www.ps.bam.de/TE54/10Q/Q54E00FP.PS/.PDF; linearized output
F: Output Linearization (OL) data TE54/10Q/Q54E00FP.DAT in File (F)

See for similar files: http://www.ps.bam.de/TE54/
Technical information: http://www.ps.bam.de Version 2.1, io=1,1, CIEXYZ

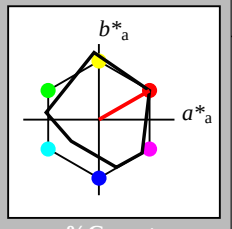
BAM registration: 20060101-TE54/10Q/Q54E00FP.PS/.PDF
application for evaluation and measurement of printer or monitor systems, Yr=2.5, XYZ
BAM material: code=rha4ta

/TE54/ Form: 1/10, Serie: 1/1, Page: 1 Page: count: 1

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
rgb*Ma: 1.0 0.0 0.0

triangle lightness t^*



%Gamut
u^*_{rel} = 91

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

%Regularity
$g^*_{H,rel}$ = 41
$g^*_{C,rel}$ = 52

1,00
0,75
0,25
0,00

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 0.0
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* 0.75 0.75 0.75 (1.0)
cmyn3* 0.25 0.25 0.25 (0.0)
olvi4* 1.0 1.0 1.0 0.75
cmyn4* 0.0 0.0 0.0 0.25
standard and adapted CIELAB
LAB*LAB 76.06 −0.6 3.44
LAB*LABa 76.06 0.0 0.0
LAB*TCHa 75.0 0.01 –
relative CIELAB *lab**
lab*lab 0.75 0.0 0.0
lab*tch 0.75 0.0 –
lab*nch 0.25 0.0 –
relative Natural Colour (NC)
lab*lrj 0.75 0.0 0.0
lab*tce 0.75 0.0 –
lab*ncE 0.25 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 −0.23 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* 0.25 0.25 0.25 (1.0)
cmyn3* 0.75 0.75 0.75 (0.0)
olvi4* 1.0 1.0 1.0 0.25
cmyn4* 0.0 0.0 0.0 0.75
standard and adapted CIELAB
LAB*LAB 37.36 0.13 0.83
LAB*LABa 37.36 0.0 0.0
LAB*TCHa 25.0 0.01 –
relative CIELAB *lab**
lab*lab 0.25 0.0 0.0
lab*tch 0.25 0.0 –
lab*nch 0.75 0.0 –
relative Natural Colour (NC)
lab*lrj 0.25 0.0 0.0
lab*tce 0.25 0.0 –
lab*ncE 0.75 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*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* 1.0 0.25 0.25 (1.0)
cmyn3* 0.0 0.75 0.75 (0.0)
olvi4* 1.0 0.25 0.25 1.0
cmyn4* 0.0 0.75 0.75 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 0.5 0.019
lab*ncE 0.0 0.5 r07j

relative Inform. Technology (IT)
olvi3* 0.75 0.5 0.5 (1.0)
cmyn3* 0.25 0.5 0.5 (0.0)
olvi4* 1.0 0.75 0.75 0.75
cmyn4* 0.0 0.25 0.25 0.25
standard and adapted CIELAB
LAB*LAB 64.61 16.35 12.27
LAB*LABa 64.61 16.74 9.59
LAB*TCHa 62.5 19.29 29.82
relative CIELAB *lab**
lab*lab 0.602 0.217 0.124
lab*tch 0.625 0.25 0.083
lab*nch 0.25 0.25 0.083
relative Natural Colour (NC)
lab*lrj 0.602 0.248 0.03
lab*tce 0.625 0.25 0.019
lab*ncE 0.25 0.25 r07j

relative Inform. Technology (IT)
olvi3* 0.5 0.25 0.25 (1.0)
cmyn3* 0.5 0.75 0.75 (0.0)
olvi4* 1.0 0.75 0.75 0.5
cmyn4* 0.0 0.25 0.25 0.5
standard and adapted CIELAB
LAB*LAB 45.26 16.72 10.97
LAB*LABa 45.26 16.74 9.59
LAB*TCHa 37.5 19.29 29.82
relative CIELAB *lab**
lab*lab 0.352 0.217 0.124
lab*tch 0.375 0.25 0.083
lab*nch 0.5 0.25 0.083
relative Natural Colour (NC)
lab*lrj 0.352 0.248 0.03
lab*tce 0.375 0.25 0.019
lab*ncE 0.5 0.25 r07j

relative Inform. Technology (IT)
olvi3* 0.25 0.0 0.0 (1.0)
cmyn3* 0.75 1.0 1.0 (0.0)
olvi4* 1.0 0.75 0.75 0.25
cmyn4* 0.0 0.25 0.25 0.75
standard and adapted CIELAB
LAB*LAB 25.92 17.08 9.66
LAB*LABa 25.92 16.73 9.59
LAB*TCHa 12.5 19.29 29.82
relative CIELAB *lab**
lab*lab 0.102 0.217 0.124
lab*tch 0.125 0.25 0.083
lab*nch 0.75 0.25 0.083
relative Natural Colour (NC)
lab*lrj 0.102 0.248 0.03
lab*tce 0.125 0.25 0.019
lab*ncE 0.75 0.25 r07j

*n** = 0,50

relative Inform. Technology (IT)
olvi3* 1.0 0.5 0.5 (1.0)
cmyn3* 0.0 0.5 0.5 (0.0)
olvi4* 1.0 0.5 0.5 1.0
cmyn4* 0.0 0.5 0.5 0.0
standard and adapted CIELAB
LAB*LAB 72.52 32.93 22.4
LAB*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 0.5 0.019
lab*ncE 0.0 0.5 r07j

relative Inform. Technology (IT)
olvi3* 0.75 0.25 0.25 (1.0)
cmyn3* 0.25 0.75 0.75 (0.0)
olvi4* 1.0 0.5 0.5 0.75
cmyn4* 0.0 0.5 0.5 0.25
standard and adapted CIELAB
LAB*LAB 53.17 33.31 21.09
LAB*LABa 53.17 33.48 19.19
LAB*TCHa 50.0 38.59 29.82
relative CIELAB *lab**
lab*lab 0.454 0.434 0.249
lab*tch 0.5 0.5 0.083
lab*nch 0.25 0.5 0.083
relative Natural Colour (NC)
lab*lrj 0.454 0.496 0.06
lab*tce 0.5 0.5 0.019
lab*ncE 0.25 0.5 r07j

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 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 0.5 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

*n** = 0,25

relative Inform. Technology (IT)
olvi3* 0.75 0.0 0.0 (1.0)
cmyn3* 0.25 1.0 1.0 (0.0)
olvi4* 1.0 0.25 0.25 0.75
cmyn4* 0.0 0.75 0.75 0.25
standard and adapted CIELAB
LAB*LAB 41.73 50.26 29.91
LAB*LABa 41.73 50.21 28.78
LAB*TCHa 37.51 57.87 29.82
relative CIELAB *lab**
lab*lab 0.306 0.651 0.373
lab*tch 0.375 0.75 0.083
lab*nch 0.25 0.75 0.083
relative Natural Colour (NC)
lab*lrj 0.306 0.745 0.09
lab*tce 0.375 0.75 0.019
lab*ncE 0.25 0.75 r07j

relative Inform. Technology (IT)
olvi3* 1.0 0.25 0.25 (1.0)
cmyn3* 0.0 0.75 0.75 (0.0)
olvi4* 1.0 0.25 0.25 1.0
cmyn4* 0.0 0.75 0.75 0.0
standard and adapted CIELAB
LAB*LAB 61.07 49.89 31.22
LAB*LABa 61.07 50.21 28.78
LAB*TCHa 62.5 57.87 29.82
relative CIELAB *lab**
lab*lab 0.556 0.651 0.373
lab*tch 0.625 0.75 0.083
lab*nch 0.0 0.75 0.083
relative Natural Colour (NC)
lab*lrj 0.556 0.745 0.09
lab*tce 0.625 0.75 0.019
lab*ncE 0.0 0.75 r07j

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 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

*n** = 0,00

relative Inform. Technology (IT)
olvi3* 1.0 0.0 0.0 (1.0)
cmyn3* 0.0 1.0 1.0 (0.0)
olvi4* 1.0 0.0 0.0 1.0
cmyn4* 0.0 1.0 1.0 0.0
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

blackness n^*

0,25 0,50 0,75 1,00

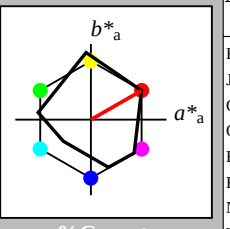
chromaticness c^*

TE540−7, 5 step scales for constant CIELAB hue 30/360 = 0.083 (left)

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
rgb*Ma: 1.0 0.0 0.0

triangle lightness t^*



%Gamut
u^*_{rel} = 91

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

%Regularity
$g^*_{H,rel}$ = 41
$g^*_{C,rel}$ = 52

relative Inform. Technology (IT)
olvi3* 1.0 1.0 1.0 (1.0)
cmyn3* 0.0 0.0 0.0 (0.0)
olvi4* 1.0 1.0 1.0 1.0
cmyn4* 0.0 0.0 0.0 0.0
standard and adapted CIELAB
LAB*LAB 95.41 −0.97 4.75
LAB*LABa 95.41 0.0 0.0
LAB*TCHa 99.99 0.01 –
relative CIELAB *lab**
lab*lab 1.0 0.0 0.0
lab*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* 0.75 0.75 0.75 (1.0)
cmyn3* 0.0 0.25 0.25 (0.0)
olvi4* 1.0 0.75 0.75 1.0
cmyn4* 0.0 0.25 0.25 0.0
standard and adapted CIELAB
LAB*LAB 83.96 15.97 13.58
LAB*LABa 83.96 16.73 9.59
LAB*TCHa 87.5 19.29 29.82
relative CIELAB *lab**
lab*lab 0.852 0.217 0.124
lab*tch 0.875 0.25 0.083
lab*nch 0.0 0.25 0.083
relative Natural Colour (NC)
lab*lrj 0.852 0.248 0.03
lab*tce 0.875 0.25 0.019
lab*ncE 0.0 0.25 r07j

relative Inform. Technology (IT)
olvi3* 0.75 0.75 0.75 (1.0)
cmyn3* 0.25 0.25 0.25 (0.0)
olvi4* 1.0 1.0 1.0 0.75
cmyn4* 0.0 0.0 0.0 0.25
standard and adapted CIELAB
LAB*LAB 76.06 −0.6 3.44
LAB*LABa 76.06 0.0 0.0
LAB*TCHa 75.0 0.01 –
relative CIELAB *lab**
lab*lab 0.75 0.0 0.0
lab*tch 0.75 0.0 –
lab*nch 0.25 0.0 –
relative Natural Colour (NC)
lab*lrj 0.75 0.0 0.0
lab*tce 0.75 0.0 –
lab*ncE 0.25 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 −0.23 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* 0.25 0.25 0.25 (1.0)
cmyn3* 0.75 0.75 0.75 (0.0)
olvi4* 1.0 1.0 1.0 0.25
cmyn4* 0.0 0.0 0.0 0.75
standard and adapted CIELAB
LAB*LAB 37.36 0.13 0.83
LAB*LABa 37.36 0.0 0.0
LAB*TCHa 25.0 0.01 –
relative CIELAB *lab**
lab*lab 0.25 0.0 0.0
lab*tch 0.25 0.0 –
lab*nch 0.75 0.0 –
relative Natural Colour (NC)
lab*lrj 0.25 0.0 0.0
lab*tce 0.25 0.0 –
lab*ncE 0.75 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*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* 1.0 0.25 0.25 (1.0)
cmyn3* 0.0 0.75 0.75 (0.0)
olvi4* 1.0 0.25 0.25 1.0
cmyn4* 0.0 0.75 0.75 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 0.5 0.019
lab*ncE 0.0 0.5 r07j

relative Inform. Technology (IT)
olvi3* 0.75 0.5 0.5 (1.0)
cmyn3* 0.25 0.5 0.5 (0.0)
olvi4* 1.0 0.75 0.75 0.75
cmyn4* 0.0 0.25 0.25 0.25
standard and adapted CIELAB
LAB*LAB 64.61 16.35 12.27
LAB*LABa 64.61 16.74 9.59
LAB*TCHa 62.5 19.29 29.82
relative CIELAB *lab**
lab*lab 0.602 0.217 0.124
lab*tch 0.625 0.25 0.083
lab*nch 0.25 0.25 0.083
relative Natural Colour (NC)
lab*lrj 0.602 0.248 0.03
lab*tce 0.625 0.25 0.019
lab*ncE 0.25 0.25 r07j

relative Inform. Technology (IT)
olvi3* 0.5 0.25 0.25 (1.0)
cmyn3* 0.5 0.75 0.75 (0.0)
olvi4* 1.0 0.75 0.75 0.5
cmyn4* 0.0 0.25 0.25 0.5
standard and adapted CIELAB
LAB*LAB 45.26 16.72 10.97
LAB*LABa 45.26 16.74 9.59
LAB*TCHa 37.5 19.29 29.82
relative CIELAB *lab**
lab*lab 0.352 0.217 0.124
lab*tch 0.375 0.25 0.083
lab*nch 0.5 0.25 0.083
relative Natural Colour (NC)
lab*lrj 0.352 0.248 0.03
lab*tce 0.375 0.25 0.019
lab*ncE 0.5 0.25 r07j

relative Inform. Technology (IT)
olvi3* 0.25 0.0 0.0 (1.0)
cmyn3* 0.75 1.0 1.0 (0.0)
olvi4* 1.0 0.75 0.75 0.25
cmyn4* 0.0 0.25 0.25 0.75
standard and adapted CIELAB
LAB*LAB 25.92 17.08 9.66
LAB*LABa 25.92 16.73 9.59
LAB*TCHa 12.5 19.29 29.82
relative CIELAB *lab**
lab*lab 0.102 0.217 0.124
lab*tch 0.125 0.25 0.083
lab*nch 0.75 0.25 0.083
relative Natural Colour (NC)
lab*lrj 0.102 0.248 0.03
lab*tce 0.125 0.25 0.019
lab*ncE 0.75 0.25 r07j

*n** = 0,50

relative Inform. Technology (IT)
olvi3* 1.0 0.5 0.5 (1.0)
cmyn3* 0.0 0.5 0.5 (0.0)
olvi4* 1.0 0.5 0.5 1.0
cmyn4* 0.0 0.5 0.5 0.0
standard and adapted CIELAB
LAB*LAB 72.52 32.93 22.4
LAB*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 0.5 0.019
lab*ncE 0.0 0.5 r07j

relative Inform. Technology (IT)
olvi3* 0.75 0.25 0.25 (1.0)
cmyn3* 0.25 0.75 0.75 (0.0)
olvi4* 1.0 0.5 0.5 0.75
cmyn4* 0.0 0.5 0.5 0.25
standard and adapted CIELAB
LAB*LAB 53.17 33.31 21.09
LAB*LABa 53.17 33.48 19.19
LAB*TCHa 50.0 38.59 29.82
relative CIELAB *lab**
lab*lab 0.454 0.434 0.249
lab*tch 0.5 0.5 0.083
lab*nch 0.25 0.5 0.083
relative Natural Colour (NC)
lab*lrj 0.454 0.496 0.06
lab*tce 0.5 0.5 0.019
lab*ncE 0.25 0.5 r07j

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 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 0.5 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

*n** = 0,25

relative Inform. Technology (IT)
olvi3* 0.75 0.0 0.0 (1.0)
cmyn3* 0.25 1.0 1.0 (0.0)
olvi4* 1.0 0.25 0.25 0.75
cmyn4* 0.0 0.75 0.75 0.25
standard and adapted CIELAB
LAB*LAB 41.73 50.26 29.91
LAB*LABa 41.73 50.21 28.78
LAB*TCHa 37.51 57.87 29.82
relative CIELAB *lab**
lab*lab 0.306 0.651 0.373
lab*tch 0.375 0.75 0.083
lab*nch 0.25 0.75 0.083
relative Natural Colour (NC)
lab*lrj 0.306 0.745 0.09
lab*tce 0.375 0.75 0.019
lab*ncE 0.25 0.75 r07j

relative Inform. Technology (IT)
olvi3* 1.0 0.25 0.25 (1.0)
cmyn3* 0.0 0.75 0.75 (0.0)
olvi4* 1.0 0.25 0.25 1.0
cmyn4* 0.0 0.75 0.75 0.0
standard and adapted CIELAB
LAB*LAB 61.07 49.89 31.22
LAB*LABa 61.07 50.21 28.78
LAB*TCHa 62.5 57.87 29.82
relative CIELAB *lab**
lab*lab 0.556 0.651 0.373
lab*tch 0.625 0.75 0.083
lab*nch 0.0 0.75 0.083
relative Natural Colour (NC)
lab*lrj 0.556 0.745 0.09
lab*tce 0.625 0.75 0.019
lab*ncE 0.0 0.75 r07j

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 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

*n** = 0,00

relative Inform. Technology (IT)
olvi3* 1.0 0.0 0.0 (1.0)
cmyn3* 0.0 1.0 1.0 (0.0)
olvi4* 1.0 0.0 0.0 1.0
cmyn4* 0.0 1.0 1.0 0.0
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

blackness n^*

0,25 0,50 0,75 1,00

chromaticness c^*

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

BAM-test chart TE54; Colorimetric systems MRS18 & MRS18
D65: 2 coordinate data of 5 step colour scales for 10 hues

input: *olv* setrgbcolor*
output: *olv* setrgbcolor / w* setgray*

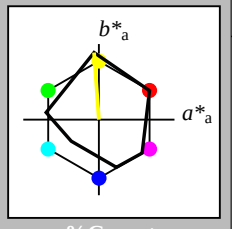
See for similar files: http://www.ps.bam.de/TE54/
Technical information: http://www.ps.bam.de Version 2.1, io=1,1, CIEXYZ

BAM registration: 20060101-TE54/10Q/Q54E01FP.PS/.PDF
application for evaluation and measurement of printer or monitor systems, Yr=2.5, XYZ
BAM material: code=rha4ta
/TE54/ Form: 2/10, Serie: 1/1, Page: 2 Page: count: 2

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
rgb*Ma: 1.0 1.0 0.0

triangle lightness t^*



%Gamut
u^*_{rel} = 91

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

%Regularity
$g^*_{H,rel}$ = 41
$g^*_{C,rel}$ = 52

1,00

0,75

0,25

0,00

n^* = 0,00

n^* = 0,25

n^* = 0,50

n^* = 1,0

blackness n^*

0,25 0,50 0,75 1,00

chromaticness c^*

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* 0.75 0.75 0.75 (1.0)
cmyn3* 0.25 0.25 0.25 (0.0)
olvi4* 1.0 1.0 1.0 0.75
cmyn4* 0.0 0.0 0.0 0.25
standard and adapted CIELAB
LAB*LAB 76.06 −0.6 3.44
LAB*LABa 76.06 0.0 0.0
LAB*TCHa 75.0 0.01 –
relative CIELAB *lab**
lab*lab 0.75 0.0 0.0
lab*tch 0.75 0.0 –
lab*nch 0.25 0.0 –
relative Natural Colour (NC)
lab*lrj 0.75 0.0 0.0
lab*tce 0.75 0.0 –
lab*ncE 0.25 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 −0.23 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* 0.25 0.25 0.25 (1.0)
cmyn3* 0.75 0.75 0.75 (0.0)
olvi4* 1.0 1.0 1.0 0.25
cmyn4* 0.0 0.0 0.0 0.75
standard and adapted CIELAB
LAB*LAB 37.36 0.13 0.83
LAB*LABa 37.36 0.0 0.0
LAB*TCHa 25.0 0.01 –
relative CIELAB *lab**
lab*lab 0.25 0.0 0.0
lab*tch 0.25 0.0 –
lab*nch 0.75 0.0 –
relative Natural Colour (NC)
lab*lrj 0.25 0.0 0.0
lab*tce 0.25 0.0 –
lab*ncE 0.75 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*lrj 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 1.0 0.75 (1.0)
cmyn3* 0.0 0.0 0.25 (0.0)
olvi4* 1.0 1.0 0.75 1.0
cmyn4* 0.0 0.0 0.25 0.0
standard and adapted CIELAB
LAB*LAB 94.22 −2.54 26.86
LAB*LABa 94.22 −1.58 22.18
LAB*TCHa 87.5 22.24 94.1
relative CIELAB *lab**
lab*lab 0.985 −0.017 0.249
lab*tch 0.875 0.25 0.261
lab*nch 0.0 0.25 0.261
relative Natural Colour (NC)
lab*lrj 0.985 −0.011 0.25
lab*tce 0.875 0.25 0.258
lab*ncE 0.0 0.25 j03g

relative Inform. Technology (IT)
olvi3* 0.75 0.75 0.5 (1.0)
cmyn3* 0.25 0.25 0.5 (0.0)
olvi4* 1.0 1.0 0.75 0.75
cmyn4* 0.0 0.0 0.25 0.25
standard and adapted CIELAB
LAB*LAB 74.88 −2.17 25.56
LAB*LABa 74.88 −1.58 22.19
LAB*TCHa 62.5 22.24 94.1
relative CIELAB *lab**
lab*lab 0.735 −0.017 0.249
lab*tch 0.625 0.25 0.261
lab*nch 0.25 0.25 0.261
relative Natural Colour (NC)
lab*lrj 0.735 −0.011 0.25
lab*tce 0.625 0.25 0.258
lab*ncE 0.25 0.25 j03g

relative Inform. Technology (IT)
olvi3* 0.5 0.5 0.25 (1.0)
cmyn3* 0.5 0.5 0.75 (0.0)
olvi4* 1.0 1.0 0.75 0.5
cmyn4* 0.0 0.0 0.25 0.5
standard and adapted CIELAB
LAB*LAB 37.36 −1.48 24.26
LAB*LABa 55.53 −1.58 22.19
LAB*TCHa 37.5 22.24 94.1
relative CIELAB *lab**
lab*lab 0.485 −0.017 0.249
lab*tch 0.375 0.25 0.261
lab*nch 0.5 0.25 0.261
relative Natural Colour (NC)
lab*lrj 0.485 −0.011 0.25
lab*tce 0.375 0.25 0.258
lab*ncE 0.5 0.25 j03g

relative Inform. Technology (IT)
olvi3* 0.25 0.25 0.0 (1.0)
cmyn3* 0.75 0.75 1.0 (0.0)
olvi4* 1.0 1.0 0.75 0.25
cmyn4* 0.0 0.0 0.25 0.75
standard and adapted CIELAB
LAB*LAB 36.18 −1.43 22.94
LAB*LABa 36.18 −1.58 22.18
LAB*TCHa 12.5 22.24 94.1
relative CIELAB *lab**
lab*lab 0.235 −0.017 0.249
lab*tch 0.125 0.25 0.261
lab*nch 0.75 0.25 0.261
relative Natural Colour (NC)
lab*lrj 0.235 −0.011 0.25
lab*tce 0.125 0.25 0.258
lab*ncE 0.75 0.25 j03g

relative Inform. Technology (IT)
olvi3* 1.0 1.0 0.5 (1.0)
cmyn3* 0.0 0.0 0.5 (0.0)
olvi4* 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
relative Natural Colour (NC)
lab*lrj 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)
olvi3* 0.75 0.75 0.25 (1.0)
cmyn3* 0.25 0.25 0.75 (0.0)
olvi4* 1.0 1.0 0.5 0.75
cmyn4* 0.0 0.0 0.5 0.25
standard and adapted CIELAB
LAB*LAB 73.7 −3.74 47.67
LAB*LABa 73.7 −3.17 44.38
LAB*TCHa 50.0 44.49 94.1
relative CIELAB *lab**
lab*lab 0.72 −0.035 0.499
lab*tch 0.5 0.5 0.261
lab*nch 0.25 0.5 0.261
relative Natural Colour (NC)
lab*lrj 0.72 −0.023 0.499
lab*tce 0.5 0.5 0.258
lab*ncE 0.25 0.5 j03g

relative Inform. Technology (IT)
olvi3* 0.5 0.5 0.0 (1.0)
cmyn3* 0.5 0.5 1.0 (0.0)
olvi4* 1.0 1.0 0.5 0.5
cmyn4* 0.0 0.0 0.5 0.5
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*lrj 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)
olvi3* 0.75 0.75 0.0 (1.0)
cmyn3* 0.25 0.25 0.0 (0.0)
olvi4* 1.0 1.0 0.25 1.0
cmyn4* 0.0 0.0 0.25 0.0
standard and adapted CIELAB
LAB*LAB 72.53 −5.31 69.77
LAB*LABa 72.53 −4.77 66.55
LAB*TCHa 37.51 66.73 94.1
relative CIELAB *lab**
lab*lab 0.704 −0.053 0.748
lab*tch 0.375 0.75 0.261
lab*nch 0.25 0.75 0.261
relative Natural Colour (NC)
lab*lrj 0.704 −0.036 0.749
lab*tce 0.375 0.75 0.258
lab*ncE 0.25 0.75 j03g

relative Inform. Technology (IT)
olvi3* 1.0 1.0 0.0 (1.0)
cmyn3* 0.0 0.0 1.0 (0.0)
olvi4* 1.0 1.0 0.25 1.0
cmyn4* 0.0 0.0 0.75 0.0
standard and adapted CIELAB
LAB*LAB 91.87 −5.68 71.07
LAB*LABa 91.87 −4.77 66.55
LAB*TCHa 62.5 66.73 94.1
relative CIELAB *lab**
lab*lab 0.954 −0.053 0.748
lab*tch 0.625 0.75 0.261
lab*nch 0.0 0.75 0.261
relative Natural Colour (NC)
lab*lrj 0.954 −0.036 0.749
lab*tce 0.625 0.75 0.258
lab*ncE 0.0 0.75 j03g

relative Inform. Technology (IT)
olvi3* 0.75 0.75 0.0 (1.0)
cmyn3* 0.25 0.25 1.0 (0.0)
olvi4* 1.0 1.0 0.25 0.75
cmyn4* 0.0 0.0 0.75 0.25
standard and adapted CIELAB
LAB*LAB 72.53 −5.31 69.77
LAB*LABa 72.53 −4.77 66.55
LAB*TCHa 37.51 66.73 94.1
relative CIELAB *lab**
lab*lab 0.704 −0.053 0.748
lab*tch 0.375 0.75 0.261
lab*nch 0.25 0.75 0.261
relative Natural Colour (NC)
lab*lrj 0.704 −0.036 0.749
lab*tce 0.375 0.75 0.258
lab*ncE 0.25 0.75 j03g

relative Inform. Technology (IT)
olvi3* 1.0 1.0 0.0 (1.0)
cmyn3* 0.0 0.0 1.0 (0.0)
olvi4* 1.0 1.0 0.25 1.0
cmyn4* 0.0 0.0 0.75 0.0
standard and adapted CIELAB
LAB*LAB 90.69 −7.25 93.17
LAB*LABa 90.69 −6.36 88.73
LAB*TCHa 50.0 88.96 94.1
relative CIELAB *lab**
lab*lab 0.939 −0.071 0.997
lab*tch 0.5 1.0 0.261
lab*nch 0.0 1.0 0.261
relative Natural Colour (NC)
lab*lrj 0.939 −0.048 0.999
lab*tce 0.5 1.0 0.258
lab*ncE 0.0 1.0 j03g

relative Inform. Technology (IT)
olvi3* 0.5 0.5 0.0 (1.0)
cmyn3* 0.5 0.5 1.0 (0.0)
olvi4* 1.0 1.0 0.5 0.5
cmyn4* 0.0 0.0 0.5 0.5
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*lrj 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)
olvi3* 0.75 0.75 0.0 (1.0)
cmyn3* 0.25 0.25 1.0 (0.0)
olvi4* 1.0 1.0 0.25 0.75
cmyn4* 0.0 0.0 0.75 0.25
standard and adapted CIELAB
LAB*LAB 72.53 −5.31 69.77
LAB*LABa 72.53 −4.77 66.55
LAB*TCHa 37.51 66.73 94.1
relative CIELAB *lab**
lab*lab 0.704 −0.053 0.748
lab*tch 0.375 0.75 0.261
lab*nch 0.25 0.75 0.261
relative Natural Colour (NC)
lab*lrj 0.704 −0.036 0.749
lab*tce 0.375 0.75 0.258
lab*ncE 0.25 0.75 j03g

TE540−7, 5 step scales for constant CIELAB hue 94/360 = 0.261 (left)

5 step scales for constant CIELAB hue 94/360 = 0.261 (right)

BAM-test chart TE54; Colorimetric systems MRS18 & MRS18
D65: 2 coordinate data of 5 step colour scales for 10 hues

input: *olv* setrgbcolor*
output: *olv* setrgbcolor / w* setgray*

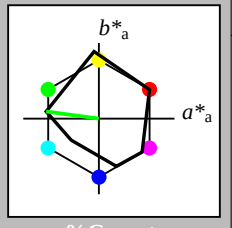
See for similar files: http://www.ps.bam.de/TE54/
Technical information: http://www.ps.bam.de Version 2.1, io=1,1, CIEXYZ

BAM registration: 20060101-TE54/10Q/Q54E02FP.PS/.PDF
application for evaluation and measurement of printer or monitor systems, Yr=2.5, XYZ
BAM material: code=rha4ta
/TE54/ Form: 3/10, Serie: 1/1, Page: 3 Page: count: 3

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
rgb*Ma: 0.0 1.0 0.0

triangle lightness t^*



%Gamut
u^*_{rel} = 91

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

%Regularity
$g^*_{H,rel}$ = 41
$g^*_{C,rel}$ = 52

1,00

0,75

0,25

0,00

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 0.0
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* 0.75 0.75 0.75 (1.0)
cmyn3* 0.25 0.25 0.25 (0.0)
olvi4* 1.0 1.0 1.0 0.75
cmyn4* 0.0 0.0 0.0 0.25
standard and adapted CIELAB
LAB*LAB 76.06 −0.6 3.44
LAB*LABa 76.06 0.0 0.0
LAB*TCHa 75.0 0.01 –
relative CIELAB *lab**
lab*lab 0.75 0.0 0.0
lab*tch 0.75 0.0 –
lab*nch 0.25 0.0 –
relative Natural Colour (NC)
lab*lrj 0.75 0.0 0.0
lab*tce 0.75 0.0 –
lab*ncE 0.25 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 −0.23 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* 0.25 0.25 0.25 (1.0)
cmyn3* 0.75 0.75 0.75 (0.0)
olvi4* 1.0 1.0 1.0 0.25
cmyn4* 0.0 0.0 0.0 0.75
standard and adapted CIELAB
LAB*LAB 37.36 0.13 0.83
LAB*LABa 37.36 0.0 0.0
LAB*TCHa 25.0 0.01 –
relative CIELAB *lab**
lab*lab 0.25 0.0 0.0
lab*tch 0.25 0.0 –
lab*nch 0.75 0.0 –
relative Natural Colour (NC)
lab*lrj 0.25 0.0 0.0
lab*tce 0.25 0.0 –
lab*ncE 0.75 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*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* 0.75 1.0 0.75 (1.0)
cmyn3* 0.25 0.0 0.25 (0.0)
olvi4* 0.75 1.0 0.75 1.0
cmyn4* 0.25 0.0 0.25 0.0
standard and adapted CIELAB
LAB*LAB 84.58 −18.19 6.39
LAB*LABa 84.58 −17.42 2.36
LAB*TCHa 87.5 17.59 172.29
relative CIELAB *lab**
lab*lab 0.86 −0.247 0.034
lab*tch 0.875 0.25 0.479
lab*nch 0.0 0.25 0.479
relative Natural Colour (NC)
lab*lrj 0.86 −0.247 −0.028
lab*tce 0.875 0.25 0.518
lab*ncE 0.0 0.25 g07b

relative Inform. Technology (IT)
olvi3* 0.5 0.75 0.5 (1.0)
cmyn3* 0.5 0.25 0.5 (0.0)
olvi4* 0.75 1.0 0.75 0.75
cmyn4* 0.25 0.0 0.25 0.25
standard and adapted CIELAB
LAB*LAB 65.23 −17.83 5.08
LAB*LABa 65.23 −17.42 2.36
LAB*TCHa 62.5 17.59 172.29
relative CIELAB *lab**
lab*lab 0.61 −0.247 0.034
lab*tch 0.625 0.25 0.479
lab*nch 0.25 0.25 0.479
relative Natural Colour (NC)
lab*lrj 0.61 −0.247 −0.028
lab*tce 0.625 0.25 0.518
lab*ncE 0.25 0.25 g07b

relative Inform. Technology (IT)
olvi3* 0.25 0.75 0.25 (1.0)
cmyn3* 0.75 0.25 0.75 (0.0)
olvi4* 0.5 1.0 0.5 0.75
cmyn4* 0.5 0.0 0.5 0.25
standard and adapted CIELAB
LAB*LAB 54.41 −35.05 6.71
LAB*LABa 54.41 −34.86 4.72
LAB*TCHa 50.0 35.19 172.29
relative CIELAB *lab**
lab*lab 0.47 −0.494 0.067
lab*tch 0.5 0.5 0.479
lab*nch 0.25 0.5 0.479
relative Natural Colour (NC)
lab*lrj 0.47 −0.496 −0.056
lab*tce 0.5 0.5 0.518
lab*ncE 0.25 0.5 g07b

relative Inform. Technology (IT)
olvi3* 0.0 0.5 0.0 (1.0)
cmyn3* 1.0 0.5 1.0 (0.0)
olvi4* 0.5 1.0 0.5 0.5
cmyn4* 0.5 0.0 0.5 0.5
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*lrj 0.22 −0.496 −0.056
lab*tce 0.25 0.5 0.518
lab*ncE 0.5 0.5 g07b

*n** = 0,50

relative Inform. Technology (IT)
olvi3* 0.0 0.25 0.0 (1.0)
cmyn3* 1.0 0.75 1.0 (0.0)
olvi4* 0.75 1.0 0.75 0.25
cmyn4* 0.25 0.0 0.25 0.75
standard and adapted CIELAB
LAB*LAB 26.54 −17.08 2.47
LAB*LABa 26.54 −17.42 2.36
LAB*TCHa 12.5 17.59 172.29
relative CIELAB *lab**
lab*lab 0.11 −0.247 0.034
lab*tch 0.125 0.25 0.479
lab*nch 0.75 0.25 0.479
relative Natural Colour (NC)
lab*lrj 0.11 −0.247 −0.028
lab*tce 0.125 0.25 0.518
lab*ncE 0.75 0.25 g07b

relative Inform. Technology (IT)
olvi3* 0.25 1.0 0.25 (1.0)
cmyn3* 0.75 0.0 0.75 (0.0)
olvi4* 0.25 1.0 0.25 1.0
cmyn4* 0.75 0.0 0.75 0.0
standard and adapted CIELAB
LAB*LAB 62.93 −52.64 9.65
LAB*LABa 62.93 −52.28 7.08
LAB*TCHa 62.5 52.77 172.29
relative CIELAB *lab**
lab*lab 0.58 −0.742 0.101
lab*tch 0.625 0.75 0.479
lab*nch 0.0 0.75 0.479
relative Natural Colour (NC)
lab*lrj 0.58 −0.744 −0.085
lab*tce 0.625 0.75 0.518
lab*ncE 0.0 0.75 g07b

relative Inform. Technology (IT)
olvi3* 0.0 0.75 0.0 (1.0)
cmyn3* 1.0 0.25 1.0 (0.0)
olvi4* 0.25 1.0 0.25 0.75
cmyn4* 0.75 0.0 0.75 0.25
standard and adapted CIELAB
LAB*LAB 43.59 −52.27 8.34
LAB*LABa 43.59 −52.28 7.08
LAB*TCHa 37.51 52.77 172.29
relative CIELAB *lab**
lab*lab 0.33 −0.742 0.101
lab*tch 0.375 0.75 0.479
lab*nch 0.25 0.75 0.479
relative Natural Colour (NC)
lab*lrj 0.33 −0.744 −0.085
lab*tce 0.375 0.75 0.518
lab*ncE 0.25 0.75 g07b

*n** = 0,25

relative Inform. Technology (IT)
olvi3* 0.0 1.0 0.0 (1.0)
cmyn3* 1.0 0.0 1.0 (0.0)
olvi4* 0.0 1.0 0.0 1.0
cmyn4* 1.0 0.0 1.0 0.0
standard and adapted CIELAB
LAB*LAB 52.11 −69.86 11.28
LAB*LABa 52.11 −69.71 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*lrj 0.441 −0.992 −0.114
lab*tce 0.5 1.0 0.518
lab*ncE 0.0 1.0 g07b

*n** = 0,00

0,25 0,50 0,75 1,00

chromaticness c^*

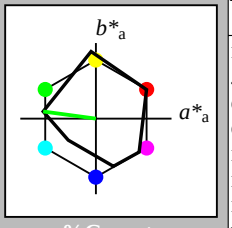
blackness n^*

TE540−7, 5 step scales for constant CIELAB hue 172/360 = 0.479 (left)

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
rgb*Ma: 0.0 1.0 0.0

triangle lightness t^*



%Gamut
u^*_{rel} = 91

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

%Regularity
$g^*_{H,rel}$ = 41
$g^*_{C,rel}$ = 52

relative Inform. Technology (IT)
olvi3* 1.0 1.0 1.0 (1.0)
cmyn3* 0.0 0.0 0.0 (0.0)
olvi4* 1.0 1.0 1.0 1.0
cmyn4* 0.0 0.0 0.0 0.0
standard and adapted CIELAB
LAB*LAB 95.41 −0.97 4.75
LAB*LABa 95.41 0.0 0.0
LAB*TCHa 99.99 0.01 –
relative CIELAB *lab**
lab*lab 1.0 0.0 0.0
lab*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* 0.75 0.75 0.75 (1.0)
cmyn3* 0.25 0.25 0.25 (0.0)
olvi4* 1.0 1.0 1.0 0.75
cmyn4* 0.0 0.0 0.0 0.25
standard and adapted CIELAB
LAB*LAB 76.06 −0.6 3.44
LAB*LABa 76.06 0.0 0.0
LAB*TCHa 75.0 0.01 –
relative CIELAB *lab**
lab*lab 0.75 0.0 0.0
lab*tch 0.75 0.0 –
lab*nch 0.25 0.0 –
relative Natural Colour (NC)
lab*lrj 0.75 0.0 0.0
lab*tce 0.75 0.0 –
lab*ncE 0.25 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 −0.23 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* 0.25 0.25 0.25 (1.0)
cmyn3* 0.75 0.75 0.75 (0.0)
olvi4* 1.0 1.0 1.0 0.25
cmyn4* 0.0 0.0 0.0 0.75
standard and adapted CIELAB
LAB*LAB 37.36 0.13 0.83
LAB*LABa 37.36 0.0 0.0
LAB*TCHa 25.0 0.01 –
relative CIELAB *lab**
lab*lab 0.25 0.0 0.0
lab*tch 0.25 0.0 –
lab*nch 0.75 0.0 –
relative Natural Colour (NC)
lab*lrj 0.25 0.0 0.0
lab*tce 0.25 0.0 –
lab*ncE 0.75 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*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* 0.75 1.0 0.75 (1.0)
cmyn3* 0.25 0.0 0.25 (0.0)
olvi4* 0.75 1.0 0.75 1.0
cmyn4* 0.25 0.0 0.25 0.0
standard and adapted CIELAB
LAB*LAB 84.58 −18.19 6.39
LAB*LABa 84.58 −17.42 2.36
LAB*TCHa 87.5 17.59 172.29
relative CIELAB *lab**
lab*lab 0.86 −0.247 0.034
lab*tch 0.875 0.25 0.479
lab*nch 0.0 0.25 0.479
relative Natural Colour (NC)
lab*lrj 0.86 −0.247 −0.028
lab*tce 0.875 0.25 0.518
lab*ncE 0.0 0.25 g07b

relative Inform. Technology (IT)
olvi3* 0.5 0.75 0.5 (1.0)
cmyn3* 0.5 0.25 0.5 (0.0)
olvi4* 0.75 1.0 0.75 0.75
cmyn4* 0.25 0.0 0.25 0.25
standard and adapted CIELAB
LAB*LAB 65.23 −17.83 5.08
LAB*LABa 65.23 −17.42 2.36
LAB*TCHa 62.5 17.59 172.29
relative CIELAB *lab**
lab*lab 0.61 −0.247 0.034
lab*tch 0.625 0.25 0.479
lab*nch 0.25 0.25 0.479
relative Natural Colour (NC)
lab*lrj 0.61 −0.247 −0.028
lab*tce 0.625 0.25 0.518
lab*ncE 0.25 0.25 g07b

relative Inform. Technology (IT)
olvi3* 0.25 0.75 0.25 (1.0)
cmyn3* 0.75 0.25 0.75 (0.0)
olvi4* 0.5 1.0 0.5 0.75
cmyn4* 0.5 0.0 0.5 0.25
standard and adapted CIELAB
LAB*LAB 54.41 −35.05 6.71
LAB*LABa 54.41 −34.86 4.72
LAB*TCHa 50.0 35.19 172.29
relative CIELAB *lab**
lab*lab 0.47 −0.494 0.067
lab*tch 0.5 0.5 0.479
lab*nch 0.25 0.5 0.479
relative Natural Colour (NC)
lab*lrj 0.47 −0.496 −0.056
lab*tce 0.5 0.5 0.518
lab*ncE 0.25 0.5 g07b

relative Inform. Technology (IT)
olvi3* 0.0 0.5 0.0 (1.0)
cmyn3* 1.0 0.5 1.0 (0.0)
olvi4* 0.5 1.0 0.5 0.5
cmyn4* 0.5 0.0 0.5 0.5
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*lrj 0.22 −0.496 −0.056
lab*tce 0.25 0.5 0.518
lab*ncE 0.5 0.5 g07b

*n** = 0,50

relative Inform. Technology (IT)
olvi3* 0.0 0.25 0.0 (1.0)
cmyn3* 1.0 0.75 1.0 (0.0)
olvi4* 0.75 1.0 0.75 0.25
cmyn4* 0.25 0.0 0.25 0.75
standard and adapted CIELAB
LAB*LAB 26.54 −17.08 2.47
LAB*LABa 26.54 −17.42 2.36
LAB*TCHa 12.5 17.59 172.29
relative CIELAB *lab**
lab*lab 0.11 −0.247 0.034
lab*tch 0.125 0.25 0.479
lab*nch 0.75 0.25 0.479
relative Natural Colour (NC)
lab*lrj 0.11 −0.247 −0.028
lab*tce 0.125 0.25 0.518
lab*ncE 0.75 0.25 g07b

relative Inform. Technology (IT)
olvi3* 0.25 1.0 0.25 (1.0)
cmyn3* 0.75 0.0 0.75 (0.0)
olvi4* 0.25 1.0 0.25 1.0
cmyn4* 0.75 0.0 0.75 0.0
standard and adapted CIELAB
LAB*LAB 62.93 −52.64 9.65
LAB*LABa 62.93 −52.28 7.08
LAB*TCHa 62.5 52.77 172.29
relative CIELAB *lab**
lab*lab 0.58 −0.742 0.101
lab*tch 0.625 0.75 0.479
lab*nch 0.0 0.75 0.479
relative Natural Colour (NC)
lab*lrj 0.58 −0.744 −0.085
lab*tce 0.625 0.75 0.518
lab*ncE 0.0 0.75 g07b

relative Inform. Technology (IT)
olvi3* 0.0 0.75 0.0 (1.0)
cmyn3* 1.0 0.25 1.0 (0.0)
olvi4* 0.25 1.0 0.25 0.75
cmyn4* 0.75 0.0 0.75 0.25
standard and adapted CIELAB
LAB*LAB 43.59 −52.27 8.34
LAB*LABa 43.59 −52.28 7.08
LAB*TCHa 37.51 52.77 172.29
relative CIELAB *lab**
lab*lab 0.33 −0.742 0.101
lab*tch 0.375 0.75 0.479
lab*nch 0.25 0.75 0.479
relative Natural Colour (NC)
lab*lrj 0.33 −0.744 −0.085
lab*tce 0.375 0.75 0.518
lab*ncE 0.25 0.75 g07b

*n** = 0,25

relative Inform. Technology (IT)
olvi3* 0.0 1.0 0.0 (1.0)
cmyn3* 1.0 0.0 1.0 (0.0)
olvi4* 0.0 1.0 0.0 1.0
cmyn4* 1.0 0.0 1.0 0.0
standard and adapted CIELAB
LAB*LAB 52.11 −69.86 11.28
LAB*LABa 52.11 −69.71 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*lrj 0.441 −0.992 −0.114
lab*tce 0.5 1.0 0.518
lab*ncE 0.0 1.0 g07b

*n** = 0,00

0,25 0,50 0,75 1,00

chromaticness c^*

blackness n^*

5 step scales for constant CIELAB hue 172/360 = 0.479 (right)

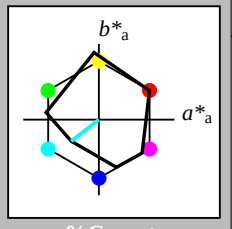
See for similar files: http://www.ps.bam.de/TE54/
Technical information: http://www.ps.bam.de Version 2.1, io=1,1, CIEXYZ

BAM registration: 20060101-TE54/10Q/Q54E03FP.PS/.PDF
application for evaluation and measurement of printer or monitor systems, Yr=2.5, XYZ
BAM material: code=rha4ta
/TE54/ Form: 4/10, Serie: 1/1, Page: 4 Page: count: 4

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
rgb*Ma: 0.0 1.0 1.0

triangle lightness t^*

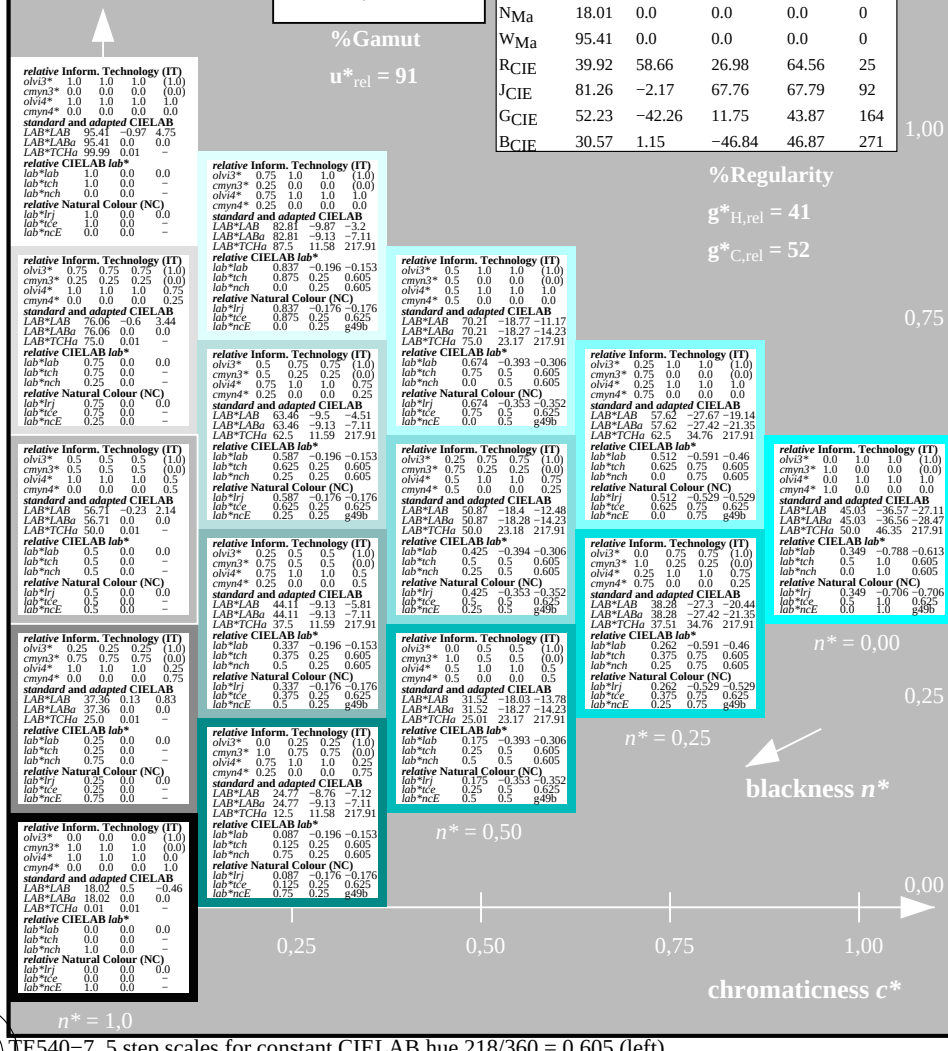


%Gamut
u^*_{rel} = 91

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

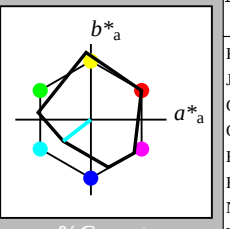
%Regularity
$g^*_{H,rel}$ = 41
$g^*_{C,rel}$ = 52



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
rgb*Ma: 0.0 1.0 1.0

triangle lightness t^*

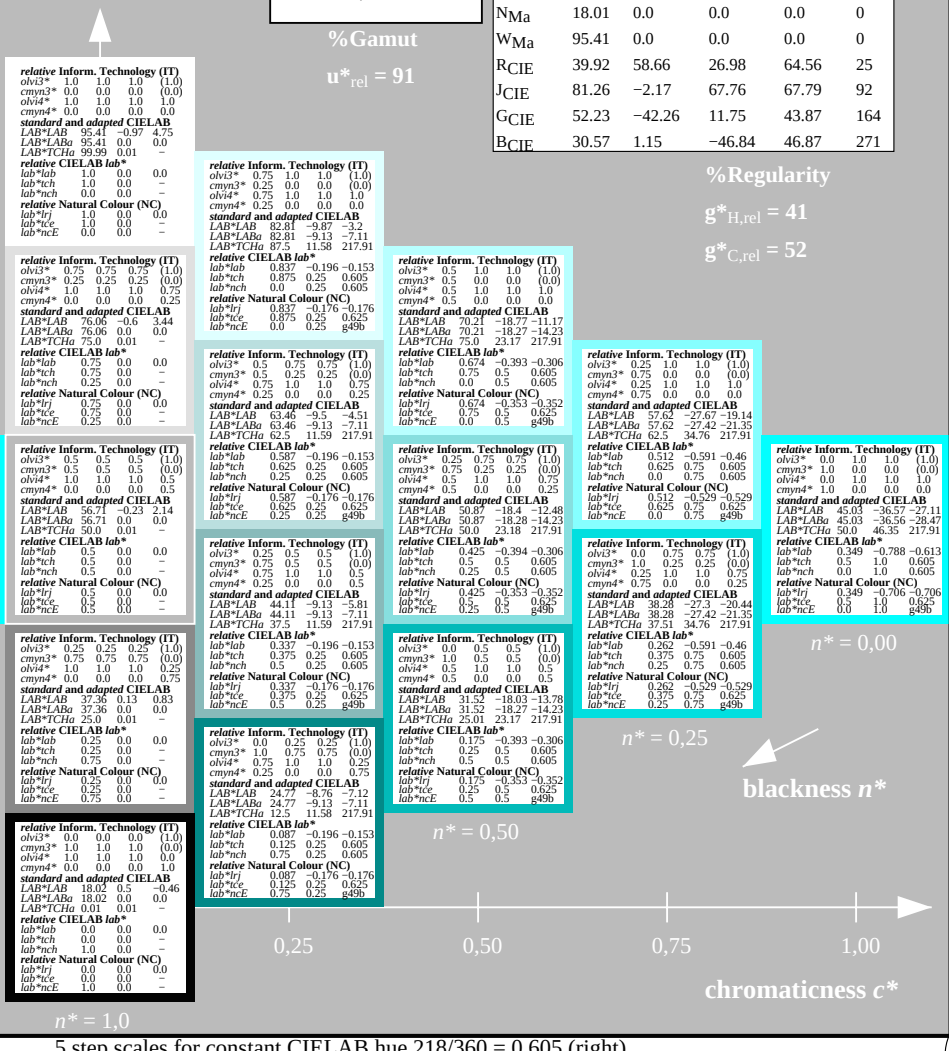


%Gamut
u^*_{rel} = 91

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

%Regularity
$g^*_{H,rel}$ = 41
$g^*_{C,rel}$ = 52



TE540−7, 5 step scales for constant CIELAB hue 218/360 = 0.605 (left)

5 step scales for constant CIELAB hue 218/360 = 0.605 (right)

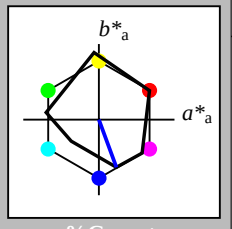
See for similar files: http://www.ps.bam.de/TE54/
Technical information: http://www.ps.bam.de Version 2.1, io=1,1, CIEXYZ

BAM registration: 20060101-TE54/10Q/Q54E04FP.PS/.PDF
application for evaluation and measurement of printer or monitor systems, Yr=2.5, XYZ
BAM material: code=rha4ta
/TE54/ Form: 5/10, Serie: 1/1, Page: 5 Page: count: 5

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
rgb*Ma: 0.0 0.0 1.0

triangle lightness t^*

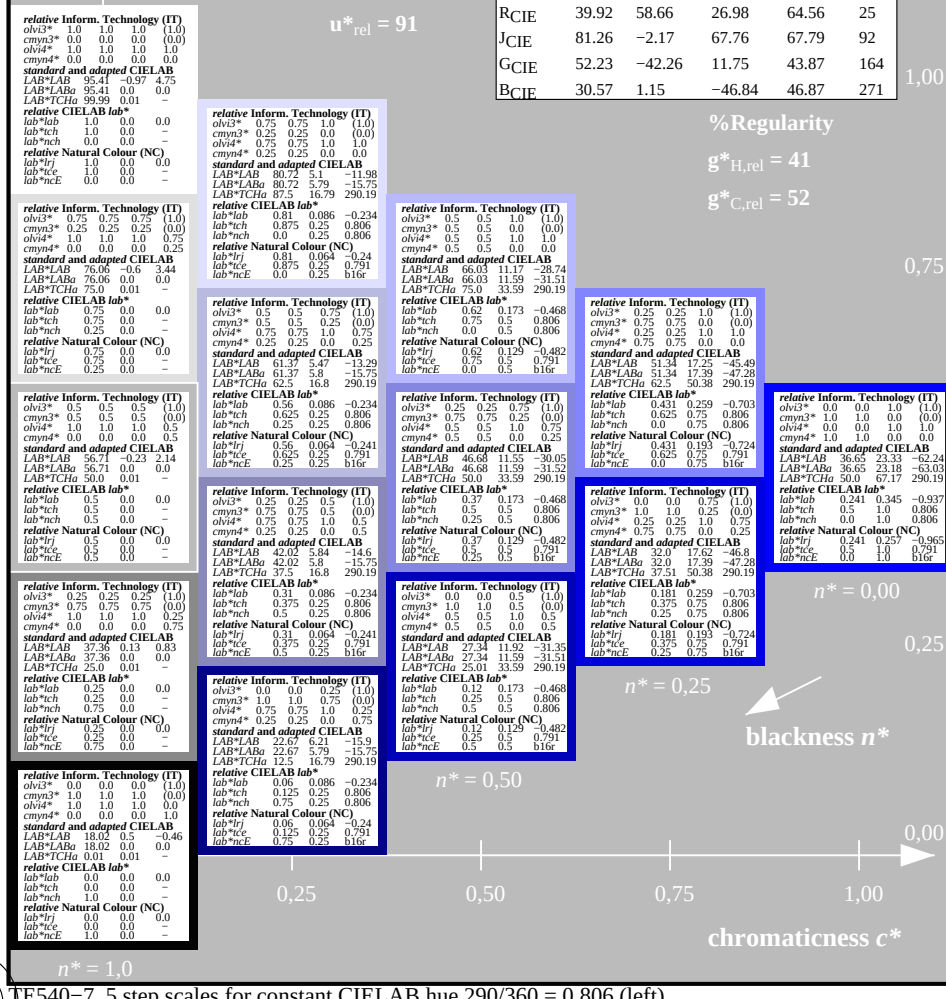


%Gamut
u^*_{rel} = 91

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

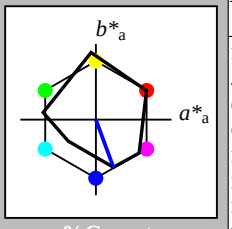
%Regularity
$g^*_{H,rel}$ = 41
$g^*_{C,rel}$ = 52



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
rgb*Ma: 0.0 0.0 1.0

triangle lightness t^*

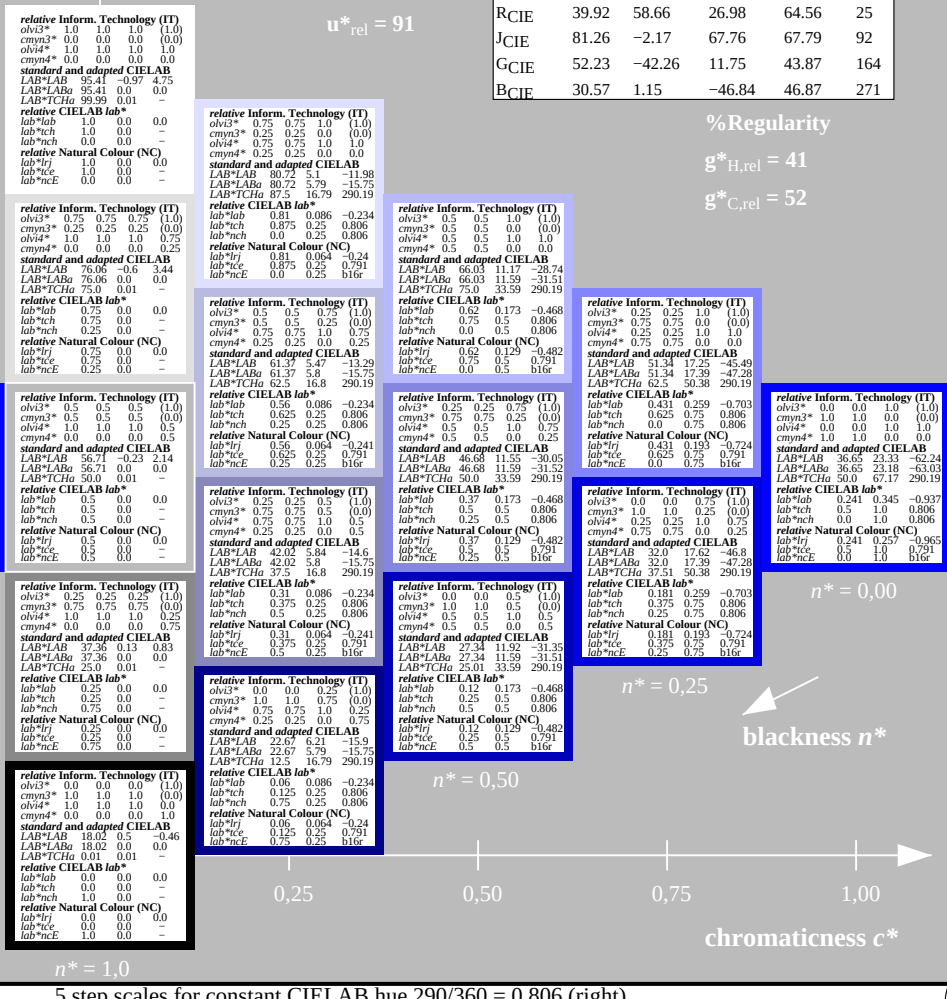


%Gamut
u^*_{rel} = 91

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

%Regularity
$g^*_{H,rel}$ = 41
$g^*_{C,rel}$ = 52



TE540−7, 5 step scales for constant CIELAB hue 290/360 = 0.806 (left)

5 step scales for constant CIELAB hue 290/360 = 0.806 (right)

BAM-test chart TE54; Colorimetric systems MRS18 & MRS18
D65: 2 coordinate data of 5 step colour scales for 10 hues

input: *olv* setrgbcolor*
output: *olv* setrgbcolor / w* setgray*

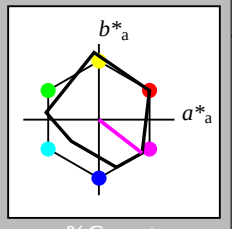
See for similar files: http://www.ps.bam.de/TE54/
Technical information: http://www.ps.bam.de Version 2.1, io=1,1, CIEXYZ

BAM registration: 20060101-TE54/10Q/Q54E05FP.PS/.PDF
application for evaluation and measurement of printer or monitor systems, Yr=2.5, XYZ
BAM material: code=rha4ta
/TE54/ Form: 6/10, Serie: 1/1, Page: 6 Page: count: 6

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
rgb*Ma: 1.0 0.0 1.0

triangle lightness t^*



%Gamut
u^*_{rel} = 91

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

%Regularity
$g^*_{H,rel}$ = 41
$g^*_{C,rel}$ = 52

1,00

0,75

0,25

0,00

n^* = 0,00

n^* = 0,25

n^* = 0,50

n^* = 1,0

blackness n^*

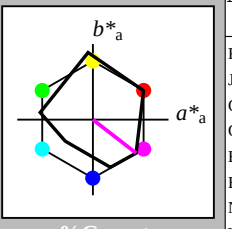
0,25 0,50 0,75 1,00

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
rgb*Ma: 1.0 0.0 1.0

triangle lightness t^*



%Gamut
u^*_{rel} = 91

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

%Regularity
$g^*_{H,rel}$ = 41
$g^*_{C,rel}$ = 52

n^* = 0,00

n^* = 0,25

n^* = 0,50

n^* = 1,0

blackness n^*

0,25 0,50 0,75 1,00

chromaticness c^*

TE540−7, 5 step scales for constant CIELAB hue 322/360 = 0.895 (left)

5 step scales for constant CIELAB hue 322/360 = 0.895 (right)

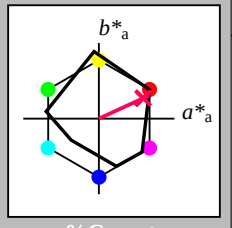
See for similar files: http://www.ps.bam.de/TE54/
Technical information: http://www.ps.bam.de Version 2.1, io=1,1, CIEXYZ

BAM registration: 20060101-TE54/10Q/Q54E06FP.PS/.PDF
application for evaluation and measurement of printer or monitor systems, Yr=2.5, XYZ
BAM material: code=rha4ta
/TE54/ Form: 7/10, Serie: 1/1, Page: 7 Page: count: 7

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
rgb*Ma: 1.0 0.0 0.1

triangle lightness t^*

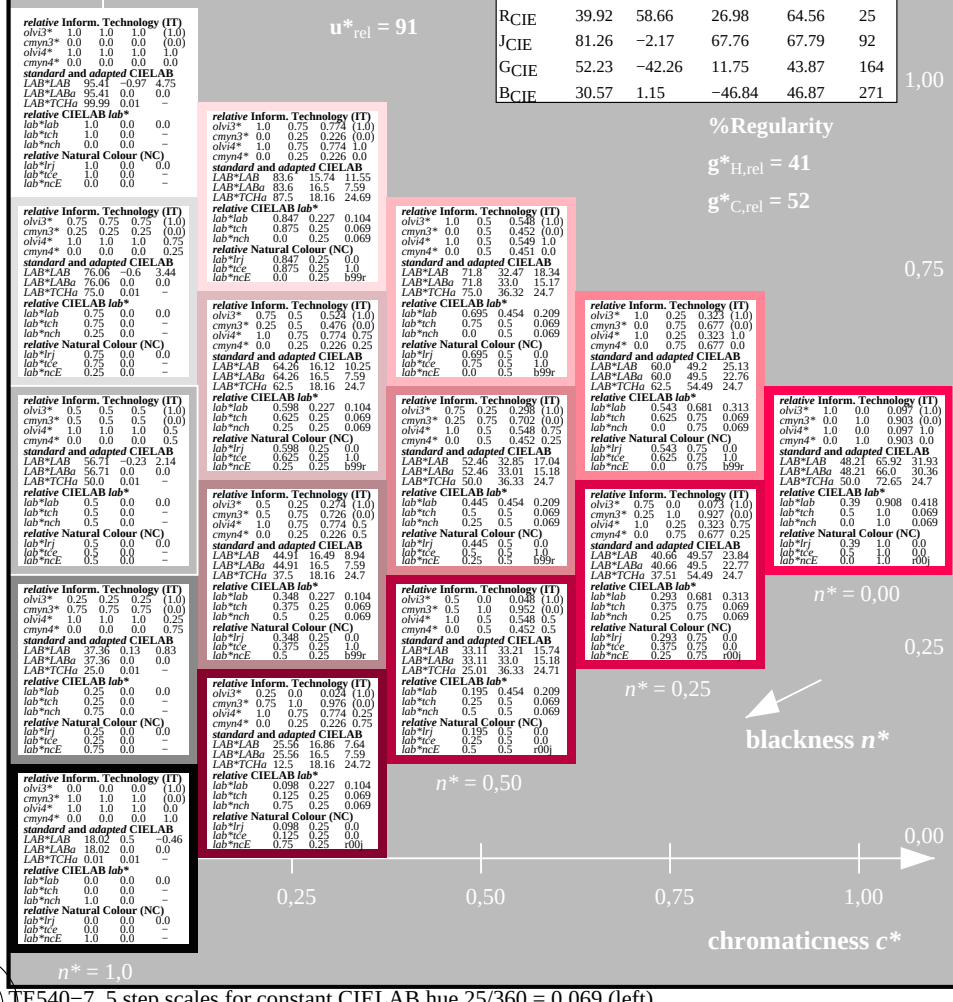


%Gamut
u^*_{rel} = 91

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

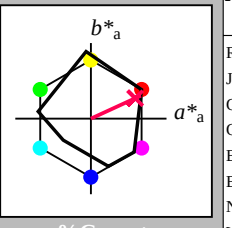
%Regularity
$g^*_{H,rel}$ = 41
$g^*_{C,rel}$ = 52



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
rgb*Ma: 1.0 0.0 0.1

triangle lightness t^*

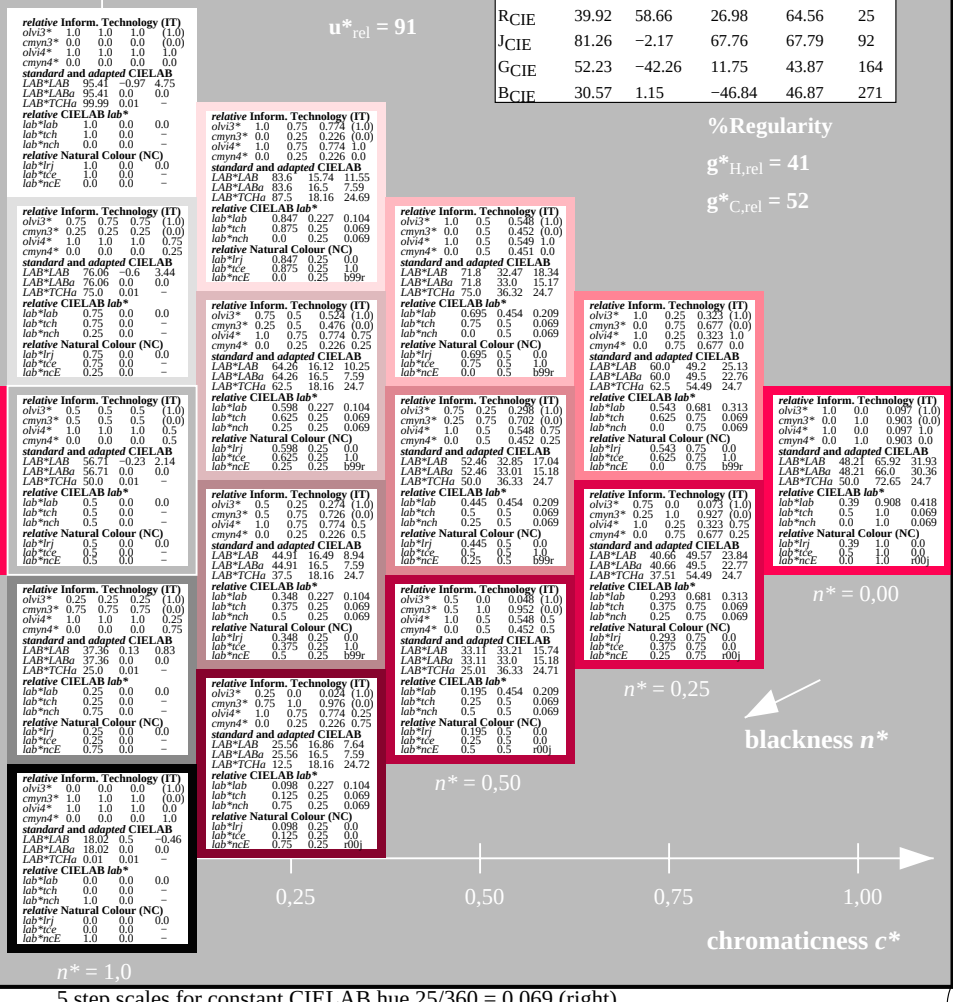


%Gamut
u^*_{rel} = 91

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

%Regularity
$g^*_{H,rel}$ = 41
$g^*_{C,rel}$ = 52



TE540−7, 5 step scales for constant CIELAB hue 25/360 = 0.069 (left)

5 step scales for constant CIELAB hue 25/360 = 0.069 (right)

BAM-test chart TE54; Colorimetric systems MRS18 & MRS18
D65: 2 coordinate data of 5 step colour scales for 10 hues

input: *olv* setrgbcolor*
output: *olv* setrgbcolor / w* setgray*

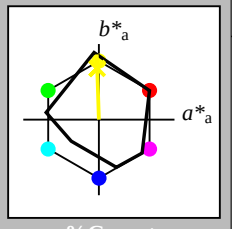
See for similar files: http://www.ps.bam.de/TE54/
Technical information: http://www.ps.bam.de Version 2.1, io=1,1, CIEXYZ

BAM registration: 20060101-TE54/10Q/Q54E07FP.PS/.PDF
application for evaluation and measurement of printer or monitor systems, Yr=2.5, XYZ
BAM material: code=rha4ta
/TE54/ Form: 8/10, Serie: 1/1, Page: 8 Page: count: 8

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
rgb*Ma: 1.0 0.95 0.0

triangle lightness t^*



%Gamut
u^*_{rel} = 91

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

%Regularity
$g^*_{H,rel}$ = 41
$g^*_{C,rel}$ = 52

1,00
0,75
0,25
0,00

n = 1,0*
n = 0,50*
n = 0,25*
n = 0,00*

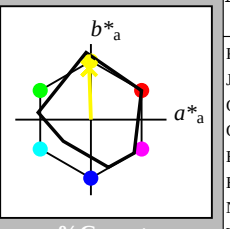
blackness n^*

0,25 0,50 0,75 1,00
chromaticness c^*

Output: Colorimetric Reflective System MRS18
for hue $h^* = lab^*h = 92/360 = 0.255$
lab*tch* and *lab*nch

D65: hue J
LCH*Ma: 89 86 92
rgb*Ma: 1.0 0.95 0.0

triangle lightness t^*



%Gamut
u^*_{rel} = 91

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

%Regularity
$g^*_{H,rel}$ = 41
$g^*_{C,rel}$ = 52

n = 1,0*
n = 0,50*
n = 0,25*
n = 0,00*

blackness n^*

0,25 0,50 0,75 1,00
chromaticness c^*

TE540−7, 5 step scales for constant CIELAB hue 92/360 = 0.255 (left)

5 step scales for constant CIELAB hue 92/360 = 0.255 (right)

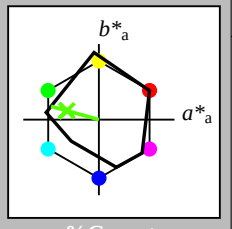
See for similar files: http://www.ps.bam.de/TE54/
Technical information: http://www.ps.bam.de Version 2.1, io=1,1, CIEXYZ

BAM registration: 20060101-TE54/10Q/Q54E08FP.PS/.PDF
application for evaluation and measurement of printer or monitor systems, Yr=2.5, XYZ
BAM material: code=rha4ta
/TE54/ Form: 9/10, Serie: 1/1, Page: 9 Page: count: 9

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
rgb*Ma: 0.1 1.0 0.0

triangle lightness *t**



%Gamut
u*rel = 91

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

%Regularity
g*H,rel = 41
g*C,rel = 52

1,00

0,75

0,25

0,00

0,25 0,50 0,75 1,00

chromaticness *c**

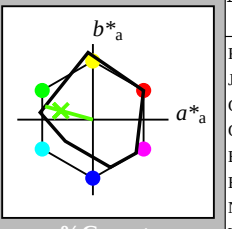
blackness *n**

n = 0,00* *n* = 0,25* *n* = 0,50* *n* = 1,0*

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
rgb*Ma: 0.1 1.0 0.0

triangle lightness *t**



%Gamut
u*rel = 91

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

%Regularity
g*H,rel = 41
g*C,rel = 52

1,00

0,75

0,25

0,00

0,25 0,50 0,75 1,00

chromaticness *c**

blackness *n**

n = 0,00* *n* = 0,25* *n* = 0,50* *n* = 1,0*

TE540−7, 5 step scales for constant CIELAB hue 164/360 = 0.457 (left)

5 step scales for constant CIELAB hue 164/360 = 0.457 (right)

BAM-test chart TE54; Colorimetric systems MRS18 & MRS18
D65: 2 coordinate data of 5 step colour scales for 10 hues

input: *olv* setrgbcolor*
output: *olv* setrgbcolor / w* setgray*

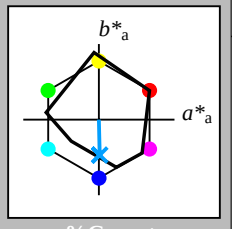
See for similar files: http://www.ps.bam.de/TE54/
Technical information: http://www.ps.bam.de Version 2.1, io=1,1, CIEXYZ

BAM registration: 20060101-TE54/10Q/Q54E09FP.PS/.PDF
application for evaluation and measurement of printer or monitor systems, Yr=2.5, XYZ
BAM material: code=rha4ta
/TE54/ Form: 10/10,Serie: 1/1, Page: 10 Page: count: 10

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
rgb*Ma: 0.0 0.37 1.0

triangle lightness t^*



%Gamut
$u^*_{rel} = 91$

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

%Regularity
$g^*_{H,rel} = 41$
$g^*_{C,rel} = 52$

1,00
0,75
0,25
0,00

$n^* = 0,00$
$n^* = 0,25$
$n^* = 0,50$
$n^* = 1,0$

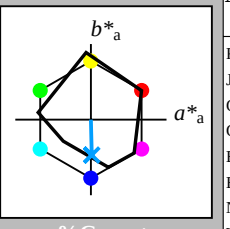
blackness n^*

0,25 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
rgb*Ma: 0.0 0.37 1.0

triangle lightness t^*



%Gamut
$u^*_{rel} = 91$

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

%Regularity
$g^*_{H,rel} = 41$
$g^*_{C,rel} = 52$

$n^* = 0,00$
$n^* = 0,25$
$n^* = 0,50$
$n^* = 1,0$

blackness n^*

0,25 0,50 0,75 1,00
chromaticness c^*

TE540−7, 5 step scales for constant CIELAB hue 271/360 = 0.754 (left)

5 step scales for constant CIELAB hue 271/360 = 0.754 (right)