BAM-Registrierung: 20060101-UG58/10Q/Q58G00SP.PS/.PDF BAM-Material: Code=rha4ta
Anwendung für Beurteilung und Messung von Drucker– oder Monitorsystemen
/UG58/ Form: 1/10. Serie: 1/1, Seite: 1 Sattenz hlung 1

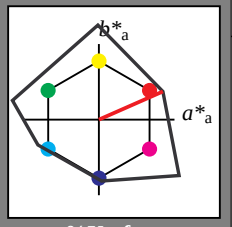
Siehe ähnliche Dateien: http://www.ps.bam.de/UG58/
Technische Information: http://www.ps.bam.de Version 2.1, io=0,0?

Eingabe: Farbmetrisches Reflexions-System NCS11

für Buntton *h = lab*h = 24/360 = 0.066**
lab*tch* und *lab*nch

D65: Buntton R
LCH*Ma: 47 92 24
rgb*Ma: 1.0 0.0 0.0

Dreiecks-Helligkeit *t**

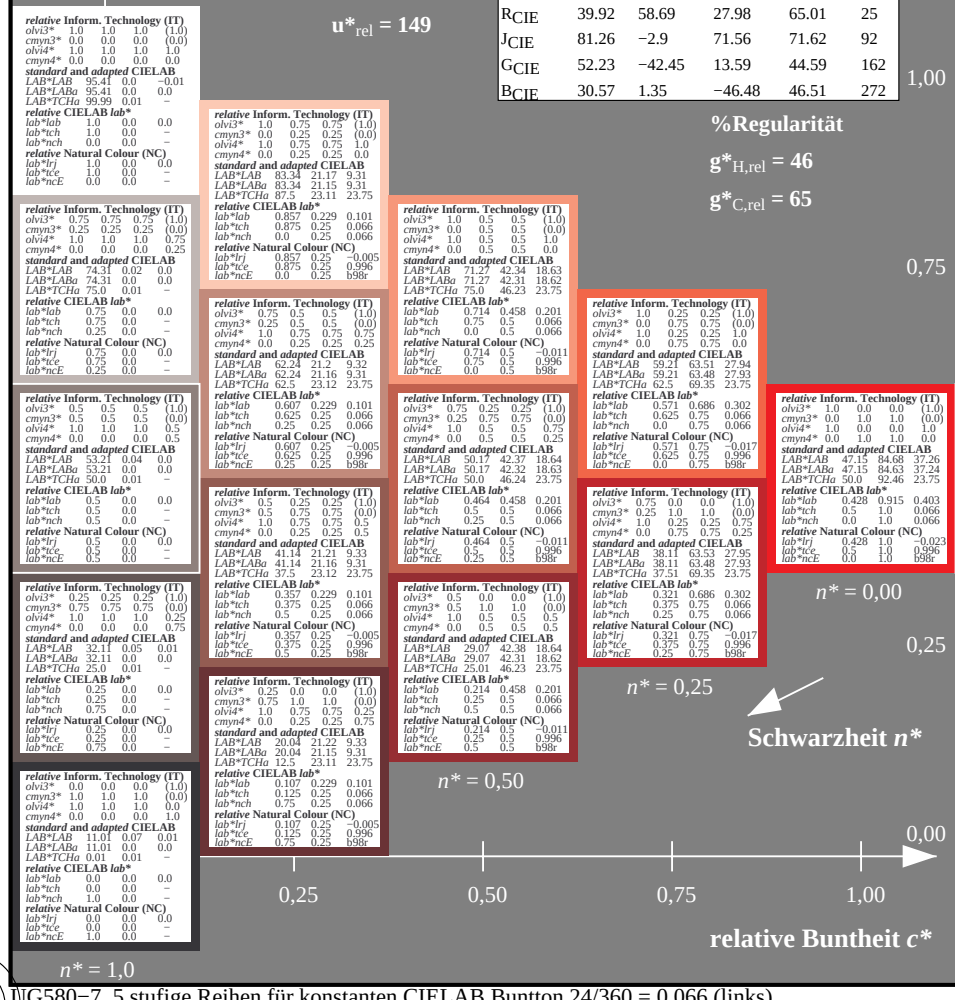


%Umfang
u^*_{rel} = 149

NCS11; adaptierte CIELAB-Daten

	$L^*=L^*_a$	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

%Regularität
$g^*_{H,rel}$ = 46
$g^*_{C,rel}$ = 65



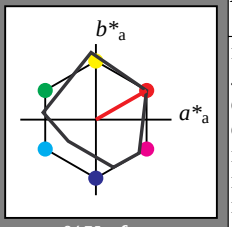
UG580−7, 5 stufige Reihen für konstanten CIELAB Buntton 24/360 = 0.066 (links)

Ausgabe: Farbmetrisches Reflexions-System MRS18

für Buntton *h = lab*h = 30/360 = 0.083**
lab*tch* und *lab*nch

D65: Buntton R
LCH*Ma: 50 77 30
rgb*Ma: 1.0 0.0 0.0

Dreiecks-Helligkeit *t**

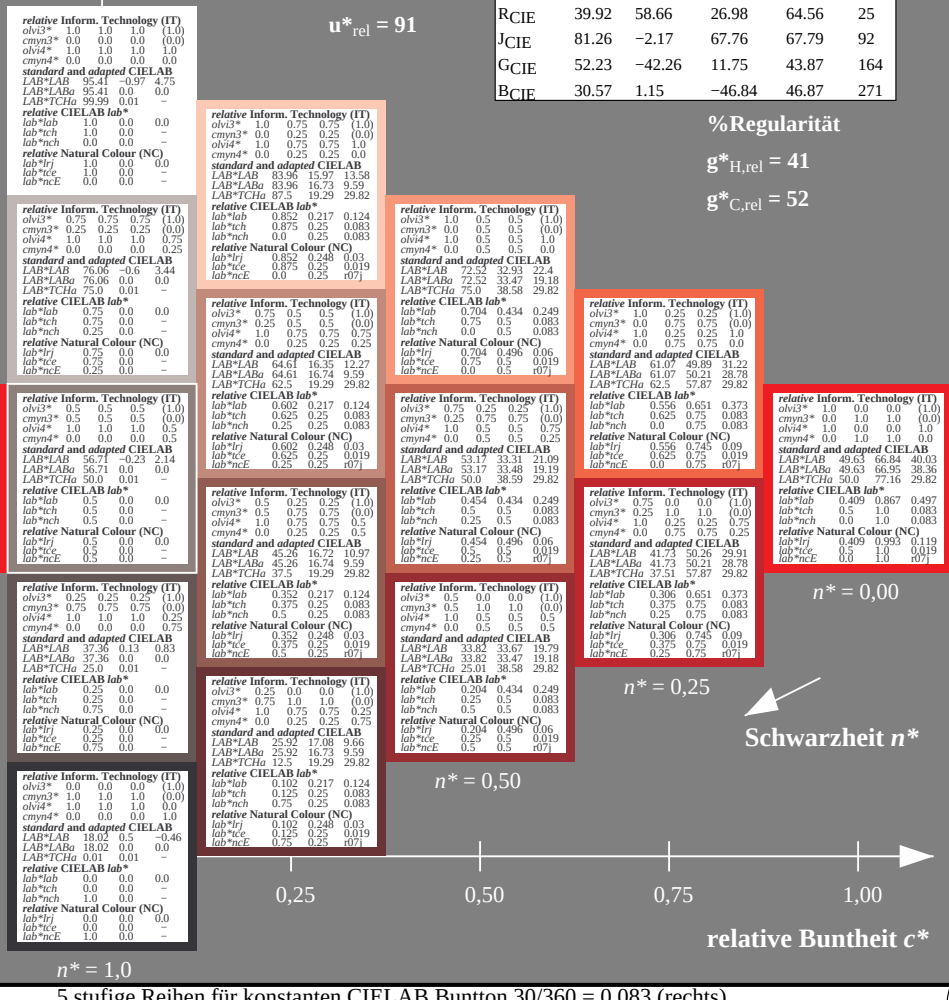


%Umfang
u^*_{rel} = 91

MRS18; adaptierte CIELAB-Daten

	$L^*=L^*_a$	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

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



5 stufige Reihen für konstanten CIELAB Buntton 30/360 = 0.083 (rechts)

BAM-Registrierung: 20060101-UG58/10Q/Q58G01SP.PS/.PDF BAM-Material: Code=rha4ta
Anwendung für Beurteilung und Messung von Drucker– oder Monitorsystemen
/UG58/ Form: 2/10, Serie: 1/1, Seite: 2 Sattenz hlung 2

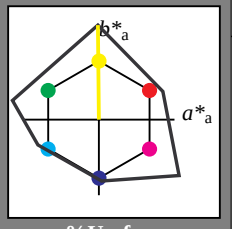
Siehe ähnliche Dateien: http://www.ps.bam.de/UG58/
Technische Information: http://www.ps.bam.de Version 2.1, io=0,0?

Eingabe: Farbmetrisches Reflexions-System NCS11

für Buntton *h = lab*h = 91/360 = 0.252**
lab*tch* und *lab*nch

D65: Buntton J
LCH*Ma: 91 125 91
rgb*Ma: 1.0 1.0 0.0

Dreiecks-Helligkeit *t**



%Umfang

u*rel = 149

NCS11; adaptierte CIELAB-Daten

	$L^*=L^*_a$	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

%Regularität

g*H,rel = 46

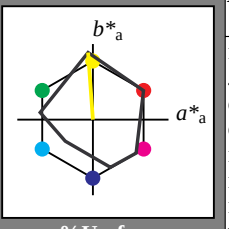
g*C,rel = 65

Ausgabe: Farbmetrisches Reflexions-System MRS18

für Buntton *h = lab*h = 94/360 = 0.261**
lab*tch* und *lab*nch

D65: Buntton J
LCH*Ma: 91 89 94
rgb*Ma: 1.0 1.0 0.0

Dreiecks-Helligkeit *t**



%Umfang

u*rel = 91

MRS18; adaptierte CIELAB-Daten

	$L^*=L^*_a$	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

%Regularität

g*H,rel = 41

g*C,rel = 52

1,00

0,75

0,25

0,00

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

Schwarzheit *n**

relative Buntheit *c**

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

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*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 74.31 0.02 0.0
LAB*LABa 74.31 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 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 –

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 32.11 0.05 0.01
LAB*LABa 32.11 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 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)
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 94.39 −0.3 31.24
LAB*LABa 94.39 −0.31 31.24
LAB*TCHa 87.5 31.25 90.59
relative CIELAB *lab**
lab*lab 0.988 −0.002 0.25
lab*tch 0.875 0.25 0.252
lab*nch 0.0 0.25 0.252
relative Natural Colour (NC)
lab*lrj 0.988 0.01 0.25
lab*tce 0.875 0.25 0.243
lab*ncE 0.0 0.25 r97j

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 73.3 −0.28 31.26
LAB*LABa 73.3 −0.31 31.26
LAB*TCHa 62.5 31.26 90.59
relative CIELAB *lab**
lab*lab 0.738 −0.002 0.25
lab*tch 0.625 0.25 0.252
lab*nch 0.25 0.25 0.252
relative Natural Colour (NC)
lab*lrj 0.738 0.01 0.25
lab*tce 0.625 0.25 0.243
lab*ncE 0.25 0.25 r97j

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 52.19 −0.27 31.27
LAB*LABa 52.19 −0.31 31.26
LAB*TCHa 37.5 31.26 90.59
relative CIELAB *lab**
lab*lab 0.488 −0.002 0.25
lab*tch 0.375 0.25 0.252
lab*nch 0.5 0.25 0.252
relative Natural Colour (NC)
lab*lrj 0.488 0.01 0.25
lab*tce 0.375 0.25 0.243
lab*ncE 0.5 0.25 r97j

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 31.09 −0.25 31.26
LAB*LABa 31.09 −0.31 31.24
LAB*TCHa 12.5 31.25 90.59
relative CIELAB *lab**
lab*lab 0.238 −0.002 0.25
lab*tch 0.125 0.25 0.252
lab*nch 0.75 0.25 0.252
relative Natural Colour (NC)
lab*lrj 0.238 0.01 0.25
lab*tce 0.125 0.25 0.243
lab*ncE 0.75 0.25 r97j

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 93.38 −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*lrj 0.976 0.02 0.499
lab*tce 0.75 0.5 0.243
lab*ncE 0.0 0.5 r97j

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 72.29 −0.6 62.52
LAB*LABa 72.29 −0.63 62.51
LAB*TCHa 50.0 62.52 90.59
relative CIELAB *lab**
lab*lab 0.726 −0.004 0.5
lab*tch 0.5 0.5 0.252
lab*nch 0.25 0.5 0.252
relative Natural Colour (NC)
lab*lrj 0.726 0.02 0.5
lab*tce 0.5 0.5 0.243
lab*ncE 0.25 0.5 r97j

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 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*lrj 0.476 0.02 0.499
lab*tce 0.25 0.5 0.243
lab*ncE 0.5 0.5 r97j

relative Inform. Technology (IT)
olvi3* 1.0 1.0 0.0 (1.0)
cmyn3* 0.0 0.0 0.0 (0.0)
olvi4* 1.0 1.0 0.0 1.0
cmyn4* 0.0 0.0 0.0 0.0
standard and adapted CIELAB
LAB*LAB 93.96 −0.92 93.76
LAB*LABa 93.96 −0.95 93.76
LAB*TCHa 62.5 93.76 90.59
relative CIELAB *lab**
lab*lab 0.964 −0.007 0.75
lab*tch 0.625 0.75 0.252
lab*nch 0.0 0.75 0.252
relative Natural Colour (NC)
lab*lrj 0.964 0.031 0.749
lab*tce 0.625 0.75 0.243
lab*ncE 0.0 0.75 r97j

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 71.28 −0.93 93.76
LAB*LABa 71.28 −0.95 93.76
LAB*TCHa 37.51 93.76 90.59
relative CIELAB *lab**
lab*lab 0.714 −0.007 0.75
lab*tch 0.375 0.75 0.252
lab*nch 0.25 0.75 0.252
relative Natural Colour (NC)
lab*lrj 0.714 0.031 0.749
lab*tce 0.375 0.75 0.243
lab*ncE 0.25 0.75 r97j

relative Inform. Technology (IT)
olvi3* 1.0 1.0 0.0 (1.0)
cmyn3* 0.0 0.0 0.0 (0.0)
olvi4* 1.0 1.0 0.0 1.0
cmyn4* 0.0 0.0 0.0 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 0.952 −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

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 0.5 0.5
cmyn4* 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 –
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 0.5 0.75
cmyn4* 0.0 0.0 0.25 0.5
standard and adapted CIELAB
LAB*LAB 55.53 −1.58 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 54.33 −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* 1.0 1.0 0.0 (1.0)
cmyn3* 0.0 0.0 0.0 (0.0)
olvi4* 1.0 1.0 0.0 1.0
cmyn4* 0.0 0.0 0.0 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* 0.75 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 0.25 (1.0)
cmyn3* 0.0 0.0 0.75 (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

UG580−7, 5 stufige Reihen für konstanten CIELAB Buntton 91/360 = 0.252 (links)

5 stufige Reihen für konstanten CIELAB Buntton 94/360 = 0.261 (rechts)

www.ps.bam.de/UG58/10Q/Q58G02SP.PS/.PDF;
S: Ausgabe-Linearisierung (OL-Daten) UG58/10Q/Q58G02SP.DAT im Distiller Startup (S) Directory

BAM-Registrierung: 20060101-UG58/10Q/Q58G02SP.PS/.PDF BAM-Material: Code=rha4ta
Anwendung für Beurteilung und Messung von Drucker– oder Monitorsystemen
/UG58/ Form: 3/10, Serie: 1/1, Seite: 3 Sattelstreifen 3

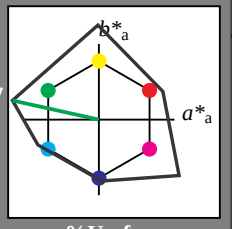
Siehe ähnliche Dateien: http://www.ps.bam.de/UG58/
Technische Information: http://www.ps.bam.de Version 2.1, io=0,0?

Eingabe: Farbmetrisches Reflexions-System NCS11

für Buntton *h = lab*h = 167/360 = 0.465**
lab*tch* und *lab*nch

D65: Buntton G
LCH*Ma: 63 117 167
rgb*Ma: 0.0 1.0 0.0

Dreiecks-Helligkeit *t**



%Umfang

u*rel = 149

NCS11; adaptierte CIELAB-Daten

	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

%Regularität

g*H,rel = 46

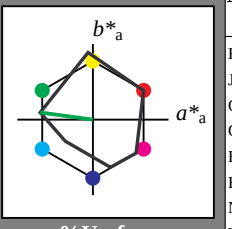
g*C,rel = 65

Ausgabe: Farbmetrisches Reflexions-System MRS18

für Buntton *h = lab*h = 172/360 = 0.479**
lab*tch* und *lab*nch

D65: Buntton G
LCH*Ma: 52 70 172
rgb*Ma: 0.0 1.0 0.0

Dreiecks-Helligkeit *t**



%Umfang

u*rel = 91

MRS18; adaptierte CIELAB-Daten

	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

%Regularität

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

Schwarzheit *n**

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

relative Buntheit *c**

n* = 0,00

n* = 0,25

n* = 0,50

n* = 1,0

Schwarzheit *n**

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

relative Buntheit *c**

UG580−7, 5 stufige Reihen für konstanten CIELAB Buntton 167/360 = 0.465 (links)

5 stufige Reihen für konstanten CIELAB Buntton 172/360 = 0.479 (rechts)

BAM-Prüfvorlage UG58; Farbmetrik-Systeme ORS18 & ORS18 input: *cmy0* setcmykcolor*
D65: 2 Koordinaten-Daten von 5stufigen Farbreihen für 10 Buntton output: *Startup (S) data dependend*

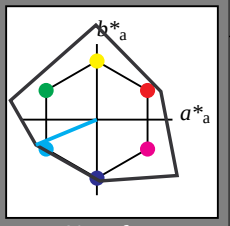
Siehe ähnliche Dateien: http://www.ps.bam.de/UG58/
Technische Information: http://www.ps.bam.de Version 2.1, io=0,0?

Eingabe: Farbmetrisches Reflexions-System NCS11

für Buntton *h = lab*h = 203/360 = 0.563**
lab*tch* und *lab*nch

D65: Buntton G50B
LCH*Ma: 59 87 203
rgb*Ma: 0.0 1.0 1.0

Dreiecks-Helligkeit *t**



%Umfang

u*rel = 149

NCS11; adaptierte CIELAB-Daten

	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

%Regularität

g*H,rel = 46

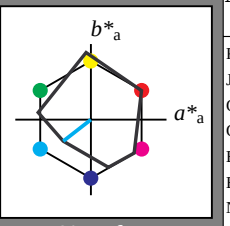
g*C,rel = 65

Ausgabe: Farbmetrisches Reflexions-System MRS18

für Buntton *h = lab*h = 218/360 = 0.605**
lab*tch* und *lab*nch

D65: Buntton G50B
LCH*Ma: 45 46 218
rgb*Ma: 0.0 1.0 1.0

Dreiecks-Helligkeit *t**



%Umfang

u*rel = 91

MRS18; adaptierte CIELAB-Daten

	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

%Regularität

g*H,rel = 41

g*C,rel = 52

1,00

0,75

0,25

0,00

Schwarzheit *n**

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

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

relative Buntheit *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 0.0 −0.01
LAB*LABa 95.41 0.0 0.0
LAB*TCHa 99.99 0.01 –
relative CIELAB *lab**
lab*lab 1.0 0.0 0.0
lab*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 74.31 0.02 0.0
LAB*LABa 74.31 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 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 –

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 32.11 0.05 0.01
LAB*LABa 32.11 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 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)
olvi3* 0.75 1.0 1.0 (1.0)
cmyn3* 0.25 0.0 0.0 (0.0)
olvi4* 0.75 1.0 1.0 1.0
cmyn4* 0.25 0.0 0.0 0.0
standard and adapted CIELAB
LAB*LAB 86.42 −20.12 −8.35
LAB*LABa 86.42 −20.13 −8.35
LAB*TCHa 87.5 21.81 202.54
relative CIELAB *lab**
lab*lab 0.893 −0.23 −0.095
lab*tch 0.875 0.25 0.563
lab*nch 0.0 0.25 0.563
relative Natural Colour (NC)
lab*lrj 0.893 −0.208 −0.136
lab*tce 0.875 0.25 0.592
lab*nce 0.0 0.25 g36b

relative Inform. Technology (IT)
olvi3* 0.5 0.75 0.75 (1.0)
cmyn3* 0.5 0.25 0.25 (0.0)
olvi4* 0.75 1.0 1.0 0.75
cmyn4* 0.25 0.0 0.0 0.25
standard and adapted CIELAB
LAB*LAB 65.32 −20.11 −8.35
LAB*LABa 65.32 −20.14 −8.36
LAB*TCHa 62.5 21.82 202.54
relative CIELAB *lab**
lab*lab 0.644 −0.23 −0.095
lab*tch 0.625 0.25 0.563
lab*nch 0.25 0.25 0.563
relative Natural Colour (NC)
lab*lrj 0.644 −0.208 −0.136
lab*tce 0.625 0.25 0.592
lab*nce 0.25 0.25 g36b

relative Inform. Technology (IT)
olvi3* 0.25 0.5 0.5 (1.0)
cmyn3* 0.75 0.5 0.5 (0.0)
olvi4* 0.75 1.0 1.0 0.5
cmyn4* 0.25 0.0 0.0 0.5
standard and adapted CIELAB
LAB*LAB 44.22 −20.09 −8.34
LAB*LABa 44.22 −20.14 −8.36
LAB*TCHa 37.5 21.82 202.54
relative CIELAB *lab**
lab*lab 0.394 −0.23 −0.095
lab*tch 0.375 0.25 0.563
lab*nch 0.5 0.25 0.563
relative Natural Colour (NC)
lab*lrj 0.394 −0.208 −0.136
lab*tce 0.375 0.25 0.592
lab*nce 0.5 0.25 g36b

relative Inform. Technology (IT)
olvi3* 0.0 0.25 0.25 (1.0)
cmyn3* 1.0 0.75 0.75 (0.0)
olvi4* 0.75 1.0 1.0 0.25
cmyn4* 0.25 0.0 0.0 0.75
standard and adapted CIELAB
LAB*LAB 23.11 −20.07 −8.33
LAB*LABa 23.11 −20.13 −8.35
LAB*TCHa 12.5 21.81 202.54
relative CIELAB *lab**
lab*lab 0.144 −0.23 −0.095
lab*tch 0.125 0.25 0.563
lab*nch 0.75 0.25 0.563
relative Natural Colour (NC)
lab*lrj 0.144 −0.208 −0.136
lab*tce 0.125 0.25 0.592
lab*nce 0.75 0.25 g36b

relative Inform. Technology (IT)
olvi3* 0.5 1.0 1.0 (1.0)
cmyn3* 0.5 0.0 0.0 (0.0)
olvi4* 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*lrj 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)
olvi3* 0.25 0.75 0.75 (1.0)
cmyn3* 0.75 0.25 0.25 (0.0)
olvi4* 0.5 1.0 1.0 0.75
cmyn4* 0.5 0.0 0.0 0.25
standard and adapted CIELAB
LAB*LAB 56.33 −40.26 −16.71
LAB*LABa 56.33 −40.3 −16.72
LAB*TCHa 50.0 43.64 202.54
relative CIELAB *lab**
lab*lab 0.537 −0.461 −0.191
lab*tch 0.5 0.5 0.563
lab*nch 0.25 0.5 0.563
relative Natural Colour (NC)
lab*lrj 0.537 −0.418 −0.272
lab*tce 0.5 0.5 0.592
lab*nce 0.25 0.5 g36b

relative Inform. Technology (IT)
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
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*lrj 0.287 −0.418 −0.272
lab*tce 0.25 0.5 0.592
lab*nce 0.5 0.5 g36b

relative Inform. Technology (IT)
olvi3* 0.25 1.0 1.0 (1.0)
cmyn3* 0.75 0.0 0.0 (0.0)
olvi4* 0.25 1.0 1.0 1.0
cmyn4* 0.75 0.0 0.0 0.0
standard and adapted CIELAB
LAB*LAB 68.45 −60.41 −25.08
LAB*LABa 68.45 −60.44 −25.08
LAB*TCHa 62.5 65.45 202.54
relative CIELAB *lab**
lab*lab 0.681 −0.692 −0.286
lab*tch 0.625 0.75 0.563
lab*nch 0.0 0.75 0.563
relative Natural Colour (NC)
lab*lrj 0.681 −0.627 −0.409
lab*tce 0.625 0.75 0.592
lab*nce 0.0 0.75 g36b

relative Inform. Technology (IT)
olvi3* 0.0 0.75 0.75 (1.0)
cmyn3* 1.0 0.25 0.25 (0.0)
olvi4* 0.25 1.0 1.0 0.75
cmyn4* 0.75 0.0 0.0 0.25
standard and adapted CIELAB
LAB*LAB 47.35 −60.39 −25.07
LAB*LABa 47.35 −60.44 −25.08
LAB*TCHa 37.51 65.45 202.54
relative CIELAB *lab**
lab*lab 0.431 −0.692 −0.286
lab*tch 0.375 0.75 0.563
lab*nch 0.25 0.75 0.563
relative Natural Colour (NC)
lab*lrj 0.431 −0.627 −0.409
lab*tce 0.375 0.75 0.592
lab*nce 0.25 0.75 g36b

relative Inform. Technology (IT)
olvi3* 0.0 1.0 1.0 (1.0)
cmyn3* 1.0 0.0 0.0 (0.0)
olvi4* 0.0 1.0 1.0 0.0
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*lrj 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)
olvi3* 0.75 1.0 1.0 (1.0)
cmyn3* 0.25 0.0 0.0 (0.0)
olvi4* 0.75 1.0 1.0 1.0
cmyn4* 0.25 0.0 0.0 0.0
standard and adapted CIELAB
LAB*LAB 82.81 −9.87 −3.2
LAB*LABa 82.81 −9.13 −7.11
LAB*TCHa 87.5 11.58 217.91
relative CIELAB *lab**
lab*lab 0.837 −0.196 −0.153
lab*tch 0.875 0.25 0.605
lab*nch 0.0 0.25 0.605
relative Natural Colour (NC)
lab*lrj 0.837 −0.176 −0.176
lab*tce 0.875 0.25 0.625
lab*nce 0.0 0.25 g49b

relative Inform. Technology (IT)
olvi3* 0.5 0.75 0.75 (1.0)
cmyn3* 0.5 0.25 0.25 (0.0)
olvi4* 0.75 1.0 1.0 0.75
cmyn4* 0.25 0.0 0.0 0.25
standard and adapted CIELAB
LAB*LAB 63.46 −9.5 −4.51
LAB*LABa 63.46 −9.13 −7.11
LAB*TCHa 62.5 11.59 217.91
relative CIELAB *lab**
lab*lab 0.587 −0.196 −0.153
lab*tch 0.625 0.25 0.605
lab*nch 0.25 0.25 0.605
relative Natural Colour (NC)
lab*lrj 0.587 −0.176 −0.176
lab*tce 0.625 0.25 0.625
lab*nce 0.25 0.25 g49b

relative Inform. Technology (IT)
olvi3* 0.25 0.5 0.5 (1.0)
cmyn3* 0.75 0.5 0.5 (0.0)
olvi4* 0.75 1.0 1.0 0.5
cmyn4* 0.25 0.0 0.0 0.5
standard and adapted CIELAB
LAB*LAB 44.11 −9.13 −7.11
LAB*LABa 44.11 −9.13 −5.81
LAB*TCHa 37.5 11.59 217.91
relative CIELAB *lab**
lab*lab 0.337 −0.196 −0.153
lab*tch 0.375 0.25 0.605
lab*nch 0.5 0.25 0.605
relative Natural Colour (NC)
lab*lrj 0.337 −0.176 −0.176
lab*tce 0.375 0.25 0.625
lab*nce 0.5 0.25 g49b

relative Inform. Technology (IT)
olvi3* 0.0 0.25 0.25 (1.0)
cmyn3* 1.0 0.75 0.75 (0.0)
olvi4* 0.75 1.0 1.0 0.25
cmyn4* 0.25 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* 0.75 1.0 1.0 (1.0)
cmyn3* 0.25 0.0 0.0 (0.0)
olvi4* 0.75 1.0 1.0 1.0
cmyn4* 0.25 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*lrj 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)
olvi3* 0.25 0.75 0.75 (1.0)
cmyn3* 0.75 0.25 0.25 (0.0)
olvi4* 0.5 1.0 1.0 0.75
cmyn4* 0.5 0.0 0.0 0.25
standard and adapted CIELAB
LAB*LAB 50.87 −18.4 −12.48
LAB*LABa 50.87 −18.28 −14.23
LAB*TCHa 50.0 23.18 217.91
relative CIELAB *lab**
lab*lab 0.425 −0.394 −0.306
lab*tch 0.5 0.5 0.605
lab*nch 0.25 0.5 0.605
relative Natural Colour (NC)
lab*lrj 0.425 −0.353 −0.352
lab*tce 0.5 0.5 0.625
lab*nce 0.25 0.5 g49b

relative Inform. Technology (IT)
olvi3* 0.0 0.5 0.5 (1.0)
cmyn3* 1.0 0.25 0.25 (0.0)
olvi4* 0.25 1.0 1.0 0.75
cmyn4* 0.75 0.0 0.0 0.25
standard and adapted CIELAB
LAB*LAB 38.28 −27.3 −20.44
LAB*LABa 38.28 −27.42 −21.35
LAB*TCHa 37.51 34.76 217.91
relative CIELAB *lab**
lab*lab 0.262 −0.591 −0.46
lab*tch 0.375 0.75 0.605
lab*nch 0.25 0.75 0.605
relative Natural Colour (NC)
lab*lrj 0.262 −0.529 −0.529
lab*tce 0.375 0.75 0.625
lab*nce 0.25 0.75 g49b

relative Inform. Technology (IT)
olvi3* 0.25 1.0 1.0 (1.0)
cmyn3* 0.75 0.0 0.0 (0.0)
olvi4* 0.25 1.0 1.0 1.0
cmyn4* 0.75 0.0 0.0 0.0
standard and adapted CIELAB
LAB*LAB 57.62 −27.67 −19.14
LAB*LABa 57.62 −27.42 −21.35
LAB*TCHa 62.5 34.76 217.91
relative CIELAB *lab**
lab*lab 0.512 −0.591 −0.46
lab*tch 0.625 0.75 0.605
lab*nch 0.0 0.75 0.605
relative Natural Colour (NC)
lab*lrj 0.512 −0.529 −0.529
lab*tce 0.625 0.75 0.625
lab*nce 0.0 0.75 g49b

relative Inform. Technology (IT)
olvi3* 0.0 1.0 1.0 (1.0)
cmyn3* 1.0 0.0 0.0 (0.0)
olvi4* 0.0 1.0 1.0 1.0
cmyn4* 1.0 0.0 0.0 0.0
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*lrj 0.349 −0.706 −0.706
lab*tce 0.5 1.0 0.625
lab*nce 0.0 1.0 g49b

UG580−7, 5 stufige Reihen für konstanten CIELAB Buntton 203/360 = 0.563 (links)

5 stufige Reihen für konstanten CIELAB Buntton 218/360 = 0.605 (rechts)

Siehe ähnliche Dateien: http://www.ps.bam.de/UG58/
Technische Information: http://www.ps.bam.de Version 2.1, io=0,0?

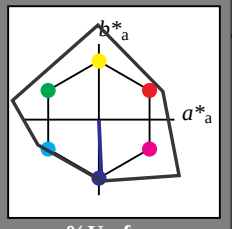
BAM-Registrierung: 20060101-UG58/10Q/Q58G04SP.PS/.PDF BAM-Material: Code=rha4ta
Anwendung für Beurteilung und Messung von Drucker– oder Monitorsystemen
/UG58/ Form: 5/10. Serie: 1/1, Seite: 5 Sattenz hlung 5

Eingabe: Farbmetrisches Reflexions-System NCS11

für Buntton *h = lab*h = 273/360 = 0.757**
lab*tch* und *lab*nch

D65: Buntton B
LCH*Ma: 49 81 273
rgb*Ma: 0.0 0.0 1.0

Dreiecks-Helligkeit *t**



%Umfang

u*rel = 149

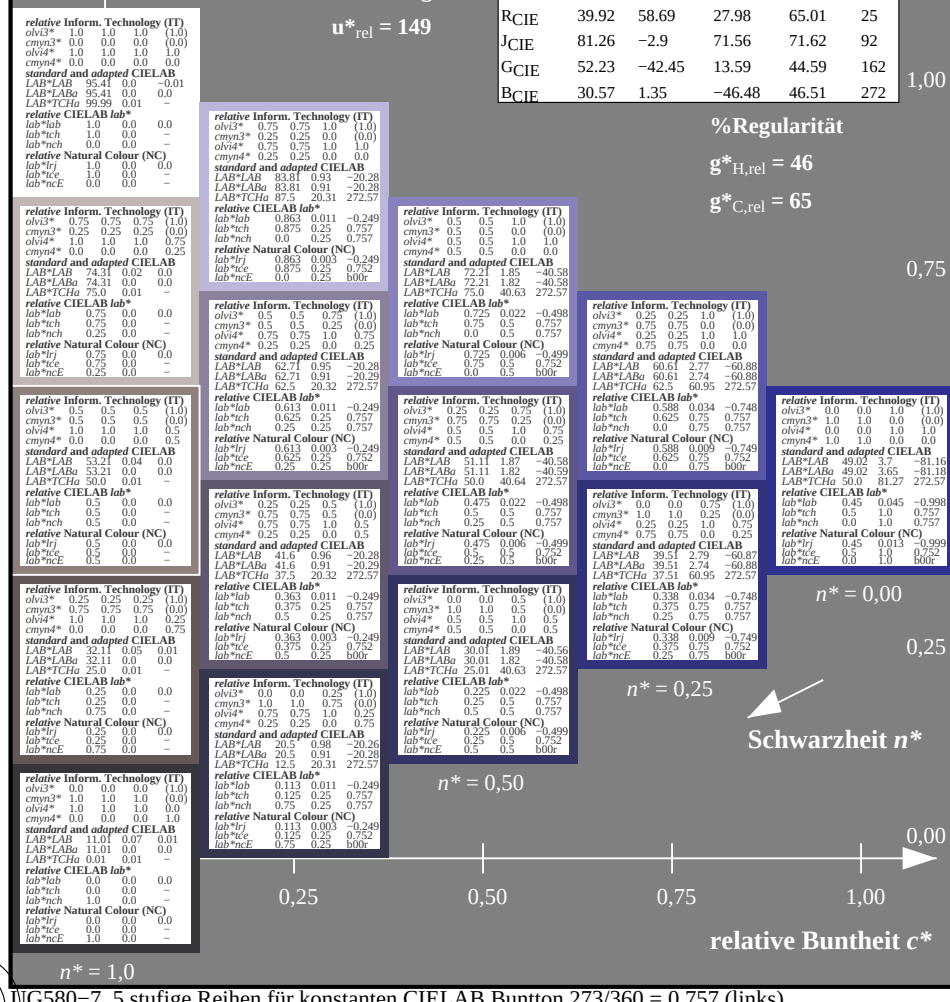
NCS11; adaptierte CIELAB-Daten

	$L^*=L^*_a$	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

%Regularität

g*H,rel = 46

g*C,rel = 65



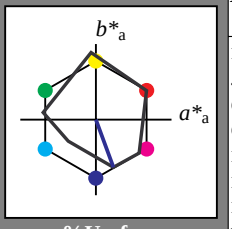
UG580−7, 5 stufige Reihen für konstanten CIELAB Buntton 273/360 = 0.757 (links)

Ausgabe: Farbmetrisches Reflexions-System MRS18

für Buntton *h = lab*h = 290/360 = 0.806**
lab*tch* und *lab*nch

D65: Buntton B
LCH*Ma: 37 67 290
rgb*Ma: 0.0 0.0 1.0

Dreiecks-Helligkeit *t**



%Umfang

u*rel = 91

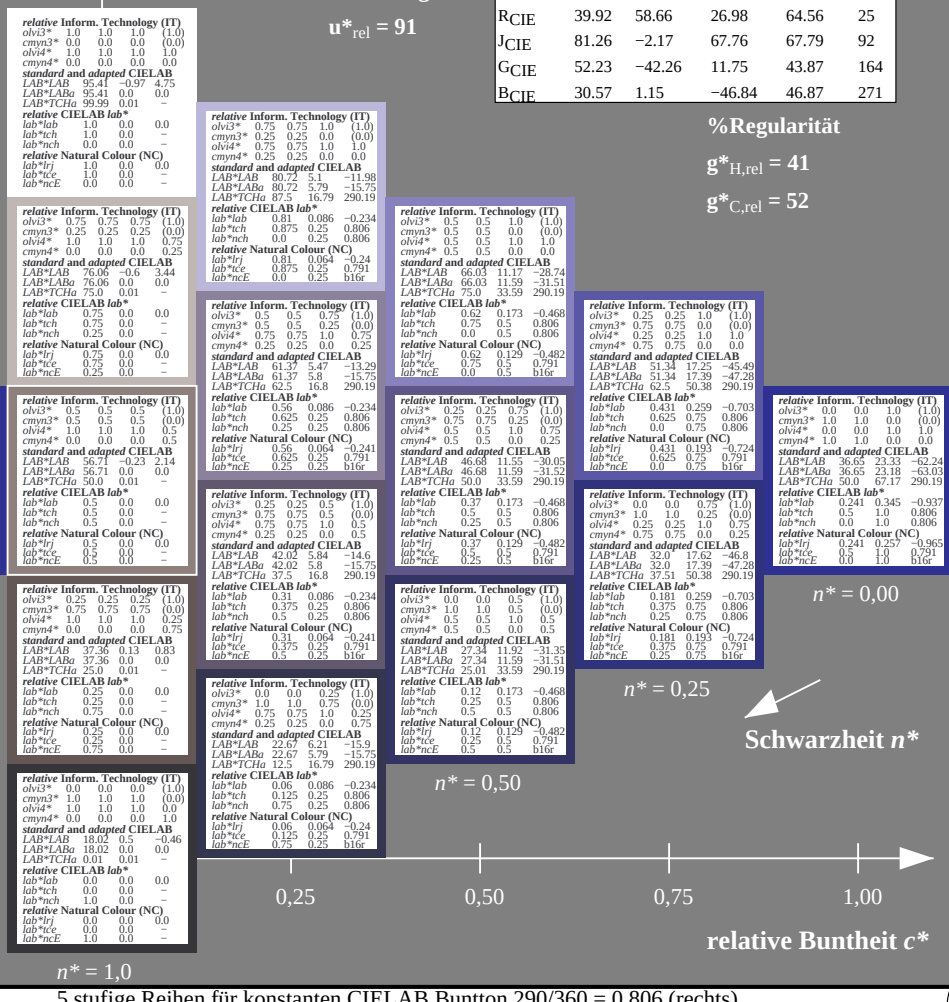
MRS18; adaptierte CIELAB-Daten

	$L^*=L^*_a$	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

%Regularität

g*H,rel = 41

g*C,rel = 52



5 stufige Reihen für konstanten CIELAB Buntton 290/360 = 0.806 (rechts)

Siehe ähnliche Dateien: http://www.ps.bam.de/UG58/
Technische Information: http://www.ps.bam.de Version 2.1, io=0,0?

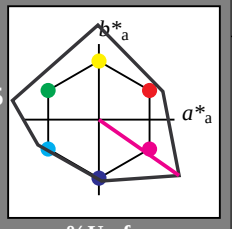
BAM-Registrierung: 20060101-UG58/10Q/Q58G05SP.PS/.PDF BAM-Material: Code=rha4ta
Anwendung für Beurteilung und Messung von Drucker– oder Monitorsystemen
/UG58/ Form: 6/10, Serie: 1/1, Seite: 6 Sattenz hlung 6

Eingabe: Farbmetrisches Reflexions-System NCS11

für Buntton *h = lab*h = 325/360 = 0.903***
lab*tch* und *lab*nch

D65: Buntton B50R
LCH*Ma: 44 129 325
rgb*Ma: 1.0 0.0 1.0

Dreiecks-Helligkeit *t**



%Umfang

u*rel = 149

NCS11; adaptierte CIELAB-Daten

	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

%Regularität

g*H,rel = 46

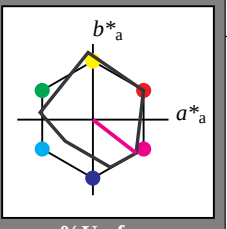
g*C,rel = 65

Ausgabe: Farbmetrisches Reflexions-System MRS18

für Buntton *h = lab*h = 322/360 = 0.895***
lab*tch* und *lab*nch

D65: Buntton B50R
LCH*Ma: 35 72 322
rgb*Ma: 1.0 0.0 1.0

Dreiecks-Helligkeit *t**



%Umfang

u*rel = 91

MRS18; adaptierte CIELAB-Daten

	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

%Regularität

g*H,rel = 41

g*C,rel = 52

UG580−7, 5 stufige Reihen für konstanten CIELAB Buntton 325/360 = 0.903 (links)

5 stufige Reihen für konstanten CIELAB Buntton 322/360 = 0.895 (rechts)

Siehe ähnliche Dateien: http://www.ps.bam.de/UG58/
Technische Information: http://www.ps.bam.de Version 2.1, io=0,0?

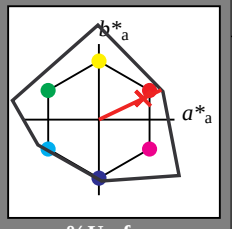
BAM-Registrierung: 20060101-UG58/10Q/Q58G06SP.PS/.PDF BAM-Material: Code=rha4ta
Anwendung für Beurteilung und Messung von Drucker– oder Monitorsystemen
/UG58/ Form: 7/10, Serie: 1/1, Seite: 7 Seitenz hlung 7

Eingabe: Farbmetrisches Reflexions-System NCS11

für Buntton $h^* = lab^*h = 25/360 = 0.071$
lab^*tch und lab^*nch

D65: Buntton R
LCH*Ma: 48 91 25
rgb*Ma: 1.0 0.02 0.0

Dreiecks-Helligkeit t^*



%Umfang

u^*_{rel} = 149

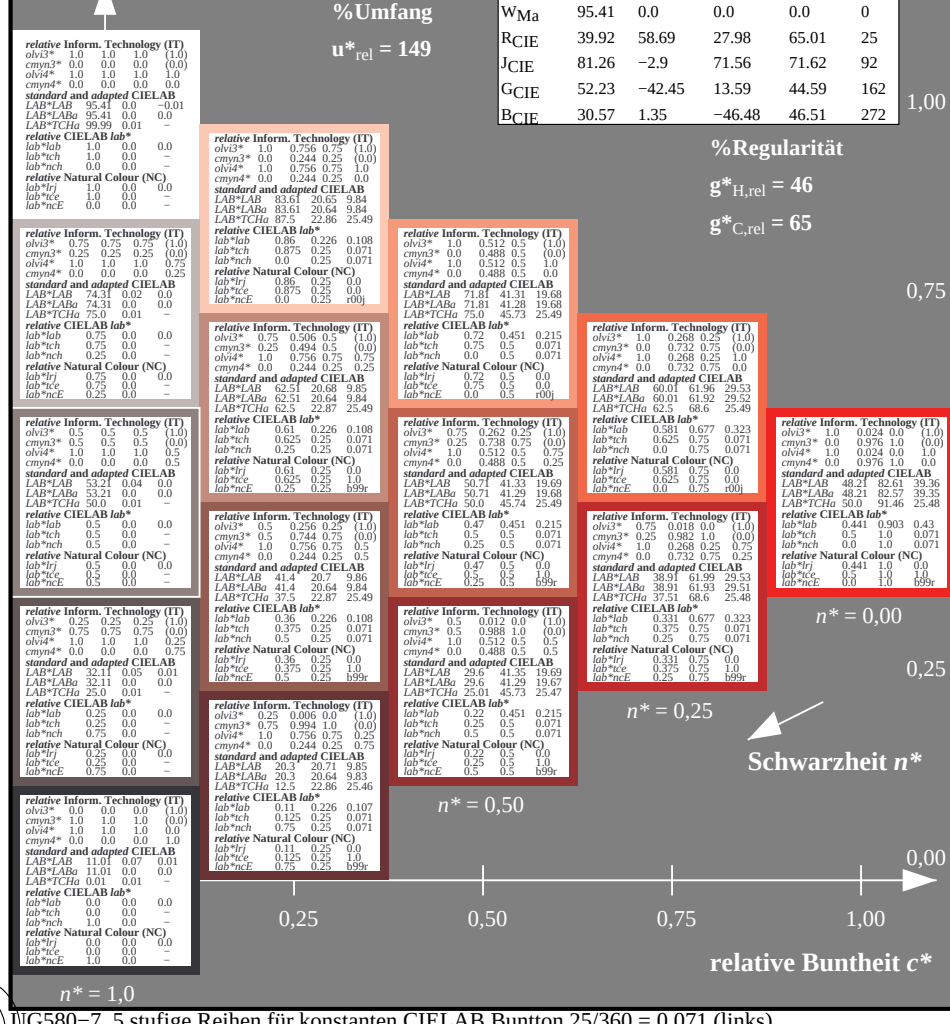
NCS11; adaptierte CIELAB-Daten

	$L^*=L^*_a$	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

%Regularität

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

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

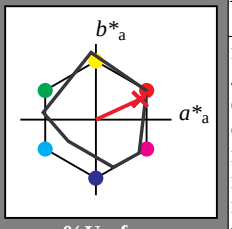


Ausgabe: Farbmetrisches Reflexions-System MRS18

für Buntton $h^* = lab^*h = 25/360 = 0.069$
lab^*tch und lab^*nch

D65: Buntton R
LCH*Ma: 48 73 25
rgb*Ma: 1.0 0.0 0.1

Dreiecks-Helligkeit t^*



%Umfang

u^*_{rel} = 91

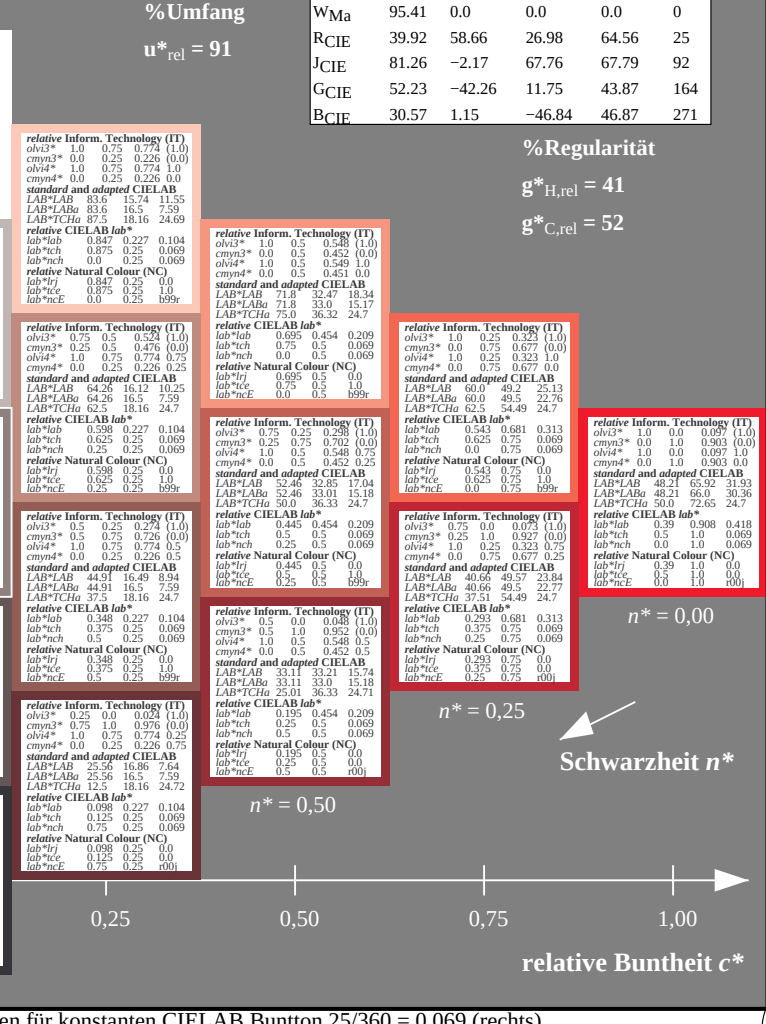
MRS18; adaptierte CIELAB-Daten

	$L^*=L^*_a$	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

%Regularität

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

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



UG580−7, 5 stufige Reihen für konstanten CIELAB Buntton 25/360 = 0.071 (links)

5 stufige Reihen für konstanten CIELAB Buntton 25/360 = 0.069 (rechts)

BAM-Prüfvorlage UG58; Farbmetrik-Systeme ORS18 & ORS18 input: *cmy0* setcmykcolor*
D65: 2 Koordinaten-Daten von 5stufigen Farbreihen für 10 Buntton output: *Startup (S) data dependend*

BAM-Registrierung: 20060101-UG58/10Q/Q58G07SP.PS/.PDF BAM-Material: Code=rha4ta
Anwendung für Beurteilung und Messung von Drucker– oder Monitorsystemen
/UG58/ Form: 8/10, Serie: 1/1, Seite: 8 Sattenz hlung 8

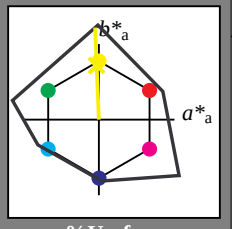
Siehe ähnliche Dateien: http://www.ps.bam.de/UG58/
Technische Information: http://www.ps.bam.de Version 2.1, io=0,0?

Eingabe: Farbmetrisches Reflexions-System NCS11

für Buntton $h^* = lab^*h = 92/360 = 0.256$
lab^*tch und lab^*nch

D65: Buntton J
LCH*Ma: 90 122 92
rgb*Ma: 0.97 1.0 0.0

Dreiecks-Helligkeit t^*



%Umfang

u^*_{rel} = 149

NCS11; adaptierte CIELAB-Daten

	$L^*=L^*_a$	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

%Regularität

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

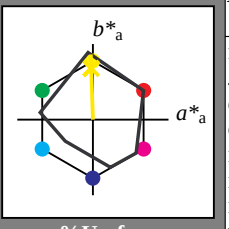
$g^*_{C,rel}$ = 65

Ausgabe: Farbmetrisches Reflexions-System MRS18

für Buntton $h^* = lab^*h = 92/360 = 0.255$
lab^*tch und lab^*nch

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

Dreiecks-Helligkeit t^*



%Umfang

u^*_{rel} = 91

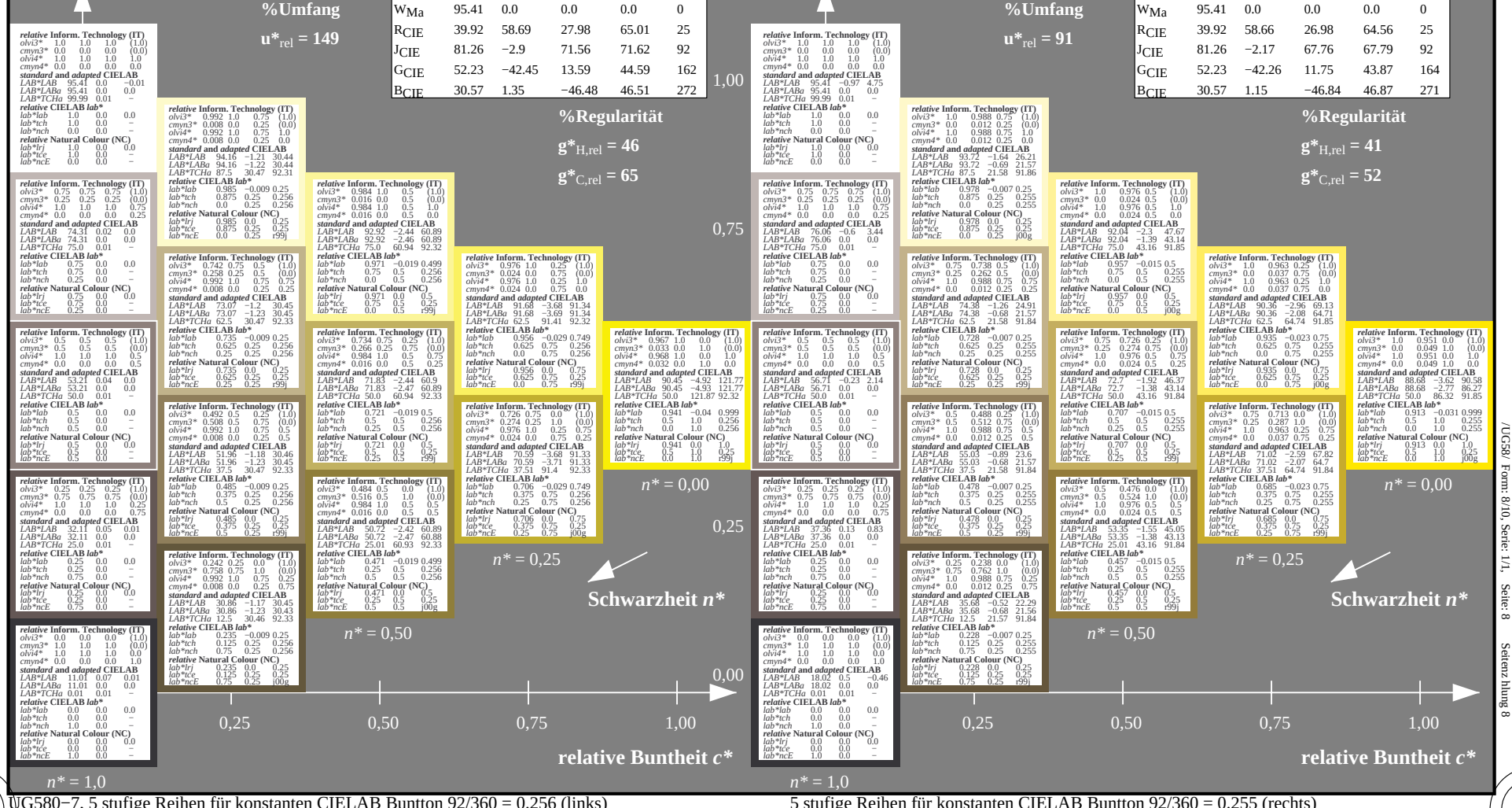
MRS18; adaptierte CIELAB-Daten

	$L^*=L^*_a$	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

%Regularität

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

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



UG580−7, 5 stufige Reihen für konstanten CIELAB Buntton 92/360 = 0.256 (links)

5 stufige Reihen für konstanten CIELAB Buntton 92/360 = 0.255 (rechts)

Siehe ähnliche Dateien: http://www.ps.bam.de/UG58/
Technische Information: http://www.ps.bam.de Version 2.1, io=0,0?

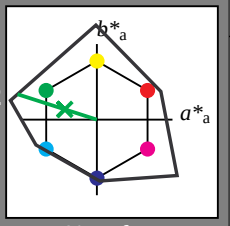
BAM-Registrierung: 20060101-UG58/10Q/Q58G08SP.PS/.PDF BAM-Material: Code=rha4ta
Anwendung für Beurteilung und Messung von Drucker– oder Monitorsystemen
/UG58/ Form: 9/10. Serie: 1/1, Seite: 9 Sattelpunkt: 9

Eingabe: Farbmetrisches Reflexions-System NCS11

für Buntton *h* = lab*h = 162/360 = 0.451*
lab*tch* und *lab*nch

D65: Buntton G
LCH*Ma: 65 110 162
rgb*Ma: 0.08 1.0 0.0

Dreiecks-Helligkeit *t**



%Umfang

u^*_{rel} = 149

NCS11; adaptierte CIELAB-Daten

	$L^*=L^*_a$	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

%Regularität

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

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

1,00

0,75

0,25

0,00

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

relative Buntheit *c**

Schwarzheit *n**

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

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*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 74.31 0.02 0.0
LAB*LABa 74.31 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 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 –

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 32.11 0.05 0.01
LAB*LABa 32.11 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 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)
olvi3* 0.771 1.0 0.75 (1.0)
cmyn3* 0.229 0.0 0.25 (0.0)
olvi4* 0.771 1.0 0.75 1.0
cmyn4* 0.229 0.0 0.25 0.0
standard and adapted CIELAB
LAB*LAB 87.9 −26.2 8.39
LAB*LABa 87.9 −26.22 8.39
LAB*TCHa 87.5 27.54 162.25
relative CIELAB *lab**
lab*lab 0.911 −0.237 0.076
lab*tch 0.875 0.25 0.451
lab*nch 0.0 0.25 0.451
relative Natural Colour (NC)
lab*lrj 0.911 −0.249 0.0
lab*tce 0.875 0.25 0.5
lab*ncE 0.0 0.25 j99g

relative Inform. Technology (IT)
olvi3* 0.521 0.75 0.5 (1.0)
cmyn3* 0.479 0.25 0.5 (0.0)
olvi4* 0.771 1.0 0.75 0.75
cmyn4* 0.229 0.0 0.25 0.25
standard and adapted CIELAB
LAB*LAB 66.81 −26.19 8.4
LAB*LABa 66.81 −26.23 8.4
LAB*TCHa 62.5 27.55 162.25
relative CIELAB *lab**
lab*lab 0.661 −0.237 0.076
lab*tch 0.625 0.25 0.451
lab*nch 0.25 0.25 0.451
relative Natural Colour (NC)
lab*lrj 0.661 −0.249 0.0
lab*tce 0.625 0.25 0.5
lab*ncE 0.25 0.25 j99g

relative Inform. Technology (IT)
olvi3* 0.271 0.5 0.25 (1.0)
cmyn3* 0.729 0.5 0.75 (0.0)
olvi4* 0.771 1.0 0.75 0.5
cmyn4* 0.229 0.0 0.25 0.5
standard and adapted CIELAB
LAB*LAB 45.7 −26.18 8.41
LAB*LABa 45.7 −26.23 8.4
LAB*TCHa 37.5 27.55 162.25
relative CIELAB *lab**
lab*lab 0.411 −0.237 0.076
lab*tch 0.375 0.25 0.451
lab*nch 0.5 0.25 0.451
relative Natural Colour (NC)
lab*lrj 0.411 −0.249 0.0
lab*tce 0.375 0.25 0.5
lab*ncE 0.5 0.25 j99g

relative Inform. Technology (IT)
olvi3* 0.021 0.25 0.0 (1.0)
cmyn3* 0.979 0.75 1.0 (0.0)
olvi4* 0.771 1.0 0.75 0.25
cmyn4* 0.229 0.0 0.25 0.75
standard and adapted CIELAB
LAB*LAB 24.6 −26.16 8.4
LAB*LABa 24.6 −26.23 8.38
LAB*TCHa 12.5 27.54 162.28
relative CIELAB *lab**
lab*lab 0.161 −0.237 0.076
lab*tch 0.125 0.25 0.451
lab*nch 0.75 0.25 0.451
relative Natural Colour (NC)
lab*lrj 0.161 −0.249 0.0
lab*tce 0.125 0.25 0.5
lab*ncE 0.75 0.25 g00b

relative Inform. Technology (IT)
olvi3* 0.541 1.0 0.5 (1.0)
cmyn3* 0.459 0.0 0.5 (0.0)
olvi4* 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*lrj 0.822 −0.499 0.0
lab*tce 0.75 0.5 0.5
lab*ncE 0.0 0.5 j99g

relative Inform. Technology (IT)
olvi3* 0.291 0.75 0.25 (1.0)
cmyn3* 0.709 0.25 0.75 (0.0)
olvi4* 0.541 1.0 0.5 0.75
cmyn4* 0.459 0.0 0.5 0.25
standard and adapted CIELAB
LAB*LAB 59.31 −52.42 16.8
LAB*LABa 59.31 −52.46 16.79
LAB*TCHa 50.0 55.09 162.25
relative CIELAB *lab**
lab*lab 0.572 −0.475 0.152
lab*tch 0.5 0.5 0.451
lab*nch 0.25 0.5 0.451
relative Natural Colour (NC)
lab*lrj 0.572 −0.499 0.0
lab*tce 0.5 0.5 0.5
lab*ncE 0.25 0.5 g00b

relative Inform. Technology (IT)
olvi3* 0.041 0.5 0.0 (1.0)
cmyn3* 0.959 0.5 1.0 (0.0)
olvi4* 0.541 1.0 0.5 0.5
cmyn4* 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*lrj 0.322 −0.499 0.0
lab*tce 0.25 0.5 0.5
lab*ncE 0.5 0.5 g00b

relative Inform. Technology (IT)
olvi3* 0.312 1.0 0.25 (1.0)
cmyn3* 0.688 0.0 0.75 (0.0)
olvi4* 0.312 1.0 0.25 1.0
cmyn4* 0.688 0.0 0.75 0.0
standard and adapted CIELAB
LAB*LAB 72.9 −78.66 25.19
LAB*LABa 72.9 −78.69 25.19
LAB*TCHa 62.5 82.63 162.25
relative CIELAB *lab**
lab*lab 0.733 −0.713 0.229
lab*tch 0.625 0.75 0.451
lab*nch 0.0 0.75 0.451
relative Natural Colour (NC)
lab*lrj 0.733 −0.749 0.0
lab*tce 0.625 0.75 0.5
lab*ncE 0.0 0.75 j99g

relative Inform. Technology (IT)
olvi3* 0.062 0.75 0.0 (1.0)
cmyn3* 0.938 0.25 1.0 (0.0)
olvi4* 0.312 1.0 0.25 0.75
cmyn4* 0.688 0.0 0.75 0.25
standard and adapted CIELAB
LAB*LAB 51.81 −78.65 25.19
LAB*LABa 51.81 −78.7 25.18
LAB*TCHa 37.51 82.64 162.26
relative CIELAB *lab**
lab*lab 0.483 −0.713 0.228
lab*tch 0.375 0.75 0.451
lab*nch 0.25 0.75 0.451
relative Natural Colour (NC)
lab*lrj 0.483 −0.749 0.0
lab*tce 0.375 0.75 0.5
lab*ncE 0.25 0.75 g00b

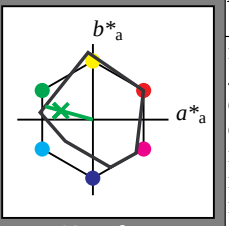
relative Inform. Technology (IT)
olvi3* 0.083 1.0 0.0 (1.0)
cmyn3* 0.917 0.0 1.0 (0.0)
olvi4* 0.083 1.0 0.0 1.0
cmyn4* 0.917 0.0 1.0 0.0
standard and adapted CIELAB
LAB*LAB 65.41 −104.89 3.58
LAB*LABa 65.41 −104.92 3.57
LAB*TCHa 50.0 110.17 162.26
relative CIELAB *lab**
lab*lab 0.645 −0.951 0.305
lab*tch 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

Ausgabe: Farbmetrisches Reflexions-System MRS18

für Buntton *h* = lab*h = 164/360 = 0.457*
lab*tch* und *lab*nch

D65: Buntton G
LCH*Ma: 56 66 164
rgb*Ma: 0.1 1.0 0.0

Dreiecks-Helligkeit *t**



%Umfang

u^*_{rel} = 91

MRS18; adaptierte CIELAB-Daten

	$L^*=L^*_a$	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

%Regularität

$g^*_{H,rel}$ = 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* 0.0 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* 0.776 1.0 0.75 (1.0)
cmyn3* 0.224 0.0 0.25 (0.0)
olvi4* 0.776 1.0 0.75 1.0
cmyn4* 0.224 0.0 0.25 0.0
standard and adapted CIELAB
LAB*LAB 85.57 −16.58 8.49
LAB*LABa 85.57 −15.79 4.4
LAB*TCHa 87.5 16.4 164.45
relative CIELAB *lab**
lab*lab 0.873 −0.24 0.067
lab*tch 0.875 0.25 0.457
lab*nch 0.0 0.25 0.457
relative Natural Colour (NC)
lab*lrj 0.873 −0.249 0.0
lab*tce 0.875 0.25 0.5
lab*ncE 0.0 0.25 j99g

relative Inform. Technology (IT)
olvi3* 0.526 0.75 0.5 (1.0)
cmyn3* 0.474 0.25 0.5 (0.0)
olvi4* 0.776 1.0 0.75 0.75
cmyn4* 0.224 0.0 0.25 0.25
standard and adapted CIELAB
LAB*LAB 66.22 −16.22 7.19
LAB*LABa 66.22 −15.8 4.4
LAB*TCHa 62.5 16.41 164.46
relative CIELAB *lab**
lab*lab 0.623 −0.24 0.067
lab*tch 0.625 0.25 0.457
lab*nch 0.25 0.25 0.457
relative Natural Colour (NC)
lab*lrj 0.623 −0.249 0.0
lab*tce 0.625 0.25 0.5
lab*ncE 0.25 0.25 j99g

relative Inform. Technology (IT)
olvi3* 0.276 0.5 0.25 (1.0)
cmyn3* 0.724 0.5 0.75 (0.0)
olvi4* 0.776 1.0 0.75 0.5
cmyn4* 0.224 0.0 0.25 0.5
standard and adapted CIELAB
LAB*LAB 46.07 15.85 5.88
LAB*LABa 46.87 −15.8 4.4
LAB*TCHa 37.5 16.41 164.46
relative CIELAB *lab**
lab*lab 0.373 −0.24 0.067
lab*tch 0.375 0.25 0.457
lab*nch 0.5 0.25 0.457
relative Natural Colour (NC)
lab*lrj 0.373 −0.249 0.0
lab*tce 0.375 0.25 0.5
lab*ncE 0.5 0.25 j99g

relative Inform. Technology (IT)
olvi3* 0.026 0.25 0.0 (1.0)
cmyn3* 0.974 0.75 1.0 (0.0)
olvi4* 0.776 1.0 0.75 0.25
cmyn4* 0.224 0.0 0.25 0.75
standard and adapted CIELAB
LAB*LAB 27.52 −15.48 4.57
LAB*LABa 27.52 −15.8 4.39
LAB*TCHa 12.5 16.4 164.49
relative CIELAB *lab**
lab*lab 0.123 −0.24 0.067
lab*tch 0.125 0.25 0.457
lab*nch 0.75 0.25 0.457
relative Natural Colour (NC)
lab*lrj 0.123 −0.249 0.0
lab*tce 0.125 0.25 0.5
lab*ncE 0.75 0.25 g00b

relative Inform. Technology (IT)
olvi3* 0.551 1.0 0.5 (1.0)
cmyn3* 0.449 0.0 0.5 (0.0)
olvi4* 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*lrj 0.746 −0.499 0.0
lab*tce 0.75 0.5 0.5
lab*ncE 0.0 0.5 j99g

relative Inform. Technology (IT)
olvi3* 0.301 0.75 0.25 (1.0)
cmyn3* 0.699 0.25 0.75 (0.0)
olvi4* 0.551 1.0 0.5 0.75
cmyn4* 0.449 0.0 0.5 0.25
standard and adapted CIELAB
LAB*LAB 56.39 −31.84 10.92
LAB*LABa 56.39 −31.61 8.79
LAB*TCHa 50.0 32.81 164.46
relative CIELAB *lab**
lab*lab 0.496 −0.481 0.134
lab*tch 0.5 0.5 0.457
lab*nch 0.25 0.5 0.457
relative Natural Colour (NC)
lab*lrj 0.496 −0.499 0.0
lab*tce 0.5 0.5 0.5
lab*ncE 0.25 0.5 j100g

relative Inform. Technology (IT)
olvi3* 0.051 0.5 0.0 (1.0)
cmyn3* 0.949 0.5 1.0 (0.0)
olvi4* 0.551 1.0 0.5 0.5
cmyn4* 0.449 0.0 0.5 0.5
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*lrj 0.246 −0.499 0.0
lab*tce 0.25 0.5 0.5
lab*ncE 0.5 0.5 g00b

relative Inform. Technology (IT)
olvi3* 0.327 1.0 0.25 (1.0)
cmyn3* 0.673 0.0 0.75 (0.0)
olvi4* 0.327 1.0 0.25 1.0
cmyn4* 0.673 0.0 0.75 0.0
standard and adapted CIELAB
LAB*LAB 65.9 −47.82 15.96
LAB*LABa 65.9 −47.41 13.19
LAB*TCHa 62.5 49.22 164.46
relative CIELAB *lab**
lab*lab 0.619 −0.721 0.201
lab*tch 0.625 0.75 0.457
lab*nch 0.0 0.75 0.457
relative Natural Colour (NC)
lab*lrj 0.619 −0.749 0.0
lab*tce 0.625 0.75 0.5
lab*ncE 0.0 0.75 j99g

relative Inform. Technology (IT)
olvi3* 0.077 0.75 0.0 (1.0)
cmyn3* 0.923 0.25 1.0 (0.0)
olvi4* 0.327 1.0 0.25 0.75
cmyn4* 0.673 0.0 0.75 0.25
standard and adapted CIELAB
LAB*LAB 46.55 −47.46 14.64
LAB*LABa 46.55 −47.41 13.18
LAB*TCHa 37.51 49.22 164.47
relative CIELAB *lab**
lab*lab 0.369 −0.722 0.201
lab*tch 0.375 0.75 0.457
lab*nch 0.25 0.75 0.457
relative Natural Colour (NC)
lab*lrj 0.369 −0.749 0.0
lab*tce 0.375 0.75 0.5
lab*ncE 0.25 0.75 g00b

relative Inform. Technology (IT)
olvi3* 0.103 1.0 0.0 (1.0)
cmyn3* 0.897 0.0 1.0 (0.0)
olvi4* 0.103 1.0 0.0 1.0
cmyn4* 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*lrj 0.492 −0.999 0.0
lab*tce 0.5 1.0 0.5
lab*ncE 0.0 1.0 g00b

UG580−7, 5 stufige Reihen für konstanten CIELAB Buntton 162/360 = 0.451 (links)

5 stufige Reihen für konstanten CIELAB Buntton 164/360 = 0.457 (rechts)

BAM-Prüfvorlage UG58; Farbmetrik-Systeme ORS18 & ORS18 D65: 2 Koordinaten-Daten von 5stufigen Farbreihen für 10 Bunttöne

input: *cmy0* setcmykcolor*
output: *Startup (S) data dependend*

BAM-Registrierung: 20060101-UG58/10Q/Q58G09SP.PS/.PDF BAM-Material: Code=rha4ta
Anwendung für Beurteilung und Messung von Drucker– oder Monitorsystemen
/UG58/ Form: 10/10Serie: 1/1, Seite: 10 Sattelpunkt: 10

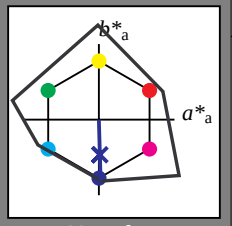
Siehe ähnliche Dateien: http://www.ps.bam.de/UG58/
Technische Information: http://www.ps.bam.de Version 2.1, io=0,0?

Eingabe: Farbmetrisches Reflexions-System NCS11

für Buntton $h^* = lab^*h = 272/360 = 0.755$
lab^*tch und lab^*nch

D65: Buntton B
LCH*Ma: 49 80 272
rgb*Ma: 0.0 0.02 1.0

Dreiecks-Helligkeit t^*



%Umfang
u^*_{rel} = 149

NCS11; adaptierte CIELAB-Daten

	$L^*=L^*_a$	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

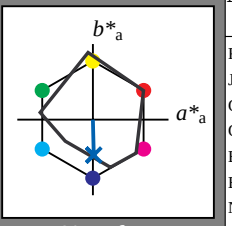
%Regularität
$g^*_{H,rel}$ = 46
$g^*_{C,rel}$ = 65

Ausgabe: Farbmetrisches Reflexions-System MRS18

für Buntton $h^* = lab^*h = 271/360 = 0.754$
lab^*tch und lab^*nch

D65: Buntton B
LCH*Ma: 40 50 271
rgb*Ma: 0.0 0.37 1.0

Dreiecks-Helligkeit t^*

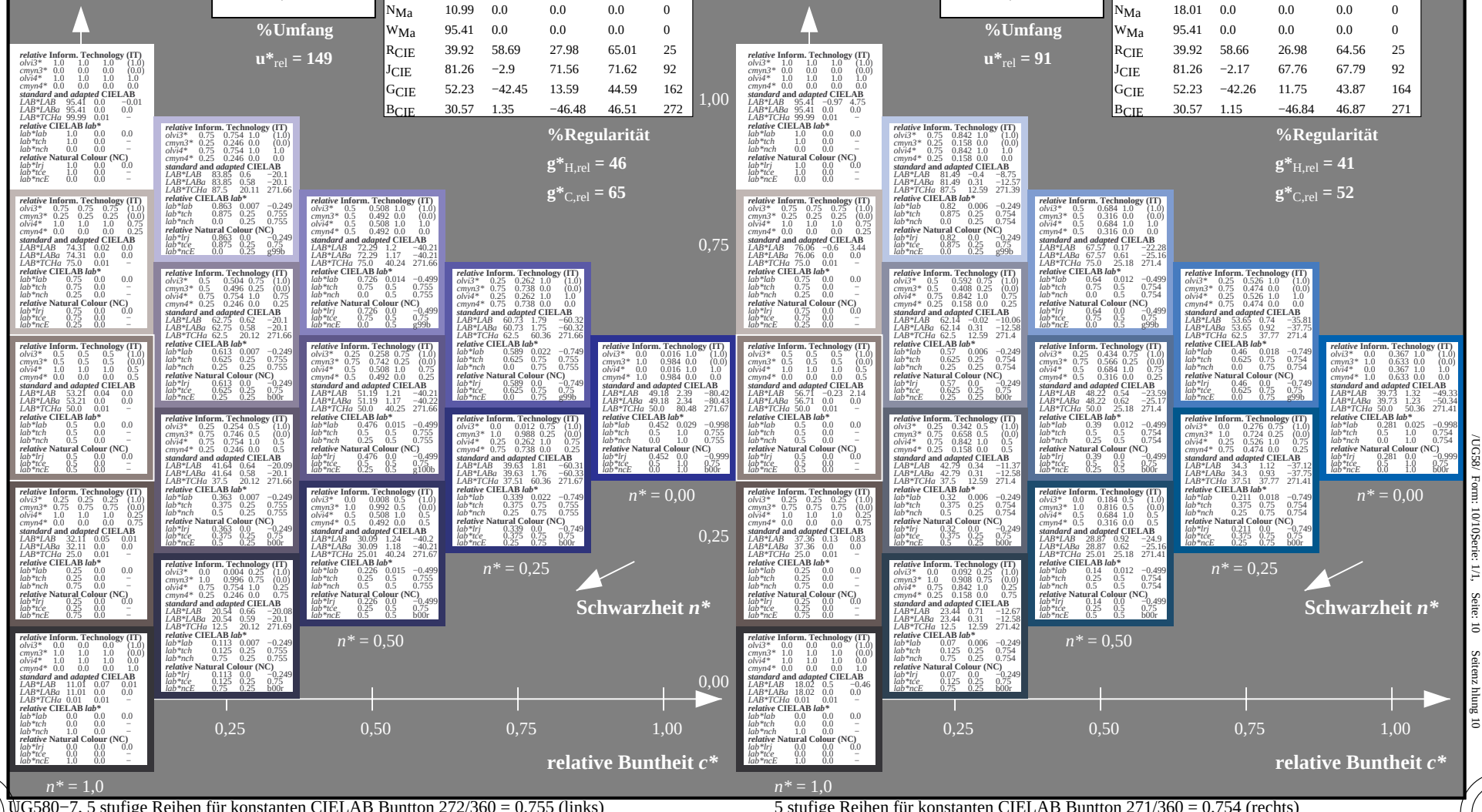


%Umfang
u^*_{rel} = 91

MRS18; adaptierte CIELAB-Daten

	$L^*=L^*_a$	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

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



UG580−7, 5 stufige Reihen für konstanten CIELAB Buntton 272/360 = 0.755 (links)
5 stufige Reihen für konstanten CIELAB Buntton 271/360 = 0.754 (rechts)

BAM-Prüfvorlage UG58; Farbmetrik-Systeme ORS18 & ORS18 input: *cmy0* setcmykcolor*
D65: 2 Koordinaten-Daten von 5stufigen Farbreihen für 10 Buntton output: *Startup (S) data dependend*