0.5 0.256

relative CIELAB lab\*  
 $lab^*lab$  0.25 -0.019 0.499  
 $lab^*tch$  0.25 0.5 0.256  
 $lab^*nch$  0.5 0.5 0.256

relative CIELAB lab\*  
 $lab^*lab$  0.25 -0.019 0.499  
 $lab^*tch$  0.25 0.5 0.256  
 $lab^*nch$  0.5 0.5 0.256

relative CIELAB lab\*  
 $lab^*lab$  0.25 -0.019 0.499  
 $lab^*tch$  0.25 0.5 0.256  
 $lab^*nch$  0.5 0.5 0.256

relative CIELAB lab\*  
 $lab^*lab$  0.25 -0.019 0.499  
 $lab^*tch$  0.25 0.5 0.256  
 $lab^*nch$  0.5 0.5 0.256

relative CIELAB lab\*  
 $lab^*lab$  0.25 -0.019 0.499  
 $lab^*tch$  0.25 0.5 0.256  
 $lab^*nch$  0.5 0.5 0.256

relative CIELAB lab\*  
 $lab^*lab$  0.25 -0.019 0.499  
 $lab^*tch$  0.25 0.5 0.256  
 $lab^*nch$  0.5 0.5 0.256

relative CIELAB lab\*  
 $lab^*lab$  0.25 -0.019 0.499  
 $lab^*tch$  0.25 0.5 0.256  
 $lab^*nch$  0.5 0.5 0.256

relative CIELAB lab\*  
 $lab^*lab$  0.25 -0.019 0.499  
 $lab^*tch$  0.25 0.5 0.256  
 $lab^*nch$  0.5 0.5 0.256

relative CIELAB lab\*  
 $lab^*lab$  0.25 -0.019 0.499  
 $lab^*tch$  0.25 0.5 0.256  
 $lab^*nch$  0.5 0.5 0.256

relative CIELAB lab\*  
 $lab^*lab$  0.25 -0.019 0.499  
 $lab^*tch$  0.25 0.5 0.256  
 $lab^*nch$  0.5 0.5 0.256

## Input: Colorimetric Reflective System NRS11

for hue  $h^* = lab^*h = 92/360 = 0.256$

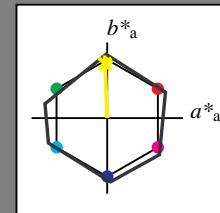
$lab^*tch$  and  $lab^*nch$

D65: hue J

LCH\*Ma: 53 83 92

olv\*Ma: 0.98 1.0 0.0

triangle lightness  $t^*$



## NRS11; adapted (a) CIELAB data

	$L^*=L_a^*$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	53.2	77.06	34.32	84.36	24
JMa	53.2	-1.51	84.38	84.39	91
GMa	53.2	-82.27	18.98	84.44	167
G50BMa	53.2	-77.72	-32.98	84.44	203
BMa	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)  
 $olv_i3^*$  1.0 1.0 1.0 (1.0)  
 $cmy3^*$  0.0 0.0 0.0 (0.0)  
 $olv_i4^*$  1.0 1.0 1.0 1.0  
 $cmy4^*$  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 -  
 $lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*ice$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)  
 $olv_i3^*$  0.5 0.5 0.5 (1.0)  
 $cmy3^*$  0.5 0.5 0.5 (0.0)  
 $olv_i4^*$  1.0 1.0 1.0 0.5  
 $cmy4^*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB  
 $LAB^*LAB$  53.21 0.04 0.0  
 $LAB^*LABa$  53.21 0.0 0.0  
 $LAB^*TChA$  50.0 0.01 -

relative CIELAB lab\*  
 $lab^*lab$  0.5 0.0 0.0  
 $lab^*tch$  0.5 0.0 -  
 $lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.5 0.0 0.0

$lab^*ice$  0.5 0.0 0.0

$lab^*ncE$  0.5 0.0 -

relative Inform. Technology (IT)  
 $olv_i3^*$  0.0 0.0 0.0 (1.0)  
 $cmy3^*$  1.0 1.0 1.0 (0.0)  
 $olv_i4^*$  1.0 1.0 1.0 0.0  
 $cmy4^*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB  
 $LAB^*LAB$  11.01 0.07 0.01  
 $LAB^*LABa$  11.01 0.0 0.0  
 $LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*  
 $lab^*lab$  0.0 0.0 0.0  
 $lab^*tch$  0.0 0.0 -  
 $lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*ice$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

%Gamut  
 $u^*_{rel} = 119$

%Regularity  
 $g^*_{H,rel} = 47$

$g^*_{C,rel} = 100$

relative Inform. Technology (IT)

$olv_i3^*$  0.989 1.0 0.5 (1.0)  
 $cmy3^*$  0.011 0.0 0.5 (0.0)  
 $olv_i4^*$  0.989 1.0 0.5 1.0  
 $cmy4^*$  0.011 0.0 0.5 0.0

standard and adapted CIELAB  
 $LAB^*LAB$  74.3 -1.64 41.44  
 $LAB^*LABa$  74.3 -1.67 41.44  
 $LAB^*TChA$  75.0 41.47 92.32

relative CIELAB lab\*

$lab^*lab$  0.75 -0.019 0.499  
 $lab^*tch$  0.75 0.5 0.256  
 $lab^*nch$  0.0 0.5 0.256

relative Natural Colour (NC)

$lab^*lrij$  0.75 0.0 0.5  
 $lab^*ice$  0.75 0.5 0.25  
 $lab^*ncE$  0.0 0.5 r99j

relative Inform. Technology (IT)

$olv_i3^*$  0.977 1.0 0.0 (1.0)  
 $cmy3^*$  0.023 0.0 1.0 (0.0)  
 $olv_i4^*$  0.977 1.0 0.0 1.0  
 $cmy4^*$  0.023 0.0 1.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  53.2 -3.31 82.87  
 $LAB^*LABa$  53.2 -3.35 82.86  
 $LAB^*TChA$  50.0 82.93 92.32

relative CIELAB lab\*

$lab^*lab$  0.977 1.0 0.0  
 $lab^*tch$  0.977 1.0 0.0  
 $lab^*nch$  0.0 0.0 0.0

relative Natural Colour (NC)

$lab^*lrij$  0.5 0.0 1.0  
 $lab^*ice$  0.5 1.0 0.25  
 $lab^*ncE$  0.0 1.0 r99j

relative Inform. Technology (IT)

$olv_i3^*$  0.25 -0.019 0.499  
 $cmy3^*$  0.25 0.5 0.256  
 $olv_i4^*$  0.5 0.5 0.256

relative Natural Colour (NC)

$lab^*lrij$  0.25 0.0 0.5  
 $lab^*ice$  0.25 0.5 0.25  
 $lab^*ncE$  0.5 0.5 100g

$n^* = 0,00$

relative Inform. Technology (IT)

$olv_i3^*$  0.977 1.0 0.0 (1.0)  
 $cmy3^*$  0.023 0.0 1.0 (0.0)  
 $olv_i4^*$  0.977 1.0 0.0 1.0  
 $cmy4^*$  0.023 0.0 1.0 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 CIELAB lab\*

$lab^*lab$  0.977 1.0 0.0  
 $lab^*tch$  0.977 1.0 0.0  
 $lab^*nch$  0.0 0.0 0.0

relative Natural Colour (NC)

$lab^*lrij$  0.5 0.0 1.0  
 $lab^*ice$  0.5 1.0 0.25  
 $lab^*ncE$  0.0 1.0 -

relative Inform. Technology (IT)

$olv_i3^*$  0.0 0.0 0.0 (1.0)  
 $cmy3^*$  1.0 1.0 1.0 (0.0)  
 $olv_i4^*$  1.0 1.0 1.0 0.5  
 $cmy4^*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.5 -0.46  
 $LAB^*LABa$  18.02 0.0 0.0  
 $LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0  
 $lab^*tch$  0.0 0.0 -  
 $lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0  
 $lab^*ice$  0.0 0.0 -  
 $lab^*ncE$  1.0 0.0 -

$n^* = 0,50$

blackness  $n^*$

chromaticness  $c^*$

## Output: Colorimetric Reflective System TRS18

for hue  $h^* = lab^*h = 92/360 = 0.255$

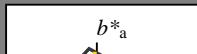
$lab^*tch$  and  $lab^*nch$

D65: hue J

LCH\*Ma: 86 88 92

olv\*Ma: 1.0 0.9 0.0

triangle lightness  $t^*$



## TRS18; adapted (a) CIELAB data

	$L^*=L_a^*$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
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

%Gamut

$u^*_{rel} = 93$

%Regularity

$g^*_{H,rel} = 57$

$g^*_{C,rel} = 59$

relative Inform. Technology (IT)

$olv_i3^*$  1.0 0.951 0.5 (1.0)  
 $cmy3^*$  0.0 0.049 0.5 (0.0)  
 $olv_i4^*$  1.0 0.951 0.5 1.0  
 $cmy4^*$  0.0 0.049 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 0.0 0.0  
 $lab^*tch$  1.0 0.0 -  
 $lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0  
 $lab^*ice$  1.0 0.0 0.0  
 $lab^*ncE$  0.0 0.0 -

relative CIELAB lab\*

$lab^*lab$  0.951 0.5 0.5  
 $lab^*tch$  0.951 0.5 0.255  
 $lab^*nch$  0.0 0.5 0.255

relative Natural Colour (NC)

$lab^*lrij$  0.94 0.0 0.5  
 $lab^*ice$  0.75 0.5 0.25  
 $lab^*ncE$  0.0 0.5 j00g

relative Inform. Technology (IT)

$olv_i3^*$  0.5 0.451 0.0 (1.0)  
 $cmy3^*$  0.5 0.549 1.0 (0.0)  
 $olv_i4^*$  1.0 0.951 0.5 0.5  
 $cmy4^*$  0.0 0.049 0.5 0.5

standard and adapted CIELAB

$LAB^*LAB$  52.1 -1.55 45.68  
 $LAB^*LABa$  52.1 -1.4 43.84  
 $LAB^*TChA$  25.01 43.87 91.84

relative CIELAB lab\*

$lab^*lab$  0.44 -0.015 0.5  
 $lab^*tch$  0.25 0.5 0.255  
 $lab^*nch$  0.5 0.5 0.255

relative Natural Colour (NC)

$lab^*lrij$  0.44 0.0 0.5  
 $lab^*ice$  0.25 0.5 0.25  
 $lab^*ncE$  0.5 0.5 r99j

$n^* = 0,00$

blackness  $n^*$

chromaticness  $c^*$

relative Inform. Technology (IT)

$olv_i3^*$  1.0 0.901 0.0 (1.0)  
 $cmy3^*$  0.0 0.099 1.0 (0.0)  
 $olv_i4^*$  1.0 0.902 0.0 1.0  
 $cmy4^*$  0.0 0.098 1.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  86.19 -3.62 91.83  
 $LAB^*LABa$  86.19 -2.82 87.69  
 $LAB^*TChA$  50.0 87.73 91.85

relative CIELAB lab\*

$lab^*lab$  0.881 -0.031 0.999  
 $lab^*tch$  0.5 1.0 0.255  
 $lab^*nch$  0.0 1.0 0.255

relative Natural Colour (NC)

$lab^*lrij$  0.881 0.0 1.0  
 $lab^*ice$  0.5 1.0 0.25  
 $lab^*ncE$  0.0 1.0 j00g

$n^* = 0,00$

blackness  $n^*$

chromaticness  $c^*$

UE100-7, 3 step scales for constant CIELAB hue 92/360 = 0.256 (left)

3 step scales for constant CIELAB hue 92/360 = 0.255 (right)

## Input: Colorimetric Reflective System NRS11

for hue  $h^* = lab^*h = 92/360 = 0.256$

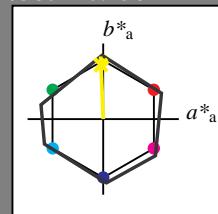
$lab^*tch$  and  $lab^*nch$

D65: hue J

LCH\*Ma: 53 83 92

olv\*Ma: 0.98 1.0 0.0

triangle lightness  $t^*$



### NRS11; adapted (a) CIELAB data

	$L^*=L_a^*$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	53.2	77.06	34.32	84.36	24
JMa	53.2	-1.51	84.38	84.39	91
GMa	53.2	-82.27	18.98	84.44	167
G50BMa	53.2	-77.72	-32.98	84.44	203
BMa	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)

$olv_i3^*$  1.0 1.0 1.0 (1.0)

$cmy_n3^*$  0.0 0.0 0.0 (0.0)

$olv_i4^*$  1.0 1.0 1.0 1.0

$cmy_n4^*$  0.0 0.0 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  95.41 0.0 -0.01

$LAB^*LAB_a$  95.41 0.0 0.0

$LAB^*TCh_a$  99.99 0.01 -

relative CIELAB lab\*

$lab^*lab$  1.0 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  1.0 0.0 0.0

$lab^*ice$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  74.3 -1.64 41.44

$LAB^*LAB_a$  74.3 -1.67 41.44

$LAB^*TCh_a$  75.0 41.47 92.32

relative CIELAB lab\*

$lab^*lab$  0.75 -0.019 0.499

$lab^*tch$  0.75 0.5 0.256

$lab^*nch$  0.0 0.5 0.256

relative Natural Colour (NC)

$lab^*lrj$  0.75 0.0 0.5

$lab^*ice$  0.75 0.5 0.25

$lab^*ncE$  0.0 0.5 r99j

relative Inform. Technology (IT)

$olv_i3^*$  0.5 0.5 0.5 (1.0)

$cmy_n3^*$  0.5 0.5 0.5 (0.0)

$olv_i4^*$  1.0 1.0 1.0 0.5

$cmy_n4^*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  53.21 0.04 0.0

$LAB^*LAB_a$  53.21 0.0 0.0

$LAB^*TCh_a$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  0.5 0.0 0.0

$lab^*ice$  0.5 0.0 0.0

$lab^*ncE$  0.5 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  32.1 -1.62 41.45

$LAB^*LAB_a$  32.1 -1.68 41.43

$LAB^*TCh_a$  25.01 41.46 92.33

relative CIELAB lab\*

$lab^*lab$  0.25 -0.019 0.499

$lab^*tch$  0.25 0.5 0.256

$lab^*nch$  0.5 0.5 0.256

relative Natural Colour (NC)

$lab^*lrj$  0.25 0.0 0.5

$lab^*ice$  0.25 0.5 0.25

$lab^*ncE$  0.5 0.5 0.5 100g

$n^* = 1,0$

%Gamut  
 $u^*_{rel} = 119$   
%Regularity  
 $g^*_{H,rel} = 47$   
 $g^*_{C,rel} = 100$

relative Inform. Technology (IT)  
 $olv_i3^*$  0.989 1.0 0.5 (1.0)  
 $cmy_n3^*$  0.011 0.0 0.5 (0.0)  
 $olv_i4^*$  0.989 1.0 0.5 1.0  
 $cmy_n4^*$  0.011 0.0 0.5 0.0  
standard and adapted CIELAB  
 $LAB^*LAB$  74.3 -1.64 41.44  
 $LAB^*LAB_a$  74.3 -1.67 41.44  
 $LAB^*TCh_a$  75.0 41.47 92.32  
relative CIELAB lab\*  
 $lab^*lab$  0.75 -0.019 0.499  
 $lab^*tch$  0.75 0.5 0.256  
 $lab^*nch$  0.0 0.5 0.256  
relative Natural Colour (NC)  
 $lab^*lrj$  0.75 0.0 0.5  
 $lab^*ice$  0.75 0.5 0.25  
 $lab^*ncE$  0.0 0.5 r99j

relative Inform. Technology (IT)  
 $olv_i3^*$  0.977 1.0 0.0 (1.0)  
 $cmy_n3^*$  0.023 0.0 1.0 (0.0)  
 $olv_i4^*$  0.977 1.0 0.0 1.0  
 $cmy_n4^*$  0.023 0.0 1.0 0.0  
standard and adapted CIELAB  
 $LAB^*LAB$  53.2 -3.31 82.87  
 $LAB^*LAB_a$  53.2 -3.35 82.86  
 $LAB^*TCh_a$  50.0 82.93 92.32  
relative CIELAB lab\*  
 $lab^*lab$  0.5 -0.04 0.999  
 $lab^*tch$  0.5 1.0 0.256  
 $lab^*nch$  0.0 1.0 0.256  
relative Natural Colour (NC)  
 $lab^*lrj$  0.5 0.0 1.0  
 $lab^*ice$  0.5 1.0 0.25  
 $lab^*ncE$  0.0 1.0 r99j

relative Inform. Technology (IT)  
 $olv_i3^*$  0.489 0.5 0.0 (1.0)  
 $cmy_n3^*$  0.511 0.5 1.0 (0.0)  
 $olv_i4^*$  0.989 1.0 0.5 0.5  
 $cmy_n4^*$  0.011 0.0 0.5 0.5  
standard and adapted CIELAB  
 $LAB^*LAB$  32.1 -1.62 41.45  
 $LAB^*LAB_a$  32.1 -1.68 41.43  
 $LAB^*TCh_a$  25.01 41.46 92.33  
relative CIELAB lab\*  
 $lab^*lab$  0.25 -0.019 0.499  
 $lab^*tch$  0.25 0.5 0.256  
 $lab^*nch$  0.5 0.5 0.256  
relative Natural Colour (NC)  
 $lab^*lrj$  0.5 0.0 1.0  
 $lab^*ice$  0.5 1.0 0.25  
 $lab^*ncE$  0.0 1.0 r99j

relative Inform. Technology (IT)  
 $olv_i3^*$  0.489 0.5 0.0 (1.0)  
 $cmy_n3^*$  0.511 0.5 1.0 (0.0)  
 $olv_i4^*$  0.989 1.0 0.5 0.5  
 $cmy_n4^*$  0.011 0.0 0.5 0.5  
standard and adapted CIELAB  
 $LAB^*LAB$  18.02 0.1 0.02  
 $LAB^*LAB_a$  18.02 0.0 0.0  
 $LAB^*TCh_a$  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)  
 $lab^*lrj$  0.0 0.0 0.0  
 $lab^*ice$  0.0 0.0 0.0  
 $lab^*ncE$  1.0 0.0 0.0

$n^* = 0,00$   
blackness  $n^*$   
chromaticness  $c^*$

## Output: Colorimetric Reflective System MRS18a

for hue  $h^* = lab^*h = 92/360 = 0.256$

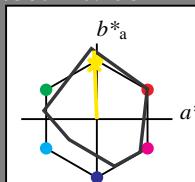
$lab^*tch$  and  $lab^*nch$

D65: hue J

LCH\*Ma: 89 91 92

olv\*Ma: 1.0 0.95 0.0

triangle lightness  $t^*$



	$L^*=L_a^*$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	49.63	66.8	40.02	77.87	31
JMa	90.7	-7.27	93.19	93.48	94
GMa	52.11	-69.93	11.26	70.85	171
G50BMa	45.03	-36.65	-27.13	45.61	217
BMa	36.65	23.26	-62.27	66.49	290
B50RMa	34.94	57.27	-43.6	71.99	323
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.9	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	272

relative Inform. Technology (IT)  
 $olv_i3^*$  1.0 1.0 1.0 (1.0)  
 $cmy_n3^*$  0.0 0.0 0.0 (0.0)  
 $olv_i4^*$  1.0 1.0 1.0 1.0  
 $cmy_n4^*$  0.0 0.0 0.0 0.0  
standard and adapted CIELAB  
 $LAB^*LAB$  95.41 0.0 0.0  
 $LAB^*LAB_a$  95.41 0.0 0.0  
 $LAB^*TCh_a$  99.99 0.01 -  
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)  
 $lab^*lrj$  1.0 0.0 0.0  
 $lab^*ice$  1.0 0.0 0.0  
 $lab^*ncE$  0.0 0.0 0.0  
standard and adapted CIELAB  
 $LAB^*LAB$  74.3 -1.64 41.44  
 $LAB^*LAB_a$  74.3 -1.67 41.44  
 $LAB^*TCh_a$  75.0 41.47 92.32  
relative CIELAB lab\*  
 $lab^*lab$  0.75 -0.019 0.499  
 $lab^*tch$  0.75 0.5 0.256  
 $lab^*nch$  0.0 0.5 0.256  
relative Natural Colour (NC)  
 $lab^*lrj$  0.75 0.0 0.5  
 $lab^*ice$  0.75 0.5 0.25  
 $lab^*ncE$  0.0 0.5 r99j

relative Inform. Technology (IT)  
 $olv_i3^*$  0.977 1.0 0.0 (1.0)  
 $cmy_n3^*$  0.023 0.0 1.0 (0.0)  
 $olv_i4^*$  0.977 1.0 0.0 1.0  
 $cmy_n4^*$  0.023 0.0 1.0 0.0  
standard and adapted CIELAB  
 $LAB^*LAB$  56.71 0.05 0.0  
 $LAB^*LAB_a$  56.71 0.0 0.0  
 $LAB^*TCh_a$  50.0 0.01 -  
relative CIELAB lab\*  
 $lab^*lab$  0.5 -0.04 0.999  
 $lab^*tch$  0.5 1.0 0.256  
 $lab^*nch$  0.0 1.0 0.256  
relative Natural Colour (NC)  
 $lab^*lrj$  0.5 0.0 1.0  
 $lab^*ice$  0.5 1.0 0.25  
 $lab^*ncE$  0.0 1.0 r99j

relative Inform. Technology (IT)  
 $olv_i3^*$  0.5 0.5 0.5 (1.0)  
 $cmy_n3^*$  0.5 0.5 0.5 (0.0)  
 $olv_i4^*$  1.0 0.976 0.5 0.5  
 $cmy_n4^*$  0.0 0.024 0.5 0.0  
standard and adapted CIELAB  
 $LAB^*LAB$  88.71 -3.67 90.61  
 $LAB^*LAB_a$  88.71 -3.69 90.61  
 $LAB^*TCh_a$  50.0 90.68 92.34  
relative CIELAB lab\*  
 $lab^*lab$  0.913 -0.04 0.999  
 $lab^*tch$  0.5 1.0 0.256  
 $lab^*nch$  0.0 1.0 0.256  
relative Natural Colour (NC)  
 $lab^*lrj$  0.913 0.0 1.0  
 $lab^*ice$  0.5 1.0 0.25  
 $lab^*ncE$  0.0 1.0 j00g

relative Inform. Technology (IT)  
 $olv_i3^*$  0.5 0.476 0.0 (1.0)  
 $cmy_n3^*$  0.5 0.524 1.0 (0.0)  
 $olv_i4^*$  1.0 0.976 0.5 0.5  
 $cmy_n4^*$  0.0 0.024 0.5 0.5  
standard and adapted CIELAB  
 $LAB^*LAB$  18.02 0.1 0.02  
 $LAB^*LAB_a$  18.02 0.0 0.0  
 $LAB^*TCh_a$  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)  
 $lab^*lrj$  0.0 0.0 0.0  
 $lab^*ice$  0.0 0.0 0.0  
 $lab^*ncE$  1.0 0.0 0.0

$n^* = 1,0$

relative Inform. Technology (IT)  
 $olv_i3^*$  1.0 0.952 0.0 (1.0)  
 $cmy_n3^*$  0.0 0.048 1.0 (0.0)  
 $olv_i4^*$  1.0 0.952 0.0 1.0  
 $cmy_n4^*$  0.0 0.048 1.0 0.0  
standard and adapted CIELAB  
 $LAB^*LAB$  88.71 -3.67 90.61  
 $LAB^*LAB_a$  88.71 -3.69 90.61  
 $LAB^*TCh_a$  50.0 90.68 92.34  
relative CIELAB lab\*  
 $lab^*lab$  0.913 -0.04 0.999  
 $lab^*tch$  0.5 1.0 0.256  
 $lab^*nch$  0.0 1.0 0.256  
relative Natural Colour (NC)  
 $lab^*lrj$  0.913 0.0 1.0  
 $lab^*ice$  0.5 1.0 0.25  
 $lab^*ncE$  0.0 1.0 j00g

relative Inform. Technology (IT)  
 $olv_i3^*$  0.5 0.476 0.0 (1.0)  
 $cmy_n3^*$  0.5 0.524 1.0 (0.0)  
 $olv_i4^*$  1.0 0.976 0.5 0.5  
 $cmy_n4^*$  0.0 0.024 0.5 0.5  
standard and adapted CIELAB  
 $LAB^*LAB$  53.36 -1.78 45.32  
 $LAB^*LAB_a$  53.36 -1.84 45.3  
 $LAB^*TCh_a$  25.01 45.34 92.33  
relative CIELAB lab\*  
 $lab^*lab$  0.457 -0.019 0.499  
 $lab^*tch$  0.25 0.5 0.256  
 $lab^*nch$  0.5 0.5 0.256  
relative Natural Colour (NC)  
 $lab^*lrj$  0.457 0.0 0.5  
 $lab^*ice$  0.25 0.5 0.25  
 $lab^*ncE$  0.5 0.5 0.5 r99j

relative Inform. Technology (IT)  
 $olv_i3^*$  0.5 0.476 0.0 (1.0)  
 $cmy_n3^*$  0.5 0.524 1.0 (0.0)  
 $olv_i4^*$  1.0 0.976 0.5 0.5  
 $cmy_n4^*$  0.0 0.024 0.5 0.5  
standard and adapted CIELAB  
 $LAB^*LAB$  18.02 0.1 0.02  
 $LAB^*LAB_a$  18.02 0.0 0.0  
 $LAB^*TCh_a$  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)  
 $lab^*lrj$  0.0 0.0 0.0  
 $lab^*ice$  0.0 0.0 0.0  
 $lab^*ncE$  1.0 0.0 0.0

## Input: Colorimetric Reflective System NRS11

for hue  $h^* = lab^*h = 92/360 = 0.256$

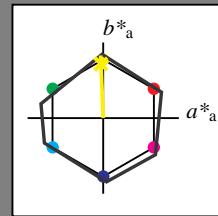
$lab^*tch$  and  $lab^*nch$

D65: hue J

LCH\*Ma: 53 83 92

olv\*Ma: 0.98 1.0 0.0

triangle lightness  $t^*$



### NRS11; adapted (a) CIELAB data

	$L^*=L_a^*$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	53.2	77.06	34.32	84.36	24
JMa	53.2	-1.51	84.38	84.39	91
GMa	53.2	-82.27	18.98	84.44	167
G50BMa	53.2	-77.72	-32.98	84.44	203
BMa	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)

$olv_i3^*$  1.0 1.0 1.0 (1.0)

$cmyn3^*$  0.0 0.0 0.0 (0.0)

$olv_i4^*$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrf$  1.0 0.0 0.0

$lab^*ice$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  74.3 -1.64 41.44

$LAB^*LABa$  74.3 -1.67 41.44

$LAB^*TChA$  75.0 41.47 92.32

relative CIELAB lab\*

$lab^*lab$  0.75 -0.019 0.499

$lab^*tch$  0.75 0.5 0.256

$lab^*nch$  0.0 0.5 0.256

relative Natural Colour (NC)

$lab^*lrf$  0.75 0.0 0.5

$lab^*ice$  0.75 0.5 0.25

$lab^*ncE$  0.0 0.5 r99j

relative Inform. Technology (IT)

$olv_i3^*$  0.5 0.5 0.5 (1.0)

$cmyn3^*$  0.5 0.5 0.5 (0.0)

$olv_i4^*$  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

$LAB^*LABa$  53.21 0.0 0.0

$LAB^*TChA$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrf$  0.5 0.0 0.0

$lab^*ice$  0.5 0.0 0.0

$lab^*ncE$  0.5 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  11.01 0.07 0.01

$LAB^*LABa$  11.01 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrf$  0.0 0.0 0.0

$lab^*ice$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

%Gamut  
 $u^*_{rel} = 119$   
%Regularity  
 $g^*_{H,rel} = 47$   
 $g^*_{C,rel} = 100$

relative Inform. Technology (IT)  
 $olv_i3^*$  0.989 1.0 0.5 (1.0)  
 $cmyn3^*$  0.011 0.0 0.5 (0.0)  
 $olv_i4^*$  0.989 1.0 0.5 1.0  
 $cmyn4^*$  0.011 0.0 0.5 0.0  
standard and adapted CIELAB  
 $LAB^*LAB$  74.3 -1.64 41.44  
 $LAB^*LABa$  74.3 -1.67 41.44  
 $LAB^*TChA$  75.0 41.47 92.32  
relative CIELAB lab\*  
 $lab^*lab$  0.977 1.0 0.0 (1.0)  
 $lab^*tch$  0.023 0.0 1.0 (0.0)  
 $lab^*nch$  0.0 0.5 1.0  
relative Natural Colour (NC)  
 $lab^*lrf$  0.977 1.0 0.0 1.0  
 $lab^*ice$  0.023 0.0 1.0 0.0  
standard and adapted CIELAB  
 $LAB^*LAB$  53.2 -3.31 82.87  
 $LAB^*LABa$  53.2 -3.35 82.86  
 $LAB^*TChA$  50.0 82.93 92.32  
relative CIELAB lab\*  
 $lab^*lab$  0.977 1.0 0.0 (1.0)  
 $lab^*tch$  0.023 0.0 1.0 (0.0)  
 $lab^*nch$  0.0 0.5 1.0  
relative Natural Colour (NC)  
 $lab^*lrf$  0.977 1.0 0.0 1.0  
 $lab^*ice$  0.023 0.0 1.0 0.0  
standard and adapted CIELAB  
 $LAB^*LAB$  53.2 -3.31 82.87  
 $LAB^*LABa$  53.2 -3.35 82.86  
 $LAB^*TChA$  50.0 82.93 92.32  
relative CIELAB lab\*  
 $lab^*lab$  0.977 1.0 0.0 (1.0)  
 $lab^*tch$  0.023 0.0 1.0 (0.0)  
 $lab^*nch$  0.0 0.5 1.0  
relative Natural Colour (NC)  
 $lab^*lrf$  0.977 1.0 0.0 1.0  
 $lab^*ice$  0.023 0.0 1.0 0.0  
standard and adapted CIELAB  
 $LAB^*LAB$  32.1 -1.62 41.45  
 $LAB^*LABa$  32.1 -1.68 41.43  
 $LAB^*TChA$  25.01 41.46 92.33  
relative CIELAB lab\*  
 $lab^*lab$  0.489 0.5 0.0 (1.0)  
 $lab^*tch$  0.511 0.5 1.0 (0.0)  
 $lab^*nch$  0.989 1.0 0.5 0.5  
 $cmyn3^*$  0.511 0.5 1.0 (0.0)  
 $olv_i4^*$  0.011 0.0 0.5 0.5  
 $cmyn4^*$  0.489 0.5 0.0 (1.0)  
standard and adapted CIELAB  
 $LAB^*LAB$  32.1 -1.62 41.45  
 $LAB^*LABa$  32.1 -1.68 41.43  
 $LAB^*TChA$  25.01 41.46 92.33  
relative CIELAB lab\*  
 $lab^*lab$  0.489 0.5 0.0 (1.0)  
 $lab^*tch$  0.511 0.5 1.0 (0.0)  
 $lab^*nch$  0.989 1.0 0.5 0.5  
 $cmyn3^*$  0.511 0.5 1.0 (0.0)  
 $olv_i4^*$  0.011 0.0 0.5 0.5  
 $cmyn4^*$  0.489 0.5 0.0 (1.0)  
standard and adapted CIELAB  
 $LAB^*LAB$  32.1 -1.62 41.45  
 $LAB^*LABa$  32.1 -1.68 41.43  
 $LAB^*TChA$  25.01 41.46 92.33  
relative CIELAB lab\*  
 $lab^*lab$  0.489 0.5 0.0 (1.0)  
 $lab^*tch$  0.511 0.5 1.0 (0.0)  
 $lab^*nch$  0.989 1.0 0.5 0.5  
 $cmyn3^*$  0.511 0.5 1.0 (0.0)  
 $olv_i4^*$  0.011 0.0 0.5 0.5  
 $cmyn4^*$  0.489 0.5 0.0 (1.0)  
standard and adapted CIELAB  
 $LAB^*LAB$  37.36 -1.46 38.02  
 $LAB^*LABa$  37.36 -1.54 37.99  
 $LAB^*TChA$  25.01 38.03 92.33  
relative CIELAB lab\*  
 $lab^*lab$  0.489 0.5 0.0 (1.0)  
 $lab^*tch$  0.511 0.5 1.0 (0.0)  
 $lab^*nch$  0.989 1.0 0.5 0.5  
 $cmyn3^*$  0.511 0.5 1.0 (0.0)  
 $olv_i4^*$  0.011 0.0 0.5 0.5  
 $cmyn4^*$  0.489 0.5 0.0 (1.0)  
standard and adapted CIELAB  
 $LAB^*LAB$  37.36 -1.46 38.02  
 $LAB^*LABa$  37.36 -1.54 37.99  
 $LAB^*TChA$  25.01 38.03 92.33  
relative CIELAB lab\*  
 $lab^*lab$  0.489 0.5 0.0 (1.0)  
 $lab^*tch$  0.511 0.5 1.0 (0.0)  
 $lab^*nch$  0.989 1.0 0.5 0.5  
 $cmyn3^*$  0.511 0.5 1.0 (0.0)  
 $olv_i4^*$  0.011 0.0 0.5 0.5  
 $cmyn4^*$  0.489 0.5 0.0 (1.0)  
standard and adapted CIELAB  
 $LAB^*LAB$  37.36 -1.46 38.02  
 $LAB^*LABa$  37.36 -1.54 37.99  
 $LAB^*TChA$  25.01 38.03 92.33  
relative CIELAB lab\*  
 $lab^*lab$  0.489 0.5 0.0 (1.0)  
 $lab^*tch$  0.511 0.5 1.0 (0.0)  
 $lab^*nch$  0.989 1.0 0.5 0.5  
 $cmyn3^*$  0.511 0.5 1.0 (0.0)  
 $olv_i4^*$  0.011 0.0 0.5 0.5  
 $cmyn4^*$  0.489 0.5 0.0 (1.0)  
standard and adapted CIELAB  
 $LAB^*LAB$  37.36 -1.46 38.02  
 $LAB^*LABa$  37.36 -1.54 37.99  
 $LAB^*TChA$  25.01 38.03 92.33  
relative CIELAB lab\*  
 $lab^*lab$  0.489 0.5 0.0 (1.0)  
 $lab^*tch$  0.511 0.5 1.0 (0.0)  
 $lab^*nch$  0.989 1.0 0.5 0.5  
 $cmyn3^*$  0.511 0.5 1.0 (0.0)  
 $olv_i4^*$  0.011 0.0 0.5 0.5  
 $cmyn4^*$  0.489 0.5 0.0 (1.0)  
standard and adapted CIELAB  
 $LAB^*LAB$  37.36 -1.46 38.02  
 $LAB^*LABa$  37.36 -1.54 37.99  
 $LAB^*TChA$  25.01 38.03 92.33  
relative CIELAB lab\*  
 $lab^*lab$  0.489 0.5 0.0 (1.0)  
 $lab^*tch$  0.511 0.5 1.0 (0.0)  
 $lab^*nch$  0.989 1.0 0.5 0.5  
 $cmyn3^*$  0.511 0.5 1.0 (0.0)  
 $olv_i4^*$  0.011 0.0 0.5 0.5  
 $cmyn4^*$  0.489 0.5 0.0 (1.0)  
standard and adapted CIELAB  
 $LAB^*LAB$  37.36 -1.46 38.02  
 $LAB^*LABa$  37.36 -1.54 37.99  
 $LAB^*TChA$  25.01 38.03 92.33  
relative CIELAB lab\*  
 $lab^*lab$  0.489 0.5 0.0 (1.0)  
 $lab^*tch$  0.511 0.5 1.0 (0.0)  
 $lab^*nch$  0.989 1.0 0.5 0.5  
 $cmyn3^*$  0.511 0.5 1.0 (0.0)  
 $olv_i4^*$  0.011 0.0 0.5 0.5  
 $cmyn4^*$  0.489 0.5 0.0 (1.0)  
standard and adapted CIELAB  
 $LAB^*LAB$  37.36 -1.46 38.02  
 $LAB^*LABa$  37.36 -1.54 37.99  
 $LAB^*TChA$  25.01 38.03 92.33  
relative CIELAB lab\*  
 $lab^*lab$  0.489 0.5 0.0 (1.0)  
 $lab^*tch$  0.511 0.5 1.0 (0.0)  
 $lab^*nch$  0.989 1.0 0.5 0.5  
 $cmyn3^*$  0.511 0.5 1.0 (0.0)  
 $olv_i4^*$  0.011 0.0 0.5 0.5  
 $cmyn4^*$  0.489 0.5 0.0 (1.0)  
standard and adapted CIELAB  
 $LAB^*LAB$  37.36 -1.46 38.02  
 $LAB^*LABa$  37.36 -1.54 37.99  
 $LAB^*TChA$  25.01 38.03 92.33  
relative CIELAB lab\*  
 $lab^*lab$  0.489 0.5 0.0 (1.0)  
 $lab^*tch$  0.511 0.5 1.0 (0.0)  
 $lab^*nch$  0.989 1.0 0.5 0.5  
 $cmyn3^*$  0.511 0.5 1.0 (0.0)  
 $olv_i4^*$  0.011 0.0 0.5 0.5  
 $cmyn4^*$  0.489 0.5 0.0 (1.0)  
standard and adapted CIELAB  
 $LAB^*LAB$  37.36 -1.46 38.02  
 $LAB^*LABa$  37.36 -1.54 37.99  
 $LAB^*TChA$  25.01 38.03 92.33  
relative CIELAB lab\*  
 $lab^*lab$  0.489 0.5 0.0 (1.0)  
 $lab^*tch$  0.511 0.5 1.0 (0.0)  
 $lab^*nch$  0.989 1.0 0.5 0.5  
 $cmyn3^*$  0.511 0.5 1.0 (0.0)  
 $olv_i4^*$  0.011 0.0 0.5 0.5  
 $cmyn4^*$  0.489 0.5 0.0 (1.0)  
standard and adapted CIELAB  
 $LAB^*LAB$  37.36 -1.46 38.02  
 $LAB^*LABa$  37.36 -1.54 37.99  
 $LAB^*TChA$  25.01 38.03 92.33  
relative CIELAB lab\*  
 $lab^*lab$  0.489 0.5 0.0 (1.0)  
 $lab^*tch$  0.511 0.5 1.0 (0.0)  
 $lab^*nch$  0.989 1.0 0.5 0.5  
 $cmyn3^*$  0.511 0.5 1.0 (0.0)  
 $olv_i4^*$  0.011 0.0 0.5 0.5  
 $cmyn4^*$  0.489 0.5 0.0 (1.0)  
standard and adapted CIELAB  
 $LAB^*LAB$  37.36 -1.46 38.02  
 $LAB^*LABa$  37.36 -1.54 37.99  
 $LAB^*TChA$  25.01 38.03 92.33  
relative CIELAB lab\*  
 $lab^*lab$  0.489 0.5 0.0 (1.0)  
 $lab^*tch$  0.511 0.5 1.0 (0.0)  
 $lab^*nch$  0.989 1.0 0.5 0.5  
 $cmyn3^*$  0.511 0.5 1.0 (0.0)  
 $olv_i4^*$  0.011 0.0 0.5 0.5  
 $cmyn4^*$  0.489 0.5 0.0 (1.0)  
standard and adapted CIELAB  
 $LAB^*LAB$  37.36 -1.46 38.02  
 $LAB^*LABa$  37.36 -1.54 37.99  
 $LAB^*TChA$  25.01 38.03 92.33  
relative CIELAB lab\*  
 $lab^*lab$  0.489 0.5 0.0 (1.0)  
 $lab^*tch$  0.511 0.5 1.0 (0.0)  
 $lab^*nch$  0.989 1.0 0.5 0.5  
 $cmyn3^*$  0.511 0.5 1.0 (0.0)  
 $olv_i4^*$  0.011 0.0 0.5 0.5  
 $cmyn4^*$  0.489 0.5 0.0 (1.0)  
standard and adapted CIELAB  
 $LAB^*LAB$  37.36 -1.46 38.02  
 $LAB^*LABa$  37.36 -1.54 37.99  
 $LAB^*TChA$  25.01 38.03 92.33  
relative CIELAB lab\*  
 $lab^*lab$  0.489 0.5 0.0 (1.0)  
 $lab^*tch$  0.511 0.5 1.0 (0.0)  
 $lab^*nch$  0.989 1.0 0.5 0.5  
 $cmyn3^*$  0.511 0.5 1.0 (0.0)  
 $olv_i4^*$  0.011 0.0 0.5 0.5  
 $cmyn4^*$  0.489 0.5 0.0 (1.0)  
standard and adapted CIELAB  
 $LAB^*LAB$  37.36 -1.46 38.02  
 $LAB^*LABa$  37.36 -1.54 37.99  
 $LAB^*TChA$  25.01 38.03 92.33  
relative CIELAB lab\*  
 $lab^*lab$  0.489 0.5 0.0 (1.0)  
 $lab^*tch$  0.511 0.5 1.0 (0.0)  
 $lab^*nch$  0.989 1.0 0.5 0.5  
 $cmyn3^*$  0.511 0.5 1.0 (0.0)  
 $olv_i4^*$  0.011 0.0 0.5 0.5  
 $cmyn4^*$  0.489 0.5 0.0 (1.0)  
standard and adapted CIELAB  
 $LAB^*LAB$  37.36 -1.46 38.02  
 $LAB^*LABa$  37.36 -1.54 37.99  
 $LAB^*TChA$  25.01 38.03 92.33  
relative CIELAB lab\*  
 $lab^*lab$  0.489 0.5 0.0 (1.0)  
 $lab^*tch$  0.511 0.5 1.0 (0.0)  
 $lab^*nch$  0.989 1.0 0.5 0.5  
 $cmyn3^*$  0.511 0.5 1.0 (0.0)  
 $olv_i4^*$  0.011 0.0 0.5 0.5  
 $cmyn4^*$  0.489 0.5 0.0 (1.0)  
standard and adapted CIELAB  
 $LAB^*LAB$  37.36 -1.46 38.02  
 $LAB^*LABa$  37.36 -1.54 37.99  
 $LAB^*TChA$  25.01 38.03 92.33  
relative CIELAB lab\*  
 $lab^*lab$  0.489 0.5 0.0 (1.0)  
 $lab^*tch$  0.511 0.5 1.0 (0.0)  
 $lab^*nch$  0.989 1.0 0.5 0.5  
 $cmyn3^*$  0.511 0.5 1.0 (0.0)  
 $olv_i4^*$  0.011 0.0 0.5 0.5  
 $cmyn4^*$  0.489 0.5 0.0 (1.0)  
standard and adapted CIELAB  
 $LAB^*LAB$  37.36 -1.46 38.02  
 $LAB^*LABa$  37.36 -1.54 37.99  
 $LAB^*TChA$  25.01 38.03 92.33  
relative CIELAB lab\*  
 $lab^*lab$  0.489 0.5 0.0 (1.0)  
 $lab^*tch$  0.511 0.5 1.0 (0.0)  
 $lab^*$

## Input: Colorimetric Reflective System NRS11

for hue  $h^* = lab^*h = 92/360 = 0.256$

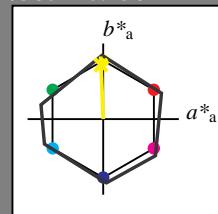
$lab^*tch$  and  $lab^*nch$

D65: hue J

LCH\*Ma: 53 83 92

olv\*Ma: 0.98 1.0 0.0

triangle lightness  $t^*$



### NRS11; adapted (a) CIELAB data

	$L^*=L_a^*$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	53.2	77.06	34.32	84.36	24
JMa	53.2	-1.51	84.38	84.39	91
GMa	53.2	-82.27	18.98	84.44	167
G50BMa	53.2	-77.72	-32.98	84.44	203
BMa	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)

$olv_i3^*$  1.0 1.0 1.0 (1.0)

$cmy_n3^*$  0.0 0.0 0.0 (0.0)

$olv_i4^*$  1.0 1.0 1.0 1.0

$cmy_n4^*$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  74.3 -1.64 41.44

$LAB^*LABa$  74.3 -1.67 41.44

$LAB^*TChA$  75.0 41.47 92.32

relative CIELAB lab\*

$lab^*lab$  0.75 -0.019 0.499

$lab^*tch$  0.75 0.5 0.256

$lab^*nch$  0.0 0.5 0.256

relative Natural Colour (NC)

$lab^*lrij$  0.75 0.0 0.5

$lab^*tce$  0.75 0.5 0.25

$lab^*ncE$  0.0 0.5 r99j

relative Inform. Technology (IT)

$olv_i3^*$  0.5 0.5 0.5 (1.0)

$cmy_n3^*$  0.5 0.5 0.5 (0.0)

$olv_i4^*$  1.0 1.0 1.0 0.5

$cmy_n4^*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  53.21 0.04 0.0

$LAB^*LABa$  53.21 0.0 0.0

$LAB^*TChA$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.5 0.0 0.0

$lab^*tce$  0.5 0.0 0.0

$lab^*ncE$  0.5 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  11.01 0.07 0.01

$LAB^*LABa$  11.01 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*tce$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

### NRS11; adapted (a) CIELAB data

$L^*=L_a^*$   $a^*_a$   $b^*_a$   $C^*_{ab,a}$   $h^*_{ab,a}$

## Output: Colorimetric Reflective System NCS18

for hue  $h^* = lab^*h = 92/360 = 0.256$

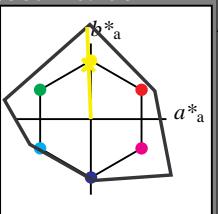
$lab^*tch$  and  $lab^*nch$

D65: hue J

LCH\*Ma: 90 122 92

olv\*Ma: 0.97 1.0 0.0

triangle lightness  $t^*$



### NCS18; adapted (a) CIELAB data

$L^*=L_a^*$   $a^*_a$   $b^*_a$   $C^*_{ab,a}$   $h^*_{ab,a}$

relative Inform. Technology (IT)

$olv_i3^*$  1.0 1.0 1.0 (1.0)

$cmy_n3^*$  0.0 0.0 0.0 (0.0)

$olv_i4^*$  1.0 1.0 1.0 1.0

$cmy_n4^*$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  92.92 -2.45 60.89

$LAB^*LABa$  92.92 -2.46 60.89

$LAB^*TChA$  75.0 60.94 92.32

relative CIELAB lab\*

$lab^*lab$  0.968 -0.019 0.499

$lab^*tch$  0.75 0.5 0.256

$lab^*nch$  0.0 0.5 0.256

relative Natural Colour (NC)

$lab^*lrij$  0.968 0.0 0.5

$lab^*tce$  0.75 0.5 0.25

$lab^*ncE$  0.0 0.5 r99j

relative Inform. Technology (IT)

$olv_i3^*$  0.5 0.5 0.5 (1.0)

$cmy_n3^*$  0.5 0.5 0.5 (0.0)

$olv_i4^*$  1.0 1.0 1.0 0.5

$cmy_n4^*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  56.72 0.05 0.0

$LAB^*LABa$  56.72 0.0 0.0

$LAB^*TChA$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.468 0.0 0.5

$lab^*tce$  0.25 0.5 0.25

$lab^*ncE$  0.5 0.5 j00g

$n^* = 1,0$

$n^* = 0,00$

$n^* = 0,50$

$n^* = 1,00$

$n^* = 0,25$

$n^* = 0,75$

$n^* = 1,00$

$n^* = 0,50$

$n^* = 0,25$

$n^* = 0,00$

$n^* = 0,75$

$n^* = 1,00$

$n^* = 0,50$

$n^* = 0,25$

$n^* = 0,00$

$n^* = 0,75$

$n^* = 1,00$

$n^* = 0,50$

$n^* = 0,25$

$n^* = 0,00$

$n^* = 0,75$

$n^* = 1,00$

$n^* = 0,50$

$n^* = 0,25$

$n^* = 0,00$

$n^* = 0,75$

$n^* = 1,00$

$n^* = 0,50$

$n^* = 0,25$

$n^* = 0,00$

$n^* = 0,75$

$n^* = 1,00$

$n^* = 0,50$

$n^* = 0,25$

$n^* = 0,00$

$n^* = 0,75$

$n^* = 1,00$

$n^* = 0,50$

$n^* = 0,25$

$n^* = 0,00$

$n^* = 0,75$

$n^* = 1,00$

$n^* = 0,50$

$n^* = 0,25$

$n^* = 0,00$

$n^* = 0,75$

$n^* = 1,00$

$n^* = 0,50$

$n^* = 0,25$

$n^* = 0,00$

$n^* = 0,75$

$n^* = 1,00$

$n^* = 0,50$

$n^* = 0,25$

$n^* = 0,00$

$n^* = 0,75$

$n^* = 1,00$

$n^* = 0,50$

$n^* = 0,25$

$n^* = 0,00$

$n^* = 0,75$

$n^* = 1,00$

$n^* = 0,50$

$n^* = 0,25$

$n^* = 0,00$

$n^* = 0,75$

$n^* = 1,00$

$n^* = 0,50$

$n^* = 0,25$

$n^* = 0,00$

$n^* = 0,75$

$n^* = 1,00$

$n^* = 0,50$

$n$

## Input: Colorimetric Reflective System NRS11

for hue  $h^* = lab^*h = 92/360 = 0.256$

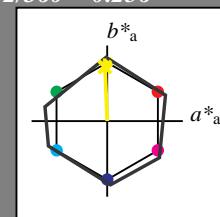
$lab^*tch$  and  $lab^*nch$

D65: hue J

LCH\*Ma: 53 83 92

olv\*Ma: 0.98 1.0 0.0

triangle lightness  $t^*$



relative Inform. Technology (IT)  
 $olv_i3^*$  1.0 1.0 1.0 (1.0)  
 $cmy_n3^*$  0.0 0.0 0.0 (0.0)  
 $olv_i4^*$  1.0 1.0 1.0 1.0  
 $cmy_n4^*$  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  
 $LAB^*TCh_a$  99.99 0.01 -

relative CIELAB lab\*

$lab^*lab$  1.0 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  1.0 0.0 0.0

$lab^*ice$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

%Gamut

$u^*_{rel} = 119$

%Regularity

$g^*_{H,rel} = 47$

$g^*_{C,rel} = 100$

standard and adapted CIELAB

$LAB^*LAB$  95.41 0.0 -0.01

$LAB^*LABa$  95.41 0.0 0.0

$LAB^*TCh_a$  99.99 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.75 -0.019 0.499

$lab^*tch$  0.75 0.5 0.256

$lab^*nch$  0.0 0.5 0.256

relative Natural Colour (NC)

$lab^*lrj$  0.75 0.0 0.5

$lab^*ice$  0.75 0.5 0.25

$lab^*ncE$  0.0 0.5 r99j

relative Inform. Technology (IT)

$olv_i3^*$  0.5 0.5 0.5 (1.0)

$cmy_n3^*$  0.5 0.5 0.5 (0.0)

$olv_i4^*$  1.0 1.0 1.0 0.5

$cmy_n4^*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  53.21 0.04 0.0

$LAB^*LABa$  53.21 0.0 0.0

$LAB^*TCh_a$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  0.5 0.0 0.0

$lab^*ice$  0.5 0.0 0.0

$lab^*ncE$  0.5 0.0 -

$n^* = 1,0$

	$L^*=L^*_a$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	53.2	77.06	34.32	84.36	24
JMa	53.2	-1.51	84.38	84.39	91
GMa	53.2	-82.27	18.98	84.44	167
G50BMa	53.2	-77.72	-32.98	84.44	203
BMa	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

	$L^*=L^*_a$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	0.977	1.0	0.0	(1.0)	
JMa	0.023	0.0	1.0	(0.0)	
GMa	0.977	1.0	0.0	1.0	
G50BMa	0.023	0.0	1.0	0.0	
BMa	0.512	-0.31	82.87		
B50RMa	0.512	-3.35	82.86		
NMa	50.0	82.93	92.32		
relative CIELAB lab*					
$lab^*lab$	0.5	-0.04	0.999		
$lab^*tch$	0.5	1.0	0.256		
$lab^*nch$	0.0	1.0	0.256		
relative Natural Colour (NC)					
$lab^*lrj$	0.5	0.0	1.0		
$lab^*ice$	0.5	1.0	0.25		
$lab^*ncE$	0.0	1.0	r99j		

	$L^*=L^*_a$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	0.977	1.0	0.0	(1.0)	
JMa	0.023	0.0	1.0	(0.0)	
GMa	0.977	1.0	0.0	1.0	
G50BMa	0.023	0.0	1.0	0.0	
BMa	53.2	-3.31	82.87		
B50RMa	53.2	-3.35	82.86		
NMa	50.0	82.93	92.32		
relative CIELAB lab*					
$lab^*lab$	0.5	-0.04	0.999		
$lab^*tch$	0.5	1.0	0.256		
$lab^*nch$	0.0	1.0	0.256		
relative Natural Colour (NC)					
$lab^*lrj$	0.5	0.0	1.0		
$lab^*ice$	0.5	1.0	0.25		
$lab^*ncE$	0.0	1.0	r99j		

	$L^*=L^*_a$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	0.0	0.0	0.0	(1.0)	
JMa	1.0	1.0	1.0	(0.0)	
GMa	1.0	1.0	1.0	0.0	
G50BMa	1.0	1.0	1.0	0.0	
BMa	11.01	0.07	0.01		
B50RMa	11.01	0.0	0.0		
NMa	0.01	-	-		
relative CIELAB lab*					
$lab^*lab$	0.0	0.0	0.0		
$lab^*tch$	0.0	0.0	-		
$lab^*nch$	1.0	0.0	-		
relative Natural Colour (NC)					
$lab^*lrj$	0.0	0.0	0.0		
$lab^*ice$	0.0	0.0	-		
$lab^*ncE$	1.0	0.0	-		

$n^* = 1,0$

$n^* = 0,50$

$n^* = 0,00$

blackness  $n^*$

chromaticness  $c^*$

## Output: Colorimetric Reflective System NRS11

for hue  $h^* = lab^*h = 92/360 = 0.256$

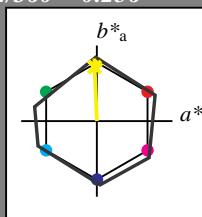
$lab^*tch$  and  $lab^*nch$

D65: hue J

LCH\*Ma: 53 83 92

olv\*Ma: 0.98 1.0 0.0

triangle lightness  $t^*$



%Gamut

$u^*_{rel} = 119$

%Regularity

$g^*_{H,rel} = 47$

$g^*_{C,rel} = 100$

relative Inform. Technology (IT)

$olv_i3^*$  1.0 1.0 1.0 (1.0)

$cmy_n3^*$  0.0 0.0 0.0 (0.0)

$olv_i4^*$  1.0 1.0 1.0 1.0

$cmy_n4^*$  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

$LAB^*TCh_a$  99.99 0.01 -

relative CIELAB lab\*

$lab^*lab$  1.0 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  1.0 0.0 0.0

$lab^*ice$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)

$olv_i3^*$  0.0 0.0 0.0 (1.0)

$cmy_n3^*$  1.0 1.0 1.0 (0.0)

$olv_i4^*$  1.0 1.0 1.0 0.0

$cmy_n4^*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  53.21 0.04 0.01

$LAB^*LABa$  53.21 0.0 0.0

$LAB^*TCh_a$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  0.0 0.0 0.0

$lab^*ice$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

$n^* = 0,50$

$n^* = 0,00$

blackness  $n^*$

chromaticness  $c^*$

3 step scales for constant CIELAB hue 92/360 = 0.256 (left)

3 step scales for constant CIELAB hue 92/360 = 0.256 (right)

UE100-7, 3 step scales for constant CIELAB hue 92/360 = 0.256 (left)

3 step scales for constant CIELAB hue 92/360 = 0.256 (right)

## Input: Colorimetric Reflective System NRS11

for hue  $h^* = lab^*h = 92/360 = 0.256$

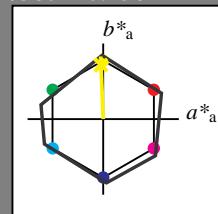
$lab^*tch$  and  $lab^*nch$

D65: hue J

LCH\*Ma: 53 83 92

olv\*Ma: 0.98 1.0 0.0

triangle lightness  $t^*$



## NRS11; adapted (a) CIELAB data

	$L^*=L_a^*$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	53.2	77.06	34.32	84.36	24
JMa	53.2	-1.51	84.38	84.39	91
GMa	53.2	-82.27	18.98	84.44	167
G50BMa	53.2	-77.72	-32.98	84.44	203
BMa	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)

$olv_i3^*$  1.0 1.0 1.0 (1.0)

$cmy_n3^*$  0.0 0.0 0.0 (0.0)

$olv_i4^*$  1.0 1.0 1.0 1.0

$cmy_n4^*$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*ice$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

$g^*_{H,rel} = 47$

$g^*_{C,rel} = 100$

%Gamut

$u^*_{rel} = 119$

%Regularity

$g^*_{H,rel} = 47$

$g^*_{C,rel} = 100$

relative Inform. Technology (IT)

$olv_i3^*$  0.989 1.0 0.5 (1.0)

$cmy_n3^*$  0.011 0.0 0.5 (0.0)

$olv_i4^*$  0.989 1.0 0.5 1.0

$cmy_n4^*$  0.011 0.0 0.5 0.0

standard and adapted CIELAB

$LAB^*LAB$  74.3 -1.64 41.44

$LAB^*LABa$  74.3 -1.67 41.44

$LAB^*TChA$  75.0 41.47 92.32

relative CIELAB lab\*

$lab^*lab$  0.75 -0.019 0.499

$lab^*tch$  0.75 0.5 0.256

$lab^*nch$  0.0 0.5 0.256

relative Natural Colour (NC)

$lab^*lrij$  0.75 0.0 0.5

$lab^*ice$  0.75 0.5 0.25

$lab^*ncE$  0.0 0.5 r99j

$g^*_{H,rel} = 47$

$g^*_{C,rel} = 100$

$n^* = 0,00$

blackness  $n^*$

chromaticness  $c^*$

$n^* = 1,0$

relative Inform. Technology (IT)

$olv_i3^*$  0.5 0.5 0.5 (1.0)

$cmy_n3^*$  0.5 0.5 0.5 (0.0)

$olv_i4^*$  1.0 1.0 1.0 0.5

$cmy_n4^*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  53.21 0.04 0.0

$LAB^*LABa$  53.21 0.0 0.0

$LAB^*TChA$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.5 0.0 0.0

$lab^*ice$  0.5 0.0 0.0

$lab^*ncE$  0.5 0.0 -

$g^*_{H,rel} = 47$

$g^*_{C,rel} = 100$

$n^* = 0,00$

blackness  $n^*$

chromaticness  $c^*$

$n^* = 1,0$

## Output: Colorimetric Reflective System NCS11

for hue  $h^* = lab^*h = 92/360 = 0.256$

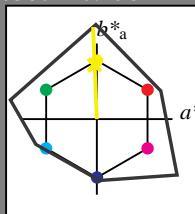
$lab^*tch$  and  $lab^*nch$

D65: hue J

LCH\*Ma: 90 122 92

olv\*Ma: 0.97 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

	relative Inform. Technology (IT)		
$olv_i3^*$	1.0	1.0	1.0 (1.0)
$cmy_n3^*$	0.0	0.0	0.0 (0.0)
$olv_i4^*$	1.0	1.0	1.0 1.0
$cmy_n4^*$	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*		
$lab^*lab$	0.75	-0.019	0.499
$lab^*tch$	0.75	0.5	0.256
$lab^*nch$	0.0	0.5	0.256

	relative Natural Colour (NC)		
$lab^*lrij$	0.75	0.0	0.5
$lab^*ice$	0.75	0.5	0.25
$lab^*ncE$	0.0	1.0	r99j

	relative CIELAB lab*		
$lab^*lab$	0.5	-0.04	0.999
$lab^*tch$	0.5	1.0	0.256

	relative Natural Colour (NC)		
$lab^*lrij$	0.5	0.0	1.0
$lab^*ice$	0.5	1.0	0.25
$lab^*ncE$	0.5	0.0	-

	relative Inform. Technology (IT)		
$olv_i3^*$	0.0	0.0	0.0 (1.0)
$cmy_n3^*$	1.0	1.0	1.0 (0.0)
$olv_i4^*$	1.0	1.0	1.0 1.0
$cmy_n4^*$	0.0	0.0	0.0 1.0

	standard and adapted CIELAB		
$LAB^*LAB$	11.01	0.07	0.01
$LAB^*LABa$	11.01	0.0	0.0

	relative CIELAB lab*		
$lab^*lab$	0.25	-0.019	0.499
$lab^*tch$	0.25	0.5	0.256

	relative Natural Colour (NC)		
$lab^*lrij$	0.25	0.0	0.5
$lab^*ice$	0.25	0.5	0.25
$lab^*ncE$	0.5	0.5	j00g

	relative Inform. Technology (IT)		
$olv_i3^*$	0.484	0.5	0.0 (1.0)
$cmy_n3^*$	0.516	0.5	1.0 (0.0)
$olv_i4^*$	0.984	1.0	0.5 0.5
$cmy_n4^*$	0.016	0.0	0.5 0.5

	standard and adapted CIELAB		
$LAB^*LAB$	50.72	-2.42	60.89
$LAB^*LABa$	50.72	-2.47	60.88

	relative CIELAB lab\*		



</tbl\_r

## Input: Colorimetric Reflective System NCS11

for hue  $h^* = lab^*h = 92/360 = 0.256$

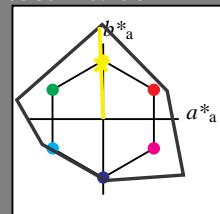
$lab^*tch$  and  $lab^*nch$

D65: hue J

LCH\*Ma: 90 122 92

olv\*Ma: 0.97 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

relative Inform. Technology (IT)

$olv_i3^*$  1.0 1.0 1.0 (1.0)

$cmy_n3^*$  0.0 0.0 0.0 (0.0)

$olv_i4^*$  1.0 1.0 1.0 1.0

$cmy_n4^*$  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

$LAB^*TCh$  99.99 0.01 -

relative CIELAB lab\*

$lab^*lab$  1.0 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  1.0 0.0 0.0

$lab^*ice$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)

$olv_i3^*$  0.984 1.0 0.5 (1.0)

$cmy_n3^*$  0.016 0.0 0.5 (0.0)

$olv_i4^*$  0.984 1.0 0.5 1.0

$cmy_n4^*$  0.016 0.0 0.5 0.0

standard and adapted CIELAB

$LAB^*LAB$  92.92 -2.44 60.89

$LAB^*LABa$  92.92 -2.46 60.89

$LAB^*TCh$  75.0 60.94 92.32

relative CIELAB lab\*

$lab^*lab$  0.971 -0.019 0.499

$lab^*tch$  0.75 0.5 0.256

$lab^*nch$  0.0 0.5 0.256

relative Natural Colour (NC)

$lab^*lrj$  0.971 0.0 0.5

$lab^*ice$  0.75 0.5 0.25

$lab^*ncE$  0.0 0.5 r99j

relative Inform. Technology (IT)

$olv_i3^*$  0.484 0.5 0.0 (1.0)

$cmy_n3^*$  0.516 0.5 1.0 (0.0)

$olv_i4^*$  0.984 1.0 0.5 0.5

$cmy_n4^*$  0.016 0.0 0.5 0.5

standard and adapted CIELAB

$LAB^*LAB$  50.72 -2.42 60.89

$LAB^*LABa$  50.72 -2.47 60.88

$LAB^*TCh$  25.01 60.93 92.33

relative CIELAB lab\*

$lab^*lab$  0.471 -0.019 0.499

$lab^*tch$  0.25 0.5 0.256

$lab^*nch$  0.5 0.5 0.256

relative Natural Colour (NC)

$lab^*lrj$  0.471 0.0 0.5

$lab^*ice$  0.25 0.5 0.25

$lab^*ncE$  0.5 0.5 100g

$n^* = 1,0$

## 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
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

%Gamut

$u^*_{rel} = 149$

%Regularity

$g^*_{H,rel} = 46$

$g^*_{C,rel} = 65$

relative Inform. Technology (IT)

$olv_i3^*$  1.0 1.0 1.0 (1.0)

$cmy_n3^*$  0.0 0.0 0.0 (0.0)

$olv_i4^*$  1.0 1.0 1.0 1.0

$cmy_n4^*$  0.0 0.0 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  95.41 -0.97 4.75

$LAB^*LABa$  95.41 0.0 0.0

$LAB^*TCh$  99.99 0.01 -

relative CIELAB lab\*

$lab^*lab$  1.0 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  1.0 0.0 0.0

$lab^*ice$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)

$olv_i3^*$  0.984 1.0 0.5 (1.0)

$cmy_n3^*$  0.016 0.0 0.5 (0.0)

$olv_i4^*$  0.984 1.0 0.5 1.0

$cmy_n4^*$  0.016 0.0 0.5 0.0

standard and adapted CIELAB

$LAB^*LAB$  92.92 -2.44 60.89

$LAB^*LABa$  92.92 -2.46 60.89

$LAB^*TCh$  75.0 60.94 92.32

relative CIELAB lab\*

$lab^*lab$  0.971 -0.019 0.499

$lab^*tch$  0.75 0.5 0.256

$lab^*nch$  0.0 1.0 0.256

relative Natural Colour (NC)

$lab^*lrj$  0.971 0.0 0.5

$lab^*ice$  0.75 0.5 0.25

$lab^*ncE$  0.0 1.0 r99j

$n^* = 0,00$

blackness  $n^*$

chromaticness  $c^*$

## Output: Colorimetric Reflective System ORS18

for hue  $h^* = lab^*h = 92/360 = 0.255$

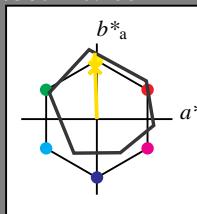
$lab^*tch$  and  $lab^*nch$

D65: hue J

LCH\*Ma: 86 88 92

olv\*Ma: 1.0 0.9 0.0

triangle lightness  $t^*$



%Gamut

$u^*_{rel} = 93$

%Regularity

$g^*_{H,rel} = 57$

$g^*_{C,rel} = 59$

relative Inform. Technology (IT)

$olv_i3^*$  1.0 1.0 1.0 (1.0)

$cmy_n3^*$  0.0 0.0 0.0 (0.0)

$olv_i4^*$  1.0 1.0 1.0 1.0

$cmy_n4^*$  0.0 0.0 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  95.41 -0.97 4.75

$LAB^*LABa$  95.41 0.0 0.0

$LAB^*TCh$  99.99 0.01 -

relative CIELAB lab\*

$lab^*lab$  1.0 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  1.0 0.0 0.0

$lab^*ice$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)

$olv_i3^*$  0.984 1.0 0.5 (1.0)

$cmy_n3^*$  0.016 0.0 0.5 (0.0)

$olv_i4^*$  0.984 1.0 0.5 1.0

$cmy_n4^*$  0.016 0.0 0.5 0.0

standard and adapted CIELAB

$LAB^*LAB$  92.92 -2.44 60.89

$LAB^*LABa$  92.92 -2.46 60.89

$LAB^*TCh$  75.0 60.94 92.32

relative CIELAB lab\*

$lab^*lab$  0.971 -0.019 0.499

$lab^*tch$  0.75 0.5 0.256

$lab^*nch$  0.0 1.0 0.256

relative Natural Colour (NC)

$lab^*lrj$  0.971 0.0 0.5

$lab^*ice$  0.75 0.5 0.25

$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

3 step scales for constant CIELAB hue 92/360 = 0.255 (right)

	$L^* = L_a^*$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
O Ma	47.94	65.37	50.52	82.62	38
Y Ma	90.37	-10.27	91.77	92.34	96
L Ma	50.9	-62.79	34.95	71.87	151
C Ma	58.62	-30.35	-45.01	54.3	236
V Ma	25.71	31.11	-44.42	54.24	305
M Ma	48.13	75.27	-8.35	75.73	354
N Ma	18.01	0.0	0.0	0.0	0
W Ma	95.41	0.0	0.0	0.0	0
R CIE	39.92	58.69	26.98	64.56	25
J CIE	81.26	-2.17	67.76	67.79	92
G CIE	52.23	-42.26	11.75	43.87	164
B CIE	30.57	1.15	-46.48	46.87	

## Input: Colorimetric Reflective System NCS11

for hue  $h^* = lab^*h = 92/360 = 0.256$

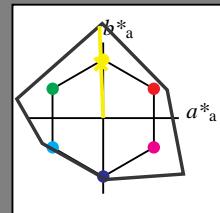
$lab^*tch$  and  $lab^*nch$

D65: hue J

LCH\*Ma: 90 122 92

olv\*Ma: 0.97 1.0 0.0

triangle lightness  $t^*$



### NCS11; adapted (a) CIELAB data

	$L^* = L^*_{ab}$	$a^*_{ab}$	$b^*_{ab}$	$C^*_{ab,a}$	$h^*_{ab,a}$
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

relative Inform. Technology (IT)

$olv^3*$  1.0 1.0 1.0 (1.0)

$cmy3^*$  0.0 0.0 0.0 (0.0)

$olv^4*$  1.0 1.0 1.0 1.0

$cmy4^*$  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

$LAB^*TCh$  99.99 0.01 -

relative CIELAB  $lab^*$

$lab^*lab$  1.0 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  1.0 0.0 0.0

$lab^*ice$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  95.41 -0.97 4.75

$LAB^*LABa$  95.41 0.0 0.0

$LAB^*TCh$  99.99 0.01 -

relative CIELAB  $lab^*$

$lab^*lab$  0.984 1.0 0.5 (1.0)

$cmy3^*$  0.016 0.0 0.5 (0.0)

$olv^4*$  0.984 1.0 0.5 1.0

$cmy4^*$  0.016 0.0 0.5 0.0

standard and adapted CIELAB

$LAB^*LAB$  92.92 -2.44 60.89

$LAB^*LABa$  92.92 -2.46 60.89

$LAB^*TCh$  75.0 60.94 92.32

relative CIELAB  $lab^*$

$lab^*lab$  0.971 -0.019 0.499

$lab^*tch$  0.75 0.5 0.256

$lab^*nch$  0.0 0.5 0.256

relative Natural Colour (NC)

$lab^*lrj$  0.971 0.0 0.5

$lab^*ice$  0.75 0.5 0.25

$lab^*ncE$  0.0 0.5 r99j

standard and adapted CIELAB

$LAB^*LAB$  53.21 0.04 0.0

$LAB^*LABa$  53.21 0.0 0.0

$LAB^*TCh$  50.0 0.01 -

relative CIELAB  $lab^*$

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  0.5 0.0 0.0

$lab^*ice$  0.5 0.0 0.0

$lab^*ncE$  0.5 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  11.01 0.07 0.01

$LAB^*LABa$  11.01 0.0 0.0

$LAB^*TCh$  0.01 0.01 -

relative CIELAB  $lab^*$

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  0.0 0.0 0.0

$lab^*ice$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

%Gamut

$u^*_{rel} = 149$

%Regularity

$g^*_{H,rel} = 46$

$g^*_{C,rel} = 65$

relative Inform. Technology (IT)

$olv^3*$  1.0 1.0 1.0 (1.0)

$cmy3^*$  0.0 0.0 0.0 (0.0)

$olv^4*$  1.0 1.0 1.0 1.0

$cmy4^*$  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

$LAB^*TCh$  99.99 0.01 -

relative CIELAB  $lab^*$

$olv^3*$  0.984 1.0 0.5 (1.0)

$cmy3^*$  0.016 0.0 0.5 (0.0)

$olv^4*$  0.984 1.0 0.5 1.0

$cmy4^*$  0.016 0.0 0.5 0.0

standard and adapted CIELAB

$LAB^*LAB$  92.92 -2.44 60.89

$LAB^*LABa$  92.92 -2.46 60.89

$LAB^*TCh$  75.0 60.94 92.32

relative CIELAB  $lab^*$

$olv^3*$  0.967 1.0 0.0 (1.0)

$cmy3^*$  0.033 0.0 1.0 (0.0)

$olv^4*$  0.968 1.0 0.0 1.0

$cmy4^*$  0.032 0.0 1.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  90.45 -4.92 121.77

$LAB^*LABa$  90.45 -4.93 121.77

$LAB^*TCh$  50.0 121.87 92.32

relative CIELAB  $lab^*$

$olv^3*$  0.941 -0.04 0.999

$lab^*tch$  0.5 1.0 0.256

$lab^*nch$  0.0 1.0 0.256

relative Natural Colour (NC)

$lab^*lrj$  0.941 0.0 1.0

$lab^*ice$  0.5 1.0 0.25

$lab^*ncE$  0.0 1.0 r99j

standard and adapted CIELAB

$LAB^*LAB$  50.72 -2.42 60.89

$LAB^*LABa$  50.72 -2.47 60.88

$LAB^*TCh$  25.01 60.93 92.33

relative CIELAB  $lab^*$

$olv^3*$  0.471 -0.019 0.499

$lab^*tch$  0.25 0.5 0.256

$lab^*nch$  0.5 0.5 0.256

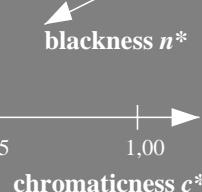
relative Natural Colour (NC)

$lab^*lrj$  0.471 0.0 0.5

$lab^*ice$  0.25 0.5 0.25

$lab^*ncE$  0.5 0.5 100g

$n^* = 0,00$



blackness  $n^*$

chromaticness  $c^*$

## Output: Colorimetric Reflective System MRS18

for hue  $h^* = lab^*h = 92/360 = 0.255$

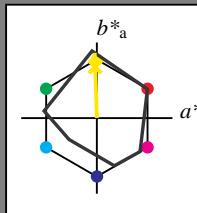
$lab^*tch$  and  $lab^*nch$

D65: hue J

LCH\*Ma: 89 86 92

olv\*Ma: 1.0 0.95 0.0

triangle lightness  $t^*$



%Gamut

$u^*_{rel} = 91$

%Regularity

$g^*_{H,rel} = 41$

$g^*_{C,rel} = 52$

relative Inform. Technology (IT)

$olv^3*$  1.0 1.0 1.0 (1.0)

$cmy3^*$  0.0 0.0 0.0 (0.0)

$olv^4*$  1.0 1.0 1.0 1.0

$cmy4^*$  0.0 0.0 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  95.41 0.0 -0.97

$LAB^*LABa$  95.41 0.0 0.0

$LAB^*TCh$  99.99 0.01 -

relative CIELAB  $lab^*$

$olv^3*$  1.0 0.976 0.5 (1.0)

$cmy3^*$  0.0 0.024 0.5 (0.0)

$olv^4*$  1.0 0.976 0.5 1.0

$cmy4^*$  0.0 0.024 0.5 0.0

standard and adapted CIELAB

$LAB^*LAB$  92.04 -2.17 67.76

$LAB^*LABa$  92.04 -1.39 43.14

$LAB^*TCh$  75.0 43.16 91.85

relative CIELAB  $lab^*$

$olv^3*$  0.957 0.0 0.015 0.5

$lab^*tch$  0.75 0.5 0.255

$lab^*nch$  0.0 0.5 0.255

relative Natural Colour (NC)

$lab^*lrj$  0.957 0.0 0.5

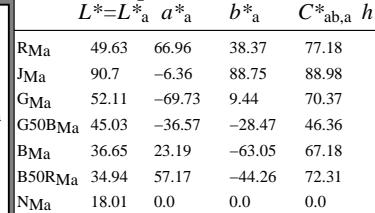
$lab^*ice$  0.75 0.5 0.25

$lab^*ncE$  0.0 0.5 j00g

$n^* = 0,00$

blackness  $n^*$

chromaticness  $c^*$



%Gamut

$u^*_{rel} = 91$

%Regularity

$g^*_{H,rel} = 41$

$g^*_{C,rel} = 52$

relative Inform. Technology (IT)

$olv^3*$  1.0 0.951 0.0 (1.0)

$cmy3^*$  0.0 0.049 1.0 (0.0)

$olv^4*$  1.0 0.951 0.0 1.0

$cmy4^*$  0.0 0.049 1.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  88.68 -3.62 90.58

$LAB^*LABa$  88.68 -2.77 86.27

$LAB^*TCh$  50.0 86.32 91.85

relative CIELAB  $lab^*$

$olv^3*$  0.913 -0.031 0.999

$lab^*tch$  0.5 1.0 0.255

$lab^*nch$  0.0 1.0 0.255

relative Natural Colour (NC)

$lab^*lrj$  0.913 0.0 1.

## Input: Colorimetric Reflective System NCS11

for hue  $h^* = lab^*h = 92/360 = 0.256$

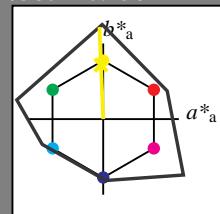
$lab^*tch$  and  $lab^*nch$

D65: hue J

LCH\*Ma: 90 122 92

olv\*Ma: 0.97 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

relative Inform. Technology (IT)

$olv_i3^*$  1.0 1.0 1.0 (1.0)

$cmy_n3^*$  0.0 0.0 0.0 (0.0)

$olv_i4^*$  1.0 1.0 1.0 1.0

$cmy_n4^*$  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

$LAB^*TCh$  99.99 0.01 -

relative CIELAB lab\*

$lab^*lab$  1.0 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  1.0 0.0 0.0

$lab^*ice$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  95.41 -0.97 4.75

$LAB^*LABa$  95.41 0.0 0.0

$LAB^*TCh$  99.99 0.01 -

relative CIELAB lab\*

$lab^*lab$  1.0 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  1.0 0.0 0.0

$lab^*ice$  0.75 0.5 0.25

$lab^*ncE$  0.0 0.5 r99j

relative Inform. Technology (IT)

$olv_i3^*$  0.5 0.5 0.5 (1.0)

$cmy_n3^*$  0.5 0.5 0.5 (0.0)

$olv_i4^*$  1.0 1.0 1.0 0.5

$cmy_n4^*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  53.21 0.04 0.0

$LAB^*LABa$  53.21 0.0 0.0

$LAB^*TCh$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  0.5 0.0 0.0

$lab^*ice$  0.5 0.0 0.0

$lab^*ncE$  0.5 0.0 -

n\* = 1,0

%Gamut

$u^*_{rel} = 149$

%Regularity

$g^*_{H,rel} = 46$

$g^*_{C,rel} = 65$

relative Inform. Technology (IT)

$olv_i3^*$  0.984 1.0 0.5 (1.0)

$cmy_n3^*$  0.016 0.0 0.5 (0.0)

$olv_i4^*$  0.984 1.0 0.5 1.0

$cmy_n4^*$  0.016 0.0 0.5 0.0

standard and adapted CIELAB

$LAB^*LAB$  92.92 -2.44 60.89

$LAB^*LABa$  92.92 -2.46 60.89

$LAB^*TCh$  75.0 60.94 92.32

relative CIELAB lab\*

$lab^*lab$  0.971 -0.019 0.499

$lab^*tch$  0.75 0.5 0.256

$lab^*nch$  0.0 0.5 0.256

relative Natural Colour (NC)

$lab^*lrj$  0.971 0.0 0.5

$lab^*ice$  0.75 0.5 0.25

$lab^*ncE$  0.0 0.5 r99j

standard and adapted CIELAB

$LAB^*LAB$  90.45 -4.92 121.77

$LAB^*LABa$  90.45 -4.93 121.77

$LAB^*TCh$  50.0 121.87 92.32

relative CIELAB lab\*

$lab^*lab$  0.941 -0.04 0.999

$lab^*tch$  0.5 1.0 0.256

$lab^*nch$  0.0 1.0 0.256

relative Natural Colour (NC)

$lab^*lrj$  0.941 0.0 1.0

$lab^*ice$  0.5 1.0 0.25

$lab^*ncE$  0.0 1.0 r99j

standard and adapted CIELAB

$LAB^*LAB$  50.72 -2.42 60.89

$LAB^*LABa$  50.72 -2.47 60.88

$LAB^*TCh$  25.01 60.93 92.33

relative CIELAB lab\*

$lab^*lab$  0.471 -0.019 0.499

$lab^*tch$  0.25 0.5 0.256

$lab^*nch$  0.5 0.5 0.256

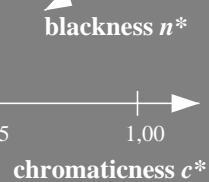
relative Natural Colour (NC)

$lab^*lrj$  0.471 0.0 0.5

$lab^*ice$  0.25 0.5 0.25

$lab^*ncE$  0.5 0.5 100g

n\* = 0,00



## Output: Colorimetric Reflective System TRS18

for hue  $h^* = lab^*h = 92/360 = 0.255$

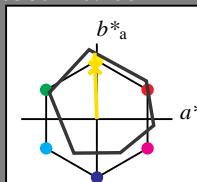
$lab^*tch$  and  $lab^*nch$

D65: hue J

LCH\*Ma: 86 88 92

olv\*Ma: 1.0 0.9 0.0

triangle lightness  $t^*$



## TRS18; adapted (a) CIELAB data

	$L^*=L_a^*$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
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)

$olv_i3^*$  1.0 1.0 1.0 (1.0)

$cmy_n3^*$  0.0 0.0 0.0 (0.0)

$olv_i4^*$  1.0 1.0 1.0 1.0

$cmy_n4^*$  0.0 0.0 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  95.41 -0.97 4.75

$LAB^*LABa$  95.41 0.0 0.0

$LAB^*TCh$  99.99 0.01 -

relative CIELAB lab\*

$lab^*lab$  1.0 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  1.0 0.0 0.0

$lab^*ice$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  90.8 -2.3 48.29

$LAB^*LABa$  90.8 -1.41 43.85

$LAB^*TCh$  75.0 43.87 91.85

relative CIELAB lab\*

$lab^*lab$  0.94 -0.015 0.5

$lab^*tch$  0.75 0.5 0.255

$lab^*nch$  0.0 0.5 0.255

relative Natural Colour (NC)

$lab^*lrj$  0.94 0.0 0.5

$lab^*ice$  0.75 0.5 0.25

$lab^*ncE$  0.0 0.5 j00g

relative Inform. Technology (IT)

$olv_i3^*$  0.5 0.5 0.5 (1.0)

$cmy_n3^*$  0.5 0.5 0.5 (0.0)

$olv_i4^*$  1.0 0.951 0.5 0.5

$cmy_n4^*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  86.19 -3.62 91.83

$LAB^*LABa$  86.19 -2.82 87.69

$LAB^*TCh$  50.0 87.73 91.85

relative CIELAB lab\*

$lab^*lab$  0.881 -0.031 0.999

$lab^*tch$  0.5 1.0 0.255

$lab^*nch$  0.0 1.0 0.255

relative Natural Colour (NC)

$lab^*lrj$  0.881 0.0 1.0

$lab^*ice$  0.5 1.0 0.25

$lab^*ncE$  0.0 1.0 j00g

n\* = 0,00

blackness n\*



3 step scales for constant CIELAB hue 92/360 = 0.255 (right)

UE100-7, 3 step scales for constant CIELAB hue 92/360 = 0.256 (left)

## Input: Colorimetric Reflective System NCS11

for hue  $h^* = lab^*h = 92/360 = 0.256$

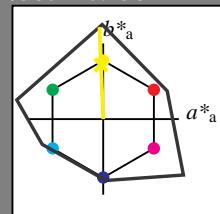
$lab^*tch$  and  $lab^*nch$

D65: hue J

LCH\*Ma: 90 122 92

olv\*Ma: 0.97 1.0 0.0

triangle lightness  $t^*$



### NCS11; adapted (a) CIELAB data

	$L^* = L^*_{a,a}$	$a^*_{a,a}$	$b^*_{a,a}$	$C^*_{ab,a}$	$h^*_{ab,a}$
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

relative Inform. Technology (IT)

$olv^3*$  1.0 1.0 1.0 (1.0)

$cmy3^*$  0.0 0.0 0.0 (0.0)

$olv^4*$  1.0 1.0 1.0 1.0

$cmy4^*$  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

$LAB^*TCh$  99.99 0.01 -

relative CIELAB lab\*

$lab^*lab$  1.0 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  1.0 0.0 0.0

$lab^*ice$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  92.92 -2.44 60.89

$LAB^*LABa$  92.92 -2.46 60.89

$LAB^*TCh$  75.0 60.94 92.32

relative CIELAB lab\*

$lab^*lab$  0.971 -0.019 0.499

$lab^*tch$  0.75 0.5 0.256

$lab^*nch$  0.0 0.5 0.256

relative Natural Colour (NC)

$lab^*lrj$  0.971 0.0 0.5

$lab^*ice$  0.75 0.5 0.25

$lab^*ncE$  0.0 0.5 r99j

relative Inform. Technology (IT)

$olv^3*$  0.5 0.5 0.5 (1.0)

$cmy3^*$  0.5 0.5 0.5 (0.0)

$olv^4*$  1.0 1.0 1.0 0.5

$cmy4^*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  53.21 0.04 0.0

$LAB^*LABa$  53.21 0.0 0.0

$LAB^*TCh$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  0.5 0.0 0.0

$lab^*ice$  0.5 0.0 0.0

$lab^*ncE$  0.5 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  11.01 0.07 0.01

$LAB^*LABa$  11.01 0.0 0.0

$LAB^*TCh$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

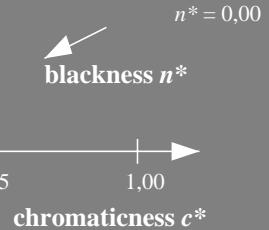
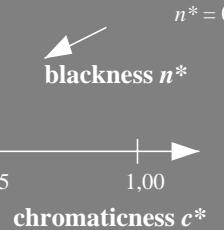
relative Natural Colour (NC)

$lab^*lrj$  0.0 0.0 0.0

$lab^*ice$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$



## Output: Colorimetric Reflective System MRS18a

for hue  $h^* = lab^*h = 92/360 = 0.256$

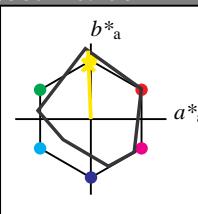
$lab^*tch$  and  $lab^*nch$

D65: hue J

LCH\*Ma: 89 91 92

olv\*Ma: 1.0 0.95 0.0

triangle lightness  $t^*$



### MRS18a; adapted (a) CIELAB data

	$L^* = L^*_{a,a}$	$a^*_{a,a}$	$b^*_{a,a}$	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	49.63	66.8	40.02	77.87	31
JMa	90.7	-7.27	93.19	93.48	94
GMa	52.11	-69.93	11.26	70.85	171
G50BMa	45.03	-36.65	-27.13	45.61	217
BMa	36.65	23.26	-62.27	66.49	290
B50RMa	34.94	57.27	-43.6	71.99	323
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	272

relative Inform. Technology (IT)

$olv^3*$  1.0 1.0 1.0 (1.0)

$cmy3^*$  0.0 0.0 0.0 (0.0)

$olv^4*$  1.0 1.0 1.0 1.0

$cmy4^*$  0.0 0.0 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  95.41 0.01 0.0

$LAB^*LABa$  95.41 0.0 0.0

$LAB^*TCh$  99.99 0.01 -

relative CIELAB lab\*

$lab^*lab$  1.0 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  1.0 0.0 0.0

$lab^*ice$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)

$olv^3*$  0.5 0.5 0.5 (1.0)

$cmy3^*$  0.5 0.5 0.5 (0.0)

$olv^4*$  1.0 0.976 0.5 1.0

$cmy4^*$  0.0 0.024 0.5 0.0

standard and adapted CIELAB

$LAB^*LAB$  92.06 -1.83 45.31

$LAB^*LABa$  92.06 -1.84 45.31

$LAB^*TCh$  75.0 45.35 92.34

relative CIELAB lab\*

$lab^*lab$  0.957 -0.019 0.499

$lab^*tch$  0.75 0.5 0.257

$lab^*nch$  0.0 0.5 0.257

relative Natural Colour (NC)

$lab^*lrj$  0.957 0.0 0.5

$lab^*ice$  0.75 0.5 0.25

$lab^*ncE$  0.0 0.5 j00g

relative Inform. Technology (IT)

$olv^3*$  0.5 0.476 0.0 (1.0)

$cmy3^*$  0.5 0.524 1.0 (0.0)

$olv^4*$  1.0 0.976 0.5 0.5

$cmy4^*$  0.0 0.024 0.5 0.5

standard and adapted CIELAB

$LAB^*LAB$  88.71 -3.67 90.61

$LAB^*LABa$  88.71 -3.69 90.61

$LAB^*TCh$  50.0 90.68 92.34

relative CIELAB lab\*

$lab^*lab$  0.913 -0.04 0.999

$lab^*tch$  0.5 1.0 0.256

$lab^*nch$  0.0 1.0 0.256

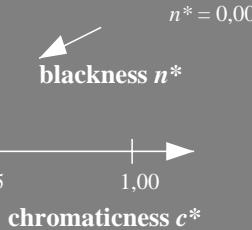
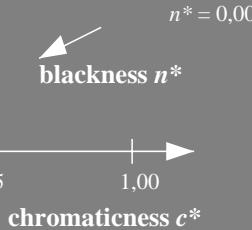
relative Natural Colour (NC)

$lab^*lrj$  0.913 0.0 1.0

$lab^*ice$  0.5 1.0 0.25

$lab^*ncE$  0.0 1.0 j00g

$n^* = 1,0$



UE100-7, 3 step scales for constant CIELAB hue 92/360 = 0.256 (left)

3 step scales for constant CIELAB hue 92/360 = 0.256 (right)

## Input: Colorimetric Reflective System NCS11

for hue  $h^* = lab^*h = 92/360 = 0.256$

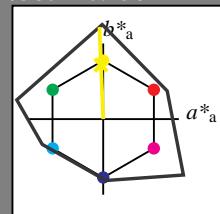
$lab^*tch$  and  $lab^*nch$

D65: hue J

LCH\*Ma: 90 122 92

olv\*Ma: 0.97 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

relative Inform. Technology (IT)

$olv_i3^*$  1.0 1.0 1.0 (1.0)

$cmyn3^*$  0.0 0.0 0.0 (0.0)

$olv_i4^*$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  1.0 0.0 0.0

$lab^*ice$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  92.92 -2.44 60.89

$LAB^*LABa$  92.92 -2.46 60.89

$LAB^*TChA$  75.0 60.94 92.32

relative CIELAB lab\*

$lab^*lab$  0.971 -0.019 0.499

$lab^*tch$  0.75 0.5 0.256

$lab^*nch$  0.0 0.5 0.256

relative Natural Colour (NC)

$lab^*lrj$  0.971 0.0 0.5

$lab^*ice$  0.75 0.5 0.25

$lab^*ncE$  0.0 0.5 r99j

relative Inform. Technology (IT)

$olv_i3^*$  0.5 0.5 0.5 (1.0)

$cmyn3^*$  0.5 0.5 0.5 (0.0)

$olv_i4^*$  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

$LAB^*LABa$  53.21 0.0 0.0

$LAB^*TChA$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  0.5 0.0 0.0

$lab^*ice$  0.5 0.0 0.0

$lab^*ncE$  0.5 0.0 -

relative Inform. Technology (IT)

$olv_i3^*$  0.0 0.0 0.0 (1.0)

$cmyn3^*$  1.0 1.0 1.0 (0.0)

$olv_i4^*$  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 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  0.0 0.0 0.0

$lab^*ice$  0.0 0.0 0.0

$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

%Gamut

$u^*_{rel} = 149$

%Regularity

$g^*_{H,rel} = 46$

$g^*_{C,rel} = 65$

relative Inform. Technology (IT)

$olv_i3^*$  0.984 1.0 0.5 (1.0)

$cmyn3^*$  0.016 0.0 0.5 (0.0)

$olv_i4^*$  0.984 1.0 0.5 1.0

$cmyn4^*$  0.016 0.0 0.5 0.0

standard and adapted CIELAB

$LAB^*LAB$  92.92 -2.44 60.89

$LAB^*LABa$  92.92 -2.46 60.89

$LAB^*TChA$  75.0 60.94 92.32

relative CIELAB lab\*

$lab^*lab$  0.971 -0.019 0.499

$lab^*tch$  0.75 0.5 0.256

$lab^*nch$  0.0 0.5 0.256

relative Natural Colour (NC)

$lab^*lrj$  0.971 0.0 0.5

$lab^*ice$  0.75 0.5 0.25

$lab^*ncE$  0.0 0.5 r99j

relative Inform. Technology (IT)

$olv_i3^*$  0.484 0.5 0.0 (1.0)

$cmyn3^*$  0.516 0.5 1.0 (0.0)

$olv_i4^*$  0.984 1.0 0.5 0.5

$cmyn4^*$  0.016 0.0 0.5 0.5

standard and adapted CIELAB

$LAB^*LAB$  90.45 -4.92 121.77

$LAB^*LABa$  90.45 -4.93 121.77

$LAB^*TChA$  50.0 121.87 92.32

relative CIELAB lab\*

$lab^*lab$  0.941 -0.04 0.999

$lab^*tch$  0.5 1.0 0.256

$lab^*nch$  0.0 1.0 0.256

relative Natural Colour (NC)

$lab^*lrj$  0.941 0.0 1.0

$lab^*ice$  0.5 1.0 0.25

$lab^*ncE$  0.0 1.0 r99j

$n^* = 0,00$

blackness  $n^*$

$n^* = 0,50$

$n^* = 1,00$

chromaticness  $c^*$

## Output: Colorimetric Reflective System NRS18

for hue  $h^* = lab^*h = 92/360 = 0.256$

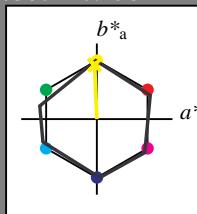
$lab^*tch$  and  $lab^*nch$

D65: hue J

LCH\*Ma: 57 76 92

olv\*Ma: 0.98 1.0 0.0

triangle lightness  $t^*$



### NRS18; adapted (a) CIELAB data

	$L^*=L_a^*$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	56.7	70.66	31.47	77.35	24
JMa	56.7	-1.39	77.37	77.39	91
GMa	56.7	-75.46	17.4	77.45	167
G50BMa	56.7	-71.29	-30.25	77.45	203
BMa	56.7	4.0	-77.3	77.41	273
B50RMa	56.7	63.35	-44.4	77.36	325
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	272

relative Inform. Technology (IT)

$olv_i3^*$  1.0 1.0 1.0 (1.0)

$cmyn3^*$  0.0 0.0 0.0 (0.0)

$olv_i4^*$  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 0.0

$LAB^*LABa$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  1.0 0.0 0.0

$lab^*ice$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)

$olv_i3^*$  0.989 1.0 0.5 (1.0)

$cmyn3^*$  0.011 0.0 0.5 (0.0)

$olv_i4^*$  0.989 1.0 0.5 1.0

$cmyn4^*$  0.011 0.0 0.5 0.5

standard and adapted CIELAB

$LAB^*LAB$  76.05 -1.5 38.01

$LAB^*LABa$  76.05 -1.53 38.00

$LAB^*TChA$  75.0 38.03 92.32

relative CIELAB lab\*

$lab^*lab$  0.75 -0.019 0.499

$lab^*tch$  0.75 0.5 0.256

$lab^*nch$  0.0 0.5 0.256

relative Natural Colour (NC)

$lab^*lrj$  0.75 0.0 0.5

$lab^*ice$  0.75 0.5 0.25

$lab^*ncE$  0.0 0.5 r99j

$n^* = 0,00$

blackness  $n^*$

$n^* = 0,50$

$n^* = 1,00$

chromaticness  $c^*$

$n^* = 0,00$

blackness  $n^*$

3 step scales for constant CIELAB hue 92/360 = 0.256 (right)

UE100-7, 3 step scales for constant CIELAB hue 92/360 = 0.256 (left)

## Input: Colorimetric Reflective System NCS11

for hue  $h^* = lab^*h = 92/360 = 0.256$

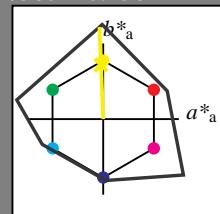
$lab^*tch$  and  $lab^*nch$

D65: hue J

LCH\*Ma: 90 122 92

olv\*Ma: 0.97 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

relative Inform. Technology (IT)

$olv_i3^*$  1.0 1.0 1.0 (1.0)

$cmy_n3^*$  0.0 0.0 0.0 (0.0)

$olv_i4^*$  1.0 1.0 1.0 1.0

$cmy_n4^*$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  92.92 -2.44 60.89

$LAB^*LABa$  92.92 -2.46 60.89

$LAB^*TChA$  75.0 60.94 92.32

relative CIELAB lab\*

$lab^*lab$  0.971 -0.019 0.499

$lab^*tch$  0.75 0.5 0.256

$lab^*nch$  0.0 0.5 0.256

relative Natural Colour (NC)

$lab^*lrij$  0.971 0.0 0.5

$lab^*tce$  0.75 0.5 0.25

$lab^*ncE$  0.0 0.5 r99j

relative Inform. Technology (IT)

$olv_i3^*$  0.5 0.5 0.5 (1.0)

$cmy_n3^*$  0.5 0.5 0.5 (0.0)

$olv_i4^*$  1.0 1.0 1.0 0.5

$cmy_n4^*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  53.21 0.04 0.0

$LAB^*LABa$  53.21 0.0 0.0

$LAB^*TChA$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.5 0.0 0.0

$lab^*tce$  0.5 0.0 0.0

$lab^*ncE$  0.5 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  11.01 0.07 0.01

$LAB^*LABa$  11.01 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*tce$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

%Gamut

$u^*_{rel} = 149$

%Regularity

$g^*_{H,rel} = 46$

$g^*_{C,rel} = 65$

relative Inform. Technology (IT)

$olv_i3^*$  0.984 1.0 0.5 (1.0)

$cmy_n3^*$  0.016 0.0 0.5 (0.0)

$olv_i4^*$  0.984 1.0 0.5 1.0

$cmy_n4^*$  0.016 0.0 0.5 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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.984 1.0 0.5 1.0

$cmy_n4^*$  0.016 0.0 0.5 0.0

standard and adapted CIELAB

$LAB^*LAB$  92.92 -2.44 60.89

$LAB^*LABa$  92.92 -2.46 60.89

$LAB^*TChA$  75.0 60.94 92.32

relative CIELAB lab\*

$lab^*lab$  0.967 1.0 0.0 (1.0)

$cmy_n3^*$  0.033 0.0 1.0 (0.0)

$olv_i4^*$  0.968 1.0 0.0 1.0

$cmy_n4^*$  0.032 0.0 1.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  90.45 -4.92 121.77

$LAB^*LABa$  90.45 -4.93 121.77

$LAB^*TChA$  50.0 121.87 92.32

relative CIELAB lab\*

$lab^*lab$  0.941 -0.04 0.999

$lab^*tch$  0.5 1.0 0.256

$lab^*nch$  0.0 1.0 0.256

relative Natural Colour (NC)

$lab^*lrij$  0.941 0.0 1.0

$lab^*tce$  0.5 1.0 0.25

$lab^*ncE$  0.0 1.0 r99j

$n^* = 0,00$

blackness  $n^*$

chromaticness  $c^*$

## Output: Colorimetric Reflective System NCS18

for hue  $h^* = lab^*h = 92/360 = 0.256$

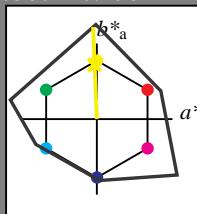
$lab^*tch$  and  $lab^*nch$

D65: hue J

LCH\*Ma: 90 122 92

olv\*Ma: 0.97 1.0 0.0

triangle lightness  $t^*$



### NCS18; adapted (a) CIELAB data

	$L^* = L_a^*$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	47.15	84.63	37.24	92.46	24
JMa	91.37	-1.27	125.03	125.03	91
GMa	63.07	-114.29	25.34	117.07	167
G50BMa	59.47	-80.6	-33.45	87.29	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	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	272

relative Inform. Technology (IT)

$olv_i3^*$  1.0 1.0 1.0 (1.0)

$cmy_n3^*$  0.0 0.0 0.0 (0.0)

$olv_i4^*$  1.0 1.0 1.0 1.0

$cmy_n4^*$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  92.92 -2.45 60.89

$LAB^*LABa$  92.92 -2.46 60.89

$LAB^*TChA$  75.0 60.94 92.32

relative CIELAB lab\*

$lab^*lab$  0.968 1.0 0.5 (1.0)

$cmy_n3^*$  0.033 0.0 1.0 (0.0)

$olv_i4^*$  0.968 1.0 0.5 1.0

$cmy_n4^*$  0.032 0.0 1.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  56.72 0.05 0.0

$LAB^*LABa$  56.72 0.0 0.0

$LAB^*TChA$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.941 -0.04 0.999

$lab^*tch$  0.5 1.0 0.256

$lab^*nch$  0.0 1.0 0.256

relative Natural Colour (NC)

$lab^*lrij$  0.941 0.0 1.0

$lab^*tce$  0.5 1.0 0.25

$lab^*ncE$  0.0 1.0 r99j

$n^* = 1,0$

blackness  $n^*$

chromaticness  $c^*$

$n^* = 0,00$

blackness  $n^*$

chromaticness  $c^*$

UE100-7, 3 step scales for constant CIELAB hue 92/360 = 0.256 (left)

3 step scales for constant CIELAB hue 92/360 = 0.256 (right)

## Input: Colorimetric Reflective System NCS11

for hue  $h^* = lab^*h = 92/360 = 0.256$

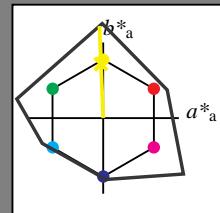
$lab^*tch$  and  $lab^*nch$

D65: hue J

LCH\*Ma: 90 122 92

olv\*Ma: 0.97 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

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

$LAB^*LABa$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  1.0 0.0 0.0

$lab^*ice$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  92.92 -2.44 60.89

$LAB^*LABa$  92.92 -2.46 60.89

$LAB^*TChA$  75.0 60.94 92.32

relative CIELAB lab\*

$lab^*lab$  0.971 -0.019 0.499

$lab^*tch$  0.75 0.5 0.256

$lab^*nch$  0.0 0.5 0.256

relative Natural Colour (NC)

$lab^*lrj$  0.971 0.0 0.5

$lab^*ice$  0.75 0.5 0.25

$lab^*ncE$  0.0 0.5 r99j

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 0.5

$cmyn^4*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  53.21 0.04 0.0

$LAB^*LABa$  53.21 0.0 0.0

$LAB^*TChA$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  0.5 0.0 0.0

$lab^*ice$  0.5 0.0 0.0

$lab^*ncE$  0.5 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  11.01 0.07 0.01

$LAB^*LABa$  11.01 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  0.0 0.0 0.0

$lab^*ice$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

## Output: Colorimetric Reflective System NRS11

for hue  $h^* = lab^*h = 92/360 = 0.256$

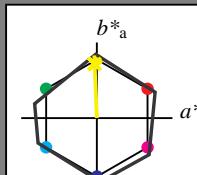
$lab^*tch$  and  $lab^*nch$

D65: hue J

LCH\*Ma: 53 83 92

olv\*Ma: 0.98 1.0 0.0

triangle lightness  $t^*$



### NRS11; adapted (a) CIELAB data

	$L^* = L_a^*$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	53.2	77.06	34.32	84.36	24
JMa	53.2	-1.51	84.38	84.39	91
GMa	53.2	-82.27	18.98	84.44	167
G50BMa	53.2	-77.72	-32.98	84.44	203
BMa	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)

$olv^3*$  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

$LAB^*LABa$  95.41 0.0 0.0

$LAB^*TChA$  99.99 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.984 1.0 0.5 (1.0)

$lab^*tch$  0.016 0.0 0.5 (0.0)

$lab^*nch$  0.984 1.0 0.5 1.0

$cmyn4*$  0.016 0.0 0.5 0.0

standard and adapted CIELAB

$LAB^*LAB$  92.92 -2.44 60.89

$LAB^*LABa$  92.92 -2.46 60.89

$LAB^*TChA$  75.0 60.94 92.32

relative CIELAB lab\*

$lab^*lab$  0.984 1.0 0.5 (1.0)

$lab^*tch$  0.016 0.0 0.5 (0.0)

$lab^*nch$  0.984 1.0 0.5 1.0

$cmyn4*$  0.016 0.0 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 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.984 1.0 0.5 (1.0)

$lab^*tch$  0.016 0.0 0.5 (0.0)

$lab^*nch$  0.984 1.0 0.5 1.0

$cmyn4*$  0.016 0.0 0.5 0.0

standard and adapted CIELAB

$LAB^*LAB$  11.01 0.07 0.01

$LAB^*LABa$  11.01 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  0.0 0.0 0.0

$lab^*ice$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

$n^* = 0,00$

$n^*$

blackness  $n^*$

chromaticness  $c^*$

$n^* = 1,0$

$n^*$

blackness  $n^*$

chromaticness  $c^*$

UE100-7, 3 step scales for constant CIELAB hue 92/360 = 0.256 (left)

3 step scales for constant CIELAB hue 92/360 = 0.256 (right)

$n^* = 0,00$

$n^*$

blackness  $n^*$

chromaticness  $c^*$

## Input: Colorimetric Reflective System NCS11

for hue  $h^* = lab^*h = 92/360 = 0.256$

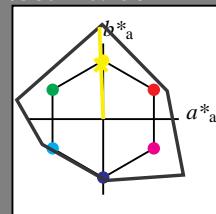
$lab^*tch$  and  $lab^*nch$

D65: hue J

LCH\*Ma: 90 122 92

olv\*Ma: 0.97 1.0 0.0

triangle lightness  $t^*$



%Gamut

$u^*_{rel} = 149$

%Regularity

$g^*_{H,rel} = 46$

$g^*_{C,rel} = 65$

relative Inform. Technology (IT)

$olv13^*$  1.0 1.0 1.0 (1.0)

$cmyn3^*$  0.0 0.0 0.0 (0.0)

$olv14^*$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)

$olv13^*$  0.5 0.5 0.5 (1.0)

$cmyn3^*$  0.5 0.5 0.5 (0.0)

$olv14^*$  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

$LAB^*LABa$  53.21 0.0 0.0

$LAB^*TChA$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.5 0.0 0.0

$lab^*tce$  0.5 0.0 0.0

$lab^*ncE$  0.5 0.0 -

relative Inform. Technology (IT)

$olv13^*$  0.0 0.0 0.0 (1.0)

$cmyn3^*$  1.0 1.0 1.0 (0.0)

$olv14^*$  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 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*tce$  0.0 0.0 -

$lab^*ncE$  1.0 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
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

## Output: Colorimetric Reflective System NCS11

for hue  $h^* = lab^*h = 92/360 = 0.256$

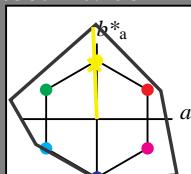
$lab^*tch$  and  $lab^*nch$

D65: hue J

LCH\*Ma: 90 122 92

olv\*Ma: 0.97 1.0 0.0

triangle lightness  $t^*$



%Gamut

$u^*_{rel} = 149$

%Regularity

$g^*_{H,rel} = 46$

$g^*_{C,rel} = 65$

relative Inform. Technology (IT)

$olv13^*$  1.0 1.0 1.0 (1.0)

$cmyn3^*$  0.0 0.0 0.0 (0.0)

$olv14^*$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)

$olv13^*$  0.5 0.5 0.5 (1.0)

$cmyn3^*$  0.016 0.0 0.5 (0.0)

$olv14^*$  0.984 1.0 0.5 1.0

$cmyn4^*$  0.016 0.0 0.5 0.0

standard and adapted CIELAB

$LAB^*LAB$  92.92 -2.44 60.89

$LAB^*LABa$  92.92 -2.46 60.89

$LAB^*TChA$  75.0 60.94 92.32

relative CIELAB lab\*

$lab^*lab$  0.971 -0.019 0.499

$lab^*tch$  0.75 0.5 0.256

$lab^*nch$  0.0 0.5 0.256

relative Natural Colour (NC)

$lab^*lrij$  0.971 0.0 0.5

$lab^*tce$  0.75 0.5 0.25

$lab^*ncE$  0.0 1.0 r99j

relative Inform. Technology (IT)

$olv13^*$  0.967 1.0 0.0 (1.0)

$cmyn3^*$  0.033 0.0 1.0 (0.0)

$olv14^*$  0.968 1.0 0.0 1.0

$cmyn4^*$  0.032 0.0 1.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  90.45 -4.92 121.77

$LAB^*LABa$  90.45 -4.93 121.77

$LAB^*TChA$  50.0 121.87 92.32

relative CIELAB lab\*

$lab^*lab$  0.941 -0.04 0.999

$lab^*tch$  0.5 1.0 0.256

$lab^*nch$  0.0 1.0 0.256

relative Natural Colour (NC)

$lab^*lrij$  0.941 0.0 1.0

$lab^*tce$  0.5 1.0 0.25

$lab^*ncE$  0.5 1.0 0.25

$n^* = 1,0$

$n^* = 0,00$

blackness  $n^*$

chromaticness  $c^*$

## 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

$n^* = 0,00$

blackness  $n^*$

chromaticness  $c^*$

UE100-7, 3 step scales for constant CIELAB hue 92/360 = 0.256 (left)

3 step scales for constant CIELAB hue 92/360 = 0.256 (right)

## Input: Colorimetric Reflective System ORS18

for hue  $h^* = lab^*h = 164/360 = 0.457$

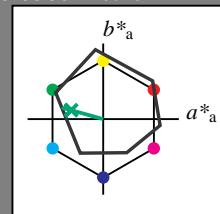
$lab^*tch$  and  $lab^*nch$

D65: hue G

LCH\*Ma: 53 57 164

olv\*Ma: 0.0 1.0 0.25

triangle lightness  $t^*$



### ORS18; adapted (a) CIELAB data

	$L^* = L_a^*$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
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)

$olv^3*$  1.0 1.0 1.0 (1.0)

$cmy^3*$  0.0 0.0 0.0 (0.0)

$olv^4*$  1.0 1.0 1.0 1.0

$cmy^4*$  0.0 0.0 0.0 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 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  1.0 0.0 0.0

$lab^*ice$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  74.1 -27.96 10.94

$LAB^*LABa$  74.1 -27.39 7.62

$LAB^*TChA$  75.0 28.44 164.46

relative CIELAB lab\*

$lab^*lab$  0.725 -0.481 0.134

$lab^*tch$  0.75 0.5 0.457

$lab^*nch$  0.0 0.5 0.457

relative Natural Colour (NC)

$lab^*lrj$  0.725 -0.499 0.0

$lab^*ice$  0.75 0.2 0.5

$lab^*ncE$  0.0 0.5 g00b

relative Inform. Technology (IT)

$olv^3*$  0.5 0.5 0.5 (1.0)

$cmy^3*$  0.5 0.5 0.5 (0.0)

$olv^4*$  1.0 1.0 1.0 0.5

$cmy^4*$  0.0 0.0 0.0 0.5

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 CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  0.5 0.0 0.0

$lab^*ice$  0.5 0.0 0.0

$lab^*ncE$  0.5 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  52.8 -54.95 17.13

$LAB^*LABa$  52.8 -54.79 15.24

$LAB^*TChA$  50.0 56.88 164.45

relative CIELAB lab\*

$lab^*lab$  0.45 -0.962 0.268

$lab^*tch$  0.5 1.0 0.457

$lab^*nch$  0.0 1.0 0.457

relative Natural Colour (NC)

$lab^*lrj$  0.45 -0.999 0.0

$lab^*ice$  0.5 1.0 0.5

$lab^*ncE$  0.0 1.0 199g

$n^* = 1,0$

$n^* = 0,00$

$n^* = 0,50$

chromaticness  $c^*$

$n^* = 0,50$

$n^* = 1,00$

## Output: Colorimetric Reflective System ORS18

for hue  $h^* = lab^*h = 164/360 = 0.457$

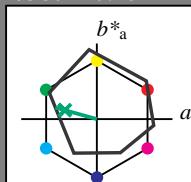
$lab^*tch$  and  $lab^*nch$

D65: hue G

LCH\*Ma: 53 57 164

olv\*Ma: 0.0 1.0 0.25

triangle lightness  $t^*$



### ORS18; adapted (a) CIELAB data

	$L^* = L_a^*$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
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)

$olv^3*$  1.0 1.0 1.0 (1.0)

$cmy^3*$  0.0 0.0 0.0 (0.0)

$olv^4*$  1.0 1.0 1.0 1.0

$cmy^4*$  0.0 0.0 0.0 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 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  1.0 0.0 0.0

$lab^*ice$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  74.1 -27.96 10.94

$LAB^*LABa$  74.1 -27.39 7.62

$LAB^*TChA$  75.0 28.44 164.46

relative CIELAB lab\*

$lab^*lab$  0.725 -0.481 0.134

$lab^*tch$  0.75 0.5 0.457

$lab^*nch$  0.0 0.5 0.457

relative Natural Colour (NC)

$lab^*lrj$  0.725 -0.499 0.0

$lab^*ice$  0.75 0.5 0.5

$lab^*ncE$  0.0 0.5 g00b

relative Inform. Technology (IT)

$olv^3*$  0.5 0.5 0.5 (1.0)

$cmy^3*$  0.5 0.5 0.5 (0.0)

$olv^4*$  0.5 1.0 0.623 1.0

$cmy^4*$  0.5 0.0 0.377 0.0

standard and adapted CIELAB

$LAB^*LAB$  52.8 -54.95 17.13

$LAB^*LABa$  52.8 -54.79 15.24

$LAB^*TChA$  50.0 56.88 164.46

relative CIELAB lab\*

$lab^*lab$  0.45 -0.962 0.268

$lab^*tch$  0.5 1.0 0.457

$lab^*nch$  0.0 1.0 0.457

relative Natural Colour (NC)

$lab^*lrj$  0.45 -0.999 0.0

$lab^*ice$  0.5 1.0 0.5

$lab^*ncE$  0.0 1.0 199g

relative Inform. Technology (IT)

$olv^3*$  0.0 0.0 0.0 (1.0)

$cmy^3*$  1.0 1.0 1.0 (0.0)

$olv^4*$  1.0 1.0 1.0 0.0

$cmy^4*$  0.0 0.0 0.123 0.0

standard and adapted CIELAB

$LAB^*LAB$  52.8 -54.95 17.13

$LAB^*LABa$  52.8 -54.79 15.24

$LAB^*TChA$  50.0 56.88 164.46

relative CIELAB lab\*

$lab^*lab$  0.225 -0.481 0.134

$lab^*tch$  0.25 0.5 0.457

$lab^*nch$  0.5 0.5 0.457

relative Natural Colour (NC)

$lab^*lrj$  0.225 -0.499 0.0

$lab^*ice$  0.25 0.5 0.5

$lab^*ncE$  0.5 0.5 199g

relative Inform. Technology (IT)

$olv^3*$  0.0 0.0 0.0 (1.0)

$cmy^3*$  1.0 1.0 1.0 (0.0)

$olv^4*$  1.0 1.0 1.0 0.0

$cmy^4*$  0.0 0.0 0.123 0.0

standard and adapted CIELAB

$LAB^*LAB$  52.8 -54.95 17.13

$LAB^*LABa$  52.8 -54.79 15.24

$LAB^*TChA$  50.0 56.88 164.46

relative CIELAB lab\*

$lab^*lab$  0.225 -0.481 0.134

$lab^*tch$  0.25 0.5 0.457

$lab^*nch$  0.5 0.5 0.457

relative Natural Colour (NC)

$lab^*lrj$  0.225 -0.499 0.0

$lab^*ice$  0.25 0.5 0.5

$lab^*ncE$  0.5 0.5 199g

relative Inform. Technology (IT)

$olv^3*$  0.0 0.0 0.0 (1.0)

$cmy^3*$  1.0 1.0 1.0 (0.0)

$olv^4*$  1.0 1.0 1.0 0.0

$cmy^4*$  0.0 0.0 0.123 0.0

standard and adapted CIELAB

## Input: Colorimetric Reflective System ORS18

for hue  $h^* = lab^*h = 164/360 = 0.457$

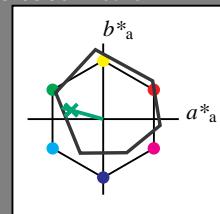
$lab^*tch$  and  $lab^*nch$

D65: hue G

LCH\*Ma: 53 57 164

olv\*Ma: 0.0 1.0 0.25

triangle lightness  $t^*$



### ORS18; adapted (a) CIELAB data

	$L^*=L_a^*$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
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)

$olv_i3^*$  1.0 1.0 1.0 (1.0)

$cmy_n3^*$  0.0 0.0 0.0 (0.0)

$olv_i4^*$  1.0 1.0 1.0 1.0

$cmy_n4^*$  0.0 0.0 0.0 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 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*ice$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  74.1 -27.96 10.94

$LAB^*LABa$  74.1 -27.39 7.62

$LAB^*TChA$  75.0 28.44 164.46

relative CIELAB lab\*

$lab^*lab$  0.725 -0.481 0.134

$lab^*tch$  0.75 0.5 0.457

$lab^*nch$  0.0 0.5 0.457

relative Natural Colour (NC)

$lab^*lrij$  0.725 -0.499 0.0

$lab^*ice$  0.75 0.2 0.5

$lab^*ncE$  0.0 0.5 g00b

relative Inform. Technology (IT)

$olv_i3^*$  0.5 0.5 0.5 (1.0)

$cmy_n3^*$  0.5 0.5 0.5 (0.0)

$olv_i4^*$  1.0 1.0 1.0 0.5

$cmy_n4^*$  0.0 0.0 0.5

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 CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.5 0.0 0.0

$lab^*ice$  0.5 0.0 0.0

$lab^*ncE$  0.5 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.5 -0.46

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*ice$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

$n^* = 0,00$

$n^* = 0,50$

$1,00$

$chromaticness c^*$

$0,25$

$n^* = 0,00$

$blackness n^*$

$1,00$

$chromaticness c^*$

## Output: Colorimetric Reflective System MRS18

for hue  $h^* = lab^*h = 164/360 = 0.457$

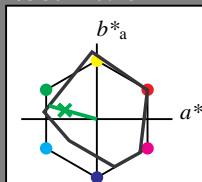
$lab^*tch$  and  $lab^*nch$

D65: hue G

LCH\*Ma: 56 66 164

olv\*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
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)

$olv_i3^*$  1.0 1.0 1.0 (1.0)

$cmy_n3^*$  0.0 0.0 0.0 (0.0)

$olv_i4^*$  1.0 1.0 1.0 1.0

$cmy_n4^*$  0.0 0.0 0.0 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 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*ice$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  74.1 -27.96 10.94

$LAB^*LABa$  74.1 -27.39 7.62

$LAB^*TChA$  75.0 28.44 164.46

relative CIELAB lab\*

$lab^*lab$  0.725 -0.481 0.134

$lab^*tch$  0.75 0.5 0.457

$lab^*nch$  0.0 0.5 0.457

relative Natural Colour (NC)

$lab^*lrij$  0.725 -0.499 0.0

$lab^*ice$  0.75 0.2 0.5

$lab^*ncE$  0.0 0.5 g00b

relative Inform. Technology (IT)

$olv_i3^*$  0.5 0.5 0.5 (1.0)

$cmy_n3^*$  0.5 0.5 0.5 (0.0)

$olv_i4^*$  1.0 1.0 1.0 0.5

$cmy_n4^*$  0.0 0.0 0.5

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 CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.5 0.0 0.0

$lab^*ice$  0.5 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

$n^* = 1,0$

$n^* = 0,50$

$1,00$

$n^* = 0,50$

$blackness n^*$

$1,00$

$chromaticness c^*$

$0,25$

$n^* = 0,00$

$blackness n^*$

$1,00$

$chromaticness c^*$

UE100-7, 3 step scales for constant CIELAB hue 164/360 = 0.457 (left)

3 step scales for constant CIELAB hue 164/360 = 0.457 (right)

## Input: Colorimetric Reflective System ORS18

for hue  $h^* = lab^*h = 164/360 = 0.457$

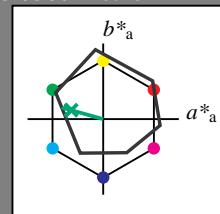
$lab^*tch$  and  $lab^*nch$

D65: hue G

LCH\*Ma: 53 57 164

olv\*Ma: 0.0 1.0 0.25

triangle lightness  $t^*$



### ORS18; adapted (a) CIELAB data

	$L^*=L_a^*$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
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)

$olv^3*$  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

$LAB^*LABa$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*ice$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  74.1 -27.96 10.94

$LAB^*LABa$  74.1 -27.39 7.62

$LAB^*TChA$  75.0 28.44 164.46

relative CIELAB lab\*

$lab^*lab$  0.725 -0.481 0.134

$lab^*tch$  0.75 0.5 0.457

$lab^*nch$  0.0 0.5 0.457

relative Natural Colour (NC)

$lab^*lrij$  0.725 -0.499 0.0

$lab^*ice$  0.75 0.2 0.5

$lab^*ncE$  0.0 0.5 g00b

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 0.5

$cmyn^4*$  0.0 0.0 0.0 0.5

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 CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.5 0.0 0.0

$lab^*ice$  0.5 0.0 0.0

$lab^*ncE$  0.5 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.5 -0.46

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*ice$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

$n^* = 0,00$

$n^* = 0,50$

$n^* = 1,00$

$n^* = 0,50$

$n^* = 1,00$

## Output: Colorimetric Reflective System TRS18

for hue  $h^* = lab^*h = 164/360 = 0.457$

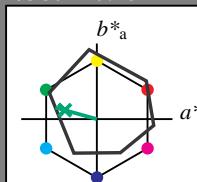
$lab^*tch$  and  $lab^*nch$

D65: hue G

LCH\*Ma: 53 57 164

olv\*Ma: 0.0 1.0 0.25

triangle lightness  $t^*$



### TRS18; adapted (a) CIELAB data

	$L^*=L_a^*$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
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)

$olv^3*$  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

$LAB^*LABa$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*ice$  1.0 0.0 0.0

$lab^*ncE$  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 0.5

$cmyn^4*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  74.1 -27.96 10.94

$LAB^*LABa$  74.1 -27.39 7.62

$LAB^*TChA$  75.0 28.44 164.46

relative CIELAB lab\*

$lab^*lab$  0.725 -0.481 0.134

$lab^*tch$  0.75 0.5 0.457

$lab^*nch$  0.0 0.5 0.457

relative Natural Colour (NC)

$lab^*lrij$  0.725 -0.499 0.0

$lab^*ice$  0.75 0.2 0.5

$lab^*ncE$  0.0 0.5 g00b

relative Inform. Technology (IT)

$olv^3*$  0.0 0.0 0.0 (1.0)

$cmyn^3*$  1.0 1.0 1.0 (0.0)

$olv^4*$  1.0 1.0 1.0 0.0

$cmyn^4*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  52.8 -54.95 17.13

$LAB^*LABa$  52.8 -54.79 15.24

$LAB^*TChA$  50.0 0.0 0.0

relative CIELAB lab\*

$lab^*lab$  0.45 -0.962 0.268

$lab^*tch$  0.5 1.0 0.457

$lab^*nch$  0.0 1.0 0.457

relative Natural Colour (NC)

$lab^*lrij$  0.45 -0.999 0.0

$lab^*ice$  0.5 1.0 0.5

$lab^*ncE$  0.5 0.5 1.99g

$n^* = 1,0$

$n^* = 0,50$

$n^* = 1,00$

$n^* = 0,50$

$n^* = 1,00$

$n^* = 1,0$

$n^* = 0,00$

$n^* = 1,00$

$n^* = 0,50$

$n^* = 1,00$

$n^* = 1,0$

$n^* = 0,50$

$n^* = 1,00$

$n^* = 0,50$

$n^* = 1,00$

$n^* = 0,50$

$n^* = 1,00$

$n^* = 1,0$

$n^* = 0,50$

$n^* = 1,00$

UE100-7, 3 step scales for constant CIELAB hue 164/360 = 0.457 (left)

3 step scales for constant CIELAB hue 164/360 = 0.457 (right)

### Input: Colorimetric Reflective System ORS18

for hue  $h^* = lab^*h = 164/360 = 0.457$

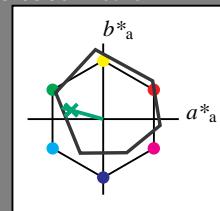
$lab^*tch$  and  $lab^*nch$

D65: hue G

LCH\*Ma: 53 57 164

olv\*Ma: 0.0 1.0 0.25

triangle lightness  $t^*$



### ORS18; adapted (a) CIELAB data

	$L^*=L^*_a$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
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)

$olv^3*$  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

$LAB^*LABa$  95.41 0.0 0.0

$LAB^*TCh$  99.99 0.01 -

relative CIELAB lab\*

$lab^*lab$  1.0 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*ice$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  74.1 -27.96 10.94

$LAB^*LABa$  74.1 -27.39 7.62

$LAB^*TCh$  75.0 28.44 164.46

relative CIELAB lab\*

$lab^*lab$  0.725 -0.481 0.134

$lab^*tch$  0.75 0.5 0.457

$lab^*nch$  0.0 0.5 0.457

relative Natural Colour (NC)

$lab^*lrij$  0.725 -0.499 0.0

$lab^*ice$  0.75 0.2 0.5

$lab^*ncE$  0.0 0.5 g00b

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 0.5

$cmyn^4*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  56.71 -0.23 2.14

$LAB^*LABa$  56.71 0.0 0.0

$LAB^*TCh$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.5 0.0 0.0

$lab^*ice$  0.5 0.0 0.0

$lab^*ncE$  0.5 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.5 -0.46

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TCh$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*ice$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

$n^* = 0,00$

$n^* = 0,00$   
blackness  $n^*$

$n^* = 0,50$   
 $n^* = 1,00$

chromaticness  $c^*$

### Output: Colorimetric Reflective System MRS18a

for hue  $h^* = lab^*h = 162/360 = 0.451$

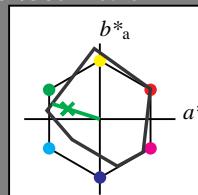
$lab^*tch$  and  $lab^*nch$

D65: hue G

LCH\*Ma: 56 66 162

olv\*Ma: 0.11 1.0 0.0

triangle lightness  $t^*$



### MRS18a; adapted (a) CIELAB data

	$L^*=L^*_a$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	49.63	66.8	40.02	77.87	31
JMa	90.7	-7.27	93.19	93.48	94
GMa	52.11	-69.93	11.26	70.85	171
G50BMa	45.03	-36.65	-27.13	45.61	217
BMa	36.65	23.26	-62.27	66.49	290
B50RMa	34.94	57.27	-43.6	71.99	323
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	272

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

$LAB^*LABa$  95.41 0.0 0.0

$LAB^*TCh$  99.99 0.01 -

relative CIELAB lab\*

$lab^*lab$  1.0 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*ice$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  74.1 -27.96 10.94

$LAB^*LABa$  74.1 -27.39 7.62

$LAB^*TCh$  75.0 28.44 164.46

relative CIELAB lab\*

$lab^*lab$  0.725 -0.481 0.134

$lab^*tch$  0.75 0.5 0.457

$lab^*nch$  0.0 0.5 0.457

relative Natural Colour (NC)

$lab^*lrij$  0.725 -0.499 0.0

$lab^*ice$  0.75 0.2 0.5

$lab^*ncE$  0.0 0.5 g00b

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 0.5

$cmyn^4*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  56.71 -0.23 2.14

$LAB^*LABa$  56.71 0.0 0.0

$LAB^*TCh$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.5 0.0 0.0

$lab^*ice$  0.5 0.0 0.0

$lab^*ncE$  0.5 0.0 -

$n^* = 1,0$

$n^* = 0,00$

$n^* = 0,00$   
blackness  $n^*$

$n^* = 0,50$   
 $n^* = 1,00$

chromaticness  $c^*$

$n^* = 1,0$

$n^* = 0,50$   
 $n^* = 1,00$

chromaticness  $c^*$

UE100-7, 3 step scales for constant CIELAB hue 164/360 = 0.457 (left)

3 step scales for constant CIELAB hue 162/360 = 0.451 (right)

## Input: Colorimetric Reflective System ORS18

for hue  $h^* = lab^*h = 164/360 = 0.457$

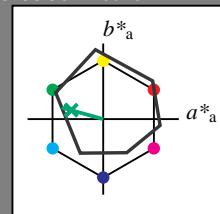
$lab^*tch$  and  $lab^*nch$

D65: hue G

LCH\*Ma: 53 57 164

olv\*Ma: 0.0 1.0 0.25

triangle lightness  $t^*$



### ORS18; adapted (a) CIELAB data

	$L^*=L_a^*$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
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)

$olv_i3^*$  1.0 1.0 1.0 (1.0)

$cmy_n3^*$  0.0 0.0 0.0 (0.0)

$olv_i4^*$  1.0 1.0 1.0 1.0

$cmy_n4^*$  0.0 0.0 0.0 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 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*ice$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  74.1 -27.96 10.94

$LAB^*LABa$  74.1 -27.39 7.62

$LAB^*TChA$  75.0 28.44 164.46

relative CIELAB lab\*

$lab^*lab$  0.725 -0.481 0.134

$lab^*tch$  0.75 0.5 0.457

$lab^*nch$  0.0 0.5 0.457

relative Natural Colour (NC)

$lab^*lrij$  0.725 -0.499 0.0

$lab^*ice$  0.75 0.2 0.5

$lab^*ncE$  0.0 0.5 g00b

relative Inform. Technology (IT)

$olv_i3^*$  0.5 0.5 0.5 (1.0)

$cmy_n3^*$  0.5 0.5 0.5 (0.0)

$olv_i4^*$  1.0 1.0 1.0 0.5

$cmy_n4^*$  0.0 0.0 0.0 0.5

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 CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.5 0.0 0.0

$lab^*ice$  0.5 0.0 0.0

$lab^*ncE$  0.5 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.5 -0.46

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*ice$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

$n^* = 0,00$

$n^* = 0,50$

0,25

0,50

0,75

1,00

$n^* = 0,50$

$n^* = 1,00$

chromaticness  $c^*$

## Output: Colorimetric Reflective System NRS18

for hue  $h^* = lab^*h = 162/360 = 0.451$

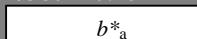
$lab^*tch$  and  $lab^*nch$

D65: hue G

LCH\*Ma: 57 73 162

olv\*Ma: 0.08 1.0 0.0

triangle lightness  $t^*$



### NRS18; adapted (a) CIELAB data

	$L^*=L_a^*$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	56.7	70.66	31.47	77.35	24
JMa	56.7	-1.39	77.37	77.39	91
GMa	56.7	-75.46	17.4	77.45	167
G50BMa	56.7	-71.29	-30.25	77.45	203
BMa	56.7	4.0	-77.3	77.41	273
B50RMa	56.7	63.35	-44.4	77.36	325
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	272

%Gamut

$u^*_{rel} = 93$

%Regularity

$g^*_{H,rel} = 57$

$g^*_{C,rel} = 59$

relative Inform. Technology (IT)

$olv_i3^*$  1.0 1.0 1.0 (1.0)

$cmy_n3^*$  0.0 0.0 0.0 (0.0)

$olv_i4^*$  1.0 1.0 1.0 1.0

$cmy_n4^*$  0.0 0.0 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  95.41 0.0 0.0

$LAB^*LABa$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*ice$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  74.1 -27.96 10.94

$LAB^*LABa$  74.1 -27.39 7.62

$LAB^*TChA$  75.0 28.44 164.46

relative CIELAB lab\*

$lab^*lab$  0.725 -0.481 0.134

$lab^*tch$  0.75 0.5 0.457

$lab^*nch$  0.0 0.5 0.457

relative Natural Colour (NC)

$lab^*lrij$  0.725 -0.499 0.0

$lab^*ice$  0.75 0.2 0.5

$lab^*ncE$  0.0 0.5 g00b

relative Inform. Technology (IT)

$olv_i3^*$  0.5 0.5 0.5 (1.0)

$cmy_n3^*$  0.5 0.5 0.5 (0.0)

$olv_i4^*$  0.5 1.0 0.5 0.5

$cmy_n4^*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  52.8 -54.95 17.13

$LAB^*LABa$  52.8 -54.79 15.24

$LAB^*TChA$  50.0 56.88 164.46

relative CIELAB lab\*

$lab^*lab$  0.45 -0.962 0.268

$lab^*tch$  0.5 1.0 0.457

$lab^*nch$  0.0 1.0 0.457

relative Natural Colour (NC)

$lab^*lrij$  0.45 -0.999 0.0

$lab^*ice$  0.5 1.0 0.5

$lab^*ncE$  0.0 1.0 -

relative Inform. Technology (IT)

$olv_i3^*$  0.0 0.0 0.0 (1.0)

$cmy_n3^*$  1.0 1.0 1.0 (0.0)

$olv_i4^*$  1.0 1.0 1.0 0.0

$cmy_n4^*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.09 0.02

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*ice$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

relative Inform. Technology (IT)

$olv_i3^*$  0.081 1.0 0.0 (1.0)

$cmy_n3^*$  0.919 0.0 1.0 (0.0)

$olv_i4^*$  0.081 1.0 0.0 1.0

$cmy_n4^*$  0.919 0.0 1.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  56.7 -69.43 22.23

$LAB^*LABa$  56.7 -69.49 22.22

$LAB^*TChA$  50.0 72.96 162.27

relative CIELAB lab\*

$lab^*lab$  0.5 -0.951 0.304

$lab^*tch$  0.5 1.0 0.451

$lab^*nch$  0.0 1.0 0.451

relative Natural Colour (NC)

$lab^*lrij$  0.5 -0.999 0.0

$lab^*ice$  0.5 1.0 0.5

$lab^*ncE$  0.0 1.0 g00b

$n^* = 0,00$

relative Inform. Technology (IT)



## Input: Colorimetric Reflective System ORS18

for hue  $h^* = lab^*h = 164/360 = 0.457$

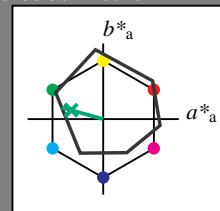
$lab^*tch$  and  $lab^*nch$

D65: hue G

LCH\*Ma: 53 57 164

olv\*Ma: 0.0 1.0 0.25

triangle lightness  $t^*$



### ORS18; adapted (a) CIELAB data

	$L^*=L_a^*$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
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)

$olv^3*$  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

$LAB^*LABa$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrf$  1.0 0.0 0.0

$lab^*ice$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  74.1 -27.96 10.94

$LAB^*LABa$  74.1 -27.39 7.62

$LAB^*TChA$  75.0 28.44 164.46

relative CIELAB lab\*

$lab^*lab$  0.725 -0.481 0.134

$lab^*tch$  0.75 0.5 0.457

$lab^*nch$  0.0 0.5 0.457

relative Natural Colour (NC)

$lab^*lrf$  0.725 -0.499 0.0

$lab^*ice$  0.75 0.2 0.5

$lab^*ncE$  0.0 0.5 g00b

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 0.5

$cmyn^4*$  0.0 0.0 0.0 0.5

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 CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrf$  0.5 0.0 0.0

$lab^*ice$  0.5 0.0 0.0

$lab^*ncE$  0.5 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.5 -0.46

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrf$  0.0 0.0 0.0

$lab^*ice$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

$n^* = 0,00$

$n^* = 0,50$

0,25

0,50

0,75

1,00

$n^* = 0,50$

$n^* = 1,00$

## Input: Colorimetric Reflective System ORS18

for hue  $h^* = lab^*h = 164/360 = 0.457$

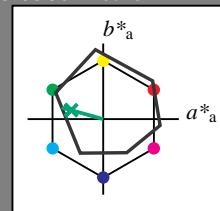
$lab^*tch$  and  $lab^*nch$

D65: hue G

LCH\*Ma: 53 57 164

olv\*Ma: 0.0 1.0 0.25

triangle lightness  $t^*$



### ORS18; adapted (a) CIELAB data

	$L^*=L_a^*$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
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)

$olv^3*$  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

$LAB^*LABa$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*ice$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  74.1 -27.96 10.94

$LAB^*LABa$  74.1 -27.39 7.62

$LAB^*TChA$  75.0 28.44 164.46

relative CIELAB lab\*

$lab^*lab$  0.725 -0.481 0.134

$lab^*tch$  0.75 0.5 0.457

$lab^*nch$  0.0 0.5 0.457

relative Natural Colour (NC)

$lab^*lrij$  0.725 -0.499 0.0

$lab^*ice$  0.75 0.2 0.5

$lab^*ncE$  0.0 0.5 g00b

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 0.5

$cmyn^4*$  0.0 0.0 0.5

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 CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.5 0.0 0.0

$lab^*ice$  0.5 0.0 0.0

$lab^*ncE$  0.5 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.5 -0.46

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*ice$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

$n^* = 0,00$

$n^* = 0,50$

$n^* = 1,00$

$blackness n^*$

$chromaticness c^*$

## Output: Colorimetric Reflective System NCS11

for hue  $h^* = lab^*h = 162/360 = 0.451$

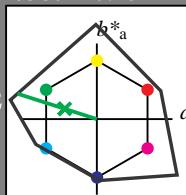
$lab^*tch$  and  $lab^*nch$

D65: hue G

LCH\*Ma: 65 110 162

olv\*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
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)

$olv^3*$  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

$LAB^*LABa$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*ice$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)

$olv^3*$  0.541 1.0 0.5 (1.0)

$cmyn^3*$  0.459 0.0 0.5 (0.0)

$olv^4*$  0.541 1.0 0.5 1.0

$cmyn^4*$  0.459 0.0 0.5 0.0

standard and adapted CIELAB

$LAB^*LAB$  80.4 -52.43 16.79

$LAB^*LABa$  80.4 -52.45 16.79

$LAB^*TChA$  75.0 55.08 162.25

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)

$lab^*lrij$  0.822 -0.499 0.0

$lab^*ice$  0.75 0.5 0.5

$lab^*ncE$  0.0 0.5 j99g

relative Inform. Technology (IT)

$olv^3*$  0.401 0.5 0.0 (1.0)

$cmyn^3*$  0.959 0.5 1.0 (0.0)

$olv^4*$  0.541 1.0 0.5 0.5

$cmyn^4*$  0.459 0.0 0.5 0.5

standard and adapted CIELAB

$LAB^*LAB$  38.2 -52.41 16.8

$LAB^*LABa$  38.2 -52.46 16.78

$LAB^*TChA$  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

$lab^*nch$  0.5 0.5 0.451

relative Natural Colour (NC)

$lab^*lrij$  0.322 -0.499 0.0

$lab^*ice$  0.25 0.5 0.5

$lab^*ncE$  0.5 0.5 g00b

$n^* = 1,0$

$n^* = 0,50$

$n^* = 1,00$

$blackness n^*$

$chromaticness c^*$

$n^* = 0,00$

$n^* = 0,50$

$n^* = 1,00$

$blackness n^*$

$chromaticness c^*$

UE100-7, 3 step scales for constant CIELAB hue 164/360 = 0.457 (left)

3 step scales for constant CIELAB hue 162/360 = 0.451 (right)





## Input: Colorimetric Reflective System MRS18

for hue  $h^* = lab^*h = 164/360 = 0.457$

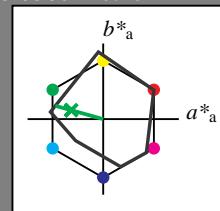
$lab^*tch$  and  $lab^*nch$

D65: hue G

LCH\*Ma: 56 66 164

olv\*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
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)

$olv^3*$  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

$LAB^*LABa$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 0.0

$lab^*ncE$  0.0 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\*

$lab^*lab$  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 0.5

$cmyn^4*$  0.0 0.0 0.0 0.5

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 CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.5 0.0 0.0

$lab^*tce$  0.5 0.0 0.0

$lab^*ncE$  0.5 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)

$olv^4*$  0.5 1.0 1.0 0.5

$cmyn^4*$  0.449 0.0 0.5 0.5

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.5 -0.46

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*tce$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

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	

relative Inform. Technology (IT)					
$olv^3*$	0.551	1.0	0.5	(1.0)	
$cmyn^3*$	0.449	0.0	0.5	(0.0)	
$olv^4*$	0.551	1.0	0.5	1.0	
$cmyn^4*$	0.449	0.0	0.5	0.0	

relative Inform. Technology (IT)					
$olv^3*$	0.511	0.5	0.5	(1.0)	
$cmyn^3*$	0.949	0.5	1.0	(0.0)	
$olv^4*$	0.551	1.0	0.5	0.5	
$cmyn^4*$	0.449	0.0	0.5	0.5	

$n^* = 0,00$

relative Inform. Technology (IT)					
$olv^3*$	0.103	1.0	0.0	(1.0)	
$cmyn^3*$	0.897	0.0	1.0	(0.0)	
$olv^4*$	0.103	1.0	0.0	1.0	
$cmyn^4*$	0.897	0.0	1.0	0.0	

relative Inform. Technology (IT)					
$olv^3*$	0.746	-0.481	0.134		
$cmyn^3*$	0.75	0.5	0.457		
$olv^4*$	0.74	0.5	0.457		
$cmyn^4*$	0.74	0.5	0.457		

$n^* = 0,50$

blackness  $n^*$

chromaticness  $c^*$

$n^* = 0,50$

blackness  $n^*$

chromaticness  $c^*$

## Output: Colorimetric Reflective System TRS18

for hue  $h^* = lab^*h = 164/360 = 0.457$

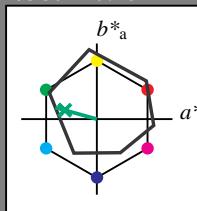
$lab^*tch$  and  $lab^*nch$

D65: hue G

LCH\*Ma: 53 57 164

olv\*Ma: 0.0 1.0 0.25

triangle lightness  $t^*$



### TRS18; adapted (a) CIELAB data

	$L^* = L^*_a$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
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	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)					
$olv^3*$	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	

relative Inform. Technology (IT)					
$olv^3*$	0.551	1.0	0.5	(1.0)	
$cmyn^3*$	0.949	0.5	1.0	(0.0)	
$olv^4*$	0.551	1.0	0.5	0.5	
$cmyn^4*$	0.449	0.0	0.5	0.5	

relative Inform. Technology (IT)					
$olv^3*$	0.225	0.5	0.457		
$cmyn^3*$	0.25	0.5	0.457		
$olv^4*$	0.225	0.5	0.457		
$cmyn^4*$	0.225	0.5	0.457		

relative Inform. Technology (IT)					
$olv^3*$	0.225	0.25	0.5	(0.0)	
$cmyn^3*$	0.25	0.25	0.5	(0.0)	
$olv^4*$	0.225	0.25	0.5	0.5	
$cmyn^4*$	0.225	0.25	0.5	0.5	

$n^* = 1,0$

3 step scales for constant CIELAB hue 164/360 = 0.457 (right)

UE100-7, 3 step scales for constant CIELAB hue 164/360 = 0.457 (left)

## Input: Colorimetric Reflective System MRS18

for hue  $h^* = lab^*h = 164/360 = 0.457$

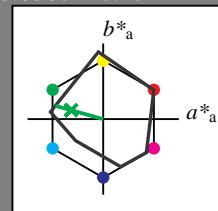
$lab^*tch$  and  $lab^*nch$

D65: hue G

LCH\*Ma: 56 66 164

olv\*Ma: 0.1 1.0 0.0

triangle lightness  $t^*$



### MRS18; adapted (a) CIELAB data

	$L^* = L^*_{ab}$	$a^*_{ab}$	$b^*_{ab}$	$C^*_{ab,a}$	$h^*_{ab,a}$
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

%Gamut

$u^*_{rel} = 91$

%Regularity

$g^*_{H,rel} = 41$

$g^*_{C,rel} = 52$

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

$LAB^*LABa$  95.41 0.0 0.0

$LAB^*TCh$  99.99 0.01 -

relative CIELAB lab\*

$lab^*lab$  1.0 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*ice$  1.0 0.0 0.0

$lab^*ncE$  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 0.5

$cmyn^4*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  56.71 -0.23 2.14

$LAB^*LABa$  56.71 0.0 0.0

$LAB^*TCh$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.5 0.0 0.0

$lab^*ice$  0.5 0.0 0.0

$lab^*ncE$  0.5 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)

$olv^4*$  1.0 1.0 1.0 0.0

$cmyn^4*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.5 -0.46

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TCh$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*ice$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

### MRS18; adapted (a) CIELAB data

	$L^* = L^*_{ab}$	$a^*_{ab}$	$b^*_{ab}$	$C^*_{ab,a}$	$h^*_{ab,a}$
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)

$olv^3*$  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

$LAB^*LABa$  95.41 0.0 0.0

$LAB^*TCh$  99.99 0.01 -

relative CIELAB lab\*

$lab^*lab$  1.0 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*ice$  1.0 0.0 0.0

$lab^*ncE$  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 0.5

$cmyn^4*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  56.71 -0.23 2.14

$LAB^*LABa$  56.71 0.0 0.0

$LAB^*TCh$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.746 -0.481 0.134

$lab^*tch$  0.75 0.5 0.457

$lab^*nch$  0.0 0.5 0.457

relative Natural Colour (NC)

$lab^*lrij$  0.746 -0.499 0.0

$lab^*ice$  0.75 0.5 0.457

$lab^*ncE$  0.0 0.5 0.457

relative Inform. Technology (IT)

$olv^3*$  0.051 0.5 0.0 (1.0)

$cmyn^3*$  0.949 0.5 1.0 (0.0)

$olv^4*$  0.551 1.0 0.5 0.5

$cmyn^4*$  0.449 0.5 0.5 0.5

standard and adapted CIELAB

$LAB^*LAB$  56.71 -0.23 2.14

$LAB^*LABa$  56.71 0.0 0.0

$LAB^*TCh$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.246 -0.481 0.134

$lab^*tch$  0.25 0.5 0.457

$lab^*nch$  0.5 0.5 0.457

relative Natural Colour (NC)

$lab^*lrij$  0.246 -0.499 0.0

$lab^*ice$  0.25 0.5 0.457

$lab^*ncE$  0.5 0.5 0.457

relative Inform. Technology (IT)

$olv^3*$  0.0 0.0 0.0 (1.0)

$cmyn^3*$  1.0 1.0 1.0 (0.0)

$olv^4*$  1.0 1.0 1.0 0.0

$cmyn^4*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.5 -0.46

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TCh$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

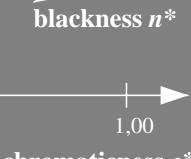
relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*ice$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$



$n^* = 0,00$

$n^* = 0,50$

$n^* = 1,00$

$n^* = 0,25$

$n^* = 0,50$

$n^* = 1,00$

$n^* = 0,25$

$n^* = 0,50$

$n^* = 1,00$

$n^* = 0,25$

$n^* = 0,50$

$n^* = 1,00$

$n^* = 0,25$

$n^* = 0,50$

$n^* = 1,00$

$n^* = 0,25$

$n^* = 0,50$

$n^* = 1,00$

$n^* = 0,25$

$n^* = 0,50$

$n^* = 1,00$

$n^* = 0,25$

$n^* = 0,50$

$n^* = 1,00$

$n^* = 0,25$

$n^* = 0,50$

$n^* = 1,00$

$n^* = 0,25$

$n^* = 0,50$

$n^* = 1,00$

$n^* = 0,25$

$n^* = 0,50$

$n^* = 1,00$

$n^* = 0,25$

$n^* = 0,50$

$n^* = 1,00$

$n^* = 0,25$

$n^* = 0,50$

$n^* = 1,00$

### Input: Colorimetric Reflective System MRS18

for hue  $h^* = lab^*h = 164/360 = 0.457$

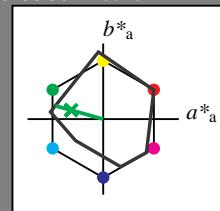
$lab^*tch$  and  $lab^*nch$

D65: hue G

LCH\*Ma: 56 66 164

olv\*Ma: 0.1 1.0 0.0

triangle lightness  $t^*$



### MRS18; adapted (a) CIELAB data

	$L^* = L^*_{ab}$	$a^*_{ab}$	$b^*_{ab}$	$C^*_{ab,a}$	$h^*_{ab,a}$
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)

$olv^3*$  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

$LAB^*LABa$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*ice$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  75.74 -32.2 12.22

$LAB^*LABa$  75.74 -31.6 8.79

$LAB^*TChA$  75.0 32.81 164.46

relative CIELAB lab\*

$lab^*lab$  0.746 -0.481 0.134

$lab^*tch$  0.75 0.5 0.457

$lab^*nch$  0.0 0.5 0.457

relative Natural Colour (NC)

$lab^*lrij$  0.746 -0.499 0.0

$lab^*ice$  0.75 0.2 0.5

$lab^*ncE$  0.0 0.5 j99g

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 0.5

$cmyn^4*$  0.0 0.0 0.0 0.5

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 CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.5 0.0 0.0

$lab^*ice$  0.5 0.0 0.0

$lab^*ncE$  0.5 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.5 -0.46

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*ice$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

### 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

$LAB^*LAB$  75.74 -32.2 12.22

$LAB^*LABa$  75.74 -31.6 8.79

$LAB^*TChA$  75.0 32.81 164.46

relative CIELAB lab\*

$lab^*lab$  0.746 -0.481 0.134

$lab^*tch$  0.75 0.5 0.457

$lab^*nch$  0.0 0.5 0.457

relative Natural Colour (NC)

$lab^*lrij$  0.746 -0.499 0.0

$lab^*ice$  0.75 0.2 0.5

$lab^*ncE$  0.0 0.5 j99g

### 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 0.5

$cmyn^4*$  0.0 0.0 0.0 0.5

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 CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.0 0.5 0.457

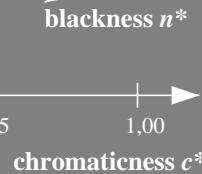
relative Natural Colour (NC)

$lab^*lrij$  0.5 0.0 0.0

$lab^*ice$  0.5 0.0 0.5

$lab^*ncE$  0.0 0.5 g00b

$n^* = 0,00$



$n^* = 0,00$

$n^* = 0,50$

$n^* = 1,00$

chromaticness  $c^*$

### Output: Colorimetric Reflective System NRS18

for hue  $h^* = lab^*h = 162/360 = 0.451$

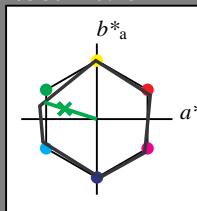
$lab^*tch$  and  $lab^*nch$

D65: hue G

LCH\*Ma: 57 73 162

olv\*Ma: 0.08 1.0 0.0

triangle lightness  $t^*$



### NRS18; adapted (a) CIELAB data

	$L^* = L^*_{ab}$	$a^*_{ab}$	$b^*_{ab}$	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	56.7	70.66	31.47	77.35	24
JMa	56.7	-1.39	77.37	77.39	91
GMa	56.7	-75.46	17.4	77.45	167
G50BMa	56.7	-71.29	-30.25	77.45	203
BMa	56.7	4.0	-77.3	77.41	273
B50RMa	56.7	63.35	-44.4	77.36	325
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	272

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 0.0

$LAB^*LABa$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*ice$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  76.05 -34.7 11.12

$LAB^*LABa$  76.05 -34.73 11.11

$LAB^*TChA$  75.0 36.48 162.26

relative CIELAB lab\*

$lab^*lab$  0.75 -0.475 0.152

$lab^*tch$  0.75 0.5 0.451

$lab^*nch$  0.0 0.5 0.451

relative Natural Colour (NC)

$lab^*lrij$  0.75 -0.499 0.0

$lab^*ice$  0.75 0.5 0.5

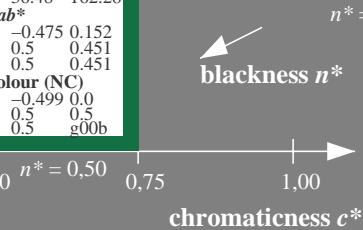
$lab^*ncE$  0.0 0.5 g00b

$n^* = 0,00$

$n^* = 0,50$

$n^* = 1,00$

blackness  $n^*$



$n^* = 0,00$

$n^* = 0,50$

$n^* = 1,00$

chromaticness  $c^*$

3 step scales for constant CIELAB hue 162/360 = 0.451 (right)

UE100-7, 3 step scales for constant CIELAB hue 164/360 = 0.457 (left)

### Input: Colorimetric Reflective System MRS18

for hue  $h^* = lab^*h = 164/360 = 0.457$

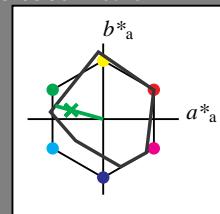
$lab^*tch$  and  $lab^*nch$

D65: hue G

LCH\*Ma: 56 66 164

olv\*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
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

%Gamut

$u^*_{rel} = 91$

%Regularity

$g^*_{H,rel} = 41$

$g^*_{C,rel} = 52$

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

$LAB^*LABa$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 0.0

$lab^*ncE$  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 0.5

$cmyn^4*$  0.0 0.0 0.0 0.5

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 CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.5 0.0 0.0

$lab^*tce$  0.5 0.0 0.0

$lab^*ncE$  0.5 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)

$olv^4*$  1.0 1.0 1.0 0.0

$cmyn^4*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.5 -0.46

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*tce$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

### 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)

$olv^3*$  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

$LAB^*LABa$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 0.0

$lab^*ncE$  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 0.5

$cmyn^4*$  0.0 0.0 0.0 0.5

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 CIELAB lab\*

$lab^*lab$  0.746 -0.481 0.134

$lab^*tch$  0.75 0.5 0.457

$lab^*nch$  0.0 0.5 0.457

relative Natural Colour (NC)

$lab^*lrij$  0.746 -0.499 0.0

$lab^*tce$  0.75 0.2 0.5

$lab^*ncE$  0.0 0.5 0.499g

relative Inform. Technology (IT)

$olv^3*$  0.0 0.0 0.0 (1.0)

$cmyn^3*$  1.0 1.0 1.0 (0.0)

$olv^4*$  1.0 1.0 1.0 0.0

$cmyn^4*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.5 -0.46

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.246 -0.481 0.134

$lab^*tch$  0.25 0.5 0.457

$lab^*nch$  0.5 0.5 0.457

relative Natural Colour (NC)

$lab^*lrij$  0.246 -0.499 0.0

$lab^*tce$  0.25 0.5 0.5

$lab^*ncE$  0.5 0.5 0.499g

relative Inform. Technology (IT)

$olv^3*$  0.0 0.0 0.0 (1.0)

$cmyn^3*$  1.0 1.0 1.0 (0.0)

$olv^4*$  1.0 1.0 1.0 0.0

$cmyn^4*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.5 -0.46

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.246 -0.481 0.134

$lab^*tch$  0.25 0.5 0.457

$lab^*nch$  0.5 0.5 0.457

relative Natural Colour (NC)

$lab^*lrij$  0.246 -0.499 0.0

$lab^*tce$  0.25 0.5 0.5

$lab^*ncE$  0.5 0.5 0.499g

relative Inform. Technology (IT)

$olv^3*$  0.0 0.0 0.0 (1.0)

$cmyn^3*$  1.0 1.0 1.0 (0.0)

$olv^4*$  1.0 1.0 1.0 0.0

$cmyn^4*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.5 -0.46

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.246 -0.481 0.134

$lab^*tch$  0.25 0.5 0.457

$lab^*nch$  0.5 0.5 0.457

relative Natural Colour (NC)

$lab^*lrij$  0.246 -0.499 0.0

$lab^*tce$  0.25 0.5 0.5

$lab^*ncE$  0.5 0.5 0.499g

relative Inform. Technology (IT)

$olv^3*$  0.0 0.0 0.0 (1.0)

$cmyn^3*$  1.0 1.0 1.0 (0.0)

$olv^4*$  1.0 1.0 1.0 0.0

$cmyn^4*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.5 -0.46

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.246 -0.481 0.134

$lab^*tch$  0.25 0.5 0.457

$lab^*nch$  0.5 0.5 0.457

relative Natural Colour (NC)

$lab^*lrij$  0.246 -0.499 0.0

$lab^*tce$  0.25 0.5 0.5

$lab^*ncE$  0.5 0.5 0.499g

relative Inform. Technology (IT)

## Input: Colorimetric Reflective System MRS18

for hue  $h^* = lab^*h = 164/360 = 0.457$

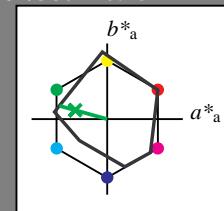
$lab^*tch$  and  $lab^*nch$

D65: hue G

LCH\*Ma: 56 66 164

olv\*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
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)

$olv^3*$  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

$LAB^*LABa$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*ice$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  75.74 -32.2 12.22

$LAB^*LABa$  75.74 -31.6 8.79

$LAB^*TChA$  75.0 32.81 164.46

relative CIELAB lab\*

$lab^*lab$  0.746 -0.481 0.134

$lab^*tch$  0.75 0.5 0.457

$lab^*nch$  0.0 0.5 0.457

relative Natural Colour (NC)

$lab^*lrij$  0.746 -0.499 0.0

$lab^*ice$  0.75 0.2 0.5

$lab^*ncE$  0.0 0.5 j99g

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 0.5

$cmyn^4*$  0.0 0.0 0.0 0.5

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 CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.5 0.0 0.0

$lab^*ice$  0.5 0.0 0.0

$lab^*ncE$  0.5 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  37.04 -31.47 9.6

$LAB^*LABa$  37.04 -31.6 8.78

$LAB^*TChA$  25.01 32.81 164.47

relative CIELAB lab\*

$lab^*lab$  0.246 -0.481 0.134

$lab^*tch$  0.25 0.5 0.457

$lab^*nch$  0.5 0.5 0.457

relative Natural Colour (NC)

$lab^*lrij$  0.246 -0.499 0.0

$lab^*ice$  0.25 0.5 0.5

$lab^*ncE$  0.5 0.5 g00b

$n^* = 1,0$

0,25 0,50  $n^* = 0,50$

chromaticness  $c^*$

0,25 0,50  $n^* = 0,50$

blackness  $n^*$

## Output: Colorimetric Reflective System NRS11

for hue  $h^* = lab^*h = 162/360 = 0.451$

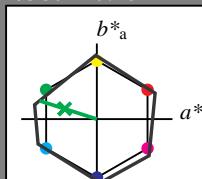
$lab^*tch$  and  $lab^*nch$

D65: hue G

LCH\*Ma: 53 80 162

olv\*Ma: 0.08 1.0 0.0

triangle lightness  $t^*$



### NRS11; adapted (a) CIELAB data

	$L^* = L^*_a$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	53.2	77.06	34.32	84.36	24
JMa	53.2	-1.51	84.38	84.39	91
GMa	53.2	-82.27	18.98	84.44	167
G50BMa	53.2	-77.72	-32.98	84.44	203
BMa	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)

$olv^3*$  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

$LAB^*LABa$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*ice$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  74.3 -37.84 12.13

$LAB^*LABa$  74.3 -37.87 12.12

$LAB^*TChA$  75.0 39.77 162.25

relative CIELAB lab\*

$lab^*lab$  0.75 -0.475 0.152

$lab^*tch$  0.75 0.5 0.451

$lab^*nch$  0.0 0.5 0.451

relative Natural Colour (NC)

$lab^*lrij$  0.75 -0.499 0.0

$lab^*ice$  0.75 0.5 0.5

$lab^*ncE$  0.0 0.5 j99g

relative Inform. Technology (IT)

$olv^3*$  0.54 1.0 0.5 (1.0)

$cmyn^3*$  0.46 0.0 0.5 (0.0)

$olv^4*$  0.54 1.0 0.5 1.0

$cmyn^4*$  0.46 0.0 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 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.5 0.0 0.0

$lab^*ice$  0.5 0.0 0.0

$lab^*ncE$  0.5 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)

$olv^4*$  1.0 1.0 1.0 0.0

$cmyn^4*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  11.01 0.07 0.01

$LAB^*LABa$  11.01 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*ice$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 0,00$

blackness  $n^*$

$n^* = 0,50$

chromaticness  $c^*$

$n^* = 1,0$

$n^* = 0,00$

blackness  $n^*$

$n^* = 0,50$

chromaticness  $c^*$

$n^* = 1,0$

UE100-7, 3 step scales for constant CIELAB hue 164/3

## Input: Colorimetric Reflective System MRS18

for hue  $h^* = lab^*h = 164/360 = 0.457$

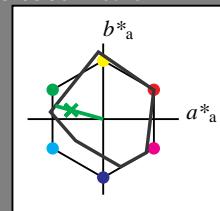
$lab^*tch$  and  $lab^*nch$

D65: hue G

LCH\*Ma: 56 66 164

olv\*Ma: 0.1 1.0 0.0

triangle lightness  $t^*$



### MRS18; adapted (a) CIELAB data

	$L^* = L^*_{ab}$	$a^*_{ab}$	$b^*_{ab}$	$C^*_{ab,a}$	$h^*_{ab,a}$
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

%Gamut

$u^*_{rel} = 91$

%Regularity

$g^*_{H,rel} = 41$

$g^*_{C,rel} = 52$

relative Inform. Technology (IT)  
 $olv^3*$  1.0 1.0 1.0 (1.0)  
 $cmy^3*$  0.0 0.0 0.0 (0.0)  
 $olv^4*$  1.0 1.0 1.0 1.0  
 $cmy^4*$  0.0 0.0 0.0 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 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)  
 $olv^3*$  0.5 0.5 0.5 (1.0)  
 $cmy^3*$  0.5 0.5 0.5 (0.0)  
 $olv^4*$  1.0 1.0 1.0 0.5  
 $cmy^4*$  0.0 0.0 0.0 0.5

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 CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.5 0.0 0.0

$lab^*tce$  0.5 0.0 0.0

$lab^*ncE$  0.5 0.0 -

relative Inform. Technology (IT)  
 $olv^3*$  0.0 0.0 0.0 (1.0)  
 $cmy^3*$  1.0 1.0 1.0 (0.0)

$olv^4*$  1.0 1.0 1.0 0.0

$cmy^4*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB  
 $LAB^*LAB$  18.02 0.5 -0.46  
 $LAB^*LABa$  18.02 0.0 0.0  
 $LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

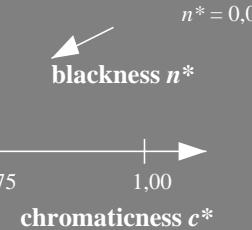
relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*tce$  0.0 0.0 -

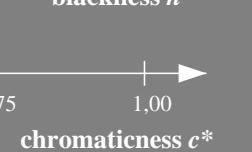
$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$



$n^* = 0,00$

blackness  $n^*$



$chromaticness c^*$

## Output: Colorimetric Reflective System NCS11

for hue  $h^* = lab^*h = 162/360 = 0.451$

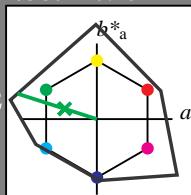
$lab^*tch$  and  $lab^*nch$

D65: hue G

LCH\*Ma: 65 110 162

olv\*Ma: 0.08 1.0 0.0

triangle lightness  $t^*$



%Gamut

$u^*_{rel} = 149$

%Regularity

$g^*_{H,rel} = 46$

$g^*_{C,rel} = 65$

relative Inform. Technology (IT)  
 $olv^3*$  1.0 1.0 1.0 (1.0)  
 $cmy^3*$  0.0 0.0 0.0 (0.0)  
 $olv^4*$  1.0 1.0 1.0 1.0  
 $cmy^4*$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)  
 $olv^3*$  0.541 1.0 0.5 (1.0)  
 $cmy^3*$  0.459 0.0 0.5 (0.0)

$olv^4*$  0.541 1.0 0.5 1.0  
 $cmy^4*$  0.459 0.0 0.5 0.0

standard and adapted CIELAB  
 $LAB^*LAB$  80.4 -52.43 16.79  
 $LAB^*LABa$  80.4 -52.45 16.79  
 $LAB^*TChA$  75.0 55.08 162.25

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)

$lab^*lrij$  0.822 -0.499 0.0

$lab^*tce$  0.75 0.5 0.5

$lab^*ncE$  0.0 0.5 0.0

relative Inform. Technology (IT)  
 $olv^3*$  0.083 1.0 0.0 (1.0)  
 $cmy^3*$  0.917 0.0 1.0 (0.0)

$olv^4*$  0.083 1.0 0.0 1.0  
 $cmy^4*$  0.917 0.0 1.0 0.0

standard and adapted CIELAB  
 $LAB^*LAB$  65.41 -104.893 58  
 $LAB^*LABa$  65.41 -104.923 57  
 $LAB^*TChA$  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)

$lab^*lrij$  0.645 -0.999 0.0

$lab^*tce$  0.5 1.0 0.5

$lab^*ncE$  0.0 1.0 0.0

relative Inform. Technology (IT)  
 $olv^3*$  0.041 0.5 0.0 (1.0)  
 $cmy^3*$  0.959 0.5 1.0 (0.0)

$olv^4*$  0.541 1.0 0.5 0.5  
 $cmy^4*$  0.459 0.0 0.5 0.5

standard and adapted CIELAB  
 $LAB^*LAB$  38.2 -52.41 16.68  
 $LAB^*LABa$  38.2 -52.46 16.78  
 $LAB^*TChA$  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

$lab^*nch$  0.5 0.5 0.451

relative Natural Colour (NC)

$lab^*lrij$  0.322 -0.499 0.0

$lab^*tce$  0.25 0.5 0.5

$lab^*ncE$  0.5 0.5 0.0

relative Inform. Technology (IT)  
 $olv^3*$  0.0 0.0 0.0 (1.0)

$cmy^3*$  1.0 1.0 1.0 (0.0)

$olv^4*$  1.0 1.0 1.0 1.0  
 $cmy^4*$  1.0 1.0 1.0 1.0

standard and adapted CIELAB  
 $LAB^*LAB$  11.01 0.07 0.01  
 $LAB^*LABa$  11.01 0.0 0.0  
 $LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*tce$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

blackness  $n^*$

$chromaticness c^*$

UE100-7, 3 step scales for constant CIELAB hue 164/360 = 0.457 (left)

3 step scales for constant CIELAB hue 162/360 = 0.451 (right)

## Input: Colorimetric Reflective System TRS18

for hue  $h^* = lab^*h = 164/360 = 0.457$

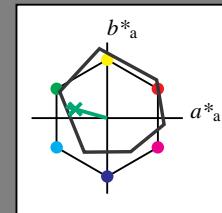
$lab^*tch$  and  $lab^*nch$

D65: hue G

LCH\*Ma: 53 57 164

olv\*Ma: 0.0 1.0 0.25

triangle lightness  $t^*$



### TRS18; adapted (a) CIELAB data

	$L^* = L_a^*$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
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)

$olv_i3^*$  1.0 1.0 1.0 (1.0)

$cmy_n3^*$  0.0 0.0 0.0 (0.0)

$olv_i4^*$  1.0 1.0 1.0 1.0

$cmy_n4^*$  0.0 0.0 0.0 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 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  1.0 0.0 0.0

$lab^*ice$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  74.1 -27.96 10.94

$LAB^*LABa$  74.1 -27.39 7.62

$LAB^*TChA$  75.0 28.44 164.46

relative CIELAB lab\*

$lab^*lab$  0.725 -0.481 0.134

$lab^*tch$  0.75 0.5 0.457

$lab^*nch$  0.0 0.5 0.457

relative Natural Colour (NC)

$lab^*lrj$  0.725 -0.499 0.0

$lab^*ice$  0.75 0.2 0.5

$lab^*ncE$  0.0 0.5 g00b

relative Inform. Technology (IT)

$olv_i3^*$  0.5 0.5 0.5 (1.0)

$cmy_n3^*$  0.5 0.5 0.5 (0.0)

$olv_i4^*$  1.0 1.0 1.0 0.5

$cmy_n4^*$  0.0 0.0 0.0 0.5

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 CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  0.5 0.0 0.0

$lab^*ice$  0.5 0.0 0.0

$lab^*ncE$  0.5 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.5 -0.46

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  0.0 0.0 0.0

$lab^*ice$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

$n^* = 0,00$

$n^* = 0,50$

$n^* = 1,00$

$blackness n^*$

$chromaticness c^*$

## Output: Colorimetric Reflective System ORS18

for hue  $h^* = lab^*h = 164/360 = 0.457$

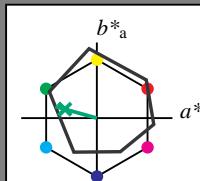
$lab^*tch$  and  $lab^*nch$

D65: hue G

LCH\*Ma: 53 57 164

olv\*Ma: 0.0 1.0 0.25

triangle lightness  $t^*$



### ORS18; adapted (a) CIELAB data

	$L^* = L_a^*$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
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)

$olv_i3^*$  1.0 1.0 1.0 (1.0)

$cmy_n3^*$  0.0 0.0 0.0 (0.0)

$olv_i4^*$  1.0 1.0 1.0 1.0

$cmy_n4^*$  0.0 0.0 0.0 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 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  1.0 0.0 0.0

$lab^*ice$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  74.1 -27.96 10.94

$LAB^*LABa$  74.1 -27.39 7.62

$LAB^*TChA$  75.0 28.44 164.46

relative CIELAB lab\*

$lab^*lab$  0.725 -0.481 0.134

$lab^*tch$  0.75 0.5 0.457

$lab^*nch$  0.0 0.5 0.457

relative Natural Colour (NC)

$lab^*lrj$  0.725 -0.499 0.0

$lab^*ice$  0.75 0.5 0.5

$lab^*ncE$  0.0 0.5 g00b

relative Inform. Technology (IT)

$olv_i3^*$  0.5 0.5 0.5 (1.0)

$cmy_n3^*$  0.5 0.5 0.5 (0.0)

$olv_i4^*$  1.0 1.0 1.0 0.5

$cmy_n4^*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  52.8 -54.95 17.13

$LAB^*LABa$  52.8 -54.79 15.24

$LAB^*TChA$  50.0 56.88 164.46

relative CIELAB lab\*

$lab^*lab$  0.45 -0.962 0.268

$lab^*tch$  0.5 1.0 0.457

$lab^*nch$  0.0 1.0 0.457

relative Natural Colour (NC)

$lab^*lrj$  0.45 -0.999 0.0

$lab^*ice$  0.5 1.0 0.5

$lab^*ncE$  0.5 0.5 199g

$n^* = 1,0$

$n^* = 0,00$

$n^* = 0,50$

$n^* = 1,00$

$blackness n^*$

$chromaticness c^*$

$n^* = 0,00$

$n^* = 0,50$

$n^* = 1,00$

$blackness n^*$

$chromaticness c^*$

UE100-7, 3 step scales for constant CIELAB hue 164/360 = 0.457 (left)

3 step scales for constant CIELAB hue 164/360 = 0.457 (right)

## Input: Colorimetric Reflective System TRS18

for hue  $h^* = lab^*h = 164/360 = 0.457$

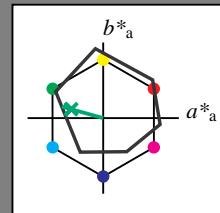
$lab^*tch$  and  $lab^*nch$

D65: hue G

LCH\*Ma: 53 57 164

olv\*Ma: 0.0 1.0 0.25

triangle lightness  $t^*$



### TRS18; adapted (a) CIELAB data

	$L^*=L_a^*$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
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)

$olv^3*$  1.0 1.0 1.0 (1.0)

$cmy^3*$  0.0 0.0 0.0 (0.0)

$olv^4*$  1.0 1.0 1.0 1.0

$cmy^4*$  0.0 0.0 0.0 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 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrf$  1.0 0.0 0.0

$lab^*ice$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  74.1 -27.96 10.94

$LAB^*LABa$  74.1 -27.39 7.62

$LAB^*TChA$  75.0 28.44 164.46

relative CIELAB lab\*

$lab^*lab$  0.725 -0.481 0.134

$lab^*tch$  0.75 0.5 0.457

$lab^*nch$  0.0 0.5 0.457

relative Natural Colour (NC)

$lab^*lrf$  0.725 -0.499 0.0

$lab^*ice$  0.75 0.2 0.5

$lab^*ncE$  0.0 0.5 g00b

relative Inform. Technology (IT)

$olv^3*$  0.5 0.5 0.5 (1.0)

$cmy^3*$  0.5 0.5 0.5 (0.0)

$olv^4*$  1.0 1.0 1.0 0.5

$cmy^4*$  0.0 0.0 0.5

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 CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrf$  0.5 0.0 0.0

$lab^*ice$  0.5 0.0 0.0

$lab^*ncE$  0.5 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.5 -0.46

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrf$  0.0 0.0 0.0

$lab^*ice$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

$n^* = 1,0,0,0$

chromaticness  $c^*$

$n^* = 0,0,0$

blackness  $n^*$

$n^* = 0,50$

$n^* = 1,0,0,0$

blackness  $n^*$

$n^* = 0,50$

$n^* = 1,0,0,0$

blackness  $n^*$

$n^* = 0,25$

$n^* = 1,0,0,0$

blackness  $n^*$

$n^* = 0,0,0$

## Input: Colorimetric Reflective System TRS18

for hue  $h^* = lab^*h = 164/360 = 0.457$

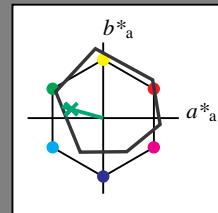
$lab^*tch$  and  $lab^*nch$

D65: hue G

LCH\*Ma: 53 57 164

olv\*Ma: 0.0 1.0 0.25

triangle lightness  $t^*$



### TRS18; adapted (a) CIELAB data

	$L^* = L_a^*$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
O Ma	47.94	65.37	50.52	82.62	38
Y Ma	90.37	-10.27	91.77	92.34	96
L Ma	50.9	-62.79	34.95	71.87	151
C Ma	58.62	-30.35	-45.01	54.3	236
V Ma	25.71	31.11	-44.42	54.24	305
M Ma	48.13	75.27	-8.35	75.73	354
N Ma	18.01	0.0	0.0	0.0	0
W Ma	95.41	0.0	0.0	0.0	0
R CIE	39.92	58.66	26.98	64.56	25
J CIE	81.26	-2.17	67.76	67.79	92
G CIE	52.23	-42.26	11.75	43.87	164
B CIE	30.57	1.15	-46.84	46.87	271

relative Inform. Technology (IT)

$olv_i3^*$  1.0 1.0 1.0 (1.0)

$cmy_n3^*$  0.0 0.0 0.0 (0.0)

$olv_i4^*$  1.0 1.0 1.0 1.0

$cmy_n4^*$  0.0 0.0 0.0 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 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*ice$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)

$olv_i3^*$  0.5 0.5 0.5 (1.0)

$cmy_n3^*$  0.5 0.5 0.5 (0.0)

$olv_i4^*$  1.0 1.0 1.0 0.5

$cmy_n4^*$  0.0 0.0 0.0 0.5

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 CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.5 0.0 0.0

$lab^*ice$  0.5 0.0 0.0

$lab^*ncE$  0.5 0.0 -

relative Inform. Technology (IT)

$olv_i3^*$  0.0 0.0 0.0 (1.0)

$cmy_n3^*$  1.0 1.0 1.0 (0.0)

$olv_i4^*$  1.0 1.0 1.0 0.0

$cmy_n4^*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.5 -0.46

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*ice$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

	$L^* = L_a^*$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
O Ma	0.225	-0.481	0.134		
Y Ma	0.25	0.5	0.457		
L Ma	0.5	0.5	0.457		
C Ma	0.225	-0.499	0.0		
V Ma	0.25	0.5	0.5		
M Ma	0.225	-0.499	0.0		
N Ma	0.5	0.5	0.457		
W Ma	0.225	-0.499	0.0		
R CIE	0.225	-0.481	0.134		
J CIE	0.25	0.5	0.457		
G CIE	0.225	-0.499	0.0		
B CIE	0.5	0.5	0.457		

	$L^* = L_a^*$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
O Ma	0.225	-0.481	0.134		
Y Ma	0.25	0.5	0.457		
L Ma	0.5	0.5	0.457		
C Ma	0.225	-0.499	0.0		
V Ma	0.25	0.5	0.5		
M Ma	0.225	-0.499	0.0		
N Ma	0.5	0.5	0.457		
W Ma	0.225	-0.499	0.0		
R CIE	0.225	-0.481	0.134		
J CIE	0.25	0.5	0.457		
G CIE	0.225	-0.499	0.0		
B CIE	0.5	0.5	0.457		

	$L^* = L_a^*$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
O Ma	0.225	-0.481	0.134		
Y Ma	0.25	0.5	0.457		
L Ma	0.5	0.5	0.457		
C Ma	0.225	-0.499	0.0		
V Ma	0.25	0.5	0.5		
M Ma	0.225	-0.499	0.0		
N Ma	0.5	0.5	0.457		
W Ma	0.225	-0.499	0.0		
R CIE	0.225	-0.481	0.134		
J CIE	0.25	0.5	0.457		
G CIE	0.225	-0.499	0.0		
B CIE	0.5	0.5	0.457		

	$L^* = L_a^*$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
O Ma	0.225	-0.481	0.134		
Y Ma	0.25	0.5	0.457		
L Ma	0.5	0.5	0.457		
C Ma	0.225	-0.499	0.0		
V Ma	0.25	0.5	0.5		
M Ma	0.225	-0.499	0.0		
N Ma	0.5	0.5	0.457		
W Ma	0.225	-0.499	0.0		
R CIE	0.225	-0.481	0.134		
J CIE	0.25	0.5	0.457		
G CIE	0.225	-0.499	0.0		
B CIE	0.5	0.5	0.457		

	$L^* = L_a^*$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
O Ma	0.225	-0.481	0.134		
Y Ma	0.25	0.5	0.457		
L Ma	0.5	0.5	0.457		
C Ma	0.225	-0.499	0.0		
V Ma	0.25	0.5	0.5		
M Ma	0.225	-0.499	0.0		
N Ma	0.5	0.5	0.457		
W Ma	0.225	-0.499	0.0		
R CIE	0.225	-0.481	0.134		
J CIE	0.25	0.5	0.457		
G CIE	0.225	-0.499	0.0		
B CIE	0.5	0.5	0.457		

	$L^* = L_a^*$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
O Ma	0.225	-0.481	0.134		
Y Ma	0.25	0.5	0.457		
L Ma	0.5	0.5	0.457		
C Ma	0.225	-0.499	0.0		
V Ma	0.25	0.5	0.5		
M Ma	0.225	-0.499	0.0		
N Ma	0.5	0.5	0.457		
W Ma	0.225	-0.499	0.0		
R CIE	0.225	-0.481	0.134		
J CIE	0.25	0.5	0.457		
G CIE	0.225	-0.499	0.0		
B CIE	0.5	0.5	0.457		

	$L^* = L_a^*$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
O Ma	0.225	-0.481	0.134		
Y Ma	0.25	0.5	0.457		
L Ma	0.5	0.5	0.457		
C Ma	0.225	-0.499	0.0		
V Ma	0.25	0.5	0.5		
M Ma	0.225	-0.499	0.0		
N Ma	0.5	0.5	0.457		
W Ma	0.225	-0.499	0.0		
R CIE	0.225	-0.481	0.134		
J CIE	0.25	0.5	0.457		
G CIE	0.225	-0.499	0.0		
B CIE	0.5	0.5	0.457		

	$L^* = L_a^*$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
O Ma	0.225	-0.481	0.134		
Y Ma	0.25	0.5	0.		



## Input: Colorimetric Reflective System TRS18

for hue  $h^* = lab^*h = 164/360 = 0.457$

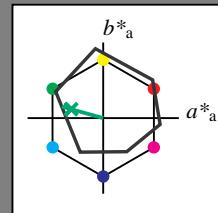
$lab^*tch$  and  $lab^*nch$

D65: hue G

LCH\*Ma: 53 57 164

olv\*Ma: 0.0 1.0 0.25

triangle lightness  $t^*$



### TRS18; adapted (a) CIELAB data

	$L^*=L_a^*$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
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)

$olv^3*$  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

$LAB^*LABa$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrf$  1.0 0.0 0.0

$lab^*ice$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  74.1 -27.96 10.94

$LAB^*LABa$  74.1 -27.39 7.62

$LAB^*TChA$  75.0 28.44 164.46

relative CIELAB lab\*

$lab^*lab$  0.725 -0.481 0.134

$lab^*tch$  0.75 0.5 0.457

$lab^*nch$  0.0 0.5 0.457

relative Natural Colour (NC)

$lab^*lrf$  0.725 -0.499 0.0

$lab^*ice$  0.75 0.2 0.5

$lab^*ncE$  0.0 0.5 g00b

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 0.5

$cmyn^4*$  0.0 0.0 0.0 0.5

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 CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrf$  0.5 0.0 0.0

$lab^*ice$  0.5 0.0 0.0

$lab^*ncE$  0.5 0.0 -

$n^* = 1,0$

%Gamut

$u^*_{rel} = 93$

%Regularity

$g^*_{H,rel} = 57$

$g^*_{C,rel} = 59$

	$L^*=L_a^*$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
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)

$olv^3*$  0.5 1.0 1.0 (1.0)

$cmyn^3*$  0.5 0.0 0.0 (0.0)

$olv^4*$  1.0 1.0 1.0 1.0

$cmyn^4*$  0.5 0.0 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  74.1 -27.96 10.94

$LAB^*LABa$  74.1 -27.39 7.62

$LAB^*TChA$  75.0 28.44 164.46

relative CIELAB lab\*

$lab^*lab$  0.725 -0.481 0.134

$lab^*tch$  0.75 0.5 0.457

$lab^*nch$  0.0 0.5 0.457

relative Natural Colour (NC)

$lab^*lrf$  0.725 -0.499 0.0

$lab^*ice$  0.75 0.2 0.5

$lab^*ncE$  0.0 0.5 g00b

relative Inform. Technology (IT)

$olv^3*$  0.0 0.5 0.5 (1.0)

$cmyn^3*$  1.0 0.0 0.5 (0.0)

$olv^4*$  0.0 1.0 1.0 0.5

$cmyn^4*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  52.8 -54.95 17.13

$LAB^*LABa$  52.8 -54.79 15.24

$LAB^*TChA$  50.0 56.88 164.45

relative CIELAB lab\*

$lab^*lab$  0.45 -0.962 0.268

$lab^*tch$  0.5 1.0 0.457

$lab^*nch$  0.0 1.0 0.457

relative Natural Colour (NC)

$lab^*lrf$  0.45 -0.999 0.0

$lab^*ice$  0.5 1.0 0.5

$lab^*ncE$  0.0 1.0 199g

$n^* = 0,00$

relative Inform. Technology (IT)

$olv^3*$  0.0 1.0 1.0 (1.0)

$cmyn^3*$  0.5 0.5 0.5 (0.0)

$olv^4*$  1.0 1.0 1.0 0.5

$cmyn^4*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  52.8 -54.95 17.13

$LAB^*LABa$  52.8 -54.79 15.24

$LAB^*TChA$  50.0 56.88 164.45

relative CIELAB lab\*

$lab^*lab$  0.45 -0.962 0.268

$lab^*tch$  0.5 1.0 0.457

$lab^*nch$  0.0 1.0 0.457

relative Natural Colour (NC)

$lab^*lrf$  0.45 -0.999 0.0

$lab^*ice$  0.5 1.0 0.5

$lab^*ncE$  0.0 1.0 -

$n^* = 0,50$

chromaticness  $c^*$

$n^* = 0,50$

$n^* = 1,00$

$n^* = 1,00$

blackness  $n^*$

$n^* = 0,25$

$n^* = 0,50$

$n^* = 0,75$

$n^* = 1,00$

## Output: Colorimetric Reflective System NRS18

for hue  $h^* = lab^*h = 162/360 = 0.451$

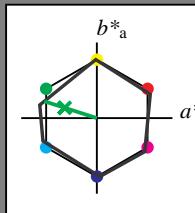
$lab^*tch$  and  $lab^*nch$

D65: hue G

LCH\*Ma: 57 73 162

olv\*Ma: 0.08 1.0 0.0

triangle lightness  $t^*$



	$L^*=L_a^*$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	56.7	70.66	31.47	77.35	24
JMa	56.7	-1.39	77.37	77.39	91
GMa	56.7	-75.46	17.4	77.45	167
G50BMa	56.7	-71.29	-30.25	77.45	203
BMa	56.7	4.0	-77.3	77.41	273
B50RMa	56.7	63.35	-44.4	77.36	325
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	272

%Gamut

$u^*_{rel} = 100$

%Regularity

$g^*_{H,rel} = 47$

$g^*_{C,rel} = 100$

relative Inform. Technology (IT)

$olv^3*$  1.0 1.0 1.0 (1.0)

$cmyn^3*$  0.919 0.0 1.0 (0.0)

$olv^4*$  0.919 0.0 1.0 0.0

$cmyn^4*$  0.919 0.0 1.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  76.05 -34.7 11.12

$LAB^*LABa$  76.05 -34.73 11.11

$LAB^*TChA$  75.0 36.48 162.26

relative CIELAB lab\*

$lab^*lab$  0.75 -0.475 0.152

$lab^*tch$  0.75 0.5 0.451

$lab^*nch$  0.0 0.5 0.451

relative Natural Colour (NC)

$lab^*lrf$  0.75 -0.499 0.0

### Input: Colorimetric Reflective System TRS18

for hue  $h^* = lab^*h = 164/360 = 0.457$

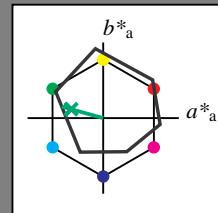
$lab^*tch$  and  $lab^*nch$

D65: hue G

LCH\*Ma: 53 57 164

olv\*Ma: 0.0 1.0 0.25

triangle lightness  $t^*$



### TRS18; adapted (a) CIELAB data

	$L^*=L_a^*$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
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)

$olv^3*$  1.0 1.0 1.0 (1.0)

$cmyn3*$  0.0 0.0 0.0 (0.0)

$olv^4*$  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

$LAB^*LABa$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*ice$  1.0 0.0 0.0

$lab^*ncE$  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\*

$lab^*lab$  0.5 0.5 0.5 (1.0)

$cmyn3*$  0.5 0.5 0.5 (0.0)

$olv^4*$  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

$LAB^*LABa$  56.71 0.0 0.0

$LAB^*TChA$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.5 0.0 0.0

$lab^*ice$  0.5 0.0 0.0

$lab^*ncE$  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 CIELAB lab\*

$olv^3*$  0.0 0.0 0.0 (1.0)

$cmyn3*$  1.0 1.0 1.0 (0.0)

$olv^4*$  1.0 1.0 1.0 0.0

$cmyn4*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.5 -0.46

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*ice$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

$n^* = 0,25$

$n^* = 0,50$

$n^* = 0,75$

$n^* = 1,00$

chromaticness  $c^*$

$n^* = 0,00$

blackness  $n^*$

$n^* = 0,25$

$n^* = 0,50$

$n^* = 0,75$

$n^* = 1,00$

chromaticness  $c^*$

### Output: Colorimetric Reflective System NCS18

for hue  $h^* = lab^*h = 162/360 = 0.451$

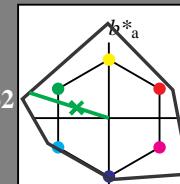
$lab^*tch$  and  $lab^*nch$

D65: hue G

LCH\*Ma: 65 110 162

olv\*Ma: 0.08 1.0 0.0

triangle lightness  $t^*$



### NCS18; adapted (a) CIELAB data

	$L^*=L_a^*$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	47.15	84.63	37.24	92.46	24
JMa	91.37	-1.27	125.03	125.03	91
GMa	63.07	-114.29	25.34	117.07	167
G50BMa	59.47	-80.61	-33.45	87.29	203
BMa	49.01	3.63	-81.2	81.29	273
B50RMa	44.06	106.07	-73.94	129.31	325
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	272

relative Inform. Technology (IT)

$olv^3*$  1.0 1.0 1.0 (1.0)

$cmyn3*$  0.0 0.0 0.0 (0.0)

$olv^4*$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*ice$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  80.4 -52.44 16.79

$LAB^*LABa$  80.4 -52.46 16.78

$LAB^*TChA$  75.0 55.09 162.26

relative CIELAB lab\*

$lab^*lab$  0.806 -0.475 0.152

$lab^*tch$  0.75 0.5 0.451

$lab^*nch$  0.0 0.5 0.451

relative Natural Colour (NC)

$lab^*lrij$  0.806 -0.499 0.0

$lab^*ice$  0.75 0.5 0.5

$lab^*ncE$  0.0 0.5 j99g

standard and adapted CIELAB

$LAB^*LAB$  65.4 -104.9 33.56

$LAB^*LABa$  65.4 -104.933.55

$LAB^*TChA$  50.0 110.19 162.27

relative CIELAB lab\*

$lab^*lab$  0.612 -0.951 0.304

$lab^*tch$  0.5 1.0 0.451

$lab^*nch$  0.0 1.0 0.451

relative Natural Colour (NC)

$lab^*lrij$  0.612 -0.999 0.0

$lab^*ice$  0.5 1.0 0.5

$lab^*ncE$  0.0 1.0 g00b

	$L^*=L_a^*$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	47.15	84.63	37.24	92.46	24
JMa	91.37	-1.27	125.03	125.03	91
GMa	63.07	-114.29	25.34	117.07	167
G50BMa	59.47	-80.61	-33.45	87.29	203
BMa	49.01	3.63	-81.2	81.29	273
B50RMa	44.06	106.07	-73.94	129.31	325
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	272

relative Inform. Technology (IT)

$olv^3*$  1.0 1.0 1.0 (1.0)

$cmyn3*$  0.917 0.0 1.0 (0.0)

$olv^4*$  0.917 1.0 0.5 1.0

$cmyn4*$  0.459 0.0 0.5 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\*

$lab^*lab$  0.5 0.5 0.5 (1.0)

$cmyn3*$  0.5 0.5 0.5 (0.0)

$olv^4*$  1.0 1.0 1.0 0.5

$cmyn4*$  0.459 0.0 0.5 0.5

standard and adapted CIELAB

$LAB^*LAB$  52.8 -54.95 17.13

$LAB^*LABa$  52.8 -54.79 15.24

$LAB^*TChA$  50.0 56.88 164.45

relative CIELAB lab\*

$lab^*lab$  0.45 -0.962 0.268

$lab^*tch$  0.5 1.0 0.457

</

## Input: Colorimetric Reflective System TRS18

for hue  $h^* = lab^*h = 164/360 = 0.457$

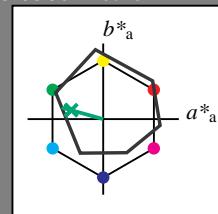
$lab^*tch$  and  $lab^*nch$

D65: hue G

LCH\*Ma: 53 57 164

olv\*Ma: 0.0 1.0 0.25

triangle lightness  $t^*$



### TRS18; adapted (a) CIELAB data

	$L^* = L_a^*$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
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)

$olv^3*$  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

$LAB^*LABa$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrf$  1.0 0.0 0.0

$lab^*ice$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  74.1 -27.96 10.94

$LAB^*LABa$  74.1 -27.39 7.62

$LAB^*TChA$  75.0 28.44 164.46

relative CIELAB lab\*

$lab^*lab$  0.725 -0.481 0.134

$lab^*tch$  0.75 0.5 0.457

$lab^*nch$  0.0 0.5 0.457

relative Natural Colour (NC)

$lab^*lrf$  0.725 -0.499 0.0

$lab^*ice$  0.75 0.2 0.5

$lab^*ncE$  0.0 0.5 g00b

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 0.5

$cmyn^4*$  0.0 0.0 0.0 0.5

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 CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrf$  0.5 0.0 0.0

$lab^*ice$  0.5 0.0 0.0

$lab^*ncE$  0.5 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.5 -0.46

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrf$  0.0 0.0 0.0

$lab^*ice$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

$n^* = 0,00$

$n^* = 0,50$

$n^* = 1,00$

$chromaticness c^*$

## Output: Colorimetric Reflective System NRS11

for hue  $h^* = lab^*h = 162/360 = 0.451$

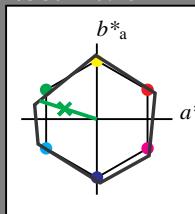
$lab^*tch$  and  $lab^*nch$

D65: hue G

LCH\*Ma: 53 80 162

olv\*Ma: 0.08 1.0 0.0

triangle lightness  $t^*$



### NRS11; adapted (a) CIELAB data

	$L^* = L_a^*$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	53.2	77.06	34.32	84.36	24
JMa	53.2	-1.51	84.38	84.39	91
GMa	53.2	-82.27	18.98	84.44	167
G50BMa	53.2	-77.72	-32.98	84.44	203
BMa	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)

$olv^3*$  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

$LAB^*LABa$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrf$  1.0 0.0 0.0

$lab^*ice$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)

$olv^3*$  0.54 1.0 0.5 (1.0)

$cmyn^3*$  0.46 0.0 0.5 (0.0)

$olv^4*$  0.54 1.0 0.5 1.0

$cmyn^4*$  0.46 0.0 0.5 0.0

standard and adapted CIELAB

$LAB^*LAB$  74.3 -37.84 12.13

$LAB^*LABa$  74.3 -37.87 12.12

$LAB^*TChA$  75.0 39.77 162.25

relative CIELAB lab\*

$lab^*lab$  0.75 -0.475 0.152

$lab^*tch$  0.75 0.5 0.451

$lab^*nch$  0.0 0.5 0.451

relative Natural Colour (NC)

$lab^*lrf$  0.75 -0.499 0.0

$lab^*ice$  0.75 0.5 0.5

$lab^*ncE$  0.0 0.5 j99g

relative Inform. Technology (IT)

$olv^3*$  0.04 0.5 0.0 (1.0)

$cmyn^3*$  0.96 0.5 1.0 (0.0)

$olv^4*$  0.54 1.0 0.5 0.5

$cmyn^4*$  0.46 0.0 0.5 0.5

standard and adapted CIELAB

$LAB^*LAB$  32.1 -37.81 12.13

$LAB^*LABa$  32.1 -37.87 12.12

$LAB^*TChA$  25.01 39.77 162.27

relative CIELAB lab\*

$lab^*lab$  0.25 -0.475 0.152

$lab^*tch$  0.25 0.5 0.451

$lab^*nch$  0.0 0.5 0.451

relative Natural Colour (NC)

$lab^*lrf$  0.25 -0.499 0.0

$lab^*ice$  0.25 0.5 0.5

$lab^*ncE$  0.5 0.5 g00b

$n^* = 1,0$

$n^* = 0,00$

$n^* = 0,50$

$n^* = 1,00$

$chromaticness c^*$

	$L^* = L_a^*$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
lolv3*	0.081	1.0	0.0	(1.0)	
cmyn3*	0.919	0.0	1.0	(0.0)	
olv4*	0.081	1.0	0.0	1.0	
cmyn4*	0.919	0.0	1.0	0.0	
standard and adapted CIELAB					
LAB^*LAB	53.2	-75.71	24.25		
LAB^*LABa	53.2	-75.75	24.24		
LAB^*TChA	50.0	79.54	162.26		
relative CIELAB lab*					
lab^*lab	0.5	-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^*lrf	0.5	-0.999	0.0		
lab^*ice	0.5	1.0	0.5		
lab^*ncE	0.0	1.0	g00b		

$n^* = 0,00$

$n^* = 1,00$

$n^* = 0,50$

$n^* = 1,00$

$chromaticness c^*$

UE100-7, 3 step scales for constant CIELAB hue 164/360 = 0.457 (left)

3 step scales for constant CIELAB hue 162/360 = 0.451 (right)



### Input: Colorimetric Reflective System MRS18a

for hue  $h^* = lab^*h = 162/360 = 0.451$

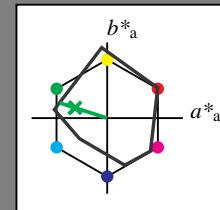
$lab^*tch$  and  $lab^*nch$

D65: hue G

LCH\*Ma: 56 66 162

olv\*Ma: 0.11 1.0 0.0

triangle lightness  $t^*$



### MRS18a; adapted (a) CIELAB data

	$L^*=L^*_a$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	49.63	66.8	40.02	77.87	31
JMa	90.7	-7.27	93.19	93.48	94
GMa	52.11	-69.93	11.26	70.85	171
G50BMa	45.03	-36.65	-27.13	45.61	217
BMa	36.65	23.26	-62.27	66.49	290
B50RMa	34.94	57.27	-43.6	71.99	323
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	272

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 0.01 0.0  
 $LAB^*LABa$  95.41 0.0 0.0  
 $LAB^*TCh$  99.99 0.01 -

relative CIELAB lab\*

$lab^*lab$  1.0 0.0 0.0  
 $lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  1.0 0.0 0.0  
 $lab^*ice$  1.0 0.0 0.0  
 $lab^*ncE$  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 0.5  
 $cmyn^4*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  56.71 0.05 0.0  
 $LAB^*LABa$  56.71 0.0 0.0  
 $LAB^*TCh$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0  
 $lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  0.5 0.0 0.0  
 $lab^*ice$  0.5 0.0 0.0  
 $lab^*ncE$  0.5 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)  
 $olv^4*$  1.0 1.0 1.0 0.0  
 $cmyn^4*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.1 0.02  
 $LAB^*LABa$  18.02 0.0 0.0  
 $LAB^*TCh$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0  
 $lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  0.0 0.0 0.0  
 $lab^*ice$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

relative Inform. Technology (IT)

$olv^3*$  0.554 1.0 0.5 (1.0)

$cmyn^3*$  0.446 0.0 0.5 (0.0)

$olv^4*$  0.555 1.0 0.5 1.0

$cmyn^4*$  0.445 0.0 0.5 0.0

standard and adapted CIELAB

$LAB^*LAB$  75.86 -31.51 10.1  
 $LAB^*LABa$  75.86 -31.54 10.09  
 $LAB^*TCh$  75.0 33.13 162.26

relative CIELAB lab\*

$lab^*lab$  0.747 -0.475 0.152

$lab^*tch$  0.75 0.5 0.451

$lab^*nch$  0.0 0.5 0.451

relative Natural Colour (NC)

$lab^*lrj$  0.747 -0.499 0.0

$lab^*ice$  0.75 0.2 0.5

$lab^*ncE$  0.0 0.5 0.99g

relative Inform. Technology (IT)

$olv^3*$  0.109 1.0 0.0 (1.0)

$cmyn^3*$  0.891 0.0 1.0 (0.0)

$olv^4*$  0.109 1.0 0.0 1.0

$cmyn^4*$  0.891 0.0 1.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  56.31 -63.05 20.19  
 $LAB^*LABa$  56.31 -63.1 20.18  
 $LAB^*TCh$  50.0 66.26 162.27

relative CIELAB lab\*

$lab^*lab$  0.495 -0.951 0.304

$lab^*tch$  0.5 1.0 0.451

$lab^*nch$  0.0 1.0 0.451

relative Natural Colour (NC)

$lab^*lrj$  0.495 -0.999 0.0

$lab^*ice$  0.5 1.0 0.5

$lab^*ncE$  0.0 1.0 g00b

relative Inform. Technology (IT)

$olv^3*$  0.0 0.0 0.0 (1.0)

$cmyn^3*$  1.0 1.0 1.0 (0.0)

$olv^4*$  1.0 1.0 1.0 0.0

$cmyn^4*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.1 0.02  
 $LAB^*LABa$  18.02 0.0 0.0  
 $LAB^*TCh$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  0.0 0.0 0.0

$lab^*ice$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 0,00$

$n^* = 0,00$   
blackness  $n^*$   
chromaticness  $c^*$

### Output: Colorimetric Reflective System ORS18

for hue  $h^* = lab^*h = 164/360 = 0.457$

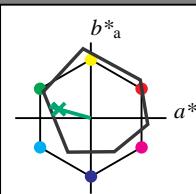
$lab^*tch$  and  $lab^*nch$

D65: hue G

LCH\*Ma: 53 57 164

olv\*Ma: 0.0 1.0 0.25

triangle lightness  $t^*$



### ORS18; adapted (a) CIELAB data

	$L^*=L^*_a$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
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)  
 $olv^3*$  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  
 $LAB^*LABa$  95.41 0.0 0.0  
 $LAB^*TCh$  99.99 0.01 -

relative CIELAB lab\*

$lab^*lab$  1.0 0.0 0.0  
 $lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  1.0 0.0 0.0  
 $lab^*ice$  1.0 0.0 0.0  
 $lab^*ncE$  0.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  74.1 -27.96 10.94  
 $LAB^*LABa$  74.1 -27.39 7.62  
 $LAB^*TCh$  75.0 28.44 164.46

relative CIELAB lab\*

$lab^*lab$  0.725 -0.481 0.134

$lab^*tch$  0.75 0.5 0.457

$lab^*nch$  0.0 0.5 0.457

relative Natural Colour (NC)

$lab^*lrj$  0.725 -0.499 0.0  
 $lab^*ice$  0.75 0.5 0.5  
 $lab^*ncE$  0.0 0.5 0.5

standard and adapted CIELAB

$LAB^*LAB$  52.8 -54.95 17.13  
 $LAB^*LABa$  52.8 -54.79 15.24  
 $LAB^*TCh$  50.0 56.88 164.45

relative CIELAB lab\*

$lab^*lab$  0.45 -0.962 0.268

$lab^*tch$  0.5 1.0 0.457

$lab^*nch$  0.0 1.0 0.457

relative Natural Colour (NC)

$lab^*lrj$  0.45 -0.999 0.0  
 $lab^*ice$  0.5 1.0 0.5  
 $lab^*ncE$  0.0 1.0 j99g

$n^* = 0,00$

blackness  $n^*$

chromaticness  $c^*$

$n^* = 1,0$   
3 step scales for constant CIELAB hue 164/360 = 0.457 (right)

UE100-7, 3 step scales for constant CIELAB hue 162/360 = 0.451 (left)

### Input: Colorimetric Reflective System MRS18a

for hue  $h^* = lab^*h = 162/360 = 0.451$

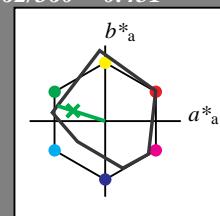
$lab^*tch$  and  $lab^*nch$

D65: hue G

LCH\*Ma: 56 66 162

olv\*Ma: 0.11 1.0 0.0

triangle lightness  $t^*$



### MRS18a; adapted (a) CIELAB data

	$L^* = L^*_{ab}$	$a^*_{ab}$	$b^*_{ab}$	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	49.63	66.8	40.02	77.87	31
JMa	90.7	-7.27	93.19	93.48	94
GMa	52.11	-69.93	11.26	70.85	171
G50BMa	45.03	-36.65	-27.13	45.61	217
BMa	36.65	23.26	-62.27	66.49	290
B50RMa	34.94	57.27	-43.6	71.99	323
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	272

relative Inform. Technology (IT)  
 $olv^3*$  1.0 1.0 1.0 (1.0)  
 $cmy^3*$  0.0 0.0 0.0 (0.0)  
 $olv^4*$  1.0 1.0 1.0 1.0  
 $cmy^4*$  0.0 0.0 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  95.41 0.01 0.0  
 $LAB^*LABa$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0  
 $lab^*ice$  1.0 0.0 0.0  
 $lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)  
 $olv^3*$  0.5 0.5 0.5 (1.0)  
 $cmy^3*$  0.5 0.5 0.5 (0.0)  
 $olv^4*$  1.0 1.0 1.0 0.5  
 $cmy^4*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  56.71 0.05 0.0  
 $LAB^*LABa$  56.71 0.0 0.0  
 $LAB^*TChA$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0  
 $lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.5 0.0 0.0  
 $lab^*ice$  0.5 0.0 0.0  
 $lab^*ncE$  0.5 0.0 -

relative Inform. Technology (IT)  
 $olv^3*$  0.0 0.0 0.0 (1.0)  
 $cmy^3*$  1.0 1.0 1.0 (0.0)  
 $olv^4*$  1.0 1.0 1.0 0.0  
 $cmy^4*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.01 0.02  
 $LAB^*LABa$  18.02 0.0 0.0  
 $LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0  
 $lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0  
 $lab^*ice$  0.0 0.0 -  
 $lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

relative Inform. Technology (IT)

$olv^3*$  0.554 1.0 0.5 (1.0)

$cmy^3*$  0.446 0.0 0.5 (0.0)

$olv^4*$  0.555 1.0 0.5 1.0

$cmy^4*$  0.445 0.0 0.5 0.0

standard and adapted CIELAB

$LAB^*LAB$  75.86 -31.51 10.1  
 $LAB^*LABa$  75.86 -31.54 10.09  
 $LAB^*TChA$  75.0 33.13 162.26

relative CIELAB lab\*

$lab^*lab$  0.747 -0.475 0.152

$lab^*tch$  0.75 0.5 0.451

$lab^*nch$  0.0 0.5 0.451

relative Natural Colour (NC)

$lab^*lrij$  0.747 -0.499 0.0

$lab^*ice$  0.75 0.2 0.5

$lab^*ncE$  0.0 0.5 0.99g

relative Inform. Technology (IT)

$olv^3*$  0.109 1.0 0.0 (1.0)

$cmy^3*$  0.891 0.0 1.0 (0.0)

$olv^4*$  0.109 1.0 0.0 1.0

$cmy^4*$  0.891 0.0 1.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  56.31 -63.05 20.19  
 $LAB^*LABa$  56.31 -63.1 20.18  
 $LAB^*TChA$  50.0 66.26 162.27

relative CIELAB lab\*

$lab^*lab$  0.495 -0.951 0.304

$lab^*tch$  0.5 1.0 0.451

$lab^*nch$  0.0 1.0 0.451

relative Natural Colour (NC)

$lab^*lrij$  0.495 -0.999 0.0

$lab^*ice$  0.5 1.0 0.5

$lab^*ncE$  0.0 1.0 g00b

relative Inform. Technology (IT)

$olv^3*$  0.054 0.5 0.0 (1.0)

$cmy^3*$  0.946 0.5 1.0 (0.0)

$olv^4*$  0.554 1.0 0.5 0.5

$cmy^4*$  0.446 0.0 0.5 0.5

standard and adapted CIELAB

$LAB^*LAB$  37.16 -31.47 10.11  
 $LAB^*LABa$  37.16 -31.55 10.08  
 $LAB^*TChA$  25.01 33.13 162.28

relative CIELAB lab\*

$lab^*lab$  0.247 -0.475 0.152

$lab^*tch$  0.25 0.5 0.451

$lab^*nch$  0.5 0.5 0.451

relative Natural Colour (NC)

$lab^*lrij$  0.247 -0.499 0.0

$lab^*ice$  0.25 0.5 0.5

$lab^*ncE$  0.5 0.5 0.99b

$n^* = 0,00$

blackness  $n^*$

chromaticness  $c^*$

### Output: Colorimetric Reflective System MRS18

for hue  $h^* = lab^*h = 164/360 = 0.457$

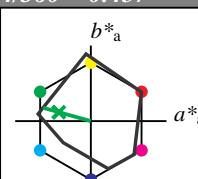
$lab^*tch$  and  $lab^*nch$

D65: hue G

LCH\*Ma: 56 66 164

olv\*Ma: 0.1 1.0 0.0

triangle lightness  $t^*$



### MRS18; adapted (a) CIELAB data

	$L^* = L^*_{ab}$	$a^*_{ab}$	$b^*_{ab}$	$C^*_{ab,a}$	$h^*_{ab,a}$
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)

$olv^3*$  1.0 1.0 1.0 (1.0)

$cmy^3*$  0.0 0.0 0.0 (0.0)

$olv^4*$  1.0 1.0 1.0 1.0

$cmy^4*$  0.0 0.0 0.0 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 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*ice$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)

$olv^3*$  0.551 1.0 0.5 (1.0)

$cmy^3*$  0.449 0.0 0.5 (0.0)

$olv^4*$  0.551 1.0 0.5 1.0

$cmy^4*$  0.449 0.0 0.5 0.0

standard and adapted CIELAB

$LAB^*LAB$  75.74 -32.2 12.22  
 $LAB^*LABa$  75.74 -31.6 8.79  
 $LAB^*TChA$  75.0 32.81 164.46

relative CIELAB lab\*

$lab^*lab$  0.746 -0.481 0.134

$lab^*tch$  0.75 0.5 0.457

$lab^*nch$  0.0 0.5 0.457

relative Natural Colour (NC)

$lab^*lrij$  0.746 -0.499 0.0

$lab^*ice$  0.75 0.5 0.5

$lab^*ncE$  0.0 0.5 0.99g

relative Inform. Technology (IT)

$olv^3*$  0.103 1.0 0.0 (1.0)

$cmy^3*$  0.897 0.0 1.0 (0.0)

$olv^4*$  0.103 1.0 0.0 1.0

$cmy^4*$  0.897 0.0 1.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  56.07 -63.44 19.68  
 $LAB^*LABa$  56.07 -63.21 17.58  
 $LAB^*TChA$  50.0 65.62 164.46

relative CIELAB lab\*

$lab^*lab$  0.492 -0.962 0.268

$lab^*tch$  0.5 1.0 0.457

$lab^*nch$  0.0 1.0 0.457

relative Natural Colour (NC)

$lab^*lrij$  0.492 -0.999 0.0

$lab^*ice$  0.5 1.0 0.5

$lab^*ncE$  0.0 1.0 g00b

$n^* = 0,00$

blackness  $n^*$

chromaticness  $c^*$

$n^* = 1,0$

3 step scales for constant CIELAB hue 164/360 = 0.457 (right)

### Input: Colorimetric Reflective System MRS18a

for hue  $h^* = lab^*h = 162/360 = 0.451$

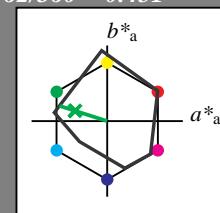
$lab^*tch$  and  $lab^*nch$

D65: hue G

LCH\*Ma: 56 66 162

olv\*Ma: 0.11 1.0 0.0

triangle lightness  $t^*$



### MRS18a; adapted (a) CIELAB data

	$L^*=L^*_a$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	49.63	66.8	40.02	77.87	31
JMa	90.7	-7.27	93.19	93.48	94
GMa	52.11	-69.93	11.26	70.85	171
G50BMa	45.03	-36.65	-27.13	45.61	217
BMa	36.65	23.26	-62.27	66.49	290
B50RMa	34.94	57.27	-43.6	71.99	323
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	272

relative Inform. Technology (IT)  
 $olv^3*$  1.0 1.0 1.0 (1.0)  
 $cmy^3*$  0.0 0.0 0.0 (0.0)  
 $olv^4*$  1.0 1.0 1.0 1.0  
 $cmy^4*$  0.0 0.0 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  95.41 0.01 0.0  
 $LAB^*LABa$  95.41 0.0 0.0  
 $LAB^*TCh$  99.99 0.01 -

relative CIELAB lab\*

$lab^*lab$  1.0 0.0 0.0  
 $lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0  
 $lab^*ice$  1.0 0.0 0.0  
 $lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)  
 $olv^3*$  0.5 0.5 0.5 (1.0)  
 $cmy^3*$  0.5 0.5 0.5 (0.0)  
 $olv^4*$  1.0 1.0 1.0 0.5  
 $cmy^4*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  56.71 0.05 0.0  
 $LAB^*LABa$  56.71 0.0 0.0  
 $LAB^*TCh$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0  
 $lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.5 0.0 0.0  
 $lab^*ice$  0.5 0.0 0.0  
 $lab^*ncE$  0.5 0.0 -

relative Inform. Technology (IT)  
 $olv^3*$  0.0 0.0 0.0 (1.0)  
 $cmy^3*$  1.0 1.0 1.0 (0.0)  
 $olv^4*$  1.0 1.0 1.0 0.0  
 $cmy^4*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.01 0.02  
 $LAB^*LABa$  18.02 0.0 0.0  
 $LAB^*TCh$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0  
 $lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0  
 $lab^*ice$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

relative Inform. Technology (IT)

$olv^3*$  0.554 1.0 0.5 (1.0)

$cmy^3*$  0.446 0.0 0.5 (0.0)

$olv^4*$  0.555 1.0 0.5 1.0

$cmy^4*$  0.445 0.0 0.5 0.0

standard and adapted CIELAB

$LAB^*LAB$  75.86 -31.51 10.1  
 $LAB^*LABa$  75.86 -31.54 10.09  
 $LAB^*TCh$  75.0 33.13 162.26

relative CIELAB lab\*

$lab^*lab$  0.747 -0.475 0.152

$lab^*tch$  0.75 0.5 0.451

$lab^*nch$  0.0 0.5 0.451

relative Natural Colour (NC)

$lab^*lrij$  0.747 -0.499 0.0

$lab^*ice$  0.75 0.2 0.5

$lab^*ncE$  0.0 0.5 0.99g

relative Inform. Technology (IT)

$olv^3*$  0.109 1.0 0.0 (1.0)

$cmy^3*$  0.891 0.0 1.0 (0.0)

$olv^4*$  0.109 1.0 0.0 1.0

$cmy^4*$  0.891 0.0 1.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  56.31 -63.05 20.19

$LAB^*LABa$  56.31 -63.1 20.18

$LAB^*TCh$  50.0 66.26 162.27

relative CIELAB lab\*

$lab^*lab$  0.495 -0.951 0.304

$lab^*tch$  0.5 1.0 0.451

$lab^*nch$  0.0 1.0 0.451

relative Natural Colour (NC)

$lab^*lrij$  0.495 -0.999 0.0

$lab^*ice$  0.5 1.0 0.5

$lab^*ncE$  0.0 1.0 g00b

relative Inform. Technology (IT)

$olv^3*$  0.054 0.5 0.0 (1.0)

$cmy^3*$  0.946 0.5 1.0 (0.0)

$olv^4*$  0.554 1.0 0.5 0.5

$cmy^4*$  0.446 0.0 0.5 0.5

standard and adapted CIELAB

$LAB^*LAB$  37.16 -31.47 10.11

$LAB^*LABa$  37.16 -31.55 10.08

$LAB^*TCh$  25.01 33.13 162.28

relative CIELAB lab\*

$lab^*lab$  0.247 -0.475 0.152

$lab^*tch$  0.25 0.5 0.451

$lab^*nch$  0.5 0.5 0.451

relative Natural Colour (NC)

$lab^*lrij$  0.247 -0.499 0.0

$lab^*ice$  0.25 0.5 0.5

$lab^*ncE$  0.5 0.5 g00b

relative Inform. Technology (IT)

$olv^3*$  0.0 0.0 0.0 (1.0)

$cmy^3*$  1.0 1.0 1.0 (0.0)

$olv^4*$  1.0 1.0 1.0 0.0

$cmy^4*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.01 0.02

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TCh$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*ice$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 0,00$

blackness  $n^*$

chromaticness  $c^*$

### Output: Colorimetric Reflective System TRS18

for hue  $h^* = lab^*h = 164/360 = 0.457$

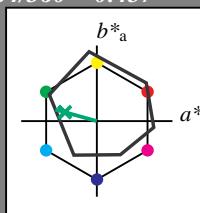
$lab^*tch$  and  $lab^*nch$

D65: hue G

LCH\*Ma: 53 57 164

olv\*Ma: 0.0 1.0 0.25

triangle lightness  $t^*$



### TRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
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

%Gamut

$u^*_{rel} = 92$

%Regularity

$g^*_{H,rel} = 42$

$g^*_{C,rel} = 49$

relative Inform. Technology (IT)

$olv^3*$  1.0 1.0 1.0 (1.0)

$cmy^3*$  0.0 0.0 0.0 (0.0)

$olv^4*$  1.0 1.0 1.0 1.0

$cmy^4*$  0.0 0.0 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  95.41 -0.97 4.75

$LAB^*LABa$  95.41 0.0 0.0

$LAB^*TCh$  99.99 0.01 -

relative CIELAB lab\*

$lab^*lab$  1.0 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*ice$  1.0 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)

$cmy^3*$  0.5 0.5 0.5 (0.0)

$olv^4*$  0.5 0.5 0.5 1.0

$cmy^4*$  0.5 0.5 0.5 0.0

standard and adapted CIELAB

$LAB^*LAB$  74.1 -27.96 10.94

$LAB^*LABa$  74.1 -27.39 7.62

$LAB^*TCh$  75.0 28.44 164.46

relative CIELAB lab\*

$lab^*lab$  0.725 -0.481 0.134

$lab^*tch$  0.75 0.5 0.457

$lab^*nch$  0.0 0.5 0.457

relative Natural Colour (NC)

$lab^*lrij$  0.725 -0.499 0.0

$lab^*ice$  0.75 0.5 0.5

$lab^*ncE$  0.0 0.5 0.99g

relative Inform. Technology (IT)

$olv^3*$  0.0 0.0 0.0 (1.0)

$cmy^3*$  1.0 1.0 1.0 (0.0)

$olv^4*$  1.0 1.0 1.0 0.0

$cmy^4*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  52.8 -54.95 17.13

### Input: Colorimetric Reflective System MRS18a

for hue  $h^* = lab^*h = 162/360 = 0.451$

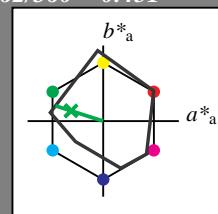
$lab^*tch$  and  $lab^*nch$

D65: hue G

LCH\*Ma: 56 66 162

olv\*Ma: 0.11 1.0 0.0

triangle lightness  $t^*$



### MRS18a; adapted (a) CIELAB data

$L^* = L^*_{ab}$   $a^*_{ab}$   $b^*_{ab}$   $C^*_{ab,a}$   $h^*_{ab,a}$

RMa	49.63	66.8	40.02	77.87	31
JMa	90.7	-7.27	93.19	93.48	94
GMa	52.11	-69.93	11.26	70.85	171
G50BMa	45.03	-36.65	-27.13	45.61	217
BMa	36.65	23.26	-62.27	66.49	290
B50RMa	34.94	57.27	-43.6	71.99	323
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	272

relative Inform. Technology (IT)  
 $olv^3*$  1.0 1.0 1.0 (1.0)  
 $cmy^3*$  0.0 0.0 0.0 (0.0)  
 $olv^4*$  1.0 1.0 1.0 1.0  
 $cmy^4*$  0.0 0.0 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  95.41 0.01 0.0  
 $LAB^*LABa$  95.41 0.0 0.0  
 $LAB^*TCh$  99.99 0.01 -

relative CIELAB lab\*

$lab^*lab$  1.0 0.0 0.0  
 $lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0  
 $lab^*ice$  1.0 0.0 0.0  
 $lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)  
 $olv^3*$  0.5 0.5 0.5 (1.0)  
 $cmy^3*$  0.5 0.5 0.5 (0.0)  
 $olv^4*$  1.0 1.0 1.0 0.5  
 $cmy^4*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  56.71 0.05 0.0  
 $LAB^*LABa$  56.71 0.0 0.0  
 $LAB^*TCh$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0  
 $lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.5 0.0 0.0  
 $lab^*ice$  0.5 0.0 0.0  
 $lab^*ncE$  0.5 0.0 -

relative Inform. Technology (IT)  
 $olv^3*$  0.0 0.0 0.0 (1.0)  
 $cmy^3*$  1.0 1.0 1.0 (0.0)  
 $olv^4*$  1.0 1.0 1.0 0.0  
 $cmy^4*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.1 0.02  
 $LAB^*LABa$  18.02 0.0 0.0  
 $LAB^*TCh$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0  
 $lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0  
 $lab^*ice$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

relative Inform. Technology (IT)

$olv^3*$  0.554 1.0 0.5 (1.0)

$cmy^3*$  0.446 0.0 0.5 (0.0)

$olv^4*$  0.555 1.0 0.5 1.0

$cmy^4*$  0.445 0.0 0.5 0.0

standard and adapted CIELAB

$LAB^*LAB$  75.86 -31.51 10.1  
 $LAB^*LABa$  75.86 -31.54 10.09  
 $LAB^*TCh$  75.0 33.13 162.26

relative CIELAB lab\*

$lab^*lab$  0.747 -0.475 0.152

$lab^*tch$  0.75 0.5 0.451

$lab^*nch$  0.0 0.5 0.451

relative Natural Colour (NC)

$lab^*lrij$  0.747 -0.499 0.0

$lab^*ice$  0.75 0.2 0.5

$lab^*ncE$  0.0 0.5 0.99g

relative Inform. Technology (IT)

$olv^3*$  0.109 1.0 0.0 (1.0)

$cmy^3*$  0.891 0.0 1.0 (0.0)

$olv^4*$  0.109 1.0 0.0 1.0

$cmy^4*$  0.891 0.0 1.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  56.31 -63.05 20.19  
 $LAB^*LABa$  56.31 -63.1 20.18  
 $LAB^*TCh$  50.0 66.26 162.27

relative CIELAB lab\*

$lab^*lab$  0.495 -0.951 0.304

$lab^*tch$  0.5 1.0 0.451

$lab^*nch$  0.0 1.0 0.451

relative Natural Colour (NC)

$lab^*lrij$  0.495 -0.999 0.0

$lab^*ice$  0.5 1.0 0.5

$lab^*ncE$  0.0 1.0 g00b

relative Inform. Technology (IT)

$olv^3*$  0.054 0.5 0.0 (1.0)

$cmy^3*$  0.946 0.5 1.0 (0.0)

$olv^4*$  0.554 1.0 0.5 0.5

$cmy^4*$  0.446 0.0 0.5 0.5

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.1 0.02  
 $LAB^*LABa$  18.02 0.0 0.0  
 $LAB^*TCh$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.247 -0.475 0.152

$lab^*tch$  0.25 0.5 0.451

$lab^*nch$  0.5 0.5 0.451

relative Natural Colour (NC)

$lab^*lrij$  0.247 -0.499 0.0

$lab^*ice$  0.25 0.5 0.5

$lab^*ncE$  0.5 0.5 0.99b

relative Inform. Technology (IT)

$olv^3*$  0.0 0.0 0.0 (1.0)

$cmy^3*$  1.0 1.0 1.0 (0.0)

$olv^4*$  1.0 1.0 1.0 0.0

$cmy^4*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.1 0.02  
 $LAB^*LABa$  18.02 0.0 0.0  
 $LAB^*TCh$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.247 -0.475 0.152

$lab^*tch$  0.25 0.5 0.451

$lab^*nch$  0.5 0.5 0.451

relative Natural Colour (NC)

$lab^*lrij$  0.247 -0.499 0.0

$lab^*ice$  0.25 0.5 0.5

$lab^*ncE$  0.5 0.5 0.99b

relative Inform. Technology (IT)

$olv^3*$  0.0 0.0 0.0 (1.0)

$cmy^3*$  1.0 1.0 1.0 (0.0)

$olv^4*$  1.0 1.0 1.0 0.0

$cmy^4*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.1 0.02  
 $LAB^*LABa$  18.02 0.0 0.0  
 $LAB^*TCh$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.247 -0.475 0.152

$lab^*tch$  0.25 0.5 0.451

$lab^*nch$  0.5 0.5 0.451

relative Natural Colour (NC)

$lab^*lrij$  0.247 -0.499 0.0

$lab^*ice$  0.25 0.5 0.5

$lab^*ncE$  0.5 0.5 0.99b

relative Inform. Technology (IT)

$olv^3*$  0.0 0.0 0.0 (1.0)

$cmy^3*$  1.0 1.0 1.0 (0.0)

$olv^4*$  1.0 1.0 1.0 0.0

$cmy^4*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.1 0.02  
 $LAB^*LABa$  18.02 0.0 0.0  
 $LAB^*TCh$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.247 -0.475 0.152

$lab^*tch$  0.25 0.5 0.451

$lab^*nch$  0.5 0.5 0.451

relative Natural Colour (NC)

$lab^*lrij$  0.247 -0.499 0.0

$lab^*ice$  0.25 0.5 0.5

$lab^*ncE$  0.5 0.5 0.99b

relative Inform. Technology (IT)

$olv^3*$  0.0 0.0 0.0 (1.0)

$cmy^3*$  1.0 1.0 1.0 (0.0)

$olv^4*$  1.0 1.0 1.0 0.0

$cmy^4*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.1 0.02  
 $LAB^*LABa$  18.02 0.0 0.0  
 $LAB^*TCh$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.247 -0.475 0.152

$lab^*tch$  0.25 0.5 0.451

$lab^*nch$  0.5 0.5 0.451

relative Natural Colour (NC)

$lab^*lrij$  0.247 -0.499 0.0

$lab^*ice$  0.25 0.5 0.5

$lab^*ncE$  0.5 0.5 0.99b

relative Inform. Technology (IT)

$olv^3*$  0.0 0.0 0.0 (1.0)

$cmy^3*$  1.0 1.0 1.0 (0.0)

$olv^4*$  1.0 1.0 1.0 0.0

$cmy^4*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.1 0.02  
 $LAB^*LABa$  18.02 0.0 0.0  
 $LAB^*TCh$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.247 -0.475 0.152

$lab^*tch$  0.25 0.5 0.451

$lab^*nch$  0.5 0.5 0.451

relative Natural Colour (NC)

$lab^*lrij$  0.247 -0.499 0.0

$lab^*ice$  0.25 0.5 0.5

$lab^*ncE$  0.5 0.5 0.99b

relative Inform. Technology (IT)

$olv^3*$  0.0 0.0 0.0 (1.0)

$cmy^3*$  1.0 1.0 1.0 (0.0)

$olv^4*$  1.0 1.0 1.0 0.0

$cmy^4*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.1 0.02  
 $LAB^*LABa$  18.02 0.0 0.0  
 $LAB^*TCh$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.247 -0.475 0.152

$lab^*tch$  0.25 0.5 0.451

$lab^*nch$  0.5 0.5 0.451

relative Natural Colour (NC)

$lab^*lrij$  0.247 -0.499 0.0

### Input: Colorimetric Reflective System MRS18a

for hue  $h^* = lab^*h = 162/360 = 0.451$

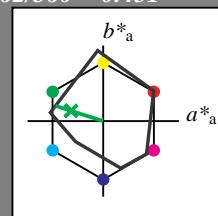
$lab^*tch$  and  $lab^*nch$

D65: hue G

LCH\*Ma: 56 66 162

olv\*Ma: 0.11 1.0 0.0

triangle lightness  $t^*$



### MRS18a; adapted (a) CIELAB data

	$L^*=L^*_a$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	49.63	66.8	40.02	77.87	31
JMa	90.7	-7.27	93.19	93.48	94
GMa	52.11	-69.93	11.26	70.85	171
G50BMa	45.03	-36.65	-27.13	45.61	217
BMa	36.65	23.26	-62.27	66.49	290
B50RMa	34.94	57.27	-43.6	71.99	323
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	272

relative Inform. Technology (IT)  
 $olv_i3^*$  1.0 1.0 1.0 (1.0)  
 $cmy3^*$  0.0 0.0 0.0 (0.0)  
 $olv_i4^*$  1.0 1.0 1.0 1.0  
 $cmy4^*$  0.0 0.0 0.0 0.0  
**standard and adapted CIELAB**  
 $LAB^*LAB$  95.41 0.01 0.0  
 $LAB^*LABa$  95.41 0.0 0.0  
 $LAB^*TCh$  99.99 0.01 -

**relative CIELAB lab\***  
 $lab^*lab$  1.0 0.0 0.0  
 $lab^*tch$  1.0 0.0 -  
 $lab^*nch$  0.0 0.0 -  
**relative Natural Colour (NC)**  
 $lab^*lrij$  1.0 0.0 0.0  
 $lab^*tce$  1.0 0.0 0.0  
 $lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)  
 $olv_i3^*$  0.5 0.5 0.5 (1.0)  
 $cmy3^*$  0.5 0.5 0.5 (0.0)  
 $olv_i4^*$  1.0 1.0 1.0 0.5  
 $cmy4^*$  0.0 0.0 0.0 0.5  
**standard and adapted CIELAB**  
 $LAB^*LAB$  56.71 0.05 0.0  
 $LAB^*LABa$  56.71 0.0 0.0  
 $LAB^*TCh$  50.0 0.01 -  
**relative CIELAB lab\***  
 $lab^*lab$  0.5 0.0 0.0  
 $lab^*tch$  0.5 0.0 -  
 $lab^*nch$  0.5 0.0 -  
**relative Natural Colour (NC)**  
 $lab^*lrij$  0.5 0.0 0.0  
 $lab^*tce$  0.5 0.0 0.0  
 $lab^*ncE$  0.5 0.0 -

relative Inform. Technology (IT)  
 $olv_i3^*$  0.0 0.0 0.0 (1.0)  
 $cmy3^*$  1.0 1.0 1.0 (0.0)  
 $olv_i4^*$  1.0 1.0 1.0 0.0  
 $cmy4^*$  0.0 0.0 0.0 1.0  
**standard and adapted CIELAB**  
 $LAB^*LAB$  18.02 0.01 0.02  
 $LAB^*LABa$  18.02 0.0 0.0  
 $LAB^*TCh$  0.01 0.01 -  
**relative CIELAB lab\***  
 $lab^*lab$  0.0 0.0 0.0  
 $lab^*tch$  0.0 0.0 -  
 $lab^*nch$  1.0 0.0 -  
**relative Natural Colour (NC)**  
 $lab^*lrij$  0.0 0.0 0.0  
 $lab^*tce$  0.0 0.0 -  
 $lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

relative Inform. Technology (IT)  
 $olv_i3^*$  0.554 1.0 0.5 (1.0)  
 $cmy3^*$  0.446 0.0 0.5 (0.0)  
 $olv_i4^*$  0.555 1.0 0.5 1.0  
 $cmy4^*$  0.445 0.0 0.5 0.0  
**standard and adapted CIELAB**  
 $LAB^*LAB$  75.86 -31.51 10.1  
 $LAB^*LABa$  75.86 -31.54 10.09  
 $LAB^*TCh$  75.0 33.13 162.26  
**relative CIELAB lab\***  
 $lab^*lab$  0.747 -0.475 0.152  
 $lab^*tch$  0.75 0.5 0.451  
 $lab^*nch$  0.0 0.5 0.451

relative Inform. Technology (IT)  
 $olv_i3^*$  0.054 0.5 0.0 (1.0)  
 $cmy3^*$  0.891 0.0 1.0 (0.0)  
 $olv_i4^*$  0.109 1.0 0.0 1.0  
 $cmy4^*$  0.891 0.0 1.0 0.0  
**standard and adapted CIELAB**  
 $LAB^*LAB$  56.31 -63.05 20.19  
 $LAB^*LABa$  56.31 -63.1 20.18  
 $LAB^*TCh$  50.0 66.26 162.27  
**relative CIELAB lab\***  
 $lab^*lab$  0.747 -0.499 0.0  
 $lab^*tce$  0.75 0.2 0.5  
 $lab^*ncE$  0.0 0.5 j99g

relative Inform. Technology (IT)  
 $olv_i3^*$  0.054 0.5 0.0 (1.0)  
 $cmy3^*$  0.946 0.5 1.0 (0.0)  
 $olv_i4^*$  0.554 1.0 0.5 0.5  
 $cmy4^*$  0.446 0.0 0.5 0.5  
**standard and adapted CIELAB**  
 $LAB^*LAB$  37.16 -31.47 10.11  
 $LAB^*LABa$  37.16 -31.55 10.08  
 $LAB^*TCh$  25.01 33.13 162.28  
**relative CIELAB lab\***  
 $lab^*lab$  0.247 -0.475 0.152  
 $lab^*tch$  0.25 0.5 0.451  
 $lab^*nch$  0.5 0.5 0.451

$n^* = 0,00$

$n^* = 0,00$   
**blackness  $n^*$**   
 $0,25 \quad 0,50 \quad n^* = 0,50 \quad 0,75 \quad 1,00$   
**chromaticness  $c^*$**

### Output: Colorimetric Reflective System NRS18

for hue  $h^* = lab^*h = 162/360 = 0.451$

$lab^*tch$  and  $lab^*nch$

D65: hue G

LCH\*Ma: 57 73 162

olv\*Ma: 0.08 1.0 0.0

triangle lightness  $t^*$

### NRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	56.7	70.66	31.47	77.35	24
JMa	56.7	-1.39	77.37	77.39	91
GMa	56.7	-75.46	17.4	77.45	167
G50BMa	56.7	-71.29	-30.25	77.45	203
BMa	56.7	4.0	-77.3	77.41	273
B50RMa	56.7	63.35	-44.4	77.36	325
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	272

relative Inform. Technology (IT)  
 $olv_i3^*$  1.0 1.0 1.0 (1.0)  
 $cmy3^*$  0.0 0.0 0.0 (0.0)  
 $olv_i4^*$  1.0 1.0 1.0 1.0  
 $cmy4^*$  0.0 0.0 0.0 0.0  
**standard and adapted CIELAB**  
 $LAB^*LAB$  95.41 0.0 0.0  
 $LAB^*LABa$  95.41 0.0 0.0  
 $LAB^*TCh$  99.99 0.01 -

**relative CIELAB lab\***  
 $lab^*lab$  1.0 0.0 0.0  
 $lab^*tch$  1.0 0.0 -  
 $lab^*nch$  0.0 0.0 -  
**relative Natural Colour (NC)**  
 $lab^*lrij$  1.0 0.0 0.0  
 $lab^*tce$  1.0 0.0 0.0  
 $lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)  
 $olv_i3^*$  0.54 1.0 0.5 (1.0)  
 $cmy3^*$  0.46 0.0 0.5 (0.0)  
 $olv_i4^*$  0.54 1.0 0.5 1.0  
 $cmy4^*$  0.46 0.0 0.5 0.0  
**standard and adapted CIELAB**  
 $LAB^*LAB$  76.05 -34.7 11.12  
 $LAB^*LABa$  76.05 -34.73 11.11  
 $LAB^*TCh$  75.0 36.48 162.26  
**relative CIELAB lab\***  
 $lab^*lab$  0.75 -0.475 0.152  
 $lab^*tch$  0.75 0.5 0.451  
 $lab^*nch$  0.0 0.5 0.451

relative Inform. Technology (IT)  
 $olv_i3^*$  0.109 1.0 0.0 (1.0)  
 $cmy3^*$  0.891 0.0 1.0 (0.0)  
 $olv_i4^*$  0.109 1.0 0.0 1.0  
 $cmy4^*$  0.891 0.0 1.0 0.0  
**standard and adapted CIELAB**  
 $LAB^*LAB$  56.72 0.05 0.0  
 $LAB^*LABa$  56.72 0.0 0.0  
 $LAB^*TCh$  50.0 0.01 -  
**relative CIELAB lab\***  
 $lab^*lab$  0.495 -0.951 0.304  
 $lab^*tch$  0.5 0.451  
 $lab^*nch$  0.0 1.0 0.451

relative Inform. Technology (IT)  
 $olv_i3^*$  0.04 0.5 0.0 (1.0)  
 $cmy3^*$  0.96 0.5 1.0 (0.0)  
 $olv_i4^*$  0.54 1.0 0.5 0.5  
 $cmy4^*$  0.46 0.0 0.5 0.5  
**standard and adapted CIELAB**  
 $LAB^*LAB$  37.36 -34.67 11.13  
 $LAB^*LABa$  37.36 -34.74 11.11  
 $LAB^*TCh$  25.01 36.48 162.28  
**relative CIELAB lab\***  
 $lab^*lab$  0.25 -0.475 0.152  
 $lab^*tch$  0.25 0.5 0.451  
 $lab^*nch$  0.5 0.5 0.451

$n^* = 1,0$

$n^* = 0,50$   
**blackness  $n^*$**   
 $0,25 \quad 0,50 \quad n^* = 0,50 \quad 0,75 \quad 1,00$   
**chromaticness  $c^*$**

$n^* = 1,0$

relative Inform. Technology (IT)  
 $olv_i3^*$  0.081 1.0 0.0 (1.0)  
 $cmy3^*$  0.919 0.0 1.0 (0.0)  
 $olv_i4^*$  0.081 1.0 0.0 1.0  
 $cmy4^*$  0.919 0.0 1.0 0.0  
**standard and adapted CIELAB**  
 $LAB^*LAB$  56.7 -69.43 22.23  
 $LAB^*LABa$  56.7 -69.49 22.22  
 $LAB^*TCh$  50.0 72.96 162.27  
**relative CIELAB lab\***  
 $lab^*lab$  0.5 -0.951 0.304  
 $lab^*tch$  0.5 1.0 0.451  
 $lab^*nch$  0.0 1.0 0.451

relative Inform. Technology (IT)  
 $olv_i3^*$  0.5 -0.999 0.0  
 $cmy3^*$  0.5 1.0 0.5  
 $olv_i4^*$  0.5 -0.999 0.0  
 $cmy4^*$  0.5 1.0 0.5  
**standard and adapted CIELAB**  
 $LAB^*LAB$  37.36 -34.74 11.11  
 $LAB^*LABa$  37.36 -34.74 11.11  
 $LAB^*TCh$  25.01 36.48 162.28  
**relative CIELAB lab\***  
 $lab^*lab$  0.25 -0.499 0.0  
 $lab^*tce$  0.25 0.5 0.5  
 $lab^*ncE$  0.5 0.5 g00b

$n^* = 0,00$   
**blackness  $n^*$**   
 $0,25 \quad 0,50 \quad n^* = 0,50 \quad 0,75 \quad 1,00$   
**chromaticness  $c^*$**

UE100-7, 3 step scales for constant CIELAB hue 162/360 = 0.451 (left)

3 step scales for constant CIELAB hue 162/360 = 0.451 (right)

### Input: Colorimetric Reflective System MRS18a

for hue  $h^* = lab^*h = 162/360 = 0.451$

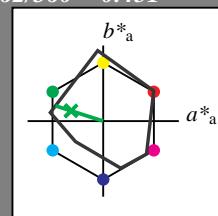
$lab^*tch$  and  $lab^*nch$

D65: hue G

LCH\*Ma: 56 66 162

olv\*Ma: 0.11 1.0 0.0

triangle lightness  $t^*$



### MRS18a; adapted (a) CIELAB data

	$L^*=L^*_a$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	49.63	66.8	40.02	77.87	31
JMa	90.7	-7.27	93.19	93.48	94
GMa	52.11	-69.93	11.26	70.85	171
G50BMa	45.03	-36.65	-27.13	45.61	217
BMa	36.65	23.26	-62.27	66.49	290
B50RMa	34.94	57.27	-43.6	71.99	323
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	272

relative Inform. Technology (IT)  
 $olv^3*$  1.0 1.0 1.0 (1.0)  
 $cmy^3*$  0.0 0.0 0.0 (0.0)  
 $olv^4*$  1.0 1.0 1.0 1.0  
 $cmy^4*$  0.0 0.0 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  95.41 0.01 0.0  
 $LAB^*LABa$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0  
 $lab^*ice$  1.0 0.0 0.0  
 $lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)  
 $olv^3*$  0.5 0.5 0.5 (1.0)  
 $cmy^3*$  0.5 0.5 0.5 (0.0)  
 $olv^4*$  1.0 1.0 1.0 0.5  
 $cmy^4*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  56.71 0.05 0.0  
 $LAB^*LABa$  56.71 0.0 0.0  
 $LAB^*TChA$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0  
 $lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.5 0.0 0.0  
 $lab^*ice$  0.5 0.0 0.0  
 $lab^*ncE$  0.5 0.0 -

relative Inform. Technology (IT)  
 $olv^3*$  0.0 0.0 0.0 (1.0)  
 $cmy^3*$  1.0 1.0 1.0 (0.0)  
 $olv^4*$  1.0 1.0 1.0 0.0  
 $cmy^4*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.01 0.02  
 $LAB^*LABa$  18.02 0.0 0.0  
 $LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0  
 $lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0  
 $lab^*ice$  0.0 0.0 -  
 $lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

%Gamut  
 $u^*_{rel} = 92$   
%Regularity  
 $g^*_{H,rel} = 42$   
 $g^*_{C,rel} = 49$

relative Inform. Technology (IT)  
 $olv^3*$  0.554 1.0 0.5 (1.0)  
 $cmy^3*$  0.446 0.0 0.5 (0.0)  
 $olv^4*$  0.555 1.0 0.5 1.0  
 $cmy^4*$  0.445 0.0 0.5 0.0

standard and adapted CIELAB

$LAB^*LAB$  75.86 -31.51 10.1  
 $LAB^*LABa$  75.86 -31.54 10.09  
 $LAB^*TChA$  75.0 33.13 162.26

relative CIELAB lab\*

$lab^*lab$  0.747 -0.475 0.152  
 $lab^*tch$  0.75 0.5 0.451  
 $lab^*nch$  0.0 0.5 0.451

relative Inform. Technology (IT)  
 $olv^3*$  0.109 1.0 0.0 (1.0)  
 $cmy^3*$  0.891 0.0 1.0 (0.0)  
 $olv^4*$  0.109 1.0 0.0 1.0  
 $cmy^4*$  0.891 0.0 1.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  56.31 -63.05 20.19  
 $LAB^*LABa$  56.31 -63.1 20.18  
 $LAB^*TChA$  50.0 66.26 162.27

relative CIELAB lab\*

$lab^*lab$  0.495 -0.951 0.304  
 $lab^*tch$  0.5 1.0 0.451  
 $lab^*nch$  0.0 1.0 0.451

relative Natural Colour (NC)

$lab^*lrij$  0.495 -0.999 0.0  
 $lab^*ice$  0.5 1.0 0.5  
 $lab^*ncE$  0.0 1.0 g00b

$n^* = 0,00$

$n^* = 0,00$   
blackness  $n^*$   
chromaticness  $c^*$

### Output: Colorimetric Reflective System NCS18

for hue  $h^* = lab^*h = 162/360 = 0.451$

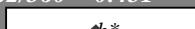
$lab^*tch$  and  $lab^*nch$

D65: hue G

LCH\*Ma: 65 110 162

olv\*Ma: 0.08 1.0 0.0

triangle lightness  $t^*$



### NCS18; adapted (a) CIELAB data

	$L^*=L^*_a$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	47.15	84.63	37.24	92.46	24
JMa	91.37	-1.27	125.03	125.03	91
GMa	63.07	-114.29	25.34	117.07	167
G50BMa	59.47	-80.61	-33.45	87.29	203
BMa	49.01	3.63	-81.2	81.29	273
B50RMa	44.06	106.07	-73.94	129.31	325
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	272

relative Inform. Technology (IT)  
 $olv^3*$  1.0 1.0 1.0 (1.0)  
 $cmy^3*$  0.0 0.0 0.0 (0.0)  
 $olv^4*$  1.0 1.0 1.0 1.0  
 $cmy^4*$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0  
 $lab^*ice$  1.0 0.0 0.0  
 $lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)  
 $olv^3*$  0.541 1.0 0.5 (1.0)  
 $cmy^3*$  0.459 0.0 0.5 (0.0)  
 $olv^4*$  0.541 1.0 0.5 1.0  
 $cmy^4*$  0.459 0.0 0.5 0.0

standard and adapted CIELAB

$LAB^*LAB$  80.4 -52.44 16.79  
 $LAB^*LABa$  80.4 -52.46 16.78  
 $LAB^*TChA$  75.0 55.09 162.26

relative CIELAB lab\*

$lab^*lab$  0.806 -0.475 0.152  
 $lab^*tch$  0.75 0.5 0.451  
 $lab^*nch$  0.0 0.5 0.451

relative Natural Colour (NC)

$lab^*lrij$  0.806 -0.499 0.0  
 $lab^*ice$  0.75 0.5 0.5  
 $lab^*ncE$  0.0 0.5 j99g

relative Inform. Technology (IT)  
 $olv^3*$  0.451 0.5 0.0 (1.0)  
 $cmy^3*$  0.959 0.5 1.0 (0.0)  
 $olv^4*$  0.541 1.0 0.5 0.5  
 $cmy^4*$  0.459 0.0 0.5 0.5

standard and adapted CIELAB

$LAB^*LAB$  65.4 -104.9 33.56  
 $LAB^*LABa$  65.4 -104.933.55  
 $LAB^*TChA$  50.0 110.19 162.27

relative CIELAB lab\*

$lab^*lab$  0.612 -0.951 0.304  
 $lab^*tch$  0.5 1.0 0.451  
 $lab^*nch$  0.0 1.0 0.451

relative Natural Colour (NC)

$lab^*lrij$  0.612 -0.999 0.0  
 $lab^*ice$  0.5 1.0 0.5  
 $lab^*ncE$  0.0 1.0 g00b

$n^* = 1,0$

3 step scales for constant CIELAB hue 162/360 = 0.451 (right)

	$L^*=L^*_a$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	47.15	84.63	37.24	92.46	24
JMa	91.37	-1.27	125.03	125.03	91
GMa	63.07	-114.29	25.34	117.07	167
G50BMa	59.47	-80.61	-33.45	87.29	203
BMa	49.01	3.63	-81.2	81.29	273
B50RMa	44.06	106.07	-73.94	129.31	325
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	272

relative Inform. Technology (IT)  
 $olv^3*$  1.0 1.0 1.0 (1.0)  
 $cmy^3*$  0.459 0.0 0.5 (0.0)  
 $olv^4*$  1.0 1.0 1.0 1.0  
 $cmy^4*$  0.459 0.0 0.5 0.0

standard and adapted CIELAB

$LAB^*LAB$  80.4 -52.44 16.79  
 $LAB^*LABa$  80.4 -52.46 16.78  
 $LAB^*TChA$  75.0 55.09 162.26

relative CIELAB lab\*

$lab^*lab$  0.806 -0.475 0.152  
 $lab^*tch$  0.75 0.5 0.451  
 $lab^*nch$  0.0 0.5 0.451

relative Natural Colour (NC)

$lab^*lrij$  0.806 -0.499 0.0  
 $lab^*ice$  0.75 0.5 0.5  
 $lab^*ncE$  0.0 0.5 j99g

relative Inform. Technology (IT)  
 $olv^3*$  0.451 0.5 0.0 (1.0)  
 $cmy^3*$  0.959 0.5 1.0 (0.0)  
 $olv^4*$  0.541 1.0 0.5 0.5  
 $cmy^4*$  0.459 0.0 0.5 0.5

standard and adapted CIELAB

$LAB^*LAB$  65.4 -104.9 33.56  
 $LAB^*LABa$  65.4 -104.933.55  
 $LAB^*TChA$  50.0 110.19 162.27

relative CIELAB lab\*

$lab^*lab$  0.612 -0.951 0.304  
 $lab^*tch$  0.5 1.0 0.451  
 $lab^*nch$  0.0 1.0 0.451

relative Natural Colour (NC)

$lab^*lrij$  0.612 -0.999 0.0  
 $lab^*ice$  0.5 1.0 0.5  
 $lab^*ncE$  0.0 1.0 g00b

$n^* = 0,00$

$n^* = 0,50$

$n^* = 1,00$

chromaticness  $c^*$

### Input: Colorimetric Reflective System MRS18a

for hue  $h^* = lab^*h = 162/360 = 0.451$

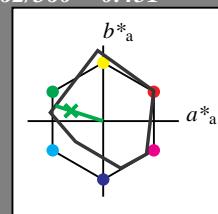
$lab^*tch$  and  $lab^*nch$

D65: hue G

LCH\*Ma: 56 66 162

olv\*Ma: 0.11 1.0 0.0

triangle lightness  $t^*$



### MRS18a; adapted (a) CIELAB data

	$L^* = L^*_a$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	49.63	66.8	40.02	77.87	31
JMa	90.7	-7.27	93.19	93.48	94
GMa	52.11	-69.93	11.26	70.85	171
G50BMa	45.03	-36.65	-27.13	45.61	217
BMa	36.65	23.26	-62.27	66.49	290
B50RMa	34.94	57.27	-43.6	71.99	323
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	272

relative Inform. Technology (IT)  
 $olv^3*$  1.0 1.0 1.0 (1.0)  
 $cmy^3*$  0.0 0.0 0.0 (0.0)  
 $olv^4*$  1.0 1.0 1.0 1.0  
 $cmy^4*$  0.0 0.0 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  95.41 0.01 0.0  
 $LAB^*LABa$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0  
 $lab^*ice$  1.0 0.0 0.0  
 $lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)  
 $olv^3*$  0.5 0.5 0.5 (1.0)  
 $cmy^3*$  0.5 0.5 0.5 (0.0)  
 $olv^4*$  1.0 1.0 1.0 0.5  
 $cmy^4*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  56.71 0.05 0.0  
 $LAB^*LABa$  56.71 0.0 0.0  
 $LAB^*TChA$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0  
 $lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.5 0.0 0.0  
 $lab^*ice$  0.5 0.0 0.0  
 $lab^*ncE$  0.5 0.0 -

relative Inform. Technology (IT)  
 $olv^3*$  0.0 0.0 0.0 (1.0)  
 $cmy^3*$  1.0 1.0 1.0 (0.0)  
 $olv^4*$  1.0 1.0 1.0 0.0  
 $cmy^4*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.1 0.02  
 $LAB^*LABa$  18.02 0.0 0.0  
 $LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0  
 $lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0  
 $lab^*ice$  0.0 0.0 -  
 $lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

%Gamut

$u^*_{rel} = 92$

%Regularity

$g^*_{H,rel} = 42$

$g^*_{C,rel} = 49$

relative Inform. Technology (IT)

$olv^3*$  0.554 1.0 0.5 (1.0)

$cmy^3*$  0.446 0.0 0.5 (0.0)

$olv^4*$  0.555 1.0 0.5 1.0

$cmy^4*$  0.445 0.0 0.5 0.0

standard and adapted CIELAB

$LAB^*LAB$  75.86 -31.51 10.1

$LAB^*LABa$  75.86 -31.54 10.09

$LAB^*TChA$  75.0 33.13 162.26

relative CIELAB lab\*

$lab^*lab$  0.747 -0.475 0.152

$lab^*tch$  0.75 0.5 0.451

$lab^*nch$  0.0 0.5 0.451

relative Natural Colour (NC)

$lab^*lrij$  0.747 -0.499 0.0

$lab^*ice$  0.75 0.2 0.5

$lab^*ncE$  0.0 0.5 0.499g

relative Inform. Technology (IT)

$olv^3*$  0.109 1.0 0.0 (1.0)

$cmy^3*$  0.891 0.0 1.0 (0.0)

$olv^4*$  0.109 1.0 0.0 1.0

$cmy^4*$  0.891 0.0 1.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  56.31 -63.05 20.19

$LAB^*LABa$  56.31 -63.1 20.18

$LAB^*TChA$  50.0 66.26 162.27

relative CIELAB lab\*

$lab^*lab$  0.495 -0.951 0.304

$lab^*tch$  0.5 1.0 0.451

$lab^*nch$  0.0 1.0 0.451

relative Natural Colour (NC)

$lab^*lrij$  0.495 -0.999 0.0

$lab^*ice$  0.5 1.0 0.5

$lab^*ncE$  0.0 1.0 g00b

relative Inform. Technology (IT)

$olv^3*$  0.045 0.5 0.0 (1.0)

$cmy^3*$  0.96 0.5 1.0 (0.0)

$olv^4*$  0.54 1.0 0.5 0.5

$cmy^4*$  0.46 0.0 0.5 0.5

standard and adapted CIELAB

$LAB^*LAB$  53.21 0.04 0.0

$LAB^*LABa$  53.21 0.0 0.0

$LAB^*TChA$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*ice$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 0,00$

$n^* = 0,00$

blackness  $n^*$

chromaticness  $c^*$

### Output: Colorimetric Reflective System NRS11

for hue  $h^* = lab^*h = 162/360 = 0.451$

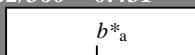
$lab^*tch$  and  $lab^*nch$

D65: hue G

LCH\*Ma: 53 80 162

olv\*Ma: 0.08 1.0 0.0

triangle lightness  $t^*$



### NRS11; adapted (a) CIELAB data

	$L^* = L^*_a$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	53.2	77.06	34.32	84.36	24
JMa	53.2	-1.51	84.38	84.39	91
GMa	53.2	-82.27	18.98	84.44	167
G50BMa	53.2	-77.72	-32.98	84.44	203
BMa	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)

$olv^3*$  1.0 1.0 1.0 (1.0)

$cmy^3*$  0.0 0.0 0.0 (0.0)

$olv^4*$  1.0 1.0 1.0 1.0

$cmy^4*$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*ice$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)

$olv^3*$  0.54 1.0 0.5 (1.0)

$cmy^3*$  0.46 0.0 0.5 (0.0)

$olv^4*$  0.54 1.0 0.5 1.0

$cmy^4*$  0.46 0.0 0.5 0.0

standard and adapted CIELAB

$LAB^*LAB$  74.3 37.84 12.13

$LAB^*LABa$  74.3 -37.87 12.12

$LAB^*TChA$  75.0 39.77 162.25

relative CIELAB lab\*

$lab^*lab$  0.75 -0.475 0.152

$lab^*tch$  0.75 0.5 0.451

$lab^*nch$  0.0 0.5 0.451

relative Natural Colour (NC)

$lab^*lrij$  0.75 -0.499 0.0

$lab^*ice$  0.75 0.5 0.5

$lab^*ncE$  0.0 0.5 0.5

$n^* = 1,0$

blackness  $n^*$

chromaticness  $c^*$

$n^* = 0,00$

blackness  $n^*$

chromaticness  $c^*$

UE100-7, 3 step scales for constant CIELAB hue 162/360 = 0.451 (left)

3 step scales for constant CIELAB hue 162/360 = 0.451 (right)

### Input: Colorimetric Reflective System MRS18a

for hue  $h^* = lab^*h = 162/360 = 0.451$

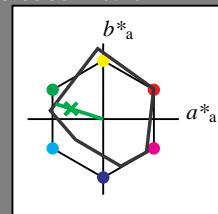
$lab^*tch$  and  $lab^*nch$

D65: hue G

LCH\*Ma: 56 66 162

olv\*Ma: 0.11 1.0 0.0

triangle lightness  $t^*$



### MRS18a; adapted (a) CIELAB data

	$L^* = L^*_{ab}$	$a^*_{ab}$	$b^*_{ab}$	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	49.63	66.8	40.02	77.87	31
JMa	90.7	-7.27	93.19	93.48	94
GMa	52.11	-69.93	11.26	70.85	171
G50BMa	45.03	-36.65	-27.13	45.61	217
BMa	36.65	23.26	-62.27	66.49	290
B50RMa	34.94	57.27	-43.6	71.99	323
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	272

relative Inform. Technology (IT)  
 $olvi3^*$  1.0 1.0 1.0 (1.0)  
 $cmy3^*$  0.0 0.0 0.0 (0.0)  
 $olv4^*$  1.0 1.0 1.0 1.0  
 $cmy4^*$  0.0 0.0 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  95.41 0.01 0.0  
 $LAB^*LABa$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)  
 $olvi3^*$  0.5 0.5 0.5 (1.0)  
 $cmy3^*$  0.5 0.5 0.5 (0.0)  
 $olv4^*$  1.0 1.0 1.0 0.5  
 $cmy4^*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  56.71 0.05 0.0  
 $LAB^*LABa$  56.71 0.0 0.0  
 $LAB^*TChA$  50.0 0.01 -

relative CIELAB  $lab^*$

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.5 0.0 0.0

$lab^*tce$  0.5 0.0 0.0

$lab^*ncE$  0.5 0.0 -

relative Inform. Technology (IT)  
 $olvi3^*$  0.0 0.0 0.0 (1.0)  
 $cmy3^*$  1.0 1.0 1.0 (0.0)

$olv4^*$  1.0 1.0 1.0 0.0

$cmy4^*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.1 0.02  
 $LAB^*LABa$  18.02 0.0 0.0  
 $LAB^*TChA$  0.01 0.01 -

relative CIELAB  $lab^*$

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*tce$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

%Gamut  
 $u^*_{rel} = 92$   
%Regularity  
 $g^*_{H,rel} = 42$   
 $g^*_{C,rel} = 49$

### MRS18a; adapted (a) CIELAB data

$L^* = L^*_{ab}$   $a^*_{ab}$   $b^*_{ab}$   $C^*_{ab,a}$   $h^*_{ab,a}$

relative Inform. Technology (IT)  
 $olvi3^*$  0.554 1.0 0.5 (1.0)  
 $cmy3^*$  0.446 0.0 0.5 (0.0)  
 $olv4^*$  0.555 1.0 0.5 1.0  
 $cmy4^*$  0.445 0.0 0.5 0.0

standard and adapted CIELAB

$LAB^*LAB$  75.86 -31.51 10.1  
 $LAB^*LABa$  75.86 -31.54 10.09  
 $LAB^*TChA$  75.0 33.13 162.26

relative CIELAB  $lab^*$

$lab^*lab$  0.747 -0.475 0.152

$lab^*tch$  0.75 0.5 0.451

$lab^*nch$  0.0 0.5 0.451

relative Natural Colour (NC)

$lab^*lrij$  0.747 -0.499 0.0

$lab^*tce$  0.75 0.2 0.5

$lab^*ncE$  0.0 0.5 0.499g

relative Inform. Technology (IT)  
 $olvi3^*$  0.109 1.0 0.0 (1.0)  
 $cmy3^*$  0.891 0.0 1.0 (0.0)

$olv4^*$  0.109 1.0 0.0 1.0

$cmy4^*$  0.891 0.0 1.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  56.31 -63.05 20.19  
 $LAB^*LABa$  56.31 -63.1 20.18  
 $LAB^*TChA$  50.0 66.26 162.27

relative CIELAB  $lab^*$

$lab^*lab$  0.495 -0.951 0.304

$lab^*tch$  0.5 1.0 0.451

$lab^*nch$  0.0 1.0 0.451

relative Natural Colour (NC)

$lab^*lrij$  0.495 -0.999 0.0

$lab^*tce$  0.5 1.0 0.5

$lab^*ncE$  0.0 1.0 g00b

relative Inform. Technology (IT)  
 $olvi3^*$  0.054 0.5 0.0 (1.0)  
 $cmy3^*$  0.946 0.5 1.0 (0.0)

$olv4^*$  0.554 1.0 0.5 0.5

$cmy4^*$  0.446 0.0 0.5 0.5

standard and adapted CIELAB

$LAB^*LAB$  37.16 -31.47 10.11  
 $LAB^*LABa$  37.16 -31.55 10.08  
 $LAB^*TChA$  25.01 33.13 162.28

relative CIELAB  $lab^*$

$lab^*lab$  0.247 -0.475 0.152

$lab^*tch$  0.25 0.5 0.451

$lab^*nch$  0.5 0.5 0.451

relative Natural Colour (NC)

$lab^*lrij$  0.247 -0.499 0.0

$lab^*tce$  0.25 0.5 0.5

$lab^*ncE$  0.5 0.5 g00b

$n^* = 0,00$

$n^* = 0,50$

$1,00$

chromaticness  $c^*$

### relative Inform. Technology (IT)

$olvi3^*$  0.541 1.0 0.5 (1.0)

$cmy3^*$  0.459 0.0 0.5 (0.0)

$olv4^*$  0.541 1.0 0.5 1.0

$cmy4^*$  0.459 0.0 0.5 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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 -

$lab^*ncE$  0.0 0.0 -

$n^* = 0,00$

$blackness n^*$

$1,00$

chromaticness  $c^*$

### Output: Colorimetric Reflective System NCS11

for hue  $h^* = lab^*h = 162/360 = 0.451$

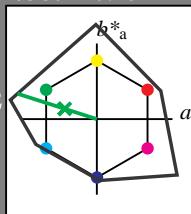
$lab^*tch$  and  $lab^*nch$

D65: hue G

LCH\*Ma: 65 110 162

olv\*Ma: 0.08 1.0 0.0

triangle lightness  $t^*$



### NCS11; adapted (a) CIELAB data

$L^* = L^*_{ab}$   $a^*_{ab}$   $b^*_{ab}$   $C^*_{ab,a}$   $h^*_{ab,a}$

	$L^* = L^*_{ab}$	$a^*_{ab}$	$b^*_{ab}$	$C^*_{ab,a}$	$h^*_{ab,a}$
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

relative Inform. Technology (IT)  
 $olvi3^*$  1.0 1.0 1.0 (1.0)  
 $cmy3^*$  0.0 0.0 0.0 (0.0)  
 $olv4^*$  1.0 1.0 1.0 1.0  
 $cmy4^*$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 -

$lab^*ncE$  0.0 0.0 -

$n^* = 0,00$

$blackness n^*$

$1,00$

chromaticness  $c^*$

### relative Inform. Technology (IT)

$olvi3^*$  0.917 0.0 1.0 (0.0)

$cmy3^*$  0.459 0.0 0.5 (0.0)

$olv4^*$  0.917 0.0 1.0 0.0

$cmy4^*$  0.459 0.0 0.5 0.5

standard and adapted CIELAB

$LAB^*LAB$  80.4 -52.43 16.79  
 $LAB^*LABa$  80.4 -52.45 16.79  
 $LAB^*TChA$  75.0 55.08 162.25

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)

$lab^*lrij$  0.822 -0.499 0.0

$lab^*tce$  0.75 0.5 0.5

$lab^*ncE$  0.0 0.5 0.499g

$n^* = 0,00$

$blackness n^*$

$1,00$

chromaticness  $c^*$

relative Inform. Technology (IT)  
 $olvi3^*$  0.083 1

## Input: Colorimetric Reflective System NRS18

for hue  $h^* = lab^*h = 162/360 = 0.451$

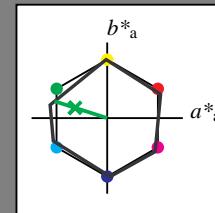
$lab^*tch$  and  $lab^*nch$

D65: hue G

LCH\*Ma: 57 73 162

olv\*Ma: 0.08 1.0 0.0

triangle lightness  $t^*$



%Gamut

$u^*_{rel} = 100$

%Regularity

$g^*_{H,rel} = 47$

$g^*_{C,rel} = 100$

relative Inform. Technology (IT)  
 $olv^3*$  1.0 1.0 1.0 (1.0)  
 $cmy^3*$  0.0 0.0 0.0 (0.0)  
 $olv^4*$  1.0 1.0 1.0 1.0  
 $cmy^4*$  0.0 0.0 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  95.41 0.0 0.0

$LAB^*LABa$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)  
 $olv^3*$  0.5 0.5 0.5 (1.0)  
 $cmy^3*$  0.5 0.5 0.5 (0.0)  
 $olv^4*$  1.0 1.0 1.0 0.5  
 $cmy^4*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  56.72 0.05 0.0

$LAB^*LABa$  56.72 0.0 0.0

$LAB^*TChA$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.5 0.0 0.0

$lab^*tce$  0.5 0.0 0.0

$lab^*ncE$  0.5 0.0 -

relative Inform. Technology (IT)  
 $olv^3*$  0.0 0.0 0.0 (1.0)  
 $cmy^3*$  1.0 1.0 1.0 (0.0)  
 $olv^4*$  1.0 1.0 1.0 0.0  
 $cmy^4*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.09 0.02

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*tce$  0.0 0.0 0.0

$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

## NRS18; adapted (a) CIELAB data

$L^*=L^*_{ab}$   $a^*_a$   $b^*_a$   $C^*_{ab,a}$   $h^*_{ab,a}$

RMa	56.7	70.66	31.47	77.35	24
JMa	56.7	-1.39	77.37	77.39	91
GMa	56.7	-75.46	17.4	77.45	167
G50BMa	56.7	-71.29	-30.25	77.45	203
BMa	56.7	4.0	-77.3	77.41	273
B50RMa	56.7	63.35	-44.4	77.36	325
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	272

## Output: Colorimetric Reflective System ORS18

for hue  $h^* = lab^*h = 164/360 = 0.457$

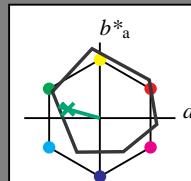
$lab^*tch$  and  $lab^*nch$

D65: hue G

LCH\*Ma: 53 57 164

olv\*Ma: 0.0 1.0 0.25

triangle lightness  $t^*$



%Gamut

$u^*_{rel} = 93$

%Regularity

$g^*_{H,rel} = 57$

$g^*_{C,rel} = 59$

relative Inform. Technology (IT)  
 $olv^3*$  1.0 1.0 1.0 (1.0)  
 $cmy^3*$  0.0 0.0 0.0 (0.0)  
 $olv^4*$  1.0 1.0 1.0 1.0  
 $cmy^4*$  0.0 0.0 0.0 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 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)  
 $olv^3*$  0.5 1.0 1.0 (1.0)  
 $cmy^3*$  0.5 0.0 0.377 (0.0)  
 $olv^4*$  0.5 1.0 0.623 1.0  
 $cmy^4*$  0.5 0.0 0.377 0.0

standard and adapted CIELAB

$LAB^*LAB$  74.1 -27.96 10.94

$LAB^*LABa$  74.1 -27.39 7.62

$LAB^*TChA$  75.0 28.44 164.46

relative CIELAB lab\*

$lab^*lab$  0.725 -0.481 0.134

$lab^*tch$  0.75 0.5 0.457

$lab^*nch$  0.0 0.5 0.457

relative Natural Colour (NC)

$lab^*lrij$  0.725 -0.499 0.0

$lab^*tce$  0.75 0.5 0.5

$lab^*ncE$  0.0 0.5 0.0

relative Inform. Technology (IT)  
 $olv^3*$  0.0 1.0 0.246 (1.0)  
 $cmy^3*$  1.0 0.0 0.754 (0.0)  
 $olv^4*$  0.0 1.0 0.246 1.0  
 $cmy^4*$  1.0 0.0 0.754 0.0

standard and adapted CIELAB

$LAB^*LAB$  52.8 -54.95 17.13

$LAB^*LABa$  52.8 -54.79 15.24

$LAB^*TChA$  50.0 56.88 164.45

relative CIELAB lab\*

$lab^*lab$  0.45 -0.962 0.268

$lab^*tch$  0.5 1.0 0.457

$lab^*nch$  0.0 1.0 0.457

relative Natural Colour (NC)

$lab^*lrij$  0.45 -0.999 0.0

$lab^*tce$  0.5 1.0 0.5

$lab^*ncE$  0.0 1.0 0.99g

## ORS18; adapted (a) CIELAB data

$L^*=L^*_{ab}$   $a^*_a$   $b^*_a$   $C^*_{ab,a}$   $h^*_{ab,a}$

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)  
 $olv^3*$  0.5 1.0 0.246 (1.0)  
 $cmy^3*$  0.5 0.0 0.377 (0.0)  
 $olv^4*$  0.5 1.0 0.623 1.0  
 $cmy^4*$  0.5 0.0 0.377 0.0

standard and adapted CIELAB

$LAB^*LAB$  52.8 -54.95 17.13

$LAB^*LABa$  52.8 -54.79 15.24

$LAB^*TChA$  50.0 56.88 164.45

relative CIELAB lab\*

$lab^*lab$  0.45 -0.962 0.268

$lab^*tch$  0.5 1.0 0.457

$lab^*nch$  0.0 1.0 0.457

relative Natural Colour (NC)

$lab^*lrij$  0.45 -0.999 0.0

$lab^*tce$  0.5 1.0 0.5

$lab^*ncE$  0.0 1.0 0.99g

$n^* = 0,00$

blackness  $n^*$

$n^* = 0,50$

chromaticness  $c^*$

$n^* = 1,0$

chromaticness  $c^*$

UE100-7, 3 step scales for constant CIELAB hue 162/360 = 0.451 (left)

3 step scales for constant CIELAB hue 164/360 = 0.457 (right)

## Input: Colorimetric Reflective System NRS18

for hue  $h^* = lab^*h = 162/360 = 0.451$

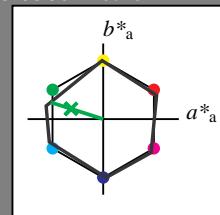
$lab^*tch$  and  $lab^*nch$

D65: hue G

LCH\*Ma: 57 73 162

olv\*Ma: 0.08 1.0 0.0

triangle lightness  $t^*$



### NRS18; adapted (a) CIELAB data

	$L^*=L_a^*$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	56.7	70.66	31.47	77.35	24
JMa	56.7	-1.39	77.37	77.39	91
GMa	56.7	-75.46	17.4	77.45	167
G50BMa	56.7	-71.29	-30.25	77.45	203
BMa	56.7	4.0	-77.3	77.41	273
B50RMa	56.7	63.35	-44.4	77.36	325
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	272

relative Inform. Technology (IT)  
 $olv_i3^*$  1.0 1.0 1.0 (1.0)  
 $cmy_n3^*$  0.0 0.0 0.0 (0.0)  
 $olv_i4^*$  1.0 1.0 1.0 1.0  
 $cmy_n4^*$  0.0 0.0 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  95.41 0.0 0.0  
 $LAB^*LABa$  95.41 0.0 0.0  
 $LAB^*TCh$  99.99 0.01 -

relative CIELAB lab\*

$lab^*lab$  1.0 0.0 0.0  
 $lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0  
 $lab^*ice$  1.0 0.0 0.0  
 $lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)  
 $olv_i3^*$  0.5 0.5 0.5 (1.0)  
 $cmy_n3^*$  0.5 0.5 0.5 (0.0)  
 $olv_i4^*$  1.0 1.0 1.0 0.5  
 $cmy_n4^*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  56.72 0.05 0.0  
 $LAB^*LABa$  56.72 0.0 0.0  
 $LAB^*TCh$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0  
 $lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.5 0.0 0.0  
 $lab^*ice$  0.5 0.0 0.0  
 $lab^*ncE$  0.5 0.0 -

relative Inform. Technology (IT)  
 $olv_i3^*$  0.0 0.0 0.0 (1.0)  
 $cmy_n3^*$  1.0 1.0 1.0 (0.0)  
 $olv_i4^*$  1.0 1.0 1.0 0.0  
 $cmy_n4^*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.09 0.02  
 $LAB^*LABa$  18.02 0.0 0.0  
 $LAB^*TCh$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0  
 $lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0  
 $lab^*ice$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

%Gamut  
 $u^*_{rel} = 100$   
%Regularity  
 $g^*_{H,rel} = 47$   
 $g^*_{C,rel} = 100$

relative Inform. Technology (IT)  
 $olv_i3^*$  0.54 1.0 0.5 (1.0)  
 $cmy_n3^*$  0.46 0.0 0.5 (0.0)  
 $olv_i4^*$  0.54 1.0 0.5 1.0  
 $cmy_n4^*$  0.46 0.0 0.5 0.0

standard and adapted CIELAB

$LAB^*LAB$  76.05 -34.7 11.12  
 $LAB^*LABa$  76.05 -34.73 11.11  
 $LAB^*TCh$  75.0 36.48 162.26

relative CIELAB lab\*

$lab^*lab$  0.75 -0.475 0.152  
 $lab^*tch$  0.75 0.5 0.451  
 $lab^*nch$  0.0 0.5 0.451

relative Natural Colour (NC)

$lab^*lrij$  0.75 -0.499 0.0  
 $lab^*ice$  0.75 0.2 0.5  
 $lab^*ncE$  0.0 0.5 0.99g

relative Inform. Technology (IT)  
 $olv_i3^*$  0.081 1.0 0.0 (1.0)  
 $cmy_n3^*$  0.919 0.0 1.0 (0.0)  
 $olv_i4^*$  0.081 1.0 0.0 1.0  
 $cmy_n4^*$  0.919 0.0 1.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  56.7 -69.43 22.23  
 $LAB^*LABa$  56.7 -69.49 22.22  
 $LAB^*TCh$  50.0 72.96 162.27

relative CIELAB lab\*

$lab^*lab$  0.5 -0.951 0.304  
 $lab^*tch$  0.5 1.0 0.451  
 $lab^*nch$  0.0 1.0 0.451

relative Natural Colour (NC)

$lab^*lrij$  0.5 -0.999 0.0  
 $lab^*ice$  0.5 1.0 0.5  
 $lab^*ncE$  0.0 1.0 g00b

relative Inform. Technology (IT)  
 $olv_i3^*$  0.25 0.25 -0.475 0.152  
 $cmy_n3^*$  0.25 0.5 0.451  
 $olv_i4^*$  0.5 0.5 0.451

relative Natural Colour (NC)

$lab^*lrij$  0.25 -0.499 0.0  
 $lab^*ice$  0.25 0.5 0.5  
 $lab^*ncE$  0.5 0.5 g00b

$n^* = 0,00$

relative Inform. Technology (IT)  
 $olv_i3^*$  0.081 1.0 0.0 (1.0)  
 $cmy_n3^*$  0.919 0.0 1.0 (0.0)  
 $olv_i4^*$  0.081 1.0 0.0 1.0  
 $cmy_n4^*$  0.919 0.0 1.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  56.7 -69.43 22.23  
 $LAB^*LABa$  56.7 -69.49 22.22  
 $LAB^*TCh$  50.0 72.96 162.27

relative CIELAB lab\*

$lab^*lab$  0.5 -0.951 0.304  
 $lab^*tch$  0.5 1.0 0.451  
 $lab^*nch$  0.0 1.0 0.451

relative Natural Colour (NC)

$lab^*lrij$  0.5 -0.999 0.0  
 $lab^*ice$  0.5 1.0 0.5  
 $lab^*ncE$  0.0 1.0 g00b

relative Inform. Technology (IT)  
 $olv_i3^*$  0.0 0.0 0.0 (1.0)  
 $cmy_n3^*$  1.0 1.0 1.0 (0.0)  
 $olv_i4^*$  1.0 1.0 1.0 0.0  
 $cmy_n4^*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  37.36 -34.67 11.13  
 $LAB^*LABa$  37.36 -34.74 11.11  
 $LAB^*TCh$  25.01 36.48 162.28

relative CIELAB lab\*

$lab^*lab$  0.25 -0.475 0.152  
 $lab^*tch$  0.25 0.5 0.451  
 $lab^*nch$  0.5 0.5 0.451

relative Natural Colour (NC)

$lab^*lrij$  0.25 -0.499 0.0  
 $lab^*ice$  0.25 0.5 0.5  
 $lab^*ncE$  0.5 0.5 g00b

$n^* = 0,50$

chromaticness  $c^*$

blackness  $n^*$

blackness  $n^*$

## Output: Colorimetric Reflective System MRS18

for hue  $h^* = lab^*h = 164/360 = 0.457$

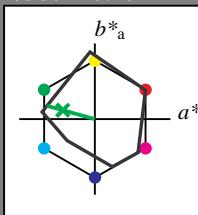
$lab^*tch$  and  $lab^*nch$

D65: hue G

LCH\*Ma: 56 66 164

olv\*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
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	58.67	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)  
 $olv_i3^*$  1.0 1.0 1.0 (1.0)  
 $cmy_n3^*$  0.0 0.0 0.0 (0.0)  
 $olv_i4^*$  1.0 1.0 1.0 1.0  
 $cmy_n4^*$  0.0 0.0 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  95.41 -0.97 4.75  
 $LAB^*LABa$  95.41 0.0 0.0  
 $LAB^*TCh$  99.99 0.01 -

relative CIELAB lab\*

$lab^*lab$  1.0 0.0 0.0  
 $lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0  
 $lab^*ice$  1.0 0.0 0.0  
 $lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)  
 $olv_i3^*$  0.551 1.0 0.5 (1.0)  
 $cmy_n3^*$  0.449 0.0 0.5 (0.0)  
 $olv_i4^*$  0.551 1.0 0.5 1.0  
 $cmy_n4^*$  0.449 0.0 0.5 0.0

standard and adapted CIELAB

$LAB^*LAB$  75.74 -32.2 12.22  
 $LAB^*LABa$  75.74 -31.6 8.79  
 $LAB^*TCh$  75.0 32.81 164.46

relative CIELAB lab\*

$lab^*lab$  0.746 -0.481 0.134  
 $lab^*tch$  0.75 0.5 0.457  
 $lab^*nch$  0.0 0.5 0.457

relative Natural Colour (NC)

$lab^*lrij$  0.746 -0.499 0.0  
 $lab^*ice$  0.75 0.5 0.5  
 $lab^*ncE$  0.0 0.5 0.99g

relative Inform. Technology (IT)  
 $olv_i3^*$  0.051 0.5 0.0 (1.0)  
 $cmy_n3^*$  0.949 0.5 1.0 (0.0)  
 $olv_i4^*$  0.551 1.0 0.5 0.5  
 $cmy_n4^*$  0.449 0.0 0.5 0.5

standard and adapted CIELAB

$LAB^*LAB$  37.04 -31.44 19.68  
 $LAB^*LABa$  36.07 -63.21 17.58  
 $LAB^*TCh$  50.0 65.62 164.46

relative CIELAB lab\*

$lab^*lab$  0.492 -0.962 0.268  
 $lab^*tch$  0.5 1.0 0.457  
 $lab^*nch$  0.0 1.0 0.457

relative Natural Colour (NC)

$lab^*lrij$  0.492 -0.999 0.0  
 $lab^*ice$  0.5 1.0 0.5  
 $lab^*ncE$  0.0 1.0 g00b

$n^* = 0,00$

blackness  $n^*$

blackness  $n^*$

blackness  $n^*$

$n^* = 1,0$

chromaticness  $c^*$

chromaticness  $c^*$

chromaticness  $c^*$

UE100-7, 3 step scales for constant CIELAB hue 162/360 = 0.451 (left)

3 step scales for constant CIELAB hue 164/360 = 0.457 (right)

## Input: Colorimetric Reflective System NRS18

for hue  $h^* = lab^*h = 162/360 = 0.451$

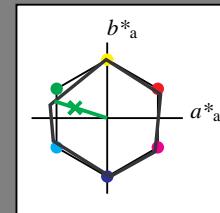
$lab^*tch$  and  $lab^*nch$

D65: hue G

LCH\*Ma: 57 73 162

olv\*Ma: 0.08 1.0 0.0

triangle lightness  $t^*$



%Gamut

$u^*_{rel} = 100$

%Regularity

$g^*_{H,rel} = 47$

$g^*_{C,rel} = 100$

relative Inform. Technology (IT)  
 $olv^3*$  1.0 1.0 1.0 (1.0)  
 $cmy^3*$  0.0 0.0 0.0 (0.0)  
 $olv^4*$  1.0 1.0 1.0 1.0  
 $cmy^4*$  0.0 0.0 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  95.41 0.0 0.0

$LAB^*LABa$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*ice$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)  
 $olv^3*$  0.5 0.5 0.5 (1.0)  
 $cmy^3*$  0.5 0.5 0.5 (0.0)  
 $olv^4*$  1.0 1.0 1.0 0.5  
 $cmy^4*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  56.72 0.05 0.0

$LAB^*LABa$  56.72 0.0 0.0

$LAB^*TChA$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.5 0.0 0.0

$lab^*ice$  0.5 0.0 0.0

$lab^*ncE$  0.5 0.0 -

relative Inform. Technology (IT)  
 $olv^3*$  0.0 0.0 0.0 (1.0)  
 $cmy^3*$  1.0 1.0 1.0 (0.0)  
 $olv^4*$  1.0 1.0 1.0 0.0  
 $cmy^4*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.09 0.02

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*ice$  0.0 0.0 0.0

$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

## NRS18; adapted (a) CIELAB data

	$L^*=L^*_{a,a}$	$a^*_{a,a}$	$b^*_{a,a}$	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	56.7	70.66	31.47	77.35	24
JMa	56.7	-1.39	77.37	77.39	91
GMa	56.7	-75.46	17.4	77.45	167
G50BMa	56.7	-71.29	-30.25	77.45	203
BMa	56.7	4.0	-77.3	77.41	273
B50RMa	56.7	63.35	-44.4	77.36	325
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	272

## Output: Colorimetric Reflective System TRS18

for hue  $h^* = lab^*h = 164/360 = 0.457$

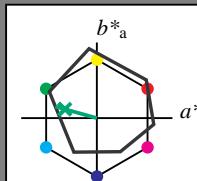
$lab^*tch$  and  $lab^*nch$

D65: hue G

LCH\*Ma: 53 57 164

olv\*Ma: 0.0 1.0 0.25

triangle lightness  $t^*$



%Gamut

$u^*_{rel} = 93$

%Regularity

$g^*_{H,rel} = 57$

$g^*_{C,rel} = 59$

relative Inform. Technology (IT)  
 $olv^3*$  1.0 1.0 1.0 (1.0)  
 $cmy^3*$  0.0 0.0 0.0 (0.0)  
 $olv^4*$  1.0 1.0 1.0 1.0  
 $cmy^4*$  0.0 0.0 0.0 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 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*ice$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)  
 $olv^3*$  0.5 1.0 1.0 (1.0)  
 $cmy^3*$  0.5 0.0 0.0 (0.0)  
 $olv^4*$  0.5 1.0 1.0 1.0  
 $cmy^4*$  0.5 0.0 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  74.1 -27.96 10.94

$LAB^*LABa$  74.1 -27.39 7.62

$LAB^*TChA$  75.0 28.44 164.46

relative CIELAB lab\*

$lab^*lab$  0.725 -0.481 0.134

$lab^*tch$  0.75 0.5 0.457

$lab^*nch$  0.0 0.5 0.457

relative Natural Colour (NC)

$lab^*lrij$  0.725 -0.499 0.0

$lab^*ice$  0.75 0.5 0.5

$lab^*ncE$  0.0 0.5 g00b

$n^* = 0,00$

blackness  $n^*$

chromaticness  $c^*$

## TRS18; adapted (a) CIELAB data

	$L^*=L^*_{a,a}$	$a^*_{a,a}$	$b^*_{a,a}$	$C^*_{ab,a}$	$h^*_{ab,a}$
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)

$olv^3*$  0.5 0.5 0.5 (1.0)

$cmy^3*$  0.5 0.5 0.5 (0.0)

$olv^4*$  0.5 1.0 1.0 1.0

$cmy^4*$  0.5 0.0 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  52.8 -54.95 17.13

$LAB^*LABa$  52.8 -54.79 15.24

$LAB^*TChA$  50.0 56.88 164.45

relative CIELAB lab\*

$lab^*lab$  0.45 -0.962 0.268

$lab^*tch$  0.5 1.0 0.457

$lab^*nch$  0.0 1.0 0.457

relative Natural Colour (NC)

$lab^*lrij$  0.45 -0.999 0.0

$lab^*ice$  0.5 1.0 0.5

$lab^*ncE$  0.0 1.0 j99g

$n^* = 0,00$

blackness  $n^*$

chromaticness  $c^*$

## Output: Colorimetric Reflective System TRS18

for hue  $h^* = lab^*h = 164/360 = 0.457$

$lab^*tch$  and  $lab^*nch$

D65: hue G

LCH\*Ma: 53 57 164

olv\*Ma: 0.0 1.0 0.25

triangle lightness  $t^*$



%Gamut

$u^*_{rel} = 93$

%Regularity

$g^*_{H,rel} = 57$

$g^*_{C,rel} = 59$

relative Inform. Technology (IT)

$olv^3*$  1.0 1.0 1.0 (1.0)

$cmy^3*$  0.0 0.0 0.0 (0.0)

$olv^4*$  1.0 1.0 1.0 1.0

$cmy^4*$  0.0 0.0 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  35.41 -27.22 8.34

$LAB^*LABa$  35.41 -27.39 7.63

$LAB^*TChA$  25.01 28.44 164.45

relative CIELAB lab\*

$lab^*lab$  0.225 -0.481 0.134

$lab^*tch$  0.25 0.5 0.457

$lab^*nch$  0.5 0.5 0.457

relative Natural Colour (NC)

$lab^*lrij$  0.225 -0.499 0.0

$lab^*ice$  0.25 0.5 0.5

$lab^*ncE$  0.5 0.5 199g

$n^* = 1,0$

blackness  $n^*$

chromaticness  $c^*$

## TRS18; adapted (a) CIELAB data

	$L^*=L^*_{a,a}$	$a^*_{a,a}$	$b^*_{a,a}$	$C^*_{ab,a}$	$h^*_{ab,a}$
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	

## Input: Colorimetric Reflective System NRS18

for hue  $h^* = lab^*h = 162/360 = 0.451$

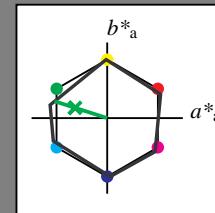
$lab^*tch$  and  $lab^*nch$

D65: hue G

LCH\*Ma: 57 73 162

olv\*Ma: 0.08 1.0 0.0

triangle lightness  $t^*$



## NRS18; adapted (a) CIELAB data

$L^*=L^*_{a,a}$   $a^*_{a,a}$   $b^*_{a,a}$   $C^*_{ab,a}$   $h^*_{ab,a}$

RMa	56.7	70.66	31.47	77.35	24
JMa	56.7	-1.39	77.37	77.39	91
GMa	56.7	-75.46	17.4	77.45	167
G50BMa	56.7	-71.29	-30.25	77.45	203
BMa	56.7	4.0	-77.3	77.41	273
B50RMa	56.7	63.35	-44.4	77.36	325
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	272

relative Inform. Technology (IT)  
 $olv^3*$  1.0 1.0 1.0 (1.0)  
 $cmy^3*$  0.0 0.0 0.0 (0.0)  
 $olv^4*$  1.0 1.0 1.0 1.0  
 $cmy^4*$  0.0 0.0 0.0 0.0

standard and adapted CIELAB  
 $LAB^*LAB$  95.41 0.0 0.0  
 $LAB^*LABa$  95.41 0.0 0.0  
 $LAB^*TCh$  99.99 0.01 -

relative CIELAB lab\*  
 $lab^*lab$  1.0 0.0 0.0  
 $lab^*tch$  1.0 0.0 -  
 $lab^*nch$  0.0 0.0 -  
relative Natural Colour (NC)  
 $lab^*lrij$  1.0 0.0 0.0  
 $lab^*ice$  1.0 0.0 0.0  
 $lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)  
 $olv^3*$  0.5 0.5 0.5 (1.0)  
 $cmy^3*$  0.5 0.5 0.5 (0.0)  
 $olv^4*$  1.0 1.0 1.0 0.5  
 $cmy^4*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB  
 $LAB^*LAB$  56.72 0.05 0.0  
 $LAB^*LABa$  56.72 0.0 0.0  
 $LAB^*TCh$  50.0 0.01 -

relative CIELAB lab\*  
 $lab^*lab$  0.5 0.0 0.0  
 $lab^*tch$  0.5 0.0 -  
 $lab^*nch$  0.5 0.0 -  
relative Natural Colour (NC)  
 $lab^*lrij$  0.5 0.0 0.0  
 $lab^*ice$  0.5 0.0 0.0  
 $lab^*ncE$  0.5 0.0 -

relative Inform. Technology (IT)  
 $olv^3*$  0.0 0.0 0.0 (1.0)  
 $cmy^3*$  1.0 1.0 1.0 (0.0)  
 $olv^4*$  1.0 1.0 1.0 0.0  
 $cmy^4*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB  
 $LAB^*LAB$  18.02 0.09 0.02  
 $LAB^*LABa$  18.02 0.0 0.0  
 $LAB^*TCh$  0.01 0.01 -

relative CIELAB lab\*  
 $lab^*lab$  0.0 0.0 0.0  
 $lab^*tch$  0.0 0.0 -  
 $lab^*nch$  1.0 0.0 -  
relative Natural Colour (NC)  
 $lab^*lrij$  0.0 0.0 0.0  
 $lab^*ice$  0.0 0.0 -  
 $lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

%Gamut

$u^*_{rel} = 100$

%Regularity

$g^*_{H,rel} = 47$

$g^*_{C,rel} = 100$

relative Inform. Technology (IT)

$olv^3*$  0.54 1.0 0.5 (1.0)

$cmy^3*$  0.46 0.0 0.5 (0.0)

$olv^4*$  0.54 1.0 0.5 1.0

$cmy^4*$  0.46 0.0 0.5 0.0

standard and adapted CIELAB

$LAB^*LAB$  76.05 -34.7 11.12

$LAB^*LABa$  76.05 -34.73 11.11

$LAB^*TCh$  75.0 36.48 162.26

relative CIELAB lab\*

$lab^*lab$  0.75 -0.475 0.152

$lab^*tch$  0.75 0.5 0.451

$lab^*nch$  0.0 0.5 0.451

relative Natural Colour (NC)

$lab^*lrij$  0.75 -0.499 0.0

$lab^*ice$  0.75 0.2 0.5

$lab^*ncE$  0.0 0.5 0.99g

relative Inform. Technology (IT)

$olv^3*$  0.081 1.0 0.0 (1.0)

$cmy^3*$  0.919 0.0 1.0 (0.0)

$olv^4*$  0.081 1.0 0.0 1.0

$cmy^4*$  0.919 0.0 1.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  56.7 -69.43 22.23

$LAB^*LABa$  56.7 -69.49 22.22

$LAB^*TCh$  50.0 72.96 162.27

relative CIELAB lab\*

$lab^*lab$  0.5 -0.951 0.304

$lab^*tch$  0.5 1.0 0.451

$lab^*nch$  0.0 1.0 0.451

relative Natural Colour (NC)

$lab^*lrij$  0.5 -0.999 0.0

$lab^*ice$  0.5 1.0 0.5

$lab^*ncE$  0.0 1.0 g00b

relative Inform. Technology (IT)

$olv^3*$  0.0 0.0 0.0 (1.0)

$cmy^3*$  1.0 1.0 1.0 (0.0)

$olv^4*$  1.0 1.0 1.0 0.0

$cmy^4*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.09 0.02

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TCh$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

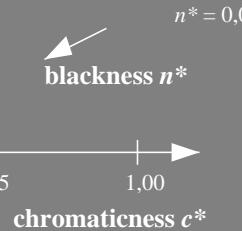
$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*ice$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -



chromaticness  $c^*$

$n^* = 0,00$

$n^* = 0,50$

$n^* = 1,00$

## Output: Colorimetric Reflective System MRS18a

for hue  $h^* = lab^*h = 162/360 = 0.451$

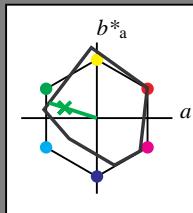
$lab^*tch$  and  $lab^*nch$

D65: hue G

LCH\*Ma: 56 66 162

olv\*Ma: 0.11 1.0 0.0

triangle lightness  $t^*$



## MRS18a; adapted (a) CIELAB data

$L^*=L^*_{a,a}$   $a^*_{a,a}$   $b^*_{a,a}$   $C^*_{ab,a}$   $h^*_{ab,a}$

RMa	49.63	66.8	40.02	77.87	31
JMa	90.7	-7.27	93.19	93.48	94
GMa	52.11	-69.93	11.26	70.85	171
G50BMa	45.03	-36.65	-27.13	45.61	217
BMa	36.65	23.26	-62.27	66.49	290
B50RMa	34.94	57.27	-43.6	71.99	323
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	272

relative Inform. Technology (IT)  
 $olv^3*$  1.0 1.0 1.0 (1.0)  
 $cmy^3*$  0.0 0.0 0.0 (0.0)  
 $olv^4*$  1.0 1.0 1.0 1.0  
 $cmy^4*$  0.0 0.0 0.0 0.0

standard and adapted CIELAB  
 $LAB^*LAB$  95.41 0.01 0.0  
 $LAB^*LABa$  95.41 0.0 0.0  
 $LAB^*TCh$  99.99 0.01 -

relative CIELAB lab\*  
 $lab^*lab$  1.0 0.0 0.0  
 $lab^*tch$  1.0 0.0 -  
 $lab^*nch$  0.0 0.0 -  
relative Natural Colour (NC)  
 $lab^*lrij$  1.0 0.0 0.0  
 $lab^*ice$  1.0 0.0 0.0  
 $lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)  
 $olv^3*$  0.554 1.0 0.5 (1.0)  
 $cmy^3*$  0.446 0.0 0.5 (0.0)  
 $olv^4*$  0.555 1.0 0.5 1.0  
 $cmy^4*$  0.445 0.0 0.5 0.0

standard and adapted CIELAB  
 $LAB^*LAB$  75.86 -31.51 10.1  
 $LAB^*LABa$  75.86 -31.54 10.09  
 $LAB^*TCh$  75.0 33.13 162.26

relative CIELAB lab\*  
 $lab^*lab$  0.747 -0.475 0.152  
 $lab^*tch$  0.75 0.5 0.451  
 $lab^*nch$  0.0 0.5 0.451  
relative Natural Colour (NC)  
 $lab^*lrij$  0.747 -0.499 0.0  
 $lab^*ice$  0.75 0.5 0.5  
 $lab^*ncE$  0.0 0.5 0.99g

relative Inform. Technology (IT)  
 $olv^3*$  0.054 0.5 0.0 (1.0)  
 $cmy^3*$  0.946 0.5 1.0 (0.0)  
 $olv^4*$  0.554 1.0 0.5 0.5  
 $cmy^4*$  0.446 0.0 0.5 0.5

standard and adapted CIELAB  
 $LAB^*LAB$  37.16 -31.47 10.11  
 $LAB^*LABa$  37.16 -31.55 10.08  
 $LAB^*TCh$  25.01 33.13 162.28

relative CIELAB lab\*  
 $lab^*lab$  0.247 -0.475 0.152  
 $lab^*tch$  0.25 0.5 0.451  
 $lab^*nch$  0.5 0.5 0.451  
relative Natural Colour (NC)  
 $lab^*lrij$  0.247 -0.499 0.0  
 $lab^*ice$  0.25 0.5 0.5  
 $lab^*ncE$  0.5 0.5 0.99b

$n^* = 0,00$

$n^* = 0,50$

$n^* = 1,00$

chromaticness  $c^*$

$n^* = 1,0$

UE100-7, 3 step scales for constant CIELAB hue 162/360 = 0.451 (left)

3 step scales for constant CIELAB hue 162/360 = 0.451 (right)

## Input: Colorimetric Reflective System NRS18

for hue  $h^* = lab^*h = 162/360 = 0.451$

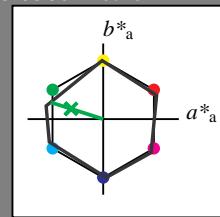
$lab^*tch$  and  $lab^*nch$

D65: hue G

LCH\*Ma: 57 73 162

olv\*Ma: 0.08 1.0 0.0

triangle lightness  $t^*$



%Gamut

$u^*_{rel} = 100$

%Regularity

$g^*_{H,rel} = 47$

$g^*_{C,rel} = 100$

relative Inform. Technology (IT)  
 $olv_i3^*$  1.0 1.0 1.0 (1.0)  
 $cmy_n3^*$  0.0 0.0 0.0 (0.0)  
 $olv_i4^*$  1.0 1.0 1.0 1.0  
 $cmy_n4^*$  0.0 0.0 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  95.41 0.0 0.0

$LAB^*LAB_a$  95.41 0.0 0.0

$LAB^*TCh_a$  99.99 0.01 -

relative CIELAB lab\*

$lab^*lab$  1.0 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*ice$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)  
 $olv_i3^*$  0.5 0.5 0.5 (1.0)  
 $cmy_n3^*$  0.5 0.5 0.5 (0.0)  
 $olv_i4^*$  1.0 1.0 1.0 0.5  
 $cmy_n4^*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  56.72 0.05 0.0

$LAB^*LAB_a$  56.72 0.0 0.0

$LAB^*TCh_a$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.5 0.0 0.0

$lab^*ice$  0.5 0.0 0.0

$lab^*ncE$  0.5 0.0 -

relative Inform. Technology (IT)  
 $olv_i3^*$  0.0 0.0 0.0 (1.0)  
 $cmy_n3^*$  1.0 1.0 1.0 (0.0)  
 $olv_i4^*$  1.0 1.0 1.0 0.0  
 $cmy_n4^*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.09 0.02

$LAB^*LAB_a$  18.02 0.0 0.0

$LAB^*TCh_a$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*ice$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

relative Inform. Technology (IT)  
 $olv_i3^*$  0.04 0.5 0.0 (1.0)  
 $cmy_n3^*$  0.96 0.5 1.0 (0.0)  
 $olv_i4^*$  0.54 1.0 0.5 0.5  
 $cmy_n4^*$  0.46 0.0 0.5 0.5

standard and adapted CIELAB

$LAB^*LAB$  37.36 -34.67 11.13

$LAB^*LAB_a$  37.36 -34.74 11.11

$LAB^*TCh_a$  25.01 36.48 162.28

relative CIELAB lab\*

$lab^*lab$  0.25 -0.475 0.152

$lab^*tch$  0.25 0.5 0.451

$lab^*nch$  0.5 0.5 0.451

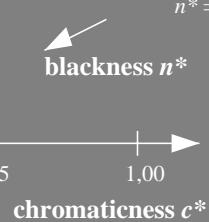
relative Natural Colour (NC)

$lab^*lrij$  0.25 -0.499 0.0

$lab^*ice$  0.25 0.5 0.5

$lab^*ncE$  0.5 0.5 g00b

$n^* = 0,00$



chromaticness  $c^*$

$n^* = 0,00$

blackness  $n^*$

1,00

0,25

0,50

0,50

0,75

## Output: Colorimetric Reflective System NRS18

for hue  $h^* = lab^*h = 162/360 = 0.451$

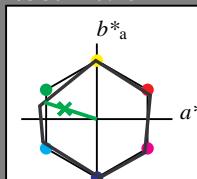
$lab^*tch$  and  $lab^*nch$

D65: hue G

LCH\*Ma: 57 73 162

olv\*Ma: 0.08 1.0 0.0

triangle lightness  $t^*$



%Gamut

$u^*_{rel} = 100$

%Regularity

$g^*_{H,rel} = 47$

$g^*_{C,rel} = 100$

relative Inform. Technology (IT)  
 $olv_i3^*$  1.0 1.0 1.0 (1.0)  
 $cmy_n3^*$  0.0 0.0 0.0 (0.0)  
 $olv_i4^*$  1.0 1.0 1.0 1.0  
 $cmy_n4^*$  0.0 0.0 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  95.41 0.0 0.0

$LAB^*LAB_a$  95.41 0.0 0.0

$LAB^*TCh_a$  99.99 0.01 -

relative CIELAB lab\*

$lab^*lab$  1.0 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*ice$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)  
 $olv_i3^*$  0.54 1.0 0.5 (1.0)  
 $cmy_n3^*$  0.46 0.0 0.5 (0.0)  
 $olv_i4^*$  0.54 1.0 0.5 1.0  
 $cmy_n4^*$  0.46 0.0 0.5 0.0

standard and adapted CIELAB

$LAB^*LAB$  76.05 -34.7 11.12

$LAB^*LAB_a$  76.05 -34.73 11.11

$LAB^*TCh_a$  75.0 36.48 162.26

relative CIELAB lab\*

$lab^*lab$  0.75 -0.475 0.152

$lab^*tch$  0.75 0.5 0.451

$lab^*nch$  0.0 0.5 0.451

relative Natural Colour (NC)

$lab^*lrij$  0.75 -0.499 0.0

$lab^*ice$  0.75 0.5 0.5

$lab^*ncE$  0.0 1.0 g00b

$n^* = 0,00$

blackness  $n^*$

1,00

0,25

0,50

0,50

0,75

1,00

chromaticness  $c^*$

$n^* = 1,0$

blackness  $n^*$

1,00

0,25

0,50

0,50

0,75

1,00

UE100-7, 3 step scales for constant CIELAB hue 162/360 = 0.451 (left)

3 step scales for constant CIELAB hue 162/360 = 0.451 (right)

## Input: Colorimetric Reflective System NRS18

for hue  $h^* = lab^*h = 162/360 = 0.451$

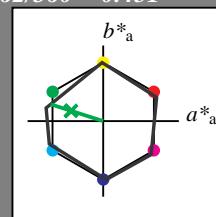
$lab^*tch$  and  $lab^*nch$

D65: hue G

LCH\*Ma: 57 73 162

olv\*Ma: 0.08 1.0 0.0

triangle lightness  $t^*$



%Gamut

$u^*_{rel} = 100$

%Regularity

$g^*_{H,rel} = 47$

$g^*_{C,rel} = 100$

relative Inform. Technology (IT)  
 $olv^3*$  1.0 1.0 1.0 (1.0)  
 $cmy^3*$  0.0 0.0 0.0 (0.0)  
 $olv^4*$  1.0 1.0 1.0 1.0  
 $cmy^4*$  0.0 0.0 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  95.41 0.0 0.0

$LAB^*LABa$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*ice$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)  
 $olv^3*$  0.5 0.5 0.5 (1.0)  
 $cmy^3*$  0.5 0.5 0.5 (0.0)  
 $olv^4*$  1.0 1.0 1.0 0.5  
 $cmy^4*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  56.72 0.05 0.0

$LAB^*LABa$  56.72 0.0 0.0

$LAB^*TChA$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.5 0.0 0.0

$lab^*ice$  0.5 0.0 0.0

$lab^*ncE$  0.5 0.0 -

relative Inform. Technology (IT)  
 $olv^3*$  0.0 0.0 0.0 (1.0)  
 $cmy^3*$  1.0 1.0 1.0 (0.0)  
 $olv^4*$  1.0 1.0 1.0 0.0  
 $cmy^4*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.09 0.02

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*ice$  0.0 0.0 0.0

$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

## NRS18; adapted (a) CIELAB data

$L^*=L^*_{a,a}$   $a^*_{a,a}$   $b^*_{a,a}$   $C^*_{ab,a}$   $h^*_{ab,a}$

RMa	56.7	70.66	31.47	77.35	24
JMa	56.7	-1.39	77.37	77.39	91
GMa	56.7	-75.46	17.4	77.45	167
G50BMa	56.7	-71.29	-30.25	77.45	203
BMa	56.7	4.0	-77.3	77.41	273
B50RMa	56.7	63.35	-44.4	77.36	325
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	272

## Output: Colorimetric Reflective System NCS18

for hue  $h^* = lab^*h = 162/360 = 0.451$

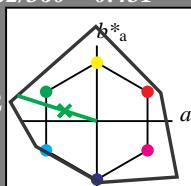
$lab^*tch$  and  $lab^*nch$

D65: hue G

LCH\*Ma: 65 110 162

olv\*Ma: 0.08 1.0 0.0

triangle lightness  $t^*$



%Gamut

$u^*_{rel} = 136$

%Regularity

$g^*_{H,rel} = 46$

$g^*_{C,rel} = 65$

relative Inform. Technology (IT)  
 $olv^3*$  1.0 1.0 1.0 (1.0)  
 $cmy^3*$  0.0 0.0 0.0 (0.0)  
 $olv^4*$  1.0 1.0 1.0 1.0  
 $cmy^4*$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*ice$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)  
 $olv^3*$  0.541 1.0 0.5 (1.0)  
 $cmy^3*$  0.459 0.0 0.5 (0.0)  
 $olv^4*$  0.541 1.0 0.5 1.0  
 $cmy^4*$  0.459 0.0 0.5 0.0

standard and adapted CIELAB

$LAB^*LAB$  80.4 -52.44 16.79

$LAB^*LABa$  80.4 -52.46 16.78

$LAB^*TChA$  75.0 55.09 162.26

relative CIELAB lab\*

$lab^*lab$  0.806 -0.475 0.152

$lab^*tch$  0.75 0.5 0.451

$lab^*nch$  0.0 0.5 0.451

relative Natural Colour (NC)

$lab^*lrij$  0.806 -0.499 0.0

$lab^*ice$  0.75 0.5 0.5

$lab^*ncE$  0.0 0.5 j99g

relative Inform. Technology (IT)  
 $olv^3*$  0.083 1.0 0.0 (1.0)  
 $cmy^3*$  0.917 0.0 1.0 (0.0)  
 $olv^4*$  0.083 1.0 0.0 1.0  
 $cmy^4*$  0.917 0.0 1.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  65.4 -104.9 33.56

$LAB^*LABa$  65.4 -104.933.55

$LAB^*TChA$  50.0 110.19 162.27

relative CIELAB lab\*

$lab^*lab$  0.612 -0.951 0.304

$lab^*tch$  0.5 1.0 0.451

$lab^*nch$  0.0 1.0 0.451

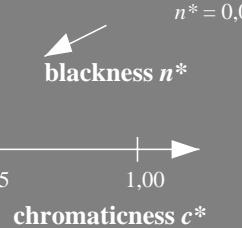
relative Natural Colour (NC)

$lab^*lrij$  0.612 -0.999 0.0

$lab^*ice$  0.5 1.0 0.5

$lab^*ncE$  0.0 1.0 g00b

$n^* = 1,0$



chromaticness  $c^*$

UE100-7, 3 step scales for constant CIELAB hue 162/360 = 0.451 (left)

$n^* = 1,0$

chromaticness  $c^*$

3 step scales for constant CIELAB hue 162/360 = 0.451 (right)

## Input: Colorimetric Reflective System NRS18

for hue  $h^* = lab^*h = 162/360 = 0.451$

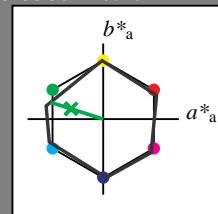
$lab^*tch$  and  $lab^*nch$

D65: hue G

LCH\*Ma: 57 73 162

olv\*Ma: 0.08 1.0 0.0

triangle lightness  $t^*$



%Gamut

$u^*_{rel} = 100$

%Regularity

$g^*_{H,rel} = 47$

$g^*_{C,rel} = 100$

relative Inform. Technology (IT)  
 $olv^3*$  1.0 1.0 1.0 (1.0)  
 $cmy^3*$  0.0 0.0 0.0 (0.0)  
 $olv^4*$  1.0 1.0 1.0 1.0  
 $cmy^4*$  0.0 0.0 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  95.41 0.0 0.0

$LAB^*LABa$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*ice$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)  
 $olv^3*$  0.5 0.5 0.5 (1.0)  
 $cmy^3*$  0.5 0.5 0.5 (0.0)  
 $olv^4*$  1.0 1.0 1.0 0.5  
 $cmy^4*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  56.72 0.05 0.0

$LAB^*LABa$  56.72 0.0 0.0

$LAB^*TChA$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.5 0.0 0.0

$lab^*ice$  0.5 0.0 0.0

$lab^*ncE$  0.5 0.0 -

relative Inform. Technology (IT)  
 $olv^3*$  0.0 0.0 0.0 (1.0)  
 $cmy^3*$  1.0 1.0 1.0 (0.0)  
 $olv^4*$  1.0 1.0 1.0 0.0  
 $cmy^4*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.09 0.02

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*ice$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

## NRS18; adapted (a) CIELAB data

$L^*=L^*_{a,a}$   $a^*_{a,a}$   $b^*_{a,a}$   $C^*_{ab,a}$   $h^*_{ab,a}$

RMa	56.7	70.66	31.47	77.35	24
JMa	56.7	-1.39	77.37	77.39	91
GMa	56.7	-75.46	17.4	77.45	167
G50BMa	56.7	-71.29	-30.25	77.45	203
BMa	56.7	4.0	-77.3	77.41	273
B50RMa	56.7	63.35	-44.4	77.36	325
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	272

## Output: Colorimetric Reflective System NRS11

for hue  $h^* = lab^*h = 162/360 = 0.451$

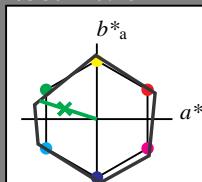
$lab^*tch$  and  $lab^*nch$

D65: hue G

LCH\*Ma: 53 80 162

olv\*Ma: 0.08 1.0 0.0

triangle lightness  $t^*$



%Gamut

$u^*_{rel} = 119$

%Regularity

$g^*_{H,rel} = 47$

$g^*_{C,rel} = 100$

relative Inform. Technology (IT)  
 $olv^3*$  1.0 1.0 1.0 (1.0)  
 $cmy^3*$  0.0 0.0 0.0 (0.0)  
 $olv^4*$  1.0 1.0 1.0 1.0  
 $cmy^4*$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*ice$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)  
 $olv^3*$  0.54 1.0 0.5 (1.0)  
 $cmy^3*$  0.46 0.0 0.5 (0.0)  
 $olv^4*$  1.0 1.0 1.0 1.0  
 $cmy^4*$  0.0 0.0 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  76.05 -34.7 11.12

$LAB^*LABa$  76.05 -34.73 11.11

$LAB^*TChA$  75.0 36.48 162.26

relative CIELAB lab\*

$lab^*lab$  0.75 -0.475 0.152

$lab^*tch$  0.75 0.5 0.451

$lab^*nch$  0.0 0.5 0.451

relative Natural Colour (NC)

$lab^*lrij$  0.75 -0.499 0.0

$lab^*ice$  0.75 0.2 0.5

$lab^*ncE$  0.0 0.5 0.499g

relative Inform. Technology (IT)  
 $olv^3*$  0.081 1.0 0.0 (1.0)  
 $cmy^3*$  0.919 0.0 1.0 (0.0)  
 $olv^4*$  0.081 1.0 0.0 1.0  
 $cmy^4*$  0.919 0.0 1.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  56.7 -69.43 22.23

$LAB^*LABa$  56.7 -69.49 22.22

$LAB^*TChA$  50.0 72.96 162.27

relative CIELAB lab\*

$lab^*lab$  0.5 -0.951 0.304

$lab^*tch$  0.5 1.0 0.451

$lab^*nch$  0.0 1.0 0.451

relative Natural Colour (NC)

$lab^*lrij$  0.5 -0.999 0.0

$lab^*ice$  0.5 1.0 0.5

$lab^*ncE$  0.0 1.0 g00b

$n^* = 0,00$

blackness  $n^*$

0,25 0,50 0,75 1,00

chromaticness  $c^*$

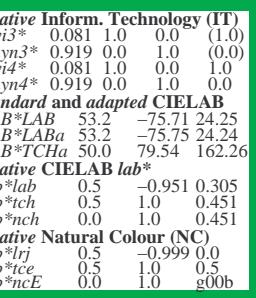
$n^* = 1,0$

3 step scales for constant CIELAB hue 162/360 = 0.451 (right)

## NRS11; adapted (a) CIELAB data

$L^*=L^*_{a,a}$   $a^*_{a,a}$   $b^*_{a,a}$   $C^*_{ab,a}$   $h^*_{ab,a}$

RMa	53.2	77.06	34.32	84.36	24
JMa	53.2	-1.51	84.38	84.39	91
GMa	53.2	-82.27	18.98	84.44	167
G50BMa	53.2	-77.72	-32.98	84.44	203
BMa	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



$n^* = 0,00$

blackness  $n^*$

0,25 0,50 0,75 1,00

chromaticness  $c^*$

UE100-7, 3 step scales for constant CIELAB hue 162/360 = 0.451 (left)

## Input: Colorimetric Reflective System NRS18

for hue  $h^* = lab^*h = 162/360 = 0.451$

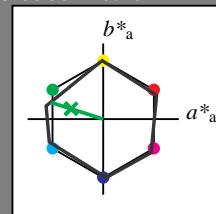
$lab^*tch$  and  $lab^*nch$

D65: hue G

LCH\*Ma: 57 73 162

olv\*Ma: 0.08 1.0 0.0

triangle lightness  $t^*$



%Gamut

$u^*_{rel} = 100$

%Regularity

$g^*_{H,rel} = 47$

$g^*_{C,rel} = 100$

relative Inform. Technology (IT)  
 $olv^3*$  1.0 1.0 1.0 (1.0)  
 $cmy^3*$  0.0 0.0 0.0 (0.0)  
 $olv^4*$  1.0 1.0 1.0 1.0  
 $cmy^4*$  0.0 0.0 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  95.41 0.0 0.0

$LAB^*LABa$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*ice$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)  
 $olv^3*$  0.5 0.5 0.5 (1.0)  
 $cmy^3*$  0.5 0.5 0.5 (0.0)  
 $olv^4*$  1.0 1.0 1.0 0.5  
 $cmy^4*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  56.72 0.05 0.0

$LAB^*LABa$  56.72 0.0 0.0

$LAB^*TChA$  50.0 0.01 -

relative CIELAB  $lab^*$

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.5 0.0 0.0

$lab^*ice$  0.5 0.0 0.0

$lab^*ncE$  0.5 0.0 -

relative Inform. Technology (IT)  
 $olv^3*$  0.0 0.0 0.0 (1.0)  
 $cmy^3*$  1.0 1.0 1.0 (0.0)  
 $olv^4*$  1.0 1.0 1.0 0.0  
 $cmy^4*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.09 0.02

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB  $lab^*$

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*ice$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

## NRS18; adapted (a) CIELAB data

$L^*=L^*_{a,a}$   $a^*_{a,a}$   $b^*_{a,a}$   $C^*_{ab,a}$   $h^*_{ab,a}$

RMa	56.7	70.66	31.47	77.35	24
JMa	56.7	-1.39	77.37	77.39	91
GMa	56.7	-75.46	17.4	77.45	167
G50BMa	56.7	-71.29	-30.25	77.45	203
BMa	56.7	4.0	-77.3	77.41	273
B50RMa	56.7	63.35	-44.4	77.36	325
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	272

## relative Inform. Technology (IT)

$olv^3*$  0.54 1.0 0.5 (1.0)

$cmy^3*$  0.46 0.0 0.5 (0.0)

$olv^4*$  0.54 1.0 0.5 1.0

$cmy^4*$  0.46 0.0 0.5 0.0

## standard and adapted CIELAB

$LAB^*LAB$  76.05 -34.7 11.12

$LAB^*LABa$  76.05 -34.73 11.11

$LAB^*TChA$  75.0 36.48 162.26

## relative CIELAB $lab^*$

$lab^*lab$  0.75 -0.475 0.152

$lab^*tch$  0.75 0.5 0.451

$lab^*nch$  0.0 0.5 0.451

## relative Natural Colour (NC)

$lab^*lrij$  0.75 -0.499 0.0

$lab^*ice$  0.75 0.2 0.5

$lab^*ncE$  0.0 0.5 j99g

## relative Inform. Technology (IT)

$olv^3*$  0.081 1.0 0.0 (1.0)

$cmy^3*$  0.919 0.0 1.0 (0.0)

$olv^4*$  0.081 1.0 0.0 1.0

$cmy^4*$  0.919 0.0 1.0 0.0

## standard and adapted CIELAB

$LAB^*LAB$  56.7 -69.43 22.23

$LAB^*LABa$  56.7 -69.49 22.22

$LAB^*TChA$  50.0 72.96 162.27

## relative CIELAB $lab^*$

$lab^*lab$  0.5 -0.951 0.304

$lab^*tch$  0.5 1.0 0.451

$lab^*nch$  0.0 1.0 0.451

## relative Natural Colour (NC)

$lab^*lrij$  0.5 -0.999 0.0

$lab^*ice$  0.5 1.0 0.5

$lab^*ncE$  0.0 1.0 g00b

$n^* = 0,00$

blackness  $n^*$

chromaticness  $c^*$

$n^* = 0,50$

$n^* = 1,00$

## Output: Colorimetric Reflective System NCS11

for hue  $h^* = lab^*h = 162/360 = 0.451$

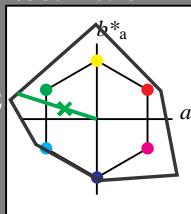
$lab^*tch$  and  $lab^*nch$

D65: hue G

LCH\*Ma: 65 110 162

olv\*Ma: 0.08 1.0 0.0

triangle lightness  $t^*$



%Gamut

$u^*_{rel} = 149$

%Regularity

$g^*_{H,rel} = 46$

$g^*_{C,rel} = 65$

relative Inform. Technology (IT)  
 $olv^3*$  1.0 1.0 1.0 (1.0)  
 $cmy^3*$  0.0 0.0 0.0 (0.0)  
 $olv^4*$  1.0 1.0 1.0 1.0  
 $cmy^4*$  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 -

$lab^*nch$  0.0 0.0 -

## relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*ice$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

## relative Inform. Technology (IT)

$olv^3*$  0.541 1.0 0.5 (1.0)

$cmy^3*$  0.459 0.0 0.5 (0.0)

$olv^4*$  0.541 1.0 0.5 1.0

$cmy^4*$  0.459 0.0 0.5 0.0

## standard and adapted CIELAB

$LAB^*LAB$  80.4 -52.43 16.79

$LAB^*LABa$  80.4 -52.45 16.79

$LAB^*TChA$  75.0 55.08 162.25

## 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)

$lab^*lrij$  0.822 -0.499 0.0

$lab^*ice$  0.75 0.5 0.5

$lab^*ncE$  0.0 0.5 j99g

## relative Inform. Technology (IT)

$olv^3*$  0.041 0.5 0.0 (1.0)

$cmy^3*$  0.959 0.5 1.0 (0.0)

$olv^4*$  0.541 1.0 0.5 0.5

$cmy^4*$  0.459 0.0 0.5 0.5

## standard and adapted CIELAB

$LAB^*LAB$  53.21 0.04 0.0

$LAB^*LABa$  53.21 0.0 0.0

$LAB^*TChA$  50.0 0.01 -

## relative CIELAB $lab^*$

$lab^*lab$  0.322 -0.475 0.152

$lab^*tch$  0.25 0.5 0.451

$lab^*nch$  1.0 0.0 -

## relative Natural Colour (NC)

$lab^*lrij$  0.322 -0.499 0.0

$lab^*ice$  0.25 0.5 0.5

$lab^*ncE$  1.0 0.0 -

## relative Inform. Technology (IT)

$olv^3*$  0.041 0.5 0.0 (1.0)

$cmy^3*$  0.959 0.5 1.0 (0.0)

$olv^4*$  0.541 1.0 0.5 0.5

$cmy^4*$  0.459 0.0 0.5 0.5

## standard and adapted CIELAB

$LAB^*LAB$  11.01 0.07 0.01

$LAB^*LABa$  11.01 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

## relative CIELAB $lab^*$

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

## relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*ice$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

## relative Inform. Technology (IT)

$olv^3*$  0.041 0.5 0.0 (1.0)

$cmy^3*$  0.959 0.5 1.0 (0.0)

$olv^4*$  0.541 1.0 0.5 0.5

$cmy^4*$  0.459 0.0 0.5 0.5

## standard and adapted CIELAB

$LAB^*LAB$  11.01 0.07 0.01

$LAB^*LABa$  11.01 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

## relative CIELAB $lab^*$

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch</math$

### Input: Colorimetric Reflective System NCS18

for hue  $h^* = lab^*h = 162/360 = 0.451$

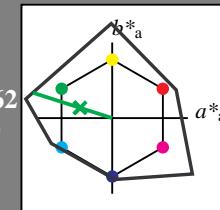
$lab^*tch$  and  $lab^*nch$

D65: hue G

LCH\*Ma: 65 110 162

olv\*Ma: 0.08 1.0 0.0

triangle lightness  $t^*$



relative Inform. Technology (IT)

olv*i3*\* 1.0 1.0 1.0 (1.0)

cmy*n3*\* 0.0 0.0 0.0 (0.0)

olv*i4*\* 1.0 1.0 1.0 1.0

cmy*n4*\* 0.0 0.0 0.0 0.0

standard and adapted CIELAB

LAB\*LAB 95.41 0.0 -0.01

LAB\*LAB*a* 95.41 0.0 0.0

LAB\*TCh*a* 99.99 0.01 -

relative CIELAB lab\*

lab\**lab* 1.0 0.0 0.0

lab\**tch* 1.0 0.0 -

lab\**nch* 0.0 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)

olv*i3*\* 0.5 0.5 0.5 (1.0)

cmy*n3*\* 0.5 0.5 0.5 (0.0)

olv*i4*\* 1.0 1.0 1.0 0.5

cmy*n4*\* 0.0 0.0 0.0 0.5

standard and adapted CIELAB

LAB\*LAB 56.72 0.05 0.0

LAB\*LAB*a* 56.72 0.0 0.0

LAB\*TCh*a* 50.0 0.01 -

relative CIELAB lab\*

lab\**lab* 0.5 0.0 0.0

lab\**tch* 0.5 0.0 -

lab\**nch* 0.5 0.0 -

relative Natural Colour (NC)

lab\**lrj* 0.5 0.0 0.0

lab\**tce* 0.5 0.0 0.0

lab\**ncE* 0.5 0.0 -

relative Inform. Technology (IT)

olv*i3*\* 0.0 0.0 0.0 (1.0)

cmy*n3*\* 1.0 1.0 1.0 (0.0)

olv*i4*\* 1.0 1.0 1.0 0.0

cmy*n4*\* 0.0 0.0 0.0 1.0

standard and adapted CIELAB

LAB\*LAB 18.02 0.09 0.02

LAB\*LAB*a* 18.02 0.0 0.0

LAB\*TCh*a* 0.01 0.01 -

relative CIELAB lab\*

lab\**lab* 0.0 0.0 0.0

lab\**tch* 0.0 0.0 -

lab\**nch* 1.0 0.0 -

relative Natural Colour (NC)

lab\**lrj* 0.0 0.0 0.0

lab\**tce* 0.0 0.0 -

lab\**ncE* 1.0 0.0 -

$n^* = 1,0$

### NCS18; adapted (a) CIELAB data

$L^*=L^*_{ab}$   $a^*_a$   $b^*_a$   $C^*_{ab,a}$   $h^*_{ab,a}$

RMa	47.15	84.63	37.24	92.46	24
JMa	91.37	-1.27	125.03	125.03	91
GMa	63.07	-114.29	25.34	117.07	167
G50BMa	59.47	-80.61	-33.45	87.29	203
BMa	49.01	3.63	-81.2	81.29	273
B50RMA	44.06	106.07	-73.94	129.31	325
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	272

%Gamut

$u^*_{rel} = 136$

%Regularity

$g^*_{H,rel} = 46$

$g^*_{C,rel} = 65$

relative Inform. Technology (IT)

olv*i3*\* 0.541 1.0 0.5 (1.0)

cmy*n3*\* 0.459 0.0 0.5 (0.0)

olv*i4*\* 0.541 1.0 0.5 1.0

cmy*n4*\* 0.459 0.0 0.5 0.0

standard and adapted CIELAB

LAB\*LAB 80.4 -52.44 16.79

LAB\*LAB*a* 80.4 -52.46 16.78

LAB\*TCh*a* 75.0 55.09 162.26

relative CIELAB lab\*

lab\**lab* 0.806 -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\**lrj* 0.806 -0.499 0.0

lab\**tce* 0.75 0.2 0.5

lab\**ncE* 0.0 0.5 0.99g

relative Inform. Technology (IT)

olv*i3*\* 0.083 1.0 0.0 (1.0)

cmy*n3*\* 0.917 0.0 1.0 (0.0)

olv*i4*\* 0.083 1.0 0.0 1.0

cmy*n4*\* 0.917 0.0 1.0 0.0

standard and adapted CIELAB

LAB\*LAB 65.4 -104.9 33.56

LAB\*LAB*a* 65.4 -104.9 53.55

LAB\*TCh*a* 50.0 110.19 162.27

relative CIELAB lab\*

lab\**lab* 0.612 -0.951 0.304

lab\**tch* 0.5 1.0 0.451

lab\**nch* 0.0 1.0 0.451

relative Natural Colour (NC)

lab\**lrj* 0.612 -0.999 0.0

lab\**tce* 0.5 1.0 0.5

lab\**ncE* 0.0 1.0 g00b

relative Inform. Technology (IT)

olv*i3*\* 0.0 0.0 0.0 (1.0)

cmy*n3*\* 1.0 1.0 1.0 (0.0)

olv*i4*\* 1.0 1.0 1.0 0.0

cmy*n4*\* 0.0 0.0 0.0 1.0

standard and adapted CIELAB

LAB\*LAB 18.02 0.09 0.02

LAB\*LAB*a* 18.02 0.0 0.0

LAB\*TCh*a* 0.01 0.01 -

relative CIELAB lab\*

lab\**lab* 0.306 -0.475 0.152

lab\**tch* 0.25 0.5 0.451

lab\**nch* 0.5 0.5 0.451

relative Natural Colour (NC)

lab\**lrj* 0.306 -0.499 0.0

lab\**tce* 0.25 0.5 0.5

lab\**ncE* 0.5 0.5 g00b

$n^* = 0,00$

blackness  $n^*$

chromaticness  $c^*$

### Output: Colorimetric Reflective System ORS18

for hue  $h^* = lab^*h = 164/360 = 0.457$

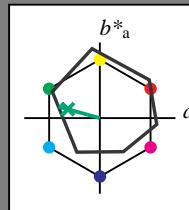
$lab^*tch$  and  $lab^*nch$

D65: hue G

LCH\*Ma: 53 57 164

olv\*Ma: 0.0 1.0 0.25

triangle lightness  $t^*$



%Gamut

$u^*_{rel} = 93$

%Regularity

$g^*_{H,rel} = 57$

$g^*_{C,rel} = 59$

relative Inform. Technology (IT)

olv*i3*\* 0.5 1.0 1.0 (1.0)

cmy*n3*\* 0.5 0.0 0.0 (0.0)

olv*i4*\* 0.5 1.0 1.0 1.0

cmy*n4*\* 0.5 0.0 0.0 0.0

standard and adapted CIELAB

LAB\*LAB 95.41 -0.97 4.75

LAB\*LAB*a* 95.41 0.0 0.0

LAB\*TCh*a* 99.99 0.01 -

relative CIELAB lab\*

lab\**lab* 1.0 0.0 0.0

lab\**tch* 1.0 0.0 -

lab\**nch* 0.0 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)

olv*i3*\* 0.5 0.5 0.5 (1.0)

cmy*n3*\* 0.5 0.5 0.5 (0.0)

olv*i4*\* 0.5 1.0 0.623 1.0

cmy*n4*\* 0.5 0.0 0.377 0.0

standard and adapted CIELAB

LAB\*LAB 74.1 -27.96 10.94

LAB\*LAB*a* 74.1 -27.39 7.62

LAB\*TCh*a* 75.0 28.44 164.46

relative CIELAB lab\*

lab\**lab* 0.725 -0.481 0.134

lab\**tch* 0.75 0.5 0.457

lab\**nch* 0.0 0.5 0.457

relative Natural Colour (NC)

lab\**lrj* 0.725 -0.499 0.0

lab\**tce* 0.75 0.5 0.5

lab\**ncE* 0.0 0.5 g00b

$n^* = 1,0$

blackness  $n^*$

chromaticness  $c^*$

$n^* = 0,00$

blackness  $n^*$

chromaticness  $c^*$

UE100-7, 3 step scales for constant CIELAB hue 162/360 = 0.451 (left)

3 step scales for constant CIELAB hue 164/360 = 0.457 (right)

## Input: Colorimetric Reflective System NCS18

for hue  $h^* = lab^*h = 162/360 = 0.451$

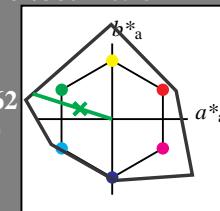
$lab^*tch$  and  $lab^*nch$

D65: hue G

LCH\*Ma: 65 110 162

olv\*Ma: 0.08 1.0 0.0

triangle lightness  $t^*$



%Gamut

$u^*_{rel} = 136$

%Regularity

$g^*_{H,rel} = 46$

$g^*_{C,rel} = 65$

relative Inform. Technology (IT)

$olv^3* 1.0 \quad 1.0 \quad 1.0 \quad (1.0)$

$cmy^3* 0.0 \quad 0.0 \quad 0.0 \quad (0.0)$

$olv^4* 1.0 \quad 1.0 \quad 1.0 \quad 1.0$

$cmy^4* 0.0 \quad 0.0 \quad 0.0 \quad 0.0$

standard and adapted CIELAB

$LAB^*LAB \quad 95.41 \quad 0.0 \quad -0.01$

$LAB^*LABa \quad 95.41 \quad 0.0 \quad 0.0$

$LAB^*TCh \quad 99.99 \quad 0.01 \quad -$

relative CIELAB lab\*

$lab^*lab \quad 1.0 \quad 0.0 \quad 0.0$

$lab^*tch \quad 1.0 \quad 0.0 \quad -$

$lab^*nch \quad 0.0 \quad 0.0 \quad -$

relative Natural Colour (NC)

$lab^*lrij \quad 1.0 \quad 0.0 \quad 0.0$

$lab^*ice \quad 1.0 \quad 0.0 \quad -$

$lab^*ncE \quad 0.0 \quad 0.0 \quad -$

relative Inform. Technology (IT)

$olv^3* 0.5 \quad 0.5 \quad 0.5 \quad (1.0)$

$cmy^3* 0.5 \quad 0.5 \quad 0.5 \quad (0.0)$

$olv^4* 1.0 \quad 1.0 \quad 1.0 \quad 0.5$

$cmy^4* 0.0 \quad 0.0 \quad 0.0 \quad 0.5$

standard and adapted CIELAB

$LAB^*LAB \quad 56.72 \quad 0.05 \quad 0.0$

$LAB^*LABa \quad 56.72 \quad 0.0 \quad 0.0$

$LAB^*TCh \quad 50.0 \quad 0.01 \quad -$

relative CIELAB lab\*

$lab^*lab \quad 0.5 \quad 0.0 \quad 0.0$

$lab^*tch \quad 0.5 \quad 0.0 \quad -$

$lab^*nch \quad 0.5 \quad 0.0 \quad -$

relative Natural Colour (NC)

$lab^*lrij \quad 0.5 \quad 0.0 \quad 0.0$

$lab^*ice \quad 0.5 \quad 0.0 \quad -$

$lab^*ncE \quad 0.5 \quad 0.0 \quad -$

relative Inform. Technology (IT)

$olv^3* 0.0 \quad 0.0 \quad 0.0 \quad (1.0)$

$cmy^3* 1.0 \quad 1.0 \quad 1.0 \quad (0.0)$

$olv^4* 1.0 \quad 1.0 \quad 1.0 \quad 0.0$

$cmy^4* 0.0 \quad 0.0 \quad 0.0 \quad 1.0$

standard and adapted CIELAB

$LAB^*LAB \quad 18.02 \quad 0.09 \quad 0.02$

$LAB^*LABa \quad 18.02 \quad 0.0 \quad 0.0$

$LAB^*TCh \quad 0.01 \quad 0.01 \quad -$

relative CIELAB lab\*

$lab^*lab \quad 0.0 \quad 0.0 \quad 0.0$

$lab^*tch \quad 0.0 \quad 0.0 \quad -$

$lab^*nch \quad 1.0 \quad 0.0 \quad -$

relative Natural Colour (NC)

$lab^*lrij \quad 0.0 \quad 0.0 \quad 0.0$

$lab^*ice \quad 0.0 \quad 0.0 \quad -$

$lab^*ncE \quad 1.0 \quad 0.0 \quad -$

$n^* = 1,0$

$n^* = 0,00$

$n^* = 0,50$

$chromaticness c^*$

$0,25 \quad 0,50 \quad n^* = 0,50 \quad 0,75 \quad 1,00$

$blackness n^*$

$0,25 \quad 0,50 \quad n^* = 0,50 \quad 0,75 \quad 1,00$

$blackness n^*$

$0,25 \quad 0,50 \quad n^* = 0,50 \quad 0,75 \quad 1,00$

$blackness n^*$

$0,25 \quad 0,50 \quad n^* = 0,50 \quad 0,75 \quad 1,00$

$blackness n^*$

UE100-7, 3 step scales for constant CIELAB hue 162/360 = 0.451 (left)

## Output: Colorimetric Reflective System MRS18

for hue  $h^* = lab^*h = 164/360 = 0.457$

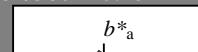
$lab^*tch$  and  $lab^*nch$

D65: hue G

LCH\*Ma: 56 66 164

olv\*Ma: 0.1 1.0 0.0

triangle lightness  $t^*$



%Gamut

$u^*_{rel} = 91$

%Regularity

$g^*_{H,rel} = 41$

$g^*_{C,rel} = 52$

relative Inform. Technology (IT)

$olv^3* 1.0 \quad 1.0 \quad 1.0 \quad (1.0)$

$cmy^3* 0.0 \quad 0.0 \quad 0.0 \quad (0.0)$

$olv^4* 1.0 \quad 1.0 \quad 1.0 \quad 1.0$

$cmy^4* 0.0 \quad 0.0 \quad 0.0 \quad 0.0$

standard and adapted CIELAB

$LAB^*LAB \quad 95.41 \quad -0.97 \quad 4.75$

$LAB^*LABa \quad 95.41 \quad 0.0 \quad 0.0$

$LAB^*TCh \quad 99.99 \quad 0.01 \quad -$

relative CIELAB lab\*

$lab^*lab \quad 1.0 \quad 0.0 \quad 0.0$

$lab^*tch \quad 1.0 \quad 0.0 \quad -$

$lab^*nch \quad 0.0 \quad 0.0 \quad -$

relative Natural Colour (NC)

$lab^*lrij \quad 1.0 \quad 0.0 \quad 0.0$

$lab^*ice \quad 1.0 \quad 0.0 \quad -$

$lab^*ncE \quad 0.0 \quad 0.0 \quad -$

relative Inform. Technology (IT)

$olv^3* 0.551 \quad 1.0 \quad 0.5 \quad (1.0)$

$cmy^3* 0.449 \quad 0.0 \quad 0.5 \quad (0.0)$

$olv^4* 0.551 \quad 1.0 \quad 0.5 \quad 1.0$

$cmy^4* 0.449 \quad 0.0 \quad 0.5 \quad 0.0$

standard and adapted CIELAB

$LAB^*LAB \quad 75.74 \quad -32.2 \quad 12.22$

$LAB^*LABa \quad 75.74 \quad -31.6 \quad 8.79$

$LAB^*TCh \quad 75.0 \quad 32.81 \quad 164.46$

relative CIELAB lab\*

$lab^*lab \quad 0.746 \quad -0.481 \quad 0.134$

$lab^*tch \quad 0.75 \quad 0.5 \quad 0.457$

$lab^*nch \quad 0.0 \quad 0.5 \quad 0.457$

relative Natural Colour (NC)

$lab^*lrij \quad 0.746 \quad -0.499 \quad 0.0$

$lab^*ice \quad 0.75 \quad 0.5 \quad 0.5$

$lab^*ncE \quad 0.0 \quad 0.5 \quad g00b$

relative Inform. Technology (IT)

$olv^3* 0.051 \quad 0.5 \quad 0.0 \quad (1.0)$

$cmy^3* 0.949 \quad 0.5 \quad 1.0 \quad (0.0)$

$olv^4* 0.551 \quad 1.0 \quad 0.5 \quad 0.5$

$cmy^4* 0.449 \quad 0.0 \quad 0.5 \quad 0.5$

standard and adapted CIELAB

$LAB^*LAB \quad 18.02 \quad 0.5 \quad -0.46$

$LAB^*LABa \quad 18.02 \quad 0.0 \quad 0.0$

$LAB^*TCh \quad 0.01 \quad 0.01 \quad -$

relative CIELAB lab\*

$lab^*lab \quad 0.0 \quad 0.0 \quad 0.0$

$lab^*tch \quad 0.0 \quad 0.0 \quad -$

$lab^*nch \quad 1.0 \quad 0.0 \quad -$

relative Natural Colour (NC)

$lab^*lrij \quad 0.0 \quad 0.0 \quad 0.0$

$lab^*ice \quad 0.0 \quad 0.0 \quad -$

$lab^*ncE \quad 1.0 \quad 0.0 \quad -$

$n^* = 1,0$

$n^* = 0,00$

$n^* = 0,50$

$n^* = 1,00$

$n^* = 0,00$

$n^* = 0,50$

$n^* = 1,00$

$n^* = 0,00$

$n^* = 0,50$

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$n^* = 0,00$

$n^* = 0,50$

$n^* = 1,00$

$n^* = 0,00$

$n^* = 0,50$

$n^* = 1,00$

$n^* = 0,00$

$n^* = 0,50</math$

## Input: Colorimetric Reflective System NCS18

for hue  $h^* = lab^*h = 162/360 = 0.451$

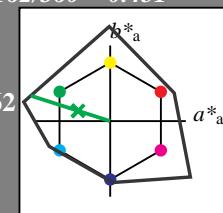
$lab^*tch$  and  $lab^*nch$

D65: hue G

LCH\*Ma: 65 110 162

olv\*Ma: 0.08 1.0 0.0

triangle lightness  $t^*$



%Gamut

$u^*_{rel} = 136$

%Regularity

$g^*_{H,rel} = 46$

$g^*_{C,rel} = 65$

relative Inform. Technology (IT)  
 $olv^3* 1.0 \quad 1.0 \quad 1.0 \quad (1.0)$   
 $cmyn^3* 0.0 \quad 0.0 \quad 0.0 \quad (0.0)$   
 $olv^4* 1.0 \quad 1.0 \quad 1.0 \quad 1.0$   
 $cmyn^4* 0.0 \quad 0.0 \quad 0.0 \quad 0.0$

standard and adapted CIELAB  
 $LAB^*LAB \quad 95.41 \quad 0.0 \quad -0.01$   
 $LAB^*LABa \quad 95.41 \quad 0.0 \quad 0.0$   
 $LAB^*TCh \quad 99.99 \quad 0.01 \quad -$

relative CIELAB lab\*

$lab^*lab \quad 1.0 \quad 0.0 \quad 0.0$

$lab^*tch \quad 1.0 \quad 0.0 \quad -$

$lab^*nch \quad 0.0 \quad 0.0 \quad -$

relative Natural Colour (NC)

$lab^*lrij \quad 1.0 \quad 0.0 \quad 0.0$

$lab^*ice \quad 1.0 \quad 0.0 \quad -$

$lab^*ncE \quad 0.0 \quad 0.0 \quad -$

relative Inform. Technology (IT)  
 $olv^3* 0.5 \quad 0.5 \quad 0.5 \quad (1.0)$   
 $cmyn^3* 0.5 \quad 0.5 \quad 0.5 \quad (0.0)$   
 $olv^4* 1.0 \quad 1.0 \quad 1.0 \quad 0.5$   
 $cmyn^4* 0.0 \quad 0.0 \quad 0.0 \quad 0.5$

standard and adapted CIELAB  
 $LAB^*LAB \quad 56.72 \quad 0.05 \quad 0.0$   
 $LAB^*LABa \quad 56.72 \quad 0.0 \quad 0.0$   
 $LAB^*TCh \quad 50.0 \quad 0.01 \quad -$

relative CIELAB lab\*

$lab^*lab \quad 0.5 \quad 0.0 \quad 0.0$

$lab^*tch \quad 0.5 \quad 0.0 \quad -$

$lab^*nch \quad 0.5 \quad 0.0 \quad -$

relative Natural Colour (NC)

$lab^*lrij \quad 0.5 \quad 0.0 \quad 0.0$

$lab^*ice \quad 0.5 \quad 0.0 \quad -$

$lab^*ncE \quad 0.5 \quad 0.0 \quad -$

relative Inform. Technology (IT)  
 $olv^3* 0.0 \quad 0.0 \quad 0.0 \quad (1.0)$   
 $cmyn^3* 1.0 \quad 1.0 \quad 1.0 \quad (0.0)$   
 $olv^4* 1.0 \quad 1.0 \quad 1.0 \quad 0.0$   
 $cmyn^4* 0.0 \quad 0.0 \quad 0.0 \quad 1.0$

standard and adapted CIELAB  
 $LAB^*LAB \quad 18.02 \quad 0.09 \quad 0.02$   
 $LAB^*LABa \quad 18.02 \quad 0.0 \quad 0.0$   
 $LAB^*TCh \quad 0.01 \quad 0.01 \quad -$

relative CIELAB lab\*

$lab^*lab \quad 0.0 \quad 0.0 \quad 0.0$

$lab^*tch \quad 0.0 \quad 0.0 \quad -$

$lab^*nch \quad 1.0 \quad 0.0 \quad -$

relative Natural Colour (NC)

$lab^*lrij \quad 0.0 \quad 0.0 \quad 0.0$

$lab^*ice \quad 0.0 \quad 0.0 \quad -$

$lab^*ncE \quad 1.0 \quad 0.0 \quad -$

$n^* = 1,0$

## NCS18; adapted (a) CIELAB data

$L^*=L^*_{a,a}$   $a^*_{a,a}$   $b^*_{a,a}$   $C^*_{ab,a}$   $h^*_{ab,a}$

RMa	47.15	84.63	37.24	92.46	24
JMa	91.37	-1.27	125.03	125.03	91
GMa	63.07	-114.29	25.34	117.07	167
G50BMa	59.47	-80.61	-33.45	87.29	203
BMa	49.01	3.63	-81.2	81.29	273
B50RMa	44.06	106.07	-73.94	129.31	325
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	272

## Output: Colorimetric Reflective System TRS18

for hue  $h^* = lab^*h = 164/360 = 0.457$

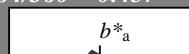
$lab^*tch$  and  $lab^*nch$

D65: hue G

LCH\*Ma: 53 57 164

olv\*Ma: 0.0 1.0 0.25

triangle lightness  $t^*$



%Gamut

$u^*_{rel} = 93$

%Regularity

$g^*_{H,rel} = 57$

$g^*_{C,rel} = 59$

relative Inform. Technology (IT)  
 $olv^3* 1.0 \quad 1.0 \quad 1.0 \quad (1.0)$   
 $cmyn^3* 0.0 \quad 0.0 \quad 0.0 \quad (0.0)$   
 $olv^4* 1.0 \quad 1.0 \quad 1.0 \quad 1.0$   
 $cmyn^4* 0.0 \quad 0.0 \quad 0.0 \quad 0.0$

standard and adapted CIELAB

$LAB^*LAB \quad 95.41 \quad -0.97 \quad 4.75$

$LAB^*LABa \quad 95.41 \quad 0.0 \quad 0.0$

$LAB^*TCh \quad 99.99 \quad 0.01 \quad -$

relative CIELAB lab\*

$lab^*lab \quad 1.0 \quad 0.0 \quad 0.0$

$lab^*tch \quad 1.0 \quad 0.0 \quad -$

$lab^*nch \quad 0.0 \quad 0.0 \quad -$

relative Natural Colour (NC)

$lab^*lrij \quad 1.0 \quad 0.0 \quad 0.0$

$lab^*ice \quad 1.0 \quad 0.0 \quad -$

$lab^*ncE \quad 0.0 \quad 0.0 \quad -$

relative Inform. Technology (IT)  
 $olv^3* 0.5 \quad 1.0 \quad 1.0 \quad (1.0)$   
 $cmyn^3* 0.5 \quad 0.0 \quad 0.0 \quad (0.0)$   
 $olv^4* 0.5 \quad 1.0 \quad 1.0 \quad 1.0$   
 $cmyn^4* 0.5 \quad 0.0 \quad 0.0 \quad 0.0$

standard and adapted CIELAB

$LAB^*LAB \quad 74.1 \quad -27.96 \quad 10.94$

$LAB^*LABa \quad 74.1 \quad -27.39 \quad 7.62$

$LAB^*TCh \quad 75.0 \quad 28.44 \quad 164.46$

relative CIELAB lab\*

$lab^*lab \quad 0.725 \quad -0.481 \quad 0.134$

$lab^*tch \quad 0.75 \quad 0.5 \quad 0.457$

$lab^*nch \quad 0.0 \quad 0.5 \quad 0.457$

relative Natural Colour (NC)

$lab^*lrij \quad 0.725 \quad -0.499 \quad 0.0$

$lab^*ice \quad 0.75 \quad 0.5 \quad 0.5$

$lab^*ncE \quad 0.0 \quad 0.5 \quad g00b$

relative Inform. Technology (IT)  
 $olv^3* 0.0 \quad 0.5 \quad 0.5 \quad (1.0)$   
 $cmyn^3* 1.0 \quad 0.5 \quad 0.5 \quad (0.0)$   
 $olv^4* 0.0 \quad 1.0 \quad 1.0 \quad 0.5$   
 $cmyn^4* 0.0 \quad 0.0 \quad 0.0 \quad 0.5$

standard and adapted CIELAB

$LAB^*LAB \quad 56.71 \quad -0.23 \quad 2.14$

$LAB^*LABa \quad 56.71 \quad 0.0 \quad 0.0$

$LAB^*TCh \quad 50.0 \quad 0.01 \quad -$

relative CIELAB lab\*

$lab^*lab \quad 0.612 \quad -0.951 \quad 0.304$

$lab^*tch \quad 0.5 \quad 1.0 \quad 0.451$

$lab^*nch \quad 0.0 \quad 1.0 \quad 0.451$

relative Natural Colour (NC)

$lab^*lrij \quad 0.612 \quad -0.999 \quad 0.0$

$lab^*ice \quad 0.5 \quad 1.0 \quad 0.5$

$lab^*ncE \quad 0.0 \quad 1.0 \quad g00b$

$n^* = 0,00$

blackness  $n^*$

chromaticness  $c^*$

## TRS18; adapted (a) CIELAB data

$L^*=L^*_{a,a}$   $a^*_{a,a}$   $b^*_{a,a}$   $C^*_{ab,a}$   $h^*_{ab,a}$

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)  
 $olv^3* 0.5 \quad 1.0 \quad 0.623 \quad (1.0)$   
 $cmyn^3* 0.5 \quad 0.0 \quad 0.377 \quad (0.0)$   
 $olv^4* 0.5 \quad 1.0 \quad 0.623 \quad 1.0$   
 $cmyn^4* 0.5 \quad 0.0 \quad 0.377 \quad 0.0$

standard and adapted CIELAB

$LAB^*LAB \quad 74.1 \quad -27.96 \quad 10.94$

$LAB^*LABa \quad 74.1 \quad -27.39 \quad 7.62$

$LAB^*TCh \quad 75.0 \quad 28.44 \quad 164.46$

relative CIELAB lab\*

$lab^*lab \quad 0.725 \quad -0.481 \quad 0.134$

$lab^*tch \quad 0.75 \quad 0.5 \quad 0.457$

$lab^*nch \quad 0.0 \quad 0.5 \quad 0.457$

relative Natural Colour (NC)

$lab^*lrij \quad 0.725 \quad -0.499 \quad 0.0$

$lab^*ice \quad 0.75 \quad 0.5 \quad 0.5$

$lab^*ncE \quad 0.0 \quad 0.5 \quad g00b$

$n^* = 0,00$

blackness  $n^*$

chromaticness  $c^*$

UE100-7, 3 step scales for constant CIELAB hue 162/360 = 0.451 (left)

3 step scales for constant CIELAB hue 164/360 = 0.457 (right)

## Input: Colorimetric Reflective System NCS18

for hue  $h^* = lab^*h = 162/360 = 0.451$

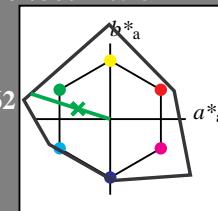
$lab^*tch$  and  $lab^*nch$

D65: hue G

LCH\*Ma: 65 110 162

olv\*Ma: 0.08 1.0 0.0

triangle lightness  $t^*$



%Gamut

$u^*_{rel} = 136$

%Regularity

$g^*_{H,rel} = 46$

$g^*_{C,rel} = 65$

relative Inform. Technology (IT)

$olv^3*$  1.0 1.0 1.0 (1.0)

$cmy^3*$  0.0 0.0 0.0 (0.0)

$olv^4*$  1.0 1.0 1.0 1.0

$cmy^4*$  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

$LAB^*TCh$  99.99 0.01 -

relative CIELAB lab\*

$lab^*lab$  1.0 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*ice$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)

$olv^3*$  0.5 0.5 0.5 (1.0)

$cmy^3*$  0.5 0.5 0.5 (0.0)

$olv^4*$  1.0 1.0 1.0 0.5

$cmy^4*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  56.72 0.05 0.0

$LAB^*LABa$  56.72 0.0 0.0

$LAB^*TCh$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.5 0.0 0.0

$lab^*ice$  0.5 0.0 0.0

$lab^*ncE$  0.5 0.0 -

relative Inform. Technology (IT)

$olv^3*$  0.0 0.0 0.0 (1.0)

$cmy^3*$  1.0 1.0 1.0 (0.0)

$olv^4*$  1.0 1.0 1.0 0.0

$cmy^4*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.09 0.02

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TCh$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*ice$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

## NCS18; adapted (a) CIELAB data

$L^*=L^*_{ab}$   $a^*_{ab}$   $b^*_{ab}$   $C^*_{ab,a}$   $h^*_{ab,a}$

RMa	47.15	84.63	37.24	92.46	24
JMa	91.37	-1.27	125.03	125.03	91
GMa	63.07	-114.29	25.34	117.07	167
G50BMa	59.47	-80.61	-33.45	87.29	203
BMa	49.01	3.63	-81.2	81.29	273
B50RMa	44.06	106.07	-73.94	129.31	325
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	272

## Output: Colorimetric Reflective System MRS18a

for hue  $h^* = lab^*h = 162/360 = 0.451$

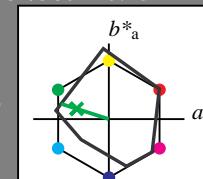
$lab^*tch$  and  $lab^*nch$

D65: hue G

LCH\*Ma: 56 66 162

olv\*Ma: 0.11 1.0 0.0

triangle lightness  $t^*$



%Gamut

$u^*_{rel} = 92$

%Regularity

$g^*_{H,rel} = 42$

$g^*_{C,rel} = 49$

relative Inform. Technology (IT)

$olv^3*$  1.0 1.0 1.0 (1.0)

$cmy^3*$  0.0 0.0 0.0 (0.0)

$olv^4*$  1.0 1.0 1.0 1.0

$cmy^4*$  0.0 0.0 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  95.41 0.01 0.0

$LAB^*LABa$  95.41 0.0 0.0

$LAB^*TCh$  99.99 0.01 -

relative CIELAB lab\*

$lab^*lab$  1.0 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*ice$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)

$olv^3*$  0.554 1.0 0.5 (1.0)

$cmy^3*$  0.446 0.0 0.5 (0.0)

$olv^4*$  0.555 1.0 0.5 1.0

$cmy^4*$  0.445 0.0 0.5 0.0

standard and adapted CIELAB

$LAB^*LAB$  75.86 -31.51 10.1

$LAB^*LABa$  75.86 -31.54 10.09

$LAB^*TCh$  75.00 33.13 162.26

relative CIELAB lab\*

$lab^*lab$  0.747 -0.475 0.152

$lab^*tch$  0.75 0.5 0.451

$lab^*nch$  0.0 0.5 0.451

relative Natural Colour (NC)

$lab^*lrij$  0.747 -0.499 0.0

$lab^*ice$  0.75 0.5 0.451

$lab^*ncE$  0.0 0.5 0.451

relative Inform. Technology (IT)

$olv^3*$  0.109 1.0 0.0 (1.0)

$cmy^3*$  0.891 0.0 1.0 (0.0)

$olv^4*$  0.109 1.0 0.0 1.0

$cmy^4*$  0.891 0.0 1.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  56.31 -63.05 20.19

$LAB^*LABa$  56.31 -63.1 20.18

$LAB^*TCh$  50.00 66.26 162.27

relative CIELAB lab\*

$lab^*lab$  0.495 -0.951 0.304

$lab^*tch$  0.5 1.0 0.451

$lab^*nch$  0.0 1.0 0.451

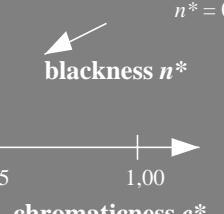
relative Natural Colour (NC)

$lab^*lrij$  0.495 -0.999 0.0

$lab^*ice$  0.5 1.0 0.451

$lab^*ncE$  0.0 1.0 0.451

$n^* = 1,0$



UE100-7, 3 step scales for constant CIELAB hue 162/360 = 0.451 (left)

3 step scales for constant CIELAB hue 162/360 = 0.451 (right)

## Input: Colorimetric Reflective System NCS18

for hue  $h^* = lab^*h = 162/360 = 0.451$

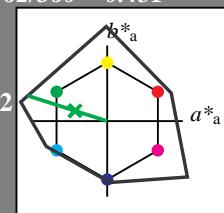
$lab^*tch$  and  $lab^*nch$

D65: hue G

LCH\*Ma: 65 110 162

olv\*Ma: 0.08 1.0 0.0

triangle lightness  $t^*$



%Gamut

$u^*_{rel} = 136$

%Regularity

$g^*_{H,rel} = 46$

$g^*_{C,rel} = 65$

relative Inform. Technology (IT)

$olv^3*$  1.0 1.0 1.0 (1.0)

$cmy^3*$  0.0 0.0 0.0 (0.0)

$olv^4*$  1.0 1.0 1.0 1.0

$cmy^4*$  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

$LAB^*TCh$  99.99 0.01 -

relative CIELAB lab\*

$lab^*lab$  1.0 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*ice$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)

$olv^3*$  0.5 0.5 0.5 (1.0)

$cmy^3*$  0.5 0.5 0.5 (0.0)

$olv^4*$  1.0 1.0 1.0 0.5

$cmy^4*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  56.72 0.05 0.0

$LAB^*LABa$  56.72 0.0 0.0

$LAB^*TCh$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.5 0.0 0.0

$lab^*ice$  0.5 0.0 0.0

$lab^*ncE$  0.5 0.0 -

relative Inform. Technology (IT)

$olv^3*$  0.0 0.0 0.0 (1.0)

$cmy^3*$  1.0 1.0 1.0 (0.0)

$olv^4*$  1.0 1.0 1.0 0.0

$cmy^4*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.09 0.02

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TCh$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*ice$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

## NCS18; adapted (a) CIELAB data

$L^*=L^*_{a,a}$   $a^*_{a,a}$   $b^*_{a,a}$   $C^*_{ab,a}$   $h^*_{ab,a}$

RMa	47.15	84.63	37.24	92.46	24
JMa	91.37	-1.27	125.03	125.03	91
GMa	63.07	-114.29	25.34	117.07	167
G50BMa	59.47	-80.61	-33.45	87.29	203
BMa	49.01	3.63	-81.2	81.29	273
B50RMa	44.06	106.07	-73.94	129.31	325
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	272

## Output: Colorimetric Reflective System NRS18

for hue  $h^* = lab^*h = 162/360 = 0.451$

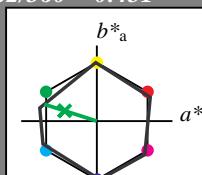
$lab^*tch$  and  $lab^*nch$

D65: hue G

LCH\*Ma: 57 73 162

olv\*Ma: 0.08 1.0 0.0

triangle lightness  $t^*$



%Gamut

$u^*_{rel} = 100$

%Regularity

$g^*_{H,rel} = 47$

$g^*_{C,rel} = 100$

relative Inform. Technology (IT)

$olv^3*$  1.0 1.0 1.0 (1.0)

$cmy^3*$  0.0 0.0 0.0 (0.0)

$olv^4*$  1.0 1.0 1.0 1.0

$cmy^4*$  0.0 0.0 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  95.41 0.0 0.0

$LAB^*LABa$  95.41 0.0 0.0

$LAB^*TCh$  99.99 0.01 -

relative CIELAB lab\*

$lab^*lab$  1.0 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*ice$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)

$olv^3*$  0.5 0.5 0.5 (1.0)

$cmy^3*$  0.5 0.5 0.5 (0.0)

$olv^4*$  1.0 1.0 1.0 0.5

$cmy^4*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  56.72 0.05 0.0

$LAB^*LABa$  56.72 0.0 0.0

$LAB^*TCh$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.806 -0.475 0.152

$lab^*tch$  0.75 0.5 0.451

$lab^*nch$  0.0 0.5 0.451

relative Natural Colour (NC)

$lab^*lrij$  0.806 -0.499 0.0

$lab^*ice$  0.75 0.5 0.499

$lab^*ncE$  0.0 0.5 0.499

$n^* = 0,00$

blackness  $n^*$

0,25 0,50  $n^* = 0,50$  0,75 1,00

chromaticness  $c^*$

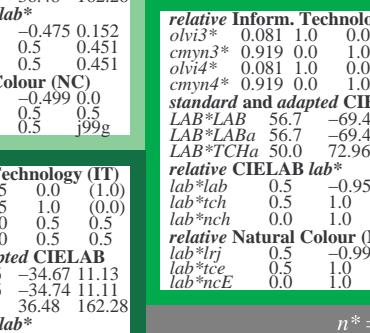
$n^* = 1,0$

3 step scales for constant CIELAB hue 162/360 = 0.451 (right)

## NRS18; adapted (a) CIELAB data

$L^*=L^*_{a,a}$   $a^*_{a,a}$   $b^*_{a,a}$   $C^*_{ab,a}$   $h^*_{ab,a}$

RMa	56.7	70.66	31.47	77.35	24
JMa	56.7	-1.39	77.37	77.39	91
GMa	56.7	-75.46	17.4	77.45	167
G50BMa	56.7	-71.29	-30.25	77.45	203
BMa	56.7	4.0	-77.3	77.41	273
B50RMa	56.7	63.35	-44.4	77.36	325
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	272



%Gamut

$u^*_{rel} = 100$

%Regularity

$g^*_{H,rel} = 47$

$g^*_{C,rel} = 100$

relative Inform. Technology (IT)

$olv^3*$  1.0 1.0 1.0 (1.0)

$cmy^3*$  0.919 0.0 1.0 (0.0)

$olv^4*$  0.81 1.0 0.0 1.0

$cmy^4*$  0.919 0.0 1.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  76.05 -34.7 11.12

$LAB^*LABa$  76.05 -34.73 11.11

$LAB^*TCh$  75.0 36.48 162.26

relative CIELAB lab\*

$lab^*lab$  0.75 -0.475 0.152

$lab^*tch$  0.75 0.5 0.451

$lab^*nch$  0.0 0.5 0.451

relative Natural Colour (NC)

$lab^*lrij$  0.75 0.5 0.499 0.0

$lab^*ice$  0.75 0.5 0.499

$lab^*ncE$  0.0 0.5 0.499

$n^* = 0,00$

blackness  $n^*$

0,25 0,50  $n^* = 0,50$  0,75 1,00

chromaticness  $c^*$

## Input: Colorimetric Reflective System NCS18

for hue  $h^* = lab^*h = 162/360 = 0.451$

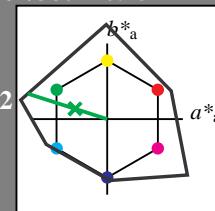
$lab^*tch$  and  $lab^*nch$

D65: hue G

LCH\*Ma: 65 110 162

olv\*Ma: 0.08 1.0 0.0

triangle lightness  $t^*$



%Gamut

$u^*_{rel} = 136$

%Regularity

$g^*_{H,rel} = 46$

$g^*_{C,rel} = 65$

relative Inform. Technology (IT)

$olv^3* 1.0 1.0 1.0 (1.0)$

$cmyn3* 0.0 0.0 0.0 (0.0)$

$olv^4* 1.0 1.0 1.0 1.0$

$cmyn4* 0.0 0.0 0.0 0.0$

standard and adapted CIELAB

$LAB^*LAB 95.41 0.0 -0.01$

$LAB^*LABa 95.41 0.0 0.0$

$LAB^*TCh 99.99 0.01 -$

relative CIELAB lab\*

$lab^*lab 1.0 0.0 0.0$

$lab^*tch 1.0 0.0 -$

$lab^*nch 0.0 0.0 -$

relative Natural Colour (NC)

$lab^*lrj 1.0 0.0 0.0$

$lab^*ice 1.0 0.0 0.0$

$lab^*ncE 0.0 0.0 -$

relative Inform. Technology (IT)

$olv^3* 0.5 0.5 0.5 (1.0)$

$cmyn3* 0.5 0.5 0.5 (0.0)$

$olv^4* 1.0 1.0 1.0 0.5$

$cmyn4* 0.0 0.0 0.0 0.5$

standard and adapted CIELAB

$LAB^*LAB 56.72 0.05 0.0$

$LAB^*LABa 56.72 0.0 0.0$

$LAB^*TCh 50.0 0.01 -$

relative CIELAB lab\*

$lab^*lab 0.5 0.0 0.0$

$lab^*tch 0.5 0.0 -$

$lab^*nch 0.5 0.0 -$

relative Natural Colour (NC)

$lab^*lrj 0.5 0.0 0.0$

$lab^*ice 0.5 0.0 0.0$

$lab^*ncE 0.5 0.0 -$

relative Inform. Technology (IT)

$olv^3* 0.0 0.0 0.0 (1.0)$

$cmyn3* 1.0 1.0 1.0 (0.0)$

$olv^4* 1.0 1.0 1.0 0.0$

$cmyn4* 0.0 0.0 0.0 1.0$

standard and adapted CIELAB

$LAB^*LAB 18.02 0.09 0.02$

$LAB^*LABa 18.02 0.0 0.0$

$LAB^*TCh 0.01 0.01 -$

relative CIELAB lab\*

$lab^*lab 0.0 0.0 0.0$

$lab^*tch 0.0 0.0 -$

$lab^*nch 1.0 0.0 -$

relative Natural Colour (NC)

$lab^*lrj 0.0 0.0 0.0$

$lab^*ice 0.0 0.0 -$

$lab^*ncE 1.0 0.0 -$

$n^* = 1,0$

## NCS18; adapted (a) CIELAB data

$L^*=L^*_{ab}$   $a^*_{ab}$   $b^*_{ab}$   $C^*_{ab,a}$   $h^*_{ab,a}$

RMa	47.15	84.63	37.24	92.46	24
JMa	91.37	-1.27	125.03	125.03	91
GMa	63.07	-114.29	25.34	117.07	167
G50BMa	59.47	-80.61	-33.45	87.29	203
BMa	49.01	3.63	-81.2	81.29	273
B50RMa	44.06	106.07	-73.94	129.31	325
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	272

## Output: Colorimetric Reflective System NCS18

for hue  $h^* = lab^*h = 162/360 = 0.451$

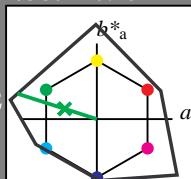
$lab^*tch$  and  $lab^*nch$

D65: hue G

LCH\*Ma: 65 110 162

olv\*Ma: 0.08 1.0 0.0

triangle lightness  $t^*$



%Gamut

$u^*_{rel} = 136$

%Regularity

$g^*_{H,rel} = 46$

$g^*_{C,rel} = 65$

relative Inform. Technology (IT)

$olv^3* 1.0 1.0 1.0 (1.0)$

$cmyn3* 0.0 0.0 0.0 (0.0)$

$olv^4* 1.0 1.0 1.0 1.0$

$cmyn4* 0.0 0.0 0.0 0.0$

standard and adapted CIELAB

$LAB^*LAB 95.41 0.0 -0.01$

$LAB^*LABa 95.41 0.0 0.0$

$LAB^*TCh 99.99 0.01 -$

relative CIELAB lab\*

$lab^*lab 1.0 0.0 0.0$

$lab^*tch 1.0 0.0 -$

$lab^*nch 0.0 0.0 -$

relative Natural Colour (NC)

$lab^*lrj 1.0 0.0 0.0$

$lab^*ice 1.0 0.0 0.0$

$lab^*ncE 0.0 0.0 -$

relative Inform. Technology (IT)

$olv^3* 0.5 0.5 0.5 (1.0)$

$cmyn3* 0.5 0.5 0.5 (0.0)$

$olv^4* 1.0 1.0 1.0 0.5$

$cmyn4* 0.0 0.0 0.0 0.5$

standard and adapted CIELAB

$LAB^*LAB 56.72 0.05 0.0$

$LAB^*LABa 56.72 0.0 0.0$

$LAB^*TCh 50.0 0.01 -$

relative CIELAB lab\*

$lab^*lab 0.806 -0.475 0.152$

$lab^*tch 0.75 0.5 0.451$

$lab^*nch 0.0 0.5 0.451$

relative Natural Colour (NC)

$lab^*lrj 0.806 -0.499 0.0$

$lab^*ice 0.75 0.5 0.451$

$lab^*ncE 0.0 0.5 0.451$

relative Inform. Technology (IT)

$olv^3* 0.083 1.0 0.0 (1.0)$

$cmyn3* 0.917 0.0 1.0 (0.0)$

$olv^4* 0.083 1.0 0.0 1.0$

$cmyn4* 0.917 0.0 1.0 0.0$

standard and adapted CIELAB

$LAB^*LAB 56.72 0.05 0.0$

$LAB^*LABa 56.72 0.0 0.0$

$LAB^*TCh 50.0 0.01 -$

relative CIELAB lab\*

$lab^*lab 0.612 -0.951 0.304$

$lab^*tch 0.5 0.451$

$lab^*nch 0.0 0.451$

relative Natural Colour (NC)

$lab^*lrj 0.612 -0.999 0.0$

$lab^*ice 0.5 0.451$

$lab^*ncE 0.0 0.451$

relative Inform. Technology (IT)

$olv^3* 0.041 0.5 0.0 (1.0)$

$cmyn3* 0.959 0.5 1.0 (0.0)$

$olv^4* 0.541 1.0 0.5 0.5$

$cmyn4* 0.459 0.0 0.5 0.5$

standard and adapted CIELAB

$LAB^*LAB 56.72 0.05 0.0$

$LAB^*LABa 56.72 0.0 0.0$

$LAB^*TCh 50.0 0.01 -$

relative CIELAB lab\*

$lab^*lab 0.612 -0.951 0.304$

$lab^*tch 0.5 0.451$

$lab^*nch 0.0 0.451$

relative Natural Colour (NC)

$lab^*lrj 0.612 -0.999 0.0$

$lab^*ice 0.5 0.451$

$lab^*ncE 0.0 0.451$

relative Inform. Technology (IT)

$olv^3* 0.041 0.5 0.0 (1.0)$

$cmyn3* 0.959 0.5 1.0 (0.0)$

$olv^4* 0.541 1.0 0.5 0.5$

$cmyn4* 0.459 0.0 0.5 0.5$

standard and adapted CIELAB

$LAB^*LAB 56.72 0.05 0.0$

$LAB^*LABa 56.72 0.0 0.0$

$LAB^*TCh 50.0 0.01 -$

relative CIELAB lab\*

$lab^*lab 0.612 -0.951 0.304$

$lab^*tch 0.5 0.451$

$lab^*nch 0.0 0.451$

relative Natural Colour (NC)

$lab^*lrj 0.612 -0.999 0.0$

$lab^*ice 0.5 0.451$

$lab^*ncE 0.0 0.451$

relative Inform. Technology (IT)

$olv^3* 0.041 0.5 0.0 (1.0)$

$cmyn3* 0.959 0.5 1.0 (0.0)$

$olv^4* 0.541 1.0 0.5 0.5$

$cmyn4* 0.459 0.0 0.5 0.5$

standard and adapted CIELAB

$LAB^*LAB 56.72 0.05 0.0$

$LAB^*LABa 56.72 0.0 0.0$

$LAB^*TCh 50.0 0.01 -$

relative CIELAB lab\*

$lab^*lab 0.612 -0.951 0.304$

$lab^*tch 0.5 0.451$

$lab^*nch 0.0 0.451$

relative Natural Colour (NC)

$lab^*lrj 0.612 -0.999 0.0$

$lab^*ice 0.5 0.451$

$lab^*ncE 0.0 0.451$

relative Inform. Technology (IT)

$olv^3* 0.041 0.5 0.0 (1.0)$

$cmyn3* 0.959 0.5 1.0 (0.0)$

$olv^4* 0.541 1.0 0.5 0.5$

$cmyn4* 0.459 0.0 0.5 0.5$

standard and adapted CIELAB

$LAB^*LAB 56.72 0.05 0.0$

$LAB^*LABa 56.72 0.0 0.0$

$LAB^*TCh 50.0 0.01 -$

relative CIELAB lab\*

$lab^*lab 0.612 -0.951 0.304$

$lab^*tch 0.5 0.451$

## Input: Colorimetric Reflective System NCS18

for hue  $h^* = lab^*h = 162/360 = 0.451$

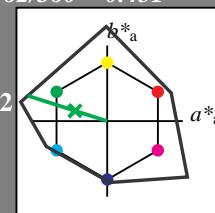
$lab^*tch$  and  $lab^*nch$

D65: hue G

LCH\*Ma: 65 110 162

olv\*Ma: 0.08 1.0 0.0

triangle lightness  $t^*$



relative Inform. Technology (IT)

olv13\* 1.0 1.0 1.0 (1.0)

cmyn3\* 0.0 0.0 0.0 (0.0)

olv14\* 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 0.0 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)

olv13\* 0.5 0.5 0.5 (1.0)

cmyn3\* 0.5 0.5 0.5 (0.0)

olv14\* 1.0 1.0 1.0 0.5

cmyn4\* 0.0 0.0 0.0 0.5

standard and adapted CIELAB

LAB\*LAB 56.72 0.05 0.0

LAB\*LABa 56.72 0.0 0.0

LAB\*TChA 50.0 0.01 -

relative CIELAB lab\*

lab\*lab 0.5 0.0 0.0

lab\*tch 0.5 0.0 -

lab\*nch 0.5 0.0 -

relative Natural Colour (NC)

lab\*lrj 0.5 0.0 0.0

lab\*tce 0.5 0.0 0.0

lab\*ncE 0.5 0.0 -

relative Inform. Technology (IT)

olv13\* 0.0 0.0 0.0 (1.0)

cmyn3\* 1.0 1.0 1.0 (0.0)

olv14\* 1.0 1.0 1.0 0.0

cmyn4\* 0.0 0.0 0.0 1.0

standard and adapted CIELAB

LAB\*LAB 18.02 0.09 0.02

LAB\*LABa 18.02 0.0 0.0

LAB\*TChA 0.01 0.01 -

relative CIELAB lab\*

lab\*lab 0.0 0.0 0.0

lab\*tch 0.0 0.0 -

lab\*nch 1.0 0.0 -

relative Natural Colour (NC)

lab\*lrj 0.0 0.0 0.0

lab\*tce 0.0 0.0 0.0

lab\*ncE 1.0 0.0 -

$n^* = 1,0$

## NCS18; adapted (a) CIELAB data

$L^*=L^*_{a,a}$   $a^*_{a,a}$   $b^*_{a,a}$   $C^*_{ab,a}$   $h^*_{ab,a}$

RMa	47.15	84.63	37.24	92.46	24
JMa	91.37	-1.27	125.03	125.03	91
GMa	63.07	-114.29	25.34	117.07	167
G50BMa	59.47	-80.61	-33.45	87.29	203
BMa	49.01	3.63	-81.2	81.29	273
B50RMa	44.06	106.07	-73.94	129.31	325
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	272

%Gamut

$u^*_{rel} = 136$

%Regularity

$g^*_{H,rel} = 46$

$g^*_{C,rel} = 65$

relative Inform. Technology (IT)

olv13\* 0.541 1.0 0.5 (1.0)

cmyn3\* 0.459 0.0 0.5 (0.0)

olv14\* 0.541 1.0 0.5 1.0

cmyn4\* 0.459 0.0 0.5 0.0

standard and adapted CIELAB

LAB\*LAB 80.4 -52.44 16.79

LAB\*LABa 80.4 -52.46 16.78

LAB\*TChA 75.0 55.09 162.26

relative CIELAB lab\*

lab\*lab 0.806 -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\*lrj 0.806 -0.499 0.0

lab\*tce 0.75 0.2 0.5

lab\*ncE 0.0 0.5 0.499g

relative Inform. Technology (IT)

olv13\* 0.083 1.0 0.0 (1.0)

cmyn3\* 0.917 0.0 1.0 (0.0)

olv14\* 0.083 1.0 0.0 1.0

cmyn4\* 0.917 0.0 1.0 0.0

standard and adapted CIELAB

LAB\*LAB 65.4 -104.9 33.56

LAB\*LABa 65.4 -104.9 33.55

LAB\*TChA 50.0 110.19 162.27

relative CIELAB lab\*

lab\*lab 0.612 -0.951 0.304

lab\*tch 0.5 1.0 0.451

lab\*nch 0.0 1.0 0.451

relative Natural Colour (NC)

lab\*lrj 0.612 -0.999 0.0

lab\*tce 0.5 1.0 0.5

lab\*ncE 0.0 1.0 g00b

relative Inform. Technology (IT)

olv13\* 0.041 0.5 0.0 (1.0)

cmyn3\* 0.959 0.5 1.0 (0.0)

olv14\* 0.541 1.0 0.5 0.5

cmyn4\* 0.459 0.0 0.5 0.5

standard and adapted CIELAB

LAB\*LAB 41.71 -52.4 16.79

LAB\*LABa 41.71 -52.47 16.77

LAB\*TChA 25.01 55.1 162.28

relative CIELAB lab\*

lab\*lab 0.306 -0.475 0.152

lab\*tch 0.25 0.5 0.451

lab\*nch 0.5 0.5 0.451

relative Natural Colour (NC)

lab\*lrj 0.306 -0.499 0.0

lab\*tce 0.25 0.5 0.5

lab\*ncE 0.5 0.5 0.5

$n^* = 0,00$

blackness  $n^*$

chromaticness  $c^*$

$n^* = 0,50$

$n^* = 1,00$

## Output: Colorimetric Reflective System NRS11

for hue  $h^* = lab^*h = 162/360 = 0.451$

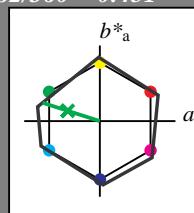
$lab^*tch$  and  $lab^*nch$

D65: hue G

LCH\*Ma: 53 80 162

olv\*Ma: 0.08 1.0 0.0

triangle lightness  $t^*$



%Gamut

$u^*_{rel} = 119$

%Regularity

$g^*_{H,rel} = 47$

$g^*_{C,rel} = 100$

relative Inform. Technology (IT)

olv13\* 0.54 1.0 0.5 (1.0)

cmyn3\* 0.46 0.0 0.5 (0.0)

olv14\* 0.54 1.0 0.5 1.0

cmyn4\* 0.46 0.0 0.5 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 0.0 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)

olv13\* 0.54 1.0 0.5 (1.0)

cmyn3\* 0.46 0.0 0.5 (0.0)

olv14\* 0.54 1.0 0.5 1.0

cmyn4\* 0.46 0.0 0.5 0.0

standard and adapted CIELAB

LAB\*LAB 74.3 -37.84 12.13

LAB\*LABa 74.3 -37.87 12.12

LAB\*TChA 75.0 39.77 162.25

relative CIELAB lab\*

lab\*lab 0.75 -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\*lrj 0.75 -0.499 0.0

lab\*tce 0.75 0.5 0.5

lab\*ncE 0.0 0.5 0.5

relative Inform. Technology (IT)

olv13\* 0.54 1.0 0.5 (1.0)

cmyn3\* 0.46 0.0 0.5 (0.0)

olv14\* 0.54 1.0 0.5 1.0

cmyn4\* 0.46 0.0 0.5 0.0

standard and adapted CIELAB

LAB\*LAB 74.3 -37.84 12.13

LAB\*LABa 74.3 -37.87 12.12

LAB\*TChA 75.0 39.77 162.25

relative CIELAB lab\*

lab\*lab 0.75 -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\*lrj 0.75 -0.499 0.0

lab\*tce 0.75 0.5 0.5

lab\*ncE 0.0 0.5 0.5

relative Inform. Technology (IT)

olv13\* 0.54 1.0 0.5 (1.0)

cmyn3\* 0.46 0.0 0.5 (0.0)

olv14\* 0.54 1.0 0.5 1.0

cmyn4\* 0.46 0.0 0.5 0.0

standard and adapted CIELAB

LAB\*LAB 74.3 -37.84 12.13

LAB\*LABa 74.3 -37.87 12.12

LAB\*TChA 75.0 39.77 162.25

relative CIELAB lab\*

lab\*lab 0.75 -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\*lrj 0.75 -0.499 0.0

lab\*tce 0.75 0.5 0.5

lab\*ncE 0.0 0.5 0.5

relative Inform. Technology (IT)

olv13\* 0.54 1.0 0.5 (1.0)

cmyn3\* 0.46

### Input: Colorimetric Reflective System NCS18

for hue  $h^* = lab^*h = 162/360 = 0.451$

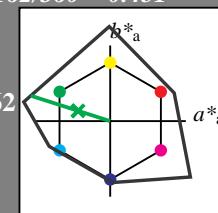
$lab^*tch$  and  $lab^*nch$

D65: hue G

LCH\*Ma: 65 110 162

olv\*Ma: 0.08 1.0 0.0

triangle lightness  $t^*$



%Gamut

$u^*_{rel} = 136$

%Regularity

$g^*_{H,rel} = 46$

$g^*_{C,rel} = 65$

relative Inform. Technology (IT)

$olv^3*$  1.0 1.0 1.0 (1.0)

$cmy^3*$  0.0 0.0 0.0 (0.0)

$olv^4*$  1.0 1.0 1.0 1.0

$cmy^4*$  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

$LAB^*TCh$  99.99 0.01 -

relative CIELAB lab\*

$lab^*lab$  1.0 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*ice$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)

$olv^3*$  0.5 0.5 0.5 (1.0)

$cmy^3*$  0.5 0.5 0.5 (0.0)

$olv^4*$  1.0 1.0 1.0 0.5

$cmy^4*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  56.72 0.05 0.0

$LAB^*LABa$  56.72 0.0 0.0

$LAB^*TCh$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.5 0.0 0.0

$lab^*ice$  0.5 0.0 0.0

$lab^*ncE$  0.5 0.0 -

relative Inform. Technology (IT)

$olv^3*$  0.0 0.0 0.0 (1.0)

$cmy^3*$  1.0 1.0 1.0 (0.0)

$olv^4*$  1.0 1.0 1.0 0.0

$cmy^4*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.09 0.02

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TCh$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*ice$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

### NCS18; adapted (a) CIELAB data

$L^*=L^*_{a,a}$   $a^*_{a,a}$   $b^*_{a,a}$   $C^*_{ab,a}$   $h^*_{ab,a}$

RMa	47.15	84.63	37.24	92.46	24
JMa	91.37	-1.27	125.03	125.03	91
GMa	63.07	-114.29	25.34	117.07	167
G50BMa	59.47	-80.61	-33.45	87.29	203
BMa	49.01	3.63	-81.2	81.29	273
B50RMa	44.06	106.07	-73.94	129.31	325
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	272

### Output: Colorimetric Reflective System NCS11

for hue  $h^* = lab^*h = 162/360 = 0.451$

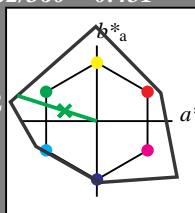
$lab^*tch$  and  $lab^*nch$

D65: hue G

LCH\*Ma: 65 110 162

olv\*Ma: 0.08 1.0 0.0

triangle lightness  $t^*$



%Gamut

$u^*_{rel} = 149$

%Regularity

$g^*_{H,rel} = 46$

$g^*_{C,rel} = 65$

relative Inform. Technology (IT)

$olv^3*$  1.0 1.0 1.0 (1.0)

$cmy^3*$  0.0 0.0 0.0 (0.0)

$olv^4*$  1.0 1.0 1.0 1.0

$cmy^4*$  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

$LAB^*TCh$  99.99 0.01 -

relative CIELAB lab\*

$lab^*lab$  1.0 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*ice$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)

$olv^3*$  0.5 0.5 0.5 (1.0)

$cmy^3*$  0.5 0.5 0.5 (0.0)

$olv^4*$  1.0 1.0 1.0 0.5

$cmy^4*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  56.72 0.05 0.0

$LAB^*LABa$  56.72 0.0 0.0

$LAB^*TCh$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.806 -0.475 0.152

$lab^*tch$  0.75 0.5 0.451

$lab^*nch$  0.0 0.5 0.451

relative Natural Colour (NC)

$lab^*lrij$  0.806 -0.499 0.0

$lab^*ice$  0.75 0.5 0.451

$lab^*ncE$  0.0 0.5 0.499 g00g

$n^* = 0,00$

blackness  $n^*$

chromaticness  $c^*$

$n^* = 0,00$

blackness  $n^*$

chromaticness  $c^*$

$n^* = 1,0$

3 step scales for constant CIELAB hue 162/360 = 0.451 (right)

### NCS11; adapted (a) CIELAB data

$L^*=L^*_{a,a}$   $a^*_{a,a}$   $b^*_{a,a}$   $C^*_{ab,a}$   $h^*_{ab,a}$

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

relative Inform. Technology (IT)	$olv^3*$	0.41	0.5	(1.0)
$cmy^3*$	0.917	0.0	1.0	(0.0)
$olv^4*$	0.883	1.0	0.0	1.0
$cmy^4*$	0.917	0.0	1.0	0.0
standard and adapted CIELAB	$LAB^*LAB$	65.41	-0.01	
$LAB^*LABa$	53.21	0.04	0.0	
$LAB^*TCh$	50.0	0.01	-	
relative CIELAB lab*	$lab^*lab$	0.612	-0.951 0.304	
$lab^*tch$	0.5	1.0	0.451	
$lab^*nch$	0.0	1.0	0.451	
relative Natural Colour (NC)	$lab^*lrij$	0.612	-0.999 0.0	
$lab^*ice$	0.5	1.0	0.5	
$lab^*ncE$	0.0	1.0	0.5	

relative Inform. Technology (IT)	$olv^3*$	0.41	0.5	(1.0)
$cmy^3*$	0.959	0.5	1.0	(0.0)
$olv^4*$	0.541	1.0	0.5	0.5
$cmy^4*$	0.459	0.0	0.5	0.5
standard and adapted CIELAB	$LAB^*LAB$	38.2	-0.5243 16.79	
$LAB^*LABa$	38.2	-0.5243 16.79		
$LAB^*TCh$	25.01	55.08	162.25	
relative CIELAB lab*	$lab^*lab$	0.322	-0.475 0.152	
$lab^*tch$	0.25	0.5	0.451	
$lab^*nch$	0.5	0.5	0.451	
relative Natural Colour (NC)	$lab^*lrij$	0.322	-0.499 0.0	
$lab^*ice$	0.25	0.5	0.5	
$lab^*ncE$	0.5	0.5	0.5	g00b

$n^* = 0,00$

blackness  $n^*$

chromaticness  $c^*$

## Input: Colorimetric Reflective System NRS11

for hue  $h^* = lab^*h = 162/360 = 0.451$

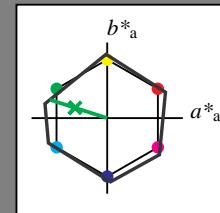
$lab^*tch$  and  $lab^*nch$

D65: hue G

LCH\*Ma: 53 80 162

olv\*Ma: 0.08 1.0 0.0

triangle lightness  $t^*$



relative Inform. Technology (IT)

olv*i*3\* 1.0 1.0 1.0 (1.0)

cmy*n*3\* 0.0 0.0 0.0 (0.0)

olv*i*4\* 1.0 1.0 1.0 1.0

cmy*n*4\* 0.0 0.0 0.0 0.0

standard and adapted CIELAB

LAB\*LAB 95.41 0.0 -0.01

LAB\*LAB*a* 95.41 0.0 0.0

LAB\*TCh*a* 99.99 0.01 -

relative CIELAB lab\*

lab\**lab* 1.0 0.0 0.0

lab\**tch* 1.0 0.0 -

lab\**nch* 0.0 0.0 -

relative Natural Colour (NC)

lab\**lrj* 1.0 0.0 0.0

lab\**tce* 1.0 0.0 -

lab\**ncE* 0.0 0.0 -

relative Inform. Technology (IT)

olv*i*3\* 0.5 0.5 0.5 (1.0)

cmy*n*3\* 0.5 0.5 0.5 (0.0)

olv*i*4\* 1.0 1.0 1.0 0.5

cmy*n*4\* 0.0 0.0 0.0 0.5

standard and adapted CIELAB

LAB\*LAB 53.21 0.04 0.0

LAB\*LAB*a* 53.21 0.0 0.0

LAB\*TCh*a* 50.0 0.01 -

relative CIELAB lab\*

lab\**lab* 0.5 0.0 0.0

lab\**tch* 0.5 0.0 -

lab\**nch* 0.5 0.0 -

relative Natural Colour (NC)

lab\**lrj* 0.5 0.0 0.0

lab\**tce* 0.5 0.0 -

lab\**ncE* 0.5 0.0 -

relative Inform. Technology (IT)

olv*i*3\* 0.0 0.0 0.0 (1.0)

cmy*n*3\* 1.0 1.0 1.0 (0.0)

olv*i*4\* 1.0 1.0 1.0 0.0

cmy*n*4\* 0.0 0.0 0.0 1.0

standard and adapted CIELAB

LAB\*LAB 11.01 0.07 0.01

LAB\*LAB*a* 11.01 0.0 0.0

LAB\*TCh*a* 0.01 0.01 -

relative CIELAB lab\*

lab\**lab* 0.0 0.0 0.0

lab\**tch* 0.0 0.0 -

lab\**nch* 1.0 0.0 -

relative Natural Colour (NC)

lab\**lrj* 0.0 0.0 0.0

lab\**tce* 0.0 0.0 -

lab\**ncE* 1.0 0.0 -

$n^* = 1,0$

## NRS11; adapted (a) CIELAB data

$L^*=L^*_{a,a}$   $a^*_{a,a}$   $b^*_{a,a}$   $C^*_{ab,a}$   $h^*_{ab,a}$

RMa	53.2	77.06	34.32	84.36	24
JMa	53.2	-1.51	84.38	84.39	91
GMa	53.2	-82.27	18.98	84.44	167
G50BMa	53.2	-77.72	-32.98	84.44	203
BMa	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

%Gamut

$u^*_{rel} = 119$

%Regularity

$g^*_{H,rel} = 47$

$g^*_{C,rel} = 100$

relative Inform. Technology (IT)

olv*i*3\* 0.54 1.0 0.5 (1.0)

cmy*n*3\* 0.46 0.0 0.5 (0.0)

olv*i*4\* 0.54 1.0 0.5 1.0

cmy*n*4\* 0.46 0.0 0.5 0.0

standard and adapted CIELAB

LAB\*LAB 74.3 -37.84 12.13

LAB\*LAB*a* 74.3 -37.87 12.12

LAB\*TCh*a* 75.0 39.77 162.25

relative CIELAB lab\*

lab\**lab* 0.75 -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\**lrj* 0.75 -0.499 0.0

lab\**tce* 0.75 0.2 0.5

lab\**ncE* 0.0 0.5 0.99g

relative Inform. Technology (IT)

olv*i*3\* 0.081 1.0 0.0 (1.0)

cmy*n*3\* 0.919 0.0 1.0 (0.0)

olv*i*4\* 0.081 1.0 0.0 1.0

cmy*n*4\* 0.919 0.0 1.0 0.0

standard and adapted CIELAB

LAB\*LAB 53.2 -75.71 24.25

LAB\*LAB*a* 53.2 -75.75 24.24

LAB\*TCh*a* 50.0 79.54 162.26

relative CIELAB lab\*

lab\**lab* 0.5 -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\**lrj* 0.5 -0.999 0.0

lab\**tce* 0.5 1.0 0.5

lab\**ncE* 0.0 1.0 g00b

relative Inform. Technology (IT)

olv*i*3\* 0.0 0.0 0.0 (1.0)

cmy*n*3\* 1.0 1.0 1.0 (0.0)

olv*i*4\* 1.0 1.0 1.0 0.0

cmy*n*4\* 0.0 0.0 0.0 1.0

standard and adapted CIELAB

LAB\*LAB 11.01 0.07 0.01

LAB\*LAB*a* 11.01 0.0 0.0

LAB\*TCh*a* 0.01 0.01 -

relative CIELAB lab\*

lab\**lab* 0.0 0.0 0.0

lab\**tch* 0.0 0.0 -

lab\**nch* 1.0 0.0 -

relative Natural Colour (NC)

lab\**lrj* 0.0 0.0 0.0

lab\**tce* 0.0 0.0 -

lab\**ncE* 1.0 0.0 -

$n^* = 0,00$

blackness  $n^*$

chromaticness  $c^*$

## Output: Colorimetric Reflective System ORS18

for hue  $h^* = lab^*h = 164/360 = 0.457$

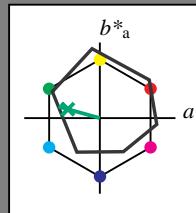
$lab^*tch$  and  $lab^*nch$

D65: hue G

LCH\*Ma: 53 57 164

olv\*Ma: 0.0 1.0 0.25

triangle lightness  $t^*$



%Gamut

$u^*_{rel} = 93$

%Regularity

$g^*_{H,rel} = 57$

$g^*_{C,rel} = 59$

relative Inform. Technology (IT)

olv*i*3\* 1.0 1.0 1.0 (1.0)

cmy*n*3\* 0.0 0.0 0.0 (0.0)

olv*i*4\* 1.0 1.0 1.0 1.0

cmy*n*4\* 0.0 0.0 0.0 0.0

standard and adapted CIELAB

LAB\*LAB 95.41 -0.97 4.75

LAB\*LAB*a* 95.41 0.0 0.0

LAB\*TCh*a* 99.99 0.01 -

relative CIELAB lab\*

lab\**lab* 1.0 0.0 0.0

lab\**tch* 1.0 0.0 -

lab\**nch* 0.0 0.0 -

relative Natural Colour (NC)

lab\**lrj* 1.0 0.0 0.0

lab\**tce* 1.0 0.0 -

lab\**ncE* 0.0 0.0 -

relative Inform. Technology (IT)

olv*i*3\* 0.5 1.0 0.623 (1.0)

cmy*n*3\* 0.5 0.0 0.377 (0.0)

olv*i*4\* 0.5 1.0 0.623 1.0

cmy*n*4\* 0.5 0.0 0.377 0.0

standard and adapted CIELAB

LAB\*LAB 74.1 -27.96 10.94

LAB\*LAB*a* 74.1 -27.39 7.62

LAB\*TCh*a* 75.0 28.44 164.46

relative CIELAB lab\*

lab\**lab* 0.725 -0.481 0.134

lab\**tch* 0.75 0.5 0.457

lab\**nch* 0.0 0.5 0.457

relative Natural Colour (NC)

lab\**lrj* 0.725 -0.499 0.0

lab\**tce* 0.75 0.5 0.5

lab\**ncE* 0.0 0.5 0.99b

$n^* = 1,0$

blackness  $n^*$

chromaticness  $c^*$

## ORS18; adapted (a) CIELAB data

$L^*=L^*_{a,a}$   $a^*_{a,a}$   $b^*_{a,a}$   $C^*_{ab,a}$   $h^*_{ab,a}$

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)

olv*i*3\* 0.0 1.0 0.246 (1.0)

cmy*n*3\* 1.0 0.0 0.754 (0.0)

olv*i*4\* 0.0 1.0 0.246 1.0

cmy*n*4\* 1.0 0.0 0.754 0.0

standard and adapted CIELAB

## Input: Colorimetric Reflective System NRS11

for hue  $h^* = lab^*h = 162/360 = 0.451$

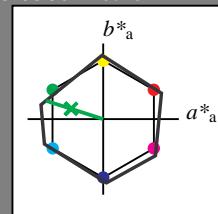
$lab^*tch$  and  $lab^*nch$

D65: hue G

LCH\*Ma: 53 80 162

olv\*Ma: 0.08 1.0 0.0

triangle lightness  $t^*$



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

$LAB^*LABa$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*ice$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

$g^*_{H,rel} = 47$

$g^*_{C,rel} = 100$

$u^*_{rel} = 119$

%Regularity

triangle lightness  $t^*$

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 0.5

$cmyn^4*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  53.21 0.04 0.0

$LAB^*LABa$  53.21 0.0 0.0

$LAB^*TChA$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.5 0.0 0.0

$lab^*ice$  0.5 0.0 0.0

$lab^*ncE$  0.5 0.0 -

$n^* = 0,00$

relative Inform. Technology (IT)  
 $olv^3*$  0.0 0.0 0.0 (1.0)

$cmyn^3*$  1.0 1.0 1.0 (0.0)

$olv^4*$  1.0 1.0 1.0 0.0

$cmyn^4*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  11.01 0.07 0.01

$LAB^*LABa$  11.01 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*ice$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

UE100-7, 3 step scales for constant CIELAB hue 162/360 = 0.451 (left)

## Output: Colorimetric Reflective System MRS18

for hue  $h^* = lab^*h = 164/360 = 0.457$

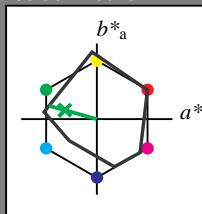
$lab^*tch$  and  $lab^*nch$

D65: hue G

LCH\*Ma: 56 66 164

olv\*Ma: 0.1 1.0 0.0

triangle lightness  $t^*$



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

$LAB^*LABa$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*ice$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

$g^*_{H,rel} = 41$

$g^*_{C,rel} = 52$

$u^*_{rel} = 91$

%Regularity

triangle lightness  $t^*$

relative Inform. Technology (IT)  
 $olv^3*$  0.551 1.0 0.5 (1.0)  
 $cmyn^3*$  0.449 0.0 0.5 (0.0)

$olv^4*$  0.551 1.0 0.5 1.0

$cmyn^4*$  0.449 0.0 0.5 0.0

standard and adapted CIELAB

$LAB^*LAB$  75.74 -32.2 12.22

$LAB^*LABa$  75.74 -31.6 8.79

$LAB^*TChA$  75.0 32.81 164.46

relative CIELAB lab\*

$lab^*lab$  0.746 -0.481 0.134

$lab^*tch$  0.75 0.5 0.457

$lab^*nch$  0.0 0.5 0.457

relative Natural Colour (NC)

$lab^*lrij$  0.746 -0.499 0.0

$lab^*ice$  0.75 0.5 0.5

$lab^*ncE$  0.0 0.5 0.99g

$n^* = 0,00$

relative Inform. Technology (IT)  
 $olv^3*$  0.51 0.5 0.5 (1.0)  
 $cmyn^3*$  0.449 0.5 0.5 (0.0)

$olv^4*$  0.551 1.0 0.5 0.5

$cmyn^4*$  0.449 0.0 0.5 0.5

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 CIELAB lab\*

$lab^*lab$  0.5 -0.951 0.305

$lab^*tch$  0.5 1.0 0.451

$lab^*nch$  0.0 1.0 0.451

relative Natural Colour (NC)

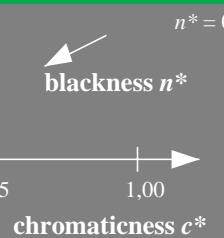
$lab^*lrij$  0.5 -0.999 0.0

$lab^*ice$  0.5 1.0 0.5

$lab^*ncE$  0.0 1.0 g00b

$n^* = 1,0$

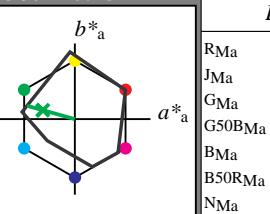
3 step scales for constant CIELAB hue 164/360 = 0.457 (right)



$n^* = 0,00$

blackness  $n^*$

chromaticness  $c^*$



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

$LAB^*LAB$  49.63 66.96 38.37 77.18 30

$LAB^*LABa$  90.7 -6.36 88.75 88.98 94

$LAB^*TChA$  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

$g^*_{C,rel} = 52$

$g^*_{H,rel} = 41$

$u^*_{rel} = 91$

%Regularity

triangle lightness  $t^*$

relative Inform. Technology (IT)  
 $olv^3*$  0.897 0.0 1.0 (0.0)  
 $cmyn^3*$  0.897 0.0 1.0 0.0

$olv^4*$  0.103 1.0 0.0 1.0

$cmyn^4*$  0.897 0.0 1.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  56.07 -63.44 19.68

$LAB^*LABa$  56.07 -63.21 17.58

$LAB^*TChA$  50.0 65.62 164.46

relative CIELAB lab\*

$lab^*lab$  0.492 -0.962 0.268

$lab^*tch$  0.5 1.0 0.457

$lab^*nch$  0.0 1.0 0.457

relative Natural Colour (NC)

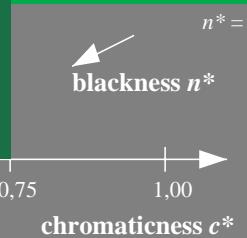
$lab^*lrij$  0.492 -0.999 0.0

$lab^*ice$  0.5 1.0 0.5

$lab^*ncE$  0.0 1.0 g00b

$n^* = 1,0$

3 step scales for constant CIELAB hue 164/360 = 0.457 (right)



$n^* = 0,00$

blackness  $n^*$

chromaticness  $c^*$

## Input: Colorimetric Reflective System NRS11

for hue  $h^* = lab^*h = 162/360 = 0.451$

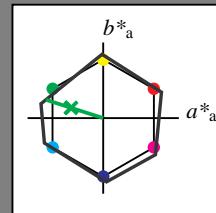
$lab^*tch$  and  $lab^*nch$

D65: hue G

LCH\*Ma: 53 80 162

olv\*Ma: 0.08 1.0 0.0

triangle lightness  $t^*$



### NRS11; adapted (a) CIELAB data

	$L^* = L^*_{ab}$	$a^*_{ab}$	$b^*_{ab}$	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	53.2	77.06	34.32	84.36	24
JMa	53.2	-1.51	84.38	84.39	91
GMa	53.2	-82.27	18.98	84.44	167
G50BMa	53.2	-77.72	-32.98	84.44	203
BMa	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)

$olv^3*$  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

$LAB^*LABa$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*ice$  1.0 0.0 0.0

$lab^*ncE$  0.0 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\*

$lab^*lab$  0.54 1.0 0.5 (1.0)

$cmyn^3*$  0.46 0.0 0.5 (0.0)

$olv^4*$  0.54 1.0 0.5 1.0

$cmyn^4*$  0.46 0.0 0.5 0.0

standard and adapted CIELAB

$LAB^*LAB$  74.3 -37.84 12.13

$LAB^*LABa$  74.3 -37.87 12.12

$LAB^*TChA$  75.0 39.77 162.25

relative CIELAB lab\*

$lab^*lab$  0.75 -0.475 0.152

$lab^*tch$  0.75 0.5 0.451

$lab^*nch$  0.0 0.5 0.451

relative Natural Colour (NC)

$lab^*lrij$  0.75 -0.499 0.0

$lab^*ice$  0.75 0.2 0.5

$lab^*ncE$  0.0 0.5 0.99g

standard and adapted CIELAB

$LAB^*LAB$  53.21 0.04 0.0

$LAB^*LABa$  53.21 0.0 0.0

$LAB^*TChA$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.5 0.0 0.0

$lab^*ice$  0.5 0.0 0.0

$lab^*ncE$  0.5 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  53.21 -75.71 24.25

$LAB^*LABa$  53.21 -75.75 24.24

$LAB^*TChA$  50.0 79.54 162.25

relative CIELAB lab\*

$lab^*lab$  0.081 1.0 0.0 (1.0)

$cmyn^3*$  0.919 0.0 1.0 (0.0)

$olv^4*$  0.081 1.0 0.0 1.0

$cmyn^4*$  0.919 0.0 1.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  53.2 -75.71 24.24

$LAB^*LABa$  53.2 -75.75 24.24

$LAB^*TChA$  50.0 79.54 162.25

relative CIELAB lab\*

$lab^*lab$  0.54 1.0 0.5 (1.0)

$cmyn^3*$  0.46 0.0 0.5 (0.0)

$olv^4*$  0.54 1.0 0.5 1.0

$cmyn^4*$  0.46 0.0 0.5 0.0

standard and adapted CIELAB

$LAB^*LAB$  32.1 -37.84 12.13

$LAB^*LABa$  32.1 -37.87 12.12

$LAB^*TChA$  25.01 39.77 162.27

relative CIELAB lab\*

$lab^*lab$  0.04 0.5 0.0 (1.0)

$cmyn^3*$  0.96 0.5 1.0 (0.0)

$olv^4*$  0.54 1.0 0.5 0.5

$cmyn^4*$  0.46 0.0 0.5 0.5

standard and adapted CIELAB

$LAB^*LAB$  32.1 -37.84 12.13

$LAB^*LABa$  32.1 -37.87 12.12

$LAB^*TChA$  25.01 39.77 162.27

relative CIELAB lab\*

$lab^*lab$  0.25 -0.475 0.152

$lab^*tch$  0.25 0.5 0.451

$lab^*nch$  0.5 0.5 0.451

relative Natural Colour (NC)

$lab^*lrij$  0.25 -0.499 0.0

$lab^*ice$  0.25 0.5 0.5

$lab^*ncE$  0.5 0.5 g00b

$n^* = 1,0$

$n^* = 0,00$

$n^* = 0,50$        $n^* = 1,00$

chromaticness  $c^*$

## Output: Colorimetric Reflective System TRS18

for hue  $h^* = lab^*h = 164/360 = 0.457$

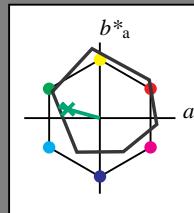
$lab^*tch$  and  $lab^*nch$

D65: hue G

LCH\*Ma: 53 57 164

olv\*Ma: 0.0 1.0 0.25

triangle lightness  $t^*$



### TRS18; adapted (a) CIELAB data

	$L^* = L^*_{ab}$	$a^*_{ab}$	$b^*_{ab}$	$C^*_{ab,a}$	$h^*_{ab,a}$
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)

$olv^3*$  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

$LAB^*LABa$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*ice$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  74.1 -27.96 10.94

$LAB^*LABa$  74.1 -27.39 7.62

$LAB^*TChA$  75.0 28.44 164.46

relative CIELAB lab\*

$lab^*lab$  0.725 -0.481 0.134

$lab^*tch$  0.75 0.5 0.457

$lab^*nch$  0.0 0.5 0.457

relative Natural Colour (NC)

$lab^*lrij$  0.725 -0.499 0.0

$lab^*ice$  0.75 0.5 0.5

$lab^*ncE$  0.0 0.5 g00b

relative Inform. Technology (IT)

$olv^3*$  0.5 1.0 0.246 (1.0)

$cmyn^3*$  0.5 0.0 0.754 (0.0)

$olv^4*$  0.0 1.0 0.246 1.0

$cmyn^4*$  1.0 0.0 0.754 0.0

standard and adapted CIELAB

$LAB^*LAB$  52.8 -54.95 17.13

$LAB^*LABa$  52.8 -54.79 15.24

$LAB^*TChA$  50.0 56.88 164.45

relative CIELAB lab\*

$lab^*lab$  0.45 -0.962 0.268

$lab^*tch$  0.5 1.0 0.457

$lab^*nch$  0.0 1.0 0.457

relative Natural Colour (NC)

$lab^*lrij$  0.45 -0.999 0.0

$lab^*ice$  0.5 1.0 0.5

$lab^*ncE$  0.0 1.0 j99g

$n^* = 0,00$

$n^* = 0,50$

$n^* = 1,0$

chromaticness  $c^*$

3 step scales for constant CIELAB hue 164/360 = 0.457 (right)

UE100-7, 3 step scales for constant CIELAB hue 162/360 = 0.451 (left)

## Input: Colorimetric Reflective System NRS11

for hue  $h^* = lab^*h = 162/360 = 0.451$

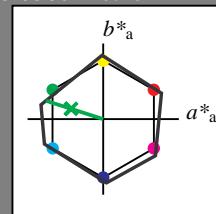
$lab^*tch$  and  $lab^*nch$

D65: hue G

LCH\*Ma: 53 80 162

olv\*Ma: 0.08 1.0 0.0

triangle lightness  $t^*$



### NRS11; adapted (a) CIELAB data

	$L^* = L^*_{a,a}$	$a^*_{a,a}$	$b^*_{a,a}$	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	53.2	77.06	34.32	84.36	24
JMa	53.2	-1.51	84.38	84.39	91
GMa	53.2	-82.27	18.98	84.44	167
G50BMa	53.2	-77.72	-32.98	84.44	203
BMa	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)

$olv^3*$  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

$LAB^*LABa$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*ice$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  74.3 -37.84 12.13

$LAB^*LABa$  74.3 -37.87 12.12

$LAB^*TChA$  75.0 39.77 162.25

relative CIELAB lab\*

$lab^*lab$  0.75 -0.475 0.152

$lab^*tch$  0.75 0.5 0.451

$lab^*nch$  0.0 0.5 0.451

relative Natural Colour (NC)

$lab^*lrij$  0.75 -0.499 0.0

$lab^*ice$  0.75 0.2 0.5

$lab^*ncE$  0.0 0.5 j99g

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 0.5

$cmyn^4*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  53.21 0.04 0.0

$LAB^*LABa$  53.21 0.0 0.0

$LAB^*TChA$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.5 0.0 0.0

$lab^*ice$  0.5 0.0 0.0

$lab^*ncE$  0.5 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  11.01 0.07 0.01

$LAB^*LABa$  11.01 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*ice$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

%Gamut  
 $u^*_{rel} = 119$   
%Regularity  
 $g^*_{H,rel} = 47$   
 $g^*_{C,rel} = 100$

relative Inform. Technology (IT)  
 $olv^3*$  0.54 1.0 0.5 (1.0)  
 $cmyn^3*$  0.46 0.0 0.5 (0.0)  
 $olv^4*$  0.54 1.0 0.5 1.0  
 $cmyn^4*$  0.46 0.0 0.5 0.0  
standard and adapted CIELAB  
 $LAB^*LAB$  74.3 -37.84 12.13  
 $LAB^*LABa$  74.3 -37.87 12.12  
 $LAB^*TChA$  75.0 39.77 162.25  
relative CIELAB lab\*  
 $lab^*lab$  0.75 0.5 0.451  
 $lab^*tch$  0.75 0.5 0.451  
 $lab^*nch$  0.0 0.5 0.451  
relative Natural Colour (NC)  
 $lab^*lrij$  0.75 0.5 0.0  
 $lab^*ice$  0.75 0.5 0.0  
 $lab^*ncE$  0.0 0.5 j99g  
relative Inform. Technology (IT)  
 $olv^3*$  0.081 1.0 0.0 (1.0)  
 $cmyn^3*$  0.919 0.0 1.0 (0.0)  
 $olv^4*$  0.081 1.0 0.0 1.0  
 $cmyn^4*$  0.919 0.0 1.0 0.0  
standard and adapted CIELAB  
 $LAB^*LAB$  53.2 -75.71 24.25  
 $LAB^*LABa$  53.2 -75.75 24.24  
 $LAB^*TChA$  50.0 79.54 162.26  
relative CIELAB lab\*  
 $lab^*lab$  0.5 0.5 0.305  
 $lab^*tch$  0.5 0.5 0.451  
 $lab^*nch$  0.0 1.0 0.451  
relative Natural Colour (NC)  
 $lab^*lrij$  0.5 0.5 0.0  
 $lab^*ice$  0.5 0.5 0.5  
 $lab^*ncE$  0.0 1.0 g00b  
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 0.5  
 $cmyn^4*$  0.0 0.0 0.0 0.5  
standard and adapted CIELAB  
 $LAB^*LAB$  32.1 -37.84 12.13  
 $LAB^*LABa$  32.1 -37.87 12.12  
 $LAB^*TChA$  25.01 39.77 162.27  
relative CIELAB lab\*  
 $lab^*lab$  0.25 -0.475 0.152  
 $lab^*tch$  0.25 0.5 0.451  
 $lab^*nch$  0.5 0.5 0.451  
relative Natural Colour (NC)  
 $lab^*lrij$  0.5 0.5 0.0  
 $lab^*ice$  0.5 0.5 0.5  
 $lab^*ncE$  0.0 1.0 g00b  
relative Inform. Technology (IT)  
 $olv^3*$  0.0 0.0 0.0 (1.0)  
 $cmyn^3*$  1.0 1.0 1.0 (0.0)  
 $olv^4*$  1.0 1.0 1.0 0.0  
 $cmyn^4*$  0.0 0.0 0.0 1.0  
standard and adapted CIELAB  
 $LAB^*LAB$  11.01 0.07 0.01  
 $LAB^*LABa$  11.01 0.0 0.0  
 $LAB^*TChA$  0.01 0.01 -  
relative CIELAB lab\*  
 $lab^*lab$  0.0 0.0 0.0  
 $lab^*tch$  0.0 0.0 -  
 $lab^*nch$  1.0 0.0 -  
relative Natural Colour (NC)  
 $lab^*lrij$  0.0 0.0 0.0  
 $lab^*ice$  0.0 0.0 -  
 $lab^*ncE$  1.0 0.0 -  
 $n^* = 0,00$

$n^* = 0,00$   
blackness  $n^*$   
| →  
0,25 0,50 0,75 1,00  
chromaticness  $c^*$

## Output: Colorimetric Reflective System MRS18a

for hue  $h^* = lab^*h = 162/360 = 0.451$

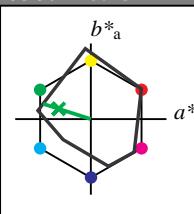
$lab^*tch$  and  $lab^*nch$

D65: hue G

LCH\*Ma: 56 66 162

olv\*Ma: 0.11 1.0 0.0

triangle lightness  $t^*$



	$L^* = L^*_{a,a}$	$a^*_{a,a}$	$b^*_{a,a}$	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	49.63	66.8	40.02	77.87	31
JMa	90.7	-7.27	93.19	93.48	94
GMa	52.11	-69.93	11.26	70.85	171
G50BMa	45.03	-36.65	-27.13	45.61	217
BMa	36.65	23.26	-62.27	66.49	290
B50RMa	34.94	57.27	-43.6	71.99	323
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.9	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	272

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

$LAB^*LAB$  75.86 -31.51 10.1

$LAB^*LABa$  75.86 -31.54 10.09

$LAB^*TChA$  75.0 33.13 162.26

relative CIELAB lab\*

$lab^*lab$  0.747 -0.475 0.152

$lab^*tch$  0.75 0.5 0.451

$lab^*nch$  0.0 0.5 0.451

relative Natural Colour (NC)

$lab^*lrij$  0.747 -0.499 0.0

$lab^*ice$  0.75 0.5 0.5

$lab^*ncE$  0.0 0.5 j99g

relative Inform. Technology (IT)

$olv^3*$  0.109 1.0 0.0 (1.0)

$cmyn^3*$  0.891 0.0 1.0 (0.0)

$olv^4*$  0.109 1.0 0.0 1.0

$cmyn^4*$  0.891 0.0 1.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  56.31 -63.05 20.19

$LAB^*LABa$  56.31 -63.1 20.18

$LAB^*TChA$  50.0 66.26 162.27

relative CIELAB lab\*

$lab^*lab$  0.495 -0.951 0.304

$lab^*tch$  0.5 1.0 0.451

$lab^*nch$  0.0 1.0 0.451

relative Natural Colour (NC)

$lab^*lrij$  0.495 -0.999 0.0

$lab^*ice$  0.5 1.0 0.5

$lab^*ncE$  0.0 1.0 g00b

$n^* = 1,00$

blackness  $n^*$

| →

0,25 0,50 0,75 1,00

chromaticness  $c^*$

UE100-7, 3 step scales for constant CIELAB hue 162/360 = 0.451 (left)

3 step scales for constant CIELAB hue 162/360 = 0.451 (right)

## Input: Colorimetric Reflective System NRS11

for hue  $h^* = lab^*h = 162/360 = 0.451$

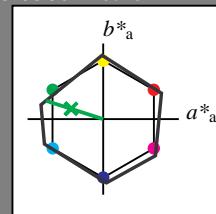
$lab^*tch$  and  $lab^*nch$

D65: hue G

LCH\*Ma: 53 80 162

olv\*Ma: 0.08 1.0 0.0

triangle lightness  $t^*$



### NRS11; adapted (a) CIELAB data

	$L^* = L_a^*$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	53.2	77.06	34.32	84.36	24
JMa	53.2	-1.51	84.38	84.39	91
GMa	53.2	-82.27	18.98	84.44	167
G50BMa	53.2	-77.72	-32.98	84.44	203
BMa	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)

$olv_i3^*$  1.0 1.0 1.0 (1.0)

$cmy_n3^*$  0.0 0.0 0.0 (0.0)

$olv_i4^*$  1.0 1.0 1.0 1.0

$cmy_n4^*$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*ice$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)

$olv_i3^*$  0.5 0.5 0.5 (1.0)

$cmy_n3^*$  0.5 0.5 0.5 (0.0)

$olv_i4^*$  1.0 1.0 1.0 0.5

$cmy_n4^*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  53.21 0.04 0.0

$LAB^*LABa$  53.21 0.0 0.0

$LAB^*TChA$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.5 0.0 0.0

$lab^*ice$  0.5 0.0 0.0

$lab^*ncE$  0.5 0.0 -

relative Inform. Technology (IT)

$olv_i3^*$  0.0 0.0 0.0 (1.0)

$cmy_n3^*$  1.0 1.0 1.0 (0.0)

$olv_i4^*$  1.0 1.0 1.0 0.0

$cmy_n4^*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  11.01 0.07 0.01

$LAB^*LABa$  11.01 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*ice$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

%Gamut  
 $u^*_{rel} = 119$   
%Regularity  
 $g^*_{H,rel} = 47$   
 $g^*_{C,rel} = 100$

relative Inform. Technology (IT)  
 $olv_i3^*$  0.54 1.0 0.5 (1.0)  
 $cmy_n3^*$  0.46 0.0 0.5 (0.0)  
 $olv_i4^*$  0.54 1.0 0.5 1.0  
 $cmy_n4^*$  0.46 0.0 0.5 0.0

standard and adapted CIELAB  
 $LAB^*LAB$  74.3 -37.84 12.13  
 $LAB^*LABa$  74.3 -37.87 12.12  
 $LAB^*TChA$  75.0 39.77 162.25

relative Inform. Technology (IT)  
 $olv_i3^*$  0.081 1.0 0.0 (1.0)  
 $cmy_n3^*$  0.919 0.0 1.0 (0.0)  
 $olv_i4^*$  0.081 1.0 0.0 1.0  
 $cmy_n4^*$  0.919 0.0 1.0 0.0

relative Natural Colour (NC)

$lab^*lrij$  0.75 -0.499 0.0

$lab^*ice$  0.75 0.2 0.5

$lab^*ncE$  0.0 0.5 j99g

standard and adapted CIELAB  
 $LAB^*LAB$  53.2 -75.71 24.25  
 $LAB^*LABa$  53.2 -75.75 24.24  
 $LAB^*TChA$  50.0 79.54 162.26

relative CIELAB lab\*

$lab^*lab$  0.5 -0.951 0.305

$lab^*tch$  0.5 1.0 0.451

$lab^*nch$  0.0 1.0 0.451

relative Natural Colour (NC)

$lab^*lrij$  0.5 -0.999 0.0

$lab^*ice$  0.5 1.0 0.5

$lab^*ncE$  0.0 1.0 g00b

relative Inform. Technology (IT)  
 $olv_i3^*$  0.04 0.5 0.0 (1.0)  
 $cmy_n3^*$  0.96 0.5 1.0 (0.0)  
 $olv_i4^*$  0.54 1.0 0.5 0.5  
 $cmy_n4^*$  0.46 0.0 0.5 0.5

standard and adapted CIELAB

$LAB^*LAB$  32.1 -37.81 12.13

$LAB^*LABa$  32.1 -37.87 12.12

$LAB^*TChA$  25.01 39.77 162.27

relative CIELAB lab\*

$lab^*lab$  0.25 -0.475 0.152

$lab^*tch$  0.25 0.5 0.451

$lab^*nch$  0.5 0.5 0.451

relative Natural Colour (NC)

$lab^*lrij$  0.25 -0.499 0.0

$lab^*ice$  0.25 0.5 0.5

$lab^*ncE$  0.5 0.5 g00b

relative Inform. Technology (IT)  
 $olv_i3^*$  0.0 0.0 0.0 (1.0)  
 $cmy_n3^*$  1.0 1.0 1.0 (0.0)  
 $olv_i4^*$  1.0 1.0 1.0 0.0  
 $cmy_n4^*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  11.01 0.07 0.01

$LAB^*LABa$  11.01 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*ice$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 0,00$

blackness  $n^*$

$n^* = 0,50$

$n^* = 1,00$

chromaticness  $c^*$

0,25 0,50 0,75 1,00

## Output: Colorimetric Reflective System NRS18

for hue  $h^* = lab^*h = 162/360 = 0.451$

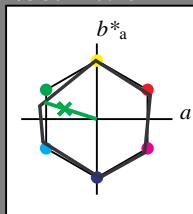
$lab^*tch$  and  $lab^*nch$

D65: hue G

LCH\*Ma: 57 73 162

olv\*Ma: 0.08 1.0 0.0

triangle lightness  $t^*$



### NRS18; adapted (a) CIELAB data

	$L^* = L_a^*$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	56.7	70.66	31.47	77.35	24
JMa	56.7	-1.39	77.37	77.39	91
GMa	56.7	-75.46	17.4	77.45	167
G50BMa	56.7	-71.29	-30.25	77.45	203
BMa	56.7	4.0	-77.3	77.41	273
B50RMa	56.7	63.35	-44.4	77.36	325
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	272

relative Inform. Technology (IT)

$olv_i3^*$  1.0 1.0 1.0 (1.0)

$cmy_n3^*$  0.0 0.0 0.0 (0.0)

$olv_i4^*$  1.0 1.0 1.0 1.0

$cmy_n4^*$  0.0 0.0 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  95.41 0.0 0.0

$LAB^*LABa$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*ice$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)

$olv_i3^*$  0.54 1.0 0.5 (1.0)

$cmy_n3^*$  0.46 0.0 0.5 (0.0)

$olv_i4^*$  0.54 1.0 0.5 1.0

$cmy_n4^*$  0.46 0.0 0.5 0.0

standard and adapted CIELAB

$LAB^*LAB$  76.05 -34.7 11.12

$LAB^*LABa$  76.05 -34.73 11.11

$LAB^*TChA$  75.0 36.48 162.26

relative CIELAB lab\*

$lab^*lab$  0.75 -0.475 0.152

$lab^*tch$  0.75 0.5 0.451

$lab^*nch$  0.0 0.5 0.451

relative Natural Colour (NC)

$lab^*lrij$  0.75 -0.499 0.0

$lab^*ice$  0.75 0.5 0.5

$lab^*ncE$  0.0 0.5 j99g

relative Inform. Technology (IT)

$olv_i3^*$  0.081 1.0 0.0 (1.0)

$cmy_n3^*$  0.919 0.0 1.0 (0.0)

$olv_i4^*$  0.081 1.0 0.0 1.0

$cmy_n4^*$  0.919 0.0 1.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  56.7 -69.43 22.23

$LAB^*LABa$  56.7 -69.49 22.22

## Input: Colorimetric Reflective System NRS11

for hue  $h^* = lab^*h = 162/360 = 0.451$

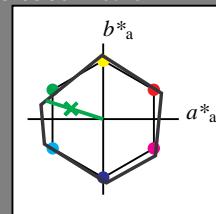
$lab^*tch$  and  $lab^*nch$

D65: hue G

LCH\*Ma: 53 80 162

olv\*Ma: 0.08 1.0 0.0

triangle lightness  $t^*$



### NRS11; adapted (a) CIELAB data

	$L^* = L_a^*$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	53.2	77.06	34.32	84.36	24
JMa	53.2	-1.51	84.38	84.39	91
GMa	53.2	-82.27	18.98	84.44	167
G50BMa	53.2	-77.72	-32.98	84.44	203
BMa	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)

$olv^3*$  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

$LAB^*LABa$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*ice$  1.0 0.0 0.0

$lab^*ncE$  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\*

$lab^*lab$  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 0.5

$cmyn^4*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  53.21 0.04 0.0

$LAB^*LABa$  53.21 0.0 0.0

$LAB^*TChA$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.5 0.0 0.0

$lab^*ice$  0.5 0.0 0.0

$lab^*ncE$  0.5 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  11.01 0.07 0.01

$LAB^*LABa$  11.01 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

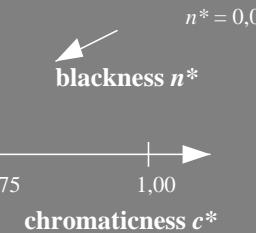
relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*ice$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$



chromaticness  $c^*$

$n^* = 0,00$

$n^* = 0,50$

0,25 0,50 0,75 1,00

$n^* = 1,00$

$n^* = 0,50$

0,25 0,50 0,75 1,00

## Output: Colorimetric Reflective System NCS18

for hue  $h^* = lab^*h = 162/360 = 0.451$

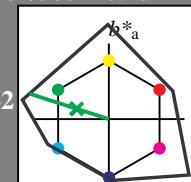
$lab^*tch$  and  $lab^*nch$

D65: hue G

LCH\*Ma: 65 110 162

olv\*Ma: 0.08 1.0 0.0

triangle lightness  $t^*$



### NCS18; adapted (a) CIELAB data

	$L^* = L_a^*$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	47.15	84.63	37.24	92.46	24
JMa	91.37	-1.27	125.03	125.03	91
GMa	63.07	-114.29	25.34	117.07	167
G50BMa	59.47	-80.61	-33.45	87.29	203
BMa	49.01	3.63	-81.2	81.29	273
B50RMa	44.06	106.07	-73.94	129.31	325
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	272

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

$LAB^*LABa$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*ice$  1.0 0.0 0.0

$lab^*ncE$  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\*

$lab^*lab$  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 0.5

$cmyn^4*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  53.21 0.04 0.0

$LAB^*LABa$  53.21 0.0 0.0

$LAB^*TChA$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  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 0.5

$cmyn^4*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  11.01 0.07 0.01

$LAB^*LABa$  11.01 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*ice$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

$n^* = 0,00$

$n^* = 0,50$

0,25 0,50 0,75 1,00

$n^* = 1,00$

$n^* = 0,50$

0,25 0,50 0,75 1,00

$n^* = 0,00$

$n^* = 0,50$

0,25 0,50 0,75 1,00

$n^* = 1,00$

$n^* = 0,50$

0,25 0,50 0,75 1,00

UE100-7, 3 step scales for constant CIELAB hue 162/360 = 0.451 (left)

3 step scales for constant CIELAB hue 162/360 = 0.451 (right)

## Input: Colorimetric Reflective System NRS11

for hue  $h^* = lab^*h = 162/360 = 0.451$

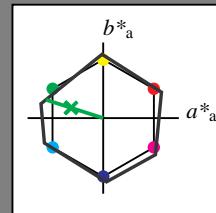
$lab^*tch$  and  $lab^*nch$

D65: hue G

LCH\*Ma: 53 80 162

olv\*Ma: 0.08 1.0 0.0

triangle lightness  $t^*$



%Gamut

$u^*_{rel} = 119$

%Regularity

$g^*_{H,rel} = 47$

$g^*_{C,rel} = 100$

relative Inform. Technology (IT)

$olv^3*$  1.0 1.0 1.0 (1.0)

$cmy^3*$  0.0 0.0 0.0 (0.0)

$olv^4*$  1.0 1.0 1.0 1.0

$cmy^4*$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*ice$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)

$olv^3*$  0.5 0.5 0.5 (1.0)

$cmy^3*$  0.5 0.5 0.5 (0.0)

$olv^4*$  1.0 1.0 1.0 0.5

$cmy^4*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  53.21 0.04 0.0

$LAB^*LABa$  53.21 0.0 0.0

$LAB^*TChA$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.5 0.0 0.0

$lab^*ice$  0.5 0.0 0.0

$lab^*ncE$  0.5 0.0 -

relative Inform. Technology (IT)

$olv^3*$  0.0 0.0 0.0 (1.0)

$cmy^3*$  1.0 1.0 1.0 (0.0)

$olv^4*$  1.0 1.0 1.0 0.0

$cmy^4*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  11.01 0.07 0.01

$LAB^*LABa$  11.01 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*ice$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

## NRS11; adapted (a) CIELAB data

$L^*=L^*_{a,a}$   $a^*_{a,a}$   $b^*_{a,a}$   $C^*_{ab,a}$   $h^*_{ab,a}$

RMa	53.2	77.06	34.32	84.36	24
JMa	53.2	-1.51	84.38	84.39	91
GMa	53.2	-82.27	18.98	84.44	167
G50BMa	53.2	-77.72	-32.98	84.44	203
BMa	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

## Output: Colorimetric Reflective System NRS11

for hue  $h^* = lab^*h = 162/360 = 0.451$

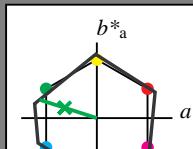
$lab^*tch$  and  $lab^*nch$

D65: hue G

LCH\*Ma: 53 80 162

olv\*Ma: 0.08 1.0 0.0

triangle lightness  $t^*$



%Gamut

$u^*_{rel} = 119$

%Regularity

$g^*_{H,rel} = 47$

$g^*_{C,rel} = 100$

relative Inform. Technology (IT)

$olv^3*$  1.0 1.0 1.0 (1.0)

$cmy^3*$  0.0 0.0 0.0 (0.0)

$olv^4*$  1.0 1.0 1.0 1.0

$cmy^4*$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*ice$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)

$olv^3*$  0.5 0.5 0.5 (1.0)

$cmy^3*$  0.46 0.0 0.5 (0.0)

$olv^4*$  0.54 1.0 0.5 1.0

$cmy^4*$  0.46 0.0 0.5 0.0

standard and adapted CIELAB

$LAB^*LAB$  74.3 -37.84 12.13

$LAB^*LABa$  74.3 -37.87 12.12

$LAB^*TChA$  75.0 39.77 162.25

relative CIELAB lab\*

$lab^*lab$  0.75 -0.475 0.152

$lab^*tch$  0.75 0.5 0.451

$lab^*nch$  0.0 0.5 0.451

relative Natural Colour (NC)

$lab^*lrij$  0.75 -0.499 0.0

$lab^*ice$  0.75 0.5 0.5

$lab^*ncE$  0.0 0.5 0.0

$n^* = 0,00$

blackness  $n^*$

chromaticness  $c^*$

$n^* = 1,0$

chromaticness  $c^*$

## NRS11; adapted (a) CIELAB data

$L^*=L^*_{a,a}$   $a^*_{a,a}$   $b^*_{a,a}$   $C^*_{ab,a}$   $h^*_{ab,a}$

RMa	53.2	77.06	34.32	84.36	24
JMa	53.2	-1.51	84.38	84.39	91
GMa	53.2	-82.27	18.98	84.44	167
G50BMa	53.2	-77.72	-32.98	84.44	203
BMa	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)

$olv^3*$  0.081 1.0 0.0 (1.0)

$cmy^3*$  0.919 0.0 1.0 (0.0)

$olv^4*$  0.081 1.0 0.0 1.0

$cmy^4*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  53.21 0.04 0.0

$LAB^*LABa$  53.21 0.0 0.0

$LAB^*TChA$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.75 -0.475 0.152

$lab^*tch$  0.75 0.5 0.451

$lab^*nch$  0.0 0.5 0.451

relative Natural Colour (NC)

$lab^*lrij$  0.75 -0.499 0.0

$lab^*ice$  0.75 0.5 0.5

$lab^*ncE$  0.0 0.5 0.0

$n^* = 0,00$

blackness  $n^*$

chromaticness  $c^*$

$n^* = 1,0$

chromaticness  $c^*$

## NRS11; adapted (a) CIELAB data

$L^*=L^*_{a,a}$   $a^*_{a,a}$   $b^*_{a,a}$   $C^*_{ab,a}$   $h^*_{ab,a}$

RMa	53.2	77.06	34.32	84.36	24
JMa	53.2	-1.51	84.38	84.39	91
GMa	53.2	-82.27	18.98	84.44	167
G50BMa	53.2	-77.72	-32.98	84.44	203
BMa	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)

$olv^3*$  0.081 1.0 0.0 (1.0)

$cmy^3*$  0.919 0.0 1.0 (0.0)

$olv^4*$  0.081 1.0 0.0 1.0

$cmy^4*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  53.21 0.04 0.0

$LAB^*LABa$  53.21 0.0 0.0

$LAB^*TChA$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.75 -0.475 0.152

$lab^*tch$  0.75 0.5 0.451

$lab^*nch$  0.0 0.5 0.451

relative Natural Colour (NC)

## Input: Colorimetric Reflective System NRS11

for hue  $h^* = lab^*h = 162/360 = 0.451$

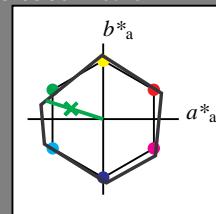
$lab^*tch$  and  $lab^*nch$

D65: hue G

LCH\*Ma: 53 80 162

olv\*Ma: 0.08 1.0 0.0

triangle lightness  $t^*$



### NRS11; adapted (a) CIELAB data

	$L^* = L_a^*$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	53.2	77.06	34.32	84.36	24
JMa	53.2	-1.51	84.38	84.39	91
GMa	53.2	-82.27	18.98	84.44	167
G50BMa	53.2	-77.72	-32.98	84.44	203
BMa	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)

$olv^3*$  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

$LAB^*LABa$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*ice$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  74.3 -37.84 12.13

$LAB^*LABa$  74.3 -37.87 12.12

$LAB^*TChA$  75.0 39.77 162.25

relative CIELAB lab\*

$lab^*lab$  0.75 -0.475 0.152

$lab^*tch$  0.75 0.5 0.451

$lab^*nch$  0.0 0.5 0.451

relative Natural Colour (NC)

$lab^*lrij$  0.75 -0.499 0.0

$lab^*ice$  0.75 0.2 0.5

$lab^*ncE$  0.0 0.5 j99g

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 0.5

$cmyn^4*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  53.21 0.04 0.0

$LAB^*LABa$  53.21 0.0 0.0

$LAB^*TChA$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.5 0.0 0.0

$lab^*ice$  0.5 0.0 0.0

$lab^*ncE$  0.5 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  32.1 -37.84 12.13

$LAB^*LABa$  32.1 -37.87 12.12

$LAB^*TChA$  25.01 39.77 162.27

relative CIELAB lab\*

$lab^*lab$  0.25 -0.475 0.152

$lab^*tch$  0.25 0.5 0.451

$lab^*nch$  0.5 0.5 0.451

relative Natural Colour (NC)

$lab^*lrij$  0.25 -0.499 0.0

$lab^*ice$  0.25 0.5 0.5

$lab^*ncE$  0.5 0.5 g00b

$n^* = 1,0$

relative Inform. Technology (IT)

$olv^3*$  1.0 1.0 1.0 (0.0)

$cmyn^3*$  0.96 0.5 1.0 (0.0)

$olv^4*$  0.54 1.0 0.5 0.5

$cmyn^4*$  0.46 0.0 0.5 0.5

standard and adapted CIELAB

$LAB^*LAB$  32.1 -37.84 12.13

$LAB^*LABa$  32.1 -37.87 12.12

$LAB^*TChA$  25.01 39.77 162.27

relative CIELAB lab\*

$lab^*lab$  0.25 -0.475 0.152

$lab^*tch$  0.25 0.5 0.451

$lab^*nch$  0.5 0.5 0.451

relative Natural Colour (NC)

$lab^*lrij$  0.25 -0.499 0.0

$lab^*ice$  0.25 0.5 0.5

$lab^*ncE$  0.5 0.5 g00b

$n^* = 1,0$

relative Inform. Technology (IT)

$olv^3*$  0.54 1.0 0.5 (1.0)

$cmyn^3*$  0.459 0.0 0.5 (0.0)

$olv^4*$  0.541 1.0 0.5 1.0

$cmyn^4*$  0.459 0.0 0.5 0.0

standard and adapted CIELAB

$LAB^*LAB$  80.4 -52.43 16.79

$LAB^*LABa$  80.4 -52.45 16.79

$LAB^*TChA$  75.0 55.08 162.25

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)

$lab^*lrij$  0.822 -0.499 0.0

$lab^*ice$  0.75 0.5 0.5

$lab^*ncE$  0.0 0.5 j99g

standard and adapted CIELAB

$LAB^*LAB$  65.41 -104.893 58

$LAB^*LABa$  65.41 -104.923 57

$LAB^*TChA$  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)

$lab^*lrij$  0.645 -0.999 0.0

$lab^*ice$  0.5 1.0 0.5

$lab^*ncE$  0.0 1.0 g00b

$n^* = 0,00$

relative Inform. Technology (IT)

$olv^3*$  0.917 0.0 1.0 (0.0)

$cmyn^3*$  0.917 0.0 1.0 (0.0)

$olv^4*$  0.917 0.0 1.0 0.0

$cmyn^4*$  0.917 0.0 1.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  65.41 -104.893 58

$LAB^*LABa$  65.41 -104.923 57

$LAB^*TChA$  50.0 110.17 162.26

relative CIELAB lab\*

$lab^*lab$  0.322 -0.475 0.152

$lab^*tch$  0.25 0.5 0.451

$lab^*nch$  0.5 0.5 0.451

relative Natural Colour (NC)

$lab^*lrij$  0.322 -0.499 0.0

$lab^*ice$  0.25 0.5 0.5

$lab^*ncE$  0.5 0.5 g00b

$n^* = 0,00$

relative Inform. Technology (IT)

$olv^3*$  0.917 0.0 1.0 (0.0)

$cmyn^3*$  0.917 0.0 1.0 (0.0)

$olv^4*$  0.917 0.0 1.0 0.0

$cmyn^4*$  0.917 0.0 1.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  49.01 3.65 -81.19

$LAB^*LABa$  44.06 106.09 -73.93

$LAB^*TChA$  32.32 129.32 325

relative CIELAB lab\*

$lab^*lab$  0.364 -0.475 0.152

$lab^*tch$  0.28 0.5 0.451

$lab^*nch$  0.5 0.5 0.451

relative Natural Colour (NC)

$lab^*lrij$  0.364 -0.499 0.0

$lab^*ice$  0.28 0.5 0.5

$lab^*ncE$  0.5 0.5 g00b

$n^* = 0,00$

relative Inform. Technology (IT)

$olv^3*$  0.917 0.0 1.0 (0.0)

$cmyn^3*$  0.917 0.0 1.0 (0.0)

$olv^4*$  0.917 0.0 1.0 0.0

$cmyn^4*$  0.917 0.0 1.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  49.01 3.65 -81.19

$LAB^*LABa$  44.06 106.09 -73.93

$LAB^*TChA$  32.32 129.32 325

relative CIELAB lab\*

$lab^*lab$  0.364 -0.475 0.152

$lab^*tch$  0.28 0.5 0.451

$lab^*nch$  0.5 0.5 0.451

relative Natural Colour (NC)

$lab^*lrij$  0.364 -0.499 0.0

$lab^*ice$  0.28 0.5 0.5

$lab^*ncE$  0.5 0.5 g00b

$n^* = 0,00$

relative Inform. Technology (IT)

$olv^3*$  0.917 0.0 1.0 (0.0)

$cmyn^3*$  0.917 0.0 1.0 (0.0)

$olv^4*$  0.917 0.0 1.0 0.0

$cmyn^4*$  0.917 0.0 1.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  49.01 3.65 -81.19

$LAB^*LABa$  44.06 106.09 -73.93

$LAB^*TChA$  32.32 129.32 325

relative CIELAB lab\*

$lab^*lab$  0.364 -0.475 0.152

$lab^*tch$  0.28 0.5 0.451

$lab^*nch$  0.5 0.5 0.451

relative Natural Colour (NC)

$lab^*lrij$  0.364 -0.499 0.0

$lab^*ice$  0.28 0.5 0.5

$lab^*ncE$  0.5 0.5 g00b

$n^* = 0,00$

relative Inform. Technology (IT)

## Input: Colorimetric Reflective System NCS11

for hue  $h^* = lab^*h = 162/360 = 0.451$

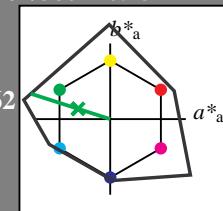
$lab^*tch$  and  $lab^*nch$

D65: hue G

LCH\*Ma: 65 110 162

olv\*Ma: 0.08 1.0 0.0

triangle lightness  $t^*$



relative Inform. Technology (IT)

olv*i*3\* 1.0 1.0 1.0 (1.0)

cmy*n*3\* 0.0 0.0 0.0 (0.0)

olv*i*4\* 1.0 1.0 1.0 1.0

cmy*n*4\* 0.0 0.0 0.0 0.0

standard and adapted CIELAB

LAB\*LAB 95.41 0.0 -0.01

LAB\*LAB*a* 95.41 0.0 0.0

LAB\*TCh*a* 99.99 0.01 -

relative CIELAB lab\*

lab\**lab* 1.0 0.0 0.0

lab\**tch* 1.0 0.0 -

lab\**nch* 0.0 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)

olv*i*3\* 0.5 0.5 0.5 (1.0)

cmy*n*3\* 0.5 0.5 0.5 (0.0)

olv*i*4\* 1.0 1.0 1.0 0.5

cmy*n*4\* 0.0 0.0 0.0 0.5

standard and adapted CIELAB

LAB\*LAB 53.21 0.04 0.0

LAB\*LAB*a* 53.21 0.0 0.0

LAB\*TCh*a* 50.0 0.01 -

relative CIELAB lab\*

lab\**lab* 0.5 0.0 0.0

lab\**tch* 0.5 0.0 -

lab\**nch* 0.5 0.0 -

relative Natural Colour (NC)

lab\**lrj* 0.5 0.0 0.0

lab\**tce* 0.5 0.0 0.0

lab\**ncE* 0.5 0.0 -

relative Inform. Technology (IT)

olv*i*3\* 0.0 0.0 0.0 (1.0)

cmy*n*3\* 1.0 1.0 1.0 (0.0)

olv*i*4\* 1.0 1.0 1.0 0.0

cmy*n*4\* 0.0 0.0 0.0 1.0

standard and adapted CIELAB

LAB\*LAB 11.01 0.07 0.01

LAB\*LAB*a* 11.01 0.0 0.0

LAB\*TCh*a* 0.01 0.01 -

relative CIELAB lab\*

lab\**lab* 0.0 0.0 0.0

lab\**tch* 0.0 0.0 -

lab\**nch* 1.0 0.0 -

relative Natural Colour (NC)

lab\**lrj* 0.0 0.0 0.0

lab\**tce* 0.0 0.0 0.0

lab\**ncE* 1.0 0.0 -

$n^* = 1,0$

## NCS11; adapted (a) CIELAB data

$L^*=L^*_{ab}$   $a^*_a$   $b^*_{ab}$   $C^*_{ab,a}$   $h^*_{ab,a}$

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

%Gamut

$u^*_{rel} = 149$

%Regularity

$g^*_{H,rel} = 46$

$g^*_{C,rel} = 65$

relative Inform. Technology (IT)

olv*i*3\* 0.541 1.0 0.5 (1.0)

cmy*n*3\* 0.459 0.0 0.5 (0.0)

olv*i*4\* 0.541 1.0 0.5 1.0

cmy*n*4\* 0.459 0.0 0.5 0.0

standard and adapted CIELAB

LAB\*LAB 80.4 -52.43 16.79

LAB\*LAB*a* 80.4 -52.45 16.79

LAB\*TCh*a* 75.0 55.08 162.25

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\**lrj* 0.822 -0.499 0.0

lab\**tce* 0.75 0.2 0.5

lab\**ncE* 0.0 0.5 0.99g

relative Inform. Technology (IT)

olv*i*3\* 0.083 1.0 0.0 (1.0)

cmy*n*3\* 0.917 0.0 1.0 (0.0)

olv*i*4\* 0.083 1.0 0.0 1.0

cmy*n*4\* 0.917 0.0 1.0 0.0

standard and adapted CIELAB

LAB\*LAB 65.41 -104.893.58

LAB\*LAB*a* 65.41 -104.923.57

LAB\*TCh*a* 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\**lrj* 0.645 -0.999 0.0

lab\**tce* 0.5 1.0 0.5

lab\**ncE* 0.0 1.0 g00b

relative Inform. Technology (IT)

olv*i*3\* 0.0 0.0 0.0 (1.0)

cmy*n*3\* 1.0 1.0 1.0 (0.0)

olv*i*4\* 1.0 1.0 1.0 0.0

cmy*n*4\* 0.0 0.0 0.0 1.0

standard and adapted CIELAB

LAB\*LAB 11.01 0.07 0.01

LAB\*LAB*a* 11.01 0.0 0.0

LAB\*TCh*a* 0.01 0.01 -

relative CIELAB lab\*

lab\**lab* 0.322 -0.475 0.152

lab\**tch* 0.25 0.5 0.451

lab\**nch* 0.5 0.5 0.451

relative Natural Colour (NC)

lab\**lrj* 0.322 -0.499 0.0

lab\**tce* 0.25 0.5 0.5

lab\**ncE* 0.5 0.5 g00b

$n^* = 0,00$

blackness  $n^*$

$n^* = 0,50$

chromaticness  $c^*$

## Output: Colorimetric Reflective System ORS18

for hue  $h^* = lab^*h = 164/360 = 0.457$

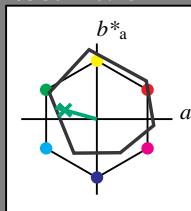
$lab^*tch$  and  $lab^*nch$

D65: hue G

LCH\*Ma: 53 57 164

olv\*Ma: 0.0 1.0 0.25

triangle lightness  $t^*$



%Gamut

$u^*_{rel} = 93$

%Regularity

$g^*_{H,rel} = 57$

$g^*_{C,rel} = 59$

relative Inform. Technology (IT)

olv*i*3\* 1.0 1.0 1.0 (1.0)

cmy*n*3\* 0.0 0.0 0.0 (0.0)

olv*i*4\* 1.0 1.0 1.0 1.0

cmy*n*4\* 0.0 0.0 0.0 0.0

standard and adapted CIELAB

LAB\*LAB 95.41 -0.97 4.75

LAB\*LAB*a* 95.41 0.0 0.0

LAB\*TCh*a* 99.99 0.01 -

relative CIELAB lab\*

lab\**lab* 1.0 0.0 0.0

lab\**tch* 1.0 0.0 -

lab\**nch* 0.0 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)

olv*i*3\* 0.5 0.5 0.5 (1.0)

cmy*n*3\* 0.5 0.5 0.5 (0.0)

olv*i*4\* 0.5 1.0 0.623 1.0

cmy*n*4\* 0.5 0.0 0.377 0.0

standard and adapted CIELAB

LAB\*LAB 74.1 -27.96 10.94

LAB\*LAB*a* 74.1 -27.39 7.62

LAB\*TCh*a* 75.0 28.44 164.46

relative CIELAB lab\*

lab\**lab* 0.725 -0.481 0.134

lab\**tch* 0.75 0.5 0.457

lab\**nch* 0.0 0.5 0.457

relative Natural Colour (NC)

lab\**lrj* 0.725 -0.499 0.0

lab\**tce* 0.75 0.5 0.5

lab\**ncE* 0.0 0.5 g00b

relative Inform. Technology (IT)

olv*i*3\* 0.0 0.0 0.0 (1.0)

cmy*n*3\* 0.0 0.0 0.0 (0.0)

olv*i*4\* 0.0 0.0 0.0 1.0

cmy*n*4\* 0.0 0.0 0.0 0.0

standard and adapted CIELAB

LAB\*LAB 52.28 -54.95 17.13

LAB\*LAB*a* 52.28 -54.79 15.24

LAB\*TCh*a* 50.0 0.0 56.88 164.45

relative CIELAB lab\*

lab\**lab* 0.45 -0.962 0.268

lab\**tch* 0.5 1.0 0.457

lab\**nch* 0.0 1.0 0.457

relative Natural Colour (NC)

lab\**lrj* 0.45 -0.999 0.0

lab\**tce* 0.5 1.0 0.5

lab\**ncE* 0.0 1.0 j99g

relative Inform. Technology (IT)

olv*i*3\* 0.0 0.0 0.0 (1.0)

cmy*n*3\* 1.0 1.0 1.0 (0.0)

olv*i*4\* 1.0 1.0 1.0 0.0

cmy*n*4\* 1.0 0.0 0.377 0.0

standard and adapted CIELAB

LAB\*LAB 18.02 0.5 -0.46

LAB\*LAB*a* 18.02 0.0 0.0

LAB\*TCh*a* 0.01 0.01 -

relative CIELAB lab\*

lab\**lab* 0.225 -0.481 0.134</p

## Input: Colorimetric Reflective System NCS11

for hue  $h^* = lab^*h = 162/360 = 0.451$

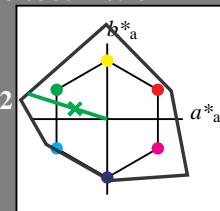
$lab^*tch$  and  $lab^*nch$

D65: hue G

LCH\*Ma: 65 110 162

olv\*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
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)

$olv_i3^*$  1.0 1.0 1.0 (1.0)

$cmyn3^*$  0.0 0.0 0.0 (0.0)

$olv_i4^*$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*ice$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)

$olv_i3^*$  0.5 0.5 0.5 (1.0)

$cmyn3^*$  0.5 0.5 0.5 (0.0)

$olv_i4^*$  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

$LAB^*LABa$  53.21 0.0 0.0

$LAB^*TChA$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.5 0.0 0.0

$lab^*ice$  0.5 0.0 0.0

$lab^*ncE$  0.5 0.0 -

relative Inform. Technology (IT)

$olv_i3^*$  0.0 0.0 0.0 (1.0)

$cmyn3^*$  1.0 1.0 1.0 (0.0)

$olv_i4^*$  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 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*ice$  0.0 0.0 -

$lab^*ncE$  1.0 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
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

%Gamut

$u^*_{rel} = 149$

%Regularity

$g^*_{H,rel} = 46$

$g^*_{C,rel} = 65$

relative Inform. Technology (IT)

$olv_i3^*$  0.541 1.0 0.5 (1.0)

$cmyn3^*$  0.459 0.0 0.5 (0.0)

$olv_i4^*$  0.541 1.0 0.5 1.0

$cmyn4^*$  0.459 0.0 0.5 0.0

standard and adapted CIELAB

$LAB^*LAB$  80.4 -52.43 16.79

$LAB^*LABa$  80.4 -52.45 16.79

$LAB^*TChA$  75.0 55.08 162.25

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)

$lab^*lrij$  0.822 -0.499 0.0

$lab^*ice$  0.75 0.2 0.5

$lab^*ncE$  0.0 0.5 0.499g

relative Inform. Technology (IT)

$olv_i3^*$  0.083 1.0 0.0 (1.0)

$cmyn3^*$  0.917 0.0 1.0 (0.0)

$olv_i4^*$  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

$LAB^*LABa$  65.41 -104.923.57

$LAB^*TChA$  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)

$lab^*lrij$  0.645 -0.999 0.0

$lab^*ice$  0.5 1.0 0.5

$lab^*ncE$  0.0 1.0 g00b

$n^* = 0,00$

blackness  $n^*$

chromaticness  $c^*$

$n^* = 0,50$

chromaticness  $c^*$

$n^* = 1,00$

## Output: Colorimetric Reflective System MRS18

for hue  $h^* = lab^*h = 164/360 = 0.457$

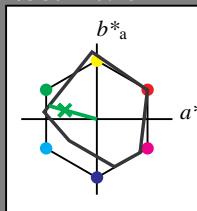
$lab^*tch$  and  $lab^*nch$

D65: hue G

LCH\*Ma: 56 66 164

olv\*Ma: 0.1 1.0 0.0

triangle lightness  $t^*$



%Gamut

$u^*_{rel} = 91$

%Regularity

$g^*_{H,rel} = 41$

$g^*_{C,rel} = 52$

relative Inform. Technology (IT)

$olv_i3^*$  1.0 1.0 1.0 (1.0)

$cmyn3^*$  0.0 0.0 0.0 (0.0)

$olv_i4^*$  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

$LAB^*LABa$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*ice$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)

$olv_i3^*$  0.551 1.0 0.5 (1.0)

$cmyn3^*$  0.449 0.0 0.5 (0.0)

$olv_i4^*$  0.551 1.0 0.5 1.0

$cmyn4^*$  0.449 0.0 0.5 0.0

standard and adapted CIELAB

$LAB^*LAB$  75.74 -32.2 12.22

$LAB^*LABa$  75.74 -31.6 8.79

$LAB^*TChA$  75.0 32.81 164.46

relative CIELAB lab\*

$lab^*lab$  0.746 -0.481 0.134

$lab^*tch$  0.75 0.5 0.457

$lab^*nch$  0.0 0.5 0.457

relative Natural Colour (NC)

$lab^*lrij$  0.746 -0.499 0.0

$lab^*ice$  0.75 0.5 0.5

$lab^*ncE$  0.0 0.5 0.0

relative Inform. Technology (IT)

$olv_i3^*$  0.051 0.5 0.0 (1.0)

$cmyn3^*$  0.949 0.5 1.0 (0.0)

$olv_i4^*$  0.551 1.0 0.5 0.5

$cmyn4^*$  0.449 0.0 0.5 0.5

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.5 -0.46

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*ice$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

relative Inform. Technology (IT)

$olv_i3^*$  0.103 1.0 0.0 (

## Input: Colorimetric Reflective System NCS11

for hue  $h^* = lab^*h = 162/360 = 0.451$

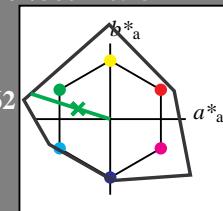
$lab^*tch$  and  $lab^*nch$

D65: hue G

LCH\*Ma: 65 110 162

olv\*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
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)

$olv_i3^*$  1.0 1.0 1.0 (1.0)

$cmyn3^*$  0.0 0.0 0.0 (0.0)

$olv_i4^*$  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

$LAB^*TCh$  99.99 0.01 -

relative CIELAB lab\*

$lab^*lab$  1.0 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  1.0 0.0 0.0

$lab^*ice$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)

$olv_i3^*$  0.5 0.5 0.5 (1.0)

$cmyn3^*$  0.5 0.5 0.5 (0.0)

$olv_i4^*$  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

$LAB^*LABa$  53.21 0.0 0.0

$LAB^*TCh$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  0.5 0.0 0.0

$lab^*ice$  0.5 0.0 0.0

$lab^*ncE$  0.5 0.0 -

relative Inform. Technology (IT)

$olv_i3^*$  0.0 0.0 0.0 (1.0)

$cmyn3^*$  1.0 1.0 1.0 (0.0)

$olv_i4^*$  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 0.0 0.0

$LAB^*TCh$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

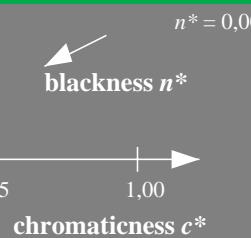
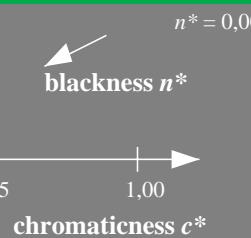
relative Natural Colour (NC)

$lab^*lrj$  0.0 0.0 0.0

$lab^*ice$  0.0 0.0 0.0

$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$



## Output: Colorimetric Reflective System TRS18

for hue  $h^* = lab^*h = 164/360 = 0.457$

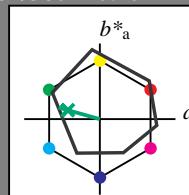
$lab^*tch$  and  $lab^*nch$

D65: hue G

LCH\*Ma: 53 57 164

olv\*Ma: 0.0 1.0 0.25

triangle lightness  $t^*$



## TRS18; adapted (a) CIELAB data

	$L^*=L_a^*$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
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)

$olv_i3^*$  1.0 1.0 1.0 (1.0)

$cmyn3^*$  0.0 0.0 0.0 (0.0)

$olv_i4^*$  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

$LAB^*LABa$  95.41 0.0 0.0

$LAB^*TCh$  99.99 0.01 -

relative CIELAB lab\*

$lab^*lab$  1.0 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  1.0 0.0 0.0

$lab^*ice$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)

$olv_i3^*$  0.5 0.5 0.5 (1.0)

$cmyn3^*$  0.5 0.5 0.5 (0.0)

$olv_i4^*$  0.5 1.0 1.0 0.5

$cmyn4^*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  80.4 -52.43 16.79

$LAB^*LABa$  80.4 -52.45 16.79

$LAB^*TCh$  75.0 55.08 162.25

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)

$lab^*lrj$  0.822 -0.499 0.0

$lab^*ice$  0.75 0.2 0.5

$lab^*ncE$  0.0 0.5 0.99g

relative Inform. Technology (IT)

$olv_i3^*$  0.041 0.5 0.0 (1.0)

$cmyn3^*$  0.917 0.0 1.0 (0.0)

$olv_i4^*$  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

$LAB^*LABa$  65.41 -104.923.57

$LAB^*TCh$  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

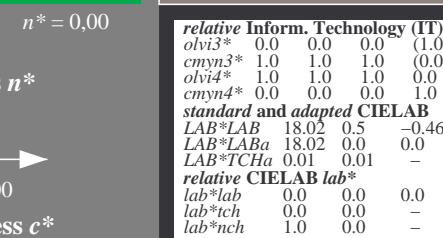
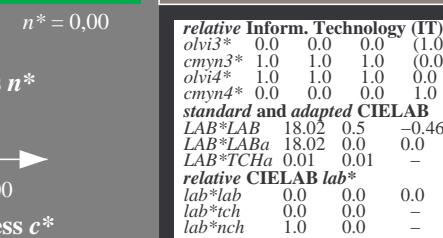
$lab^*nch$  0.0 1.0 0.451

relative Natural Colour (NC)

$lab^*lrj$  0.645 -0.999 0.0

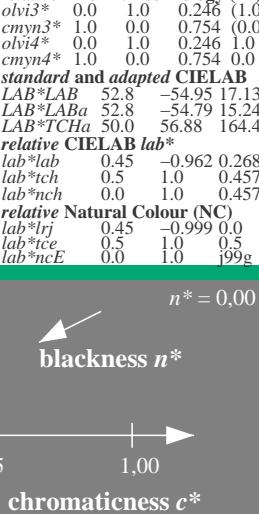
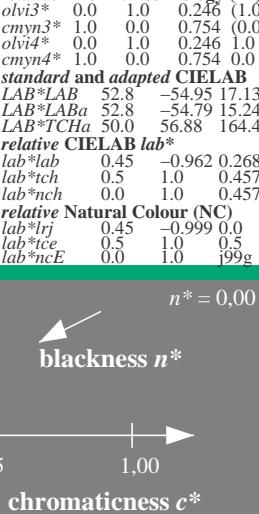
$lab^*ice$  0.5 1.0 0.5

$lab^*ncE$  0.0 1.0 g00b



$n^* = 1,0$

3 step scales for constant CIELAB hue 164/360 = 0.457 (right)



$n^* = 1,0$

UE100-7, 3 step scales for constant CIELAB hue 162/360 = 0.451 (left)

## Input: Colorimetric Reflective System NCS11

for hue  $h^* = lab^*h = 162/360 = 0.451$

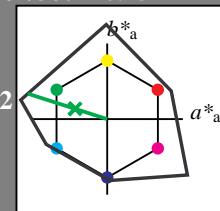
$lab^*tch$  and  $lab^*nch$

D65: hue G

LCH\*Ma: 65 110 162

olv\*Ma: 0.08 1.0 0.0

triangle lightness  $t^*$



### NCS11; adapted (a) CIELAB data

	$L^* = L_{ab}^*$	$a_{ab}^*$	$b_{ab}^*$	$C_{ab,a}^*$	$h_{ab,a}^*$
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

relative Inform. Technology (IT)

$olv_i3^*$  1.0 1.0 1.0 (1.0)

$cmy_n3^*$  0.0 0.0 0.0 (0.0)

$olv_i4^*$  1.0 1.0 1.0 1.0

$cmy_n4^*$  0.0 0.0 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  95.41 0.0 -0.01

$LAB^*LAB_a$  95.41 0.0 0.0

$LAB^*TCh_a$  99.99 0.01 -

relative CIELAB lab\*

$lab^*lab$  1.0 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*ice$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  95.41 0.01 0.0

$LAB^*LAB_a$  95.41 0.0 0.0

$LAB^*TCh_a$  99.99 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 0.5 0.5 (1.0)

$cmy_n3^*$  0.5 0.5 0.5 (0.0)

$olv_i4^*$  1.0 1.0 1.0 0.5

$cmy_n4^*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  53.21 0.04 0.0

$LAB^*LAB_a$  53.21 0.0 0.0

$LAB^*TCh_a$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.5 0.0 0.0

$lab^*ice$  0.5 0.0 0.0

$lab^*ncE$  0.5 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  11.01 0.07 0.01

$LAB^*LAB_a$  11.01 0.0 0.0

$LAB^*TCh_a$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*ice$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

%Gamut  
 $u^*_{rel} = 149$   
%Regularity  
 $g^*_{H,rel} = 46$   
 $g^*_{C,rel} = 65$

relative Inform. Technology (IT)  
 $olv_i3^*$  0.541 1.0 0.5 (1.0)  
 $cmy_n3^*$  0.459 0.0 0.5 (0.0)  
 $olv_i4^*$  0.541 1.0 0.5 1.0  
 $cmy_n4^*$  0.459 0.0 0.5 0.0

relative Inform. Technology (IT)  
 $olv_i3^*$  0.083 1.0 0.0 (1.0)  
 $cmy_n3^*$  0.917 0.0 1.0 (0.0)  
 $olv_i4^*$  0.083 1.0 0.0 1.0  
 $cmy_n4^*$  0.917 0.0 1.0 0.0

relative Inform. Technology (IT)  
 $olv_i3^*$  0.322 -0.475 0.152  
 $lab^*tch$  0.25 0.5 0.451  
 $lab^*nch$  0.5 0.5 0.451

$n^* = 0,00$   
blackness  $n^*$   
chromaticness  $c^*$

$n^* = 0,50$   
 $n^* = 1,00$

## Output: Colorimetric Reflective System MRS18a

for hue  $h^* = lab^*h = 162/360 = 0.451$

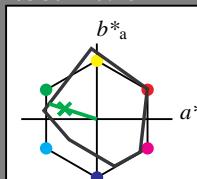
$lab^*tch$  and  $lab^*nch$

D65: hue G

LCH\*Ma: 56 66 162

olv\*Ma: 0.11 1.0 0.0

triangle lightness  $t^*$



### MRS18a; adapted (a) CIELAB data

	$L^* = L_{ab}^*$	$a_{ab}^*$	$b_{ab}^*$	$C_{ab,a}^*$	$h_{ab,a}^*$
RMa	49.63	66.8	40.02	77.87	31
JMa	90.7	-7.27	93.19	93.48	94
GMa	52.11	-69.93	11.26	70.85	171
G50BMa	45.03	-36.65	-27.13	45.61	217
BMa	36.65	23.26	-62.27	66.49	290
B50RMa	34.94	57.27	-43.6	71.99	323
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	272

relative Inform. Technology (IT)

$olv_i3^*$  1.0 1.0 1.0 (1.0)

$cmy_n3^*$  0.0 0.0 0.0 (0.0)

$olv_i4^*$  1.0 1.0 1.0 1.0

$cmy_n4^*$  0.0 0.0 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  95.41 0.01 0.0

$LAB^*LAB_a$  95.41 0.0 0.0

$LAB^*TCh_a$  99.99 0.01 -

relative CIELAB lab\*

$lab^*lab$  1.0 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*ice$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  75.86 -31.51 10.1

$LAB^*LAB_a$  75.86 -31.54 10.09

$LAB^*TCh_a$  75.0 33.13 162.26

relative CIELAB lab\*

$lab^*lab$  0.747 -0.475 0.152

$lab^*tch$  0.75 0.5 0.451

$lab^*nch$  0.0 0.5 0.451

relative Natural Colour (NC)

$lab^*lrij$  0.747 -0.499 0.0

$lab^*ice$  0.75 0.5 0.5

$lab^*ncE$  0.0 0.5 g00b

relative Inform. Technology (IT)

$olv_i3^*$  0.054 1.0 0.5 (1.0)

$cmy_n3^*$  0.946 0.5 1.0 (0.0)

$olv_i4^*$  0.554 1.0 0.5 0.5

$cmy_n4^*$  0.446 0.0 0.5 0.5

standard and adapted CIELAB

$LAB^*LAB$  37.16 -31.47 10.11

$LAB^*LAB_a$  37.16 -31.55 10.08

$LAB^*TCh_a$  25.01 33.13 162.28

relative CIELAB lab\*

$lab^*lab$  0.247 -0.475 0.152

$lab^*tch$  0.25 0.5 0.451

$lab^*nch$  0.5 0.5 0.451

relative Natural Colour (NC)

$lab^*lrij$  0.247 -0.499 0.0

$lab^*ice$  0.25 0.5 0.5

$lab^*ncE$  0.5 0.5 g00b

$n^* = 1,0$

3 step scales for constant CIELAB hue 162/360 = 0.451 (right)

UE100-7, 3 step scales for constant CIELAB hue 162/360 = 0.451 (left)

## Input: Colorimetric Reflective System NCS11

for hue  $h^* = lab^*h = 162/360 = 0.451$

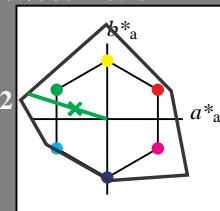
$lab^*tch$  and  $lab^*nch$

D65: hue G

LCH\*Ma: 65 110 162

olv\*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
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)

$olv_i3^*$  1.0 1.0 1.0 (1.0)

$cmyn3^*$  0.0 0.0 0.0 (0.0)

$olv_i4^*$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  80.4 -52.43 16.79

$LAB^*LABa$  80.4 -52.45 16.79

$LAB^*TChA$  75.0 55.08 162.25

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)

$lab^*lrij$  0.822 -0.499 0.0

$lab^*tce$  0.75 0.2 0.5

$lab^*ncE$  0.0 0.5 j99g

relative Inform. Technology (IT)

$olv_i3^*$  0.5 0.5 0.5 (1.0)

$cmyn3^*$  0.5 0.5 0.5 (0.0)

$olv_i4^*$  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

$LAB^*LABa$  53.21 0.0 0.0

$LAB^*TChA$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.5 0.0 0.0

$lab^*tce$  0.5 0.0 0.0

$lab^*ncE$  0.5 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  11.01 0.07 0.01

$LAB^*LABa$  11.01 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*tce$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

%Gamut  
 $u^*_{rel} = 149$   
%Regularity  
 $g^*_{H,rel} = 46$   
 $g^*_{C,rel} = 65$

relative Inform. Technology (IT)  
 $olv_i3^*$  0.541 1.0 0.5 (1.0)  
 $cmyn3^*$  0.459 0.0 0.5 (0.0)  
 $olv_i4^*$  0.541 1.0 0.5 1.0  
 $cmyn4^*$  0.459 0.0 0.5 0.0  
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)

$lab^*lrij$  0.822 -0.499 0.0  
 $lab^*tce$  0.75 0.2 0.5  
 $lab^*ncE$  0.0 0.5 j99g  
relative CIELAB lab\*

$lab^*lab$  0.322 -0.475 0.152  
 $lab^*tch$  0.25 0.5 0.451  
 $lab^*nch$  0.5 0.5 0.451  
relative Natural Colour (NC)

$lab^*lrij$  0.322 -0.499 0.0  
 $lab^*tce$  0.25 0.5 0.5  
 $lab^*ncE$  0.5 0.5 g00b  
relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0  
 $lab^*tch$  0.0 0.0 -  
 $lab^*nch$  1.0 0.0 -  
relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0  
 $lab^*tce$  0.0 0.0 -  
 $lab^*ncE$  1.0 0.0 -

$n^* = 0,00$   
blackness  $n^*$   
chromaticness  $c^*$

0,25 0,50  $n^* = 0,50$  0,75 1,00

0,25 0,50  $n^* = 1,00$  0,75 1,00

## Output: Colorimetric Reflective System NRS18

for hue  $h^* = lab^*h = 162/360 = 0.451$

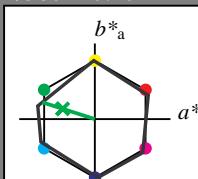
$lab^*tch$  and  $lab^*nch$

D65: hue G

LCH\*Ma: 57 73 162

olv\*Ma: 0.08 1.0 0.0

triangle lightness  $t^*$



%Gamut  
 $u^*_{rel} = 100$   
%Regularity  
 $g^*_{H,rel} = 47$   
 $g^*_{C,rel} = 100$

relative Inform. Technology (IT)  
 $olv_i3^*$  1.0 1.0 1.0 (1.0)  
 $cmyn3^*$  0.0 0.0 0.0 (0.0)  
 $olv_i4^*$  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 0.0

$LAB^*LABa$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)  
 $olv_i3^*$  0.54 1.0 0.5 (1.0)  
 $cmyn3^*$  0.46 0.0 0.5 (0.0)  
 $olv_i4^*$  0.54 1.0 0.5 1.0  
 $cmyn4^*$  0.46 0.0 0.5 0.0  
standard and adapted CIELAB

$LAB^*LAB$  76.05 -34.71 11.12

$LAB^*LABa$  76.05 -34.73 11.11

$LAB^*TChA$  75.0 36.48 162.26

relative CIELAB lab\*

$lab^*lab$  0.75 -0.475 0.152

$lab^*tch$  0.75 0.5 0.451

$lab^*nch$  0.0 0.5 0.451

relative Natural Colour (NC)

$lab^*lrij$  0.75 -0.499 0.0

$lab^*tce$  0.75 0.5 0.5

$lab^*ncE$  0.0 0.5 j99g

relative Inform. Technology (IT)  
 $olv_i3^*$  0.0 0.0 0.0 (1.0)  
 $cmyn3^*$  1.0 1.0 1.0 (0.0)  
 $olv_i4^*$  1.0 1.0 1.0 0.0  
 $cmyn4^*$  0.0 0.0 0.0 1.0  
standard and adapted CIELAB

$LAB^*LAB$  18.02 0.09 0.02

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*tce$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$   
blackness  $n^*$   
chromaticness  $c^*$

0,25 0,50  $n^* = 0,50$  0,75 1,00

0,25 0,50  $n^* = 1,00$  0,75 1,00

0,25 0,50  $n^* = 0,00$  0,75 1,00

NRS18; adapted (a) CIELAB data

	$L^*=L_a^*$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	56.7	70.66	31.47	77.35	24
JMa	56.7	-1.39	77.37	77.39	91
GMa	56.7	-75.46	17.4	77.45	167
G50BMa	56.7	-71.29	-30.25	77.45	203
BMa	56.7	4.0	-77.3	77.41	273
B50RMa	56.7	63.35	-44.4	77.36	325
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	272

relative Inform. Technology (IT)  
 $olv_i3^*$  0.54 1.0 0.5 (1.0)  
 $cmyn3^*$  0.46 0.0 0.5 (0.0)  
 $olv_i4^*$  0.54 1.0 0.5 1.0  
 $cmyn4^*$  0.46 0.0 0.5 0.0  
standard and adapted CIELAB

$LAB^*LAB$  76.05 -34.71 11.12

$LAB^*LABa$  76.05 -34.73 11.11

$LAB^*TChA$  75.0 36.48 162.26

relative CIELAB lab\*

$lab^*lab$  0.75 -0.475 0.152

$lab^*tch$  0.75 0.5 0.451

$lab^*nch$  0.0 0.5 0.451

relative Natural Colour (NC)

$lab^*lrij$  0.75 -0.499 0.0

$lab^*tce$  0.75 0.5 0.5

$lab^*ncE$  0.0 0.5 g00b

relative Inform. Technology (IT)  
 $olv_i3^*$  0.04 0.5 0.0 (1.0)  
 $cmyn3^*$  0.96 0.5 1.0 (0.0)  
 $olv_i4^*$  0.54 1.0 0.5 0.5  
 $cmyn4^*$  0.46 0.0 0.5 0.5  
standard and adapted CIELAB

$LAB^*LAB$  56.7 -69.43 22.23

$LAB^*LABa$  56.7 -69.49 22.22

$LAB^*TChA$  50.0 72.96 162.27

relative CIELAB lab\*

$lab^*lab$  0.5 -0.951 0.304

$lab^*tch$  0.5 1.0 0.451

$lab^*nch$  0.0 1.0 0.451

relative Natural Colour (NC)

$lab^*lrij$  0.5 -0.999 0.0

$lab^*tce$  0.5 1.0 0.5

$lab^*ncE$  0.0 1.0 g00b

$n^* = 0,00$   
blackness  $n^*$   
chrom

## Input: Colorimetric Reflective System NCS11

for hue  $h^* = lab^*h = 162/360 = 0.451$

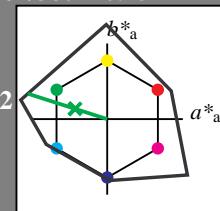
$lab^*tch$  and  $lab^*nch$

D65: hue G

LCH\*Ma: 65 110 162

olv\*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
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)

$olv^3*$  1.0 1.0 1.0 (1.0)

$cmyn3*$  0.0 0.0 0.0 (0.0)

$olv^4*$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  1.0 0.0 0.0

$lab^*ice$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)

$olv^3*$  0.5 0.5 0.5 (1.0)

$cmyn3*$  0.5 0.5 0.5 (0.0)

$olv^4*$  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

$LAB^*LABa$  53.21 0.0 0.0

$LAB^*TChA$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  0.5 0.0 0.0

$lab^*ice$  0.5 0.0 0.0

$lab^*ncE$  0.5 0.0 -

relative Inform. Technology (IT)

$olv^3*$  0.0 0.0 0.0 (1.0)

$cmyn3*$  1.0 1.0 1.0 (0.0)

$olv^4*$  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 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  0.0 0.0 0.0

$lab^*ice$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

%Gamut  
 $u^*_{rel} = 149$   
%Regularity  
 $g^*_{H,rel} = 46$   
 $g^*_{C,rel} = 65$

relative Inform. Technology (IT)  
 $olv^3*$  0.541 1.0 0.5 (1.0)  
 $cmyn3*$  0.459 0.0 0.5 (0.0)  
 $olv^4*$  0.541 1.0 0.5 1.0  
 $cmyn4*$  0.459 0.0 0.5 0.0

relative Inform. Technology (IT)  
 $olv^3*$  0.083 1.0 0.0 (1.0)  
 $cmyn3*$  0.917 0.0 1.0 (0.0)  
 $olv^4*$  0.083 1.0 0.0 1.0  
 $cmyn4*$  0.917 0.0 1.0 0.0

relative Inform. Technology (IT)  
 $olv^3*$  0.401 0.5 0.0 (1.0)  
 $cmyn3*$  0.959 0.5 1.0 (0.0)  
 $olv^4*$  0.541 1.0 0.5 0.5  
 $cmyn4*$  0.459 0.5 0.5 0.5

relative Inform. Technology (IT)  
 $olv^3*$  0.322 -0.475 0.152  
 $cmyn3*$  0.25 0.5 0.451  
 $olv^4*$  0.5 0.5 0.451  
 $cmyn4*$  0.322 -0.499 0.0

relative Inform. Technology (IT)  
 $olv^3*$  0.0 0.0 0.0 (1.0)  
 $cmyn3*$  1.0 1.0 1.0 (0.0)  
 $olv^4*$  1.0 1.0 1.0 0.0  
 $cmyn4*$  0.0 0.0 0.0 1.0

$n^* = 0,00$

$n^* = 0,00$   
blackness  $n^*$   
| → chromaticness  $c^*$

## Output: Colorimetric Reflective System NCS18

for hue  $h^* = lab^*h = 162/360 = 0.451$

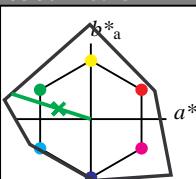
$lab^*tch$  and  $lab^*nch$

D65: hue G

LCH\*Ma: 65 110 162

olv\*Ma: 0.08 1.0 0.0

triangle lightness  $t^*$



### NCS18; adapted (a) CIELAB data

	$L^*=L_a^*$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	47.15	84.63	37.24	92.46	24
JMa	91.37	-1.27	125.03	125.03	91
GMa	63.07	-114.29	25.34	117.07	167
G50BMa	59.47	-80.61	-33.45	87.29	203
BMa	49.01	3.63	-81.2	81.29	273
B50RMa	44.06	106.07	-73.94	129.31	325
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	272

relative Inform. Technology (IT)

$olv^3*$  1.0 1.0 1.0 (1.0)

$cmyn3*$  0.0 0.0 0.0 (0.0)

$olv^4*$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  1.0 0.0 0.0

$lab^*ice$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)

$olv^3*$  0.541 1.0 0.5 (1.0)

$cmyn3*$  0.459 0.0 0.5 (0.0)

$olv^4*$  0.541 1.0 0.5 1.0

$cmyn4*$  0.459 0.0 0.5 0.0

standard and adapted CIELAB

$LAB^*LAB$  80.4 -52.44 16.79

$LAB^*LABa$  80.4 -52.46 16.79

$LAB^*TChA$  75.0 55.09 162.26

relative CIELAB lab\*

$lab^*lab$  0.806 -0.475 0.152

$lab^*tch$  0.75 0.5 0.451

$lab^*nch$  0.0 0.5 0.451

relative Natural Colour (NC)

$lab^*lrj$  0.806 -0.499 0.0

$lab^*ice$  0.75 0.5 0.5

$lab^*ncE$  0.0 0.5 g00b

relative Inform. Technology (IT)

$olv^3*$  0.401 0.5 0.0 (1.0)

$cmyn3*$  0.959 0.5 1.0 (0.0)

$olv^4*$  0.541 1.0 0.5 0.5

$cmyn4*$  0.459 0.0 0.5 0.5

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.09 0.02

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  0.0 0.0 0.0

$lab^*ice$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

$n^* = 0,00$

$n^* = 0,50$   
blackness  $n^*$   
| → chromaticness  $c^*$

$n^* = 1,00$

UE100-7, 3 step scales for constant CIELAB hue 162/360 = 0.451 (left)

3 step scales for constant CIELAB hue 162/360 = 0.451 (right)

## Input: Colorimetric Reflective System NCS11

for hue  $h^* = lab^*h = 162/360 = 0.451$

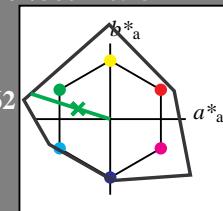
$lab^*tch$  and  $lab^*nch$

D65: hue G

LCH\*Ma: 65 110 162

olv\*Ma: 0.08 1.0 0.0

triangle lightness  $t^*$



relative Inform. Technology (IT)

olv13\* 1.0 1.0 1.0 (1.0)

cmyn3\* 0.0 0.0 0.0 (0.0)

olv14\* 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 0.0 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 -

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 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\*lrj 0.822 -0.499 0.0

lab\*tce 0.75 0.2 0.5

lab\*ncE 0.0 0.5 j99g

relative Inform. Technology (IT)

olv13\* 0.5 0.5 0.5 (1.0)

cmyn3\* 0.5 0.5 0.5 (0.0)

olv14\* 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\*LABa 53.21 0.0 0.0

LAB\*TChA 50.0 0.01 -

relative CIELAB lab\*

lab\*lab 0.5 0.0 0.0

lab\*tch 0.5 0.0 -

lab\*nch 0.5 0.0 -

relative Natural Colour (NC)

lab\*lrj 0.5 0.0 0.0

lab\*tce 0.5 0.0 0.0

lab\*ncE 0.5 0.0 -

standard and adapted CIELAB

LAB\*LAB 11.01 0.07 0.01

LAB\*LABa 11.01 0.0 0.0

LAB\*TChA 0.01 0.01 -

relative CIELAB lab\*

lab\*lab 0.0 0.0 0.0

lab\*tch 0.0 0.0 -

lab\*nch 1.0 0.0 -

relative Natural Colour (NC)

lab\*lrj 0.0 0.0 0.0

lab\*tce 0.0 0.0 -

lab\*ncE 1.0 0.0 -

$n^* = 1,0$

## NCS11; adapted (a) CIELAB data

$L^*=L^*_{a,a}$   $a^*_{a,a}$   $b^*_{a,a}$   $C^*_{ab,a}$   $h^*_{ab,a}$

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

%Gamut

$u^*_{rel} = 149$

%Regularity

$g^*_{H,rel} = 46$

$g^*_{C,rel} = 65$

relative Inform. Technology (IT)

olv13\* 1.0 1.0 0.5 (1.0)

cmyn3\* 0.0 0.0 0.0 (0.0)

olv14\* 1.0 1.0 1.0 1.0

cmyn4\* 0.0 0.0 0.0 0.0

standard and adapted CIELAB

LAB\*LAB 80.4 -52.43 16.79

LAB\*LABa 80.4 -52.45 16.79

LAB\*TChA 75.0 55.08 162.25

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\*lrj 0.822 -0.499 0.0

lab\*tce 0.75 0.2 0.5

lab\*ncE 0.0 0.5 j99g

relative Inform. Technology (IT)

olv13\* 0.083 1.0 0.0 (1.0)

cmyn3\* 0.917 0.0 1.0 (0.0)

olv14\* 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\*LABa 65.41 -104.923.57

LAB\*TChA 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\*lrj 0.645 -0.999 0.0

lab\*tce 0.5 1.0 0.5

lab\*ncE 0.0 1.0 g00b

relative Inform. Technology (IT)

olv13\* 0.0 0.0 0.0 (1.0)

cmyn3\* 1.0 1.0 1.0 (0.0)

olv14\* 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 0.0 0.0

LAB\*TChA 0.01 0.01 -

relative CIELAB lab\*

lab\*lab 0.322 -0.499 0.0

lab\*tch 0.25 0.5 0.451

lab\*nch 0.5 0.5 0.451

relative Natural Colour (NC)

lab\*lrj 0.322 -0.499 0.0

lab\*tce 0.25 0.5 0.451

lab\*ncE 0.5 0.5 0.451

$n^* = 0,00$

blackness  $n^*$

chromaticness  $c^*$

$n^* = 0,50$

$n^* = 1,00$

## Output: Colorimetric Reflective System NRS11

for hue  $h^* = lab^*h = 162/360 = 0.451$

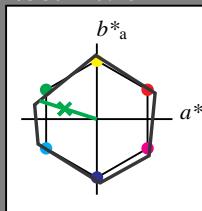
$lab^*tch$  and  $lab^*nch$

D65: hue G

LCH\*Ma: 53 80 162

olv\*Ma: 0.08 1.0 0.0

triangle lightness  $t^*$



%Gamut

$u^*_{rel} = 119$

%Regularity

$g^*_{H,rel} = 47$

$g^*_{C,rel} = 100$

relative Inform. Technology (IT)

olv13\* 1.0 1.0 1.0 (1.0)

cmyn3\* 0.0 0.0 0.0 (0.0)

olv14\* 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 0.0 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)

olv13\* 0.54 1.0 0.5 (1.0)

cmyn3\* 0.46 0.0 0.5 (0.0)

olv14\* 0.54 1.0 0.5 1.0

cmyn4\* 0.46 0.0 0.5 0.0

standard and adapted CIELAB

LAB\*LAB 74.3 -37.84 12.13

LAB\*LABa 74.3 -37.87 12.12

LAB\*TChA 75.0 39.77 162.25

relative CIELAB lab\*

lab\*lab 0.75 -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\*lrj 0.75 -0.499 0.0

lab\*tce 0.75 0.5 0.451

lab\*ncE 0.0 0.5 j99g

$n^* = 1,0$

3 step scales for constant CIELAB hue 162/360 = 0.451 (left)

3 step scales for constant CIELAB hue 162/360 = 0.451 (right)

## NRS11; adapted (a) CIELAB data

$L^*=L^*_{a,a}$   $a^*_{a,a}$   $b^*_{a,a}$   $C^*_{ab,a}$   $h^*_{ab,a}$

RMa	53.2	77.06	34.32	84.36	24
JMa	53.2	-1.51	84.38	84.39	91
GMa	53.2	-82.27	18.98	84.44	167
G50BMa	53.2	-77.72	-32.98	84.44	203
BMa	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

$n^* = 0,00$

relative Inform. Technology (IT)

olv13\* 0.081 1.0 0.0 (1.0)

cmyn3\* 0.919 0.0 1.0 (0.0)

olv14\* 0.081 1.0 0.0 1.0

cmyn4\* 0.919 0.0 1.0 0.0

&lt;p

## Input: Colorimetric Reflective System NCS11

for hue  $h^* = lab^*h = 162/360 = 0.451$

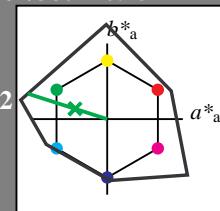
$lab^*tch$  and  $lab^*nch$

D65: hue G

LCH\*Ma: 65 110 162

olv\*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
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)  
 $olv_i3^*$  1.0 1.0 1.0 (1.0)  
 $cmy3^*$  0.0 0.0 0.0 (0.0)  
 $olv_i4^*$  1.0 1.0 1.0 1.0  
 $cmy4^*$  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 -  
 $lab^*nch$  0.0 0.0 -  
**relative Natural Colour (NC)**  
 $lab^*lrij$  1.0 0.0 0.0  
 $lab^*tce$  1.0 0.0 0.0  
 $lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)  
 $olv_i3^*$  0.5 0.5 0.5 (1.0)  
 $cmy3^*$  0.5 0.5 0.5 (0.0)  
 $olv_i4^*$  1.0 1.0 1.0 0.5  
 $cmy4^*$  0.0 0.0 0.0 0.5  
**standard and adapted CIELAB**  
 $LAB^*LAB$  53.21 0.04 0.0  
 $LAB^*LABa$  53.21 0.0 0.0  
 $LAB^*TChA$  50.0 0.01 -

**relative CIELAB lab\***  
 $lab^*lab$  0.5 0.0 0.0  
 $lab^*tch$  0.5 0.0 -  
 $lab^*nch$  0.5 0.0 -  
**relative Natural Colour (NC)**  
 $lab^*lrij$  0.5 0.0 0.0  
 $lab^*tce$  0.5 0.0 0.0  
 $lab^*ncE$  0.5 0.0 -

relative Inform. Technology (IT)  
 $olv_i3^*$  0.0 0.0 0.0 (1.0)  
 $cmy3^*$  1.0 1.0 1.0 (0.0)  
 $olv_i4^*$  1.0 1.0 1.0 0.0  
 $cmy4^*$  0.0 0.0 0.0 1.0  
**standard and adapted CIELAB**  
 $LAB^*LAB$  11.01 0.07 0.01  
 $LAB^*LABa$  11.01 0.0 0.0  
 $LAB^*TChA$  0.01 0.01 -

**relative CIELAB lab\***  
 $lab^*lab$  0.0 0.0 0.0  
 $lab^*tch$  0.0 0.0 -  
 $lab^*nch$  1.0 0.0 -  
**relative Natural Colour (NC)**  
 $lab^*lrij$  0.0 0.0 0.0  
 $lab^*tce$  0.0 0.0 -  
 $lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

relative Inform. Technology (IT)  
 $olv_i3^*$  0.0 0.0 0.0 (1.0)  
 $cmy3^*$  1.0 0.5 0.5 (0.0)  
 $olv_i4^*$  0.541 1.0 0.5 0.5  
 $cmy4^*$  0.459 0.0 0.5 0.5  
**standard and adapted CIELAB**  
 $LAB^*LAB$  38.2 0.07 0.01  
 $LAB^*LABa$  38.2 0.0 0.0  
 $LAB^*TChA$  25.01 0.01 -

**relative CIELAB lab\***  
 $lab^*lab$  0.322 -0.475 0.152  
 $lab^*tch$  0.25 0.5 0.451  
 $lab^*nch$  0.5 0.5 0.451  
**relative Natural Colour (NC)**  
 $lab^*lrij$  0.322 -0.499 0.0  
 $lab^*tce$  0.25 0.5 0.5  
 $lab^*ncE$  0.5 0.5 g00b

0,25 0,50  $n^* = 0,50$  0,75 1,00  
 chromaticness  $c^*$

$n^* = 0,00$  blackness  $n^*$

$n^* = 1,00$

UE100-7, 3 step scales for constant CIELAB hue 162/360 = 0.451 (left)

## Output: Colorimetric Reflective System NCS11

for hue  $h^* = lab^*h = 162/360 = 0.451$

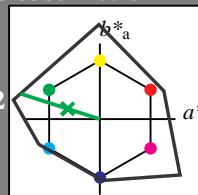
$lab^*tch$  and  $lab^*nch$

D65: hue G

LCH\*Ma: 65 110 162

olv\*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
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)  
 $olv_i3^*$  1.0 1.0 1.0 (1.0)  
 $cmy3^*$  0.0 0.0 0.0 (0.0)  
 $olv_i4^*$  1.0 1.0 1.0 1.0  
 $cmy4^*$  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 -  
 $lab^*nch$  0.0 0.0 -  
**relative Natural Colour (NC)**  
 $lab^*lrij$  1.0 0.0 0.0  
 $lab^*tce$  1.0 0.0 0.0  
 $lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)  
 $olv_i3^*$  0.5 0.5 0.5 (1.0)  
 $cmy3^*$  0.5 0.5 0.5 (0.0)  
 $olv_i4^*$  1.0 1.0 1.0 0.5  
 $cmy4^*$  0.459 0.0 0.5 0.5  
**standard and adapted CIELAB**  
 $LAB^*LAB$  80.4 -52.43 16.79  
 $LAB^*LABa$  80.4 -52.45 16.79  
 $LAB^*TChA$  75.0 55.08 162.25

**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)**  
 $lab^*lrij$  0.822 -0.499 0.0  
 $lab^*tce$  0.75 0.5 0.5  
 $lab^*ncE$  0.0 0.5 j99g

$n^* = 0,00$  blackness  $n^*$

$n^* = 1,00$

$n^* = 1,0$  blackness  $n^*$

$n^* = 0,00$

$n^* = 1,00$

### Input: Colorimetric Reflective System ORS18

for hue  $h^* = lab^*h = 271/360 = 0.754$

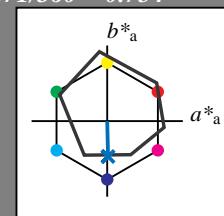
$lab^*tch$  and  $lab^*nch$

D65: hue B

LCH\*Ma: 42 45 271

olv\*Ma: 0.0 0.49 1.0

triangle lightness  $t^*$



### ORS18; adapted (a) CIELAB data

	$L^* = L_a^*$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
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)

$olv_i3^*$  1.0 1.0 1.0 (1.0)

$cmy_n3^*$  0.0 0.0 0.0 (0.0)

$olv_i4^*$  1.0 1.0 1.0 1.0

$cmy_n4^*$  0.0 0.0 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  95.41 -0.97 4.75

$LAB^*LABa$  95.41 0.0 0.0

$LAB^*TCh$  99.99 0.01 -

relative CIELAB lab\*

$lab^*lab$  1.0 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  1.0 0.0 0.0

$lab^*ice$  1.0 0.0 -

$lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)

$olv_i3^*$  0.5 0.5 0.5 (1.0)

$cmy_n3^*$  0.5 0.5 0.5 (0.0)

$olv_i4^*$  1.0 1.0 1.0 0.5

$cmy_n4^*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  56.71 -0.23 2.14

$LAB^*LABa$  56.71 0.0 0.0

$LAB^*TCh$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  0.5 0.0 0.0

$lab^*ice$  0.5 0.0 -

$lab^*ncE$  0.5 0.0 -

relative Inform. Technology (IT)

$olv_i3^*$  0.0 0.0 0.0 (1.0)

$cmy_n3^*$  1.0 1.0 1.0 (0.0)

$olv_i4^*$  1.0 1.0 1.0 0.0

$cmy_n4^*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.5 -0.46

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TCh$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

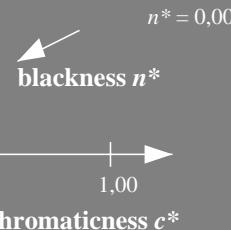
relative Natural Colour (NC)

$lab^*lrj$  0.0 0.0 0.0

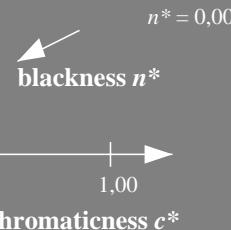
$lab^*ice$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$



chromaticness  $c^*$



chromaticness  $c^*$

### Output: Colorimetric Reflective System ORS18

for hue  $h^* = lab^*h = 271/360 = 0.754$

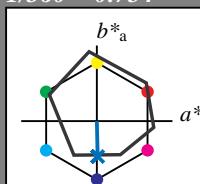
$lab^*tch$  and  $lab^*nch$

D65: hue B

LCH\*Ma: 42 45 271

olv\*Ma: 0.0 0.49 1.0

triangle lightness  $t^*$



### ORS18; adapted (a) CIELAB data

	$L^* = L_a^*$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
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)

$olv_i3^*$  1.0 1.0 1.0 (1.0)

$cmy_n3^*$  0.0 0.0 0.0 (0.0)

$olv_i4^*$  1.0 1.0 1.0 1.0

$cmy_n4^*$  0.0 0.0 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  95.41 -0.97 4.75

$LAB^*LABa$  95.41 0.0 0.0

$LAB^*TCh$  99.99 0.01 -

relative CIELAB lab\*

$lab^*lab$  1.0 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  1.0 0.0 0.0

$lab^*ice$  1.0 0.0 -

$lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)

$olv_i3^*$  0.5 0.5 0.5 (1.0)

$cmy_n3^*$  0.5 0.5 0.5 (0.0)

$olv_i4^*$  1.0 1.0 1.0 0.5

$cmy_n4^*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  56.71 -0.23 2.14

$LAB^*LABa$  41.79 1.1 -44.7

$LAB^*TCh$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.307 0.024 -0.998

$lab^*tch$  0.5 1.0 0.754

$lab^*nch$  0.0 1.0 0.754

relative Natural Colour (NC)

$lab^*lrj$  0.307 0.0 -0.999

$lab^*ice$  0.5 1.0 0.75

$lab^*ncE$  0.0 1.0 b00r

relative Inform. Technology (IT)

$olv_i3^*$  0.0 0.0 0.0 (1.0)

$cmy_n3^*$  1.0 1.0 1.0 (0.0)

$olv_i4^*$  1.0 1.0 1.0 0.0

$cmy_n4^*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.5 -0.46

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TCh$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.154 0.012 -0.499

$lab^*tch$  0.25 0.5 0.754

$lab^*nch$  0.5 0.5 0.754

relative Natural Colour (NC)

$lab^*lrj$  0.154 0.0 -0.499

$lab^*ice$  0.25 0.5 0.75

$lab^*ncE$  0.5 0.5 b00r

$n^* = 1,0$



blackness  $n^*$



chromaticness  $c^*$

UE100-7, 3 step scales for constant CIELAB hue 271/360 = 0.754 (left)

3 step scales for constant CIELAB hue 271/360 = 0.754 (right)

$n^* = 0,00$



blackness  $n^*$



chromaticness  $c^*$

## Input: Colorimetric Reflective System ORS18

for hue  $h^* = lab^*h = 271/360 = 0.754$

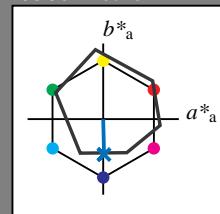
$lab^*tch$  and  $lab^*nch$

D65: hue B

LCH\*Ma: 42 45 271

olv\*Ma: 0.0 0.49 1.0

triangle lightness  $t^*$



### ORS18; adapted (a) CIELAB data

	$L^* = L^*_{ab}$	$a^*_{ab}$	$b^*_{ab}$	$C^*_{ab,a}$	$h^*_{ab,a}$
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)  
 $olv^3*$  1.0 1.0 1.0 (1.0)  
 $cmy3*$  0.0 0.0 0.0 (0.0)  
 $olv^4*$  1.0 1.0 1.0 1.0  
 $cmy4*$  0.0 0.0 0.0 0.0

standard and adapted CIELAB  
 $LAB^*LAB$  95.41 -0.97 4.75  
 $LAB^*LABa$  95.41 0.0 0.0  
 $LAB^*TCh$  99.99 0.01 -

relative CIELAB lab\*  
 $lab^*lab$  1.0 0.0 0.0  
 $lab^*tch$  1.0 0.0 -  
 $lab^*nch$  0.0 0.0 -  
relative Natural Colour (NC)  
 $lab^*lrj$  1.0 0.0 0.0  
 $lab^*ice$  1.0 0.0 -  
 $lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)  
 $olv^3*$  0.5 0.5 0.5 (1.0)  
 $cmy3*$  0.5 0.5 0.5 (0.0)  
 $olv^4*$  1.0 1.0 1.0 0.5  
 $cmy4*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB  
 $LAB^*LAB$  56.71 -0.23 2.14  
 $LAB^*LABa$  56.71 0.0 0.0  
 $LAB^*TCh$  50.0 0.01 -

relative CIELAB lab\*  
 $lab^*lab$  0.5 0.0 0.0  
 $lab^*tch$  0.5 0.0 -  
 $lab^*nch$  0.5 0.0 -  
relative Natural Colour (NC)  
 $lab^*lrj$  0.5 0.0 0.0  
 $lab^*ice$  0.5 0.0 -  
 $lab^*ncE$  0.5 0.0 -

relative Inform. Technology (IT)  
 $olv^3*$  0.0 0.0 0.0 (1.0)  
 $cmy3*$  1.0 1.0 1.0 (0.0)  
 $olv^4*$  1.0 1.0 1.0 0.0  
 $cmy4*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB  
 $LAB^*LAB$  18.02 0.5 -0.46  
 $LAB^*LABa$  18.02 0.0 0.0  
 $LAB^*TCh$  0.01 0.01 -

relative CIELAB lab\*  
 $lab^*lab$  0.0 0.0 0.0  
 $lab^*tch$  0.0 0.0 -  
 $lab^*nch$  1.0 0.0 -  
relative Natural Colour (NC)  
 $lab^*lrj$  0.0 0.0 0.0  
 $lab^*ice$  0.0 0.0 -  
 $lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

relative Inform. Technology (IT)  
 $olv^3*$  0.5 0.744 1.0 (1.0)  
 $cmy3*$  0.5 0.256 0.0 (0.0)  
 $olv^4*$  0.5 0.744 1.0 1.0  
 $cmy4*$  0.5 0.256 0.0 0.0

standard and adapted CIELAB  
 $LAB^*LAB$  68.59 0.08 -19.4  
 $LAB^*LABa$  68.59 0.54 -22.35  
 $LAB^*TCh$  75.0 22.36 271.4

relative CIELAB lab\*  
 $lab^*lab$  0.654 0.012 -0.499  
 $lab^*tch$  0.75 0.5 0.754  
 $lab^*nch$  0.0 0.5 0.754

relative Inform. Technology (IT)  
 $olv^3*$  0.0 0.488 1.0 (1.0)  
 $cmy3*$  1.0 0.512 0.0 (0.0)  
 $olv^4*$  0.0 0.488 1.0 1.0  
 $cmy4*$  1.0 0.512 0.0 0.0

standard and adapted CIELAB  
 $LAB^*LAB$  41.79 1.14 -43.56  
 $LAB^*LABa$  41.79 1.1 -44.7  
 $LAB^*TCh$  50.0 44.73 271.4

relative CIELAB lab\*  
 $lab^*lab$  0.307 0.024 -0.998  
 $lab^*tch$  0.5 1.0 0.754  
 $lab^*nch$  0.0 1.0 0.754

relative Inform. Technology (IT)  
 $olv^3*$  0.0 0.244 0.5 (1.0)  
 $cmy3*$  1.0 0.756 0.5 (0.0)  
 $olv^4*$  0.5 0.744 1.0 0.5  
 $cmy4*$  0.5 0.256 0.0 0.5

standard and adapted CIELAB  
 $LAB^*LAB$  29.9 0.83 -22.01  
 $LAB^*LABa$  29.9 0.55 -22.35  
 $LAB^*TCh$  25.01 22.36 271.41

relative CIELAB lab\*  
 $lab^*lab$  0.154 0.012 -0.499  
 $lab^*tch$  0.25 0.5 0.754  
 $lab^*nch$  0.5 0.5 0.754

relative Inform. Technology (IT)  
 $olv^3*$  0.0 0.0 0.0 (1.0)  
 $cmy3*$  1.0 1.0 1.0 (0.0)  
 $olv^4*$  1.0 1.0 1.0 0.0  
 $cmy4*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB  
 $LAB^*LAB$  18.02 0.5 -0.46  
 $LAB^*LABa$  18.02 0.0 0.0  
 $LAB^*TCh$  0.01 0.01 -

relative CIELAB lab\*  
 $lab^*lab$  0.0 0.0 0.0  
 $lab^*tch$  0.0 0.0 -  
 $lab^*nch$  1.0 0.0 -  
relative Natural Colour (NC)  
 $lab^*lrj$  0.0 0.0 0.0  
 $lab^*ice$  0.0 0.0 -  
 $lab^*ncE$  1.0 0.0 -

$n^* = 0,00$

relative Inform. Technology (IT)  
 $olv^3*$  0.0 0.488 1.0 (1.0)  
 $cmy3*$  1.0 0.512 0.0 (0.0)  
 $olv^4*$  0.0 0.488 1.0 1.0  
 $cmy4*$  1.0 0.512 0.0 0.0

standard and adapted CIELAB  
 $LAB^*LAB$  56.71 -0.23 2.14  
 $LAB^*LABa$  56.71 0.0 0.0  
 $LAB^*TCh$  50.0 0.01 -

relative CIELAB lab\*  
 $lab^*lab$  0.307 0.024 -0.998  
 $lab^*tch$  0.5 1.0 0.754  
 $lab^*nch$  0.0 1.0 0.754

relative Inform. Technology (IT)  
 $olv^3*$  0.0 0.244 0.5 (1.0)  
 $cmy3*$  1.0 0.756 0.5 (0.0)  
 $olv^4*$  0.5 0.744 1.0 0.5  
 $cmy4*$  0.5 0.256 0.0 0.5

standard and adapted CIELAB  
 $LAB^*LAB$  29.9 0.83 -22.01  
 $LAB^*LABa$  29.9 0.55 -22.35  
 $LAB^*TCh$  25.01 22.36 271.41

relative CIELAB lab\*  
 $lab^*lab$  0.154 0.012 -0.499  
 $lab^*tch$  0.25 0.5 0.754  
 $lab^*nch$  0.5 0.5 0.754

relative Inform. Technology (IT)  
 $olv^3*$  0.0 0.0 0.0 (1.0)  
 $cmy3*$  1.0 1.0 1.0 (0.0)  
 $olv^4*$  1.0 1.0 1.0 0.0  
 $cmy4*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB  
 $LAB^*LAB$  18.02 0.5 -0.46  
 $LAB^*LABa$  18.02 0.0 0.0  
 $LAB^*TCh$  0.01 0.01 -

relative CIELAB lab\*  
 $lab^*lab$  0.0 0.0 0.0  
 $lab^*tch$  0.0 0.0 -  
 $lab^*nch$  1.0 0.0 -  
relative Natural Colour (NC)  
 $lab^*lrj$  0.0 0.0 0.0  
 $lab^*ice$  0.0 0.0 -  
 $lab^*ncE$  1.0 0.0 -

$n^* = 0,50$

chromaticness  $c^*$

0,25 0,50 0,75 1,00

## Output: Colorimetric Reflective System MRS18

for hue  $h^* = lab^*h = 271/360 = 0.754$

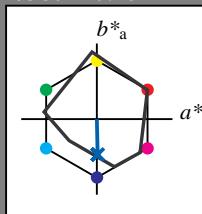
$lab^*tch$  and  $lab^*nch$

D65: hue B

LCH\*Ma: 40 50 271

olv\*Ma: 0.0 0.37 1.0

triangle lightness  $t^*$



### MRS18; adapted (a) CIELAB data

	$L^* = L^*_{ab}$	$a^*_{ab}$	$b^*_{ab}$	$C^*_{ab,a}$	$h^*_{ab,a}$
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)  
 $olv^3*$  1.0 1.0 1.0 (1.0)  
 $cmy3*$  0.0 0.0 0.0 (0.0)  
 $olv^4*$  1.0 1.0 1.0 1.0  
 $cmy4*$  0.0 0.0 0.0 0.0

standard and adapted CIELAB  
 $LAB^*LAB$  95.41 -0.97 4.75  
 $LAB^*LABa$  95.41 0.0 0.0  
 $LAB^*TCh$  99.99 0.01 -

relative CIELAB lab\*  
 $lab^*lab$  1.0 0.0 0.0  
 $lab^*tch$  1.0 0.0 -  
 $lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)  
 $lab^*lrj$  1.0 0.0 0.0  
 $lab^*ice$  1.0 0.0 -  
 $lab^*ncE$  0.0 0.0 -

standard and adapted CIELAB  
 $LAB^*LAB$  67.57 0.17 -22.28  
 $LAB^*LABa$  67.57 0.61 -25.16  
 $LAB^*TCh$  75.0 25.18 271.4

relative CIELAB lab\*  
 $lab^*lab$  0.64 0.012 -0.499  
 $lab^*tch$  0.75 0.5 0.754  
 $lab^*nch$  0.0 0.5 0.754

relative Inform. Technology (IT)  
 $olv^3*$  0.5 0.684 1.0 (1.0)  
 $cmy3*$  0.5 0.316 0.0 (0.0)  
 $olv^4*$  0.5 0.684 1.0 1.0  
 $cmy4*$  0.5 0.316 0.0 0.0

standard and adapted CIELAB  
 $LAB^*LAB$  56.71 -0.23 2.14  
 $LAB^*LABa$  56.71 0.0 0.0  
 $LAB^*TCh$  50.0 0.01 -

relative CIELAB lab\*  
 $lab^*lab$  0.307 0.024 -0.998  
 $lab^*tch$  0.5 1.0 0.754  
 $lab^*nch$  0.0 1.0 0.754

relative Inform. Technology (IT)  
 $olv^3*$  0.0 0.184 0.5 (1.0)  
 $cmy3*$  1.0 0.816 0.5 (0.0)  
 $olv^4*$  0.5 0.684 1.0 0.5  
 $cmy4*$  0.5 0.316 0.0 0.5

standard and adapted CIELAB  
 $LAB^*LAB$  28.87 0.92 -24.9  
 $LAB^*LABa$  28.87 0.62 -25.16  
 $LAB^*TCh$  25.01 25.18 271.41

relative CIELAB lab\*  
 $lab^*lab$  0.14 0.012 -0.499  
 $lab^*tch$  0.25 0.5 0.754  
 $lab^*nch$  0.5 0.5 0.754

relative Inform. Technology (IT)  
 $olv^3*$  0.0 0.184 0.5 (1.0)  
 $cmy3*$  1.0 0.816 0.5 (0.0)  
 $olv^4*$  1.0 0.684 1.0 0.5  
 $cmy4*$  1.0 0.316 0.0 0.5

standard and adapted CIELAB  
 $LAB^*LAB$  18.02 0.5 -0.46  
 $LAB^*LABa$  18.02 0.0 0.0  
 $LAB^*TCh$  0.01 0.01 -

relative CIELAB lab\*  
 $lab^*lab$  0.0 0.0 0.0  
 $lab^*tch$  0.0 0.0 -  
 $lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)  
 $lab^*lrj$  0.0 0.0 0.0  
 $lab^*ice$  0.0 0.0 -  
 $lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

$n^* = 0,00$

blackness  $n^*$

0,25 0,50 0,75 1,00

chromaticness  $c^*$

UE100-7, 3 step scales for constant CIELAB hue 271/360 = 0.754 (left)

3 step scales for constant CIELAB hue 271/360 = 0.754 (right)

### Input: Colorimetric Reflective System ORS18

for hue  $h^* = lab^*h = 271/360 = 0.754$

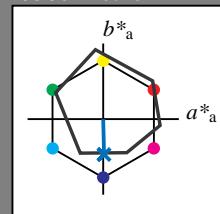
$lab^*tch$  and  $lab^*nch$

D65: hue B

LCH\*Ma: 42 45 271

olv\*Ma: 0.0 0.49 1.0

triangle lightness  $t^*$



### ORS18; adapted (a) CIELAB data

	$L^* = L_a^*$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
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

%Gamut

$u^*_{rel} = 93$

%Regularity

$g^*_{H,rel} = 57$

$g^*_{C,rel} = 59$

relative Inform. Technology (IT)

$olv^3*$  1.0 1.0 1.0 (1.0)

$cmy^3*$  0.0 0.0 0.0 (0.0)

$olv^4*$  1.0 1.0 1.0 1.0

$cmy^4*$  0.0 0.0 0.0 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 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 -

$lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)

$olv^3*$  0.5 0.5 0.5 (1.0)

$cmy^3*$  0.5 0.5 0.5 (0.0)

$olv^4*$  1.0 1.0 1.0 0.5

$cmy^4*$  0.0 0.0 0.0 0.5

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 CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.5 0.0 0.0

$lab^*tce$  0.5 0.0 -

$lab^*ncE$  0.5 0.0 -

relative Inform. Technology (IT)

$olv^3*$  0.0 0.0 0.0 (1.0)

$cmy^3*$  1.0 1.0 1.0 (0.0)

$olv^4*$  1.0 1.0 1.0 0.0

$cmy^4*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.5 -0.46

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*tce$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

### ORS18; adapted (a) CIELAB data

	$L^* = L_a^*$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
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

%Gamut

$u^*_{rel} = 93$

%Regularity

$g^*_{H,rel} = 57$

$g^*_{C,rel} = 59$

relative Inform. Technology (IT)

$olv^3*$  1.0 1.0 1.0 (1.0)

$cmy^3*$  0.0 0.0 0.0 (0.0)

$olv^4*$  1.0 1.0 1.0 1.0

$cmy^4*$  0.0 0.0 0.0 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 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 -

$lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)

$olv^3*$  0.5 0.5 0.5 (1.0)

$cmy^3*$  0.5 0.5 0.5 (0.0)

$olv^4*$  1.0 1.0 1.0 0.5

$cmy^4*$  0.0 0.0 0.0 0.5

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 CIELAB lab\*

$lab^*lab$  0.654 0.012 -0.499

$lab^*tch$  0.75 0.5 0.754

$lab^*nch$  0.0 0.5 0.754

relative Natural Colour (NC)

$lab^*lrij$  0.654 0.0 -0.499

$lab^*tce$  0.75 0.5 0.75

$lab^*ncE$  0.0 0.5 0.759

relative Inform. Technology (IT)

$olv^3*$  0.0 0.0 0.0 (1.0)

$cmy^3*$  1.0 1.0 1.0 (0.0)

$olv^4*$  1.0 1.0 1.0 0.0

$cmy^4*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.5 -0.46

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*tce$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

### ORS18; adapted (a) CIELAB data

	$L^* = L_a^*$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
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

%Gamut

$u^*_{rel} = 93$

%Regularity

$g^*_{H,rel} = 57$

$g^*_{C,rel} = 59$

relative Inform. Technology (IT)

$olv^3*$  1.0 1.0 1.0 (1.0)

$cmy^3*$  0.0 0.0 0.0 (0.0)

$olv^4*$  1.0 1.0 1.0 1.0

$cmy^4*$  0.0 0.0 0.0 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 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 -

$lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)

$olv^3*$  0.5 0.5 0.5 (1.0)

$cmy^3*$  0.5 0.5 0.5 (0.0)

$olv^4*$  1.0 1.0 1.0 0.5

$cmy^4*$  0.0 0.0 0.0 0.5

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 CIELAB lab\*

$lab^*lab$  0.654 0.012 -0.499

</

### Input: Colorimetric Reflective System ORS18

for hue  $h^* = lab^*h = 271/360 = 0.754$

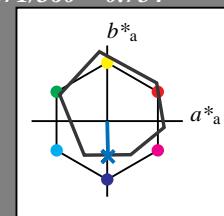
$lab^*tch$  and  $lab^*nch$

D65: hue B

LCH\*Ma: 42 45 271

olv\*Ma: 0.0 0.49 1.0

triangle lightness  $t^*$



### ORS18; adapted (a) CIELAB data

	$L^* = L_a^*$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
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)

$olv_i3^*$  1.0 1.0 1.0 (1.0)

$cmy_n3^*$  0.0 0.0 0.0 (0.0)

$olv_i4^*$  1.0 1.0 1.0 1.0

$cmy_n4^*$  0.0 0.0 0.0 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 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  1.0 0.0 0.0

$lab^*ice$  1.0 0.0 -

$lab^*ncE$  0.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  68.59 0.08 -19.4

$LAB^*LABa$  68.59 0.54 -22.35

$LAB^*TChA$  75.0 22.36 271.4

relative CIELAB lab\*

$lab^*lab$  0.654 0.012 -0.499

$lab^*tch$  0.75 0.5 0.754

$lab^*nch$  0.0 0.5 0.754

relative Natural Colour (NC)

$lab^*lrj$  0.654 0.0 -0.499

$lab^*ice$  0.75 0.5 0.75

$lab^*ncE$  0.0 0.5 g99b

relative Inform. Technology (IT)

$olv_i3^*$  0.5 0.5 0.5 (1.0)

$cmy_n3^*$  0.5 0.5 0.5 (0.0)

$olv_i4^*$  1.0 1.0 1.0 0.5

$cmy_n4^*$  0.0 0.0 0.0 0.5

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 CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  0.5 0.0 0.0

$lab^*ice$  0.5 0.0 -

$lab^*ncE$  0.5 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  29.9 0.83 -22.01

$LAB^*LABa$  29.9 0.55 -22.35

$LAB^*TChA$  25.01 22.36 271.41

relative CIELAB lab\*

$lab^*lab$  0.154 0.012 -0.499

$lab^*tch$  0.25 0.5 0.754

$lab^*nch$  0.5 0.5 0.754

relative Natural Colour (NC)

$lab^*lrj$  0.154 0.0 -0.499

$lab^*ice$  0.25 0.5 0.75

$lab^*ncE$  0.5 0.5 b00r

$n^* = 1,0$

### ORS18; adapted (a) CIELAB data

	$L^* = L_a^*$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
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

%Gamut

$u^*_{rel} = 93$

%Regularity

$g^*_{H,rel} = 57$

$g^*_{C,rel} = 59$

relative Inform. Technology (IT)

$olv_i3^*$  0.5 0.744 1.0 (1.0)

$cmy_n3^*$  0.5 0.256 0.0 (0.0)

$olv_i4^*$  0.5 0.744 1.0 1.0

$cmy_n4^*$  0.5 0.256 0.0 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\*

$lab^*lab$  0.5 0.744 1.0 (1.0)

$lab^*tch$  0.5 0.256 0.0 (0.0)

$lab^*nch$  0.0 0.0 0.0

relative Natural Colour (NC)

$lab^*lrj$  0.5 0.744 1.0 1.0

$lab^*ice$  0.5 0.256 0.0 0.5

$lab^*ncE$  0.0 0.0 0.0 0.5

relative Inform. Technology (IT)

$olv_i3^*$  0.0 0.244 0.5 (1.0)

$cmy_n3^*$  1.0 0.756 0.5 (0.0)

$olv_i4^*$  0.5 0.744 1.0 0.5

$cmy_n4^*$  0.5 0.256 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  41.79 1.14 -43.56

$LAB^*LABa$  41.79 1.1 -44.7

$LAB^*TChA$  50.0 22.36 271.4

relative CIELAB lab\*

$lab^*lab$  0.307 0.024 -0.998

$lab^*tch$  0.5 1.0 0.754

$lab^*nch$  0.0 1.0 0.754

relative Natural Colour (NC)

$lab^*lrj$  0.307 0.0 -0.999

$lab^*ice$  0.5 1.0 0.75

$lab^*ncE$  0.0 1.0 b00r

$n^* = 0,00$

blackness  $n^*$

$n^* = 0,50$

$n^* = 1,00$

chromaticness  $c^*$

### Output: Colorimetric Reflective System MRS18a

for hue  $h^* = lab^*h = 272/360 = 0.755$

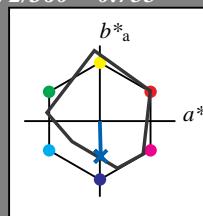
$lab^*tch$  and  $lab^*nch$

D65: hue B

LCH\*Ma: 40 49 272

olv\*Ma: 0.0 0.36 1.0

triangle lightness  $t^*$



### MRS18a; adapted (a) CIELAB data

	$L^* = L_a^*$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	49.63	66.8	40.02	77.87	31
JMa	90.7	-7.27	93.19	93.48	94
GMa	52.11	-69.93	11.26	70.85	171
G50BMa	45.03	-36.65	-27.13	45.61	217
BMa	36.65	23.26	-62.27	66.49	290
B50RMa	34.94	57.27	-43.6	71.99	323
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	272

relative Inform. Technology (IT)

$olv_i3^*$  1.0 1.0 1.0 (1.0)

$cmy_n3^*$  0.0 0.0 0.0 (0.0)

$olv_i4^*$  1.0 1.0 1.0 1.0

$cmy_n4^*$  0.0 0.0 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  95.41 0.01 0.0

$LAB^*LABa$  95.41 0.0 0.0

$LAB^*TChA$  99.99 0.01 -

relative CIELAB lab\*

$lab^*lab$  1.0 1.0 1.0 (1.0)

$lab^*tch$  1.0 1.0 0.0

$lab^*nch$  0.0 1.0 0.0

relative Natural Colour (NC)

$lab^*lrj$  1.0 1.0 1.0 1.0

$lab^*ice$  1.0 1.0 0.0

$lab^*ncE$  0.0 1.0 0.0 -

relative Inform. Technology (IT)

$olv_i3^*$  0.5 0.682 1.0 (1.0)

$cmy_n3^*$  0.5 0.318 0.0 (0.0)

$olv_i4^*$  0.5 0.682 1.0 1.0

$cmy_n4^*$  0.5 0.318 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  67.55 0.74 -24.71

$LAB^*LABa$  67.55 0.7 0.0

$LAB^*TChA$  75.0 24.74 271.63

relative CIELAB lab\*

$lab^*lab$  0.64 0.014 -0.499

$lab^*tch$  0.75 0.5 0.755

$lab^*nch$  0.0 0.5 0.755

relative Natural Colour (NC)



## Input: Colorimetric Reflective System ORS18

for hue  $h^* = lab^*h = 271/360 = 0.754$

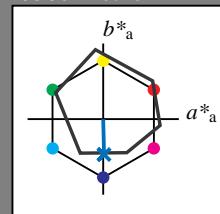
$lab^*tch$  and  $lab^*nch$

D65: hue B

LCH\*Ma: 42 45 271

olv\*Ma: 0.0 0.49 1.0

triangle lightness  $t^*$



### ORS18; adapted (a) CIELAB data

	$L^* = L_a^*$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
O <sub>Ma</sub>	47.94	65.37	50.52	82.62	38
Y <sub>Ma</sub>	90.37	-10.27	91.77	92.34	96
L <sub>Ma</sub>	50.9	-62.79	34.95	71.87	151
C <sub>Ma</sub>	58.62	-30.35	-45.01	54.3	236
V <sub>Ma</sub>	25.71	31.11	-44.42	54.24	305
M <sub>Ma</sub>	48.13	75.27	-8.35	75.73	354
N <sub>Ma</sub>	18.01	0.0	0.0	0.0	0
W <sub>Ma</sub>	95.41	0.0	0.0	0.0	0
R <sub>CIE</sub>	39.92	58.66	26.98	64.56	25
J <sub>CIE</sub>	81.26	-2.17	67.76	67.79	92
G <sub>CIE</sub>	52.23	-42.26	11.75	43.87	164
B <sub>CIE</sub>	30.57	1.15	-46.84	46.87	271

relative Inform. Technology (IT)  
 $olv_i3^*$  1.0 1.0 1.0 (1.0)  
 $cmy_n3^*$  0.0 0.0 0.0 (0.0)  
 $olv_i4^*$  1.0 1.0 1.0 1.0  
 $cmy_n4^*$  0.0 0.0 0.0 0.0

standard and adapted CIELAB  
 $LAB^*LAB$  95.41 -0.97 4.75  
 $LAB^*LABa$  95.41 0.0 0.0  
 $LAB^*TCh$  99.99 0.01 -

relative CIELAB lab\*  
 $lab^*lab$  1.0 0.0 0.0  
 $lab^*tch$  1.0 0.0 -  
 $lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)  
 $lab^*lrj$  1.0 0.0 0.0  
 $lab^*ice$  1.0 0.0 0.0  
 $lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)  
 $olv_i3^*$  0.5 0.5 0.5 (1.0)  
 $cmy_n3^*$  0.5 0.5 0.5 (0.0)  
 $olv_i4^*$  1.0 1.0 1.0 0.5  
 $cmy_n4^*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB  
 $LAB^*LAB$  56.71 -0.23 2.14  
 $LAB^*LABa$  56.71 0.0 0.0  
 $LAB^*TCh$  50.0 0.01 -

relative CIELAB lab\*  
 $lab^*lab$  0.5 0.0 0.0  
 $lab^*tch$  0.5 0.0 -  
 $lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)  
 $lab^*lrj$  0.5 0.0 0.0  
 $lab^*ice$  0.5 0.0 0.0  
 $lab^*ncE$  0.5 0.0 -

relative Inform. Technology (IT)  
 $olv_i3^*$  0.0 0.0 0.0 (1.0)  
 $cmy_n3^*$  1.0 1.0 1.0 (0.0)  
 $olv_i4^*$  1.0 1.0 1.0 0.0  
 $cmy_n4^*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB  
 $LAB^*LAB$  18.02 0.5 -0.46  
 $LAB^*LABa$  18.02 0.0 0.0  
 $LAB^*TCh$  0.01 0.01 -

relative CIELAB lab\*  
 $lab^*lab$  0.0 0.0 0.0  
 $lab^*tch$  0.0 0.0 -  
 $lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)  
 $lab^*lrj$  0.0 0.0 0.0  
 $lab^*ice$  0.0 0.0 -  
 $lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

relative Inform. Technology (IT)  
 $olv_i3^*$  0.5 0.744 1.0 (1.0)  
 $cmy_n3^*$  0.5 0.256 0.0 (0.0)  
 $olv_i4^*$  0.5 0.744 1.0 1.0  
 $cmy_n4^*$  0.5 0.256 0.0 0.0

standard and adapted CIELAB  
 $LAB^*LAB$  68.59 0.08 -19.4  
 $LAB^*LABa$  68.59 0.54 -22.35  
 $LAB^*TCh$  75.0 22.36 271.4

relative CIELAB lab\*  
 $lab^*lab$  0.654 0.012 -0.499  
 $lab^*tch$  0.75 0.5 0.754  
 $lab^*nch$  0.0 0.5 0.754

relative Natural Colour (NC)  
 $lab^*lrj$  0.654 0.0 -0.499  
 $lab^*ice$  0.75 0.5 0.75  
 $lab^*ncE$  0.0 0.5 g99b

relative Inform. Technology (IT)  
 $olv_i3^*$  0.0 0.244 0.5 (1.0)  
 $cmy_n3^*$  1.0 0.756 0.5 (0.0)  
 $olv_i4^*$  0.5 0.744 1.0 0.5  
 $cmy_n4^*$  0.5 0.256 0.0 0.5

standard and adapted CIELAB  
 $LAB^*LAB$  41.79 1.14 -43.56  
 $LAB^*LABa$  41.79 1.1 -44.7  
 $LAB^*TCh$  50.0 44.73 271.4

relative CIELAB lab\*  
 $lab^*lab$  0.307 0.024 -0.998  
 $lab^*tch$  0.5 1.0 0.754  
 $lab^*nch$  0.0 1.0 0.754

relative Natural Colour (NC)  
 $lab^*lrj$  0.307 0.0 -0.999  
 $lab^*ice$  0.5 1.0 0.75  
 $lab^*ncE$  0.0 1.0 b00r

relative Inform. Technology (IT)  
 $olv_i3^*$  0.0 0.244 0.5 (1.0)  
 $cmy_n3^*$  1.0 0.756 0.5 (0.0)  
 $olv_i4^*$  0.5 0.744 1.0 0.5  
 $cmy_n4^*$  0.5 0.256 0.0 0.5

standard and adapted CIELAB  
 $LAB^*LAB$  29.9 0.83 -22.01  
 $LAB^*LABa$  29.9 0.55 -22.35  
 $LAB^*TCh$  25.01 22.36 271.41

relative CIELAB lab\*  
 $lab^*lab$  0.154 0.012 -0.499  
 $lab^*tch$  0.25 0.5 0.754  
 $lab^*nch$  0.5 0.5 0.754

relative Natural Colour (NC)  
 $lab^*lrj$  0.154 0.0 -0.499  
 $lab^*ice$  0.25 0.5 0.75  
 $lab^*ncE$  0.5 0.5 b00r

relative Inform. Technology (IT)  
 $olv_i3^*$  0.0 0.0 0.0 (1.0)  
 $cmy_n3^*$  1.0 1.0 1.0 (0.0)  
 $olv_i4^*$  1.0 1.0 1.0 0.0  
 $cmy_n4^*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB  
 $LAB^*LAB$  18.02 0.5 -0.46  
 $LAB^*LABa$  18.02 0.0 0.0  
 $LAB^*TCh$  0.01 0.01 -

relative CIELAB lab\*  
 $lab^*lab$  0.0 0.0 0.0  
 $lab^*tch$  0.0 0.0 -  
 $lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)  
 $lab^*lrj$  0.0 0.0 0.0  
 $lab^*ice$  0.0 0.0 -  
 $lab^*ncE$  1.0 0.0 -

$n^* = 0,00$

blackness  $n^*$

chromaticness  $c^*$

## Output: Colorimetric Reflective System NCS18

for hue  $h^* = lab^*h = 272/360 = 0.755$

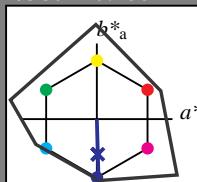
$lab^*tch$  and  $lab^*nch$

D65: hue B

LCH\*Ma: 49 80 272

olv\*Ma: 0.0 0.02 1.0

triangle lightness  $t^*$



### NCS18; adapted (a) CIELAB data

	$L^* = L_a^*$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
R <sub>Ma</sub>	47.15	84.63	37.24	92.46	24
J <sub>Ma</sub>	91.37	-1.27	125.03	125.03	91
G <sub>Ma</sub>	63.07	-114.29	25.34	117.07	167
G50B <sub>Ma</sub>	59.47	-80.61	-33.45	87.29	203
B <sub>Ma</sub>	49.01	3.63	-81.2	81.29	273
B50R <sub>Ma</sub>	44.06	106.07	-73.94	129.31	325
N <sub>Ma</sub>	18.01	0.0	0.0	0.0	0
W <sub>Ma</sub>	95.41	0.0	0.0	0.0	0
R <sub>CIE</sub>	39.92	58.67	27.97	64.99	25
J <sub>CIE</sub>	81.26	-2.91	71.56	71.62	92
G <sub>CIE</sub>	52.23	-42.47	13.58	44.6	162
B <sub>CIE</sub>	30.57	1.33	-46.48	46.51	272

%Gamut

$u^*_{rel} = 93$

%Regularity

$g^*_{H,rel} = 57$

$g^*_{C,rel} = 59$

relative Inform. Technology (IT)

$olv_i3^*$  1.0 1.0 1.0 (1.0)

$cmy_n3^*$  0.0 0.0 0.0 (0.0)

$olv_i4^*$  1.0 1.0 1.0 1.0

$cmy_n4^*$  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

$LAB^*TCh$  99.99 0.01 -

relative CIELAB lab\*

$lab^*lab$  1.0 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  1.0 0.0 0.0

$lab^*ice$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)

$olv_i3^*$  0.5 0.5 0.5 (1.0)

$cmy_n3^*$  0.5 0.492 0.0 (0.0)

$olv_i4^*$  0.5 0.508 1.0 1.0

$cmy_n4^*$  0.5 0.492 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  56.72 0.05 0.0

$LAB^*LABa$  56.72 0.0 0.0

$LAB^*TCh$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  0.5 0.0 0.0

$lab^*ice$  0.5 0.0 0.0

$lab^*ncE$  0.5 0.0 -

$n^* = 1,0$

relative Inform. Technology (IT)  
 $olv_i3^*$  0.0 0.016 1.0 (1.0)  
 $cmy_n3^*$  1.0 0.984 0.0 (0.0)  
 $olv_i4^*$  0.0 0.016 1.0 1.0  
 $cmy_n4^*$  1.0 0.984 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  49.18 2.37 -80.41

$LAB^*LABa$  49.18 2.3 -80.43

$LAB^*TCh$  50.0 80.47 271.64

relative CIELAB lab\*

$lab^*lab$  0.403 0.029 -0.998

$lab^*tch$  0.5 1.0 0.755

$lab^*nch$  0.0 1.0 0.755

relative Natural Colour (NC)

$lab^*lrj$  0.403 0.0 -0.999

$lab^*ice$  0.5 1.0 0.75

$lab^*ncE$  0.0 1.0 b00r

$n^* = 0,00$

blackness  $n^*$

chromaticness  $c^*$

UE100-7, 3 step scales for constant CIELAB hue 271/360 = 0.754 (left)

3 step scales for constant CIELAB hue 272/360 = 0.755 (right)



### Input: Colorimetric Reflective System ORS18

for hue  $h^* = lab^*h = 271/360 = 0.754$

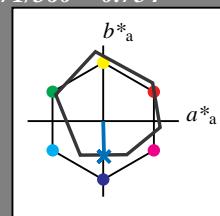
$lab^*tch$  and  $lab^*nch$

D65: hue B

LCH\*Ma: 42 45 271

olv\*Ma: 0.0 0.49 1.0

triangle lightness  $t^*$



### ORS18; adapted (a) CIELAB data

	$L^* = L_a^*$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
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

%Gamut

$u^*_{rel} = 93$

%Regularity

$g^*_{H,rel} = 57$

$g^*_{C,rel} = 59$

relative Inform. Technology (IT)

$olv^3*$  1.0 1.0 1.0 (1.0)

$cmy^3*$  0.0 0.0 0.0 (0.0)

$olv^4*$  1.0 1.0 1.0 1.0

$cmy^4*$  0.0 0.0 0.0 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 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  1.0 0.0 0.0

$lab^*ice$  1.0 0.0 -

$lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)

$olv^3*$  0.5 0.5 0.5 (1.0)

$cmy^3*$  0.5 0.5 0.5 (0.0)

$olv^4*$  1.0 1.0 1.0 0.5

$cmy^4*$  0.0 0.0 0.0 0.5

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 CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  0.5 0.0 0.0

$lab^*ice$  0.5 0.0 -

$lab^*ncE$  0.5 0.0 -

relative Inform. Technology (IT)

$olv^3*$  0.0 0.0 0.0 (1.0)

$cmy^3*$  1.0 1.0 1.0 (0.0)

$olv^4*$  1.0 1.0 1.0 0.0

$cmy^4*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.5 -0.46

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  0.0 0.0 0.0

$lab^*ice$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

### ORS18; adapted (a) CIELAB data

	$L^* = L_a^*$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
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)

$olv^3*$  1.0 1.0 1.0 (1.0)

$cmy^3*$  0.0 0.0 0.0 (0.0)

$olv^4*$  1.0 1.0 1.0 1.0

$cmy^4*$  0.0 0.0 0.0 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 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  1.0 0.0 0.0

$lab^*ice$  1.0 0.0 -

$lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)

$olv^3*$  0.5 0.5 0.5 (1.0)

$cmy^3*$  0.5 0.5 0.5 (0.0)

$olv^4*$  1.0 1.0 1.0 0.5

$cmy^4*$  0.0 0.0 0.0 0.5

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 CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  0.5 0.0 0.0

$lab^*ice$  0.5 0.0 -

$lab^*ncE$  0.5 0.0 -

relative Inform. Technology (IT)

$olv^3*$  0.0 0.0 0.0 (1.0)

$cmy^3*$  1.0 1.0 1.0 (0.0)

$olv^4*$  1.0 1.0 1.0 0.0

$cmy^4*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.5 -0.46

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  0.0 0.0 0.0

$lab^*ice$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

relative Inform. Technology (IT)

$olv^3*$  0.0 0.0 0.0 (1.0)

$cmy^3*$  1.0 1.0 1.0 (0.0)

$olv^4*$  1.0 1.0 1.0 0.0

$cmy^4*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.5 -0.46

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  0.0 0.0 0.0

$lab^*ice$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

relative CIELAB lab\*

$lab^*lab$  0.25 0.5 0.754

$lab^*tch$  0.5 0.5 0.754

$lab^*nch$  0.5 0.5 0.754

relative Natural Colour (NC)

$lab^*lrj$  0.154 0.0 -0.499

$lab^*ice$  0.25 0.5 0.75

$lab^*ncE$  0.5 0.5 600r

$n^* = 0,0$

blackness  $n^*$

chromaticness  $c^*$

### Output: Colorimetric Reflective System NCS11

for hue  $h^* = lab^*h = 272/360 = 0.755$

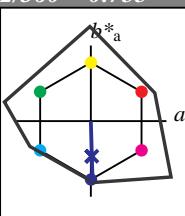
$lab^*tch$  and  $lab^*nch$

D65: hue B

LCH\*Ma: 49 80 272

olv\*Ma: 0.0 0.02 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	-2.29	71.56	71.62	92
GCIE	52.23	-42.45	13.59	44.59	162
BCIE	30.57	1.35</td			

## Input: Colorimetric Reflective System MRS18

for hue  $h^* = lab^*h = 271/360 = 0.754$

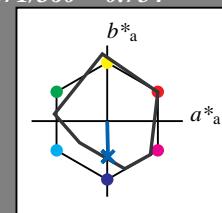
$lab^*tch$  and  $lab^*nch$

D65: hue B

LCH\*Ma: 40 50 271

olv\*Ma: 0.0 0.37 1.0

triangle lightness  $t^*$



relative Inform. Technology (IT)

olv*i*3\* 1.0 1.0 1.0 (1.0)

cmy*n*3\* 0.0 0.0 0.0 (0.0)

olv*i*4\* 1.0 1.0 1.0 1.0

cmy*n*4\* 0.0 0.0 0.0 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 0.0 0.0

lab\*tch 1.0 0.0 -

lab\*nch 0.0 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)

olv*i*3\* 0.5 0.5 0.5 (1.0)

cmy*n*3\* 0.5 0.5 0.5 (0.0)

olv*i*4\* 1.0 1.0 1.0 0.5

cmy*n*4\* 0.0 0.0 0.0 0.5

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 CIELAB lab\*

lab\*lab 0.5 0.0 0.0

lab\*tch 0.5 0.0 -

lab\*nch 0.5 0.0 -

relative Natural Colour (NC)

lab\*lrj 0.5 0.0 0.0

lab\*tce 0.5 0.0 0.0

lab\*ncE 0.5 0.0 -

relative Inform. Technology (IT)

olv*i*3\* 0.0 0.0 0.0 (1.0)

cmy*n*3\* 1.0 1.0 1.0 (0.0)

olv*i*4\* 1.0 1.0 1.0 0.0

cmy*n*4\* 0.0 0.0 0.0 1.0

standard and adapted CIELAB

LAB\*LAB 18.02 0.5 -0.46

LAB\*LABa 18.02 0.0 0.0

LAB\*TChA 0.01 0.01 -

relative CIELAB lab\*

lab\*lab 0.0 0.0 0.0

lab\*tch 0.0 0.0 -

lab\*nch 1.0 0.0 -

relative Natural Colour (NC)

lab\*lrj 0.0 0.0 0.0

lab\*tce 0.0 0.0 0.0

lab\*ncE 1.0 0.0 -

$n^* = 1,0$

## MRS18; adapted (a) CIELAB data

$L^*=L^*_{ab}$   $a^*_a$   $b^*_{ab}$   $C^*_{ab,a}$   $h^*_{ab,a}$

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

%Gamut

$u^*_{rel} = 91$

%Regularity

$g^*_{H,rel} = 41$

$g^*_{C,rel} = 52$

relative Inform. Technology (IT)

olv*i*3\* 0.5 0.684 1.0 (1.0)

cmy*n*3\* 0.5 0.316 0.0 (0.0)

olv*i*4\* 0.5 0.684 1.0 1.0

cmy*n*4\* 0.5 0.316 0.0 0.0

standard and adapted CIELAB

LAB\*LAB 67.57 0.17 -22.28

LAB\*LABa 67.57 0.61 -25.16

LAB\*TChA 75.0 25.18 271.4

relative CIELAB lab\*

lab\*lab 0.64 0.012 -0.499

lab\*tch 0.75 0.5 0.754

lab\*nch 0.0 0.5 0.754

relative Natural Colour (NC)

lab\*lrj 0.64 0.0 -0.499

lab\*tce 0.75 0.5 0.75

lab\*ncE 0.0 0.5 g99b

relative Inform. Technology (IT)

olv*i*3\* 0.0 0.367 1.0 (1.0)

cmy*n*3\* 1.0 0.633 0.0 (0.0)

olv*i*4\* 0.0 0.367 1.0 1.0

cmy*n*4\* 1.0 0.633 0.0 0.0

standard and adapted CIELAB

LAB\*LAB 39.73 1.32 -49.33

LAB\*LABa 39.73 1.23 -50.34

LAB\*TChA 50.0 50.36 271.41

relative CIELAB lab\*

lab\*lab 0.281 0.025 -0.998

lab\*tch 0.5 1.0 0.754

lab\*nch 0.0 1.0 0.754

relative Natural Colour (NC)

lab\*lrj 0.281 0.0 -0.999

lab\*tce 0.5 1.0 0.75

lab\*ncE 0.0 1.0 b00r

relative Inform. Technology (IT)

olv*i*3\* 0.0 0.184 0.5 (1.0)

cmy*n*3\* 1.0 0.816 0.5 (0.0)

olv*i*4\* 0.5 0.684 1.0 0.5

cmy*n*4\* 0.5 0.316 0.0 0.5

standard and adapted CIELAB

LAB\*LAB 28.87 0.92 -24.9

LAB\*LABa 28.87 0.62 -25.16

LAB\*TChA 25.01 25.18 271.41

relative CIELAB lab\*

lab\*lab 0.14 0.012 -0.499

lab\*tch 0.25 0.5 0.754

lab\*nch 0.5 0.5 0.754

relative Natural Colour (NC)

lab\*lrj 0.14 0.0 -0.499

lab\*tce 0.25 0.5 0.75

lab\*ncE 0.5 0.5 b00r

$n^* = 0,00$

blackness  $n^*$

chromaticness  $c^*$

0,25 0,50 0,75 1,00

$n^* = 0,50$

blackness  $n^*$

chromaticness  $c^*$

0,25 0,50 0,75 1,00

$n^* = 1,0$

blackness  $n^*$

chromaticness  $c^*$

0,25 0,50 0,75 1,00

## Output: Colorimetric Reflective System ORS18

for hue  $h^* = lab^*h = 271/360 = 0.754$

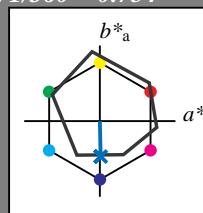
$lab^*tch$  and  $lab^*nch$

D65: hue B

LCH\*Ma: 42 45 271

olv\*Ma: 0.0 0.49 1.0

triangle lightness  $t^*$



%Gamut

$u^*_{rel} = 93$

%Regularity

$g^*_{H,rel} = 57$

$g^*_{C,rel} = 59$

relative Inform. Technology (IT)

olv*i*3\* 0.5 0.744 1.0 (1.0)

cmy*n*3\* 0.5 0.256 0.0 (0.0)

olv*i*4\* 0.5 0.744 1.0 1.0

cmy*n*4\* 0.5 0.256 0.0 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 0.0 0.0

lab\*tch 1.0 0.0 -

lab\*nch 0.0 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)

olv*i*3\* 0.5 0.488 1.0 (1.0)

cmy*n*3\* 1.0 0.512 0.0 (0.0)

olv*i*4\* 0.0 0.488 1.0 1.0

cmy*n*4\* 1.0 0.512 0.0 0.0

standard and adapted CIELAB

LAB\*LAB 41.79 1.14 -43.56

LAB\*LABa 41.79 1.1 -44.7

LAB\*TChA 50.0 44.73 271.4

relative CIELAB lab\*

lab\*lab 0.307 0.024 -0.998

lab\*tch 0.5 1.0 0.754

lab\*nch 0.0 1.0 0.754

relative Natural Colour (NC)

lab\*lrj 0.307 0.0 -0.999

lab\*tce 0.5 1.0 0.75

lab\*ncE 0.0 1.0 b00r

## ORS18; adapted (a) CIELAB data

$L^*=L^*_{ab}$   $a^*_a$   $b^*_{ab}$   $C^*_{ab,a}$   $h^*_{ab,a}$

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)

olv*i*3\* 0.5 0.244 0.5 (1.0)

cmy*n*3\* 1.0 0.756 0.5 (0.0)

olv*i*4\* 0.5 0.744 1.0 0.5

## Input: Colorimetric Reflective System MRS18

for hue  $h^* = lab^*h = 271/360 = 0.754$

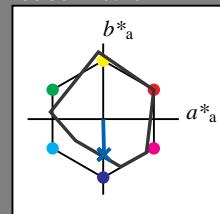
$lab^*tch$  and  $lab^*nch$

D65: hue B

LCH\*Ma: 40 50 271

olv\*Ma: 0.0 0.37 1.0

triangle lightness  $t^*$



relative Inform. Technology (IT)  
 $olv_i3^*$  1.0 1.0 1.0 (1.0)  
 $cmy_n3^*$  0.0 0.0 0.0 (0.0)  
 $olv_i4^*$  1.0 1.0 1.0 1.0  
 $cmy_n4^*$  0.0 0.0 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  95.41 -0.97 4.75

$LAB^*LABa$  95.41 0.0 0.0

$LAB^*TCh_a$  99.99 0.01 -

relative CIELAB  $lab^*$

$lab^*lab$  1.0 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 -

$lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)  
 $olv_i3^*$  0.5 0.5 0.5 (1.0)  
 $cmy_n3^*$  0.5 0.5 0.5 (0.0)  
 $olv_i4^*$  1.0 1.0 1.0 0.5  
 $cmy_n4^*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  56.71 -0.23 2.14

$LAB^*LABa$  56.71 0.0 0.0

$LAB^*TCh_a$  50.0 0.01 -

relative CIELAB  $lab^*$

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.5 0.0 0.0

$lab^*tce$  0.5 0.0 -

$lab^*ncE$  0.5 0.0 -

relative Inform. Technology (IT)  
 $olv_i3^*$  0.0 0.0 0.0 (1.0)  
 $cmy_n3^*$  1.0 1.0 1.0 (0.0)  
 $olv_i4^*$  1.0 1.0 1.0 0.0  
 $cmy_n4^*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.5 -0.46

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TCh_a$  0.01 0.01 -

relative CIELAB  $lab^*$

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*tce$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

## MRS18; adapted (a) CIELAB data

$L^*=L^*_{ab}$   $a^*_{ab}$   $b^*_{ab}$   $C^*_{ab,a}$   $h^*_{ab,a}$

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

%Gamut

$u^*_{rel} = 91$

%Regularity

$g^*_{H,rel} = 41$

$g^*_{C,rel} = 52$

relative Inform. Technology (IT)

$olv_i3^*$  0.5 0.684 1.0 (1.0)

$cmy_n3^*$  0.5 0.316 0.0 (0.0)

$olv_i4^*$  0.5 0.684 1.0 1.0

$cmy_n4^*$  0.5 0.316 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  67.57 0.17 -22.28

$LAB^*LABa$  67.57 0.61 -25.16

$LAB^*TCh_a$  75.0 25.18 271.4

relative CIELAB  $lab^*$

$lab^*lab$  0.64 0.012 -0.499

$lab^*tch$  0.75 0.5 0.754

$lab^*nch$  0.0 0.5 0.754

relative Natural Colour (NC)

$lab^*lrij$  0.64 0.0 -0.499

$lab^*tce$  0.75 0.5 0.75

$lab^*ncE$  0.0 0.5 g99b

relative Inform. Technology (IT)

$olv_i3^*$  0.0 0.367 1.0 (1.0)

$cmy_n3^*$  1.0 0.633 0.0 (0.0)

$olv_i4^*$  1.0 0.367 1.0 1.0

$cmy_n4^*$  1.0 0.633 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  39.73 1.32 -49.33

$LAB^*LABa$  39.73 1.23 -50.34

$LAB^*TCh_a$  50.0 50.36 271.41

relative CIELAB  $lab^*$

$lab^*lab$  0.281 0.025 -0.998

$lab^*tch$  0.5 1.0 0.754

$lab^*nch$  0.0 1.0 0.754

relative Natural Colour (NC)

$lab^*lrij$  0.281 0.0 -0.999

$lab^*tce$  0.5 1.0 0.75

$lab^*ncE$  0.0 1.0 b00r

relative Inform. Technology (IT)

$olv_i3^*$  0.0 0.184 0.5 (1.0)

$cmy_n3^*$  1.0 0.816 0.5 (0.0)

$olv_i4^*$  0.5 0.684 1.0 0.5

$cmy_n4^*$  0.5 0.316 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.5 -0.46

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TCh_a$  0.01 0.01 -

relative CIELAB  $lab^*$

$lab^*lab$  0.14 0.012 -0.499

$lab^*tch$  0.25 0.5 0.754

$lab^*nch$  0.5 0.5 0.754

relative Natural Colour (NC)

$lab^*lrij$  0.14 0.0 -0.499

$lab^*tce$  0.25 0.5 0.75

$lab^*ncE$  0.5 0.5 b00r

$n^* = 0,00$

blackness  $n^*$

chromaticness  $c^*$

## Output: Colorimetric Reflective System MRS18

for hue  $h^* = lab^*h = 271/360 = 0.754$

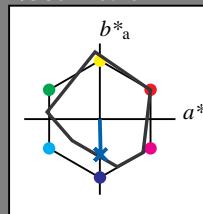
$lab^*tch$  and  $lab^*nch$

D65: hue B

LCH\*Ma: 40 50 271

olv\*Ma: 0.0 0.37 1.0

triangle lightness  $t^*$



%Gamut

$u^*_{rel} = 91$

%Regularity

$g^*_{H,rel} = 41$

$g^*_{C,rel} = 52$

relative Inform. Technology (IT)

$olv_i3^*$  1.0 1.0 1.0 (1.0)

$cmy_n3^*$  0.0 0.0 0.0 (0.0)

$olv_i4^*$  1.0 1.0 1.0 1.0

$cmy_n4^*$  0.0 0.0 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  95.41 -0.97 4.75

$LAB^*LABa$  95.41 0.0 0.0

$LAB^*TCh_a$  99.99 0.01 -

relative CIELAB  $lab^*$

$lab^*lab$  1.0 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 -

$lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)

$olv_i3^*$  0.5 0.684 1.0 (1.0)

$cmy_n3^*$  0.5 0.316 0.0 (0.0)

$olv_i4^*$  0.5 0.684 1.0 1.0

$cmy_n4^*$  0.5 0.316 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  67.57 0.17 -22.28

$LAB^*LABa$  67.57 0.61 -25.16

$LAB^*TCh_a$  75.0 25.18 271.4

relative CIELAB  $lab^*$

$lab^*lab$  0.64 0.012 -0.499

$lab^*tch$  0.75 0.5 0.754

$lab^*nch$  0.0 0.5 0.754

relative Natural Colour (NC)

$lab^*lrij$  0.64 0.0 -0.499

$lab^*tce$  0.75 0.5 0.75

$lab^*ncE$  0.0 0.5 g99b

$n^* = 1,0$

3 step scales for constant CIELAB hue 271/360 = 0.754 (left)

3 step scales for constant CIELAB hue 271/360 = 0.754 (right)

## MRS18; adapted (a) CIELAB data

$L^*=L^*_{ab}$   $a^*_{ab}$   $b^*_{ab}$   $C^*_{ab,a}$   $h^*_{ab,a}$

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

%Gamut

$u^*_{rel} = 91$

%Regularity

$g^*_{H,rel} = 41$

$g^*_{C,rel} = 52$

relative Inform. Technology (IT)

$olv_i3^*$  1.0 0.684 1.0 (1.0)

## Input: Colorimetric Reflective System MRS18

for hue  $h^* = lab^*h = 271/360 = 0.754$

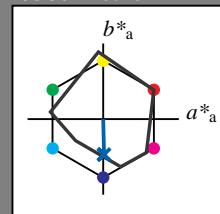
$lab^*tch$  and  $lab^*nch$

D65: hue B

LCH\*Ma: 40 50 271

olv\*Ma: 0.0 0.37 1.0

triangle lightness  $t^*$



relative Inform. Technology (IT)  
 $olv_i3^*$  1.0 1.0 1.0 (1.0)  
 $cmy_n3^*$  0.0 0.0 0.0 (0.0)  
 $olv_i4^*$  1.0 1.0 1.0 1.0  
 $cmy_n4^*$  0.0 0.0 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  95.41 -0.97 4.75

$LAB^*LABa$  95.41 0.0 0.0

$LAB^*TCh_a$  99.99 0.01 -

relative CIELAB lab\*

$lab^*lab$  1.0 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 -

$lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)  
 $olv_i3^*$  0.5 0.5 0.5 (1.0)  
 $cmy_n3^*$  0.5 0.5 0.5 (0.0)  
 $olv_i4^*$  1.0 1.0 1.0 0.5  
 $cmy_n4^*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  56.71 -0.23 2.14

$LAB^*LABa$  56.71 0.0 0.0

$LAB^*TCh_a$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.5 0.0 0.0

$lab^*tce$  0.5 0.0 -

$lab^*ncE$  0.5 0.0 -

relative Inform. Technology (IT)  
 $olv_i3^*$  0.0 0.0 0.0 (1.0)  
 $cmy_n3^*$  1.0 1.0 1.0 (0.0)  
 $olv_i4^*$  1.0 1.0 1.0 0.0  
 $cmy_n4^*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.5 -0.46

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TCh_a$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*tce$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

## 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

%Gamut

$u^*_{rel} = 91$

%Regularity

$g^*_{H,rel} = 41$

$g^*_{C,rel} = 52$

relative Inform. Technology (IT)

$olv_i3^*$  0.5 0.684 1.0 (1.0)

$cmy_n3^*$  0.5 0.316 0.0 (0.0)

$olv_i4^*$  0.5 0.684 1.0 1.0

$cmy_n4^*$  0.5 0.316 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  67.57 0.17 -22.28

$LAB^*LABa$  67.57 0.61 -25.16

$LAB^*TCh_a$  75.0 25.18 271.4

relative CIELAB lab\*

$lab^*lab$  0.64 0.012 -0.499

$lab^*tch$  0.75 0.5 0.754

$lab^*nch$  0.0 0.5 0.754

relative Natural Colour (NC)

$lab^*lrij$  0.64 0.0 -0.499

$lab^*tce$  0.75 0.5 0.75

$lab^*ncE$  0.0 0.5 0.998

relative Inform. Technology (IT)

$olv_i3^*$  0.0 0.367 1.0 (1.0)

$cmy_n3^*$  1.0 0.633 0.0 (0.0)

$olv_i4^*$  0.0 0.367 1.0 1.0

$cmy_n4^*$  1.0 0.633 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  39.73 1.32 -49.33

$LAB^*LABa$  39.73 1.23 -50.34

$LAB^*TCh_a$  50.0 50.36 271.41

relative CIELAB lab\*

$lab^*lab$  0.281 0.025 -0.998

$lab^*tch$  0.5 1.0 0.754

$lab^*nch$  0.0 1.0 0.754

relative Natural Colour (NC)

$lab^*lrij$  0.281 0.0 -0.999

$lab^*tce$  0.5 1.0 0.75

$lab^*ncE$  0.0 1.0 b00r

relative Inform. Technology (IT)

$olv_i3^*$  0.0 0.184 0.5 (1.0)

$cmy_n3^*$  1.0 0.816 0.5 (0.0)

$olv_i4^*$  0.5 0.684 1.0 0.5

$cmy_n4^*$  0.5 0.316 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  28.87 0.92 -24.9

$LAB^*LABa$  28.87 0.62 -25.16

$LAB^*TCh_a$  25.01 25.18 271.41

relative CIELAB lab\*

$lab^*lab$  0.14 0.012 -0.499

$lab^*tch$  0.25 0.5 0.754

$lab^*nch$  0.5 0.5 0.754

relative Natural Colour (NC)

$lab^*lrij$  0.14 0.0 -0.499

$lab^*tce$  0.25 0.5 0.75

$lab^*ncE$  0.5 0.5 b00r

$n^* = 0,00$

blackness  $n^*$

chromaticness  $c^*$

## Output: Colorimetric Reflective System TRS18

for hue  $h^* = lab^*h = 271/360 = 0.754$

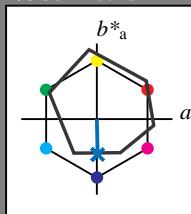
$lab^*tch$  and  $lab^*nch$

D65: hue B

LCH\*Ma: 42 45 271

olv\*Ma: 0.0 0.49 1.0

triangle lightness  $t^*$



%Gamut

$u^*_{rel} = 93$

%Regularity

$g^*_{H,rel} = 57$

$g^*_{C,rel} = 59$

relative Inform. Technology (IT)

$olv_i3^*$  1.0 1.0 1.0 (1.0)

$cmy_n3^*$  0.0 0.0 0.0 (0.0)

$olv_i4^*$  1.0 1.0 1.0 1.0

$cmy_n4^*$  0.0 0.0 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  95.41 -0.97 4.75

$LAB^*LABa$  95.41 0.0 0.0

$LAB^*TCh_a$  99.99 0.01 -

relative CIELAB lab\*

$lab^*lab$  1.0 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 -

$lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)

$olv_i3^*$  0.5 0.744 1.0 (1.0)

$cmy_n3^*$  0.5 0.256 0.0 (0.0)

$olv_i4^*$  0.5 0.744 1.0 1.0

$cmy_n4^*$  0.5 0.256 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  68.59 0.08 -19.4

$LAB^*LABa$  68.59 0.54 -22.35

$LAB^*TCh_a$  75.0 22.36 271.4

relative CIELAB lab\*

$lab^*lab$  0.654 0.012 -0.499

$lab^*tch$  0.75 0.5 0.754

$lab^*nch$  0.0 0.5 0.754

relative Natural Colour (NC)

$lab^*lrij$  0.654 0.0 -0.499

$lab^*tce$  0.75 0.5 0.75

$lab^*ncE$  0.0 0.5 b00r

$n^* = 1,0$

	$L^*=L^*_a$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
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

	$L^*=L^*_a$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
OLV3	0.0	0.488	1.0	(1.0)	
CMYN3	1.0	0.512	0.0	(0.0)	
OLV4	0.0	0.488	1.0	1.0	

## Input: Colorimetric Reflective System MRS18

for hue  $h^* = lab^*h = 271/360 = 0.754$

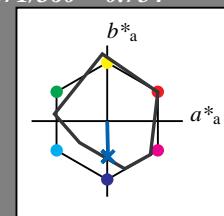
$lab^*tch$  and  $lab^*nch$

D65: hue B

LCH\*Ma: 40 50 271

olv\*Ma: 0.0 0.37 1.0

triangle lightness  $t^*$



### MRS18; adapted (a) CIELAB data

	$L^* = L^*_{ab}$	$a^*_{ab}$	$b^*_{ab}$	$C^*_{ab,a}$	$h^*_{ab,a}$
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

%Gamut

$u^*_{rel} = 91$

%Regularity

$g^*_{H,rel} = 41$

$g^*_{C,rel} = 52$

relative Inform. Technology (IT)

$olv^3*$  1.0 1.0 1.0 (1.0)

$cmy^3*$  0.0 0.0 0.0 (0.0)

$olv^4*$  1.0 1.0 1.0 1.0

$cmy^4*$  0.0 0.0 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  95.41 -0.97 4.75

$LAB^*LABa$  95.41 0.0 0.0

$LAB^*TCh$  99.99 0.01 -

relative CIELAB lab\*

$lab^*lab$  1.0 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 -

$lab^*ncE$  0.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  67.57 0.17 -22.28

$LAB^*LABa$  67.57 0.61 -25.16

$LAB^*TCh$  75.0 25.18 271.4

relative CIELAB lab\*

$lab^*lab$  0.64 0.012 -0.499

$lab^*tch$  0.75 0.5 0.754

$lab^*nch$  0.0 0.5 0.754

relative Natural Colour (NC)

$lab^*lrij$  0.64 0.0 -0.499

$lab^*tce$  0.75 0.5 0.75

$lab^*ncE$  0.0 0.5 g99b

standard and adapted CIELAB

$LAB^*LAB$  56.71 -0.23 2.14

$LAB^*LABa$  56.71 0.0 0.0

$LAB^*TCh$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.5 0.0 0.0

$lab^*tce$  0.5 0.0 -

$lab^*ncE$  0.5 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.5 -0.46

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TCh$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*tce$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

relative Inform. Technology (IT)

$olv^3*$  0.0 0.0 0.0 (1.0)

$cmy^3*$  1.0 1.0 1.0 (0.0)

$olv^4*$  1.0 1.0 1.0 0.0

$cmy^4*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.5 -0.46

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TCh$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*tce$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 0,00$

$n^* = 0,50$

$n^* = 0,00$

blackness  $n^*$

chromaticness  $c^*$

## Output: Colorimetric Reflective System MRS18a

for hue  $h^* = lab^*h = 272/360 = 0.755$

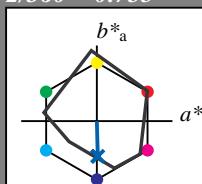
$lab^*tch$  and  $lab^*nch$

D65: hue B

LCH\*Ma: 40 49 272

olv\*Ma: 0.0 0.36 1.0

triangle lightness  $t^*$



### MRS18a; adapted (a) CIELAB data

	$L^* = L^*_{ab}$	$a^*_{ab}$	$b^*_{ab}$	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	49.63	66.8	40.02	77.87	31
JMa	90.7	-7.27	93.19	93.48	94
GMa	52.11	-69.93	11.26	70.85	171
G50BMa	45.03	-36.65	-27.13	45.61	217
BMa	36.65	23.26	-62.27	66.49	290
B50RMa	34.94	57.27	-43.6	71.99	323
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	272

%Gamut

$u^*_{rel} = 92$

%Regularity

$g^*_{H,rel} = 42$

$g^*_{C,rel} = 49$

relative Inform. Technology (IT)

$olv^3*$  0.5 0.682 1.0 (1.0)

$cmy^3*$  0.0 0.318 0.0 (0.0)

$olv^4*$  0.5 0.682 1.0 1.0

$cmy^4*$  0.0 0.318 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  95.41 0.01 0.0

$LAB^*LABa$  95.41 0.0 0.0

$LAB^*TCh$  99.99 0.01 -

relative CIELAB lab\*

$lab^*lab$  1.0 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 0.75

$lab^*ncE$  0.0 0.0 g99b

standard and adapted CIELAB

$LAB^*LAB$  67.55 0.74 -24.71

$LAB^*LABa$  67.55 0.7 24.72

$LAB^*TCh$  75.0 24.74 271.63

relative CIELAB lab\*

$lab^*lab$  0.64 0.014 -0.499

$lab^*tch$  0.75 0.5 0.755

$lab^*nch$  0.0 0.5 0.755

relative Natural Colour (NC)

$lab^*lrij$  0.64 0.0 -0.499

$lab^*tce$  0.75 0.5 0.75

$lab^*ncE$  0.0 0.5 0.75

standard and adapted CIELAB

$LAB^*LAB$  39.71 1.49 -49.43

$LAB^*LABa$  39.71 1.41 -49.45

$LAB^*TCh$  50.0 49.48 271.64

relative CIELAB lab\*

$lab^*lab$  0.28 0.029 -0.998

$lab^*tch$  0.5 1.0 0.755

$lab^*nch$  0.0 1.0 0.755

relative Natural Colour (NC)

$lab^*lrij$  0.28 0.0 -0.999

$lab^*tce$  0.5 1.0 0.75

$lab^*ncE$  0.0 1.0 b00r

$n^* = 0,00$

$n^* = 0,50$

$n^* = 1,0$

$n^* = 1,0$

UE100-7, 3 step scales for constant CIELAB hue 271/360 = 0.754 (left)

3 step scales for constant CIELAB hue 272/360 = 0.755 (right)

## Input: Colorimetric Reflective System MRS18

for hue  $h^* = lab^*h = 271/360 = 0.754$

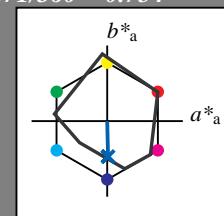
$lab^*tch$  and  $lab^*nch$

D65: hue B

LCH\*Ma: 40 50 271

olv\*Ma: 0.0 0.37 1.0

triangle lightness  $t^*$



### MRS18; adapted (a) CIELAB data

	$L^* = L^*_{ab}$	$a^*_{ab}$	$b^*_{ab}$	$C^*_{ab,a}$	$h^*_{ab,a}$
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)

$olv^3*$  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

$LAB^*LABa$  95.41 0.0 0.0

$LAB^*TCh$  99.99 0.01 -

relative CIELAB lab\*

$lab^*lab$  1.0 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  1.0 0.0 0.0

$lab^*ice$  1.0 0.0 0.0

$lab^*ncE$  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 0.5

$cmyn^4*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  56.71 -0.23 2.14

$LAB^*LABa$  56.71 0.0 0.0

$LAB^*TCh$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  0.5 0.0 0.0

$lab^*ice$  0.5 0.0 0.0

$lab^*ncE$  0.5 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)

$olv^4*$  1.0 1.0 1.0 0.0

$cmyn^4*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.5 -0.46

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TCh$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  0.0 0.0 0.0

$lab^*ice$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

relative Inform. Technology (IT)					
$olv^3*$	0.0	0.184	0.5 (1.0)		
$cmyn^3*$	1.0	0.816	0.5 (0.0)		
$olv^4*$	0.5	0.684	1.0 0.5		
$cmyn^4*$	0.5	0.316	0.0 0.5		
standard and adapted CIELAB					
$LAB^*LAB$	28.87	0.92	-24.9		
$LAB^*LABa$	28.87	0.62	-25.16		
$LAB^*TCh$	25.01	25.18	271.41		
relative CIELAB lab*					
$lab^*lab$	0.14	0.012	-0.499		
$lab^*tch$	0.25	0.5	0.754		
$lab^*nch$	0.5	0.5	0.754		
relative Natural Colour (NC)					
$lab^*lrj$	0.14	0.0	-0.499		
$lab^*ice$	0.25	0.5	0.75		
$lab^*ncE$	0.5	0.5	600r		

relative Inform. Technology (IT)					
$olv^3*$	0.0	0.184	0.5 (1.0)		
$cmyn^3*$	1.0	0.816	0.5 (0.0)		
$olv^4*$	0.5	0.684	1.0 0.5		
$cmyn^4*$	0.5	0.316	0.0 0.5		
standard and adapted CIELAB					
$LAB^*LAB$	39.73	1.32	-49.33		
$LAB^*LABa$	39.73	1.23	-50.34		
$LAB^*TCh$	50.0	50.36	271.41		
relative CIELAB lab*					
$lab^*lab$	0.281	0.025	-0.998		
$lab^*tch$	0.5	1.0	0.754		
$lab^*nch$	0.0	1.0	0.754		
relative Natural Colour (NC)					
$lab^*lrj$	0.281	0.0	-0.999		
$lab^*ice$	0.5	1.0	0.75		
$lab^*ncE$	0.0	1.0	600r		

relative Inform. Technology (IT)					
$olv^3*$	0.0	0.0	0.0 (1.0)		
$cmyn^3*$	1.0	1.0	1.0 (0.0)		
$olv^4*$	1.0	1.0	1.0 0.0		
$cmyn^4*$	0.0	0.0	0.0 1.0		
standard and adapted CIELAB					
$LAB^*LAB$	18.02	0.5	-0.46		
$LAB^*LABa$	18.02	0.0	0.0		
$LAB^*TCh$	0.01	0.01	-		
relative CIELAB lab*					
$lab^*lab$	0.0	0.0	0.0		
$lab^*tch$	0.0	0.0	-		
$lab^*nch$	1.0	0.0	-		
relative Natural Colour (NC)					
$lab^*lrj$	0.0	0.0	0.0		
$lab^*ice$	0.0	0.0	-		
$lab^*ncE$	1.0	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)		
$olv^4*$	1.0	1.0	1.0 0.0		
$cmyn^4*$	0.0	0.0	0.0 1.0		
standard and adapted CIELAB					
$LAB^*LAB$	18.02	0.0	0.02		
$LAB^*LABa$	18.02	0.0	0.0		
$LAB^*TCh$	0.01	0.01	-		
relative CIELAB lab*					
$lab^*lab$	0.0	0.0	0.0		
$lab^*tch$	0.0	0.0	-		
$lab^*nch$	1.0	0.0	-		
relative Natural Colour (NC)					
$lab^*lrj$	0.0	0.0	0.0		
$lab^*ice$	0.0	0.0	-		
$lab^*ncE$	1.0	0.0	-		

$n^* = 1,0$

0,25      0,50      0,75      1,00  
chromaticness  $c^*$

## Output: Colorimetric Reflective System NRS18

for hue  $h^* = lab^*h = 272/360 = 0.755$

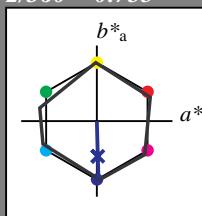
$lab^*tch$  and  $lab^*nch$

D65: hue B

LCH\*Ma: 57 76 272

olv\*Ma: 0.0 0.02 1.0

triangle lightness  $t^*$



%Gamut

$u^*_{rel} = 91$

%Regularity

$g^*_{H,rel} = 41$

$g^*_{C,rel} = 52$

### NRS18; adapted (a) CIELAB data

	$L^* = L^*_{ab}$	$a^*_{ab}$	$b^*_{ab}$	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	56.7	70.66	31.47	77.35	24
JMa	56.7	-1.39	77.37	77.39	91
GMa	56.7	-75.46	17.4	77.45	167
G50BMa	56.7	-71.29	-30.25	77.45	203
BMa	56.7	4.0	-77.3	77.41	273
B50RMa	56.7	63.35	-44.4	77.36	325
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	272

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

## Input: Colorimetric Reflective System MRS18

for hue  $h^* = lab^*h = 271/360 = 0.754$

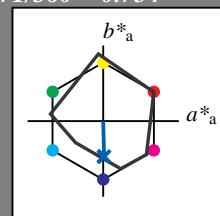
$lab^*tch$  and  $lab^*nch$

D65: hue B

LCH\*Ma: 40 50 271

olv\*Ma: 0.0 0.37 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

%Gamut

$u^*_{rel} = 91$

%Regularity

$g^*_{H,rel} = 41$

$g^*_{C,rel} = 52$

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

$LAB^*LABa$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 -

$lab^*ncE$  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 0.5

$cmyn^4*$  0.0 0.0 0.0 0.5

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 CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.5 0.0 0.0

$lab^*tce$  0.5 0.0 -

$lab^*ncE$  0.5 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)

$olv^4*$  1.0 1.0 1.0 0.0

$cmyn^4*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.5 -0.46

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*tce$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

relative Inform. Technology (IT)

$olv^3*$  0.0 0.0 0.0 (1.0)

$cmyn^3*$  1.0 1.0 1.0 (0.0)

$olv^4*$  1.0 1.0 1.0 0.0

$cmyn^4*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.5 -0.46

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*tce$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

relative CIELAB lab\*

$lab^*lab$  0.14 0.012 -0.499

$lab^*tch$  0.25 0.5 0.754

$lab^*nch$  0.5 0.5 0.754

relative Natural Colour (NC)

$lab^*lrij$  0.14 0.0 -0.499

$lab^*tce$  0.25 0.5 0.75

$lab^*ncE$  0.5 0.5 600r

$n^* = 0,00$

blackness  $n^*$

chromaticness  $c^*$

## Output: Colorimetric Reflective System NCS18

for hue  $h^* = lab^*h = 272/360 = 0.755$

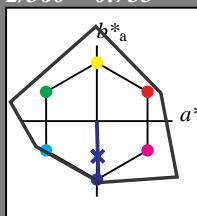
$lab^*tch$  and  $lab^*nch$

D65: hue B

LCH\*Ma: 49 80 272

olv\*Ma: 0.0 0.02 1.0

triangle lightness  $t^*$



### NCS18; adapted (a) CIELAB data

	$L^* = L^*_a$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	47.15	84.63	37.24	92.46	24
JMa	91.37	-1.27	125.03	125.03	91
GMa	63.07	-114.29	25.34	117.07	167
G50BMa	59.47	-80.61	-33.45	87.29	203
BMa	49.01	3.63	-81.2	81.29	273
B50RMa	44.06	106.07	-73.94	129.31	325
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	272

%Gamut

$u^*_{rel} = 136$

%Regularity

$g^*_{H,rel} = 46$

$g^*_{C,rel} = 65$

relative Inform. Technology (IT)

$olv^3*$  0.5 0.580 1.0 (1.0)

$cmyn^3*$  0.5 0.492 0.0 (0.0)

$olv^4*$  0.5 0.508 1.0 1.0

$cmyn^4*$  0.5 0.492 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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 -

$lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)

$olv^3*$  0.0 0.008 0.5 (1.0)

$cmyn^3*$  1.0 0.992 0.5 (0.0)

$olv^4*$  0.5 0.508 1.0 0.5

$cmyn^4*$  0.5 0.492 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  49.18 2.37 -80.41

$LAB^*LABa$  49.18 2.3 -80.43

$LAB^*TChA$  50.0 80.47 271.64

relative CIELAB lab\*

$lab^*lab$  0.403 0.029 -0.998

$lab^*tch$  0.5 1.0 0.755

$lab^*nch$  0.0 1.0 0.755

relative Natural Colour (NC)

$lab^*lrij$  0.403 0.0 -0.999

$lab^*tce$  0.5 1.0 0.75

$lab^*ncE$  0.0 1.0 600r

$n^* = 0,00$

blackness  $n^*$

chromaticness  $c^*$

$n^* = 1,0$

3 step scales for constant CIELAB hue 272/360 = 0.755 (right)

UE100-7, 3 step scales for constant CIELAB hue 271/360 = 0.754 (left)

## Input: Colorimetric Reflective System MRS18

for hue  $h^* = lab^*h = 271/360 = 0.754$

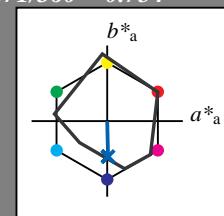
$lab^*tch$  and  $lab^*nch$

D65: hue B

LCH\*Ma: 40 50 271

olv\*Ma: 0.0 0.37 1.0

triangle lightness  $t^*$



relative Inform. Technology (IT)

olv*i3*\* 1.0 1.0 1.0 (1.0)

cmy*n3*\* 0.0 0.0 0.0 (0.0)

olv*i4*\* 1.0 1.0 1.0 1.0

cmy*n4*\* 0.0 0.0 0.0 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 0.0 0.0

lab\*tch 1.0 0.0 -

lab\*nch 0.0 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 -

standard and adapted CIELAB

LAB\*LAB 67.57 0.17 -22.28

LAB\*LABa 67.57 0.61 -25.16

LAB\*TChA 75.0 25.18 271.4

relative CIELAB lab\*

lab\*lab 0.64 0.012 -0.499

lab\*tch 0.75 0.5 0.754

lab\*nch 0.0 0.5 0.754

relative Natural Colour (NC)

lab\*lrj 0.64 0.0 -0.499

lab\*tce 0.75 0.5 0.75

lab\*ncE 0.0 0.5 g99b

relative Inform. Technology (IT)

olv*i3*\* 0.5 0.5 0.5 (1.0)

cmy*n3*\* 0.5 0.5 0.5 (0.0)

olv*i4*\* 1.0 1.0 1.0 0.5

cmy*n4*\* 0.0 0.0 0.0 0.5

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 CIELAB lab\*

lab\*lab 0.5 0.0 0.0

lab\*tch 0.5 0.0 -

lab\*nch 0.5 0.0 -

relative Natural Colour (NC)

lab\*lrj 0.5 0.0 0.0

lab\*tce 0.5 0.0 0.0

lab\*ncE 0.5 0.0 -

$n^* = 1,0$

## MRS18; adapted (a) CIELAB data

$L^*=L^*_{a,a}$   $a^*_{a,a}$   $b^*_{a,a}$   $C^*_{ab,a}$   $h^*_{ab,a}$

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

%Gamut

$u^*_{rel} = 91$

%Regularity

$g^*_{H,rel} = 41$

$g^*_{C,rel} = 52$

relative Inform. Technology (IT)

olv*i3*\* 0.5 0.684 1.0 (1.0)

cmy*n3*\* 0.5 0.316 0.0 (0.0)

olv*i4*\* 0.5 0.684 1.0 1.0

cmy*n4*\* 0.5 0.316 0.0 0.0

standard and adapted CIELAB

LAB\*LAB 67.57 0.17 -22.28

LAB\*LABa 67.57 0.61 -25.16

LAB\*TChA 75.0 25.18 271.4

relative CIELAB lab\*

lab\*lab 0.64 0.012 -0.499

lab\*tch 0.75 0.5 0.754

lab\*nch 0.0 0.5 0.754

relative Natural Colour (NC)

lab\*lrj 0.64 0.0 -0.499

lab\*tce 0.75 0.5 0.75

lab\*ncE 0.0 0.5 g99b

relative Inform. Technology (IT)

olv*i3*\* 0.0 0.367 1.0 (1.0)

cmy*n3*\* 1.0 0.633 0.0 (0.0)

olv*i4*\* 0.0 0.367 1.0 1.0

cmy*n4*\* 1.0 0.633 0.0 0.0

standard and adapted CIELAB

LAB\*LAB 39.73 1.32 -49.33

LAB\*LABa 39.73 1.23 -50.34

LAB\*TChA 50.0 50.36 271.41

relative CIELAB lab\*

lab\*lab 0.281 0.025 -0.998

lab\*tch 0.5 1.0 0.754

lab\*nch 0.0 1.0 0.754

relative Natural Colour (NC)

lab\*lrj 0.281 0.0 -0.999

lab\*tce 0.5 1.0 0.75

lab\*ncE 0.0 1.0 b00r

relative Inform. Technology (IT)

olv*i3*\* 0.0 0.184 0.5 (1.0)

cmy*n3*\* 1.0 0.816 0.5 (0.0)

olv*i4*\* 0.5 0.684 1.0 0.5

cmy*n4*\* 0.5 0.316 0.0 0.5

standard and adapted CIELAB

LAB\*LAB 28.87 0.92 -24.9

LAB\*LABa 28.87 0.62 -25.16

LAB\*TChA 25.01 25.18 271.41

relative CIELAB lab\*

lab\*lab 0.14 0.012 -0.499

lab\*tch 0.25 0.5 0.754

lab\*nch 0.5 0.5 0.754

relative Natural Colour (NC)

lab\*lrj 0.14 0.0 -0.499

lab\*tce 0.25 0.5 0.75

lab\*ncE 0.5 0.5 b00r

$n^* = 0,00$



blackness  $n^*$

chromaticness  $c^*$

## Output: Colorimetric Reflective System NRS11

for hue  $h^* = lab^*h = 272/360 = 0.755$

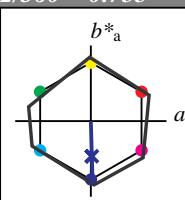
$lab^*tch$  and  $lab^*nch$

D65: hue B

LCH\*Ma: 53 83 272

olv\*Ma: 0.0 0.02 1.0

triangle lightness  $t^*$



%Gamut

$u^*_{rel} = 119$

%Regularity

$g^*_{H,rel} = 47$

$g^*_{C,rel} = 100$

relative Inform. Technology (IT)

olv*i3*\* 1.0 1.0 1.0 (1.0)

cmy*n3*\* 0.0 0.0 0.0 (0.0)

olv*i4*\* 1.0 1.0 1.0 1.0

cmy*n4*\* 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 0.0 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)

olv*i3*\* 0.0 0.024 1.0 (1.0)

cmy*n3*\* 1.0 0.976 0.0 (0.0)

olv*i4*\* 0.0 0.024 1.0 1.0

cmy*n4*\* 1.0 0.976 0.0 0.0

standard and adapted CIELAB

LAB\*LAB 74.3 1.23 -41.51

LAB\*LABa 74.3 1.2 41.52

LAB\*TChA 75.0 41.54 271.66

relative CIELAB lab\*

lab\*lab 0.75 0.014 -0.499

lab\*tch 0.75 0.5 0.755

lab\*nch 0.0 0.5 0.755

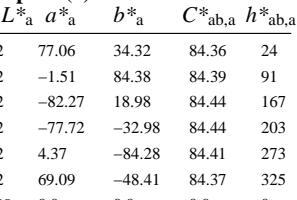
relative Natural Colour (NC)

lab\*lrj 0.75 0.0 -0.499

lab\*tce 0.75 0.5 0.75

lab\*ncE 0.5 0.5 b00r

$n^* = 1,0$



%Gamut

$u^*_{rel} = 119$

%Regularity

$g^*_{H,rel} = 47$

$g^*_{C,rel} = 100$

relative Inform. Technology (IT)

olv*i3*\* 1.0 1.0 1.0 (1.0)

cmy*n3*\* 0.5 0.488 0.0 (0.0)

olv*i4*\* 0.5 0.512 1.0 1.0

cmy*n4*\* 0.5 0.488 0.0 0.0

standard and adapted CIELAB

LAB\*LAB 74.3 1.23 -41.51

LAB\*LABa 74.3 1.2 41.52

LAB\*TChA 75.0 41.54 271.66

relative CIELAB lab\*

lab\*lab 0.75 0.014 -0.499

lab\*tch 0.75 0.5 0.755

lab\*nch 0.0 0.5 0.755

relative Natural Colour (NC)

lab\*lrj 0.75 0.0 -0.499

lab\*tce 0.75 0.5 0.75

lab\*ncE 0.5 0.5 b00r

$n^* = 1,0$



blackness  $n^*$

chromaticness  $c^*$

UE100-7, 3 step scales for constant CIELAB hue 271/360 = 0.754 (left)

3 step scales for constant CIELAB hue 272/360 = 0.755 (right)

$n^* = 0,00$



blackness  $n^*$

## Input: Colorimetric Reflective System MRS18

for hue  $h^* = lab^*h = 271/360 = 0.754$

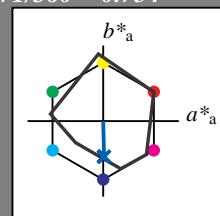
$lab^*tch$  and  $lab^*nch$

D65: hue B

LCH\*Ma: 40 50 271

olv\*Ma: 0.0 0.37 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

%Gamut

$u^*_{rel} = 91$

%Regularity

$g^*_{H,rel} = 41$

$g^*_{C,rel} = 52$

relative Inform. Technology (IT)

$olv^3*$  1.0 1.0 1.0 (1.0)

$cmy^3*$  0.0 0.0 0.0 (0.0)

$olv^4*$  1.0 1.0 1.0 1.0

$cmy^4*$  0.0 0.0 0.0 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 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 -

$lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)

$olv^3*$  0.5 0.5 0.5 (1.0)

$cmy^3*$  0.5 0.5 0.5 (0.0)

$olv^4*$  1.0 1.0 1.0 0.5

$cmy^4*$  0.0 0.0 0.0 0.5

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 CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.5 0.0 0.0

$lab^*tce$  0.5 0.0 -

$lab^*ncE$  0.5 0.0 -

relative Inform. Technology (IT)

$olv^3*$  0.0 0.0 0.0 (1.0)

$cmy^3*$  1.0 1.0 1.0 (0.0)

$olv^4*$  1.0 1.0 1.0 0.0

$cmy^4*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.5 -0.46

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*tce$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

relative Inform. Technology (IT)

$olv^3*$  0.0 0.0 0.0 (1.0)

$cmy^3*$  1.0 1.0 1.0 (0.0)

$olv^4*$  1.0 1.0 1.0 0.0

$cmy^4*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.5 -0.46

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*tce$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

relative Inform. Technology (IT)

$olv^3*$  0.0 0.0 0.0 (1.0)

$cmy^3*$  1.0 1.0 1.0 (0.0)

$olv^4*$  1.0 1.0 1.0 0.0

$cmy^4*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.5 -0.46

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*tce$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

relative Inform. Technology (IT)

$olv^3*$  0.0 0.0 0.0 (1.0)

$cmy^3*$  1.0 1.0 1.0 (0.0)

$olv^4*$  1.0 1.0 1.0 0.0

$cmy^4*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.5 -0.46

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*tce$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

relative Inform. Technology (IT)

$olv^3*$  0.0 0.0 0.0 (1.0)

$cmy^3*$  1.0 1.0 1.0 (0.0)

$olv^4*$  1.0 1.0 1.0 0.0

$cmy^4*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.5 -0.46

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*tce$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

relative Inform. Technology (IT)

$olv^3*$  0.0 0.0 0.0 (1.0)

$cmy^3*$  1.0 1.0 1.0 (0.0)

$olv^4*$  1.0 1.0 1.0 0.0

$cmy^4*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.5 -0.46

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*tce$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

relative Inform. Technology (IT)

$olv^3*$  0.0 0.0 0.0 (1.0)

$cmy^3*$  1.0 1.0 1.0 (0.0)

$olv^4*$  1.0 1.0 1.0 0.0

$cmy^4*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.5 -0.46

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*tce$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

relative Inform. Technology (IT)

$olv^3*$  0.0 0.0 0.0 (1.0)

$cmy^3*$  1.0 1.0 1.0 (0.0)

$olv^4*$  1.0 1.0 1.0 0.0

$cmy^4*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.5 -0.46

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*tce$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

relative Inform. Technology (IT)

$olv^3*$  0.0 0.0 0.0 (1.0)

$cmy^3*$  1.0 1.0 1.0 (0.0)

$olv^4*$  1.0 1.0 1.0 0.0

$cmy^4*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.5 -0.46

### Input: Colorimetric Reflective System TRS18

for hue  $h^* = lab^*h = 271/360 = 0.754$

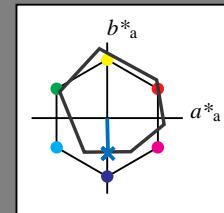
$lab^*tch$  and  $lab^*nch$

D65: hue B

LCH\*Ma: 42 45 271

olv\*Ma: 0.0 0.49 1.0

triangle lightness  $t^*$



### TRS18; adapted (a) CIELAB data

	$L^* = L_a^*$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
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)

$olv_i3^*$  1.0 1.0 1.0 (1.0)

$cmy_n3^*$  0.0 0.0 0.0 (0.0)

$olv_i4^*$  1.0 1.0 1.0 1.0

$cmy_n4^*$  0.0 0.0 0.0 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 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  1.0 0.0 0.0

$lab^*ice$  1.0 0.0 -

$lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)

$olv_i3^*$  0.5 0.5 0.5 (1.0)

$cmy_n3^*$  0.5 0.5 0.5 (0.0)

$olv_i4^*$  1.0 1.0 1.0 0.5

$cmy_n4^*$  0.0 0.0 0.0 0.5

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 CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  0.5 0.0 0.0

$lab^*ice$  0.5 0.0 -

$lab^*ncE$  0.5 0.0 -

relative Inform. Technology (IT)

$olv_i3^*$  0.0 0.0 0.0 (1.0)

$cmy_n3^*$  1.0 1.0 1.0 (0.0)

$olv_i4^*$  1.0 1.0 1.0 0.0

$cmy_n4^*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.5 -0.46

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

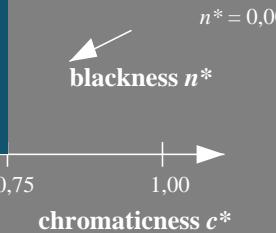
relative Natural Colour (NC)

$lab^*lrj$  0.0 0.0 0.0

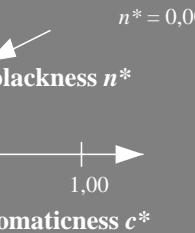
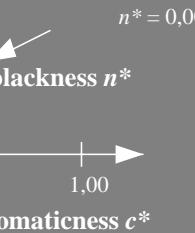
$lab^*ice$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$



chromaticness  $c^*$



### Output: Colorimetric Reflective System ORS18

for hue  $h^* = lab^*h = 271/360 = 0.754$

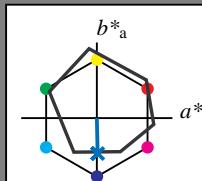
$lab^*tch$  and  $lab^*nch$

D65: hue B

LCH\*Ma: 42 45 271

olv\*Ma: 0.0 0.49 1.0

triangle lightness  $t^*$



### ORS18; adapted (a) CIELAB data

	$L^* = L_a^*$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
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)

$olv_i3^*$  1.0 1.0 1.0 (1.0)

$cmy_n3^*$  0.0 0.0 0.0 (0.0)

$olv_i4^*$  1.0 1.0 1.0 1.0

$cmy_n4^*$  0.0 0.0 0.0 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 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  1.0 0.0 0.0

$lab^*ice$  1.0 0.0 -

$lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)

$olv_i3^*$  0.5 0.5 0.5 (1.0)

$cmy_n3^*$  0.5 0.5 0.5 (0.0)

$olv_i4^*$  1.0 1.0 1.0 0.5

$cmy_n4^*$  0.0 0.0 0.0 0.5

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 CIELAB lab\*

$lab^*lab$  0.307 0.024 -0.998

$lab^*tch$  0.5 1.0 0.754

$lab^*nch$  0.0 1.0 0.754

relative Natural Colour (NC)

$lab^*lrj$  0.307 0.0 -0.999

$lab^*ice$  0.5 1.0 0.75

$lab^*ncE$  0.0 1.0 b00r

relative Inform. Technology (IT)

$olv_i3^*$  0.0 0.0 0.0 (1.0)

$cmy_n3^*$  1.0 1.0 1.0 (0.0)

$olv_i4^*$  1.0 1.0 1.0 0.0

$cmy_n4^*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.5 -0.46

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.154 0.012 -0.499

$lab^*tch$  0.25 0.5 0.754

$lab^*nch$  0.5 0.5 0.754

relative Natural Colour (NC)

$lab^*lrj$  0.154 0.0 -0.499

$lab^*ice$  0.25 0.5 0.75

$lab^*ncE$  0.5 0.5 b00r

$n^* = 1,0$



UE100-7, 3 step scales for constant CIELAB hue 271/360 = 0.754 (left)

3 step scales for constant CIELAB hue 271/360 = 0.754 (right)

## Input: Colorimetric Reflective System TRS18

for hue  $h^* = lab^*h = 271/360 = 0.754$

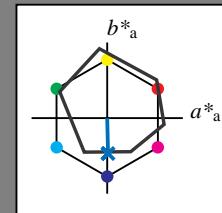
$lab^*tch$  and  $lab^*nch$

D65: hue B

LCH\*Ma: 42 45 271

olv\*Ma: 0.0 0.49 1.0

triangle lightness  $t^*$



### TRS18; adapted (a) CIELAB data

	$L^* = L^*_{ab,a}$	$a^*_{ab,a}$	$b^*_{ab,a}$	$C^*_{ab,a}$	$h^*_{ab,a}$
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)  
 $olv_i3^*$  1.0 1.0 1.0 (1.0)  
 $cmy_n3^*$  0.0 0.0 0.0 (0.0)  
 $olv_i4^*$  1.0 1.0 1.0 1.0  
 $cmy_n4^*$  0.0 0.0 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  95.41 -0.97 4.75

$LAB^*LAB_a$  95.41 0.0 0.0

$LAB^*TCh_a$  99.99 0.01 -

relative CIELAB lab\*

$lab^*lab$  1.0 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 -

$lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)  
 $olv_i3^*$  0.5 0.5 0.5 (1.0)  
 $cmy_n3^*$  0.5 0.5 0.5 (0.0)  
 $olv_i4^*$  1.0 1.0 1.0 0.5  
 $cmy_n4^*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  56.71 -0.23 2.14

$LAB^*LAB_a$  56.71 0.0 0.0

$LAB^*TCh_a$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.5 0.0 0.0

$lab^*tce$  0.5 0.0 -

$lab^*ncE$  0.5 0.0 -

relative Inform. Technology (IT)  
 $olv_i3^*$  0.0 0.0 0.0 (1.0)  
 $cmy_n3^*$  1.0 1.0 1.0 (0.0)  
 $olv_i4^*$  1.0 1.0 1.0 0.0  
 $cmy_n4^*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.5 -0.46

$LAB^*LAB_a$  18.02 0.0 0.0

$LAB^*TCh_a$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

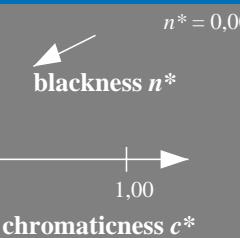
relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*tce$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$



## Output: Colorimetric Reflective System MRS18

for hue  $h^* = lab^*h = 271/360 = 0.754$

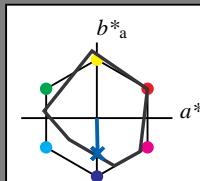
$lab^*tch$  and  $lab^*nch$

D65: hue B

LCH\*Ma: 40 50 271

olv\*Ma: 0.0 0.37 1.0

triangle lightness  $t^*$



### MRS18; adapted (a) CIELAB data

	$L^* = L^*_{ab,a}$	$a^*_{ab,a}$	$b^*_{ab,a}$	$C^*_{ab,a}$	$h^*_{ab,a}$
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)  
 $olv_i3^*$  1.0 1.0 1.0 (1.0)  
 $cmy_n3^*$  0.0 0.0 0.0 (0.0)  
 $olv_i4^*$  1.0 1.0 1.0 1.0  
 $cmy_n4^*$  0.0 0.0 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  95.41 -0.97 4.75

$LAB^*LAB_a$  95.41 0.0 0.0

$LAB^*TCh_a$  99.99 0.01 -

relative CIELAB lab\*

$lab^*lab$  1.0 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 -

$lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)  
 $olv_i3^*$  0.5 0.684 1.0 (1.0)  
 $cmy_n3^*$  0.5 0.316 0.0 (0.0)  
 $olv_i4^*$  0.5 0.684 1.0 1.0  
 $cmy_n4^*$  0.5 0.316 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  67.57 0.17 -22.28

$LAB^*LAB_a$  67.57 0.61 -25.16

$LAB^*TCh_a$  75.0 25.18 271.4

relative CIELAB lab\*

$lab^*lab$  0.64 0.012 -0.499

$lab^*tch$  0.75 0.5 0.754

$lab^*nch$  0.5 0.5 0.754

relative Natural Colour (NC)

$lab^*lrij$  0.64 0.0 -0.499

$lab^*tce$  0.75 0.5 0.75

$lab^*ncE$  0.0 0.5 g99b

relative Inform. Technology (IT)  
 $olv_i3^*$  0.0 0.488 1.0 (1.0)  
 $cmy_n3^*$  1.0 0.512 0.0 (0.0)  
 $olv_i4^*$  0.0 0.488 1.0 1.0  
 $cmy_n4^*$  1.0 0.512 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  56.71 -0.23 2.14

$LAB^*LAB_a$  56.71 0.0 0.0

$LAB^*TCh_a$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.307 0.024 -0.998

$lab^*tch$  0.5 1.0 0.754

$lab^*nch$  0.0 1.0 0.754

relative Natural Colour (NC)

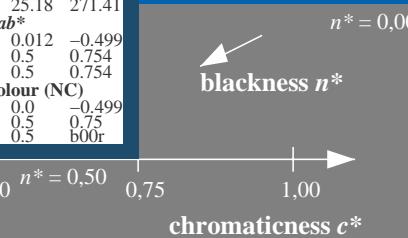
$lab^*lrij$  0.307 0.0 -0.999

$lab^*tce$  0.5 1.0 0.75

$lab^*ncE$  0.0 1.0 b60r

$n^* = 0,00$

$n^* = 1,0$



UE100-7, 3 step scales for constant CIELAB hue 271/360 = 0.754 (left)

3 step scales for constant CIELAB hue 271/360 = 0.754 (right)

### Input: Colorimetric Reflective System TRS18

for hue  $h^* = lab^*h = 271/360 = 0.754$

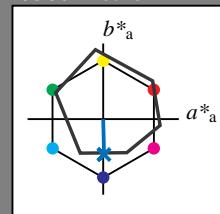
$lab^*tch$  and  $lab^*nch$

D65: hue B

LCH\*Ma: 42 45 271

olv\*Ma: 0.0 0.49 1.0

triangle lightness  $t^*$



### TRS18; adapted (a) CIELAB data

	$L^* = L_a^*$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
O Ma	47.94	65.37	50.52	82.62	38
Y Ma	90.37	-10.27	91.77	92.34	96
L Ma	50.9	-62.79	34.95	71.87	151
C Ma	58.62	-30.35	-45.01	54.3	236
V Ma	25.71	31.11	-44.42	54.24	305
M Ma	48.13	75.27	-8.35	75.73	354
N Ma	18.01	0.0	0.0	0.0	0
W Ma	95.41	0.0	0.0	0.0	0
R CIE	39.92	58.66	26.98	64.56	25
J CIE	81.26	-2.17	67.76	67.79	92
G CIE	52.23	-42.26	11.75	43.87	164
B CIE	30.57	1.15	-46.84	46.87	271

relative Inform. Technology (IT)  
 $olv_i3^*$  1.0 1.0 1.0 (1.0)  
 $cmyn3^*$  0.0 0.0 0.0 (0.0)  
 $olv_i4^*$  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  
 $LAB^*LABa$  95.41 0.0 0.0  
 $LAB^*TCh$  99.99 0.01 -

relative CIELAB lab\*  
 $lab^*lab$  1.0 0.0 0.0  
 $lab^*tch$  1.0 0.0 -  
 $lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  1.0 0.0 0.0

$lab^*ice$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)  
 $olv_i3^*$  0.5 0.5 0.5 (1.0)  
 $cmyn3^*$  0.5 0.5 0.5 (0.0)  
 $olv_i4^*$  0.5 0.744 1.0 1.0  
 $cmyn4^*$  0.5 0.256 0.0 0.0

standard and adapted CIELAB  
 $LAB^*LAB$  68.59 0.08 -19.4  
 $LAB^*LABa$  68.59 0.54 -22.35  
 $LAB^*TCh$  75.0 22.36 271.4

relative CIELAB lab\*  
 $lab^*lab$  0.654 0.012 -0.499  
 $lab^*tch$  0.75 0.5 0.754  
 $lab^*nch$  0.0 0.5 0.754

relative Natural Colour (NC)

$lab^*lrj$  0.654 0.0 -0.499

$lab^*ice$  0.75 0.5 0.75

$lab^*ncE$  0.0 0.5 g99b

relative Inform. Technology (IT)  
 $olv_i3^*$  0.0 0.0 0.0 (1.0)  
 $cmyn3^*$  1.0 1.0 1.0 (0.0)  
 $olv_i4^*$  1.0 1.0 1.0 0.0  
 $cmyn4^*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB  
 $LAB^*LAB$  18.02 0.5 -0.46  
 $LAB^*LABa$  18.02 0.0 0.0  
 $LAB^*TCh$  0.01 0.01 -

relative CIELAB lab\*  
 $lab^*lab$  0.0 0.0 0.0  
 $lab^*tch$  0.0 0.0 -  
 $lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  0.0 0.0 0.0

$lab^*ice$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

$n^* = 0,00$

blackness  $n^*$

0,25 0,50  $n^* = 0,50$  0,75

chromaticness  $c^*$

1,00

1,00

### Output: Colorimetric Reflective System TRS18

for hue  $h^* = lab^*h = 271/360 = 0.754$

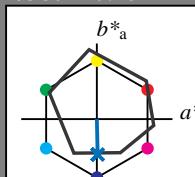
$lab^*tch$  and  $lab^*nch$

D65: hue B

LCH\*Ma: 42 45 271

olv\*Ma: 0.0 0.49 1.0

triangle lightness  $t^*$



### TRS18; adapted (a) CIELAB data

	$L^* = L_a^*$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
O Ma	47.94	65.37	50.52	82.62	38
Y Ma	90.37	-10.27	91.77	92.34	96
L Ma	50.9	-62.79	34.95	71.87	151
C Ma	58.62	-30.35	-45.01	54.3	236
V Ma	25.71	31.11	-44.42	54.24	305
M Ma	48.13	75.27	-8.35	75.73	354
N Ma	18.01	0.0	0.0	0.0	0
W Ma	95.41	0.0	0.0	0.0	0
R CIE	39.92	58.66	26.98	64.56	25
J CIE	81.26	-2.17	67.76	67.79	92
G CIE	52.23	-42.26	11.75	43.87	164
B CIE	30.57	1.15	-46.84	46.87	271

relative Inform. Technology (IT)  
 $olv_i3^*$  1.0 1.0 1.0 (1.0)  
 $cmyn3^*$  0.0 0.0 0.0 (0.0)  
 $olv_i4^*$  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  
 $LAB^*LABa$  95.41 0.0 0.0  
 $LAB^*TCh$  99.99 0.01 -

relative CIELAB lab\*  
 $lab^*lab$  1.0 0.0 0.0  
 $lab^*tch$  1.0 0.0 -  
 $lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  1.0 0.0 0.0

$lab^*ice$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)  
 $olv_i3^*$  0.5 0.5 0.5 (1.0)  
 $cmyn3^*$  0.5 0.5 0.5 (0.0)  
 $olv_i4^*$  0.5 0.744 1.0 1.0  
 $cmyn4^*$  0.5 0.256 0.0 0.0

standard and adapted CIELAB  
 $LAB^*LAB$  68.59 0.08 -19.4  
 $LAB^*LABa$  68.59 0.54 -22.35  
 $LAB^*TCh$  75.0 22.36 271.4

relative CIELAB lab\*  
 $lab^*lab$  0.654 0.012 -0.499  
 $lab^*tch$  0.75 0.5 0.754  
 $lab^*nch$  0.0 0.5 0.754

relative Natural Colour (NC)

$lab^*lrj$  0.654 0.0 -0.499

$lab^*ice$  0.75 0.5 0.75

$lab^*ncE$  0.0 0.5 g99b

relative Inform. Technology (IT)  
 $olv_i3^*$  0.0 0.0 0.0 (1.0)  
 $cmyn3^*$  1.0 1.0 1.0 (0.0)  
 $olv_i4^*$  1.0 1.0 1.0 0.0  
 $cmyn4^*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB  
 $LAB^*LAB$  18.02 0.5 -0.46  
 $LAB^*LABa$  18.02 0.0 0.0  
 $LAB^*TCh$  0.01 0.01 -

relative CIELAB lab\*  
 $lab^*lab$  0.0 0.0 0.0  
 $lab^*tch$  0.0 0.0 -  
 $lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  0.0 0.0 0.0

$lab^*ice$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

$n^* = 0,00$

$n^* = 0,00$

blackness  $n^*$

0,25 0,50  $n^* = 0,50$  0,75

chromaticness  $c^*$

1,00

1,00

UE100-7, 3 step scales for constant CIELAB hue 271/360 = 0.754 (left)

3 step scales for constant CIELAB hue 271/360 = 0.754 (right)

### Input: Colorimetric Reflective System TRS18

for hue  $h^* = lab^*h = 271/360 = 0.754$

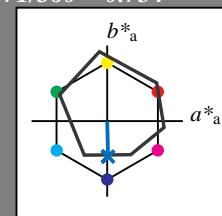
$lab^*tch$  and  $lab^*nch$

D65: hue B

LCH\*Ma: 42 45 271

olv\*Ma: 0.0 0.49 1.0

triangle lightness  $t^*$



%Gamut

$u^*_{rel} = 93$

%Regularity

$g^*_{H,rel} = 57$

$g^*_{C,rel} = 59$

relative Inform. Technology (IT)

$olv13^*$  1.0 1.0 1.0 (1.0)

$cmyn3^*$  0.0 0.0 0.0 (0.0)

$olv14^*$  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

$LAB^*LABa$  95.41 0.0 0.0

$LAB^*TCh$  99.99 0.01 -

relative CIELAB lab\*

$lab^*lab$  1.0 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 -

$lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)

$olv13^*$  0.5 0.5 0.5 (1.0)

$cmyn3^*$  0.5 0.5 0.5 (0.0)

$olv14^*$  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

$LAB^*LABa$  56.71 0.0 0.0

$LAB^*TCh$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.5 0.0 0.0

$lab^*tce$  0.5 0.0 -

$lab^*ncE$  0.5 0.0 -

relative Inform. Technology (IT)

$olv13^*$  0.0 0.0 0.0 (1.0)

$cmyn3^*$  1.0 1.0 1.0 (0.0)

$olv14^*$  1.0 1.0 1.0 0.0

$cmyn4^*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.5 -0.46

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TCh$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*tce$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

### TRS18; adapted (a) CIELAB data

$L^*=L^*_{ab,a}$   $a^*_{ab,a}$   $b^*_{ab,a}$   $C^*_{ab,a}$   $h^*_{ab,a}$

	$O_{Ma}$	$Y_{Ma}$	$L_{Ma}$	$C_{Ma}$	$V_{Ma}$	$M_{Ma}$	$N_{Ma}$	$W_{Ma}$	$R_{CIE}$	$J_{CIE}$	$G_{CIE}$	$B_{CIE}$
	47.94	65.37	50.52	82.62	38							
	90.37	-10.27	91.77	92.34	96							
	50.9	-62.79	34.95	71.87	151							
	58.62	-30.35	-45.01	54.3	236							
	25.71	31.11	-44.42	54.24	305							
	48.13	75.27	-8.35	75.73	354							
	18.01	0.0	0.0	0.0	0							
	95.41	0.0	0.0	0.0	0							
	39.92	58.66	26.98	64.56	25							
	81.26	-2.17	67.76	67.79	92							
	52.23	-42.26	11.75	43.87	164							
	30.57	1.15	-46.84	46.87	271							

relative Inform. Technology (IT)

$olv13^*$  1.0 1.0 1.0 (1.0)

$cmyn3^*$  0.0 0.0 0.0 (0.0)

$olv14^*$  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

$LAB^*LABa$  95.41 0.0 0.0

$LAB^*TCh$  99.99 0.01 -

relative CIELAB lab\*

$lab^*lab$  1.0 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 -

$lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)

$olv13^*$  0.5 0.5 0.5 (1.0)

$cmyn3^*$  0.5 0.5 0.5 (0.0)

$olv14^*$  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

$LAB^*LABa$  56.71 0.0 0.0

$LAB^*TCh$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.5 0.0 0.0

$lab^*tce$  0.5 0.0 -

$lab^*ncE$  0.5 0.0 -

relative Inform. Technology (IT)

$olv13^*$  0.0 0.0 0.0 (1.0)

$cmyn3^*$  1.0 1.0 1.0 (0.0)

$olv14^*$  1.0 1.0 1.0 0.0

$cmyn4^*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.5 -0.46

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TCh$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*tce$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

relative Inform. Technology (IT)

$olv13^*$  0.0 0.0 0.0 (1.0)

$cmyn3^*$  1.0 1.0 1.0 (0.0)

$olv14^*$  1.0 1.0 1.0 0.0

$cmyn4^*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.5 -0.46

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TCh$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*tce$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

relative Inform. Technology (IT)

$olv13^*$  0.0 0.0 0.0 (1.0)

$cmyn3^*$  1.0 1.0 1.0 (0.0)

$olv14^*$  1.0 1.0 1.0 0.0

$cmyn4^*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.5 -0.46

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TCh$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*tce$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

relative Inform. Technology (IT)

$olv13^*$  0.0 0.0 0.0 (1.0)

$cmyn3^*$  1.0 1.0 1.0 (0.0)

$olv14^*$  1.0 1.0 1.0 0.0

$cmyn4^*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.5 -0.46

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TCh$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*tce$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

relative Inform. Technology (IT)

$olv13^*$  0.0 0.0 0.0 (1.0)

$cmyn3^*$  1.0 1.0 1.0 (0.0)

$olv14^*$  1.0 1.0 1.0 0.0

$cmyn4^*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.5 -0.46

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TCh$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

### Input: Colorimetric Reflective System TRS18

for hue  $h^* = lab^*h = 271/360 = 0.754$

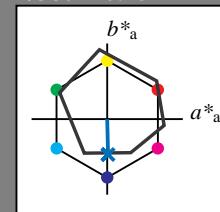
$lab^*tch$  and  $lab^*nch$

D65: hue B

LCH\*Ma: 42 45 271

olv\*Ma: 0.0 0.49 1.0

triangle lightness  $t^*$



### TRS18; adapted (a) CIELAB data

	$L^* = L_a^*$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
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)

$olv_i3^*$  1.0 1.0 1.0 (1.0)

$cmy_n3^*$  0.0 0.0 0.0 (0.0)

$olv_i4^*$  1.0 1.0 1.0 1.0

$cmy_n4^*$  0.0 0.0 0.0 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 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  1.0 0.0 0.0

$lab^*ice$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  68.59 0.08 -19.4

$LAB^*LABa$  68.59 0.54 -22.35

$LAB^*TChA$  75.0 22.36 271.4

relative CIELAB lab\*

$lab^*lab$  0.654 0.012 -0.499

$lab^*tch$  0.75 0.5 0.754

$lab^*nch$  0.0 0.5 0.754

relative Natural Colour (NC)

$lab^*lrj$  0.654 0.0 -0.499

$lab^*ice$  0.75 0.5 0.75

$lab^*ncE$  0.0 0.5 g99b

relative Inform. Technology (IT)

$olv_i3^*$  0.5 0.5 0.5 (1.0)

$cmy_n3^*$  0.5 0.5 0.5 (0.0)

$olv_i4^*$  1.0 1.0 1.0 0.5

$cmy_n4^*$  0.0 0.0 0.0 0.5

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 CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  0.5 0.0 0.0

$lab^*ice$  0.5 0.0 0.0

$lab^*ncE$  0.5 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.05 -0.46

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  0.0 0.0 0.0

$lab^*ice$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

$n^* = 0,00$

$n^* = 0,50$

$n^* = 1,00$

$blackness n^*$

$chromaticness c^*$

### Output: Colorimetric Reflective System NRS18

for hue  $h^* = lab^*h = 272/360 = 0.755$

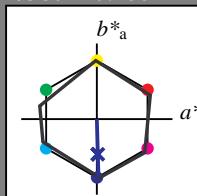
$lab^*tch$  and  $lab^*nch$

D65: hue B

LCH\*Ma: 57 76 272

olv\*Ma: 0.0 0.02 1.0

triangle lightness  $t^*$



### NRS18; adapted (a) CIELAB data

	$L^* = L_a^*$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	56.7	70.66	31.47	77.35	24
JMa	56.7	-1.39	77.37	77.39	91
GMa	56.7	-75.46	17.4	77.45	167
G50BMa	56.7	-71.29	-30.25	77.45	203
BMa	56.7	4.0	-77.3	77.41	273
B50RMa	56.7	63.35	-44.4	77.36	325
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	272

relative Inform. Technology (IT)

$olv_i3^*$  1.0 1.0 1.0 (1.0)

$cmy_n3^*$  0.0 0.0 0.0 (0.0)

$olv_i4^*$  1.0 1.0 1.0 1.0

$cmy_n4^*$  0.0 0.0 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  95.41 0.0 0.0

$LAB^*LABa$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  1.0 0.0 0.0

$lab^*ice$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  76.05 1.12 -38.06

$LAB^*LABa$  76.05 1.09 -38.07

$LAB^*TChA$  75.0 38.09 271.64

relative CIELAB lab\*

$lab^*lab$  0.75 0.014 -0.499

$lab^*tch$  0.75 0.5 0.755

$lab^*nch$  0.0 0.5 0.755

relative Natural Colour (NC)

$lab^*lrj$  0.75 0.0 -0.499

$lab^*ice$  0.75 0.5 0.75

$lab^*ncE$  0.0 0.5 g99b

relative Inform. Technology (IT)

$olv_i3^*$  0.5 0.5 0.5 (1.0)

$cmy_n3^*$  0.5 0.5 0.5 (0.0)

$olv_i4^*$  1.0 1.0 1.0 0.5

$cmy_n4^*$  0.5 0.488 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  56.7 2.23 -76.13

$LAB^*LABa$  56.7 2.18 -76.15

$LAB^*TChA$  50.0 76.19 271.64

relative CIELAB lab\*

$lab^*lab$  0.5 0.024 1.0 (1.0)

$lab^*tch$  0.976 0.0 (0.0)

$lab^*nch$  0.024 1.0 1.0

$cmy_n4^*$  1.0 0.976 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  37.36 1.17 -38.05

$LAB^*LABa$  37.36 1.09 -38.07

$LAB^*TChA$  25.01 38.1 271.65

relative CIELAB lab\*

$lab^*lab$  0.25 0.014 -0.499

$lab^*tch$  0.25 0.5 0.755

$lab^*nch$  0.5 0.5 0.755

relative Natural Colour (NC)

$lab^*lrj$  0.25 0.0 -0.499

$lab^*ice$  0.25 0.5 0.75

$lab^*ncE$  0.5 0.5 600r

$n^* = 0,00$

$blackness n^*$

$n^* = 1,00$

$n^* = 0,50$

$n^* = 1,00$

$chromaticness c^*$

$n^* = 1,0$

UE100-7, 3 step scales for constant CIELAB hue 271/360 = 0.754 (left)

3 step scales for constant CIELAB hue 272/360 = 0.755 (right)

### Input: Colorimetric Reflective System TRS18

for hue  $h^* = lab^*h = 271/360 = 0.754$

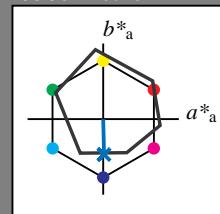
$lab^*tch$  and  $lab^*nch$

D65: hue B

LCH\*Ma: 42 45 271

olv\*Ma: 0.0 0.49 1.0

triangle lightness  $t^*$



### TRS18; adapted (a) CIELAB data

	$L^* = L_a^*$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
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

%Gamut

$u^*_{rel} = 93$

%Regularity

$g^*_{H,rel} = 57$

$g^*_{C,rel} = 59$

relative Inform. Technology (IT)

$olv^3*$  1.0 1.0 1.0 (1.0)

$cmy^3*$  0.0 0.0 0.0 (0.0)

$olv^4*$  1.0 1.0 1.0 1.0

$cmy^4*$  0.0 0.0 0.0 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 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  1.0 0.0 0.0

$lab^*ice$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)

$olv^3*$  0.5 0.5 0.5 (1.0)

$cmy^3*$  0.5 0.5 0.5 (0.0)

$olv^4*$  1.0 1.0 1.0 0.5

$cmy^4*$  0.0 0.0 0.0 0.5

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 CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  0.5 0.0 0.0

$lab^*ice$  0.5 0.0 0.0

$lab^*ncE$  0.5 0.0 -

$n^* = 1,0$

$n^* = 0,00$



$n^* = 0,50$

### Output: Colorimetric Reflective System NCS18

for hue  $h^* = lab^*h = 272/360 = 0.755$

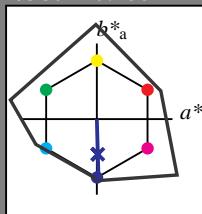
$lab^*tch$  and  $lab^*nch$

D65: hue B

LCH\*Ma: 49 80 272

olv\*Ma: 0.0 0.02 1.0

triangle lightness  $t^*$



### NCS18; adapted (a) CIELAB data

	$L^* = L_a^*$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	47.15	84.63	37.24	92.46	24
JMa	91.37	-1.27	125.03	125.03	91
GMa	63.07	-114.29	25.34	117.07	167
G50BMa	59.47	-80.61	-33.45	87.29	203
BMa	49.01	3.63	-81.2	81.29	273
B50RMa	44.06	106.07	-73.94	129.31	325
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	272

%Gamut

$u^*_{rel} = 136$

%Regularity

$g^*_{H,rel} = 46$

$g^*_{C,rel} = 65$

relative Inform. Technology (IT)

$olv^3*$  1.0 1.0 1.0 (1.0)

$cmy^3*$  0.0 0.0 0.0 (0.0)

$olv^4*$  1.0 1.0 1.0 1.0

$cmy^4*$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  1.0 0.0 0.0

$lab^*ice$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)

$olv^3*$  0.5 0.5 0.5 (1.0)

$cmy^3*$  0.5 0.5 0.5 (0.0)

$olv^4*$  1.0 1.0 1.0 0.5

$cmy^4*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  56.72 0.05 0.0

$LAB^*LABa$  56.72 0.0 0.0

$LAB^*TChA$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.307 0.024 -0.998

$lab^*tch$  0.5 1.0 0.754

$lab^*nch$  0.0 1.0 0.754

relative Natural Colour (NC)

$lab^*lrj$  0.307 0.0 -0.999

$lab^*ice$  0.5 1.0 0.75

$lab^*ncE$  0.0 1.0 0.600r

$n^* = 0,00$

$n^* = 0,00$



$n^* = 0,50$

$n^* = 1,00$

chromaticness  $c^*$

3 step scales for constant CIELAB hue 271/360 = 0.754 (left)

3 step scales for constant CIELAB hue 272/360 = 0.755 (right)

UE100-7, 3 step scales for constant CIELAB hue 271/360 = 0.754 (left)



### Input: Colorimetric Reflective System TRS18

for hue  $h^* = lab^*h = 271/360 = 0.754$

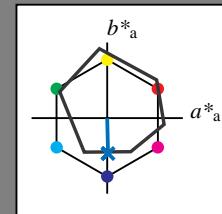
$lab^*tch$  and  $lab^*nch$

D65: hue B

LCH\*Ma: 42 45 271

olv\*Ma: 0.0 0.49 1.0

triangle lightness  $t^*$



### TRS18; adapted (a) CIELAB data

	$L^* = L_a^*$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
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

%Gamut

$u^*_{rel} = 93$

%Regularity

$g^*_{H,rel} = 57$

$g^*_{C,rel} = 59$

relative Inform. Technology (IT)

$olv^3*$  1.0 1.0 1.0 (1.0)

$cmy^3*$  0.0 0.0 0.0 (0.0)

$olv^4*$  1.0 1.0 1.0 1.0

$cmy^4*$  0.0 0.0 0.0 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 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 -

$lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)

$olv^3*$  0.5 0.5 0.5 (1.0)

$cmy^3*$  0.5 0.5 0.5 (0.0)

$olv^4*$  1.0 1.0 1.0 0.5

$cmy^4*$  0.0 0.0 0.0 0.5

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 CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.5 0.0 0.0

$lab^*tce$  0.5 0.0 -

$lab^*ncE$  0.5 0.0 -

relative Inform. Technology (IT)

$olv^3*$  0.0 0.0 0.0 (1.0)

$cmy^3*$  1.0 1.0 1.0 (0.0)

$olv^4*$  1.0 1.0 1.0 0.0

$cmy^4*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.5 -0.46

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*tce$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

### TRS18; adapted (a) CIELAB data

	$L^* = L_a^*$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
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)

$olv^3*$  1.0 1.0 1.0 (1.0)

$cmy^3*$  0.0 0.0 0.0 (0.0)

$olv^4*$  1.0 1.0 1.0 1.0

$cmy^4*$  0.0 0.0 0.0 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 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 -

$lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)

$olv^3*$  0.5 0.5 0.5 (1.0)

$cmy^3*$  0.5 0.5 0.5 (0.0)

$olv^4*$  1.0 1.0 1.0 0.5

$cmy^4*$  0.0 0.0 0.0 0.5

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 CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.5 0.0 0.0

$lab^*tce$  0.5 0.0 -

$lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)

$olv^3*$  0.0 0.0 0.0 (1.0)

$cmy^3*$  1.0 1.0 1.0 (0.0)

$olv^4*$  1.0 1.0 1.0 0.0

$cmy^4*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.5 -0.46

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*tce$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

relative Inform. Technology (IT)

$olv^3*$  0.0 0.0 0.0 (1.0)

$cmy^3*$  1.0 1.0 1.0 (0.0)

$olv^4*$  1.0 1.0 1.0 0.5

$cmy^4*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.5 -0.46

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*tce$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

relative Inform. Technology (IT)

$olv^3*$  1.0 1.0 1.0 (1.0)

$cmy^3*$  0.0 0.0 0.0 (0.0)

$olv^4*$  1.0 1.0 1.0 1.0

$cmy^4*$  0.0 0.0 0.0 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 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 -

$lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)

$olv^3*$  0.5 0.5 0.5 (1.0)

$cmy^3*$  0.5 0.5 0.5 (0.0)

$olv^4*$  1.0 1.0 1.0 0.5

$cmy^4*$  0.0 0.0 0.0 0.5

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 CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.5 0.0 0.0

$lab^*tce$  0.5 0.0 -

$lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)

$olv^3*$  0.0 0.0 0.0 (1.0)

$cmy^3*$  1.0 1.0 1.0 (0.0)

$olv^4*$  1.0 1.0 1.0 0.0

<math

### Input: Colorimetric Reflective System MRS18a

for hue  $h^* = lab^*h = 272/360 = 0.755$

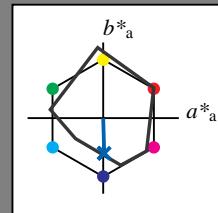
$lab^*tch$  and  $lab^*nch$

D65: hue B

LCH\*Ma: 40 49 272

olv\*Ma: 0.0 0.36 1.0

triangle lightness  $t^*$



### MRS18a; adapted (a) CIELAB data

	$L^* = L^*_{ab}$	$a^*_{ab}$	$b^*_{ab}$	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	49.63	66.8	40.02	77.87	31
JMa	90.7	-7.27	93.19	93.48	94
GMa	52.11	-69.93	11.26	70.85	171
G50BMa	45.03	-36.65	-27.13	45.61	217
BMa	36.65	23.26	-62.27	66.49	290
B50RMa	34.94	57.27	-43.6	71.99	323
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	272

relative Inform. Technology (IT)  
 $olv_i3^*$  1.0 1.0 1.0 (1.0)  
 $cmy_n3^*$  0.0 0.0 0.0 (0.0)  
 $olv_i4^*$  1.0 1.0 1.0 1.0  
 $cmy_n4^*$  0.0 0.0 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  95.41 0.01 0.0  
 $LAB^*LABa$  95.41 0.0 0.0  
 $LAB^*TCh_a$  99.99 0.01 -

relative CIELAB lab\*

$lab^*lab$  1.0 0.0 0.0  
 $lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0  
 $lab^*tce$  1.0 0.0 0.0  
 $lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)  
 $olv_i3^*$  0.5 0.5 0.5 (1.0)  
 $cmy_n3^*$  0.5 0.5 0.5 (0.0)  
 $olv_i4^*$  1.0 1.0 1.0 0.5  
 $cmy_n4^*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  56.71 0.05 0.0  
 $LAB^*LABa$  56.71 0.0 0.0  
 $LAB^*TCh_a$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0  
 $lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.5 0.0 0.0  
 $lab^*tce$  0.5 0.0 0.0  
 $lab^*ncE$  0.5 0.0 -

relative Inform. Technology (IT)  
 $olv_i3^*$  0.0 0.0 0.0 (1.0)  
 $cmy_n3^*$  1.0 1.0 1.0 (0.0)  
 $olv_i4^*$  1.0 1.0 1.0 0.0  
 $cmy_n4^*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.1 0.02  
 $LAB^*LABa$  18.02 0.0 0.0  
 $LAB^*TCh_a$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0  
 $lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0  
 $lab^*tce$  0.0 0.0 -  
 $lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

relative Inform. Technology (IT)  
 $olv_i3^*$  0.0 0.182 0.5 (1.0)  
 $cmy_n3^*$  1.0 0.818 0.5 (0.0)  
 $olv_i4^*$  0.5 0.682 1.0 0.5  
 $cmy_n4^*$  0.5 0.318 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  28.86 0.79 -24.7  
 $LAB^*LABa$  28.86 0.71 -24.72  
 $LAB^*TCh_a$  25.01 24.74 271.64

relative CIELAB lab\*

$lab^*lab$  0.14 0.014 -0.499  
 $lab^*tch$  0.25 0.5 0.755  
 $lab^*nch$  0.5 0.5 0.755

relative Natural Colour (NC)

$lab^*lrij$  0.14 0.0 -0.499  
 $lab^*tce$  0.25 0.5 0.75  
 $lab^*ncE$  0.5 0.5 600r

$n^* = 0,50$

$n^* = 0,00$   
blackness  $n^*$   
chromaticness  $c^*$

### Output: Colorimetric Reflective System ORS18

for hue  $h^* = lab^*h = 271/360 = 0.754$

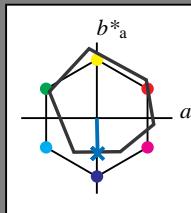
$lab^*tch$  and  $lab^*nch$

D65: hue B

LCH\*Ma: 42 45 271

olv\*Ma: 0.0 0.49 1.0

triangle lightness  $t^*$



### ORS18; adapted (a) CIELAB data

	$L^* = L^*_{ab}$	$a^*_{ab}$	$b^*_{ab}$	$C^*_{ab,a}$	$h^*_{ab,a}$
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)  
 $olv_i3^*$  1.0 1.0 1.0 (1.0)  
 $cmy_n3^*$  0.0 0.0 0.0 (0.0)  
 $olv_i4^*$  1.0 1.0 1.0 1.0  
 $cmy_n4^*$  0.0 0.0 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  95.41 -0.97 4.75  
 $LAB^*LABa$  95.41 0.0 0.0  
 $LAB^*TCh_a$  99.99 0.01 -

relative CIELAB lab\*

$lab^*lab$  1.0 0.0 0.0  
 $lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0  
 $lab^*tce$  1.0 0.0 0.0  
 $lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)  
 $olv_i3^*$  0.5 0.5 0.5 (1.0)  
 $cmy_n3^*$  0.5 0.5 0.5 (0.0)  
 $olv_i4^*$  0.5 0.744 1.0 1.0  
 $cmy_n4^*$  0.5 0.256 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  68.59 0.08 -19.4  
 $LAB^*LABa$  68.59 0.54 -22.35  
 $LAB^*TCh_a$  75.0 22.36 271.4

relative CIELAB lab\*

$lab^*lab$  0.654 0.012 -0.499  
 $lab^*tch$  0.75 0.5 0.754  
 $lab^*nch$  0.0 0.5 0.754

relative Natural Colour (NC)

$lab^*lrij$  0.654 0.0 -0.499  
 $lab^*tce$  0.75 0.5 0.75  
 $lab^*ncE$  0.0 0.5 g99b

relative Inform. Technology (IT)  
 $olv_i3^*$  0.0 0.244 0.5 (1.0)  
 $cmy_n3^*$  1.0 0.756 0.5 (0.0)  
 $olv_i4^*$  0.5 0.744 1.0 0.5  
 $cmy_n4^*$  0.5 0.256 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  29.9 0.83 -22.01  
 $LAB^*LABa$  29.9 0.55 -22.35  
 $LAB^*TCh_a$  25.01 22.36 271.41

relative CIELAB lab\*

$lab^*lab$  0.154 0.012 -0.499  
 $lab^*tch$  0.25 0.5 0.754  
 $lab^*nch$  0.5 0.5 0.754

relative Natural Colour (NC)

$lab^*lrij$  0.154 0.0 -0.499  
 $lab^*tce$  0.25 0.5 0.75  
 $lab^*ncE$  0.5 0.5 600r

$n^* = 1,0$

3 step scales for constant CIELAB hue 271/360 = 0.754 (right)

relative Inform. Technology (IT)  
 $olv_i3^*$  0.0 0.488 1.0 (1.0)  
 $cmy_n3^*$  1.0 0.512 0.0 (0.0)  
 $olv_i4^*$  0.0 0.488 1.0 1.0  
 $cmy_n4^*$  1.0 0.512 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  41.79 1.14 -43.56  
 $LAB^*LABa$  41.79 1.1 -44.7  
 $LAB^*TCh_a$  50.0 44.73 271.4

relative CIELAB lab\*

$lab^*lab$  0.307 0.024 -0.998  
 $lab^*tch$  0.5 1.0 0.754  
 $lab^*nch$  0.0 1.0 0.754

relative Natural Colour (NC)

$lab^*lrij$  0.307 0.0 -0.999  
 $lab^*tce$  0.5 1.0 0.75  
 $lab^*ncE$  0.0 1.0 600r

$n^* = 0,00$

blackness  $n^*$

chromaticness  $c^*$

UE100-7, 3 step scales for constant CIELAB hue 272/360 = 0.755 (left)

### Input: Colorimetric Reflective System MRS18a

for hue  $h^* = lab^*h = 272/360 = 0.755$

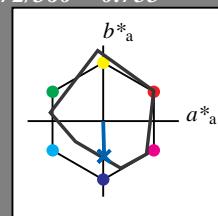
$lab^*tch$  and  $lab^*nch$

D65: hue B

LCH\*Ma: 40 49 272

olv\*Ma: 0.0 0.36 1.0

triangle lightness  $t^*$



### MRS18a; adapted (a) CIELAB data

$L^*=L^*_{ab}$   $a^*_{ab}$   $b^*_{ab}$   $C^*_{ab,a}$   $h^*_{ab,a}$

RMa	49.63	66.8	40.02	77.87	31
JMa	90.7	-7.27	93.19	93.48	94
GMa	52.11	-69.93	11.26	70.85	171
G50BMa	45.03	-36.65	-27.13	45.61	217
BMa	36.65	23.26	-62.27	66.49	290
B50RMa	34.94	57.27	-43.6	71.99	323
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	272

relative Inform. Technology (IT)  
 $olv^3*$  1.0 1.0 1.0 (1.0)  
 $cmy^3*$  0.0 0.0 0.0 (0.0)  
 $olv^4*$  1.0 1.0 1.0 1.0  
 $cmy^4*$  0.0 0.0 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  95.41 0.01 0.0  
 $LAB^*LABa$  95.41 0.0 0.0  
 $LAB^*TCh$  99.99 0.01 -

relative CIELAB lab\*

$lab^*lab$  1.0 0.0 0.0  
 $lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0  
 $lab^*tce$  1.0 0.0 0.0  
 $lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)  
 $olv^3*$  0.5 0.5 0.5 (1.0)  
 $cmy^3*$  0.5 0.5 0.5 (0.0)  
 $olv^4*$  1.0 1.0 1.0 0.5  
 $cmy^4*$  0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  56.71 0.05 0.0  
 $LAB^*LABa$  56.71 0.0 0.0  
 $LAB^*TCh$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0  
 $lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.5 0.0 0.0  
 $lab^*tce$  0.5 0.0 0.0  
 $lab^*ncE$  0.5 0.0 -

relative Inform. Technology (IT)  
 $olv^3*$  0.0 0.0 0.0 (1.0)  
 $cmy^3*$  1.0 1.0 1.0 (0.0)  
 $olv^4*$  1.0 1.0 1.0 0.0  
 $cmy^4*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.1 0.02  
 $LAB^*LABa$  18.02 0.0 0.0  
 $LAB^*TCh$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0  
 $lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0  
 $lab^*tce$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

%Gamut  
 $u^*_{rel} = 92$   
%Regularity  
 $g^*_{H,rel} = 42$   
 $g^*_{C,rel} = 49$

relative Inform. Technology (IT)  
 $olv^3*$  0.5 0.682 1.0 (1.0)  
 $cmy^3*$  0.5 0.318 0.0 (0.0)  
 $olv^4*$  0.5 0.682 1.0 1.0  
 $cmy^4*$  0.5 0.318 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  67.55 0.74 -24.71  
 $LAB^*LABa$  67.55 0.7 -24.72  
 $LAB^*TCh$  75.0 24.74 271.63

relative CIELAB lab\*

$lab^*lab$  0.64 0.014 -0.499  
 $lab^*tch$  0.75 0.5 0.755  
 $lab^*nch$  0.0 0.5 0.755

relative Natural Colour (NC)

$lab^*lrij$  0.64 0.0 -0.499  
 $lab^*tce$  0.75 0.5 0.755  
 $lab^*ncE$  0.0 0.5 g99b

relative Inform. Technology (IT)  
 $olv^3*$  0.0 0.365 1.0 (1.0)  
 $cmy^3*$  1.0 0.635 0.0 (0.0)  
 $olv^4*$  0.0 0.365 1.0 1.0  
 $cmy^4*$  1.0 0.635 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  39.71 1.49 -49.43  
 $LAB^*LABa$  39.71 1.41 -49.45  
 $LAB^*TCh$  50.0 49.48 271.64

relative CIELAB lab\*

$lab^*lab$  0.28 0.029 -0.998  
 $lab^*tch$  0.5 1.0 0.755  
 $lab^*nch$  0.0 1.0 0.755

relative Natural Colour (NC)

$lab^*lrij$  0.28 0.0 -0.999  
 $lab^*tce$  0.5 1.0 0.75  
 $lab^*ncE$  0.0 1.0 b60r

relative Inform. Technology (IT)  
 $olv^3*$  0.0 0.182 0.5 (1.0)  
 $cmy^3*$  1.0 0.818 0.5 (0.0)  
 $olv^4*$  0.5 0.682 1.0 0.5  
 $cmy^4*$  0.5 0.318 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  28.86 0.79 -24.7  
 $LAB^*LABa$  28.86 0.71 -24.72  
 $LAB^*TCh$  25.01 24.74 271.64

relative CIELAB lab\*

$lab^*lab$  0.14 0.014 -0.499  
 $lab^*tch$  0.25 0.5 0.755  
 $lab^*nch$  0.5 0.5 0.755

relative Natural Colour (NC)

$lab^*lrij$  0.14 0.0 -0.499  
 $lab^*tce$  0.25 0.5 0.755  
 $lab^*ncE$  0.5 0.5 b60r

relative Inform. Technology (IT)  
 $olv^3*$  0.0 0.0 0.0 (1.0)  
 $cmy^3*$  1.0 1.0 1.0 (0.0)  
 $olv^4*$  1.0 1.0 1.0 0.0  
 $cmy^4*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.2 0.02  
 $LAB^*LABa$  18.02 0.0 0.0  
 $LAB^*TCh$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0  
 $lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0  
 $lab^*tce$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 0,00$

blackness  $n^*$

$n^* = 0,50$

$n^* = 1,00$

chromaticness  $c^*$

$n^* = 0,00$

blackness  $n^*$

$n^* = 0,50$

$n^* = 1,00$

### Output: Colorimetric Reflective System MRS18

for hue  $h^* = lab^*h = 271/360 = 0.754$

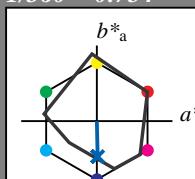
$lab^*tch$  and  $lab^*nch$

D65: hue B

LCH\*Ma: 40 50 271

olv\*Ma: 0.0 0.37 1.0

triangle lightness  $t^*$



### MRS18; adapted (a) CIELAB data

$L^*=L^*_{ab}$   $a^*_{ab}$   $b^*_{ab}$   $C^*_{ab,a}$   $h^*_{ab,a}$

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	58.67	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)  
 $olv^3*$  1.0 1.0 1.0 (1.0)  
 $cmy^3*$  0.0 0.0 0.0 (0.0)  
 $olv^4*$  1.0 1.0 1.0 1.0  
 $cmy^4*$  0.0 0.0 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  95.41 -0.97 4.75  
 $LAB^*LABa$  95.41 0.0 0.0  
 $LAB^*TCh$  99.99 0.01 -

relative CIELAB lab\*

$lab^*lab$  1.0 0.0 0.0  
 $lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0  
 $lab^*tce$  1.0 0.0 0.0  
 $lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)  
 $olv^3*$  0.5 0.684 1.0 (1.0)  
 $cmy^3*$  0.5 0.316 0.0 (0.0)  
 $olv^4*$  0.5 0.684 1.0 1.0  
 $cmy^4*$  0.5 0.316 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  67.57 0.17 -22.28  
 $LAB^*LABa$  67.57 0.61 -25.16  
 $LAB^*TCh$  75.0 25.18 271.4

relative CIELAB lab\*

$lab^*lab$  0.64 0.012 -0.499  
 $lab^*tch$  0.75 0.5 0.754  
 $lab^*nch$  0.0 0.5 0.754

relative Natural Colour (NC)

$lab^*lrij$  0.64 0.0 -0.499  
 $lab^*tce$  0.75 0.5 0.755  
 $lab^*ncE$  0.0 0.5 g99b

relative Inform. Technology (IT)  
 $olv^3*$  0.0 0.184 0.5 (1.0)  
 $cmy^3*$  1.0 0.816 0.5 (0.0)  
 $olv^4*$  0.5 0.684 1.0 0.5  
 $cmy^4*$  0.5 0.316 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.5 -0.46  
 $LAB^*LABa$  18.02 0.0 0.0  
 $LAB^*TCh$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0  
 $lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0  
 $lab^*tce$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

relative Inform. Technology (IT)  
 $olv^3*$  0.0 0.0 0.0 (1.0)  
 $cmy^3*$  1.0 0.0 0.0 (0.0)  
 $olv^4*$  1.0 0.0 0.0 1.0  
 $cmy^4*$  0.0 0.0 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.2 0.02  
 $LAB^*LABa$  18.02 0.0 0.0  
 $LAB^*TCh$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0  
 $lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0  
 $lab^*tce$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 0,00$

blackness  $n^*$

$n^* = 0,50$

$n^* = 1,00$

relative Inform. Technology (IT)  
 $olv^3*$  1.0 0.633 0.0 (0.0)  
 $cmy^3*$  0.0 0.367 1.0 1.0  
 $olv^4*$  1.0 0.367 1.0 1.0  
 $cmy^4*$  1.0 0.633 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  39.73 1.32 -49.33  
 $LAB^*LABa$  39.73 1.23 -50.34  
 $LAB^*TCh$  50.0 50.36 271.41

relative CIELAB lab\*

$lab^*lab$  0.281 0.025 -0.998  
 $lab^*tch$  0.5 1.0 0.754<br

### Input: Colorimetric Reflective System MRS18a

for hue  $h^* = lab^*h = 272/360 = 0.755$

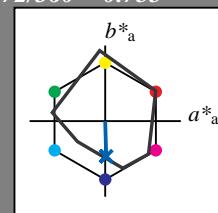
$lab^*tch$  and  $lab^*nch$

D65: hue B

LCH\*Ma: 40 49 272

olv\*Ma: 0.0 0.36 1.0

triangle lightness  $t^*$



### MRS18a; adapted (a) CIELAB data

	$L^* = L^*_{ab}$	$a^*_{ab}$	$b^*_{ab}$	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	49.63	66.8	40.02	77.87	31
JMa	90.7	-7.27	93.19	93.48	94
GMa	52.11	-69.93	11.26	70.85	171
G50BMa	45.03	-36.65	-27.13	45.61	217
BMa	36.65	23.26	-62.27	66.49	290
B50RMa	34.94	57.27	-43.6	71.99	323
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	272

relative Inform. Technology (IT)  
 $olv_i3^*$  1.0 1.0 1.0 (1.0)  
 $cmy3^*$  0.0 0.0 0.0 (0.0)  
 $olv_i4^*$  1.0 1.0 1.0 1.0  
 $cmy4^*$  0.0 0.0 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  95.41 0.01 0.0  
 $LAB^*LABa$  95.41 0.0 0.0  
 $LAB^*TCh$  99.99 0.01 -

relative CIELAB lab\*

$lab^*lab$  1.0 0.0 0.0  
 $lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0  
 $lab^*tce$  1.0 0.0 0.0  
 $lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)  
 $olv_i3^*$  0.5 0.5 0.5 (1.0)  
 $cmy3^*$  0.5 0.5 0.5 (0.0)  
 $olv_i4^*$  1.0 1.0 1.0 0.5  
 $cmy4^*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  56.71 0.05 0.0  
 $LAB^*LABa$  56.71 0.0 0.0  
 $LAB^*TCh$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0  
 $lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.5 0.0 0.0  
 $lab^*tce$  0.5 0.0 0.0  
 $lab^*ncE$  0.5 0.0 -

relative Inform. Technology (IT)  
 $olv_i3^*$  0.0 0.0 0.0 (1.0)  
 $cmy3^*$  1.0 1.0 1.0 (0.0)  
 $olv_i4^*$  1.0 1.0 1.0 0.0  
 $cmy4^*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.01 0.02  
 $LAB^*LABa$  18.02 0.0 0.0  
 $LAB^*TCh$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0  
 $lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0  
 $lab^*tce$  0.0 0.0 -  
 $lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

%Gamut  
 $u^*_{rel} = 92$   
%Regularity  
 $g^*_{H,rel} = 42$   
 $g^*_{C,rel} = 49$

relative Inform. Technology (IT)  
 $olv_i3^*$  0.5 0.682 1.0 (1.0)  
 $cmy3^*$  0.5 0.318 0.0 (0.0)  
 $olv_i4^*$  0.5 0.682 1.0 1.0  
 $cmy4^*$  0.5 0.318 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  67.55 0.74 -24.71  
 $LAB^*LABa$  67.55 0.7 -24.72  
 $LAB^*TCh$  75.0 24.74 271.63

relative CIELAB lab\*

$lab^*lab$  0.64 0.014 -0.499  
 $lab^*tch$  0.75 0.5 0.755  
 $lab^*nch$  0.0 0.5 0.755

relative Natural Colour (NC)

$lab^*lrij$  0.64 0.0 -0.499  
 $lab^*tce$  0.75 0.5 0.755  
 $lab^*ncE$  0.0 0.5 0.998

relative Inform. Technology (IT)  
 $olv_i3^*$  0.0 0.365 1.0 (1.0)  
 $cmy3^*$  1.0 0.635 0.0 (0.0)  
 $olv_i4^*$  0.0 0.365 1.0 1.0  
 $cmy4^*$  1.0 0.635 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  39.71 1.49 -49.43  
 $LAB^*LABa$  39.71 1.41 -49.45  
 $LAB^*TCh$  50.0 49.48 271.64

relative CIELAB lab\*

$lab^*lab$  0.28 0.029 -0.998  
 $lab^*tch$  0.5 1.0 0.755  
 $lab^*nch$  0.0 1.0 0.755

relative Natural Colour (NC)

$lab^*lrij$  0.28 0.0 -0.999  
 $lab^*tce$  0.5 1.0 0.75  
 $lab^*ncE$  0.0 1.0 600r

relative Inform. Technology (IT)  
 $olv_i3^*$  0.0 0.182 0.5 (1.0)  
 $cmy3^*$  1.0 0.818 0.5 (0.0)  
 $olv_i4^*$  0.5 0.682 1.0 0.5  
 $cmy4^*$  0.5 0.318 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  28.86 0.79 -24.7  
 $LAB^*LABa$  28.86 0.71 -24.72  
 $LAB^*TCh$  25.01 24.74 271.64

relative CIELAB lab\*

$lab^*lab$  0.14 0.014 -0.499  
 $lab^*tch$  0.25 0.5 0.755  
 $lab^*nch$  0.5 0.5 0.755

relative Natural Colour (NC)

$lab^*lrij$  0.14 0.0 -0.499  
 $lab^*tce$  0.25 0.5 0.75  
 $lab^*ncE$  0.5 0.5 600r

$n^* = 0,00$

$n^* = 0,00$   
blackness  $n^*$   
chromaticness  $c^*$

relative Inform. Technology (IT)  
 $olv_i3^*$  0.0 0.365 1.0 (1.0)  
 $cmy3^*$  1.0 0.635 0.0 (0.0)  
 $olv_i4^*$  0.0 0.365 1.0 1.0  
 $cmy4^*$  0.0 0.635 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  56.71 -0.23 2.14  
 $LAB^*LABa$  56.71 0.0 0.0  
 $LAB^*TCh$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0  
 $lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.28 0.0 -0.999  
 $lab^*tce$  0.5 1.0 0.75  
 $lab^*ncE$  0.0 1.0 600r

relative Inform. Technology (IT)  
 $olv_i3^*$  0.5 0.744 1.0 (1.0)  
 $cmy3^*$  0.5 0.256 0.0 (0.0)  
 $olv_i4^*$  0.5 0.744 1.0 1.0  
 $cmy4^*$  0.5 0.256 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  68.59 0.08 -19.4  
 $LAB^*LABa$  68.59 0.54 -22.35  
 $LAB^*TCh$  75.0 22.36 271.4

relative CIELAB lab\*

$lab^*lab$  0.654 0.012 -0.499  
 $lab^*tch$  0.75 0.5 0.754  
 $lab^*nch$  0.0 0.5 0.754

relative Natural Colour (NC)

$lab^*lrij$  0.654 0.0 -0.499  
 $lab^*tce$  0.75 0.5 0.75  
 $lab^*ncE$  0.0 0.5 g99b

$n^* = 0,00$

### Output: Colorimetric Reflective System TRS18

for hue  $h^* = lab^*h = 271/360 = 0.754$

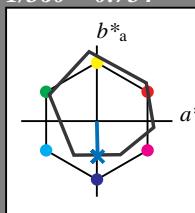
$lab^*tch$  and  $lab^*nch$

D65: hue B

LCH\*Ma: 42 45 271

olv\*Ma: 0.0 0.49 1.0

triangle lightness  $t^*$



### TRS18; adapted (a) CIELAB data

	$L^* = L^*_{ab}$	$a^*_{ab}$	$b^*_{ab}$	$C^*_{ab,a}$	$h^*_{ab,a}$
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)  
 $olv_i3^*$  1.0 1.0 1.0 (1.0)  
 $cmy3^*$  0.0 0.0 0.0 (0.0)  
 $olv_i4^*$  1.0 1.0 1.0 1.0  
 $cmy4^*$  0.0 0.0 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  95.41 -0.97 4.75  
 $LAB^*LABa$  95.41 0.0 0.0  
 $LAB^*TCh$  99.99 0.01 -

relative CIELAB lab\*

$lab^*lab$  1.0 0.0 0.0  
 $lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0  
 $lab^*tce$  1.0 0.0 0.0  
 $lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)  
 $olv_i3^*$  0.5 0.744 1.0 (1.0)  
 $cmy3^*$  0.5 0.256 0.0 (0.0)  
 $olv_i4^*$  0.5 0.744 1.0 1.0  
 $cmy4^*$  0.5 0.256 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  68.59 0.08 -19.4  
 $LAB^*LABa$  68.59 0.54 -22.35  
 $LAB^*TCh$  75.0 22.36 271.4

relative CIELAB lab\*

$lab^*lab$  0.654 0.012 -0.499  
 $lab^*tch$  0.75 0.5 0.754  
 $lab^*nch$  0.0 0.5 0.754

relative Natural Colour (NC)

$lab^*lrij$  0.654 0.0 -0.499  
 $lab^*tce$  0.75 0.5 0.75  
 $lab^*ncE$  0.0 0.5 g99b

relative Inform. Technology (IT)  
 $olv_i3^*$  0.0 0.244 0.5 (1.0)  
 $cmy3^*$  1.0 0.756 0.5 (0.0)  
 $olv_i4^*$  0.5 0.744 1.0 0.5  
 $cmy4^*$  0.5 0.256 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  41.79 1.14 -43.56  
 $LAB^*LABa$  41.79 1.1 -44.7  
 $LAB^*TCh$  50.0 44.73 271.4

relative CIELAB lab\*

$lab^*lab$  0.307 0.024 -0.998  
 $lab^*tch$  0.5 1.0 0.754  
 $lab^*nch$  0.0 1.0 0.754

relative Natural Colour (NC)

$lab^*lrij$  0.307 0.0 -0.999  
 $lab^*tce$  0.5 1.0 0.75  
 $lab^*ncE$  0.0 1.0 600r

$n^* = 1,0$

$n^* = 0,00$   
blackness  $n^*$   
chromaticness  $c^*$

UE100-7, 3 step scales for constant CIELAB hue 272/360 = 0.755 (left)

3 step scales for constant CIELAB hue 271/360 = 0.754 (right)

### Input: Colorimetric Reflective System MRS18a

for hue  $h^* = lab^*h = 272/360 = 0.755$

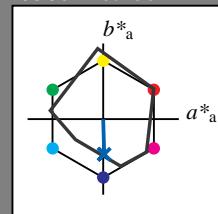
$lab^*tch$  and  $lab^*nch$

D65: hue B

LCH\*Ma: 40 49 272

olv\*Ma: 0.0 0.36 1.0

triangle lightness  $t^*$



### MRS18a; adapted (a) CIELAB data

$L^*=L^*_{a,a}$   $a^*_{a,a}$   $b^*_{a,a}$   $C^*_{ab,a}$   $h^*_{ab,a}$

RMa	49.63	66.8	40.02	77.87	31
JMa	90.7	-7.27	93.19	93.48	94
GMa	52.11	-69.93	11.26	70.85	171
G50BMa	45.03	-36.65	-27.13	45.61	217
BMa	36.65	23.26	-62.27	66.49	290
B50RMa	34.94	57.27	-43.6	71.99	323
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	272

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 0.01 0.0  
 $LAB^*LABa$  95.41 0.0 0.0  
 $LAB^*TCh$  99.99 0.01 -

relative CIELAB lab\*

$lab^*lab$  1.0 0.0 0.0  
 $lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  1.0 0.0 0.0  
 $lab^*ice$  1.0 0.0 0.0  
 $lab^*ncE$  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 0.5  
 $cmyn^4*$  0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  56.71 0.05 0.0  
 $LAB^*LABa$  56.71 0.0 0.0  
 $LAB^*TCh$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0  
 $lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  0.5 0.0 0.0  
 $lab^*ice$  0.5 0.0 0.0  
 $lab^*ncE$  0.5 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)  
 $olv^4*$  1.0 1.0 1.0 0.0  
 $cmyn^4*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.1 0.02  
 $LAB^*LABa$  18.02 0.0 0.0  
 $LAB^*TCh$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0  
 $lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  0.0 0.0 0.0  
 $lab^*ice$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

relative Inform. Technology (IT)

$olv^3*$  0.5 0.682 1.0 (1.0)

$cmyn^3*$  0.5 0.318 0.0 (0.0)

$olv^4*$  0.5 0.682 1.0 1.0

$cmyn^4*$  0.5 0.318 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  67.55 0.74 -24.71  
 $LAB^*LABa$  67.55 0.7 -24.72  
 $LAB^*TCh$  75.0 24.74 271.63

relative CIELAB lab\*

$lab^*lab$  0.64 0.014 -0.499

$lab^*tch$  0.75 0.5 0.755

$lab^*nch$  0.0 0.5 0.755

relative Natural Colour (NC)

$lab^*lrj$  0.64 0.0 -0.499

$lab^*ice$  0.75 0.5 0.75

$lab^*ncE$  0.0 0.5 g99b

relative Inform. Technology (IT)

$olv^3*$  0.0 0.365 1.0 (1.0)

$cmyn^3*$  1.0 0.635 0.0 (0.0)

$olv^4*$  1.0 0.365 1.0 0.5

$cmyn^4*$  1.0 0.365 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  39.71 1.49 -49.43  
 $LAB^*LABa$  39.71 1.41 -49.45  
 $LAB^*TCh$  50.0 49.48 271.64

relative CIELAB lab\*

$lab^*lab$  0.28 0.029 -0.998

$lab^*tch$  0.5 1.0 0.755

$lab^*nch$  0.0 1.0 0.755

relative Natural Colour (NC)

$lab^*lrj$  0.28 0.0 -0.999

$lab^*ice$  0.5 1.0 0.75

$lab^*ncE$  0.0 1.0 b00r

relative Inform. Technology (IT)

$olv^3*$  0.0 0.182 0.5 (1.0)

$cmyn^3*$  1.0 0.818 0.5 (0.0)

$olv^4*$  0.5 0.682 1.0 0.5

$cmyn^4*$  0.5 0.318 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  28.86 0.79 -24.7  
 $LAB^*LABa$  28.86 0.71 -24.72  
 $LAB^*TCh$  25.01 24.74 271.64

relative CIELAB lab\*

$lab^*lab$  0.14 0.014 -0.499

$lab^*tch$  0.25 0.5 0.755

$lab^*nch$  0.5 0.5 0.755

relative Natural Colour (NC)

$lab^*lrj$  0.14 0.0 -0.499

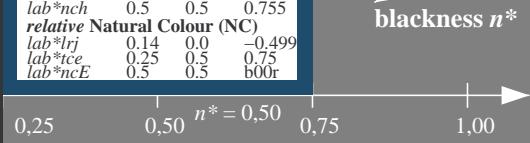
$lab^*ice$  0.25 0.5 0.75

$lab^*ncE$  0.5 0.5 b00r

$n^* = 0,00$



blackness  $n^*$



chromaticness  $c^*$

### Output: Colorimetric Reflective System MRS18a

for hue  $h^* = lab^*h = 272/360 = 0.755$

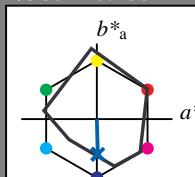
$lab^*tch$  and  $lab^*nch$

D65: hue B

LCH\*Ma: 40 49 272

olv\*Ma: 0.0 0.36 1.0

triangle lightness  $t^*$



### MRS18a; adapted (a) CIELAB data

$L^*=L^*_{a,a}$   $a^*_{a,a}$   $b^*_{a,a}$   $C^*_{ab,a}$   $h^*_{ab,a}$

RMa	49.63	66.8	40.02	77.87	31
JMa	90.7	-7.27	93.19	93.48	94
GMa	52.11	-69.93	11.26	70.85	171
G50BMa	45.03	-36.65	-27.13	45.61	217
BMa	36.65	23.26	-62.27	66.49	290
B50RMa	34.94	57.27	-43.6	71.99	323
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	272

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 0.01 0.0  
 $LAB^*LABa$  95.41 0.0 0.0  
 $LAB^*TCh$  99.99 0.01 -

relative CIELAB lab\*

$lab^*lab$  1.0 0.0 0.0  
 $lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  1.0 0.0 0.0  
 $lab^*ice$  1.0 0.0 0.0  
 $lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)  
 $olv^3*$  0.5 0.682 1.0 (1.0)  
 $cmyn^3*$  0.5 0.318 0.0 (0.0)  
 $olv^4*$  0.5 0.682 1.0 1.0  
 $cmyn^4*$  0.5 0.318 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  67.55 0.74 -24.71  
 $LAB^*LABa$  67.55 0.7 -24.72  
 $LAB^*TCh$  75.0 24.74 271.63

relative CIELAB lab\*

$lab^*lab$  0.64 0.014 -0.499

$lab^*tch$  0.75 0.5 0.755

$lab^*nch$  0.0 0.5 0.755

relative Natural Colour (NC)

$lab^*lrj$  0.64 0.0 -0.499

$lab^*ice$  0.75 0.5 0.75

$lab^*ncE$  0.0 0.5 g99b

relative Inform. Technology (IT)

$olv^3*$  0.0 0.365 1.0 (1.0)  
 $cmyn^3*$  1.0 0.635 0.0 (0.0)  
 $olv^4*$  0.0 0.365 1.0 1.0  
 $cmyn^4*$  1.0 0.635 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  39.71 1.49 -49.43  
 $LAB^*LABa$  39.71 1.41 -49.45  
 $LAB^*TCh$  50.0 49.48 271.64

relative CIELAB lab\*

$lab^*lab$  0.28 0.029 -0.998

$lab^*tch$  0.5 1.0 0.755

$lab^*nch$  0.0 1.0 0.755

relative Natural Colour (NC)

$lab^*lrj$  0.28 0.0 -0.999

$lab^*ice$  0.5 1.0 0.75

$lab^*ncE$  0.0 1.0 b00r

relative Inform. Technology (IT)

$olv^3*$  0.0 0.182 0.5 (1.0)  
 $cmyn^3*$  1.0 0.818 0.5 (0.0)  
 $olv^4*$  0.5 0.682 1.0 0.5  
 $cmyn^4*$  0.5 0.318 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  28.86 0.79 -24.7  
 $LAB^*LABa$  28.86 0.71 -24.72  
 $LAB^*TCh$  25.01 24.74 271.64

relative CIELAB lab\*

$lab^*lab$  0.14 0.014 -0.499

$lab^*tch$  0.25 0.5 0.755

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  0.14 0.0 -0.499

$lab^*ice$  0.25 0.5 0.75

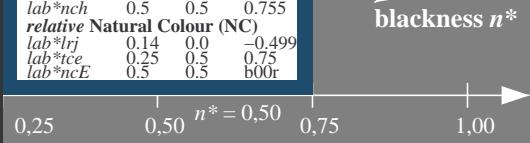
$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

$n^* = 0,50$



blackness  $n^*$



chromaticness  $c^*</$

### Input: Colorimetric Reflective System MRS18a

for hue  $h^* = lab^*h = 272/360 = 0.755$

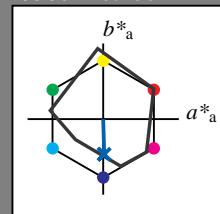
$lab^*tch$  and  $lab^*nch$

D65: hue B

LCH\*Ma: 40 49 272

olv\*Ma: 0.0 0.36 1.0

triangle lightness  $t^*$



### MRS18a; adapted (a) CIELAB data

	$L^* = L^*_{ab}$	$a^*_{ab}$	$b^*_{ab}$	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	49.63	66.8	40.02	77.87	31
JMa	90.7	-7.27	93.19	93.48	94
GMa	52.11	-69.93	11.26	70.85	171
G50BMa	45.03	-36.65	-27.13	45.61	217
BMa	36.65	23.26	-62.27	66.49	290
B50RMa	34.94	57.27	-43.6	71.99	323
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	272

relative Inform. Technology (IT)  
 $olv_i3^*$  1.0 1.0 1.0 (1.0)  
 $cmyn3^*$  0.0 0.0 0.0 (0.0)  
 $olv_i4^*$  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 0.01 0.0  
 $LAB^*LABa$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0  
 $lab^*tce$  1.0 0.0 0.0  
 $lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)  
 $olv_i3^*$  0.5 0.5 0.5 (1.0)  
 $cmyn3^*$  0.5 0.5 0.5 (0.0)  
 $olv_i4^*$  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 0.05 0.0  
 $LAB^*LABa$  56.71 0.0 0.0  
 $LAB^*TChA$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0  
 $lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.5 0.0 0.0  
 $lab^*tce$  0.5 0.0 0.0  
 $lab^*ncE$  0.5 0.0 -

relative Inform. Technology (IT)  
 $olv_i3^*$  0.0 0.0 0.0 (1.0)  
 $cmyn3^*$  1.0 1.0 1.0 (0.0)  
 $olv_i4^*$  1.0 1.0 1.0 0.0  
 $cmyn4^*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.01 0.02  
 $LAB^*LABa$  18.02 0.0 0.0  
 $LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0  
 $lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0  
 $lab^*tce$  0.0 0.0 -  
 $lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

relative Inform. Technology (IT)  
 $olv_i3^*$  0.0 0.182 0.5 (1.0)  
 $cmyn3^*$  1.0 0.818 0.5 (0.0)  
 $olv_i4^*$  0.5 0.682 1.0 0.5  
 $cmyn4^*$  0.5 0.318 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  39.71 1.49 -49.43  
 $LAB^*LABa$  39.71 1.41 -49.45  
 $LAB^*TChA$  50.0 49.48 271.64

relative CIELAB lab\*

$lab^*lab$  0.28 0.029 -0.998  
 $lab^*tch$  0.5 1.0 0.755

$lab^*nch$  0.0 1.0 0.755

relative Natural Colour (NC)

$lab^*lrij$  0.28 0.0 -0.999  
 $lab^*tce$  0.5 1.0 0.75  
 $lab^*ncE$  0.0 1.0 b00r

$n^* = 0,00$

blackness  $n^*$

chromaticness  $c^*$

$n^* = 0,50$

blackness  $n^*$

chromaticness  $c^*$

### Output: Colorimetric Reflective System NRS18

for hue  $h^* = lab^*h = 272/360 = 0.755$

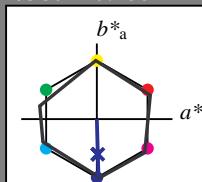
$lab^*tch$  and  $lab^*nch$

D65: hue B

LCH\*Ma: 57 76 272

olv\*Ma: 0.0 0.02 1.0

triangle lightness  $t^*$



### NRS18; adapted (a) CIELAB data

	$L^* = L^*_{ab}$	$a^*_{ab}$	$b^*_{ab}$	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	56.7	70.66	31.47	77.35	24
JMa	56.7	-1.39	77.37	77.39	91
GMa	56.7	-75.46	17.4	77.45	167
G50BMa	56.7	-71.29	-30.25	77.45	203
BMa	56.7	4.0	-77.3	77.41	273
B50RMa	56.7	63.35	-44.4	77.36	325
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	272

relative Inform. Technology (IT)  
 $olv_i3^*$  1.0 1.0 1.0 (1.0)  
 $cmyn3^*$  0.0 0.0 0.0 (0.0)  
 $olv_i4^*$  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 0.0  
 $LAB^*LABa$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0  
 $lab^*tce$  1.0 0.0 0.0  
 $lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)  
 $olv_i3^*$  0.5 0.5 0.5 (1.0)  
 $cmyn3^*$  0.5 0.5 0.5 (0.0)  
 $olv_i4^*$  1.0 1.0 1.0 0.5  
 $cmyn4^*$  0.5 0.488 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  76.05 1.12 -38.06  
 $LAB^*LABa$  76.05 1.09 -38.07  
 $LAB^*TChA$  75.0 38.09 271.64

relative CIELAB lab\*

$lab^*lab$  0.75 0.014 -0.499  
 $lab^*tch$  0.75 0.5 0.755

$lab^*nch$  0.0 0.5 0.755

relative Natural Colour (NC)

$lab^*lrij$  0.75 0.0 -0.499  
 $lab^*tce$  0.75 0.5 0.75  
 $lab^*ncE$  0.0 0.5 g99b

relative Inform. Technology (IT)  
 $olv_i3^*$  0.0 0.024 1.0 (1.0)  
 $cmyn3^*$  1.0 0.976 0.0 (0.0)  
 $olv_i4^*$  0.0 0.024 1.0 1.0  
 $cmyn4^*$  1.0 0.976 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  56.7 2.23 -76.13  
 $LAB^*LABa$  56.7 2.18 -76.15  
 $LAB^*TChA$  50.0 76.19 271.64

relative CIELAB lab\*

$lab^*lab$  0.5 0.029 -0.998  
 $lab^*tch$  0.5 1.0 0.755

$lab^*nch$  0.0 1.0 0.755

relative Natural Colour (NC)

$lab^*lrij$  0.5 0.0 -0.999  
 $lab^*tce$  0.5 1.0 0.75  
 $lab^*ncE$  0.0 1.0 b00r

$n^* = 1,0$

3 step scales for constant CIELAB hue 272/360 = 0.755 (right)

$n^* = 0,00$

blackness  $n^*$

chromaticness  $c^*$

UE100-7, 3 step scales for constant CIELAB hue 272/360 = 0.755 (left)

### Input: Colorimetric Reflective System MRS18a

for hue  $h^* = lab^*h = 272/360 = 0.755$

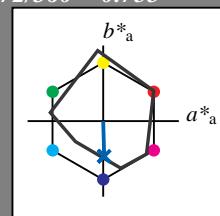
$lab^*tch$  and  $lab^*nch$

D65: hue B

LCH\*Ma: 40 49 272

olv\*Ma: 0.0 0.36 1.0

triangle lightness  $t^*$



### MRS18a; adapted (a) CIELAB data

	$L^* = L^*_a$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	49.63	66.8	40.02	77.87	31
JMa	90.7	-7.27	93.19	93.48	94
GMa	52.11	-69.93	11.26	70.85	171
G50BMa	45.03	-36.65	-27.13	45.61	217
BMa	36.65	23.26	-62.27	66.49	290
B50RMa	34.94	57.27	-43.6	71.99	323
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	272

relative Inform. Technology (IT)  
 $olv_i3^*$  1.0 1.0 1.0 (1.0)  
 $cmyn3^*$  0.0 0.0 0.0 (0.0)  
 $olv_i4^*$  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 0.01 0.0

$LAB^*LABa$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)  
 $olv_i3^*$  0.5 0.5 0.5 (1.0)  
 $cmyn3^*$  0.5 0.5 0.5 (0.0)  
 $olv_i4^*$  1.0 1.0 1.0 0.5  
 $cmyn4^*$  0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  56.71 0.05 0.0

$LAB^*LABa$  56.71 0.0 0.0

$LAB^*TChA$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.5 0.0 0.0

$lab^*tce$  0.5 0.0 0.0

$lab^*ncE$  0.5 0.0 -

relative Inform. Technology (IT)  
 $olv_i3^*$  0.0 0.0 0.0 (1.0)  
 $cmyn3^*$  1.0 1.0 1.0 (0.0)  
 $olv_i4^*$  1.0 1.0 1.0 0.0  
 $cmyn4^*$  0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.1 0.02

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*tce$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

### MRS18a; adapted (a) CIELAB data

	$L^* = L^*_a$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	49.63	66.8	40.02	77.87	31
JMa	90.7	-7.27	93.19	93.48	94
GMa	52.11	-69.93	11.26	70.85	171
G50BMa	45.03	-36.65	-27.13	45.61	217
BMa	36.65	23.26	-62.27	66.49	290
B50RMa	34.94	57.27	-43.6	71.99	323
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	272

%Gamut  
 $u^*_{rel} = 92$   
%Regularity  
 $g^*_{H,rel} = 42$   
 $g^*_{C,rel} = 49$

relative Inform. Technology (IT)  
 $olv_i3^*$  0.5 0.682 1.0 (1.0)  
 $cmyn3^*$  0.5 0.318 0.0 (0.0)  
 $olv_i4^*$  0.5 0.682 1.0 1.0  
 $cmyn4^*$  0.5 0.318 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  67.55 0.74 -24.71

$LAB^*LABa$  67.55 0.7 -24.72

$LAB^*TChA$  75.0 24.74 271.63

relative CIELAB lab\*

$lab^*lab$  0.64 0.014 -0.499

$lab^*tch$  0.75 0.5 0.755

$lab^*nch$  0.0 0.5 0.755

relative Natural Colour (NC)

$lab^*lrij$  0.64 0.0 -0.499

$lab^*tce$  0.75 0.5 0.75

$lab^*ncE$  0.0 0.5 g99b

relative Inform. Technology (IT)  
 $olv_i3^*$  0.0 0.182 0.5 (1.0)  
 $cmyn3^*$  1.0 0.818 0.5 (0.0)  
 $olv_i4^*$  0.5 0.682 1.0 0.5  
 $cmyn4^*$  0.5 0.318 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  39.71 1.49 -49.43

$LAB^*LABa$  39.71 1.41 -49.45

$LAB^*TChA$  50.0 49.48 271.64

relative CIELAB lab\*

$lab^*lab$  0.28 0.029 -0.998

$lab^*tch$  0.5 1.0 0.755

$lab^*nch$  0.0 1.0 0.755

relative Natural Colour (NC)

$lab^*lrij$  0.28 0.0 -0.999

$lab^*tce$  0.5 1.0 0.75

$lab^*ncE$  0.0 1.0 b60r

$n^* = 0,00$

relative Inform. Technology (IT)  
 $olv_i3^*$  1.0 0.635 0.0 (0.0)  
 $cmyn3^*$  0.5 0.365 1.0 1.0  
 $olv_i4^*$  0.0 0.365 1.0 0.5  
 $cmyn4^*$  1.0 0.635 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  56.72 0.05 0.0

$LAB^*LABa$  56.72 0.0 0.0

$LAB^*TChA$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.28 0.0 0.0

$lab^*tce$  0.5 1.0 0.75

$lab^*ncE$  0.0 1.0 0.75

$n^* = 0,50$

blackness  $n^*$

chromaticness  $c^*$

0,25 0,50 0,75 1,00

$n^* = 0,50$

blackness  $n^*$

chromaticness  $c^*$

0,25 0,50 0,75 1,00

$n^* = 1,0$

blackness  $n^*$

chromaticness  $c^*$

0,25 0,50 0,75 1,00

UE100-7, 3 step scales for constant CIELAB hue 272/360 = 0.755 (left)

### Output: Colorimetric Reflective System NCS18

for hue  $h^* = lab^*h = 272/360 = 0.755$

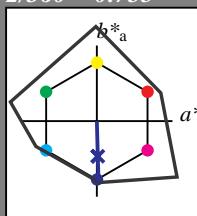
$lab^*tch$  and  $lab^*nch$

D65: hue B

LCH\*Ma: 49 80 272

olv\*Ma: 0.0 0.02 1.0

triangle lightness  $t^*$



### NCS18; adapted (a) CIELAB data

	$L^* = L^*_a$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	47.15	84.63	37.24	92.46	24
JMa	91.37	-1.27	125.03	125.03	91
GMa	63.07	-114.29	25.34	117.07	167
G50BMa	59.47	-80.61	-33.45	87.29	203
BMa	49.01	3.63	-81.2	81.29	273
B50RMa	44.06	106.07	-73.94	129.31	325
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	272

%Gamut  
 $u^*_{rel} = 136$   
%Regularity  
 $g^*_{H,rel} = 46$   
 $g^*_{C,rel} = 65$

relative Inform. Technology (IT)  
 $olv_i3^*$  1.0 1.0 1.0 (1.0)  
 $cmyn3^*$  0.0 0.0 0.0 (0.0)  
 $olv_i4^*$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)  
 $olv_i3^*$  0.0 0.0 0.0 (1.0)  
 $cmyn3^*$  1.0 0.992 0.5 (0.0)  
 $olv_i4^*$  0.5 0.508 1.0 0.5  
 $cmyn4^*$  0.5 0.492 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  72.29 1.18 -40.2

$LAB^*LABa$  72.29 1.15 -40.21

$LAB^*TChA$  75.0 40.23 271.64

relative CIELAB lab\*

$lab^*lab$  0.701 0.014 -0.499

$lab^*tch$  0.75 0.5 0.755

$lab^*nch$  0.0 0.5 0.755

relative Natural Colour (NC)

### Input: Colorimetric Reflective System MRS18a

for hue  $h^* = lab^*h = 272/360 = 0.755$

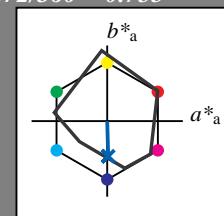
$lab^*tch$  and  $lab^*nch$

D65: hue B

LCH\*Ma: 40 49 272

olv\*Ma: 0.0 0.36 1.0

triangle lightness  $t^*$



### MRS18a; adapted (a) CIELAB data

	$L^* = L^*_{ab}$	$a^*_{ab}$	$b^*_{ab}$	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	49.63	66.8	40.02	77.87	31
JMa	90.7	-7.27	93.19	93.48	94
GMa	52.11	-69.93	11.26	70.85	171
G50BMa	45.03	-36.65	-27.13	45.61	217
BMa	36.65	23.26	-62.27	66.49	290
B50RMa	34.94	57.27	-43.6	71.99	323
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	272

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 0.01 0.0  
 $LAB^*LABa$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0  
 $lab^*tce$  1.0 0.0 0.0  
 $lab^*ncE$  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 0.5  
 $cmyn^4*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  56.71 0.05 0.0  
 $LAB^*LABa$  56.71 0.0 0.0  
 $LAB^*TChA$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0  
 $lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.5 0.0 0.0  
 $lab^*tce$  0.5 0.0 0.0  
 $lab^*ncE$  0.5 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)  
 $olv^4*$  1.0 1.0 1.0 0.0  
 $cmyn^4*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.1 0.02  
 $LAB^*LABa$  18.02 0.0 0.0  
 $LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0  
 $lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0  
 $lab^*tce$  0.0 0.0 -  
 $lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

relative Inform. Technology (IT)

$olv^3*$  0.5 0.682 1.0 (1.0)

$cmyn^3*$  0.5 0.318 0.0 (0.0)

$olv^4*$  0.5 0.682 1.0 1.0

$cmyn^4*$  0.5 0.318 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  67.55 0.74 -24.71  
 $LAB^*LABa$  67.55 0.7 -24.72  
 $LAB^*TChA$  75.0 24.74 271.63

relative CIELAB lab\*

$lab^*lab$  0.64 0.014 -0.499

$lab^*tch$  0.75 0.5 0.755

$lab^*nch$  0.0 0.5 0.755

relative Natural Colour (NC)

$lab^*lrij$  0.64 0.0 -0.499

$lab^*tce$  0.75 0.5 0.75

$lab^*ncE$  0.0 0.5 g99b

relative Inform. Technology (IT)

$olv^3*$  0.0 0.365 1.0 (1.0)

$cmyn^3*$  1.0 0.635 0.0 (0.0)

$olv^4*$  0.0 0.365 1.0 1.0

$cmyn^4*$  1.0 0.635 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  39.71 1.49 -49.43

$LAB^*LABa$  39.71 1.41 -49.45

$LAB^*TChA$  50.0 49.48 271.64

relative CIELAB lab\*

$lab^*lab$  0.28 0.029 -0.998

$lab^*tch$  0.5 1.0 0.755

$lab^*nch$  0.0 1.0 0.755

relative Natural Colour (NC)

$lab^*lrij$  0.28 0.0 -0.999

$lab^*tce$  0.5 1.0 0.75

$lab^*ncE$  0.0 1.0 b00r

$n^* = 0,00$

relative Inform. Technology (IT)

$olv^3*$  0.0 0.365 1.0 (1.0)

$cmyn^3*$  1.0 0.635 0.0 (0.0)

$olv^4*$  0.0 0.365 1.0 0.5

$cmyn^4*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  53.21 0.04 0.0

$LAB^*LABa$  53.21 0.0 0.0

$LAB^*TChA$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 0.0

relative Natural Colour (NC)

$lab^*lrij$  0.5 0.0 0.0

$lab^*tce$  0.5 0.0 0.0

$lab^*ncE$  0.5 0.0 -

$n^* = 0,00$

$n^* = 0,50$

$n^* = 1,00$

chromaticness  $c^*$

$n^* = 0,50$

$n^* = 1,00$

### Output: Colorimetric Reflective System NRS11

for hue  $h^* = lab^*h = 272/360 = 0.755$

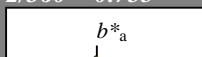
$lab^*tch$  and  $lab^*nch$

D65: hue B

LCH\*Ma: 53 83 272

olv\*Ma: 0.0 0.02 1.0

triangle lightness  $t^*$



### NRS11; adapted (a) CIELAB data

	$L^* = L^*_{ab}$	$a^*_{ab}$	$b^*_{ab}$	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	53.2	77.06	34.32	84.36	24
JMa	53.2	-1.51	84.38	84.39	91
GMa	53.2	-82.27	18.98	84.44	167
G50BMa	53.2	-77.72	-32.98	84.44	203
BMa	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

%Gamut

$u^*_{rel} = 92$

%Regularity

$g^*_{H,rel} = 42$

$g^*_{C,rel} = 49$

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

$LAB^*LABa$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)

$olv^3*$  0.0 0.024 1.0 (1.0)

$cmyn^3*$  1.0 0.976 0.0 (0.0)

$olv^4*$  0.0 0.024 1.0 1.0

$cmyn^4*$  1.0 0.976 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  74.3 1.23 -41.51

$LAB^*LABa$  74.3 1.2 -41.52

$LAB^*TChA$  75.0 41.54 271.66

relative CIELAB lab\*

$lab^*lab$  0.75 0.014 -0.499

$lab^*tch$  0.75 0.5 0.755

$lab^*nch$  0.0 0.5 0.755

relative Natural Colour (NC)

$lab^*lrij$  0.75 0.0 -0.499

$lab^*tce$  0.75 0.5 0.75

$lab^*ncE$  0.0 0.5 0.75

$n^* = 0,00$

$n^* = 0,50$

$n^* = 1,00$

$n^* = 0,00$

$n^* = 0,50$

$n^* = 1,00$

$n^* = 0,00$

$n^* = 0,50$

$n^* = 1,00$

$n^* = 0,00$

$n^* = 0,50$

$n^* = 1,00$

$n^* = 0,00$

$n^* = 0,50$

$n^* = 1,00$

$n^* = 0,00$

$n^* = 0,50$

$n^* = 1,00$

$n^* = 0,00$

$n^* = 0,50$

$n^* = 1,00$

$n^* = 0,00$

$n^* = 0,50$

$n^* = 1,00$

$n^* = 0,00$

### Input: Colorimetric Reflective System MRS18a

for hue  $h^* = lab^*h = 272/360 = 0.755$

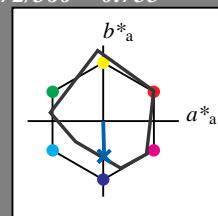
$lab^*tch$  and  $lab^*nch$

D65: hue B

LCH\*Ma: 40 49 272

olv\*Ma: 0.0 0.36 1.0

triangle lightness  $t^*$



### MRS18a; adapted (a) CIELAB data

	$L^*=L^*_a$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	49.63	66.8	40.02	77.87	31
JMa	90.7	-7.27	93.19	93.48	94
GMa	52.11	-69.93	11.26	70.85	171
G50BMa	45.03	-36.65	-27.13	45.61	217
BMa	36.65	23.26	-62.27	66.49	290
B50RMa	34.94	57.27	-43.6	71.99	323
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	272

relative Inform. Technology (IT)  
 $olv_i3^*$  1.0 1.0 1.0 (1.0)  
 $cmyn3^*$  0.0 0.0 0.0 (0.0)  
 $olv_i4^*$  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 0.01 0.0  
 $LAB^*LABa$  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 -  
 $lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0  
 $lab^*tce$  1.0 0.0 0.0  
 $lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)  
 $olv_i3^*$  0.5 0.5 0.5 (1.0)  
 $cmyn3^*$  0.5 0.5 0.5 (0.0)  
 $olv_i4^*$  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 0.05 0.0  
 $LAB^*LABa$  56.71 0.0 0.0  
 $LAB^*TChA$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0  
 $lab^*tch$  0.5 0.0 -  
 $lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.5 0.0 0.0  
 $lab^*tce$  0.5 0.0 0.0  
 $lab^*ncE$  0.5 0.0 -

relative Inform. Technology (IT)  
 $olv_i3^*$  0.0 0.0 0.0 (1.0)  
 $cmyn3^*$  1.0 1.0 1.0 (0.0)  
 $olv_i4^*$  1.0 1.0 1.0 0.0  
 $cmyn4^*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.1 0.02  
 $LAB^*LABa$  18.02 0.0 0.0  
 $LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0  
 $lab^*tch$  0.0 0.0 -  
 $lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0  
 $lab^*tce$  0.0 0.0 -  
 $lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

relative Inform. Technology (IT)

$olv_i3^*$  0.5 0.682 1.0 (1.0)

$cmyn3^*$  0.5 0.318 0.0 (0.0)

$olv_i4^*$  0.5 0.682 1.0 1.0

$cmyn4^*$  0.5 0.318 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  67.55 0.74 -24.71  
 $LAB^*LABa$  67.55 0.7 -24.72  
 $LAB^*TChA$  75.0 24.74 271.63

relative CIELAB lab\*

$lab^*lab$  0.64 0.014 -0.499  
 $lab^*tch$  0.75 0.5 0.755  
 $lab^*nch$  0.0 0.5 0.755

relative Natural Colour (NC)

$lab^*lrij$  0.64 0.0 -0.499  
 $lab^*tce$  0.75 0.5 0.75  
 $lab^*ncE$  0.0 0.5 g99b

relative Inform. Technology (IT)

$olv_i3^*$  0.0 0.365 1.0 (1.0)

$cmyn3^*$  1.0 0.635 0.0 (0.0)

$olv_i4^*$  0.0 0.365 1.0 1.0

$cmyn4^*$  1.0 0.635 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  39.71 1.49 -49.43  
 $LAB^*LABa$  39.71 1.41 -49.45  
 $LAB^*TChA$  50.0 49.48 271.64

relative CIELAB lab\*

$lab^*lab$  0.28 0.029 -0.998  
 $lab^*tch$  0.5 1.0 0.755  
 $lab^*nch$  0.0 1.0 0.755

relative Natural Colour (NC)

$lab^*lrij$  0.28 0.0 -0.999  
 $lab^*tce$  0.5 1.0 0.75  
 $lab^*ncE$  0.0 1.0 b60r

relative Inform. Technology (IT)

$olv_i3^*$  0.0 0.182 0.5 (1.0)

$cmyn3^*$  1.0 0.818 0.5 (0.0)

$olv_i4^*$  0.5 0.682 1.0 0.5

$cmyn4^*$  0.5 0.318 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  28.86 0.79 -24.7  
 $LAB^*LABa$  28.86 0.71 -24.72  
 $LAB^*TChA$  25.01 24.74 271.64

relative CIELAB lab\*

$lab^*lab$  0.14 0.014 -0.499  
 $lab^*tch$  0.25 0.5 0.755  
 $lab^*nch$  0.5 0.5 0.755

relative Natural Colour (NC)

$lab^*lrij$  0.14 0.0 -0.499  
 $lab^*tce$  0.25 0.5 0.75  
 $lab^*ncE$  0.5 0.5 b60r

$n^* = 0,00$

blackness  $n^*$

chromaticness  $c^*$

$n^* = 0,50$

$n^* = 1,00$

### Output: Colorimetric Reflective System NCS11

for hue  $h^* = lab^*h = 272/360 = 0.755$

$lab^*tch$  and  $lab^*nch$

D65: hue B

LCH\*Ma: 49 80 272

olv\*Ma: 0.0 0.02 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

relative Inform. Technology (IT)

$olv_i3^*$  1.0 1.0 1.0 (1.0)

$cmyn3^*$  0.0 0.0 0.0 (0.0)

$olv_i4^*$  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 -  
 $lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0  
 $lab^*tce$  1.0 0.0 0.0  
 $lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)

$olv_i3^*$  0.5 0.5 0.5 (1.0)

$cmyn3^*$  0.5 0.492 0.0 (0.0)

$olv_i4^*$  0.5 0.508 1.0 1.0

$cmyn4^*$  0.5 0.492 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  72.29 1.2 -40.21  
 $LAB^*LABa$  72.29 1.17 -40.21  
 $LAB^*TChA$  75.0 40.24 271.66

relative CIELAB lab\*

$lab^*lab$  0.726 0.014 -0.499  
 $lab^*tch$  0.75 0.5 0.755  
 $lab^*nch$  0.0 0.5 0.755

relative Natural Colour (NC)

$lab^*lrij$  0.726 0.0 -0.499  
 $lab^*tce$  0.75 0.5 0.75  
 $lab^*ncE$  0.0 0.5 g99b

relative Inform. Technology (IT)

$olv_i3^*$  0.0 0.008 0.5 (1.0)

$cmyn3^*$  1.0 0.992 0.5 (0.0)

$olv_i4^*$  0.5 0.508 1.0 0.5

$cmyn4^*$  0.5 0.492 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  30.09 1.24 -40.2  
 $LAB^*LABa$  30.09 1.18 -40.21  
 $LAB^*TChA$  25.01 40.24 271.67

relative CIELAB lab\*

$lab^*lab$  0.226 0.015 -0.499  
 $lab^*tch$  0.25 0.5 0.755  
 $lab^*nch$  0.5 0.5 0.755

relative Natural Colour (NC)

$lab^*lrij$  0.226 0.0 -0.499  
 $lab^*tce$  0.25 0.5 0.75  
 $lab^*ncE$  0.5 0.5 b60r

$n^* = 1,0$

$n^* = 0,00$

blackness  $n^*$

chromaticness  $c^*$

$n^* = 0,50$

$n^* = 1,00$

UE100-7, 3 step scales for constant CIELAB hue 272/360 = 0.755 (left)

3 step scales for constant CIELAB hue 272/360 = 0.755 (right)

## Input: Colorimetric Reflective System NRS18

for hue  $h^* = lab^*h = 272/360 = 0.755$

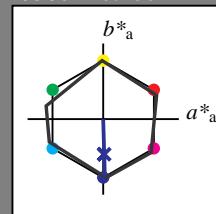
$lab^*tch$  and  $lab^*nch$

D65: hue B

LCH\*Ma: 57 76 272

olv\*Ma: 0.0 0.02 1.0

triangle lightness  $t^*$



relative Inform. Technology (IT)  
 $olv_i3^*$  1.0 1.0 1.0 (1.0)  
 $cmyn3^*$  0.0 0.0 0.0 (0.0)  
 $olv_i4^*$  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 0.0  
 $LAB^*LABa$  95.41 0.0 0.0  
 $LAB^*TCh_a$  99.99 0.01 -

relative CIELAB  $lab^*$

$lab^*lab$  1.0 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)  
 $olv_i3^*$  0.5 0.5 0.5 (1.0)  
 $cmyn3^*$  0.5 0.5 0.5 (0.0)  
 $olv_i4^*$  1.0 1.0 1.0 0.5  
 $cmyn4^*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  56.72 0.05 0.0  
 $LAB^*LABa$  56.72 0.0 0.0  
 $LAB^*TCh_a$  50.0 0.01 -

relative CIELAB  $lab^*$

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.5 0.0 0.0

$lab^*tce$  0.5 0.0 0.0

$lab^*ncE$  0.5 0.0 -

relative Inform. Technology (IT)  
 $olv_i3^*$  0.0 0.0 0.0 (1.0)  
 $cmyn3^*$  1.0 1.0 1.0 (0.0)  
 $olv_i4^*$  1.0 1.0 1.0 0.0  
 $cmyn4^*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.09 0.02  
 $LAB^*LABa$  18.02 0.0 0.0  
 $LAB^*TCh_a$  0.01 0.01 -

relative CIELAB  $lab^*$

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*tce$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

## NRS18; adapted (a) CIELAB data

$L^*=L^*_{ab}$   $a^*_a$   $b^*_a$   $C^*_{ab,a}$   $h^*_{ab,a}$

RMa	56.7	70.66	31.47	77.35	24
JMa	56.7	-1.39	77.37	77.39	91
GMa	56.7	-75.46	17.4	77.45	167
G50BMa	56.7	-71.29	-30.25	77.45	203
BMa	56.7	4.0	-77.3	77.41	273
B50RMa	56.7	63.35	-44.4	77.36	325
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	272

%Gamut

$u^*_{rel} = 100$

%Regularity

$g^*_{H,rel} = 47$

$g^*_{C,rel} = 100$

relative Inform. Technology (IT)

$olv_i3^*$  0.5 0.512 1.0 (1.0)

$cmyn3^*$  0.5 0.488 0.0 (0.0)

$olv_i4^*$  0.5 0.512 1.0 1.0

$cmyn4^*$  0.5 0.488 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  76.05 1.12 -38.06

$LAB^*LABa$  76.05 1.09 -38.07

$LAB^*TCh_a$  75.0 38.09 271.64

relative CIELAB  $lab^*$

$lab^*lab$  0.75 0.014 -0.499

$lab^*tch$  0.75 0.5 0.755

$lab^*nch$  0.0 0.5 0.755

relative Natural Colour (NC)

$lab^*lrij$  0.75 0.0 -0.499

$lab^*tce$  0.75 0.5 0.75

$lab^*ncE$  0.0 0.5 0.998

relative Inform. Technology (IT)

$olv_i3^*$  0.0 0.024 1.0 (1.0)

$cmyn3^*$  1.0 0.976 0.0 (0.0)

$olv_i4^*$  0.0 0.024 1.0 1.0

$cmyn4^*$  1.0 0.976 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  56.7 2.23 -76.13

$LAB^*LABa$  56.7 2.18 -76.15

$LAB^*TCh_a$  50.0 76.19 271.64

relative CIELAB  $lab^*$

$lab^*lab$  0.5 0.029 -0.998

$lab^*tch$  0.5 1.0 0.755

$lab^*nch$  0.0 1.0 0.755

relative Natural Colour (NC)

$lab^*lrij$  0.5 0.0 -0.999

$lab^*tce$  0.5 1.0 0.75

$lab^*ncE$  0.0 1.0 b00r

relative Inform. Technology (IT)

$olv_i3^*$  0.0 0.012 0.5 (1.0)

$cmyn3^*$  1.0 0.988 0.5 (0.0)

$olv_i4^*$  0.5 0.512 1.0 0.5

$cmyn4^*$  0.5 0.488 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  37.36 1.17 -38.05

$LAB^*LABa$  37.36 1.09 -38.07

$LAB^*TCh_a$  25.01 38.1 271.65

relative CIELAB  $lab^*$

$lab^*lab$  0.25 0.014 -0.499

$lab^*tch$  0.25 0.5 0.755

$lab^*nch$  0.5 0.5 0.755

relative Natural Colour (NC)

$lab^*lrij$  0.25 0.0 -0.499

$lab^*tce$  0.25 0.5 0.75

$lab^*ncE$  0.5 0.5 b00r

$n^* = 0,00$

blackness  $n^*$

chromaticness  $c^*$

## Output: Colorimetric Reflective System ORS18

for hue  $h^* = lab^*h = 271/360 = 0.754$

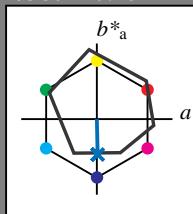
$lab^*tch$  and  $lab^*nch$

D65: hue B

LCH\*Ma: 42 45 271

olv\*Ma: 0.0 0.49 1.0

triangle lightness  $t^*$



%Gamut

$u^*_{rel} = 93$

%Regularity

$g^*_{H,rel} = 57$

$g^*_{C,rel} = 59$

relative Inform. Technology (IT)

$olv_i3^*$  1.0 1.0 1.0 (1.0)

$cmyn3^*$  0.0 0.0 0.0 (0.0)

$olv_i4^*$  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

$LAB^*LABa$  95.41 0.0 0.0

$LAB^*TCh_a$  99.99 0.01 -

relative CIELAB  $lab^*$

$lab^*lab$  1.0 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)

$olv_i3^*$  0.5 0.744 1.0 (1.0)

$cmyn3^*$  0.5 0.256 0.0 (0.0)

$olv_i4^*$  0.5 0.744 1.0 1.0

$cmyn4^*$  0.5 0.256 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  68.59 0.08 -19.4

$LAB^*LABa$  68.59 0.54 -22.35

$LAB^*TCh_a$  75.0 22.36 271.4

relative CIELAB  $lab^*$

$lab^*lab$  0.654 0.012 -0.499

$lab^*tch$  0.75 0.5 0.754

$lab^*nch$  0.0 0.5 0.754

relative Natural Colour (NC)

$lab^*lrij$  0.654 0.0 -0.499

$lab^*tce$  0.75 0.5 0.75

$lab^*ncE$  0.0 0.5 b00r

$n^* = 1,0$

	$L^*=L^*_{ab}$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
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	18.01	0.0	0.0	0.0	0
NMa	95.41	0.0	0.0	0.0	0
WMa	39.92	58.66	26.98	64.56	25
RCIE	81.26	-2.17	67.76	67.79	92
JCIE	52.23	-42.26	11.75	43.87	164
BCIE	30.57	1.15	-46.84	46.87	271

relative Inform. Technology (IT)

$olv_i3^*$  1.0 1.0 1.0 (1.0)

$cmyn3^*$  0.0 0.0 0.0 (0.0)

$olv_i4^*$  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 0.0

$LAB^*LABa$  95.41 0.0 0.0

$LAB^*TCh_a$  99.99 0.01 -

relative CIELAB  $lab^*$

$lab^*lab$  1.0 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

## Input: Colorimetric Reflective System NRS18

for hue  $h^* = lab^*h = 272/360 = 0.755$

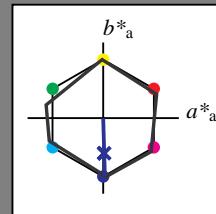
$lab^*tch$  and  $lab^*nch$

D65: hue B

LCH\*Ma: 57 76 272

olv\*Ma: 0.0 0.02 1.0

triangle lightness  $t^*$



## NRS18; adapted (a) CIELAB data

	$L^*=L_a^*$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	56.7	70.66	31.47	77.35	24
JMa	56.7	-1.39	77.37	77.39	91
GMa	56.7	-75.46	17.4	77.45	167
G50BMa	56.7	-71.29	-30.25	77.45	203
BMa	56.7	4.0	-77.3	77.41	273
B50RMa	56.7	63.35	-44.4	77.36	325
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	272

relative Inform. Technology (IT)  
 $olv_i3^*$  1.0 1.0 1.0 (1.0)  
 $cmyn3^*$  0.0 0.0 0.0 (0.0)  
 $olv_i4^*$  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 0.0  
 $LAB^*LABa$  95.41 0.0 0.0  
 $LAB^*TCh$  99.99 0.01 -

relative CIELAB  $lab^*$

$lab^*lab$  1.0 0.0 0.0  
 $lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0  
 $lab^*ice$  1.0 0.0 0.0  
 $lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)  
 $olv_i3^*$  0.5 0.5 0.5 (1.0)  
 $cmyn3^*$  0.5 0.5 0.5 (0.0)  
 $olv_i4^*$  1.0 1.0 1.0 0.5  
 $cmyn4^*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  56.72 0.05 0.0  
 $LAB^*LABa$  56.72 0.0 0.0  
 $LAB^*TCh$  50.0 0.01 -

relative CIELAB  $lab^*$

$lab^*lab$  0.5 0.0 0.0  
 $lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.5 0.0 0.0  
 $lab^*ice$  0.5 0.0 0.0  
 $lab^*ncE$  0.5 0.0 -

relative Inform. Technology (IT)  
 $olv_i3^*$  0.0 0.0 0.0 (1.0)  
 $cmyn3^*$  1.0 1.0 1.0 (0.0)  
 $olv_i4^*$  1.0 1.0 1.0 0.0  
 $cmyn4^*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.09 0.02  
 $LAB^*LABa$  18.02 0.0 0.0  
 $LAB^*TCh$  0.01 0.01 -

relative CIELAB  $lab^*$

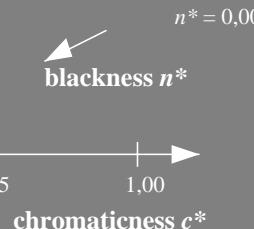
$lab^*lab$  0.0 0.0 0.0  
 $lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0  
 $lab^*ice$  0.0 0.0 -  
 $lab^*ncE$  1.0 0.0 -

$n^* = 1,0$



UE100-7, 3 step scales for constant CIELAB hue 272/360 = 0.755 (left)

## Output: Colorimetric Reflective System MRS18

for hue  $h^* = lab^*h = 271/360 = 0.754$

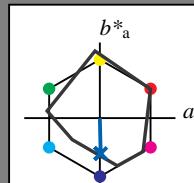
$lab^*tch$  and  $lab^*nch$

D65: hue B

LCH\*Ma: 40 50 271

olv\*Ma: 0.0 0.37 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

relative Inform. Technology (IT)  
 $olv_i3^*$  1.0 1.0 1.0 (1.0)  
 $cmyn3^*$  0.0 0.0 0.0 (0.0)  
 $olv_i4^*$  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  
 $LAB^*LABa$  95.41 0.0 0.0  
 $LAB^*TCh$  99.99 0.01 -

relative CIELAB  $lab^*$

$lab^*lab$  1.0 0.0 0.0  
 $lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0  
 $lab^*ice$  1.0 0.0 0.0  
 $lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)  
 $olv_i3^*$  0.5 0.5 0.5 (1.0)  
 $cmyn3^*$  0.5 0.5 0.5 (0.0)  
 $olv_i4^*$  0.5 0.5 1.0 1.0  
 $cmyn4^*$  0.5 0.316 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  67.57 0.17 -22.28  
 $LAB^*LABa$  67.57 0.61 -25.16  
 $LAB^*TCh$  75.0 25.18 271.4

relative CIELAB  $lab^*$

$lab^*lab$  0.64 0.012 -0.499  
 $lab^*tch$  0.75 0.5 0.754  
 $lab^*nch$  0.0 0.5 0.754

relative Natural Colour (NC)

$lab^*lrij$  0.64 0.0 -0.499  
 $lab^*ice$  0.75 0.5 0.75  
 $lab^*ncE$  0.0 0.5 g99b

relative Inform. Technology (IT)  
 $olv_i3^*$  0.0 0.184 0.5 (1.0)  
 $cmyn3^*$  1.0 0.816 0.5 (0.0)  
 $olv_i4^*$  0.5 0.684 1.0 0.5  
 $cmyn4^*$  0.5 0.316 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  56.71 -0.23 2.14  
 $LAB^*LABa$  56.71 0.0 0.0  
 $LAB^*TCh$  50.0 0.01 -

relative CIELAB  $lab^*$

$lab^*lab$  0.5 0.0 0.0  
 $lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.5 0.0 0.0  
 $lab^*ice$  0.5 1.0 0.75  
 $lab^*ncE$  0.0 1.0 b60r

relative Inform. Technology (IT)  
 $olv_i3^*$  0.0 0.0 0.0 (1.0)  
 $cmyn3^*$  1.0 1.0 1.0 (0.0)  
 $olv_i4^*$  1.0 1.0 1.0 0.0  
 $cmyn4^*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.5 -0.46  
 $LAB^*LABa$  18.02 0.0 0.0  
 $LAB^*TCh$  0.01 0.01 -

relative CIELAB  $lab^*$

$lab^*lab$  0.0 0.0 0.0  
 $lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0  
 $lab^*ice$  0.0 0.0 -  
 $lab^*ncE$  1.0 0.0 -

$n^* = 1,0$



3 step scales for constant CIELAB hue 271/360 = 0.754 (right)

## Input: Colorimetric Reflective System NRS18

for hue  $h^* = lab^*h = 272/360 = 0.755$

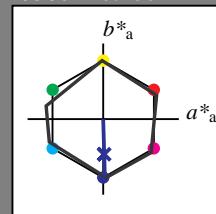
$lab^*tch$  and  $lab^*nch$

D65: hue B

LCH\*Ma: 57 76 272

olv\*Ma: 0.0 0.02 1.0

triangle lightness  $t^*$



%Gamut

$u^*_{rel} = 100$

%Regularity

$g^*_{H,rel} = 47$

$g^*_{C,rel} = 100$

relative Inform. Technology (IT)  
 $olv_i3^*$  1.0 1.0 1.0 (1.0)  
 $cmy_n3^*$  0.0 0.0 0.0 (0.0)  
 $olv_i4^*$  1.0 1.0 1.0 1.0  
 $cmy_n4^*$  0.0 0.0 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  95.41 0.0 0.0

$LAB^*LAB_a$  95.41 0.0 0.0

$LAB^*TCh_a$  99.99 0.01 -

relative CIELAB lab\*

$lab^*lab$  1.0 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)  
 $olv_i3^*$  0.5 0.5 0.5 (1.0)  
 $cmy_n3^*$  0.5 0.5 0.5 (0.0)  
 $olv_i4^*$  1.0 1.0 1.0 0.5  
 $cmy_n4^*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  56.72 0.05 0.0

$LAB^*LAB_a$  56.72 0.0 0.0

$LAB^*TCh_a$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.5 0.0 0.0

$lab^*tce$  0.5 0.0 0.0

$lab^*ncE$  0.5 0.0 -

relative Inform. Technology (IT)  
 $olv_i3^*$  0.0 0.0 0.0 (1.0)  
 $cmy_n3^*$  1.0 1.0 1.0 (0.0)  
 $olv_i4^*$  1.0 1.0 1.0 0.0  
 $cmy_n4^*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.09 0.02

$LAB^*LAB_a$  18.02 0.0 0.0

$LAB^*TCh_a$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*tce$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

## NRS18; adapted (a) CIELAB data

$L^*=L^*_{ab,a}$   $a^*_{ab,a}$   $b^*_{ab,a}$   $C^*_{ab,a}$   $h^*_{ab,a}$

RMa	56.7	70.66	31.47	77.35	24
JMa	56.7	-1.39	77.37	77.39	91
GMa	56.7	-75.46	17.4	77.45	167
G50BMa	56.7	-71.29	-30.25	77.45	203
BMa	56.7	4.0	-77.3	77.41	273
B50RMa	56.7	63.35	-44.4	77.36	325
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	272

## Output: Colorimetric Reflective System TRS18

for hue  $h^* = lab^*h = 271/360 = 0.754$

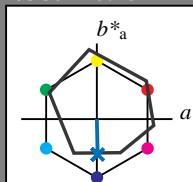
$lab^*tch$  and  $lab^*nch$

D65: hue B

LCH\*Ma: 42 45 271

olv\*Ma: 0.0 0.49 1.0

triangle lightness  $t^*$



%Gamut

$u^*_{rel} = 93$

%Regularity

$g^*_{H,rel} = 57$

$g^*_{C,rel} = 59$

relative Inform. Technology (IT)  
 $olv_i3^*$  1.0 1.0 1.0 (1.0)  
 $cmy_n3^*$  0.0 0.0 0.0 (0.0)  
 $olv_i4^*$  1.0 1.0 1.0 1.0  
 $cmy_n4^*$  0.0 0.0 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  95.41 -0.97 4.75

$LAB^*LAB_a$  95.41 0.0 0.0

$LAB^*TCh_a$  99.99 0.01 -

relative CIELAB lab\*

$lab^*lab$  1.0 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)  
 $olv_i3^*$  0.5 0.744 1.0 (1.0)  
 $cmy_n3^*$  0.5 0.256 0.0 (0.0)  
 $olv_i4^*$  0.5 0.744 1.0 1.0  
 $cmy_n4^*$  0.5 0.256 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  68.59 0.08 -19.4

$LAB^*LAB_a$  68.59 0.54 -22.35

$LAB^*TCh_a$  75.0 22.36 271.4

relative CIELAB lab\*

$lab^*lab$  0.654 0.012 -0.499

$lab^*tch$  0.75 0.5 0.754

$lab^*nch$  0.0 0.5 0.754

relative Natural Colour (NC)

$lab^*lrij$  0.654 0.0 -0.499

$lab^*tce$  0.75 0.5 0.75

$lab^*ncE$  0.0 0.5 g99b

relative Inform. Technology (IT)  
 $olv_i3^*$  0.0 0.244 0.5 (1.0)  
 $cmy_n3^*$  1.0 0.756 0.5 (0.0)  
 $olv_i4^*$  1.0 0.744 1.0 0.5  
 $cmy_n4^*$  0.0 0.256 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  41.79 1.14 -43.56

$LAB^*LAB_a$  41.79 1.1 -44.7

$LAB^*TCh_a$  50.0 44.73 271.4

relative CIELAB lab\*

$lab^*lab$  0.307 0.024 -0.998

$lab^*tch$  0.5 1.0 0.754

$lab^*nch$  0.0 1.0 0.754

relative Natural Colour (NC)

$lab^*lrij$  0.307 0.0 -0.999

$lab^*tce$  0.5 1.0 0.75

$lab^*ncE$  0.0 1.0 b00r

$n^* = 1,0$

blackness  $n^*$

$n^* = 0,0$

$n^* = 0,0$

chromaticness  $c^*$

$n^* = 0,0$

$n^* = 0,0$

chromaticness  $c^*$

$n^* = 0,0$

$n^* = 0,0$

UE100-7, 3 step scales for constant CIELAB hue 272/360 = 0.755 (left)

3 step scales for constant CIELAB hue 271/360 = 0.754 (right)

## Input: Colorimetric Reflective System NRS18

for hue  $h^* = lab^*h = 272/360 = 0.755$

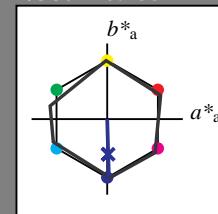
$lab^*tch$  and  $lab^*nch$

D65: hue B

LCH\*Ma: 57 76 272

olv\*Ma: 0.0 0.02 1.0

triangle lightness  $t^*$



%Gamut

$u^*_{rel} = 100$

%Regularity

$g^*_{H,rel} = 47$

$g^*_{C,rel} = 100$

relative Inform. Technology (IT)  
 $olv_i3^*$  1.0 1.0 1.0 (1.0)  
 $cmy_n3^*$  0.0 0.0 0.0 (0.0)  
 $olv_i4^*$  1.0 1.0 1.0 1.0  
 $cmy_n4^*$  0.0 0.0 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  95.41 0.0 0.0

$LAB^*LABa$  95.41 0.0 0.0

$LAB^*TCh_a$  99.99 0.01 -

relative CIELAB lab\*

$lab^*lab$  1.0 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)  
 $olv_i3^*$  0.5 0.5 0.5 (1.0)  
 $cmy_n3^*$  0.5 0.5 0.5 (0.0)  
 $olv_i4^*$  1.0 1.0 1.0 0.5  
 $cmy_n4^*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  56.72 0.05 0.0

$LAB^*LABa$  56.72 0.0 0.0

$LAB^*TCh_a$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.5 0.0 0.0

$lab^*tce$  0.5 0.0 0.0

$lab^*ncE$  0.5 0.0 -

relative Inform. Technology (IT)  
 $olv_i3^*$  0.0 0.0 0.0 (1.0)  
 $cmy_n3^*$  1.0 1.0 1.0 (0.0)  
 $olv_i4^*$  1.0 1.0 1.0 0.0  
 $cmy_n4^*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.09 0.02

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TCh_a$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*tce$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

## NRS18; adapted (a) CIELAB data

$L^*=L^*_{a,a}$   $a^*_{a,a}$   $b^*_{a,a}$   $C^*_{ab,a}$   $h^*_{ab,a}$

RMa	56.7	70.66	31.47	77.35	24
JMa	56.7	-1.39	77.37	77.39	91
GMa	56.7	-75.46	17.4	77.45	167
G50BMa	56.7	-71.29	-30.25	77.45	203
BMa	56.7	4.0	-77.3	77.41	273
B50RMa	56.7	63.35	-44.4	77.36	325
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	272

## Output: Colorimetric Reflective System MRS18a

for hue  $h^* = lab^*h = 272/360 = 0.755$

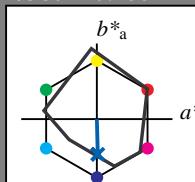
$lab^*tch$  and  $lab^*nch$

D65: hue B

LCH\*Ma: 40 49 272

olv\*Ma: 0.0 0.36 1.0

triangle lightness  $t^*$



%Gamut

$u^*_{rel} = 92$

%Regularity

$g^*_{H,rel} = 42$

$g^*_{C,rel} = 49$

relative Inform. Technology (IT)  
 $olv_i3^*$  1.0 1.0 1.0 (1.0)  
 $cmy_n3^*$  0.0 0.0 0.0 (0.0)  
 $olv_i4^*$  1.0 1.0 1.0 1.0  
 $cmy_n4^*$  0.0 0.0 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  95.41 0.01 0.0

$LAB^*LABa$  95.41 0.0 0.0

$LAB^*TCh_a$  99.99 0.01 -

relative CIELAB lab\*

$lab^*lab$  1.0 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)  
 $olv_i3^*$  0.5 0.5 0.5 (1.0)  
 $cmy_n3^*$  0.5 0.5 0.5 (0.0)  
 $olv_i4^*$  0.5 0.5 1.0 1.0  
 $cmy_n4^*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  56.7 2.23 -76.13

$LAB^*LABa$  56.7 2.18 -76.15

$LAB^*TCh_a$  50.0 76.19 271.64

relative CIELAB lab\*

$lab^*lab$  0.5 0.029 -0.998

$lab^*tch$  0.5 1.0 0.755

$lab^*nch$  0.0 1.0 0.755

relative Natural Colour (NC)

$lab^*lrij$  0.5 0.0 -0.999

$lab^*tce$  0.5 1.0 0.75

$lab^*ncE$  0.0 1.0 b00r

relative Inform. Technology (IT)  
 $olv_i3^*$  0.0 0.0 0.0 (1.0)  
 $cmy_n3^*$  1.0 1.0 1.0 (0.0)  
 $olv_i4^*$  1.0 1.0 1.0 0.0  
 $cmy_n4^*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.1 0.02

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TCh_a$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*tce$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

3 step scales for constant CIELAB hue 272/360 = 0.755 (right)

## MRS18a; adapted (a) CIELAB data

$L^*=L^*_{a,a}$   $a^*_{a,a}$   $b^*_{a,a}$   $C^*_{ab,a}$   $h^*_{ab,a}$

RMa	49.63	66.8	40.02	77.87	31
JMa	90.7	-7.27	93.19	93.48	94
GMa	52.11	-69.93	11.26	70.85	171
G50BMa	45.03	-36.65	-27.13	45.61	217
BMa	36.65	23.26	-62.27	66.49	290
B50RMa	34.94	57.27	-43.6	71.99	323
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	272

relative Inform. Technology (IT)  
 $olv_i3^*$  1.0 1.0 1.0 (1.0)  
 $cmy_n3^*$  0.0 0.0 0.0 (0.0)  
 $olv_i4^*$  1.0 1.0 1.0 1.0  
 $cmy_n4^*$  0.0 0.0 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  67.55 0.74 -24.71

$LAB^*LABa$  67.55 0.7 -24.72

$LAB^*TCh_a$  75.0 24.74 271.63

relative CIELAB lab\*

$lab^*lab$  0.64 0.014 -0.499

$lab^*tch$  0.75 0.5 0.755

$lab^*nch$  0.0 0.5 0.755

relative Natural Colour (NC)

$lab^*lrij$  0.64 0.0 -0.499

$lab^*tce$  0.75 0.5 0.75

$lab^*ncE$  0.0 0.5 b00r

$n^* = 0,00$

blackness  $n^*$

$n^* = 1,0$

chromaticness  $c^*$

### Input: Colorimetric Reflective System NRS18

for hue  $h^* = lab^*h = 272/360 = 0.755$

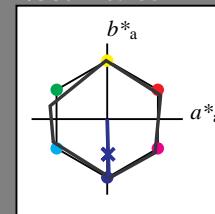
$lab^*tch$  and  $lab^*nch$

D65: hue B

LCH\*Ma: 57 76 272

olv\*Ma: 0.0 0.02 1.0

triangle lightness  $t^*$



%Gamut

$u^*_{rel} = 100$

%Regularity

$g^*_{H,rel} = 47$

$g^*_{C,rel} = 100$

relative Inform. Technology (IT)

$olv_i3^*$  1.0 1.0 1.0 (1.0)

$cmy_n3^*$  0.0 0.0 0.0 (0.0)

$olv_i4^*$  1.0 1.0 1.0 1.0

$cmy_n4^*$  0.0 0.0 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  95.41 0.0 0.0

$LAB^*LAB_a$  95.41 0.0 0.0

$LAB^*TCh_a$  99.99 0.01 -

relative CIELAB lab\*

$lab^*lab$  1.0 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*ice$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)

$olv_i3^*$  0.5 0.5 0.5 (1.0)

$cmy_n3^*$  0.5 0.5 0.5 (0.0)

$olv_i4^*$  1.0 1.0 1.0 0.5

$cmy_n4^*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  56.72 0.05 0.0

$LAB^*LAB_a$  56.72 0.0 0.0

$LAB^*TCh_a$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.5 0.0 0.0

$lab^*ice$  0.5 0.0 0.0

$lab^*ncE$  0.5 0.0 -

relative Inform. Technology (IT)

$olv_i3^*$  0.0 0.0 0.0 (1.0)

$cmy_n3^*$  1.0 1.0 1.0 (0.0)

$olv_i4^*$  1.0 1.0 1.0 0.0

$cmy_n4^*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.09 0.02

$LAB^*LAB_a$  18.02 0.0 0.0

$LAB^*TCh_a$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*ice$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

### NRS18; adapted (a) CIELAB data

$L^*=L^*_{ab}$   $a^*_{ab}$   $b^*_{ab}$   $C^*_{ab,a}$   $h^*_{ab,a}$

RMa	56.7	70.66	31.47	77.35	24
JMa	56.7	-1.39	77.37	77.39	91
GMa	56.7	-75.46	17.4	77.45	167
G50BMa	56.7	-71.29	-30.25	77.45	203
BMa	56.7	4.0	-77.3	77.41	273
B50RMa	56.7	63.35	-44.4	77.36	325
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	272

### Output: Colorimetric Reflective System NRS18

for hue  $h^* = lab^*h = 272/360 = 0.755$

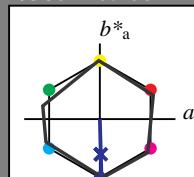
$lab^*tch$  and  $lab^*nch$

D65: hue B

LCH\*Ma: 57 76 272

olv\*Ma: 0.0 0.02 1.0

triangle lightness  $t^*$



%Gamut

$u^*_{rel} = 100$

%Regularity

$g^*_{H,rel} = 47$

$g^*_{C,rel} = 100$

relative Inform. Technology (IT)

$olv_i3^*$  1.0 1.0 1.0 (1.0)

$cmy_n3^*$  0.0 0.0 0.0 (0.0)

$olv_i4^*$  1.0 1.0 1.0 1.0

$cmy_n4^*$  0.0 0.0 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  95.41 0.0 0.0

$LAB^*LAB_a$  95.41 0.0 0.0

$LAB^*TCh_a$  99.99 0.01 -

relative CIELAB lab\*

$lab^*lab$  1.0 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*ice$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)

$olv_i3^*$  0.5 0.5 0.5 (1.0)

$cmy_n3^*$  0.5 0.5 0.5 (0.0)

$olv_i4^*$  1.0 1.0 1.0 0.5

$cmy_n4^*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  76.05 1.12 -38.06

$LAB^*LAB_a$  76.05 1.09 -38.07

$LAB^*TCh_a$  75.0 38.09 271.64

relative CIELAB lab\*

$lab^*lab$  0.75 0.014 -0.499

$lab^*tch$  0.75 0.5 0.755

$lab^*nch$  0.0 0.5 0.755

relative Natural Colour (NC)

$lab^*lrij$  0.75 0.0 -0.499

$lab^*ice$  0.75 0.5 0.75

$lab^*ncE$  0.0 1.0 600r

$n^* = 0,00$

blackness  $n^*$

chromaticness  $c^*$

$n^* = 0,00$

blackness  $n^*$

chromaticness  $c^*$

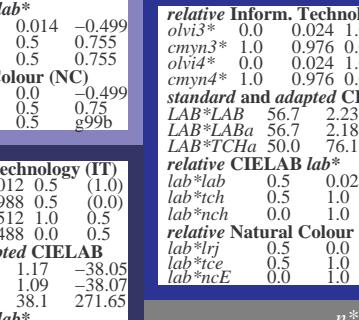
$n^* = 1,0$

3 step scales for constant CIELAB hue 272/360 = 0.755 (right)

### NRS18; adapted (a) CIELAB data

$L^*=L^*_{ab}$   $a^*_{ab}$   $b^*_{ab}$   $C^*_{ab,a}$   $h^*_{ab,a}$

RMa	56.7	70.66	31.47	77.35	24
JMa	56.7	-1.39	77.37	77.39	91
GMa	56.7	-75.46	17.4	77.45	167
G50BMa	56.7	-71.29	-30.25	77.45	203
BMa	56.7	4.0	-77.3	77.41	273
B50RMa	56.7	63.35	-44.4	77.36	325
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	272



%Gamut

$u^*_{rel} = 100$

%Regularity

$g^*_{H,rel} = 47$

$g^*_{C,rel} = 100$

relative Inform. Technology (IT)

$olv_i3^*$  1.0 1.0 1.0 (1.0)

$cmy_n3^*$  0.0 0.0 0.0 (0.0)

$olv_i4^*$  1.0 1.0 1.0 1.0

$cmy_n4^*$  0.0 0.0 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  76.05 1.12 -38.06

$LAB^*LAB_a$  76.05 1.09 -38.07

$LAB^*TCh_a$  75.0 38.09 271.64

relative CIELAB lab\*

$lab^*lab$  0.75 0.014 -0.499

$lab^*tch$  0.75 0.5 0.755

$lab^*nch$  0.0 0.5 0.755

relative Natural Colour (NC)

$lab^*lrij$  0.75 0.0 -0.499

$lab^*ice$  0.75 0.5 0.75

$lab^*ncE$  0.0 1.0 600r

$n^* = 0,00$

blackness  $n^*$

chromaticness  $c^*$

$n^* = 1,0$

blackness  $n^*$

chromaticness  $c^*$

UE100-7, 3 step scales for constant CIELAB hue 272/360 = 0.755 (left)

## Input: Colorimetric Reflective System NRS18

for hue  $h^* = lab^*h = 272/360 = 0.755$

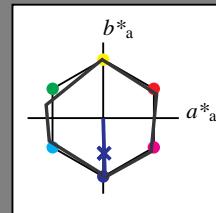
$lab^*tch$  and  $lab^*nch$

D65: hue B

LCH\*Ma: 57 76 272

olv\*Ma: 0.0 0.02 1.0

triangle lightness  $t^*$



%Gamut

$u^*_{rel} = 100$

%Regularity

$g^*_{H,rel} = 47$

$g^*_{C,rel} = 100$

relative Inform. Technology (IT)  
 $olv_i3^*$  1.0 1.0 1.0 (1.0)  
 $cmy_n3^*$  0.0 0.0 0.0 (0.0)  
 $olv_i4^*$  1.0 1.0 1.0 1.0  
 $cmy_n4^*$  0.0 0.0 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  95.41 0.0 0.0

$LAB^*LAB_a$  95.41 0.0 0.0

$LAB^*TCh_a$  99.99 0.01 -

relative CIELAB lab\*

$lab^*lab$  1.0 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*ice$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)  
 $olv_i3^*$  0.5 0.5 0.5 (1.0)  
 $cmy_n3^*$  0.5 0.5 0.5 (0.0)  
 $olv_i4^*$  1.0 1.0 1.0 0.5  
 $cmy_n4^*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  56.72 0.05 0.0

$LAB^*LAB_a$  56.72 0.0 0.0

$LAB^*TCh_a$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.5 0.0 0.0

$lab^*ice$  0.5 0.0 0.0

$lab^*ncE$  0.5 0.0 -

relative Inform. Technology (IT)  
 $olv_i3^*$  0.0 0.0 0.0 (1.0)  
 $cmy_n3^*$  1.0 1.0 1.0 (0.0)  
 $olv_i4^*$  1.0 1.0 1.0 0.0  
 $cmy_n4^*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.09 0.02

$LAB^*LAB_a$  18.02 0.0 0.0

$LAB^*TCh_a$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*ice$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

## NRS18; adapted (a) CIELAB data

$L^*=L^*_{a,a}$   $a^*_{a,a}$   $b^*_{a,a}$   $C^*_{ab,a}$   $h^*_{ab,a}$

RMa	56.7	70.66	31.47	77.35	24
JMa	56.7	-1.39	77.37	77.39	91
GMa	56.7	-75.46	17.4	77.45	167
G50BMa	56.7	-71.29	-30.25	77.45	203
BMa	56.7	4.0	-77.3	77.41	273
B50RMa	56.7	63.35	-44.4	77.36	325
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	272

## Output: Colorimetric Reflective System NCS18

for hue  $h^* = lab^*h = 272/360 = 0.755$

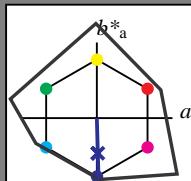
$lab^*tch$  and  $lab^*nch$

D65: hue B

LCH\*Ma: 49 80 272

olv\*Ma: 0.0 0.02 1.0

triangle lightness  $t^*$



%Gamut

$u^*_{rel} = 136$

%Regularity

$g^*_{H,rel} = 46$

$g^*_{C,rel} = 65$

relative Inform. Technology (IT)  
 $olv_i3^*$  1.0 1.0 1.0 (1.0)  
 $cmy_n3^*$  0.0 0.0 0.0 (0.0)  
 $olv_i4^*$  1.0 1.0 1.0 1.0  
 $cmy_n4^*$  0.0 0.0 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  95.41 0.0 -0.01

$LAB^*LAB_a$  95.41 0.0 0.0

$LAB^*TCh_a$  99.99 0.01 -

relative CIELAB lab\*

$lab^*lab$  1.0 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*ice$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)  
 $olv_i3^*$  0.5 0.5 0.5 (1.0)  
 $cmy_n3^*$  0.5 0.5 0.5 (0.0)  
 $olv_i4^*$  0.5 0.508 1.0 1.0  
 $cmy_n4^*$  0.5 0.492 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  72.29 1.18 -40.2

$LAB^*LAB_a$  72.29 1.15 -40.21

$LAB^*TCh_a$  75.0 40.23 271.64

relative CIELAB lab\*

$lab^*lab$  0.701 0.014 -0.499

$lab^*tch$  0.75 0.5 0.755

$lab^*nch$  0.0 0.5 0.755

relative Natural Colour (NC)

$lab^*lrij$  0.701 0.0 -0.499

$lab^*ice$  0.75 0.5 0.75

$lab^*ncE$  0.0 0.5 0.759

relative Inform. Technology (IT)  
 $olv_i3^*$  0.0 0.016 1.0 (1.0)  
 $cmy_n3^*$  1.0 0.984 0.0 (0.0)  
 $olv_i4^*$  0.0 0.016 1.0 1.0  
 $cmy_n4^*$  1.0 0.984 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  49.18 2.37 -80.41

$LAB^*LAB_a$  49.18 2.3 -80.43

$LAB^*TCh_a$  50.0 80.47 271.64

relative CIELAB lab\*

$lab^*lab$  0.403 0.029 -0.998

$lab^*tch$  0.5 1.0 0.755

$lab^*nch$  0.0 1.0 0.755

relative Natural Colour (NC)

$lab^*lrij$  0.403 0.0 -0.999

$lab^*ice$  0.5 1.0 0.75

$lab^*ncE$  0.0 1.0 0.759

$n^* = 0,00$

blackness  $n^*$

$n^* = 1,0$

## NCS18; adapted (a) CIELAB data

$L^*=L^*_{a,a}$   $a^*_{a,a}$   $b^*_{a,a}$   $C^*_{ab,a}$   $h^*_{ab,a}$

RMa	47.15	84.63	37.24	92.46	24
JMa	91.37	-1.27	125.03	125.03	91
GMa	63.07	-114.29	25.34	117.07	167
G50BMa	59.47	-80.61	-33.45	87.29	203
BMa	49.01	3.63	-81.2	81.29	273
B50RMa	44.06	106.07	-73.94	129.31	325
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	272

relative Inform. Technology (IT)  
 $olv_i3^*$  1.0 1.0 1.0 (1.0)  
 $cmy_n3^*$  0.0 0.0 0.0 (0.0)  
 $olv_i4^*$  1.0 1.0 1.0 1.0  
 $cmy_n4^*$  0.0 0.0 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  95.41 0.0 -0.01

$LAB^*LAB_a$  95.41 0.0 0.0

$LAB^*TCh_a$  99.99 0.01 -

relative CIELAB lab\*

$lab^*lab$  1.0 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*ice$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)  
 $olv_i3^*$  0.5 0.5 0.5 (1.0)  
 $cmy_n3^*$  0.5 0.5 0.5 (0.0)  
 $olv_i4^*$  0.5 0.508 1.0 1.0  
 $cmy_n4^*$  0.5 0.492 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  72.29 1.18 -40.2

$LAB^*LAB_a$  72.29 1.15 -40.21

$LAB^*TCh_a$  75.0 40.23 271.64

relative CIELAB lab\*

$lab^*lab$  0.701 0.014 -0.499

$lab^*tch$  0.75 0.5 0.755

$lab^*nch$  0.0 0.5 0.755

relative Natural Colour (NC)

$lab^*lrij$  0.701 0.0 -0.499

$lab^*ice$  0.75 0.5 0.75

$lab^*ncE$  0.0 0.5 0.759

$n^* = 0,00$

blackness  $n^*$

$n^* = 1,0$

UE100-7, 3 step scales for constant CIELAB hue 272/360 = 0.755 (left)

3 step scales for constant CIELAB hue 272/360 = 0.755 (right)

## Input: Colorimetric Reflective System NRS18

for hue  $h^* = lab^*h = 272/360 = 0.755$

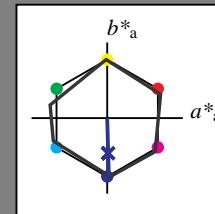
$lab^*tch$  and  $lab^*nch$

D65: hue B

LCH\*Ma: 57 76 272

olv\*Ma: 0.0 0.02 1.0

triangle lightness  $t^*$



## NRS18; adapted (a) CIELAB data

	$L^*=L_a^*$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	56.7	70.66	31.47	77.35	24
JMa	56.7	-1.39	77.37	77.39	91
GMa	56.7	-75.46	17.4	77.45	167
G50BMa	56.7	-71.29	-30.25	77.45	203
BMa	56.7	4.0	-77.3	77.41	273
B50RMa	56.7	63.35	-44.4	77.36	325
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	272

relative Inform. Technology (IT)  
 $olv_i3^*$  1.0 1.0 1.0 (1.0)  
 $cmy_n3^*$  0.0 0.0 0.0 (0.0)  
 $olv_i4^*$  1.0 1.0 1.0 1.0  
 $cmy_n4^*$  0.0 0.0 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  95.41 0.0 0.0  
 $LAB^*LABa$  95.41 0.0 0.0  
 $LAB^*TCh$  99.99 0.01 -

relative CIELAB lab\*

$lab^*lab$  1.0 0.0 0.0  
 $lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0  
 $lab^*ice$  1.0 0.0 0.0  
 $lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)  
 $olv_i3^*$  0.5 0.5 0.5 (1.0)  
 $cmy_n3^*$  0.5 0.5 0.5 (0.0)  
 $olv_i4^*$  1.0 1.0 1.0 0.5  
 $cmy_n4^*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  56.72 0.05 0.0  
 $LAB^*LABa$  56.72 0.0 0.0  
 $LAB^*TCh$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0  
 $lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.5 0.0 0.0  
 $lab^*ice$  0.5 0.0 0.0  
 $lab^*ncE$  0.5 0.0 -

relative Inform. Technology (IT)  
 $olv_i3^*$  0.0 0.0 0.0 (1.0)  
 $cmy_n3^*$  1.0 1.0 1.0 (0.0)  
 $olv_i4^*$  1.0 1.0 1.0 0.0  
 $cmy_n4^*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.09 0.02  
 $LAB^*LABa$  18.02 0.0 0.0  
 $LAB^*TCh$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0  
 $lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0  
 $lab^*ice$  0.0 0.0 -  
 $lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

%Gamut

$u^*_{rel} = 100$

%Regularity

$g^*_{H,rel} = 47$

$g^*_{C,rel} = 100$

relative Inform. Technology (IT)

$olv_i3^*$  0.5 0.512 1.0 (1.0)

$cmy_n3^*$  0.5 0.488 0.0 (0.0)

$olv_i4^*$  0.5 0.512 1.0 1.0

$cmy_n4^*$  0.5 0.488 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  76.05 1.12 -38.06

$LAB^*LABa$  76.05 1.09 -38.07

$LAB^*TCh$  75.0 38.09 271.64

relative CIELAB lab\*

$lab^*lab$  0.75 0.014 -0.499

$lab^*tch$  0.75 0.5 0.755

$lab^*nch$  0.0 0.5 0.755

relative Natural Colour (NC)

$lab^*lrij$  0.75 0.0 -0.499

$lab^*ice$  0.75 0.5 0.75

$lab^*ncE$  0.0 0.5 0.998

relative Inform. Technology (IT)

$olv_i3^*$  0.0 0.024 1.0 (1.0)

$cmy_n3^*$  1.0 0.976 0.0 (0.0)

$olv_i4^*$  0.0 0.024 1.0 1.0

$cmy_n4^*$  1.0 0.976 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  56.7 2.23 -76.13

$LAB^*LABa$  56.7 2.18 -76.15

$LAB^*TCh$  50.0 76.19 271.64

relative CIELAB lab\*

$lab^*lab$  0.5 0.029 -0.998

$lab^*tch$  0.5 1.0 0.755

$lab^*nch$  0.0 1.0 0.755

relative Natural Colour (NC)

$lab^*lrij$  0.5 0.0 -0.999

$lab^*ice$  0.5 1.0 0.75

$lab^*ncE$  0.0 1.0 600r

relative Inform. Technology (IT)

$olv_i3^*$  0.0 0.012 0.5 (1.0)

$cmy_n3^*$  1.0 0.988 0.5 (0.0)

$olv_i4^*$  0.5 0.512 1.0 0.5

$cmy_n4^*$  0.5 0.488 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  37.36 1.17 -38.05

$LAB^*LABa$  37.36 1.09 -38.07

$LAB^*TCh$  25.01 38.1 271.65

relative CIELAB lab\*

$lab^*lab$  0.25 0.014 -0.499

$lab^*tch$  0.25 0.5 0.755

$lab^*nch$  0.5 0.5 0.755

relative Natural Colour (NC)

$lab^*lrij$  0.25 0.0 -0.499

$lab^*ice$  0.25 0.5 0.75

$lab^*ncE$  0.5 0.5 600r

$n^* = 0,00$

$n^* = 0,00$

blackness  $n^*$

chromaticness  $c^*$

## Output: Colorimetric Reflective System NRS11

for hue  $h^* = lab^*h = 272/360 = 0.755$

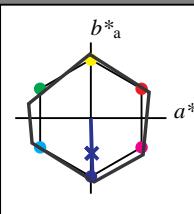
$lab^*tch$  and  $lab^*nch$

D65: hue B

LCH\*Ma: 53 83 272

olv\*Ma: 0.0 0.02 1.0

triangle lightness  $t^*$



## NRS11; adapted (a) CIELAB data

	$L^*=L_a^*$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	53.2	77.06	34.32	84.36	24
JMa	53.2	-1.51	84.38	84.39	91
GMa	53.2	-82.27	18.98	84.44	167
G50BMa	53.2	-77.72	-32.98	84.44	203
BMa	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)  
 $olv_i3^*$  1.0 1.0 1.0 (1.0)  
 $cmy_n3^*$  0.0 0.0 0.0 (0.0)  
 $olv_i4^*$  1.0 1.0 1.0 1.0  
 $cmy_n4^*$  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

$LAB^*TCh$  99.99 0.01 -

relative CIELAB lab\*

$lab^*lab$  1.0 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*ice$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)

$olv_i3^*$  0.5 0.512 1.0 (1.0)

$cmy_n3^*$  0.5 0.488 0.0 (0.0)

$olv_i4^*$  0.5 0.512 1.0 1.0

$cmy_n4^*$  0.5 0.488 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  74.3 1.23 -41.51

$LAB^*LABa$  74.3 1.2 -41.52

$LAB^*TCh$  75.0 41.54 271.66

relative CIELAB lab\*

$lab^*lab$  0.75 0.014 -0.499

$lab^*tch$  0.75 0.5 0.755

$lab^*nch$  0.0 0.5 0.755

relative Natural Colour (NC)

$lab^*lrij$  0.75 0.0 -0.499

$lab^*ice$  0.75 0.5 0.75

$lab^*ncE$  0.0 0.5 600r

$n^* = 1,0$

3 step scales for constant CIELAB hue 272/360 = 0.755 (left)

$n^* = 0,00$

blackness  $n^*$

chromaticness  $c^*$

$n^* = 1,0$

3 step scales for constant CIELAB hue 272/360 = 0.755 (right)

$n^* = 0,00$

blackness  $n^*$

chromaticness  $c^*$

UE100-7, 3 step scales for constant CIELAB hue 272/360 = 0.755 (left)

$n^* = 1,0$

blackness  $n^*$

chromaticness  $c^*$

### Input: Colorimetric Reflective System NRS18

for hue  $h^* = lab^*h = 272/360 = 0.755$

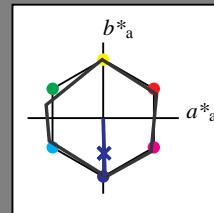
$lab^*tch$  and  $lab^*nch$

D65: hue B

LCH\*Ma: 57 76 272

olv\*Ma: 0.0 0.02 1.0

triangle lightness  $t^*$



### NRS18; adapted (a) CIELAB data

	$L^*=L_a^*$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	56.7	70.66	31.47	77.35	24
JMa	56.7	-1.39	77.37	77.39	91
GMa	56.7	-75.46	17.4	77.45	167
G50BMa	56.7	-71.29	-30.25	77.45	203
BMa	56.7	4.0	-77.3	77.41	273
B50RMa	56.7	63.35	-44.4	77.36	325
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	272

relative Inform. Technology (IT)  
 $olv_i3^*$  1.0 1.0 1.0 (1.0)  
 $cmyn3^*$  0.0 0.0 0.0 (0.0)  
 $olv_i4^*$  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 0.0  
 $LAB^*LABa$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0  
 $lab^*tce$  1.0 0.0 0.0  
 $lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)  
 $olv_i3^*$  0.5 0.5 0.5 (1.0)  
 $cmyn3^*$  0.5 0.5 0.5 (0.0)  
 $olv_i4^*$  1.0 1.0 1.0 0.5  
 $cmyn4^*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  56.72 0.05 0.0  
 $LAB^*LABa$  56.72 0.0 0.0  
 $LAB^*TChA$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0  
 $lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.5 0.0 0.0  
 $lab^*tce$  0.5 0.0 0.0  
 $lab^*ncE$  0.5 0.0 -

relative Inform. Technology (IT)  
 $olv_i3^*$  0.0 0.0 0.0 (1.0)  
 $cmyn3^*$  1.0 1.0 1.0 (0.0)  
 $olv_i4^*$  1.0 1.0 1.0 0.0  
 $cmyn4^*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.09 0.02  
 $LAB^*LABa$  18.02 0.0 0.0  
 $LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0  
 $lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0  
 $lab^*tce$  0.0 0.0 -  
 $lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

### NRS18; adapted (a) CIELAB data

	$L^*=L_a^*$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	56.7	70.66	31.47	77.35	24
JMa	56.7	-1.39	77.37	77.39	91
GMa	56.7	-75.46	17.4	77.45	167
G50BMa	56.7	-71.29	-30.25	77.45	203
BMa	56.7	4.0	-77.3	77.41	273
B50RMa	56.7	63.35	-44.4	77.36	325
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	272

%Gamut

$u^*_{rel} = 100$

%Regularity

$g^*_{H,rel} = 47$

$g^*_{C,rel} = 100$

relative Inform. Technology (IT)

$olv_i3^*$  0.5 0.512 1.0 (1.0)

$cmyn3^*$  0.5 0.488 0.0 (0.0)

$olv_i4^*$  0.5 0.512 1.0 1.0

$cmyn4^*$  0.5 0.488 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  76.05 1.12 -38.06  
 $LAB^*LABa$  76.05 1.09 -38.07  
 $LAB^*TChA$  75.0 38.09 271.64

relative CIELAB lab\*

$lab^*lab$  0.75 0.014 -0.499

$lab^*tch$  0.75 0.5 0.755

$lab^*nch$  0.0 0.5 0.755

relative Natural Colour (NC)

$lab^*lrij$  0.75 0.0 -0.499

$lab^*tce$  0.75 0.5 0.75

$lab^*ncE$  0.0 0.5 0.998

relative Inform. Technology (IT)

$olv_i3^*$  0.0 0.024 1.0 (1.0)

$cmyn3^*$  1.0 0.976 0.0 (0.0)

$olv_i4^*$  0.0 0.024 1.0 1.0

$cmyn4^*$  1.0 0.976 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  56.7 2.23 -76.13  
 $LAB^*LABa$  56.7 2.18 -76.15  
 $LAB^*TChA$  50.0 76.19 271.64

relative CIELAB lab\*

$lab^*lab$  0.5 0.029 -0.998

$lab^*tch$  0.5 1.0 0.755

$lab^*nch$  0.0 1.0 0.755

relative Natural Colour (NC)

$lab^*lrij$  0.5 0.0 -0.999

$lab^*tce$  0.5 1.0 0.75

$lab^*ncE$  0.0 1.0 0.600r

relative Inform. Technology (IT)

$olv_i3^*$  0.0 0.008 0.5 (1.0)

$cmyn3^*$  1.0 0.992 0.5 (0.0)

$olv_i4^*$  0.5 0.508 1.0 0.5

$cmyn4^*$  0.5 0.492 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  53.21 0.04 0.0  
 $LAB^*LABa$  53.21 0.0 0.0  
 $LAB^*TChA$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*tce$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 0,00$

blackness  $n^*$

chromaticness  $c^*$

### Output: Colorimetric Reflective System NCS11

for hue  $h^* = lab^*h = 272/360 = 0.755$

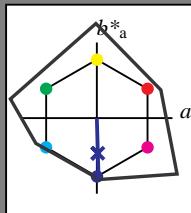
$lab^*tch$  and  $lab^*nch$

D65: hue B

LCH\*Ma: 49 80 272

olv\*Ma: 0.0 0.02 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

%Gamut

$u^*_{rel} = 149$

%Regularity

$g^*_{H,rel} = 46$

$g^*_{C,rel} = 65$

relative Inform. Technology (IT)

$olv_i3^*$  1.0 0.508 1.0 (1.0)

$cmyn3^*$  0.5 0.492 0.0 (0.0)

$olv_i4^*$  0.5 0.508 1.0 1.0

$cmyn4^*$  0.5 0.492 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  72.29 1.2 -40.21  
 $LAB^*LABa$  72.29 1.17 -40.21  
 $LAB^*TChA$  75.0 40.24 271.66

relative CIELAB lab\*

$lab^*lab$  0.726 0.014 -0.499

$lab^*tch$  0.75 0.5 0.755

$lab^*nch$  0.0 0.5 0.755

relative Natural Colour (NC)

$lab^*lrij$  0.726 0.0 -0.499

$lab^*tce$  0.75 0.5 0.75

$lab^*ncE$  0.0 0.5 0.99b

relative Inform. Technology (IT)

$olv_i3^*$  0.0 0.008 0.5 (1.0)

$cmyn3^*$  1.0 0.992 0.5 (0.0)

$olv_i4^*$  0.5 0.508 1.0 0.5

$cmyn4^*$  0.5 0.492 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  30.09 1.24 -40.2  
 $LAB^*LABa$  30.09 1.18 -40.21  
 $LAB^*TChA$  25.01 40.24 271.67

relative CIELAB lab\*

$lab^*lab$  0.226 0.015 -0.499

$lab^*tch$  0.25 0.5 0.755

$lab^*nch$  0.5 0.5 0.755

relative Natural Colour (NC)

$lab^*lrij$  0.226 0.0 -0.499

$lab^*tce$  0.25 0.5 0.75

$lab^*ncE$  0.5 0.5 0.99b

$n^* = 1,00$

blackness  $n^*$

chromaticness  $c^*$

3 step scales for constant CIELAB hue 272/360 = 0.755 (left)

3 step scales for constant CIELAB hue 272/360 = 0.755 (right)

## Input: Colorimetric Reflective System NCS18

for hue  $h^* = lab^*h = 272/360 = 0.755$

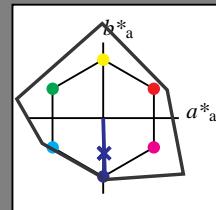
$lab^*tch$  and  $lab^*nch$

D65: hue B

LCH\*Ma: 49 80 272

olv\*Ma: 0.0 0.02 1.0

triangle lightness  $t^*$



relative Inform. Technology (IT)

olv13\* 1.0 1.0 1.0 (1.0)

cmyn3\* 0.0 0.0 0.0 (0.0)

olv14\* 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 0.0 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)

olv13\* 0.5 0.5 0.5 (1.0)

cmyn3\* 0.5 0.5 0.5 (0.0)

olv14\* 1.0 1.0 1.0 0.5

cmyn4\* 0.0 0.0 0.0 0.5

standard and adapted CIELAB

LAB\*LAB 56.72 0.05 0.0

LAB\*LABa 56.72 0.0 0.0

LAB\*TChA 50.0 0.01 -

relative CIELAB lab\*

lab\*lab 0.5 0.0 0.0

lab\*tch 0.5 0.0 -

lab\*nch 0.5 0.0 -

relative Natural Colour (NC)

lab\*lrj 0.5 0.0 0.0

lab\*tce 0.5 0.0 0.0

lab\*ncE 0.5 0.0 -

relative Inform. Technology (IT)

olv13\* 0.0 0.0 0.0 (1.0)

cmyn3\* 1.0 1.0 1.0 (0.0)

olv14\* 1.0 1.0 1.0 0.0

cmyn4\* 0.0 0.0 0.0 1.0

standard and adapted CIELAB

LAB\*LAB 18.02 0.09 0.02

LAB\*LABa 18.02 0.0 0.0

LAB\*TChA 0.01 0.01 -

relative CIELAB lab\*

lab\*lab 0.0 0.0 0.0

lab\*tch 0.0 0.0 -

lab\*nch 1.0 0.0 -

relative Natural Colour (NC)

lab\*lrj 0.0 0.0 0.0

lab\*tce 0.0 0.0 0.0

lab\*ncE 1.0 0.0 -

$n^* = 1,0$

## NCS18; adapted (a) CIELAB data

$L^*=L^*_{ab}$   $a^*_{ab}$   $b^*_{ab}$   $C^*_{ab,a}$   $h^*_{ab,a}$

RMa	47.15	84.63	37.24	92.46	24
JMa	91.37	-1.27	125.03	125.03	91
GMa	63.07	-114.29	25.34	117.07	167
G50BMa	59.47	-80.61	-33.45	87.29	203
BMa	49.01	3.63	-81.2	81.29	273
B50RMa	44.06	106.07	-73.94	129.31	325
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	272

%Gamut

$u^*_{rel} = 136$

%Regularity

$g^*_{H,rel} = 46$

$g^*_{C,rel} = 65$

relative Inform. Technology (IT)

olv13\* 0.5 0.508 1.0 (1.0)

cmyn3\* 0.5 0.492 0.0 (0.0)

olv14\* 0.5 0.508 1.0 1.0

cmyn4\* 0.5 0.492 0.0 0.0

standard and adapted CIELAB

LAB\*LAB 72.29 1.18 -40.2

LAB\*LABa 72.29 1.15 -40.21

LAB\*TChA 75.0 40.23 271.64

relative CIELAB lab\*

lab\*lab 0.701 0.014 -0.499

lab\*tch 0.75 0.5 0.755

lab\*nch 0.0 0.5 0.755

relative Natural Colour (NC)

lab\*lrj 0.701 0.0 -0.499

lab\*tce 0.75 0.5 0.75

lab\*ncE 0.0 0.5 0.998

relative Inform. Technology (IT)

olv13\* 0.0 0.008 0.5 (1.0)

cmyn3\* 1.0 0.992 0.5 (0.0)

olv14\* 0.5 0.508 1.0 0.5

cmyn4\* 0.5 0.492 0.0 0.5

standard and adapted CIELAB

LAB\*LAB 49.18 2.37 -80.41

LAB\*LABa 49.18 2.3 -80.43

LAB\*TChA 50.0 80.47 271.64

relative CIELAB lab\*

lab\*lab 0.403 0.029 -0.998

lab\*tch 0.5 1.0 0.755

lab\*nch 0.0 1.0 0.755

relative Natural Colour (NC)

lab\*lrj 0.403 0.0 -0.999

lab\*tce 0.5 1.0 0.75

lab\*ncE 0.0 1.0 0.600r

relative Inform. Technology (IT)

olv13\* 0.0 0.0 0.0 (1.0)

cmyn3\* 1.0 1.0 1.0 (0.0)

olv14\* 1.0 1.0 1.0 0.0

cmyn4\* 0.0 0.0 0.0 1.0

standard and adapted CIELAB

LAB\*LAB 33.6 1.24 -40.19

LAB\*LABa 33.6 1.16 -40.21

LAB\*TChA 25.01 40.24 271.65

relative CIELAB lab\*

lab\*lab 0.201 0.014 -0.499

lab\*tch 0.25 0.5 0.755

lab\*nch 0.5 0.5 0.755

relative Natural Colour (NC)

lab\*lrj 0.201 0.0 -0.499

lab\*tce 0.25 0.5 0.75

lab\*ncE 0.5 0.5 0.600r

$n^* = 0,00$



chromaticness  $c^*$

0,25 0,50  $n^* = 0,50$  0,75 1,00

## Output: Colorimetric Reflective System ORS18

for hue  $h^* = lab^*h = 271/360 = 0.754$

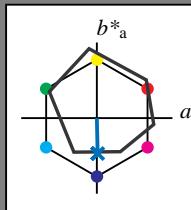
$lab^*tch$  and  $lab^*nch$

D65: hue B

LCH\*Ma: 42 45 271

olv\*Ma: 0.0 0.49 1.0

triangle lightness  $t^*$



%Gamut

$u^*_{rel} = 93$

%Regularity

$g^*_{H,rel} = 57$

$g^*_{C,rel} = 59$

relative Inform. Technology (IT)

olv13\* 1.0 1.0 1.0 (1.0)

cmyn3\* 0.0 0.0 0.0 (0.0)

olv14\* 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\*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 0.0 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)

olv13\* 0.5 0.744 1.0 (1.0)

cmyn3\* 0.5 0.256 0.0 (0.0)

olv14\* 0.5 0.744 1.0 1.0

cmyn4\* 0.5 0.256 0.0 0.0

standard and adapted CIELAB

LAB\*LAB 68.59 0.08 -19.4

LAB\*LABa 68.59 0.54 -22.35

LAB\*TChA 75.0 22.36 271.4

relative CIELAB lab\*

lab\*lab 0.654 0.012 -0.499

lab\*tch 0.75 0.5 0.754

lab\*nch 0.0 0.5 0.754

relative Natural Colour (NC)

lab\*lrj 0.654 0.0 -0.499

lab\*tce 0.75 0.5 0.75

lab\*ncE 0.0 0.5 0.600r

$n^* = 1,0$

blackness  $n^*$

0,25 0,50  $n^* = 0,50$  0,75 1,00

chromaticness  $c^*$

0,25 0,50  $n^* = 0,00$  0,75 1,00

## ORS18; adapted (a) CIELAB data

$L^*=L^*_{ab}$   $a^*_{ab}$   $b^*_{ab}$   $C^*_{ab,a}$   $h^*_{ab,a}$

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)

olv13\* 0.0 0.488 1.0 (1.0)

cmyn3\* 1.0 0.512 0.0 (0.0)

olv14\* 0.0 0.488 1.0 1.0

cmyn4\* 1.0 0.512 0.0 0.0

standard and adapted CIELAB

LAB\*LAB 41.79 1.14 -43.56

LAB\*LABa 41.79 1.1 -44.7

LAB\*TChA 50.0 44.73 271.4

relative CIELAB lab\*

## Input: Colorimetric Reflective System NCS18

for hue  $h^* = lab^*h = 272/360 = 0.755$

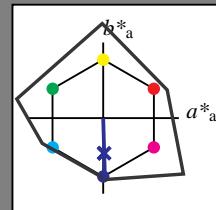
$lab^*tch$  and  $lab^*nch$

D65: hue B

LCH\*Ma: 49 80 272

olv\*Ma: 0.0 0.02 1.0

triangle lightness  $t^*$



%Gamut

$u^*_{rel} = 136$

%Regularity

$g^*_{H,rel} = 46$

$g^*_{C,rel} = 65$

relative Inform. Technology (IT)

$olv13^*$  1.0 1.0 1.0 (1.0)

$cmyn3^*$  0.0 0.0 0.0 (0.0)

$olv14^*$  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

$LAB^*TCh$  99.99 0.01 -

relative CIELAB lab\*

$lab^*lab$  1.0 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 -

$lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)

$olv13^*$  0.5 0.5 0.5 (1.0)

$cmyn3^*$  0.5 0.5 0.5 (0.0)

$olv14^*$  1.0 1.0 1.0 0.5

$cmyn4^*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  56.72 0.05 0.0

$LAB^*LABa$  56.72 0.0 0.0

$LAB^*TCh$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.5 0.0 0.0

$lab^*tce$  0.5 0.0 -

$lab^*ncE$  0.5 0.0 -

relative Inform. Technology (IT)

$olv13^*$  0.0 0.0 0.0 (1.0)

$cmyn3^*$  1.0 1.0 1.0 (0.0)

$olv14^*$  1.0 1.0 1.0 0.0

$cmyn4^*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.09 0.02

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TCh$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*tce$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

## NCS18; adapted (a) CIELAB data

$L^*=L^*_{ab}$   $a^*_{ab}$   $b^*_{ab}$   $C^*_{ab,a}$   $h^*_{ab,a}$

RMa	47.15	84.63	37.24	92.46	24
JMa	91.37	-1.27	125.03	125.03	91
GMa	63.07	-114.29	25.34	117.07	167
G50BMa	59.47	-80.61	-33.45	87.29	203
BMa	49.01	3.63	-81.2	81.29	273
B50RMa	44.06	106.07	-73.94	129.31	325
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	272

## Output: Colorimetric Reflective System MRS18

for hue  $h^* = lab^*h = 271/360 = 0.754$

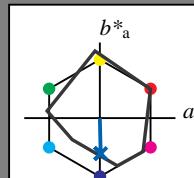
$lab^*tch$  and  $lab^*nch$

D65: hue B

LCH\*Ma: 40 50 271

olv\*Ma: 0.0 0.37 1.0

triangle lightness  $t^*$



%Gamut

$u^*_{rel} = 91$

%Regularity

$g^*_{H,rel} = 41$

$g^*_{C,rel} = 52$

relative Inform. Technology (IT)

$olv13^*$  1.0 1.0 1.0 (1.0)

$cmyn3^*$  0.0 0.0 0.0 (0.0)

$olv14^*$  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

$LAB^*LABa$  95.41 0.0 0.0

$LAB^*TCh$  99.99 0.01 -

relative CIELAB lab\*

$lab^*lab$  1.0 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 -

$lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)

$olv13^*$  0.5 0.684 1.0 (1.0)

$cmyn3^*$  0.5 0.316 0.0 (0.0)

$olv14^*$  0.5 0.684 1.0 1.0

$cmyn4^*$  0.5 0.316 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  67.57 0.17 -22.28

$LAB^*LABa$  67.57 0.61 -25.16

$LAB^*TCh$  75.0 25.18 271.4

relative CIELAB lab\*

$lab^*lab$  0.64 0.012 -0.499

$lab^*tch$  0.75 0.5 0.754

$lab^*nch$  0.0 0.5 0.754

relative Natural Colour (NC)

$lab^*lrij$  0.64 0.0 -0.499

$lab^*tce$  0.75 0.5 0.75

$lab^*ncE$  0.0 0.5 g99b

relative Inform. Technology (IT)

$olv13^*$  0.0 0.184 0.5 (1.0)

$cmyn3^*$  1.0 0.816 0.5 (0.0)

$olv14^*$  0.5 0.684 1.0 0.5

$cmyn4^*$  0.5 0.316 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.5 -0.46

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TCh$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*tce$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

$n^* = 0,00$

blackness  $n^*$

0,25 0,50  $n^* = 0,50$  0,75 1,00

chromaticness  $c^*$

$n^* = 1,0$

## MRS18; adapted (a) CIELAB data

$L^*=L^*_{ab}$   $a^*_{ab}$   $b^*_{ab}$   $C^*_{ab,a}$   $h^*_{ab,a}$

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

%Gamut

$u^*_{rel} = 91$

%Regularity

$g^*_{H,rel} = 41$

$g^*_{C,rel} = 52$

relative Inform. Technology (IT)

$olv13^*$  1.0 1.0 1.0 (1.0)

$cmyn3^*$  0.0 0.0 0.0 (0.0)

$olv14^*$  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 0.0

$LAB^*LABa$  95.41 0.0 0.0

$LAB^*TCh$  99.99 0.01 -

relative CIELAB lab\*

$lab^*lab$  1.0 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 -

$lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)

$olv13^*$  0.5 0.684 1.0 (1.0)

$cmyn3^*$  0.5 0.316 0.0 (0.0)

$olv14^*$  0.5 0.684 1.0 1.0

$cmyn4^*$  0.5 0.316 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  67.57 0.17 -22.28

$LAB^*LABa$  67.57 0.61 -25.16

$LAB^*TCh$  75.0 25.18 271.4

relative CIELAB lab\*

$lab^*lab$  0.64 0.012 -0.499

$lab^*tch$  0.75 0.5 0.754

$lab^*nch$  0.0 0.5 0.754

relative Natural Colour (NC)

$lab^*lrij$  0.64 0.0 -0.499

$lab^*tce$  0.75 0.5 0.75

$lab^*ncE</$

## Input: Colorimetric Reflective System NCS18

for hue  $h^* = lab^*h = 272/360 = 0.755$

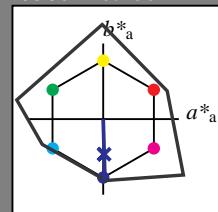
$lab^*tch$  and  $lab^*nch$

D65: hue B

LCH\*Ma: 49 80 272

olv\*Ma: 0.0 0.02 1.0

triangle lightness  $t^*$



**relative Inform. Technology (IT)**  
 $olv_i3^*$  1.0 1.0 1.0 (1.0)  
 $cmyn3^*$  0.0 0.0 0.0 (0.0)  
 $olv_i4^*$  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  
 $LAB^*TCh$  99.99 0.01 -

**relative CIELAB lab\***  
 $lab^*lab$  1.0 0.0 0.0  
 $lab^*tch$  1.0 0.0 -  
 $lab^*nch$  0.0 0.0 -  
**relative Natural Colour (NC)**  
 $lab^*lrij$  1.0 0.0 0.0  
 $lab^*tce$  1.0 0.0 -  
 $lab^*ncE$  0.0 0.0 -

**relative Inform. Technology (IT)**  
 $olv_i3^*$  0.5 0.5 0.5 (1.0)  
 $cmyn3^*$  0.5 0.5 0.5 (0.0)  
 $olv_i4^*$  1.0 1.0 1.0 0.5  
 $cmyn4^*$  0.0 0.0 0.0 0.5  
**standard and adapted CIELAB**  
 $LAB^*LAB$  56.72 0.05 0.0  
 $LAB^*LABa$  56.72 0.0 0.0  
 $LAB^*TCh$  50.0 0.01 -

**relative CIELAB lab\***  
 $lab^*lab$  0.5 0.0 0.0  
 $lab^*tch$  0.5 0.0 -  
 $lab^*nch$  0.5 0.0 -  
**relative Natural Colour (NC)**  
 $lab^*lrij$  0.5 0.0 0.0  
 $lab^*tce$  0.5 0.0 -  
 $lab^*ncE$  0.5 0.0 -

**relative Inform. Technology (IT)**  
 $olv_i3^*$  0.0 0.0 0.0 (1.0)  
 $cmyn3^*$  1.0 1.0 1.0 (0.0)  
 $olv_i4^*$  1.0 1.0 1.0 0.0  
 $cmyn4^*$  0.0 0.0 0.0 1.0  
**standard and adapted CIELAB**  
 $LAB^*LAB$  18.02 0.09 0.02  
 $LAB^*LABa$  18.02 0.0 0.0  
 $LAB^*TCh$  0.01 0.01 -

**relative CIELAB lab\***  
 $lab^*lab$  0.0 0.0 0.0  
 $lab^*tch$  0.0 0.0 -  
 $lab^*nch$  1.0 0.0 -  
**relative Natural Colour (NC)**  
 $lab^*lrij$  0.0 0.0 0.0  
 $lab^*tce$  0.0 0.0 -  
 $lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

## NCS18; adapted (a) CIELAB data

	$L^*=L^*_a$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	47.15	84.63	37.24	92.46	24
JMa	91.37	-1.27	125.03	125.03	91
GMa	63.07	-114.29	25.34	117.07	167
G50BMa	59.47	-80.61	-33.45	87.29	203
BMa	49.01	3.63	-81.2	81.29	273
B50RMa	44.06	106.07	-73.94	129.31	325
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	272

%Gamut

$u^*_{rel} = 136$

%Regularity

$g^*_{H,rel} = 46$

$g^*_{C,rel} = 65$

**relative Inform. Technology (IT)**

$olv_i3^*$  0.5 0.508 1.0 (1.0)

$cmyn3^*$  0.5 0.492 0.0 (0.0)

$olv_i4^*$  0.5 0.508 1.0 1.0

$cmyn4^*$  0.5 0.492 0.0 0.0

**standard and adapted CIELAB**

$LAB^*LAB$  72.29 1.18 -40.2

$LAB^*LABa$  72.29 1.15 -40.21

$LAB^*TCh$  75.0 40.23 271.64

**relative CIELAB lab\***

$lab^*lab$  0.701 0.014 -0.499

$lab^*tch$  0.75 0.5 0.755

$lab^*nch$  0.0 0.5 0.755

**relative Natural Colour (NC)**

$lab^*lrij$  0.701 0.0 -0.499

$lab^*tce$  0.75 0.5 0.75

$lab^*ncE$  0.0 0.5 0.998

**relative Inform. Technology (IT)**

$olv_i3^*$  0.0 0.016 1.0 (1.0)

$cmyn3^*$  1.0 0.984 0.0 (0.0)

$olv_i4^*$  0.0 0.016 1.0 1.0

$cmyn4^*$  1.0 0.984 0.0 0.0

**standard and adapted CIELAB**

$LAB^*LAB$  49.18 2.37 -80.41

$LAB^*LABa$  49.18 2.3 -80.43

$LAB^*TCh$  50.0 80.47 271.64

**relative CIELAB lab\***

$lab^*lab$  0.403 0.029 -0.998

$lab^*tch$  0.5 1.0 0.755

$lab^*nch$  0.0 1.0 0.755

**relative Natural Colour (NC)**

$lab^*lrij$  0.403 0.0 -0.999

$lab^*tce$  0.5 1.0 0.75

$lab^*ncE$  0.0 1.0 b00r

**relative Inform. Technology (IT)**

$olv_i3^*$  0.0 0.008 0.5 (1.0)

$cmyn3^*$  1.0 0.992 0.5 (0.0)

$olv_i4^*$  0.5 0.508 1.0 0.5

$cmyn4^*$  0.5 0.492 0.0 0.5

**standard and adapted CIELAB**

$LAB^*LAB$  33.6 1.24 -40.19

$LAB^*LABa$  33.6 1.16 -40.21

$LAB^*TCh$  25.01 40.24 271.65

**relative CIELAB lab\***

$lab^*lab$  0.201 0.014 -0.499

$lab^*tch$  0.25 0.5 0.755

$lab^*nch$  0.5 0.5 0.755

**relative Natural Colour (NC)**

$lab^*lrij$  0.201 0.0 -0.499

$lab^*tce$  0.25 0.5 0.75

$lab^*ncE$  0.5 0.5 b00r

$n^* = 0,00$

blackness  $n^*$

chromaticness  $c^*$

$n^* = 0,50$

blackness  $n^*$

chromaticness  $c^*$

$n^* = 1,00$

blackness  $n^*$

chromaticness  $c^*$

## Output: Colorimetric Reflective System TRS18

for hue  $h^* = lab^*h = 271/360 = 0.754$

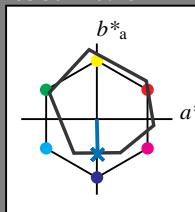
$lab^*tch$  and  $lab^*nch$

D65: hue B

LCH\*Ma: 42 45 271

olv\*Ma: 0.0 0.49 1.0

triangle lightness  $t^*$



%Gamut

$u^*_{rel} = 93$

%Regularity

$g^*_{H,rel} = 57$

$g^*_{C,rel} = 59$

**relative Inform. Technology (IT)**

$olv_i3^*$  1.0 1.0 1.0 (1.0)

$cmyn3^*$  0.0 0.0 0.0 (0.0)

$olv_i4^*$  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

$LAB^*LABa$  95.41 0.0 0.0

$LAB^*TCh$  99.99 0.01 -

**relative CIELAB lab\***

$lab^*lab$  1.0 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

**relative Natural Colour (NC)**

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 -

$lab^*ncE$  0.0 0.0 -

**relative Inform. Technology (IT)**

$olv_i3^*$  0.5 0.744 1.0 (1.0)

$cmyn3^*$  0.5 0.256 0.0 (0.0)

$olv_i4^*$  0.5 0.744 1.0 1.0

$cmyn4^*$  0.5 0.256 0.0 0.0

**standard and adapted CIELAB**

$LAB^*LAB$  68.59 0.08 -19.4

$LAB^*LABa$  68.59 0.54 -22.35

$LAB^*TCh$  75.0 22.36 271.4

**relative CIELAB lab\***

$lab^*lab$  0.654 0.012 -0.499

$lab^*tch$  0.75 0.5 0.754

$lab^*nch$  0.0 0.5 0.754

**relative Natural Colour (NC)**

$lab^*lrij$  0.654 0.0 -0.499

$lab^*tce$  0.75 0.5 0.75

$lab^*ncE$  0.0 0.5 b00r

	$L^*=L^*_a$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
O Ma	47.94	65.37	50.52	82.62	38
Y Ma	90.37	-10.27	91.77	92.34	96
I Ma	50.9	-62.79	34.95	71.87	151
C Ma	58.62	-30.35	-45.01	54.3	236
V Ma	25.71	31.11	-44.42	54.24	305
M 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
BCIE	30.57	1.15	-46.84	46.87	271

%Gamut

$u^*_{rel} = 57$

%Regularity

$g^*_{H,rel} = 59$

**relative Inform. Technology (IT)**

$olv_i3^*$  0.5 0.488 1.0 (1.0)

$cmyn3^*$  1.0 0.512 0.0 (0.0)

$olv_i4^*$  0.0 0.488 1.0 1.0

$cmyn4^*$  1.0 0.512 0.0 0.0

**standard and adapted CIELAB**

$LAB^*LAB$  41.79 1.14 -43.56

$LAB^*LABa$  41.79 1.1 -44.7

$LAB^*TCh$  50.0 44.73 271.4

**relative CIELAB lab\***

$lab^*lab$  0.307 0.024 -0.998

$lab^*tch$  0.5 1.0 0.754

$lab^*nch$  0.0 1.0 0.754

**relative Natural Colour (NC)**

$lab^*lrij$  0.307 0.0 -0.999

$lab^*tce$  0.5 1.0 0.75

$lab^*ncE$  0.0 1.0 b00r

$n^* = 0,00$

blackness  $n^*$

## Input: Colorimetric Reflective System NCS18

for hue  $h^* = lab^*h = 272/360 = 0.755$

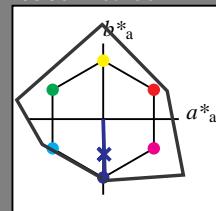
$lab^*tch$  and  $lab^*nch$

D65: hue B

LCH\*Ma: 49 80 272

olv\*Ma: 0.0 0.02 1.0

triangle lightness  $t^*$



%Gamut

$u^*_{rel} = 136$

%Regularity

$g^*_{H,rel} = 46$

$g^*_{C,rel} = 65$

relative Inform. Technology (IT)

$olv^3*$  1.0 1.0 1.0 (1.0)

$cmy^3*$  0.0 0.0 0.0 (0.0)

$olv^4*$  1.0 1.0 1.0 1.0

$cmy^4*$  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

$LAB^*TCh$  99.99 0.01 -

relative CIELAB lab\*

$lab^*lab$  1.0 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  1.0 0.0 0.0

$lab^*ice$  1.0 0.0 -

$lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)

$olv^3*$  0.5 0.5 0.5 (1.0)

$cmy^3*$  0.5 0.5 0.5 (0.0)

$olv^4*$  1.0 1.0 1.0 0.5

$cmy^4*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  56.72 0.05 0.0

$LAB^*LABa$  56.72 0.0 0.0

$LAB^*TCh$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  0.5 0.0 0.0

$lab^*ice$  0.5 0.0 -

$lab^*ncE$  0.5 0.0 -

relative Inform. Technology (IT)

$olv^3*$  0.0 0.0 0.0 (1.0)

$cmy^3*$  1.0 1.0 1.0 (0.0)

$olv^4*$  1.0 1.0 1.0 0.0

$cmy^4*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.09 0.02

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TCh$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  0.0 0.0 0.0

$lab^*ice$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

## NCS18; adapted (a) CIELAB data

	$L^*=L^*_{a,a}$	$a^*_{a,a}$	$b^*_{a,a}$	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	47.15	84.63	37.24	92.46	24
JMa	91.37	-1.27	125.03	125.03	91
GMa	63.07	-114.29	25.34	117.07	167
G50BMa	59.47	-80.61	-33.45	87.29	203
BMa	49.01	3.63	-81.2	81.29	273
B50RMa	44.06	106.07	-73.94	129.31	325
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	272

## Output: Colorimetric Reflective System MRS18a

for hue  $h^* = lab^*h = 272/360 = 0.755$

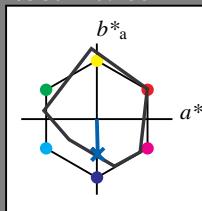
$lab^*tch$  and  $lab^*nch$

D65: hue B

LCH\*Ma: 40 49 272

olv\*Ma: 0.0 0.36 1.0

triangle lightness  $t^*$



%Gamut

$u^*_{rel} = 92$

%Regularity

$g^*_{H,rel} = 42$

$g^*_{C,rel} = 49$

relative Inform. Technology (IT)

$olv^3*$  1.0 1.0 1.0 (1.0)

$cmy^3*$  0.0 0.0 0.0 (0.0)

$olv^4*$  1.0 1.0 1.0 1.0

$cmy^4*$  0.0 0.0 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  95.41 0.01 0.0

$LAB^*LABa$  95.41 0.0 0.0

$LAB^*TCh$  99.99 0.01 -

relative CIELAB lab\*

$lab^*lab$  1.0 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  1.0 0.0 0.0

$lab^*ice$  1.0 0.0 -

$lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)

$olv^3*$  0.5 0.5 0.5 (1.0)

$cmy^3*$  0.5 0.5 0.5 (0.0)

$olv^4*$  0.5 0.5 0.5 1.0

$cmy^4*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  72.29 1.18 -40.2

$LAB^*LABa$  72.29 1.15 -40.21

$LAB^*TCh$  75.0 40.23 271.64

relative CIELAB lab\*

$lab^*lab$  0.701 0.014 -0.499

$lab^*tch$  0.75 0.5 0.755

$lab^*nch$  0.0 0.5 0.755

relative Natural Colour (NC)

$lab^*lrj$  0.701 0.0 -0.499

$lab^*ice$  0.75 0.5 0.75

$lab^*ncE$  0.0 0.5 600r

$n^* = 0,00$

blackness  $n^*$

0,25 0,50  $n^* = 0,50$  0,75 1,00

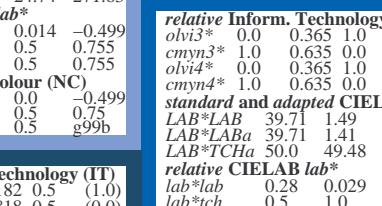
chromaticness  $c^*$

$n^* = 1,0$

3 step scales for constant CIELAB hue 272/360 = 0.755 (right)

## MRS18a; adapted (a) CIELAB data

	$L^*=L^*_{a,a}$	$a^*_{a,a}$	$b^*_{a,a}$	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	49.63	66.8	40.02	77.87	31
JMa	90.7	-7.27	93.19	93.48	94
GMa	52.11	-69.93	11.26	70.85	171
G50BMa	45.03	-36.65	-27.13	45.61	217
BMa	36.65	23.26	-62.27	66.49	290
B50RMa	34.94	57.27	-43.6	71.99	323
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	272



%Gamut

$u^*_{rel} = 92$

%Regularity

$g^*_{H,rel} = 42$

$g^*_{C,rel} = 49$

relative Inform. Technology (IT)

$olv^3*$  1.0 1.0 1.0 (1.0)

$cmy^3*$  0.0 0.0 0.0 (0.0)

$olv^4*$  1.0 1.0 1.0 1.0

$cmy^4*$  0.0 0.0 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  67.55 0.74 -24.71

$LAB^*LABa$  67.55 0.7 24.72

$LAB^*TCh$  75.0 24.74 271.63

relative CIELAB lab\*

$lab^*lab$  0.64 0.014 -0.499

$lab^*tch$  0.75 0.5 0.755

$lab^*nch$  0.0 0.5 0.755

relative Natural Colour (NC)

$lab^*lrj$  0.64 0.0 -0.499

$lab^*ice$  0.75 0.5 0.75

$lab^*ncE$  0.0 0.5 600r

$n^* = 0,00$

blackness  $n^*$

0,25 0,50  $n^* = 0,50$  0,75 1,00

chromaticness  $c^*$

$n^* = 1,0$

3 step scales for constant CIELAB hue 272/360 = 0.755 (right)

UE100-7, 3 step scales for constant CIELAB hue 272/360 = 0.755 (left)



## Input: Colorimetric Reflective System NCS18

for hue  $h^* = lab^*h = 272/360 = 0.755$

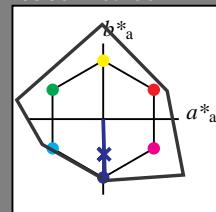
$lab^*tch$  and  $lab^*nch$

D65: hue B

LCH\*Ma: 49 80 272

olv\*Ma: 0.0 0.02 1.0

triangle lightness  $t^*$



%Gamut

$u^*_{rel} = 136$

%Regularity

$g^*_{H,rel} = 46$

$g^*_{C,rel} = 65$

relative Inform. Technology (IT)  
 $olv^3*$  1.0 1.0 1.0 (1.0)  
 $cmy^3*$  0.0 0.0 0.0 (0.0)  
 $olv^4*$  1.0 1.0 1.0 1.0  
 $cmy^4*$  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

$LAB^*TCh$  99.99 0.01 -

relative CIELAB lab\*

$lab^*lab$  1.0 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*ice$  1.0 0.0 -

$lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)  
 $olv^3*$  0.5 0.5 0.5 (1.0)  
 $cmy^3*$  0.5 0.5 0.5 (0.0)  
 $olv^4*$  1.0 1.0 1.0 0.5  
 $cmy^4*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  56.72 0.05 0.0

$LAB^*LABa$  56.72 0.0 0.0

$LAB^*TCh$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.5 0.0 0.0

$lab^*ice$  0.5 0.0 -

$lab^*ncE$  0.5 0.0 -

relative Inform. Technology (IT)  
 $olv^3*$  0.0 0.0 0.0 (1.0)  
 $cmy^3*$  1.0 1.0 1.0 (0.0)  
 $olv^4*$  1.0 1.0 1.0 0.0  
 $cmy^4*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.09 0.02

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TCh$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*ice$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

## NCS18; adapted (a) CIELAB data

$L^*=L^*_{ab}$   $a^*_a$   $b^*_a$   $C^*_{ab,a}$   $h^*_{ab,a}$

RMa	47.15	84.63	37.24	92.46	24
JMa	91.37	-1.27	125.03	125.03	91
GMa	63.07	-114.29	25.34	117.07	167
G50BMa	59.47	-80.61	-33.45	87.29	203
BMa	49.01	3.63	-81.2	81.29	273
B50RMa	44.06	106.07	-73.94	129.31	325
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	272

## Output: Colorimetric Reflective System NCS18

for hue  $h^* = lab^*h = 272/360 = 0.755$

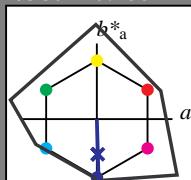
$lab^*tch$  and  $lab^*nch$

D65: hue B

LCH\*Ma: 49 80 272

olv\*Ma: 0.0 0.02 1.0

triangle lightness  $t^*$



%Gamut

$u^*_{rel} = 136$

%Regularity

$g^*_{H,rel} = 46$

$g^*_{C,rel} = 65$

relative Inform. Technology (IT)  
 $olv^3*$  1.0 1.0 1.0 (1.0)  
 $cmy^3*$  0.0 0.0 0.0 (0.0)  
 $olv^4*$  1.0 1.0 1.0 1.0  
 $cmy^4*$  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

$LAB^*TCh$  99.99 0.01 -

relative CIELAB lab\*

$lab^*lab$  1.0 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*ice$  1.0 0.0 -

$lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)  
 $olv^3*$  0.5 0.5 0.5 (1.0)  
 $cmy^3*$  0.5 0.5 0.5 (0.0)  
 $olv^4*$  0.5 0.5 0.5 1.0  
 $cmy^4*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  49.18 2.37 -80.41

$LAB^*LABa$  49.18 2.3 -80.43

$LAB^*TCh$  50.0 80.47 271.64

relative CIELAB lab\*

$lab^*lab$  0.403 0.029 -0.998

$lab^*tch$  0.5 1.0 0.755

$lab^*nch$  0.0 1.0 0.755

relative Natural Colour (NC)

$lab^*lrij$  0.403 0.0 -0.999

$lab^*ice$  0.5 1.0 0.75

$lab^*ncE$  0.0 1.0 600r

relative Inform. Technology (IT)  
 $olv^3*$  0.0 0.008 0.5 (1.0)  
 $cmy^3*$  1.0 0.992 0.5 (0.0)  
 $olv^4*$  0.5 0.508 1.0 0.5  
 $cmy^4*$  0.5 0.492 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  33.6 1.24 -40.19

$LAB^*LABa$  33.6 1.16 -40.21

$LAB^*TCh$  25.01 40.24 271.65

relative CIELAB lab\*

$lab^*lab$  0.201 0.014 -0.499

$lab^*tch$  0.25 0.5 0.755

$lab^*nch$  0.5 0.5 0.755

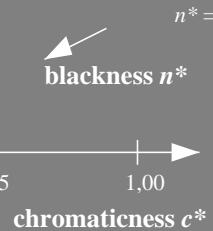
relative Natural Colour (NC)

$lab^*lrij$  0.201 0.0 -0.499

$lab^*ice$  0.25 0.5 0.75

$lab^*ncE$  0.5 0.5 600r

$n^* = 1,0$



UE100-7, 3 step scales for constant CIELAB hue 272/360 = 0.755 (left)

3 step scales for constant CIELAB hue 272/360 = 0.755 (right)

### Input: Colorimetric Reflective System NCS18

for hue  $h^* = lab^*h = 272/360 = 0.755$

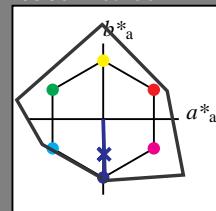
$lab^*tch$  and  $lab^*nch$

D65: hue B

LCH\*Ma: 49 80 272

olv\*Ma: 0.0 0.02 1.0

triangle lightness  $t^*$



relative Inform. Technology (IT)

olv13\* 1.0 1.0 1.0 (1.0)

cmyn3\* 0.0 0.0 0.0 (0.0)

olv14\* 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 0.0 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 -

standard and adapted CIELAB

LAB\*LAB 72.29 1.18 -40.2

LAB\*LABa 72.29 1.15 -40.21

LAB\*TChA 75.0 40.23 271.64

relative CIELAB lab\*

lab\*lab 0.701 0.014 -0.499

lab\*tch 0.75 0.5 0.755

lab\*nch 0.0 0.5 0.755

relative Natural Colour (NC)

lab\*lrj 0.701 0.0 -0.499

lab\*tce 0.75 0.5 0.75

lab\*ncE 0.0 0.5 g99b

relative Inform. Technology (IT)

olv13\* 0.5 0.5 0.5 (1.0)

cmyn3\* 0.5 0.5 0.5 (0.0)

olv14\* 1.0 1.0 1.0 0.5

cmyn4\* 0.0 0.0 0.0 0.5

standard and adapted CIELAB

LAB\*LAB 56.72 0.05 0.0

LAB\*LABa 56.72 0.0 0.0

LAB\*TChA 50.0 0.01 -

relative CIELAB lab\*

lab\*lab 0.5 0.0 0.0

lab\*tch 0.5 0.0 -

lab\*nch 0.5 0.0 -

relative Natural Colour (NC)

lab\*lrj 0.5 0.0 0.0

lab\*tce 0.5 0.0 0.0

lab\*ncE 0.5 0.0 -

n\* = 1,0

### NCS18; adapted (a) CIELAB data

$L^*=L^*_{ab,a}$   $a^*_{ab,a}$   $b^*_{ab,a}$   $C^*_{ab,a}$   $h^*_{ab,a}$

RMa	47.15	84.63	37.24	92.46	24
JMa	91.37	-1.27	125.03	125.03	91
GMa	63.07	-114.29	25.34	117.07	167
G50BMa	59.47	-80.61	-33.45	87.29	203
BMa	49.01	3.63	-81.2	81.29	273
B50RMa	44.06	106.07	-73.94	129.31	325
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	272

%Gamut

$u^*_{rel} = 136$

%Regularity

$g^*_{H,rel} = 46$

$g^*_{C,rel} = 65$

relative Inform. Technology (IT)

olv13\* 0.5 0.508 1.0 (1.0)

cmyn3\* 0.5 0.492 0.0 (0.0)

olv14\* 0.5 0.508 1.0 1.0

cmyn4\* 0.5 0.492 0.0 0.0

standard and adapted CIELAB

LAB\*LAB 72.29 1.18 -40.2

LAB\*LABa 72.29 1.15 -40.21

LAB\*TChA 75.0 40.23 271.64

relative CIELAB lab\*

lab\*lab 0.701 0.014 -0.499

lab\*tch 0.75 0.5 0.755

lab\*nch 0.0 0.5 0.755

relative Natural Colour (NC)

lab\*lrj 0.701 0.0 -0.499

lab\*tce 0.75 0.5 0.75

lab\*ncE 0.0 0.5 g99b

standard and adapted CIELAB

LAB\*LAB 49.18 2.37 -80.41

LAB\*LABa 49.18 2.3 -80.43

LAB\*TChA 50.0 80.47 271.64

relative CIELAB lab\*

lab\*lab 0.403 0.029 -0.998

lab\*tch 0.5 1.0 0.755

lab\*nch 0.0 1.0 0.755

relative Natural Colour (NC)

lab\*lrj 0.403 0.0 -0.999

lab\*tce 0.5 1.0 0.75

lab\*ncE 0.0 1.0 b00r

relative Inform. Technology (IT)

olv13\* 0.0 0.0 0.0 (1.0)

cmyn3\* 1.0 1.0 1.0 (0.0)

olv14\* 1.0 1.0 1.0 0.0

cmyn4\* 0.0 0.0 0.0 1.0

standard and adapted CIELAB

LAB\*LAB 18.02 0.09 0.02

LAB\*LABa 18.02 0.0 0.0

LAB\*TChA 0.01 0.01 -

relative CIELAB lab\*

lab\*lab 0.0 0.0 0.0

lab\*tch 0.0 0.0 -

lab\*nch 1.0 0.0 -

relative Natural Colour (NC)

lab\*lrj 0.0 0.0 0.0

lab\*tce 0.0 0.0 0.0

lab\*ncE 1.0 0.0 -

standard and adapted CIELAB

LAB\*LAB 11.01 0.07 0.01

LAB\*LABa 11.01 0.0 0.0

LAB\*TChA 0.01 0.01 -

relative CIELAB lab\*

lab\*lab 0.0 0.0 0.0

lab\*tch 0.0 0.0 -

lab\*nch 1.0 0.0 -

relative Natural Colour (NC)

lab\*lrj 0.0 0.0 0.0

lab\*tce 0.0 0.0 0.0

lab\*ncE 1.0 0.0 -

n\* = 0,00

blackness n\*

chromaticness c\*

0,25 0,50 n\* = 0,50 0,75 1,00

n\* = 0,00

blackness n\*

chromaticness c\*

0,25 0,50 n\* = 0,50 0,75 1,00

### Output: Colorimetric Reflective System NRS11

for hue  $h^* = lab^*h = 272/360 = 0.755$

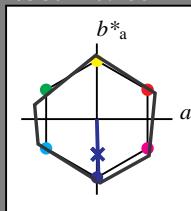
$lab^*tch$  and  $lab^*nch$

D65: hue B

LCH\*Ma: 53 83 272

olv\*Ma: 0.0 0.02 1.0

triangle lightness  $t^*$



RMa	53.2	77.06	34.32	84.36	24
JMa	53.2	-1.51	84.38	84.39	91
GMa	53.2	-82.27	18.98	84.44	167
G50BMa	53.2	-77.72	-32.98	84.44	203
BMa	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

%Gamut

$u^*_{rel} = 119$

%Regularity

$g^*_{H,rel} = 47$

$g^*_{C,rel} = 100$

relative Inform. Technology (IT)

olv13\* 0.5 0.512 1.0 (1.0)

cmyn3\* 0.5 0.488 0.0 (0.0)

olv14\* 0.5 0.512 1.0 1.0

cmyn4\* 0.5 0.488 0.0 0.0

standard and adapted CIELAB

LAB\*LAB 74.3 1.23 -41.51

LAB\*LABa 74.3 1.2 -41.52

LAB\*TChA 75.0 41.54 271.66

relative CIELAB lab\*

lab\*lab 0.75 0.014 -0.499

lab\*tch 0.75 0.5 0.755

lab\*nch 0.0 0.5 0.755

relative Natural Colour (NC)

lab\*lrj 0.75 0.0 -0.499

lab\*tce 0.75 0.5 0.75

lab\*ncE 0.0 0.5 g99b

relative Inform. Technology (IT)

olv13\* 0.0 0.024 1.0 (1.0)

cmyn3\* 1.0 0.976 0.0 (0.0)

olv14\* 0.0 0.024 1.0 1.0

cmyn4\* 1.0 0.976 0.0 0.0

standard and adapted CIELAB

LAB\*LAB 53.2 2.46 -83.04

LAB\*LABa 53.2 2.42 -83.05

LAB\*TChA 50.0 83.09 271.67

relative CIELAB lab\*

lab\*lab 0.5 0.015 -0.499

lab\*tch 0.5 0.5 0.755

lab\*nch 0.5 0.5 0.755

relative Natural Colour (NC)

lab\*lrj 0.5 0.0 -0.499

lab\*tce 0.5 0.5 0.75

lab\*ncE 0.5 0.5 b00r

n\* = 1,0

blackness n\*

chromaticness c\*

0,25 0,50 n\* = 0,50 0,75 1,00

relative Inform. Technology (IT)

olv13\* 0.5 0.512 1.0 (1.0)

cmyn3\* 0.5 0.488 0.0 (0.0)

olv14\* 0.5 0.512 1.0 1.0

cmyn4\* 0.5 0.488 0.0 0.0

standard and adapted CIELAB

LAB\*LAB 32.1 1.27 -41.5

LAB\*LABa 32.1 1.21 -41.52

LAB\*TChA 25.01 41.55 271.67

relative CIEL

### Input: Colorimetric Reflective System NCS18

for hue  $h^* = lab^*h = 272/360 = 0.755$

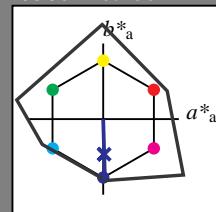
$lab^*tch$  and  $lab^*nch$

D65: hue B

LCH\*Ma: 49 80 272

olv\*Ma: 0.0 0.02 1.0

triangle lightness  $t^*$



%Gamut

$u^*_{rel} = 136$

%Regularity

$g^*_{H,rel} = 46$

$g^*_{C,rel} = 65$

relative Inform. Technology (IT)

$olv^3*$  1.0 1.0 1.0 (1.0)

$cmy^3*$  0.0 0.0 0.0 (0.0)

$olv^4*$  1.0 1.0 1.0 1.0

$cmy^4*$  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

$LAB^*TCh$  99.99 0.01 -

relative CIELAB lab\*

$lab^*lab$  1.0 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 -

$lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)

$olv^3*$  0.5 0.5 0.5 (1.0)

$cmy^3*$  0.5 0.5 0.5 (0.0)

$olv^4*$  1.0 1.0 1.0 0.5

$cmy^4*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  56.72 0.05 0.0

$LAB^*LABa$  56.72 0.0 0.0

$LAB^*TCh$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.5 0.0 0.0

$lab^*tce$  0.5 0.0 -

$lab^*ncE$  0.5 0.0 -

relative Inform. Technology (IT)

$olv^3*$  0.0 0.0 0.0 (1.0)

$cmy^3*$  1.0 1.0 1.0 (0.0)

$olv^4*$  1.0 1.0 1.0 0.0

$cmy^4*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.09 0.02

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TCh$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*tce$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

### NCS18; adapted (a) CIELAB data

$L^*=L^*_{a,a}$   $a^*_{a,a}$   $b^*_{a,a}$   $C^*_{ab,a}$   $h^*_{ab,a}$

RMa	47.15	84.63	37.24	92.46	24
JMa	91.37	-1.27	125.03	125.03	91
GMa	63.07	-114.29	25.34	117.07	167
G50BMa	59.47	-80.61	-33.45	87.29	203
BMa	49.01	3.63	-81.2	81.29	273
B50RMa	44.06	106.07	-73.94	129.31	325
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	272

### Output: Colorimetric Reflective System NCS11

for hue  $h^* = lab^*h = 272/360 = 0.755$

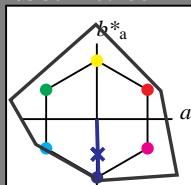
$lab^*tch$  and  $lab^*nch$

D65: hue B

LCH\*Ma: 49 80 272

olv\*Ma: 0.0 0.02 1.0

triangle lightness  $t^*$



%Gamut

$u^*_{rel} = 149$

%Regularity

$g^*_{H,rel} = 46$

$g^*_{C,rel} = 65$

relative Inform. Technology (IT)

$olv^3*$  1.0 1.0 1.0 (1.0)

$cmy^3*$  0.0 0.0 0.0 (0.0)

$olv^4*$  1.0 1.0 1.0 1.0

$cmy^4*$  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

$LAB^*TCh$  99.99 0.01 -

relative CIELAB lab\*

$lab^*lab$  1.0 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 -

$lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)

$olv^3*$  0.5 0.5 0.5 (1.0)

$cmy^3*$  0.5 0.5 0.5 (0.0)

$olv^4*$  1.0 1.0 1.0 0.5

$cmy^4*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  56.72 0.05 0.0

$LAB^*LABa$  56.72 0.0 0.0

$LAB^*TCh$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.701 0.014 -0.499

$lab^*tch$  0.75 0.5 0.755

$lab^*nch$  0.0 0.5 0.755

relative Natural Colour (NC)

$lab^*lrij$  0.701 0.0 -0.499

$lab^*tce$  0.75 0.5 0.75

$lab^*ncE$  0.0 0.5 600r

relative Inform. Technology (IT)

$olv^3*$  0.0 0.0 0.0 (1.0)

$cmy^3*$  1.0 1.0 1.0 (0.0)

$olv^4*$  1.0 1.0 1.0 0.0

$cmy^4*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.09 0.02

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TCh$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.201 0.014 -0.499

$lab^*tch$  0.25 0.5 0.755

$lab^*nch$  0.5 0.5 0.755

relative Natural Colour (NC)

$lab^*lrij$  0.201 0.0 -0.499

$lab^*tce$  0.25 0.5 0.75

$lab^*ncE$  0.5 0.5 600r

$n^* = 0,00$

blackness  $n^*$

$n^* = 0,00$

$n^* = 0,50$

chromaticness  $c^*$

$n^* = 1,00$

$n^* = 0,50$

chromaticness  $c^*$

### NCS11; adapted (a) CIELAB data

$L^*=L^*_{a,a}$   $a^*_{a,a}$   $b^*_{a,a}$   $C^*_{ab,a}$   $h^*_{ab,a}$

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	-81.2	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

$n^* = 0,00$

blackness  $n^*$

$n^* = 1,00$

$n^* = 0,00$

$n^* = 0,50$

chromaticness  $c^*$

UE100-7, 3 step scales for constant CIELAB hue 272/360 = 0.755 (left)

3 step scales for constant CIELAB hue 272/360 = 0.755 (right)

## Input: Colorimetric Reflective System NRS11

for hue  $h^* = lab^*h = 272/360 = 0.755$

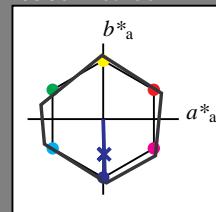
$lab^*tch$  and  $lab^*nch$

D65: hue B

LCH\*Ma: 53 83 272

olv\*Ma: 0.0 0.02 1.0

triangle lightness  $t^*$



relative Inform. Technology (IT)

olv13\* 1.0 1.0 1.0 (1.0)

cmyn3\* 0.0 0.0 0.0 (0.0)

olv14\* 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 0.0 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 -

g\*H,rel = 47

## NRS11; adapted (a) CIELAB data

$L^*=L_a^*$   $a^*_a$   $b^*_a$   $C^*_{ab,a}$   $h^*_{ab,a}$

RMa	53.2	77.06	34.32	84.36	24
JMa	53.2	-1.51	84.38	84.39	91
GMa	53.2	-82.27	18.98	84.44	167
G50BMa	53.2	-77.72	-32.98	84.44	203
BMa	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

%Gamut

$u^*_{rel} = 119$

%Regularity

$g^*_{H,rel} = 47$

$g^*_{C,rel} = 100$

## relative Inform. Technology (IT)

olv13\* 0.5 0.512 1.0 (1.0)

cmyn3\* 0.5 0.488 0.0 (0.0)

olv14\* 0.5 0.512 1.0 1.0

cmyn4\* 0.5 0.488 0.0 0.0

standard and adapted CIELAB

LAB\*LAB 74.3 1.23 -41.51

LAB\*LABa 74.3 1.2 -41.52

LAB\*TChA 75.0 41.54 271.66

relative CIELAB lab\*

lab\*lab 0.75 0.014 -0.499

lab\*tch 0.75 0.5 0.755

lab\*nch 0.0 0.5 0.755

relative Natural Colour (NC)

lab\*lrj 0.75 0.0 -0.499

lab\*tce 0.75 0.5 0.75

lab\*ncE 0.0 0.5 0.998

g\*H,rel = 47

$g^*_{C,rel} = 100$

relative Inform. Technology (IT)

olv13\* 0.5 0.5 0.5 (1.0)

cmyn3\* 0.5 0.5 0.5 (0.0)

olv14\* 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\*LABa 53.21 0.0 0.0

LAB\*TChA 50.0 0.01 -

relative CIELAB lab\*

lab\*lab 0.5 0.0 0.0

lab\*tch 0.5 0.0 -

lab\*nch 0.5 0.0 -

relative Natural Colour (NC)

lab\*lrj 0.5 0.0 0.0

lab\*tce 0.5 0.0 0.0

lab\*ncE 0.5 0.0 -

g\*H,rel = 47

$g^*_{C,rel} = 100$

relative Inform. Technology (IT)

olv13\* 0.0 0.0 0.0 (1.0)

cmyn3\* 1.0 1.0 1.0 (0.0)

olv14\* 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 0.0 0.0

LAB\*TChA 0.01 0.01 -

relative CIELAB lab\*

lab\*lab 0.0 0.0 0.0

lab\*tch 0.0 0.0 -

lab\*nch 1.0 0.0 -

relative Natural Colour (NC)

lab\*lrj 0.0 0.0 0.0

lab\*tce 0.0 0.0 0.0

lab\*ncE 1.0 0.0 -

g\*H,rel = 47

$g^*_{C,rel} = 100$

n\* = 1,0

relative Inform. Technology (IT)

olv13\* 0.0 0.0 0.0 (1.0)

cmyn3\* 1.0 1.0 1.0 (0.0)

olv14\* 1.0 1.0 1.0 0.5

cmyn4\* 0.0 0.0 0.0 1.0

standard and adapted CIELAB

LAB\*LAB 18.02 0.5 -0.46

LAB\*LABa 18.02 0.0 0.0

LAB\*TChA 0.01 0.01 -

relative CIELAB lab\*

lab\*lab 0.0 0.0 0.0

lab\*tch 0.0 0.0 -

lab\*nch 1.0 0.0 -

relative Natural Colour (NC)

lab\*lrj 0.0 0.0 0.0

lab\*tce 0.0 0.0 0.0

lab\*ncE 1.0 0.0 -

g\*H,rel = 47

$g^*_{C,rel} = 100$

n\* = 1,0

relative Inform. Technology (IT)

olv13\* 0.0 0.0 0.0 (1.0)

cmyn3\* 1.0 1.0 1.0 (0.0)

olv14\* 1.0 1.0 1.0 0.5

cmyn4\* 0.0 0.0 0.0 1.0

standard and adapted CIELAB

LAB\*LAB 25.01 41.55 271.67

relative CIELAB lab\*

lab\*lab 0.25 0.015 -0.499

lab\*tch 0.25 0.5 0.755

lab\*nch 0.5 0.5 0.755

relative Natural Colour (NC)

lab\*lrj 0.25 0.0 -0.499

lab\*tce 0.25 0.5 0.75

lab\*ncE 0.5 0.5 600r

g\*H,rel = 47

$g^*_{C,rel} = 100$

n\* = 0,00

blackness n\*

chromaticness c\*

## Output: Colorimetric Reflective System ORS18

for hue  $h^* = lab^*h = 271/360 = 0.754$

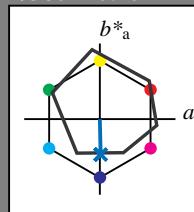
$lab^*tch$  and  $lab^*nch$

D65: hue B

LCH\*Ma: 42 45 271

olv\*Ma: 0.0 0.49 1.0

triangle lightness  $t^*$



%Gamut

$u^*_{rel} = 93$

%Regularity

$g^*_{H,rel} = 57$

$g^*_{C,rel} = 59$

## ORS18; adapted (a) CIELAB data

$L^*=L_a^*$   $a^*_a$   $b^*_a$   $C^*_{ab,a}$   $h^*_{ab,a}$

O Ma	47.94	65.37	50.52	82.62	38
Y Ma	90.37	-10.27	91.77	92.34	96
I Ma	50.9	-62.79	34.95	71.87	151
C Ma	58.62	-30.35	-45.01	54.3	236
V Ma	25.71	31.11	-44.42	54.24	305
M 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
BCIE	30.57	1.15	-46.84	46.87	271

## relative Inform. Technology (IT)

olv13\* 0.5 0.744 1.0 (1.0)

cmyn3\* 0.5 0.256 0.0 (0.0)

olv14\* 0.5 0.744 1.0 1.0

cmyn4\* 0.5 0.256 0.0 0.0

standard and adapted CIELAB

LAB\*LAB 68.59 0.08 -19.4

LAB\*LABa 68.59 0.54 -22.35

LAB\*TChA 75.0 22.36 271.4

relative CIELAB lab\*

lab\*lab 0.654 0.012 -0.499

lab\*tch 0.75 0.5 0.754

lab\*nch 0.0 0.5 0.754

relative Natural Colour (NC)

lab\*lrj 0.654 0.0 -0.499

lab\*tce 0.75 0.5 0.75

lab\*ncE 0.0 0.5 0.99b

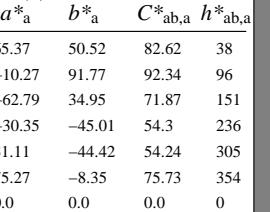
g\*H,rel = 59

$g^*_{C,rel} = 59$

n\* = 0,00

blackness n\*

chromaticness c\*



%Gamut

$u^*_{rel} = 93$

%Regularity

$g^*_{H,rel} = 57$

$g^*_{C,rel} = 59$

## relative Inform. Technology (IT)

olv13\* 0.5 0.756 0.5 (0.0)

cmyn3\* 0.5 0.256 0.0 (0.0)

olv14\* 0.5 0.756 0.5 0.5

cmyn4\* 0.5 0.256 0.0 0.5

standard and adapted CIELAB

LAB\*LAB 41.79 1.14 -43.56

LAB\*LABa 41.79 1.1 -44.7

LAB\*TChA 50.0 44.73 271.4

relative CIELAB lab\*

lab\*lab 0.307 0.024 -0.998

lab\*tch 0.5 1.0 0.754

lab\*nch 0.0 1.0 0.754

relative Natural Colour (NC)

lab\*lrj 0

## Input: Colorimetric Reflective System NRS11

for hue  $h^* = lab^*h = 272/360 = 0.755$

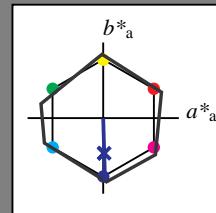
$lab^*tch$  and  $lab^*nch$

D65: hue B

LCH\*Ma: 53 83 272

olv\*Ma: 0.0 0.02 1.0

triangle lightness  $t^*$



relative Inform. Technology (IT)  
 $olv_i3^*$  1.0 1.0 1.0 (1.0)  
 $cmyn3^*$  0.0 0.0 0.0 (0.0)  
 $olv_i4^*$  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  
 $LAB^*TCh$  99.99 0.01 -

relative CIELAB lab\*  
 $lab^*lab$  1.0 0.0 0.0  
 $lab^*tch$  1.0 0.0 -  
 $lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)  
 $lab^*lrij$  1.0 0.0 0.0  
 $lab^*tce$  1.0 0.0 -  
 $lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)  
 $olv_i3^*$  0.5 0.5 0.5 (1.0)  
 $cmyn3^*$  0.5 0.5 0.5 (0.0)  
 $olv_i4^*$  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  
 $LAB^*LABa$  53.21 0.0 0.0  
 $LAB^*TCh$  50.0 0.01 -

relative CIELAB lab\*  
 $lab^*lab$  0.5 0.0 0.0  
 $lab^*tch$  0.5 0.0 -  
 $lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)  
 $lab^*lrij$  0.5 0.0 0.0  
 $lab^*tce$  0.5 0.0 -  
 $lab^*ncE$  0.5 0.0 -

relative Inform. Technology (IT)  
 $olv_i3^*$  0.0 0.0 0.0 (1.0)  
 $cmyn3^*$  1.0 1.0 1.0 (0.0)  
 $olv_i4^*$  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 0.0 0.0  
 $LAB^*TCh$  0.01 0.01 -

relative CIELAB lab\*  
 $lab^*lab$  0.0 0.0 0.0  
 $lab^*tch$  0.0 0.0 -  
 $lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)  
 $lab^*lrij$  0.0 0.0 0.0  
 $lab^*tce$  0.0 0.0 -  
 $lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

## NRS11; adapted (a) CIELAB data

$L^*=L_a^*$   $a^*_a$   $b^*_a$   $C^*_{ab,a}$   $h^*_{ab,a}$

RMa	53.2	77.06	34.32	84.36	24
JMa	53.2	-1.51	84.38	84.39	91
GMa	53.2	-82.27	18.98	84.44	167
G50BMa	53.2	-77.72	-32.98	84.44	203
BMa	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

%Gamut

$u^*_{rel} = 119$

%Regularity

$g^*_{H,rel} = 47$

$g^*_{C,rel} = 100$

relative Inform. Technology (IT)

$olv_i3^*$  0.5 0.512 1.0 (1.0)

$cmyn3^*$  0.5 0.488 0.0 (0.0)

$olv_i4^*$  0.5 0.512 1.0 1.0

$cmyn4^*$  0.5 0.488 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  74.3 1.23 -41.51

$LAB^*LABa$  74.3 1.2 -41.52

$LAB^*TCh$  75.0 41.54 271.66

relative CIELAB lab\*

$lab^*lab$  0.75 0.014 -0.499

$lab^*tch$  0.75 0.5 0.755

$lab^*nch$  0.0 0.5 0.755

relative Natural Colour (NC)

$lab^*lrij$  0.75 0.0 -0.499

$lab^*tce$  0.75 0.5 0.75

$lab^*ncE$  0.0 0.5 g99b

relative Inform. Technology (IT)

$olv_i3^*$  0.0 0.024 1.0 (1.0)

$cmyn3^*$  1.0 0.976 0.0 (0.0)

$olv_i4^*$  0.0 0.024 1.0 1.0

$cmyn4^*$  1.0 0.976 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  53.2 2.46 -83.04

$LAB^*LABa$  53.2 2.42 -83.05

$LAB^*TCh$  50.0 83.09 271.67

relative CIELAB lab\*

$lab^*lab$  0.5 0.029 -0.998

$lab^*tch$  0.5 1.0 0.755

$lab^*nch$  0.0 1.0 0.755

relative Natural Colour (NC)

$lab^*lrij$  0.5 0.0 -0.999

$lab^*tce$  0.5 1.0 0.75

$lab^*ncE$  0.0 1.0 b60r

relative Inform. Technology (IT)

$olv_i3^*$  0.0 0.012 0.5 (1.0)

$cmyn3^*$  1.0 0.988 0.5 (0.0)

$olv_i4^*$  0.5 0.512 1.0 0.5

$cmyn4^*$  0.5 0.488 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  32.1 1.27 -41.5

$LAB^*LABa$  32.1 1.21 -41.52

$LAB^*TCh$  25.01 41.55 271.67

relative CIELAB lab\*

$lab^*lab$  0.25 0.015 -0.499

$lab^*tch$  0.25 0.5 0.755

$lab^*nch$  0.5 0.5 0.755

relative Natural Colour (NC)

$lab^*lrij$  0.25 0.0 -0.499

$lab^*tce$  0.25 0.5 0.75

$lab^*ncE$  0.5 0.5 b60r

$n^* = 0,00$

blackness  $n^*$

0,25 0,50  $n^* = 0,50$  0,75 1,00

chromaticness  $c^*$

## Output: Colorimetric Reflective System MRS18

for hue  $h^* = lab^*h = 271/360 = 0.754$

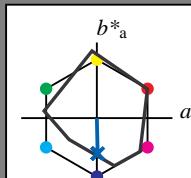
$lab^*tch$  and  $lab^*nch$

D65: hue B

LCH\*Ma: 40 50 271

olv\*Ma: 0.0 0.37 1.0

triangle lightness  $t^*$



%Gamut

$u^*_{rel} = 91$

%Regularity

$g^*_{H,rel} = 41$

$g^*_{C,rel} = 52$

relative Inform. Technology (IT)

$olv_i3^*$  0.5 0.684 1.0 (1.0)

$cmyn3^*$  0.5 0.316 0.0 (0.0)

$olv_i4^*$  0.5 0.684 1.0 1.0

$cmyn4^*$  0.5 0.316 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  95.41 -0.97 4.75

$LAB^*LABa$  95.41 0.0 0.0

$LAB^*TCh$  99.99 0.01 -

relative CIELAB lab\*

$lab^*lab$  1.0 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)

$olv_i3^*$  0.5 0.684 1.0 (1.0)

$cmyn3^*$  0.5 0.316 0.0 (0.0)

$olv_i4^*$  0.5 0.684 1.0 0.5

$cmyn4^*$  0.5 0.316 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  56.71 -0.23 2.14

$LAB^*LABa$  56.71 0.0 0.0

$LAB^*TCh$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 0.0

$lab^*ncE$  1.0 0.0 -

relative Inform. Technology (IT)

$olv_i3^*$  0.5 0.684 1.0 (1.0)

$cmyn3^*$  0.5 0.316 0.0 (0.0)

$olv_i4^*$  0.5 0.684 1.0 1.0

$cmyn4^*$  0.5 0.316 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  67.57 0.17 -22.28

$LAB^*LABa$  67.57 0.61 -25.16

$LAB^*TCh$  75.0 25.18 271.4

relative CIELAB lab\*

$lab^*lab$  0.64 0.012 -0.499

$lab^*tch$  0.75 0.5 0.754

$lab^*nch$  0.0 0.5 0.754

relative Natural Colour (NC)

$lab^*lrij$  0.64 0.0 -0.499

$lab^*tce$  0.75 0.5 0.75

$lab^*ncE$  0.0 0.5 g99b

relative Inform. Technology (IT)

$olv_i3^*$  0.0 0.184 0.5 (1.0)

$cmyn3^*$  1.0 0.816 0.5 (0.0)

$olv_i4^*$  0.5 0.684 1.0 0.5

$cmyn4^*$  0.5 0.316 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.5 -0.46

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TCh$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.14 0.012 -0.499

$lab^*tch$  0.25 0.5 0.754

$lab^*nch$  0.5 0.5 0.754

relative Natural Colour (NC)

$lab^*lrij$  0.14 0.0 -0.499

$lab^*tce$  0.25 0.5 0.75

$lab^*ncE$  0.5 0.5 b60r

relative Inform. Technology (IT)

$olv_i3^*$  0.0 0.184 0.5 (1.0)

$cmyn3^*$  1.0 0.816 0.5 (0.0)

$olv_i4^*$  0.5 0.684 1.0 0.5

$cmyn4^*$  0.5 0.316 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.5 -0.46

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TCh$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab</$

## Input: Colorimetric Reflective System NRS11

for hue  $h^* = lab^*h = 272/360 = 0.755$

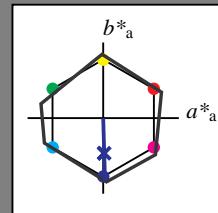
$lab^*tch$  and  $lab^*nch$

D65: hue B

LCH\*Ma: 53 83 272

olv\*Ma: 0.0 0.02 1.0

triangle lightness  $t^*$



relative Inform. Technology (IT)  
 $olv_i3^*$  1.0 1.0 1.0 (1.0)  
 $cmyn3^*$  0.0 0.0 0.0 (0.0)

$olv_i4^*$  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

$LAB^*TCh_a$  99.99 0.01 -

relative CIELAB lab\*

$lab^*lab$  1.0 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)  
 $olv_i3^*$  0.5 0.5 0.5 (1.0)  
 $cmyn3^*$  0.5 0.5 0.5 (0.0)

$olv_i4^*$  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

$LAB^*LABa$  53.21 0.0 0.0

$LAB^*TCh_a$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.5 0.0 0.0

$lab^*tce$  0.5 0.0 0.0

$lab^*ncE$  0.5 0.0 -

relative Inform. Technology (IT)  
 $olv_i3^*$  0.0 0.0 0.0 (1.0)  
 $cmyn3^*$  1.0 1.0 1.0 (0.0)

$olv_i4^*$  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 0.0 0.0

$LAB^*TCh_a$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*tce$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

## NRS11; adapted (a) CIELAB data

$L^*=L^*_{ab,a}$   $a^*_{ab,a}$   $b^*_{ab,a}$   $C^*_{ab,a}$   $h^*_{ab,a}$

RMa	53.2	77.06	34.32	84.36	24
JMa	53.2	-1.51	84.38	84.39	91
GMa	53.2	-82.27	18.98	84.44	167
G50BMa	53.2	-77.72	-32.98	84.44	203
BMa	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

%Gamut

$u^*_{rel} = 119$

%Regularity

$g^*_{H,rel} = 47$

$g^*_{C,rel} = 100$

relative Inform. Technology (IT)

$olv_i3^*$  0.5 0.512 1.0 (1.0)

$cmyn3^*$  0.5 0.488 0.0 (0.0)

$olv_i4^*$  0.5 0.512 1.0 1.0

$cmyn4^*$  0.5 0.488 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  74.3 1.23 -41.51

$LAB^*LABa$  74.3 1.2 -41.52

$LAB^*TCh_a$  75.0 41.54 271.66

relative CIELAB lab\*

$lab^*lab$  0.75 0.014 -0.499

$lab^*tch$  0.75 0.5 0.755

$lab^*nch$  0.0 0.5 0.755

relative Natural Colour (NC)

$lab^*lrij$  0.75 0.0 -0.499

$lab^*tce$  0.75 0.5 0.75

$lab^*ncE$  0.0 0.5 0.998

relative Inform. Technology (IT)

$olv_i3^*$  0.0 0.024 1.0 (1.0)

$cmyn3^*$  1.0 0.976 0.0 (0.0)

$olv_i4^*$  0.0 0.024 1.0 1.0

$cmyn4^*$  1.0 0.976 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  53.2 2.46 -83.04

$LAB^*LABa$  53.2 2.42 -83.05

$LAB^*TCh_a$  50.0 83.09 271.67

relative CIELAB lab\*

$lab^*lab$  0.5 0.029 -0.998

$lab^*tch$  0.5 1.0 0.755

$lab^*nch$  0.0 1.0 0.755

relative Natural Colour (NC)

$lab^*lrij$  0.5 0.0 -0.999

$lab^*tce$  0.5 1.0 0.75

$lab^*ncE$  0.0 1.0 0.600r

relative Inform. Technology (IT)

$olv_i3^*$  0.0 0.012 0.5 (1.0)

$cmyn3^*$  1.0 0.988 0.5 (0.0)

$olv_i4^*$  0.5 0.512 1.0 0.5

$cmyn4^*$  0.5 0.488 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  32.1 1.27 -41.5

$LAB^*LABa$  32.1 1.21 -41.52

$LAB^*TCh_a$  25.01 41.55 271.67

relative CIELAB lab\*

$lab^*lab$  0.25 0.015 -0.499

$lab^*tch$  0.25 0.5 0.755

$lab^*nch$  0.5 0.5 0.755

relative Natural Colour (NC)

$lab^*lrij$  0.25 0.0 -0.499

$lab^*tce$  0.25 0.5 0.75

$lab^*ncE$  0.5 0.5 0.600r

$n^* = 0,00$

blackness  $n^*$

chromaticness  $c^*$

## Output: Colorimetric Reflective System TRS18

for hue  $h^* = lab^*h = 271/360 = 0.754$

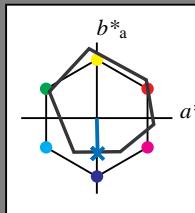
$lab^*tch$  and  $lab^*nch$

D65: hue B

LCH\*Ma: 42 45 271

olv\*Ma: 0.0 0.49 1.0

triangle lightness  $t^*$



%Gamut

$u^*_{rel} = 93$

%Regularity

$g^*_{H,rel} = 57$

$g^*_{C,rel} = 59$

relative Inform. Technology (IT)

$olv_i3^*$  1.0 1.0 1.0 (1.0)

$cmyn3^*$  0.0 0.0 0.0 (0.0)

$olv_i4^*$  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

$LAB^*LABa$  95.41 0.0 0.0

$LAB^*TCh_a$  99.99 0.01 -

relative CIELAB lab\*

$lab^*lab$  1.0 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)

$olv_i3^*$  0.5 0.744 1.0 (1.0)

$cmyn3^*$  0.5 0.256 0.0 (0.0)

$olv_i4^*$  0.5 0.744 1.0 1.0

$cmyn4^*$  0.5 0.256 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  68.59 0.08 -19.4

$LAB^*LABa$  68.59 0.54 -22.35

$LAB^*TCh_a$  75.0 22.36 271.4

relative CIELAB lab\*

$lab^*lab$  0.654 0.012 -0.499

$lab^*tch$  0.75 0.5 0.754

$lab^*nch$  0.0 0.5 0.754

relative Natural Colour (NC)

$lab^*lrij$  0.654 0.0 -0.499

$lab^*tce$  0.75 0.5 0.75

$lab^*ncE$  0.0 0.5 0.600r

$n^* = 1,0$

3 step scales for constant CIELAB hue 271/360 = 0.754 (right)

## TRS18; adapted (a) CIELAB data

$L^*=L^*_{ab,a}$   $a^*_{ab,a}$   $b^*_{ab,a}$   $C^*_{ab,a}$   $h^*_{ab,a}$

O Ma	47.94	65.37	50.52	82.62	38
Y Ma	90.37	-10.27	91.77	92.34	96
I Ma	50.9	-62.79	34.95	71.87	151
C Ma	58.62	-30.35	-45.01	54.3	236
V Ma	25.71	31.11	-44.42	54.24	305
M Ma	48.13	75.27	-8.35	75.73	354
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
BCIE	30.57	1.15	-46.84	46.87	271

relative Inform. Technology (IT)

$olv_i3^*$  0.0 0.488 1.0 (1.0)

$cmyn3^*$  1.0 0.512 0.0 (0.0)

$olv_i4^*$  0.0 0.488 1.0 1.0

$cmyn4^*$  1.0 0.512 0.0 0.0

standard and adapted CIELAB</p

## Input: Colorimetric Reflective System NRS11

for hue  $h^* = lab^*h = 272/360 = 0.755$

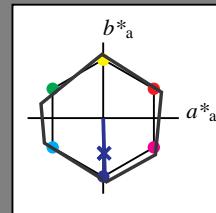
$lab^*tch$  and  $lab^*nch$

D65: hue B

LCH\*Ma: 53 83 272

olv\*Ma: 0.0 0.02 1.0

triangle lightness  $t^*$



%Gamut

$u^*_{rel} = 119$

%Regularity

$g^*_{H,rel} = 47$

$g^*_{C,rel} = 100$

relative Inform. Technology (IT)

$olv13^*$  1.0 1.0 1.0 (1.0)

$cmyn3^*$  0.0 0.0 0.0 (0.0)

$olv14^*$  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

$LAB^*TCh$  99.99 0.01 -

relative CIELAB lab\*

$lab^*lab$  1.0 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 -

$lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)

$olv13^*$  0.5 0.5 0.5 (1.0)

$cmyn3^*$  0.5 0.5 0.5 (0.0)

$olv14^*$  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

$LAB^*LABa$  53.21 0.0 0.0

$LAB^*TCh$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.5 0.0 0.0

$lab^*tce$  0.5 0.0 -

$lab^*ncE$  0.5 0.0 -

relative Inform. Technology (IT)

$olv13^*$  0.0 0.0 0.0 (1.0)

$cmyn3^*$  1.0 1.0 1.0 (0.0)

$olv14^*$  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 0.0 0.0

$LAB^*TCh$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*tce$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

## NRS11; adapted (a) CIELAB data

$L^*=L^*_{ab}$   $a^*_{ab}$   $b^*_{ab}$   $C^*_{ab,a}$   $h^*_{ab,a}$

RMa	53.2	77.06	34.32	84.36	24
JMa	53.2	-1.51	84.38	84.39	91
GMa	53.2	-82.27	18.98	84.44	167
G50BMa	53.2	-77.72	-32.98	84.44	203
BMa	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

## Output: Colorimetric Reflective System MRS18a

for hue  $h^* = lab^*h = 272/360 = 0.755$

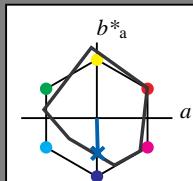
$lab^*tch$  and  $lab^*nch$

D65: hue B

LCH\*Ma: 40 49 272

olv\*Ma: 0.0 0.36 1.0

triangle lightness  $t^*$



%Gamut

$u^*_{rel} = 92$

%Regularity

$g^*_{H,rel} = 42$

$g^*_{C,rel} = 49$

relative Inform. Technology (IT)

$olv13^*$  1.0 1.0 1.0 (1.0)

$cmyn3^*$  0.0 0.0 0.0 (0.0)

$olv14^*$  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 0.01 0.0

$LAB^*LABa$  95.41 0.0 0.0

$LAB^*TCh$  99.99 0.01 -

relative CIELAB lab\*

$lab^*lab$  1.0 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 -

$lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)

$olv13^*$  0.5 0.682 1.0 (1.0)

$cmyn3^*$  0.5 0.318 0.0 (0.0)

$olv14^*$  0.5 0.682 1.0 1.0

$cmyn4^*$  0.5 0.318 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  67.55 0.74 -24.71

$LAB^*LABa$  67.55 0.7 -24.72

$LAB^*TCh$  75.0 24.74 271.63

relative CIELAB lab\*

$lab^*lab$  0.64 0.014 -0.499

$lab^*tch$  0.75 0.5 0.755

$lab^*nch$  0.0 0.5 0.755

relative Natural Colour (NC)

$lab^*lrij$  0.64 0.0 -0.499

$lab^*tce$  0.75 0.5 0.75

$lab^*ncE$  0.0 0.5 g99b

$n^* = 0,00$

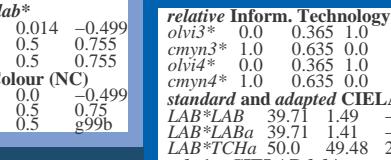
blackness  $n^*$

$n^* = 1,0$

## MRS18a; adapted (a) CIELAB data

$L^*=L^*_{ab}$   $a^*_{ab}$   $b^*_{ab}$   $C^*_{ab,a}$   $h^*_{ab,a}$

RMa	49.63	66.8	40.02	77.87	31
JMa	90.7	-7.27	93.19	93.48	94
GMa	52.11	-69.93	11.26	70.85	171
G50BMa	45.03	-36.65	-27.13	45.61	217
BMa	36.65	23.26	-62.27	66.49	290
B50RMa	34.94	57.27	-43.6	71.99	323
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	272



%Gamut

$u^*_{rel} = 92$

%Regularity

$g^*_{H,rel} = 42$

$g^*_{C,rel} = 49$

$n^* = 0,00$

blackness  $n^*$

$n^* = 1,0$

chromaticness  $c^*$

UE100-7, 3 step scales for constant CIELAB hue 272/360 = 0.755 (left)

3 step scales for constant CIELAB hue 272/360 = 0.755 (right)

### Input: Colorimetric Reflective System NRS11

for hue  $h^* = lab^*h = 272/360 = 0.755$

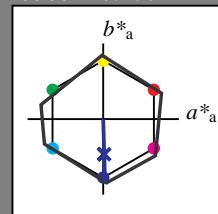
$lab^*tch$  and  $lab^*nch$

D65: hue B

LCH\*Ma: 53 83 272

olv\*Ma: 0.0 0.02 1.0

triangle lightness  $t^*$



### NRS11; adapted (a) CIELAB data

	$L^* = L_a^*$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	53.2	77.06	34.32	84.36	24
JMa	53.2	-1.51	84.38	84.39	91
GMa	53.2	-82.27	18.98	84.44	167
G50BMa	53.2	-77.72	-32.98	84.44	203
BMa	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)

$olv_i3^*$  1.0 1.0 1.0 (1.0)

$cmy_n3^*$  0.0 0.0 0.0 (0.0)

$olv_i4^*$  1.0 1.0 1.0 1.0

$cmy_n4^*$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  74.3 1.23 -41.51

$LAB^*LABa$  74.3 1.2 -41.52

$LAB^*TChA$  75.0 41.54 271.66

relative CIELAB lab\*

$lab^*lab$  0.75 0.014 -0.499

$lab^*tch$  0.75 0.5 0.755

$lab^*nch$  0.0 0.5 0.755

relative Natural Colour (NC)

$lab^*lrij$  0.75 0.0 -0.499

$lab^*tce$  0.75 0.5 0.75

$lab^*ncE$  0.0 0.5 g99b

relative Inform. Technology (IT)

$olv_i3^*$  0.5 0.5 0.5 (1.0)

$cmy_n3^*$  0.5 0.5 0.5 (0.0)

$olv_i4^*$  1.0 1.0 1.0 0.5

$cmy_n4^*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  53.21 0.04 0.0

$LAB^*LABa$  53.21 0.0 0.0

$LAB^*TChA$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.5 0.0 0.0

$lab^*tce$  0.5 0.0 0.0

$lab^*ncE$  0.5 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  11.01 0.07 0.01

$LAB^*LABa$  11.01 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*tce$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

### relative Inform. Technology (IT)

$olv_i3^*$  0.5 0.512 1.0 (1.0)

$cmy_n3^*$  0.5 0.488 0.0 (0.0)

$olv_i4^*$  0.5 0.512 1.0 1.0

$cmy_n4^*$  0.5 0.488 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  95.41 0.0 0.0

$LAB^*LABa$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 0.0

$lab^*ncE$  1.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  74.3 1.23 -41.51

$LAB^*LABa$  74.3 1.2 -41.52

$LAB^*TChA$  75.0 41.54 271.66

relative CIELAB lab\*

$lab^*lab$  0.75 0.014 -0.499

$lab^*tch$  0.75 0.5 0.755

$lab^*nch$  0.0 0.5 0.755

relative Natural Colour (NC)

$lab^*lrij$  0.75 0.0 -0.499

$lab^*tce$  0.75 0.5 0.75

$lab^*ncE$  0.0 0.5 g99b

standard and adapted CIELAB

$LAB^*LAB$  53.2 2.46 -83.04

$LAB^*LABa$  53.2 2.42 -83.05

$LAB^*TChA$  50.0 83.09 271.67

relative CIELAB lab\*

$lab^*lab$  0.5 0.029 -0.998

$lab^*tch$  0.5 1.0 0.755

$lab^*nch$  0.0 1.0 0.755

relative Natural Colour (NC)

$lab^*lrij$  0.5 0.0 -0.999

$lab^*tce$  0.5 1.0 0.75

$lab^*ncE$  0.0 1.0 b60r

standard and adapted CIELAB

$LAB^*LAB$  32.1 1.27 -41.5

$LAB^*LABa$  32.1 1.21 -41.52

$LAB^*TChA$  25.01 41.55 271.67

relative CIELAB lab\*

$lab^*lab$  0.25 0.015 -0.499

$lab^*tch$  0.25 0.5 0.755

$lab^*nch$  0.5 0.5 0.755

relative Natural Colour (NC)

$lab^*lrij$  0.25 0.0 -0.499

$lab^*tce$  0.25 0.5 0.75

$lab^*ncE$  0.5 0.5 b60r

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.09 0.02

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*tce$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.09 0.02

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*tce$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.09 0.02

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*tce$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.09 0.02

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*tce$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.09 0.02

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*tce$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.09 0.02

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*tce$  0.0 0.0 -

## Input: Colorimetric Reflective System NRS11

for hue  $h^* = lab^*h = 272/360 = 0.755$

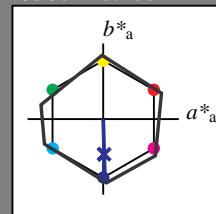
$lab^*tch$  and  $lab^*nch$

D65: hue B

LCH\*Ma: 53 83 272

olv\*Ma: 0.0 0.02 1.0

triangle lightness  $t^*$



## NRS11; adapted (a) CIELAB data

	$L^* = L^*_a$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	53.2	77.06	34.32	84.36	24
JMa	53.2	-1.51	84.38	84.39	91
GMa	53.2	-82.27	18.98	84.44	167
G50BMa	53.2	-77.72	-32.98	84.44	203
BMa	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)

$olv^3*$  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

$LAB^*LABa$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  74.3 1.23 -41.51

$LAB^*LABa$  74.3 1.2 -41.52

$LAB^*TChA$  75.0 41.54 271.66

relative CIELAB lab\*

$lab^*lab$  0.75 0.014 -0.499

$lab^*tch$  0.75 0.5 0.755

$lab^*nch$  0.0 0.5 0.755

relative Natural Colour (NC)

$lab^*lrij$  0.75 0.0 -0.499

$lab^*tce$  0.75 0.5 0.75

$lab^*ncE$  0.0 0.5 g99b

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 0.5

$cmyn^4*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  53.21 0.04 0.0

$LAB^*LABa$  53.21 0.0 0.0

$LAB^*TChA$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.5 0.0 0.0

$lab^*tce$  0.5 0.0 0.0

$lab^*ncE$  0.5 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  11.01 0.07 0.01

$LAB^*LABa$  11.01 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*tce$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

relative Inform. Technology (IT)

$olv^3*$  0.0 0.0 0.0 (1.0)

$cmyn^3*$  1.0 1.0 1.0 (0.0)

$olv^4*$  1.0 1.0 1.0 0.0

$cmyn^4*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  11.01 0.07 0.01

$LAB^*LABa$  11.01 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*tce$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  11.01 0.07 0.01

$LAB^*LABa$  11.01 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*tce$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

relative Inform. Technology (IT)

$olv^3*$  0.5 0.5 0.5 (1.0)

$cmyn^3*$  0.5 0.5 0.5 (0.0)

$olv^4*$  0.5 0.5 0.5 1.0

$cmyn^4*$  0.5 0.5 0.5 0.0

standard and adapted CIELAB

$LAB^*LAB$  74.3 1.23 -41.51

$LAB^*LABa$  74.3 1.2 -41.52

$LAB^*TChA$  75.0 41.54 271.66

relative CIELAB lab\*

$lab^*lab$  0.75 0.014 -0.499

$lab^*tch$  0.75 0.5 0.755

$lab^*nch$  0.0 0.5 0.755

relative Natural Colour (NC)

$lab^*lrij$  0.75 0.0 -0.499

$lab^*tce$  0.75 0.5 0.75

$lab^*ncE$  0.0 0.5 g99b

relative Inform. Technology (IT)

$olv^3*$  0.0 0.0 0.0 (1.0)

$cmyn^3*$  1.0 1.0 1.0 (0.0)

$olv^4*$  1.0 1.0 1.0 0.0

$cmyn^4*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  53.2 2.46 -83.04

$LAB^*LABa$  53.2 2.42 -83.05

$LAB^*TChA$  50.0 83.09 271.67

relative CIELAB lab\*

$lab^*lab$  0.5 0.029 -0.998

$lab^*tch$  0.5 1.0 0.755

$lab^*nch$  0.0 1.0 0.755

relative Natural Colour (NC)

$lab^*lrij$  0.5 0.0 -0.999

$lab^*tce$  0.5 1.0 0.75

$lab^*ncE$  0.0 1.0 b60r

$n^* = 0,00$

blackness  $n^*$

$n^* = 0,50$

$n^* = 1,00$

chromaticness  $c^*$

## Output: Colorimetric Reflective System NCS18

for hue  $h^* = lab^*h = 272/360 = 0.755$

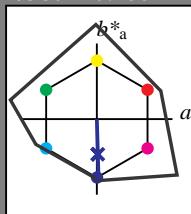
$lab^*tch$  and  $lab^*nch$

D65: hue B

LCH\*Ma: 49 80 272

olv\*Ma: 0.0 0.02 1.0

triangle lightness  $t^*$



## NCS18; adapted (a) CIELAB data

	$L^* = L^*_a$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	47.15	84.63	37.24	92.46	24
JMa	91.37	-1.27	125.03	125.03	91
GMa	63.07	-114.29	25.34	117.07	167
G50BMa	59.47	-80.61	-33.45	87.29	203
BMa	49.01	3.63	-81.2	81.29	273
B50RMa	44.06	106.07	-73.94	129.31	325
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	272

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

$LAB^*LABa$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 0.0

$lab^*ncE$  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)

$olv^4*$  0.5 0.5 0.5 1.0

$cmyn^4*$  0.5 0.5 0.5 0.0

standard and adapted CIELAB

$LAB^*LAB$  72.29 1.18 -40.2

$LAB^*LABa$  72.29 1.15 -40.21

$LAB^*TChA$  75.0 40.23 271.64

relative CIELAB lab\*

## Input: Colorimetric Reflective System NRS11

for hue  $h^* = lab^*h = 272/360 = 0.755$

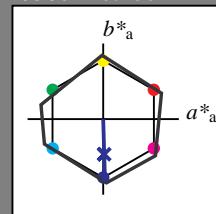
$lab^*tch$  and  $lab^*nch$

D65: hue B

LCH\*Ma: 53 83 272

olv\*Ma: 0.0 0.02 1.0

triangle lightness  $t^*$



relative Inform. Technology (IT)

olv13\* 1.0 1.0 1.0 (1.0)

cmyn3\* 0.0 0.0 0.0 (0.0)

olv14\* 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 0.0 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)

olv13\* 0.5 0.5 0.5 (1.0)

cmyn3\* 0.5 0.5 0.5 (0.0)

olv14\* 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\*LABa 53.21 0.0 0.0

LAB\*TChA 50.0 0.01 -

relative CIELAB lab\*

lab\*lab 0.5 0.0 0.0

lab\*tch 0.5 0.0 -

lab\*nch 0.5 0.0 -

relative Natural Colour (NC)

lab\*lrj 0.5 0.0 0.0

lab\*tce 0.5 0.0 0.0

lab\*ncE 0.5 0.0 -

relative Inform. Technology (IT)

olv13\* 0.0 0.0 0.0 (1.0)

cmyn3\* 1.0 1.0 1.0 (0.0)

olv14\* 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 0.0 0.0

LAB\*TChA 0.01 0.01 -

relative CIELAB lab\*

lab\*lab 0.0 0.0 0.0

lab\*tch 0.0 0.0 -

lab\*nch 1.0 0.0 -

relative Natural Colour (NC)

lab\*lrj 0.0 0.0 0.0

lab\*tce 0.0 0.0 0.0

lab\*ncE 1.0 0.0 -

$n^* = 1,0$

## NRS11; adapted (a) CIELAB data

$L^*=L^*_{ab,a}$   $a^*_{ab,a}$   $b^*_{ab,a}$   $C^*_{ab,a}$   $h^*_{ab,a}$

RMa	53.2	77.06	34.32	84.36	24
JMa	53.2	-1.51	84.38	84.39	91
GMa	53.2	-82.27	18.98	84.44	167
G50BMa	53.2	-77.72	-32.98	84.44	203
BMa	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

%Gamut

$u^*_{rel} = 119$

%Regularity

$g^*_{H,rel} = 47$

$g^*_{C,rel} = 100$

relative Inform. Technology (IT)

olv13\* 0.5 0.512 1.0 (1.0)

cmyn3\* 0.5 0.488 0.0 (0.0)

olv14\* 0.5 0.512 1.0 1.0

cmyn4\* 0.5 0.488 0.0 0.0

standard and adapted CIELAB

LAB\*LAB 74.3 1.23 -41.51

LAB\*LABa 74.3 1.2 -41.52

LAB\*TChA 75.0 41.54 271.66

relative CIELAB lab\*

lab\*lab 0.75 0.014 -0.499

lab\*tch 0.75 0.5 0.755

lab\*nch 0.0 0.5 0.755

relative Natural Colour (NC)

lab\*lrj 0.75 0.0 -0.499

lab\*tce 0.75 0.5 0.75

lab\*ncE 0.0 0.5 g99b

relative Inform. Technology (IT)

olv13\* 0.0 0.024 1.0 (1.0)

cmyn3\* 1.0 0.976 0.0 (0.0)

olv14\* 0.0 0.024 1.0 0.5

cmyn4\* 1.0 0.976 0.0 0.0

standard and adapted CIELAB

LAB\*LAB 53.2 2.46 -83.04

LAB\*LABa 53.2 2.42 -83.05

LAB\*TChA 50.0 83.09 271.67

relative CIELAB lab\*

lab\*lab 0.5 0.029 -0.998

lab\*tch 0.5 1.0 0.755

lab\*nch 0.0 1.0 0.755

relative Natural Colour (NC)

lab\*lrj 0.5 0.0 -0.999

lab\*tce 0.5 1.0 0.75

lab\*ncE 0.0 1.0 b00r

relative Inform. Technology (IT)

olv13\* 0.0 0.012 0.5 (1.0)

cmyn3\* 1.0 0.988 0.5 (0.0)

olv14\* 0.5 0.512 1.0 0.5

cmyn4\* 0.5 0.488 0.0 0.5

standard and adapted CIELAB

LAB\*LAB 32.1 1.27 -41.5

LAB\*LABa 32.1 1.21 -41.52

LAB\*TChA 25.01 41.55 271.67

relative CIELAB lab\*

lab\*lab 0.25 0.015 -0.499

lab\*tch 0.25 0.5 0.755

lab\*nch 0.5 0.5 0.755

relative Natural Colour (NC)

lab\*lrj 0.25 0.0 -0.499

lab\*tce 0.25 0.5 0.75

lab\*ncE 0.5 0.5 b00r

$n^* = 0,00$

blackness  $n^*$

chromaticness  $c^*$

$n^* = 0,50$

blackness  $n^*$

chromaticness  $c^*$

$n^* = 1,00$

blackness  $n^*$

chromaticness  $c^*$

## Output: Colorimetric Reflective System NRS11

for hue  $h^* = lab^*h = 272/360 = 0.755$

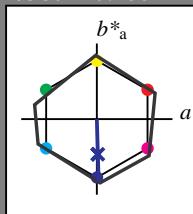
$lab^*tch$  and  $lab^*nch$

D65: hue B

LCH\*Ma: 53 83 272

olv\*Ma: 0.0 0.02 1.0

triangle lightness  $t^*$



%Gamut

$u^*_{rel} = 119$

%Regularity

$g^*_{H,rel} = 47$

$g^*_{C,rel} = 100$

relative Inform. Technology (IT)

olv13\* 1.0 1.0 1.0 (1.0)

cmyn3\* 0.0 0.0 0.0 (0.0)

olv14\* 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 0.0 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)

olv13\* 0.5 0.512 1.0 (1.0)

cmyn3\* 0.5 0.488 0.0 (0.0)

olv14\* 0.5 0.512 1.0 1.0

cmyn4\* 0.5 0.488 0.0 0.0

standard and adapted CIELAB

LAB\*LAB 74.3 1.23 -41.51

LAB\*LABa 74.3 1.2 -41.52

LAB\*TChA 75.0 41.54 271.66

relative CIELAB lab\*

lab\*lab 0.75 0.014 -0.499

lab\*tch 0.75 0.5 0.755

lab\*nch 0.0 0.5 0.755

relative Natural Colour (NC)

lab\*lrj 0.75 0.0 -0.499

lab\*tce 0.75 0.5 0.75

lab\*ncE 0.0 0.5 g99b

relative Inform. Technology (IT)

olv13\* 0.0 0.024 1.0 (1.0)

cmyn3\* 1.0 0.976 0.0 (0.0)

olv14\* 0.0 0.024 1.0 0.5

cmyn4\* 1.0 0.976 0.0 0.0

standard and adapted CIELAB

LAB\*LAB 53.2 2.46 -83.04

LAB\*LABa 53.2 2.42 -83.05

LAB\*TChA 50.0 83.09 271.67

relative CIELAB lab\*

lab\*lab 0.75 0.014 -0.499

lab\*tch 0.75 0.5 0.755

lab\*nch 0.0 0.5 0.755

relative Natural Colour (NC)

lab\*lrj 0.75 0.0 -0.499

lab\*tce 0.75 0.5 0.75

lab\*ncE 0.0 0.5 b00r

$n^* = 1,0$

blackness  $n^*$

chromaticness  $c^*$

RMa	53.2	77.06	34.32	84.36	24
JMa	53.2	-1.51	84.38	84.39	91
GMa	53.2	-82.27	18.98	84.44	167
G50BMa	53.2	-77.72	-32.98	84.44	203
BMa	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					

## Input: Colorimetric Reflective System NRS11

for hue  $h^* = lab^*h = 272/360 = 0.755$

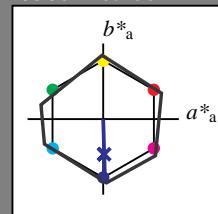
$lab^*tch$  and  $lab^*nch$

D65: hue B

LCH\*Ma: 53 83 272

olv\*Ma: 0.0 0.02 1.0

triangle lightness  $t^*$



relative Inform. Technology (IT)  
 $olv_i3^*$  1.0 1.0 1.0 (1.0)  
 $cmy_n3^*$  0.0 0.0 0.0 (0.0)

$olv_i4^*$  1.0 1.0 1.0 1.0  
 $cmy_n4^*$  0.0 0.0 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  95.41 0.0 -0.01

$LAB^*LAB_a$  95.41 0.0 0.0

$LAB^*TCh_a$  99.99 0.01 -

relative CIELAB lab\*

$lab^*lab$  1.0 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)  
 $olv_i3^*$  0.5 0.5 0.5 (1.0)  
 $cmy_n3^*$  0.5 0.5 0.5 (0.0)

$olv_i4^*$  1.0 1.0 1.0 0.5

$cmy_n4^*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  53.21 0.04 0.0

$LAB^*LAB_a$  53.21 0.0 0.0

$LAB^*TCh_a$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.5 0.0 0.0

$lab^*tce$  0.5 0.0 0.0

$lab^*ncE$  0.5 0.0 -

relative Inform. Technology (IT)  
 $olv_i3^*$  0.0 0.0 0.0 (1.0)  
 $cmy_n3^*$  1.0 1.0 1.0 (0.0)

$olv_i4^*$  1.0 1.0 1.0 0.0

$cmy_n4^*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  11.01 0.07 0.01

$LAB^*LAB_a$  11.01 0.0 0.0

$LAB^*TCh_a$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*tce$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

## NRS11; adapted (a) CIELAB data

$L^*=L_a^*$   $a^*_a$   $b^*_a$   $C^*_{ab,a}$   $h^*_{ab,a}$

RMa	53.2	77.06	34.32	84.36	24
JMa	53.2	-1.51	84.38	84.39	91
GMa	53.2	-82.27	18.98	84.44	167
G50BMa	53.2	-77.72	-32.98	84.44	203
BMa	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

%Gamut  
 $u^*_{rel} = 119$   
%Regularity  
 $g^*_{H,rel} = 47$   
 $g^*_{C,rel} = 100$

relative Inform. Technology (IT)  
 $olv_i3^*$  0.5 0.512 1.0 (1.0)  
 $cmy_n3^*$  0.5 0.488 0.0 (0.0)

$olv_i4^*$  0.5 0.512 1.0 1.0

$cmy_n4^*$  0.5 0.488 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  74.3 1.23 -41.51

$LAB^*LAB_a$  74.3 1.2 -41.52

$LAB^*TCh_a$  75.0 41.54 271.66

relative CIELAB lab\*

$lab^*lab$  0.75 0.014 -0.499

$lab^*tch$  0.75 0.5 0.755

$lab^*nch$  0.0 0.5 0.755

relative Natural Colour (NC)

$lab^*lrij$  0.75 0.0 -0.499

$lab^*tce$  0.75 0.5 0.75

$lab^*ncE$  0.0 0.5 g99b

relative Inform. Technology (IT)  
 $olv_i3^*$  0.0 0.024 1.0 (1.0)

$cmy_n3^*$  1.0 0.976 0.0 (0.0)

$olv_i4^*$  0.0 0.024 1.0 1.0

$cmy_n4^*$  1.0 0.976 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  53.2 2.46 -83.04

$LAB^*LAB_a$  53.2 2.42 -83.05

$LAB^*TCh_a$  50.0 83.09 271.67

relative CIELAB lab\*

$lab^*lab$  0.5 0.029 -0.998

$lab^*tch$  0.5 1.0 0.755

$lab^*nch$  0.0 1.0 0.755

relative Natural Colour (NC)

$lab^*lrij$  0.5 0.0 -0.999

$lab^*tce$  0.5 1.0 0.75

$lab^*ncE$  0.0 1.0 b60r

relative Inform. Technology (IT)  
 $olv_i3^*$  0.0 0.012 0.5 (1.0)

$cmy_n3^*$  1.0 0.988 0.5 (0.0)

$olv_i4^*$  0.5 0.512 1.0 0.5

$cmy_n4^*$  0.5 0.488 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  32.1 1.27 -41.5

$LAB^*LAB_a$  32.1 1.21 -41.52

$LAB^*TCh_a$  25.01 41.55 271.67

relative CIELAB lab\*

$lab^*lab$  0.25 0.015 -0.499

$lab^*tch$  0.25 0.5 0.755

$lab^*nch$  0.5 0.5 0.755

relative Natural Colour (NC)

$lab^*lrij$  0.25 0.0 -0.499

$lab^*tce$  0.25 0.5 0.75

$lab^*ncE$  0.5 0.5 600r

$n^* = 0,00$   
blackness  $n^*$   
chromaticness  $c^*$

## Output: Colorimetric Reflective System NCS11

for hue  $h^* = lab^*h = 272/360 = 0.755$

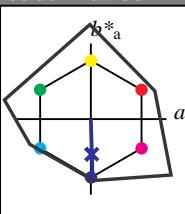
$lab^*tch$  and  $lab^*nch$

D65: hue B

LCH\*Ma: 49 80 272

olv\*Ma: 0.0 0.02 1.0

triangle lightness  $t^*$



%Gamut  
 $u^*_{rel} = 149$   
%Regularity  
 $g^*_{H,rel} = 46$   
 $g^*_{C,rel} = 65$

relative Inform. Technology (IT)  
 $olv_i3^*$  1.0 1.0 1.0 (1.0)  
 $cmy_n3^*$  0.0 0.0 0.0 (0.0)

$olv_i4^*$  1.0 1.0 1.0 1.0

$cmy_n4^*$  0.0 0.0 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  95.41 0.0 -0.01

$LAB^*LAB_a$  95.41 0.0 0.0

$LAB^*TCh_a$  99.99 0.01 -

relative CIELAB lab\*

$lab^*lab$  1.0 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)  
 $olv_i3^*$  0.5 0.508 1.0 (1.0)

$cmy_n3^*$  0.5 0.492 0.0 (0.0)

$olv_i4^*$  0.5 0.508 1.0 1.0

$cmy_n4^*$  0.5 0.492 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  72.29 1.2 -40.21

$LAB^*LAB_a$  72.29 1.17 -40.21

$LAB^*TCh_a$  75.0 40.24 271.66

relative CIELAB lab\*

$lab^*lab$  0.726 0.014 -0.499

$lab^*tch$  0.75 0.5 0.755

$lab^*nch$  0.0 0.5 0.755

relative Natural Colour (NC)

$lab^*lrij$  0.726 0.0 -0.499

$lab^*tce$  0.75 0.5 0.75

$lab^*ncE$  0.0 0.5 600r

relative Inform. Technology (IT)  
 $olv_i3^*$  0.0 0.008 0.5 (1.0)

$cmy_n3^*$  1.0 0.992 0.5 (0.0)

$olv_i4^*$  0.5 0.508 1.0 0.5

$cmy_n4^*$  0.5 0.492 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  30.09 1.24 -40.2

$LAB^*LAB_a$  30.09 1.18 -40.21

$LAB^*TCh_a$  25.01 40.24 271.67

relative CIELAB lab\*

$lab^*lab$  0.226 0.015 -0.499

$lab^*tch$  0.25 0.5 0.755

$lab^*nch$  0.5 0.5 0.755

relative Natural Colour (NC)

$lab^*lrij$  0.226 0.0 -0.499

$lab^*tce$  0.25 0.5 0.75

$lab^*ncE$  0.5 0.5 600r

relative Inform. Technology (IT)  
 $olv_i3^*$  0.0 0.016 1.0 (1.0)

$cmy_n3^*$  1.0 0.984 0.0 (0.0)

$olv_i4^*$  0.0 0.016 1.0 1.0

$cmy_n4^*$  1.0 0.984 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  49.18 2.39 -80.42

$LAB^*LAB_a$  49.18 2.34 -80.43

$LAB^*TCh_a$  50.0 80.48 271.67

relative CIELAB lab\*

$lab^*lab$  0.452 0.029 -0.998

$lab^*tch$  0.5 1.0 0.755

$lab^*nch$  0.0 1.0 0.755

relative Natural Colour (NC)

$lab^*lrij$  0.452 0.0 -0.999

$lab^*tce$  0.5 1.0 0.75

$lab^*ncE$  0.0 1.0 600r

relative Inform. Technology (IT)  
 $olv_i3^*$  0.0 0.008 0.5 (1.0)

$cmy_n3^*$  1.0 0.992 0.5 (0.0)

## Input: Colorimetric Reflective System NCS11

for hue  $h^* = lab^*h = 272/360 = 0.755$

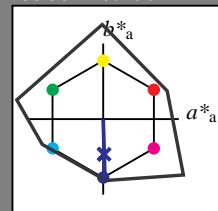
$lab^*tch$  and  $lab^*nch$

D65: hue B

LCH\*Ma: 49 80 272

olv\*Ma: 0.0 0.02 1.0

triangle lightness  $t^*$



relative Inform. Technology (IT)

olv*i*3\* 1.0 1.0 1.0 (1.0)

cmy*n*3\* 0.0 0.0 0.0 (0.0)

olv*i*4\* 1.0 1.0 1.0 1.0

cmy*n*4\* 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 0.0 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)

olv*i*3\* 0.5 0.5 0.5 (1.0)

cmy*n*3\* 0.5 0.5 0.5 (0.0)

olv*i*4\* 1.0 1.0 1.0 0.5

cmy*n*4\* 0.0 0.0 0.0 0.5

standard and adapted CIELAB

LAB\*LAB 53.21 0.04 0.0

LAB\*LABa 53.21 0.0 0.0

LAB\*TChA 50.0 0.01 -

relative CIELAB lab\*

lab\*lab 0.5 0.0 0.0

lab\*tch 0.5 0.0 -

lab\*nch 0.5 0.0 -

relative Natural Colour (NC)

lab\*lrj 0.5 0.0 0.0

lab\*tce 0.5 0.0 0.0

lab\*ncE 0.5 0.0 -

relative Inform. Technology (IT)

olv*i*3\* 0.0 0.0 0.0 (1.0)

cmy*n*3\* 1.0 1.0 1.0 (0.0)

olv*i*4\* 1.0 1.0 1.0 0.0

cmy*n*4\* 0.0 0.0 0.0 1.0

standard and adapted CIELAB

LAB\*LAB 11.01 0.07 0.01

LAB\*LABa 11.01 0.0 0.0

LAB\*TChA 0.01 0.01 -

relative CIELAB lab\*

lab\*lab 0.0 0.0 0.0

lab\*tch 0.0 0.0 -

lab\*nch 1.0 0.0 -

relative Natural Colour (NC)

lab\*lrj 0.0 0.0 0.0

lab\*tce 0.0 0.0 0.0

lab\*ncE 1.0 0.0 -

$n^* = 1,0$

$n^* = 0,00$

$n^* = 0,50$

$n^* = 1,00$

$n^* = 0,00$   
blackness  $n^*$   
 $n^* = 0,50$   
 $n^* = 1,00$   
chromaticness  $c^*$

## NCS11; adapted (a) CIELAB data

$L^*=L^*_{ab}$   $a^*_a$   $b^*_a$   $C^*_{ab,a}$   $h^*_{ab,a}$

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

%Gamut

$u^*_{rel} = 149$

%Regularity

$g^*_{H,rel} = 46$

$g^*_{C,rel} = 65$

relative Inform. Technology (IT)

olv*i*3\* 0.5 0.508 1.0 (1.0)

cmy*n*3\* 0.5 0.492 0.0 (0.0)

olv*i*4\* 0.5 0.508 1.0 1.0

cmy*n*4\* 0.5 0.492 0.0 0.0

standard and adapted CIELAB

LAB\*LAB 72.29 1.2 -40.21

LAB\*LABa 72.29 1.17 -40.21

LAB\*TChA 75.0 40.24 271.66

relative CIELAB lab\*

lab\*lab 0.726 0.014 -0.499

lab\*tch 0.75 0.5 0.755

lab\*nch 0.0 0.5 0.755

relative Natural Colour (NC)

lab\*lrj 0.726 0.0 -0.499

lab\*tce 0.75 0.5 0.75

lab\*ncE 0.0 0.5 0.998

relative Inform. Technology (IT)

olv*i*3\* 0.0 0.008 0.5 (1.0)

cmy*n*3\* 1.0 0.992 0.5 (0.0)

olv*i*4\* 0.5 0.508 1.0 0.5

cmy*n*4\* 0.5 0.492 0.0 0.5

standard and adapted CIELAB

LAB\*LAB 49.18 2.39 -80.42

LAB\*LABa 49.18 2.34 -80.43

LAB\*TChA 50.0 80.48 271.67

relative CIELAB lab\*

lab\*lab 0.452 0.029 -0.998

lab\*tch 0.5 1.0 0.755

lab\*nch 0.0 1.0 0.755

relative Natural Colour (NC)

lab\*lrj 0.452 0.0 -0.999

lab\*tce 0.5 1.0 0.75

lab\*ncE 0.0 1.0 0.600r

relative Inform. Technology (IT)

olv*i*3\* 0.0 0.0 0.0 (1.0)

cmy*n*3\* 1.0 1.0 1.0 (0.0)

olv*i*4\* 1.0 1.0 1.0 0.0

cmy*n*4\* 0.0 0.0 0.0 1.0

standard and adapted CIELAB

LAB\*LAB 11.01 0.07 0.01

LAB\*LABa 11.01 0.0 0.0

LAB\*TChA 0.01 0.01 -

relative CIELAB lab\*

lab\*lab 0.0 0.0 0.0

lab\*tch 0.0 0.0 -

lab\*nch 1.0 0.0 -

relative Natural Colour (NC)

lab\*lrj 0.0 0.0 0.0

lab\*tce 0.0 0.0 0.0

lab\*ncE 1.0 0.0 -

$n^* = 0,00$

$n^* = 0,50$

$n^* = 1,00$

$n^* = 0,00$

$n^* = 0,50$

$n^* = 1,00$

chromaticness  $c^*$

## Output: Colorimetric Reflective System ORS18

for hue  $h^* = lab^*h = 271/360 = 0.754$

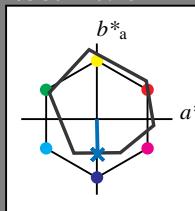
$lab^*tch$  and  $lab^*nch$

D65: hue B

LCH\*Ma: 42 45 271

olv\*Ma: 0.0 0.49 1.0

triangle lightness  $t^*$



%Gamut

$u^*_{rel} = 93$

%Regularity

$g^*_{H,rel} = 57$

$g^*_{C,rel} = 59$

relative Inform. Technology (IT)

olv*i*3\* 1.0 1.0 1.0 (1.0)

cmy*n*3\* 0.0 0.0 0.0 (0.0)

olv*i*4\* 1.0 1.0 1.0 1.0

cmy*n*4\* 0.0 0.0 0.0 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 0.0 0.0

lab\*tch 1.0 0.0 -

lab\*nch 0.0 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)

olv*i*3\* 0.5 0.744 1.0 (1.0)

cmy*n*3\* 0.5 0.256 0.0 (0.0)

olv*i*4\* 0.5 0.744 1.0 1.0

cmy*n*4\* 0.5 0.256 0.0 0.0

standard and adapted CIELAB

LAB\*LAB 68.59 0.08 -19.4

LAB\*LABa 68.59 0.54 -22.35

LAB\*TChA 75.0 22.36 271.4

relative CIELAB lab\*

lab\*lab 0.654 0.012 -0.499

lab\*tch 0.75 0.5 0.754

lab\*nch 0.0 0.5 0.754

relative Natural Colour (NC)

lab\*lrj 0.654 0.0 -0.499

lab\*tce 0.75 0.5 0.75

lab\*ncE 0.0 0.5 0.600r

$n^* = 0,00$

$n^* = 0,50$

$n^* = 1,00$

chromaticness  $c^*$

## ORS18; adapted (a) CIELAB data

$L^*=L^*_{ab}$   $a^*_a$   $b^*_a$   $C^*_{ab,a}$   $h^*_{ab,a}$

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

%Gamut

$u^*_{rel} = 93$

%Regularity

## Input: Colorimetric Reflective System NCS11

for hue  $h^* = lab^*h = 272/360 = 0.755$

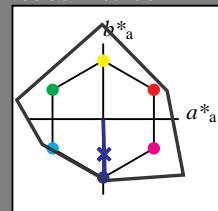
$lab^*tch$  and  $lab^*nch$

D65: hue B

LCH\*Ma: 49 80 272

olv\*Ma: 0.0 0.02 1.0

triangle lightness  $t^*$



%Gamut

$u^*_{rel} = 149$

%Regularity

$g^*_{H,rel} = 46$

$g^*_{C,rel} = 65$

relative Inform. Technology (IT)

$olv13^*$  1.0 1.0 1.0 (1.0)

$cmyn3^*$  0.0 0.0 0.0 (0.0)

$olv14^*$  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

$LAB^*TCh$  99.99 0.01 -

relative CIELAB lab\*

$lab^*lab$  1.0 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*ice$  1.0 0.0 -

$lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)

$olv13^*$  0.5 0.5 0.5 (1.0)

$cmyn3^*$  0.5 0.5 0.5 (0.0)

$olv14^*$  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

$LAB^*LABa$  53.21 0.0 0.0

$LAB^*TCh$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.5 0.0 0.0

$lab^*ice$  0.5 0.0 -

$lab^*ncE$  0.5 0.0 -

relative Inform. Technology (IT)

$olv13^*$  0.0 0.0 0.0 (1.0)

$cmyn3^*$  1.0 1.0 1.0 (0.0)

$olv14^*$  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 0.0 0.0

$LAB^*TCh$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*ice$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

## NCS11; adapted (a) CIELAB data

$L^*=L^*_{ab}$   $a^*_{ab}$   $b^*_{ab}$   $C^*_{ab,a}$   $h^*_{ab,a}$

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

## Output: Colorimetric Reflective System MRS18

for hue  $h^* = lab^*h = 271/360 = 0.754$

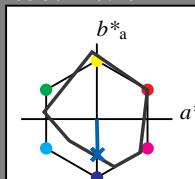
$lab^*tch$  and  $lab^*nch$

D65: hue B

LCH\*Ma: 40 50 271

olv\*Ma: 0.0 0.37 1.0

triangle lightness  $t^*$



%Gamut

$u^*_{rel} = 91$

%Regularity

$g^*_{H,rel} = 41$

$g^*_{C,rel} = 52$

relative Inform. Technology (IT)

$olv13^*$  1.0 1.0 1.0 (1.0)

$cmyn3^*$  0.0 0.0 0.0 (0.0)

$olv14^*$  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

$LAB^*LABa$  95.41 0.0 0.0

$LAB^*TCh$  99.99 0.01 -

relative CIELAB lab\*

$lab^*lab$  1.0 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*ice$  1.0 0.0 -

$lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)

$olv13^*$  0.5 0.684 1.0 (1.0)

$cmyn3^*$  0.5 0.316 0.0 (0.0)

$olv14^*$  0.5 0.684 1.0 1.0

$cmyn4^*$  0.5 0.316 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  67.57 0.17 -22.28

$LAB^*LABa$  67.57 0.61 -25.16

$LAB^*TCh$  75.0 25.18 271.4

relative CIELAB lab\*

$lab^*lab$  0.64 0.012 -0.499

$lab^*tch$  0.75 0.5 0.754

$lab^*nch$  0.0 0.5 0.754

relative Natural Colour (NC)

$lab^*lrij$  0.64 0.0 -0.499

$lab^*ice$  0.75 0.5 0.75

$lab^*ncE$  0.0 0.5 g99b

relative Inform. Technology (IT)

$olv13^*$  0.0 0.184 0.5 (1.0)

$cmyn3^*$  1.0 0.816 0.5 (0.0)

$olv14^*$  0.5 0.684 1.0 0.5

$cmyn4^*$  0.5 0.316 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  18.02 0.5 -0.46

$LAB^*LABa$  18.02 0.0 0.0

$LAB^*TCh$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

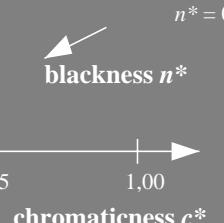
relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*ice$  0.0 0.0 -

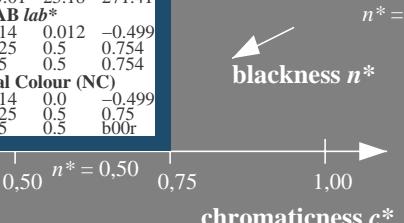
$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$



UE100-7, 3 step scales for constant CIELAB hue 272/360 = 0.755 (left)

$n^* = 1,0$



3 step scales for constant CIELAB hue 271/360 = 0.754 (right)

## Input: Colorimetric Reflective System NCS11

for hue  $h^* = lab^*h = 272/360 = 0.755$

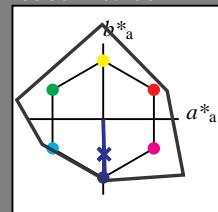
$lab^*tch$  and  $lab^*nch$

D65: hue B

LCH\*Ma: 49 80 272

olv\*Ma: 0.0 0.02 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

relative Inform. Technology (IT)

$olv_i3^*$  1.0 1.0 1.0 (1.0)

$cmyn3^*$  0.0 0.0 0.0 (0.0)

$olv_i4^*$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  72.29 1.2 -40.21

$LAB^*LABa$  72.29 1.17 -40.21

$LAB^*TChA$  75.0 40.24 271.66

relative CIELAB lab\*

$lab^*lab$  0.726 0.014 -0.499

$lab^*tch$  0.75 0.5 0.755

$lab^*nch$  0.0 0.5 0.755

relative Natural Colour (NC)

$lab^*lrij$  0.726 0.0 -0.499

$lab^*tce$  0.75 0.5 0.75

$lab^*ncE$  0.0 0.5 0.998

relative Inform. Technology (IT)

$olv_i3^*$  0.5 0.5 0.5 (1.0)

$cmyn3^*$  0.5 0.5 0.5 (0.0)

$olv_i4^*$  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

$LAB^*LABa$  53.21 0.0 0.0

$LAB^*TChA$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.5 0.0 0.0

$lab^*tce$  0.5 0.0 0.0

$lab^*ncE$  0.5 0.0 -

relative Inform. Technology (IT)

$olv_i3^*$  0.0 0.0 0.0 (1.0)

$cmyn3^*$  1.0 1.0 1.0 (0.0)

$olv_i4^*$  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 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*tce$  0.0 0.0 0.0

$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

$n^* = 0,00$

$n^* = 0,50$

$1,00$

$chromaticness c^*$

## Output: Colorimetric Reflective System TRS18

for hue  $h^* = lab^*h = 271/360 = 0.754$

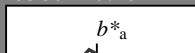
$lab^*tch$  and  $lab^*nch$

D65: hue B

LCH\*Ma: 42 45 271

olv\*Ma: 0.0 0.49 1.0

triangle lightness  $t^*$



## TRS18; adapted (a) CIELAB data

	$L^* = L_a^*$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
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)

$olv_i3^*$  1.0 1.0 1.0 (1.0)

$cmyn3^*$  0.0 0.0 0.0 (0.0)

$olv_i4^*$  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

$LAB^*LABa$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)

$olv_i3^*$  0.5 0.744 1.0 (1.0)

$cmyn3^*$  0.5 0.256 0.0 (0.0)

$olv_i4^*$  0.5 0.744 1.0 1.0

$cmyn4^*$  0.5 0.256 0.0 0.0

standard and adapted CIELAB

$LAB^*LAB$  68.59 0.08 -19.4

$LAB^*LABa$  68.59 0.54 -22.35

$LAB^*TChA$  75.0 22.36 271.4

relative CIELAB lab\*

$lab^*lab$  0.654 0.012 -0.499

$lab^*tch$  0.75 0.5 0.754

$lab^*nch$  0.0 0.5 0.754

relative Natural Colour (NC)

$lab^*lrij$  0.654 0.0 -0.499

$lab^*tce$  0.75 0.5 0.75

$lab^*ncE$  0.0 0.5 g99b

relative Inform. Technology (IT)

$olv_i3^*$  0.0 0.244 0.5 (1.0)

$cmyn3^*$  1.0 0.756 0.5 (0.0)

$olv_i4^*$  0.5 0.744 1.0 0.5

$cmyn4^*$  0.5 0.256 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  41.79 1.14 -43.56

$LAB^*LABa$  41.79 1.1 -44.7

$LAB^*TChA$  50.0 44.73 271.4

relative CIELAB lab\*

$lab^*lab$  0.307 0.024 -0.998

$lab^*tch$  0.5 1.0 0.754

$lab^*nch$  0.0 1.0 0.754

relative Natural Colour (NC)

$lab^*lrij$  0.307 0.0 -0.999

$lab^*tce$  0.5 1.0 0.75

$lab^*ncE$  0.0 1.0 b00r

$n^* = 0,00$

$n^* = 0,50$

$1,00$

$chromaticness c^*$

$n^* = 1,0$

UE100-7, 3 step scales for constant CIELAB hue 272/360 = 0.755 (left)

3 step scales for constant CIELAB hue 271/360 = 0.754 (right)

## Input: Colorimetric Reflective System NCS11

for hue  $h^* = lab^*h = 272/360 = 0.755$

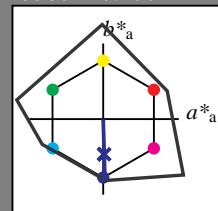
$lab^*tch$  and  $lab^*nch$

D65: hue B

LCH\*Ma: 49 80 272

olv\*Ma: 0.0 0.02 1.0

triangle lightness  $t^*$



%Gamut

$u^*_{rel} = 149$

%Regularity

$g^*_{H,rel} = 46$

$g^*_{C,rel} = 65$

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

$LAB^*LABa$  95.41 0.0 0.0

$LAB^*TCh$  99.99 0.01 -

relative CIELAB lab\*

$lab^*lab$  1.0 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  1.0 0.0 0.0

$lab^*ice$  1.0 0.0 -

$lab^*ncE$  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 0.5

$cmyn^4*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  53.21 0.04 0.0

$LAB^*LABa$  53.21 0.0 0.0

$LAB^*TCh$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  0.5 0.0 0.0

$lab^*ice$  0.5 0.0 -

$lab^*ncE$  0.5 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)

$olv^4*$  1.0 1.0 1.0 0.0

$cmyn^4*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  11.01 0.07 0.01

$LAB^*LABa$  11.01 0.0 0.0

$LAB^*TCh$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  0.0 0.0 0.0

$lab^*ice$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

## NCS11; adapted (a) CIELAB data

$L^*=L^*_{ab,a}$   $a^*_{ab,a}$   $b^*_{ab,a}$   $C^*_{ab,a}$   $h^*_{ab,a}$

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

## Output: Colorimetric Reflective System MRS18a

for hue  $h^* = lab^*h = 272/360 = 0.755$

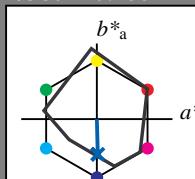
$lab^*tch$  and  $lab^*nch$

D65: hue B

LCH\*Ma: 40 49 272

olv\*Ma: 0.0 0.36 1.0

triangle lightness  $t^*$



%Gamut

$u^*_{rel} = 92$

%Regularity

$g^*_{H,rel} = 42$

$g^*_{C,rel} = 49$

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 0.01 0.0

$LAB^*LABa$  95.41 0.0 0.0

$LAB^*TCh$  99.99 0.01 -

relative CIELAB lab\*

$lab^*lab$  1.0 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  1.0 0.0 0.0

$lab^*ice$  1.0 0.0 -

$lab^*ncE$  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 0.5

$cmyn^4*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  72.29 1.2 -40.21

$LAB^*LABa$  72.29 1.17 -40.21

$LAB^*TCh$  75.0 40.24 271.66

relative CIELAB lab\*

$lab^*lab$  0.726 0.014 -0.499

$lab^*tch$  0.75 0.5 0.755

$lab^*nch$  0.0 0.5 0.755

relative Natural Colour (NC)

$lab^*lrj$  0.726 0.0 -0.499

$lab^*ice$  0.75 0.5 0.75

$lab^*ncE$  0.0 0.5 600r

$n^* = 0,00$

blackness  $n^*$

chromaticness  $c^*$

$n^* = 1,0$

blackness  $n^*$

chromaticness  $c^*$

## MRS18a; adapted (a) CIELAB data

$L^*=L^*_{ab,a}$   $a^*_{ab,a}$   $b^*_{ab,a}$   $C^*_{ab,a}$   $h^*_{ab,a}$

RMa	49.63	66.8	40.02	77.87	31
JMa	90.7	-7.27	93.19	93.48	94
GMa	52.11	-69.93	11.26	70.85	171
G50BMa	45.03	-36.65	-27.13	45.61	217
BMa	36.65	23.26	-62.27	66.49	290
B50RMa	34.94	57.27	-43.6	71.99	323
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	272

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 0.01 0.0

$LAB^*LABa$  95.41 0.0 0.0

$LAB^*TCh$  99.99 0.01 -

relative CIELAB lab\*

$lab^*lab$  1.0 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  1.0 0.0 0.0

$lab^*ice$  1.0 0.0 -

$lab^*ncE$  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 0.5

$cmyn^4*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  67.55 0.74 -24.71

$LAB^*LABa$  67.55 0.7 24.72

$LAB^*TCh$  75.0 24.74 271.63

relative CIELAB lab\*

$lab^*lab$  0.64 0.014 -0.499

$lab^*tch$  0.75 0.5 0.755

$lab^*nch$  0.0 0.5 0.755

relative Natural Colour (NC)

$lab^*lrj$  0.64 0.0 -0.499

$lab^*ice$  0.75 0.5 0.75

$lab^*ncE$  0.0 0.5 600r

$n^* = 0,00$

blackness  $n^*$

chromaticness  $c^*$

$n^* = 1,0$

blackness  $n^*$

chromaticness  $c^*$

UE100-7, 3 step scales for constant CIELAB hue 272/360 = 0.755 (left)

3 step scales for constant CIELAB hue 272/360 = 0.755 (right)

## Input: Colorimetric Reflective System NCS11

for hue  $h^* = lab^*h = 272/360 = 0.755$

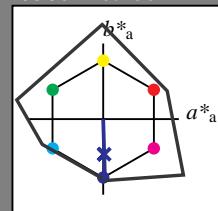
$lab^*tch$  and  $lab^*nch$

D65: hue B

LCH\*Ma: 49 80 272

olv\*Ma: 0.0 0.02 1.0

triangle lightness  $t^*$



## NCS11; adapted (a) CIELAB data

	$L^* = L^*_{ab}$	$a^*_{ab}$	$b^*_{ab}$	$C^*_{ab,a}$	$h^*_{ab,a}$
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

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

$LAB^*LABa$  95.41 0.0 0.0

$LAB^*TCh$  99.99 0.01 -

relative CIELAB lab\*

$lab^*lab$  1.0 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  1.0 0.0 0.0

$lab^*ice$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  72.29 1.2 -40.21

$LAB^*LABa$  72.29 1.17 -40.21

$LAB^*TCh$  75.0 40.24 271.66

relative CIELAB lab\*

$lab^*lab$  0.726 0.014 -0.499

$lab^*tch$  0.75 0.5 0.755

$lab^*nch$  0.0 0.5 0.755

relative Natural Colour (NC)

$lab^*lrj$  0.726 0.0 -0.499

$lab^*ice$  0.75 0.5 0.75

$lab^*ncE$  0.0 0.5 g99b

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 0.5

$cmyn^4*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  53.21 0.04 0.0

$LAB^*LABa$  53.21 0.0 0.0

$LAB^*TCh$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  0.5 0.0 0.0

$lab^*ice$  0.5 0.0 0.0

$lab^*ncE$  0.5 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  11.01 0.07 0.01

$LAB^*LABa$  11.01 0.0 0.0

$LAB^*TCh$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  0.0 0.0 0.0

$lab^*ice$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

relative Inform. Technology (IT)

$olv^3*$  0.0 0.0 0.0 (1.0)

$cmyn^3*$  1.0 1.0 1.0 (0.0)

$olv^4*$  1.0 1.0 1.0 0.0

$cmyn^4*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  11.01 0.07 0.01

$LAB^*LABa$  11.01 0.0 0.0

$LAB^*TCh$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  0.0 0.0 0.0

$lab^*ice$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  11.01 0.07 0.01

$LAB^*LABa$  11.01 0.0 0.0

$LAB^*TCh$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  0.0 0.0 0.0

$lab^*ice$  0.0 0.0 -

$lab^*ncE$  1.0 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

$LAB^*LAB$  95.41 0.0 0.0

$LAB^*LABa$  95.41 0.0 0.0

$LAB^*TCh$  99.99 0.01 -

relative CIELAB lab\*

$lab^*lab$  1.0 0.0 0.0

$lab^*tch$  1.0 0.0 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrj$  1.0 0.0 0.0

$lab^*ice$  1.0 0.0 0.0

$lab^*ncE$  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)

$olv^4*$  0.5 0.5 1.0 1.0

$cmyn^4*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  72.29 1.2 -40.21

$LAB^*LABa$  72.29 1.17 -40.21

$LAB^*TCh$  75.0 40.24 271.66

relative CIELAB lab\*

$lab^*lab$  0.726 0.014 -0.499

$lab^*tch$  0.75 0.5 0.755

$lab^*nch$  0.0 0.5 0.755

relative Natural Colour (NC)

$lab^*lrj$  0.726 0.0 -0.499

$lab^*ice$  0.75 0.5 0.75

$lab^*ncE$  0.0 0.5 g99b

relative Inform. Technology (IT)

$olv^3*$  0.0 0.0 0.0 (1.0)

$cmyn^3*$  0.0 0.0 0.0 (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

$LAB^*LAB$  72.29 1.2 -40.21

$LAB^*LABa$  72.29 1.17 -40.21

$LAB^*TCh$  75.0 40.24 271.66

relative CIELAB lab\*

$lab^*lab$  0.726 0.014 -0.499

$lab^*tch$  0.75 0.5 0.755

$lab^*nch$  0.0 0.5 0.755

relative Natural Colour (NC)

$lab^*lrj$  0.726 0.0 -0.499

$lab^*ice$  0.75 0.5 0.75

$lab^*ncE$  0.0 0.5 g99b

relative Inform. Technology (IT)

$olv^3*$  0.5 0.5 0.5 (1.0)

$cmyn^3*$  0.5 0.5 0.5 (0.0)

$olv^4*$  0.5 0.5 1.0 1.0

$cmyn^4*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  72.29 1.2 -40.21

$LAB^*LABa$  72.29 1.17 -40.21

$LAB^*TCh$  75.0 40.24 271.66

relative CIELAB lab\*

$lab^*lab$  0.726 0.014 -0.499

$lab^*tch$  0.75 0.5 0.755

$lab^*nch$  0.0 0.5 0.755

relative Natural Colour (NC)

$lab^*lrj$  0.726 0.0 -0.499

$lab^*ice$  0.75 0.5 0.75

$lab^*ncE$  0.0 0.5 g99b

relative Inform. Technology (IT)

$olv^3*$  0.0 0.0 0.0 (1.0)

$cmyn^3*$  0.0 0.0 0.0 (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

$LAB^*LAB$  72.29 1.2 -40.21

$LAB^*LABa$  72.29 1.17 -40.21

$LAB^*TCh$  75.0 40.24 271.66

relative CIELAB lab\*

$lab^*lab$  0.726 0.014 -0.499

$lab^*tch$  0.75 0.5 0.755

$lab^*nch$  0.0 0.5 0.755

relative Natural Colour (NC)

$lab^*lrj$  0.726 0.0 -0.499

$lab^*ice$  0.75 0.5 0.75

$lab^*ncE$  0.0 0.5 g99b

relative Inform. Technology (IT)

$olv^3*$  0.0 0.0 0.0 (1.0)

$cmyn^3*$  0.0 0.0 0.0 (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

$LAB^*LAB$  72.29 1.2 -40.21

$LAB^*LABa$  72.29 1.17 -40.21

$LAB^*TCh$  75.0 40.24 271.66

## Input: Colorimetric Reflective System NCS11

for hue  $h^* = lab^*h = 272/360 = 0.755$

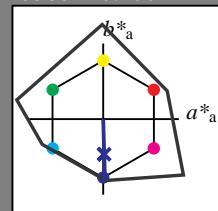
$lab^*tch$  and  $lab^*nch$

D65: hue B

LCH\*Ma: 49 80 272

olv\*Ma: 0.0 0.02 1.0

triangle lightness  $t^*$



relative Inform. Technology (IT)

olv13\* 1.0 1.0 1.0 (1.0)

cmyn3\* 0.0 0.0 0.0 (0.0)

olv14\* 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 0.0 0.0 -

relative Natural Colour (NC)

lab\*lrj 1.0 0.0 0.0

lab\*tce 1.0 0.0 -

lab\*ncE 0.0 0.0 -

standard and adapted CIELAB

LAB\*LAB 72.29 1.2 -40.21

LAB\*LABa 72.29 1.17 -40.21

LAB\*TChA 75.0 40.24 271.66

relative CIELAB lab\*

lab\*lab 0.726 0.014 -0.499

lab\*tch 0.75 0.5 0.755

lab\*nch 0.0 0.5 0.755

relative Natural Colour (NC)

lab\*lrj 0.726 0.0 -0.499

lab\*tce 0.75 0.5 0.75

lab\*ncE 0.0 0.5 g99b

relative Inform. Technology (IT)

olv13\* 0.5 0.5 0.5 (1.0)

cmyn3\* 0.5 0.5 0.5 (0.0)

olv14\* 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\*LABa 53.21 0.0 0.0

LAB\*TChA 50.0 0.01 -

relative CIELAB lab\*

lab\*lab 0.5 0.0 0.0

lab\*tch 0.5 0.0 -

lab\*nch 0.5 0.0 -

relative Natural Colour (NC)

lab\*lrj 0.5 0.0 0.0

lab\*tce 0.5 0.0 -

lab\*ncE 0.5 0.0 -

standard and adapted CIELAB

LAB\*LAB 11.01 0.07 0.01

LAB\*LABa 11.01 0.0 0.0

LAB\*TChA 0.01 0.01 -

relative CIELAB lab\*

lab\*lab 0.0 0.0 0.0

lab\*tch 0.0 0.0 -

lab\*nch 1.0 0.0 -

relative Natural Colour (NC)

lab\*lrj 0.0 0.0 0.0

lab\*tce 0.0 0.0 -

lab\*ncE 1.0 0.0 -

$n^* = 1,0$

## NCS11; adapted (a) CIELAB data

$L^*=L^*_{ab}$   $a^*_a$   $b^*_a$   $C^*_{ab,a}$   $h^*_{ab,a}$

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

%Gamut

$u^*_{rel} = 149$

%Regularity

$g^*_{H,rel} = 46$

$g^*_{C,rel} = 65$

relative Inform. Technology (IT)

olv13\* 0.5 0.508 1.0 (1.0)

cmyn3\* 0.5 0.492 0.0 (0.0)

olv14\* 0.5 0.508 1.0 1.0

cmyn4\* 0.5 0.492 0.0 0.0

standard and adapted CIELAB

LAB\*LAB 72.29 1.2 -40.21

LAB\*LABa 72.29 1.17 -40.21

LAB\*TChA 75.0 40.24 271.66

relative CIELAB lab\*

lab\*lab 0.726 0.014 -0.499

lab\*tch 0.75 0.5 0.755

lab\*nch 0.0 0.5 0.755

relative Natural Colour (NC)

lab\*lrj 0.726 0.0 -0.499

lab\*tce 0.75 0.5 0.75

lab\*ncE 0.0 0.5 g99b

relative Inform. Technology (IT)

olv13\* 0.0 0.016 1.0 (1.0)

cmyn3\* 0.5 0.492 0.0 (0.0)

olv14\* 1.0 0.508 1.0 1.0

cmyn4\* 0.0 0.0 0.0 0.5

standard and adapted CIELAB

LAB\*LAB 49.18 2.39 -80.42

LAB\*LABa 49.18 2.34 -80.43

LAB\*TChA 50.0 80.48 271.67

relative CIELAB lab\*

lab\*lab 0.452 0.029 -0.998

lab\*tch 0.5 1.0 0.755

lab\*nch 0.0 1.0 0.755

relative Natural Colour (NC)

lab\*lrj 0.452 0.0 -0.999

lab\*tce 0.5 1.0 0.75

lab\*ncE 0.0 1.0 b00r

relative Inform. Technology (IT)

olv13\* 0.0 0.008 0.5 (1.0)

cmyn3\* 1.0 0.992 0.5 (0.0)

olv14\* 0.5 0.508 1.0 0.5

cmyn4\* 0.5 0.492 0.0 0.5

standard and adapted CIELAB

LAB\*LAB 30.09 1.24 -40.2

LAB\*LABa 30.09 1.18 -40.21

LAB\*TChA 25.01 40.24 271.67

relative CIELAB lab\*

lab\*lab 0.226 0.015 -0.499

lab\*tch 0.25 0.5 0.755

lab\*nch 0.5 0.5 0.755

relative Natural Colour (NC)

lab\*lrj 0.226 0.0 -0.499

lab\*tce 0.25 0.5 0.75

lab\*ncE 0.5 0.5 b00r

$n^* = 0,00$

blackness  $n^*$

chromaticness  $c^*$

0,25

0,50

0,75

1,00

1,25

1,50

1,75

2,00

2,25

2,50

2,75

3,00

3,25

3,50

3,75

4,00

4,25

4,50

4,75

5,00

5,25

5,50

5,75

6,00

6,25

6,50

6,75

7,00

7,25

7,50

7,75

8,00

8,25

8,50

8,75

9,00

9,25

9,50

9,75

10,00

10,25

10,50

10,75

11,00

11,25

11,50

11,75

12,00

12,25

12,50

12,75

13,00

13,25

13,50

13,75

14,00

14,25

14,50

14,75

15,00

15,25

15,50

15,75

16,00

16,25

16,50

16,75

17,00

17,25

17,50

17,75

18,00

18,25

18,50

18,75

19,00

19,25

19,50

19,75

20,00

20,25

20,50

20,75

21,00

21,25

21,50

21,75

22,00

22,25

22,50

22,75

23,00

23,25

23,50

23,75

24,00

24,25

24,50

</div

## Input: Colorimetric Reflective System NCS11

for hue  $h^* = lab^*h = 272/360 = 0.755$

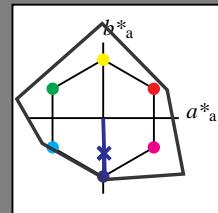
$lab^*tch$  and  $lab^*nch$

D65: hue B

LCH\*Ma: 49 80 272

olv\*Ma: 0.0 0.02 1.0

triangle lightness  $t^*$



### NCS11; adapted (a) CIELAB data

	$L^* = L^*_{ab}$	$a^*_{ab}$	$b^*_{ab}$	$C^*_{ab,a}$	$h^*_{ab,a}$
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

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

$LAB^*LABa$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  72.29 1.2 -40.21

$LAB^*LABa$  72.29 1.17 -40.21

$LAB^*TChA$  75.0 40.24 271.66

relative CIELAB lab\*

$lab^*lab$  0.726 0.014 -0.499

$lab^*tch$  0.75 0.5 0.755

$lab^*nch$  0.0 0.5 0.755

relative Natural Colour (NC)

$lab^*lrij$  0.726 0.0 -0.499

$lab^*tce$  0.75 0.5 0.75

$lab^*ncE$  0.0 0.5 g99b

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 0.5

$cmyn^4*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  53.21 0.04 0.0

$LAB^*LABa$  53.21 0.0 0.0

$LAB^*TChA$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.5 0.0 0.0

$lab^*tce$  0.5 0.0 0.0

$lab^*ncE$  0.5 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  11.01 0.07 0.01

$LAB^*LABa$  11.01 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*tce$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

relative Inform. Technology (IT)

$olv^3*$  0.0 0.0 0.0 (1.0)

$cmyn^3*$  1.0 1.0 1.0 (0.0)

$olv^4*$  1.0 1.0 1.0 0.0

$cmyn^4*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  11.01 0.07 0.01

$LAB^*LABa$  11.01 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*tce$  0.0 0.0 0.0

$lab^*ncE$  1.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  11.01 0.07 0.01

$LAB^*LABa$  11.01 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*tce$  0.0 0.0 -

$lab^*ncE$  1.0 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

$LAB^*LAB$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

standard and adapted CIELAB

$LAB^*LAB$  72.29 1.2 -40.21

$LAB^*LABa$  72.29 1.17 -40.21

$LAB^*TChA$  75.0 40.24 271.66

relative CIELAB lab\*

$lab^*lab$  0.726 0.014 -0.499

$lab^*tch$  0.75 0.5 0.755

$lab^*nch$  0.0 0.5 0.755

relative Natural Colour (NC)

$lab^*lrij$  0.726 0.0 -0.499

$lab^*tce$  0.75 0.5 0.75

$lab^*ncE$  0.0 0.5 g99b

relative CIELAB lab\*

$lab^*lab$  0.726 0.014 -0.499

$lab^*tch$  0.75 0.5 0.755

$lab^*nch$  0.0 0.5 0.755

relative Natural Colour (NC)

$lab^*lrij$  0.726 0.0 -0.499

$lab^*tce$  0.75 0.5 0.75

$lab^*ncE$  0.0 0.5 g99b

relative CIELAB lab\*

$lab^*lab$  0.726 0.014 -0.499

$lab^*tch$  0.75 0.5 0.755

$lab^*nch$  0.0 0.5 0.755

relative Natural Colour (NC)

$lab^*lrij$  0.726 0.0 -0.499

$lab^*tce$  0.75 0.5 0.75

$lab^*ncE$  0.0 0.5 g99b

relative CIELAB lab\*

$lab^*lab$  0.726 0.014 -0.499

$lab^*tch$  0.75 0.5 0.755

$lab^*nch$  0.0 0.5 0.755

relative Natural Colour (NC)

$lab^*lrij$  0.726 0.0 -0.499

$lab^*tce$  0.75 0.5 0.75

$lab^*ncE$  0.0 0.5 g99b

relative CIELAB lab\*

$lab^*lab$  0.726 0.014 -0.499

$lab^*tch$  0.75 0.5 0.755

$lab^*nch$  0.0 0.5 0.755

relative Natural Colour (NC)

$lab^*lrij$  0.726 0.0 -0.499

$lab^*tce$  0.75 0.5 0.75

$lab^*ncE$  0.0 0.5 g99b

relative CIELAB lab\*

$lab^*lab$  0.726 0.014 -0.499

$lab^*tch$  0.75 0.5 0.755

$lab^*nch$  0.0 0.5 0.755

relative Natural Colour (NC)

$lab^*lrij$  0.726 0.0 -0.499

$lab^*tce$  0.75 0.5 0.75

$lab^*ncE$  0.0 0.5 g99b

relative CIELAB lab\*

$lab^*lab$  0.726 0.014 -0.499

$lab^*tch$  0.75 0.5 0.755

$lab^*nch$  0.0 0.5 0.755

relative Natural Colour (NC)

$lab^*lrij$  0.726 0.0 -0.499

$lab^*tce$  0.75 0.5 0.75

$lab^*ncE$  0.0 0.5 g99b

relative CIELAB lab\*

$lab^*lab$  0.726 0.014 -0.499

$lab^*tch$  0.75 0.5 0.755

$lab^*nch$  0.0 0.5 0.755

relative Natural Colour (NC)

$lab^*lrij$  0.726 0.0 -0.499

$lab^*tce$  0.75 0.5 0.75

$lab^*ncE$  0.0 0.5 g99b

relative CIELAB lab\*

$lab^*lab$  0.726 0.014 -0.499

$lab^*tch$  0.75 0.5 0.755

$lab^*nch$  0.0 0.5 0.755

relative Natural Colour (NC)

$lab^*lrij$  0.726 0.0 -0.499

$lab^*tce$  0.75 0.5 0.75

$lab^*ncE$  0.0 0.5 g99b

relative CIELAB lab\*

$lab^*lab$  0.726 0.014 -0

## Input: Colorimetric Reflective System NCS11

for hue  $h^* = lab^*h = 272/360 = 0.755$

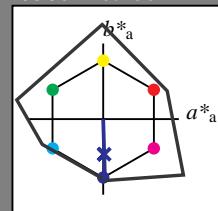
$lab^*tch$  and  $lab^*nch$

D65: hue B

LCH\*Ma: 49 80 272

olv\*Ma: 0.0 0.02 1.0

triangle lightness  $t^*$



%Gamut

$u^*_{rel} = 149$

%Regularity

$g^*_{H,rel} = 46$

$g^*_{C,rel} = 65$

relative Inform. Technology (IT)

$olv^3*$  1.0 1.0 1.0 (1.0)

$cmy^3*$  0.0 0.0 0.0 (0.0)

$olv^4*$  1.0 1.0 1.0 1.0

$cmy^4*$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)

$olv^3*$  0.5 0.5 0.5 (1.0)

$cmy^3*$  0.5 0.5 0.5 (0.0)

$olv^4*$  1.0 1.0 1.0 0.5

$cmy^4*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  53.21 0.04 0.0

$LAB^*LABa$  53.21 0.0 0.0

$LAB^*TChA$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.5 0.0 0.0

$lab^*tch$  0.5 0.0 -

$lab^*nch$  0.5 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.5 0.0 0.0

$lab^*tce$  0.5 0.0 0.0

$lab^*ncE$  0.5 0.0 -

relative Inform. Technology (IT)

$olv^3*$  0.0 0.0 0.0 (1.0)

$cmy^3*$  1.0 1.0 1.0 (0.0)

$olv^4*$  1.0 1.0 1.0 0.0

$cmy^4*$  0.0 0.0 0.0 1.0

standard and adapted CIELAB

$LAB^*LAB$  11.01 0.07 0.01

$LAB^*LABa$  11.01 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  0.0 0.0 0.0

$lab^*tce$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

## NCS11; adapted (a) CIELAB data

$L^*=L^*_{ab}$   $a^*_{ab}$   $b^*_{ab}$   $C^*_{ab,a}$   $h^*_{ab,a}$

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

## Output: Colorimetric Reflective System NCS11

for hue  $h^* = lab^*h = 272/360 = 0.755$

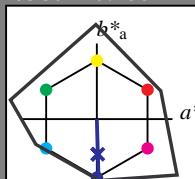
$lab^*tch$  and  $lab^*nch$

D65: hue B

LCH\*Ma: 49 80 272

olv\*Ma: 0.0 0.02 1.0

triangle lightness  $t^*$



%Gamut

$u^*_{rel} = 149$

%Regularity

$g^*_{H,rel} = 46$

$g^*_{C,rel} = 65$

relative Inform. Technology (IT)

$olv^3*$  1.0 1.0 1.0 (1.0)

$cmy^3*$  0.0 0.0 0.0 (0.0)

$olv^4*$  1.0 1.0 1.0 1.0

$cmy^4*$  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 -

$lab^*nch$  0.0 0.0 -

relative Natural Colour (NC)

$lab^*lrij$  1.0 0.0 0.0

$lab^*tce$  1.0 0.0 0.0

$lab^*ncE$  0.0 0.0 -

relative Inform. Technology (IT)

$olv^3*$  0.5 0.5 0.5 (1.0)

$cmy^3*$  0.5 0.5 0.5 (0.0)

$olv^4*$  1.0 1.0 1.0 0.5

$cmy^4*$  0.0 0.0 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  53.21 0.04 0.0

$LAB^*LABa$  53.21 0.0 0.0

$LAB^*TChA$  50.0 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.726 0.014 -0.499

$lab^*tch$  0.75 0.5 0.755

$lab^*nch$  0.0 0.5 0.755

relative Natural Colour (NC)

$lab^*lrij$  0.726 0.0 -0.499

$lab^*tce$  0.75 0.5 0.75

$lab^*ncE$  0.0 0.5 600r

relative Inform. Technology (IT)

$olv^3*$  0.0 0.008 0.5 (1.0)

$cmy^3*$  1.0 0.992 0.5 (0.0)

$olv^4*$  0.5 0.508 1.0 0.5

$cmy^4*$  0.5 0.492 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  49.18 2.39 -80.42

$LAB^*LABa$  49.18 2.34 -80.43

$LAB^*TChA$  50.0 80.48 271.67

relative CIELAB lab\*

$lab^*lab$  0.452 0.029 -0.998

$lab^*tch$  0.5 1.0 0.755

$lab^*nch$  0.0 1.0 0.755

relative Natural Colour (NC)

$lab^*lrij$  0.452 0.0 -0.999

$lab^*tce$  0.5 1.0 0.75

$lab^*ncE$  0.0 1.0 0.75

relative Inform. Technology (IT)

$olv^3*$  0.0 0.008 0.5 (1.0)

$cmy^3*$  1.0 0.992 0.5 (0.0)

$olv^4*$  0.5 0.508 1.0 0.5

$cmy^4*$  0.5 0.492 0.0 0.5

standard and adapted CIELAB

$LAB^*LAB$  11.01 0.07 0.01

$LAB^*LABa$  11.01 0.0 0.0

$LAB^*TChA$  0.01 0.01 -

relative CIELAB lab\*

$lab^*lab$  0.0 0.0 0.0

$lab^*tch$  0.0 0.0 -

$lab^*nch$  1.0 0.0 -

relative Natural Colour (NC)

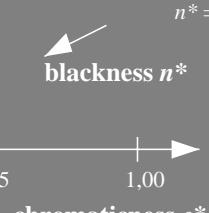
$lab^*lrij$  0.0 0.0 0.0

$lab^*tce$  0.0 0.0 -

$lab^*ncE$  1.0 0.0 -

$n^* = 1,0$

blackness  $n^*$



$n^* = 1,0$

$n^* = 0,50$

$n^* = 1,0$

$n^* = 0,00$

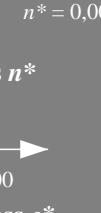
$n^* = 0,50$

$n^* = 1,00$

chromaticness  $c^*$

UE100-7, 3 step scales for constant CIELAB hue 272/360 = 0.755 (left)

3 step scales for constant CIELAB hue 272/360 = 0.755 (right)



$n^* = 0,00$

$n^* = 0,50$

$n^* = 1,00$

chromaticness  $c^*$