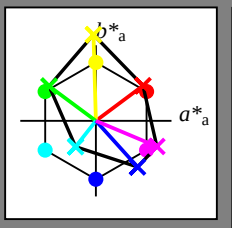
PE89S0P

Input and Output: Printer Reflective System FRS06a

Data for any device (d) or elementary (e) colour:
HIC*–
hue text for the colours of this page:
***H*–* = R00Y–, R25Y–, ..., B75R–**

ORS20a; adapted (a) CIELAB data

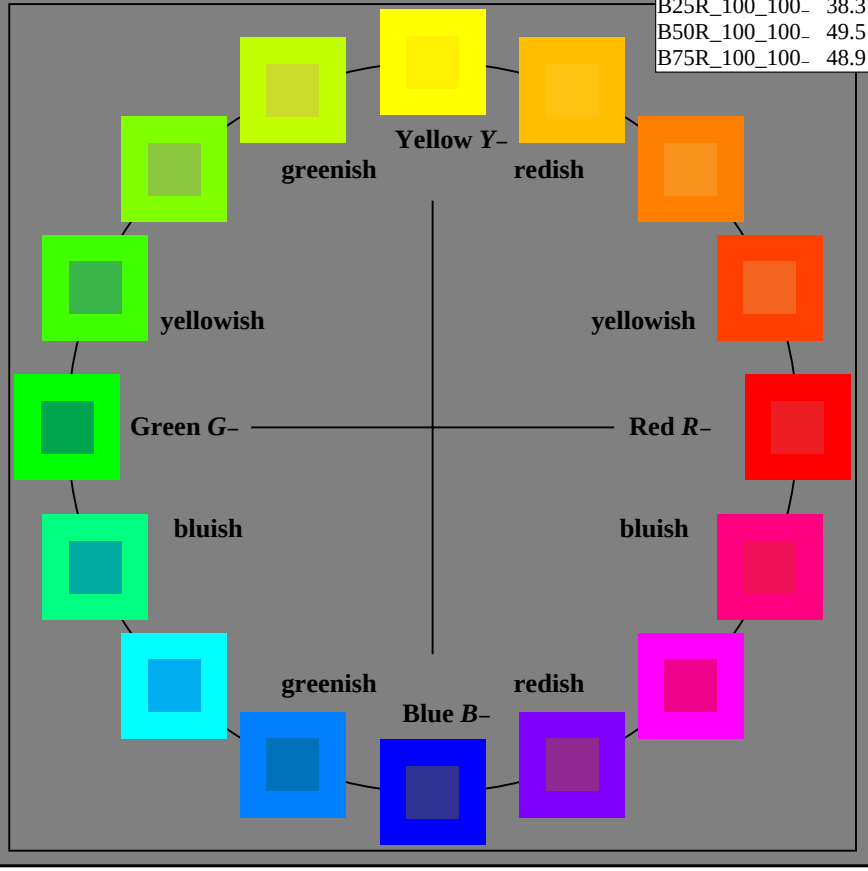
H–*	*L*=L*a*	*a*a*	*b*a*	*C*ab,a*	*h*ab,a*
R00Y_100_100–	48.4	66.1	40.2	77.3	31
R25Y_100_100–	56.8	48.0	50.5	69.6	46
R50Y_100_100–	68.6	25.0	63.9	68.6	68
R75Y_100_100–	80.6	4.8	77.2	77.3	86
Y00G_100_100–	90.2	−9.6	88.2	88.7	96
Y25G_100_100–	83.2	−18.4	79.9	81.9	102
Y50G_100_100–	73.3	−31.7	62.7	70.2	116
Y75G_100_100–	62.0	−49.7	43.2	65.8	139
G00B_100_100–	55.8	−65.2	33.8	73.4	152
G25B_100_100–	59.3	−50.3	−9.0	51.0	190
G50B_100_100–	63.0	−30.5	−42.0	51.9	234
G75B_100_100–	45.7	−5.7	−44.6	44.9	262
B00R_100_100–	27.5	25.9	−47.3	53.9	298
B25R_100_100–	38.3	52.6	−28.5	59.8	331
B50R_100_100–	49.5	73.5	−9.0	74.0	353
B75R_100_100–	48.9	69.3	12.9	70.4	10

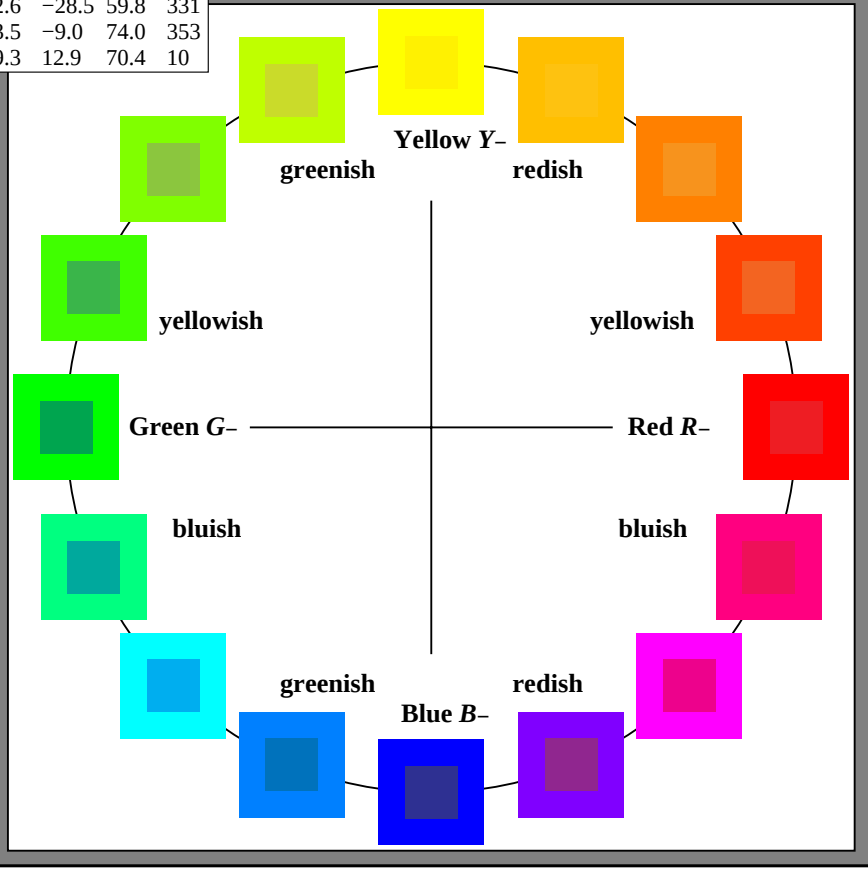


%Gamut
u*rel = 114
%Regularity
g*H,rel = 28
g*C,rel = 38

FRS06a; adapted (a) CIELAB data

name	*L*=L*a*	*a*a*	*b*a*	*C*ab,a*	*h*ab,a*
R–,Ma	32.5	62.3	46.4	77.7	36
Y–,Ma	82.7	−3.1	113.9	114.0	91
G–,Ma	39.4	−61.8	45.8	76.9	143
C–,Ma	47.8	−26.8	−34.2	43.4	231
B–,Ma	10.1	55.1	−61.0	82.2	312
M–,Ma	34.5	80.6	−33.9	87.5	337
N–,Ma	6.2	0.0	0.0	0.0	0
W–,Ma	91.9	0.0	0.0	0.0	0
R–,CIE	39.9	58.7	27.9	65.0	25
Y–,CIE	81.2	−2.8	71.5	71.6	92
G–,CIE	52.2	−42.4	13.6	44.5	162
B–,CIE	30.5	1.4	−46.4	46.4	271





see similar files: http://130.149.60.45/~farbmetrik/PE89/PE89.HTM
technical information: http://www.ps.bam.de or http://130.149.60.45/~farbmetrik

TUB registration: 20150701-PE89/PE89L0NP.PDF /.PS
application for measurement of laser printer output

TUB material: code=rha4ta

1−003030−L0 PE890−7N

TUB-test chart PE89; 16 step hue circle
Test chart according to DIN 33872, 3D=0, de=0, *cmyk*

input: *rgb/cmyk* −> *rgb/cmyk*
output: no change

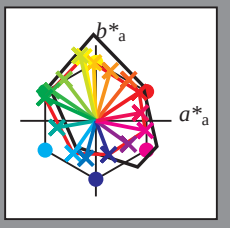
PE8900P

Input and Output: Printer Reflective System FRS06a

Data for any device (d) or elementary (e) colour:
HIC**d
hue text for the colours of this page:
***H**d = R00Yd, R25Yd, ..., B75Rd**

LRS18a; adapted (a) CIELAB data

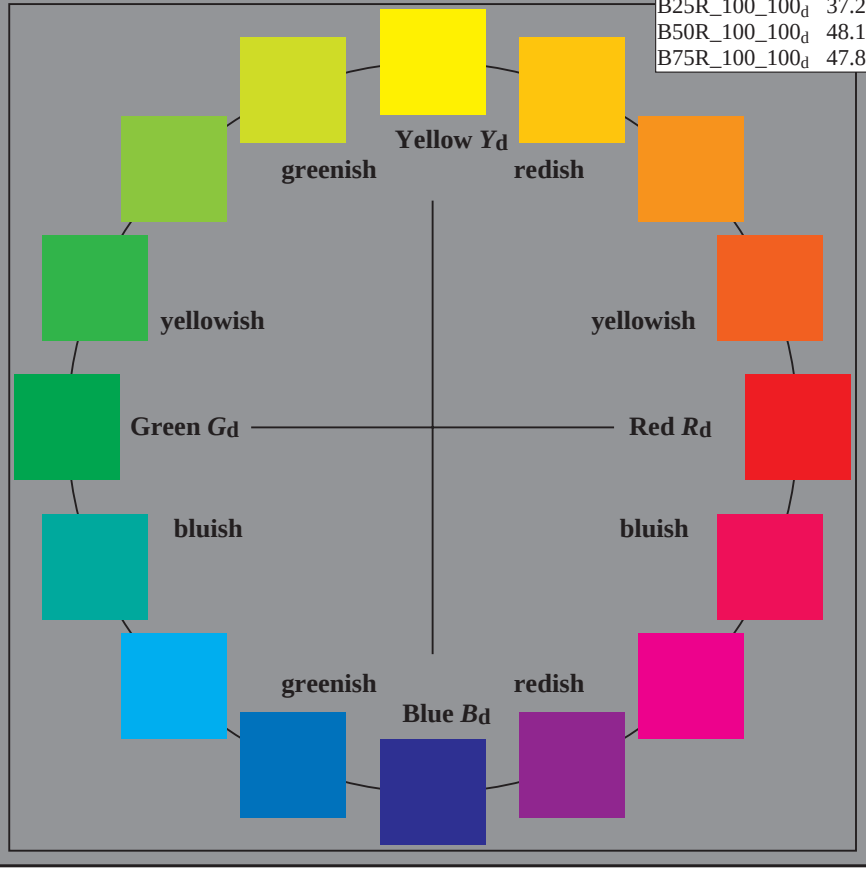
H^*_d	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R00Y_100_100d	47.5	57.2	37.8	68.6	33
R25Y_100_100d	57.4	43.5	54.5	69.7	51
R50Y_100_100d	70.5	19.2	66.2	69.0	73
R75Y_100_100d	83.5	−2.9	76.8	76.9	92
Y00G_100_100d	91.5	−15.8	84.6	86.1	100
Y25G_100_100d	90.4	−20.9	86.5	89.0	103
Y50G_100_100d	70.9	−41.7	54.8	68.9	127
Y75G_100_100d	60.1	−57.9	39.6	70.2	145
G00B_100_100d	54.3	−67.6	30.8	74.3	155
G25B_100_100d	55.0	−51.4	−8.9	52.2	189
G50B_100_100d	53.1	−30.0	−43.1	52.5	235
G75B_100_100d	46.1	−13.3	−49.4	51.1	254
B00R_100_100d	32.5	16.9	−44.6	47.7	290
B25R_100_100d	37.2	43.1	−30.8	53.0	324
B50R_100_100d	48.1	65.4	−12.7	66.6	348
B75R_100_100d	47.8	58.9	10.4	59.9	10

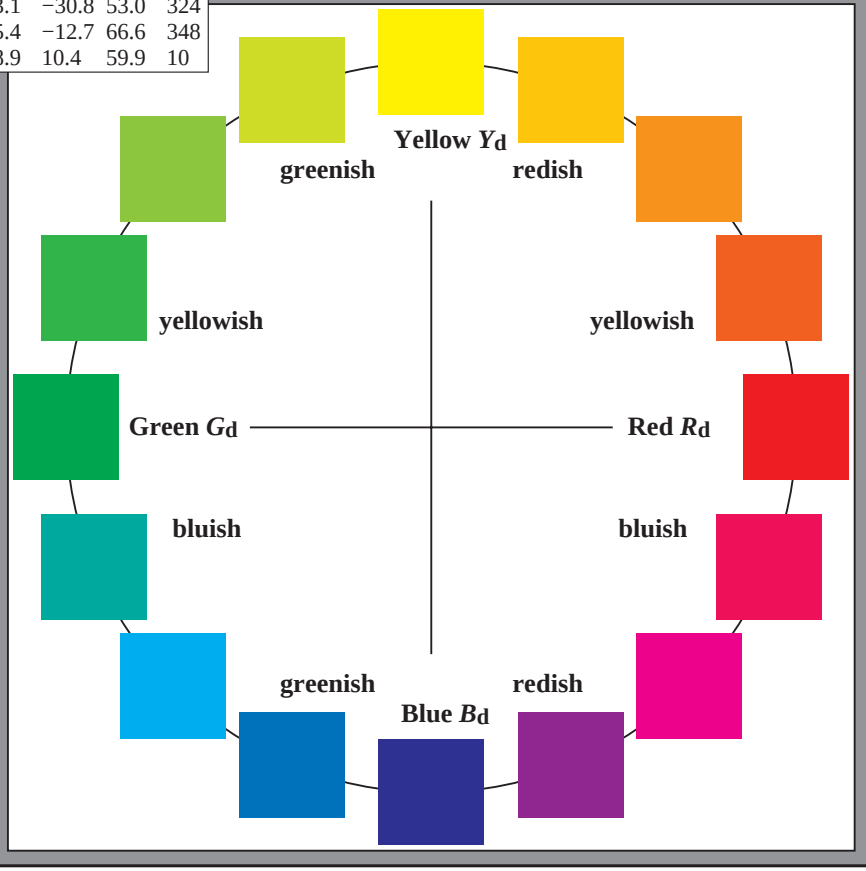


%Gamut
u^*_{rel} = 114
%Regularity
$g^*_{H,rel}$ = 28
$g^*_{C,rel}$ = 38

LRS18a; adapted (a) CIELAB data

name	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
$R_{d,Ma}$	47.5	57.2	37.8	68.6	33
$Y_{d,Ma}$	91.5	−15.8	84.6	86.1	100
$G_{d,Ma}$	54.3	−67.6	30.8	74.3	155
$C_{d,Ma}$	53.1	−30.0	−43.1	52.5	235
$B_{d,Ma}$	32.5	16.9	−44.6	47.7	290
$M_{d,Ma}$	48.1	65.4	−12.7	66.6	348
$N_{d,Ma}$	23.8	0.0	0.0	0.0	0
$W_{d,Ma}$	95.8	0.0	0.0	0.0	0
$R_{d,CIE}$	39.9	58.7	27.9	65.0	25
$Y_{d,CIE}$	81.2	−2.8	71.5	71.6	92
$G_{d,CIE}$	52.2	−42.4	13.6	44.5	162
$B_{d,CIE}$	30.5	1.4	−46.4	46.4	271



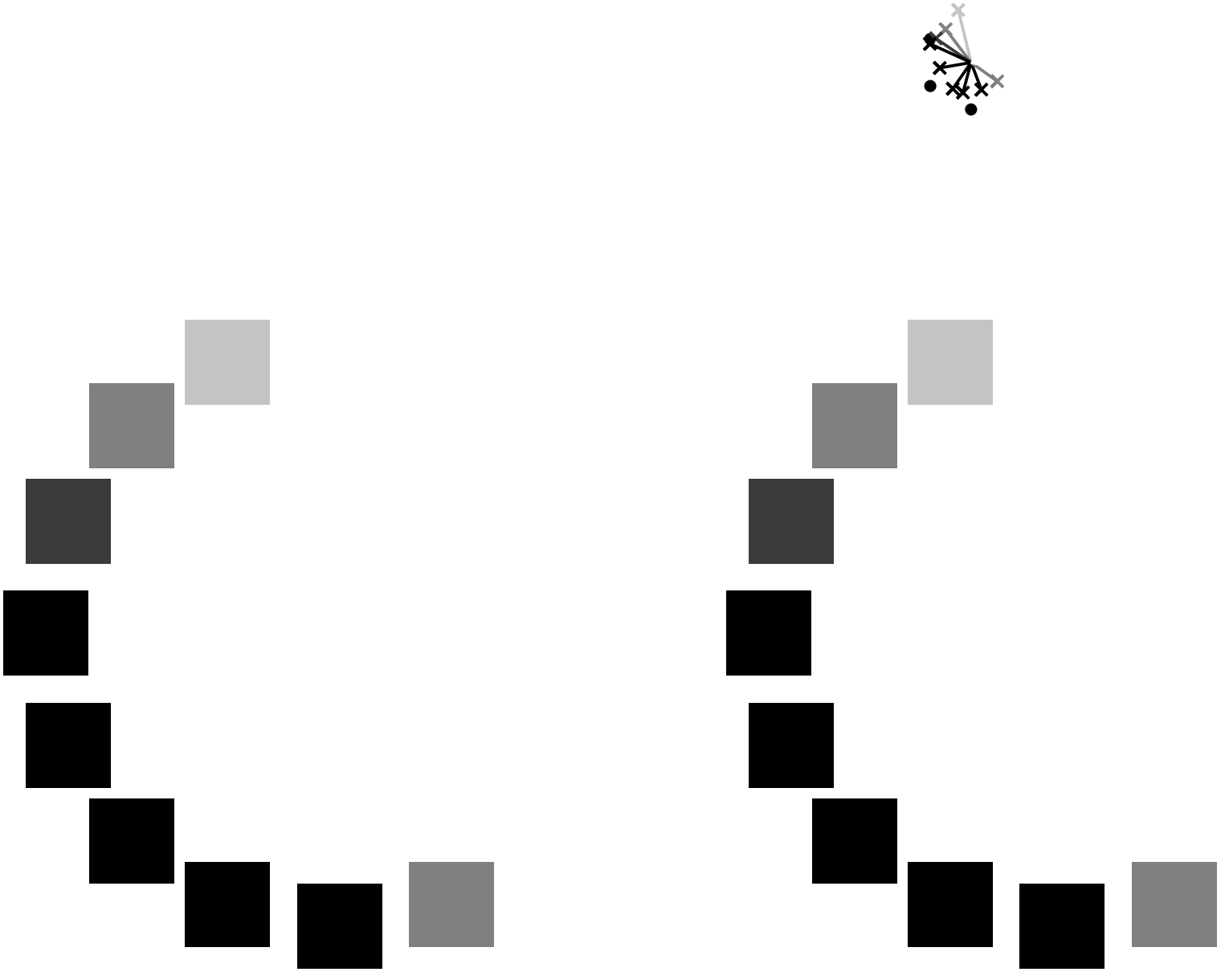


see similar files: http://130.149.60.45/~farbmetrik/PE89/PE89.HTM
technical information: http://www.ps.bam.de or http://130.149.60.45/~farbmetrik

TUB registration: 20150701-PE89/PE89L0NP.PDF /.PS
application for measurement of laser printer output, separation cmyn6 (CMYK)
TUB material: code=rha4ta

see similar files: http://130.149.60.45/~farbmetrik/PE89/PE89.HTM
technical information: http://www.ps.bam.de or http://130.149.60.45/~farbmetrik

TUB registration: 20150701-PE89/PE89L0NP.PDF /.PS
application for measurement of laser printer output, separation cmyn6 (CMYK)
TUB material: code=rha4ta



1−003230−L0 PE890−70

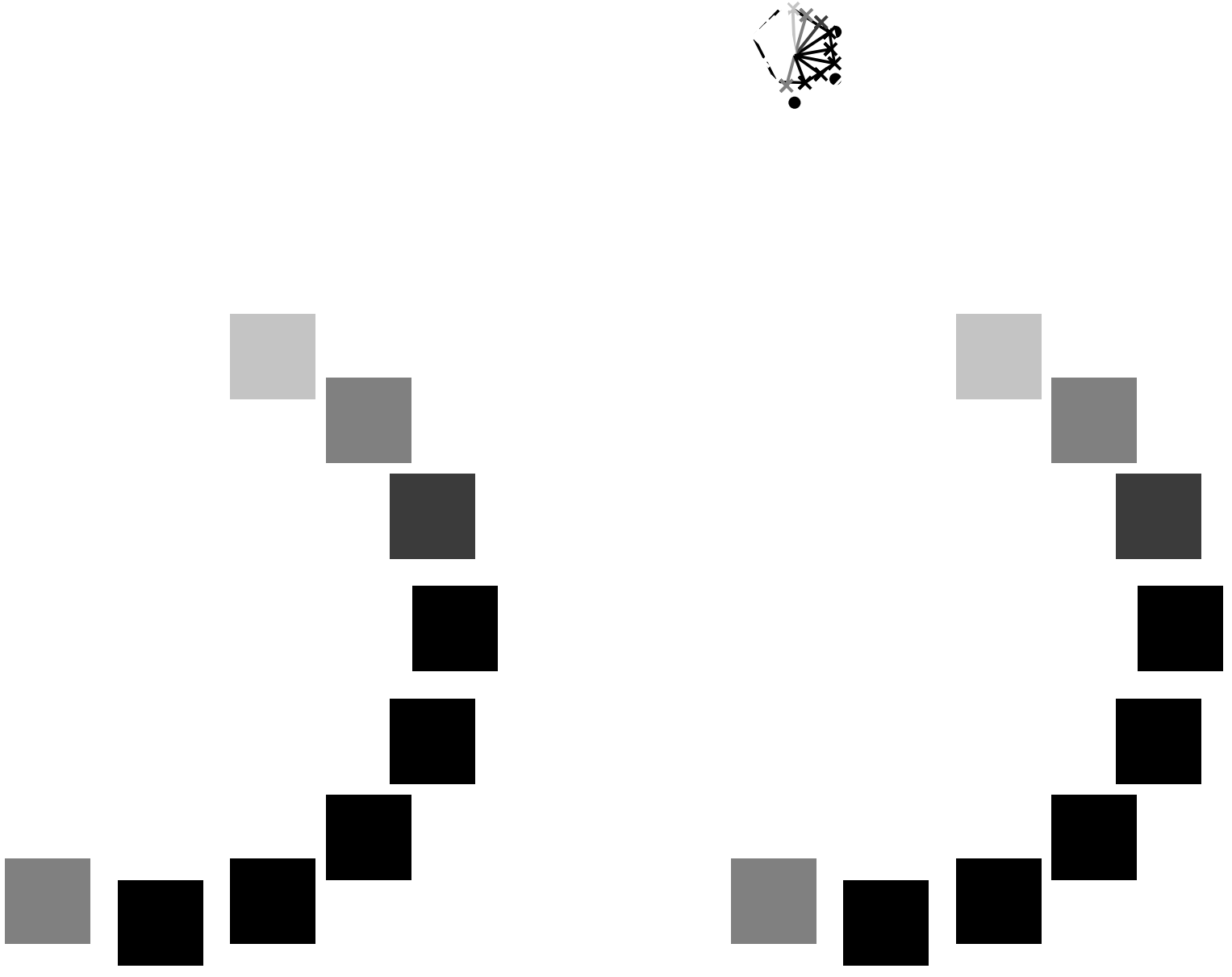
TUB-test chart PE89; 16 step hue circle
Test chart according to DIN 33872, 3D=0, de=0, *cmyk*

input: *rgb/cmyk* −> rgb_d
output: transfer to $cmyk_d$

1−003230−F0

see similar files: http://130.149.60.45/~farbmetrik/PE89/PE89.HTM
technical information: http://www.ps.bam.de or http://130.149.60.45/~farbmetrik

TUB registration: 20150701-PE89/PE89L0NP.PDF /.PS
application for measurement of laser printer output, separation cmyn6 (CMYK)
TUB material: code=rha4ta



1−003330−L0 PE890−70

TUB-test chart PE89; 16 step hue circle
Test chart according to DIN 33872, 3D=0, de=0, *cmyk*

input: *rgb/cmyk* −> rgb_d
output: transfer to $cmyk_d$

1−003330−F0

see similar files: http://130.149.60.45/~farbmetrik/PE89/PE89.HTM
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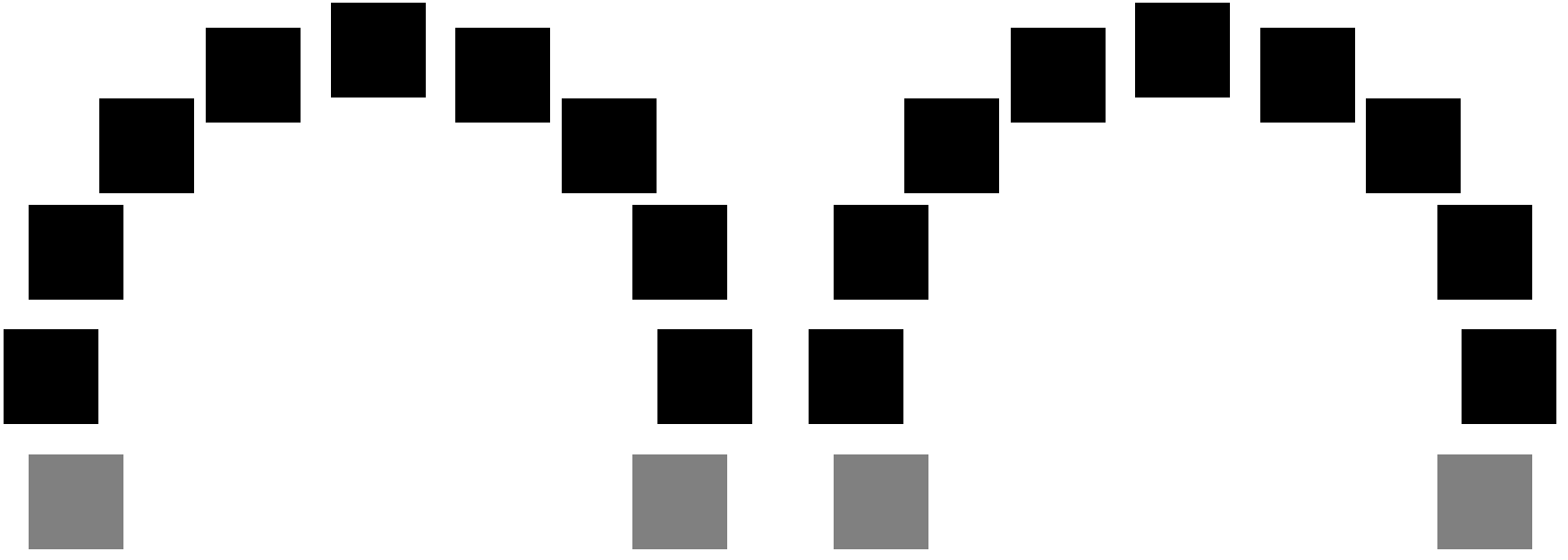
TUB registration: 20150701-PE89/PE89L0NP.PDF /.PS
application for measurement of laser printer output, separation cmyn6 (CMYK)

TUB material: code=rha4ta

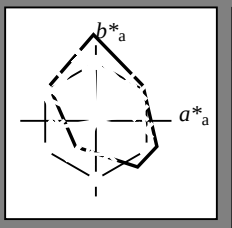


Input and Output: Printer Reflective System FRS06a

Data for any device (d) or elementary (e) colour:
HIC**d
hue text for the colours of this page:
***H**d = R00Y$_d$, R25Y$_d$, ..., B75R$_d$**

LRS18a; adapted (a) CIELAB data

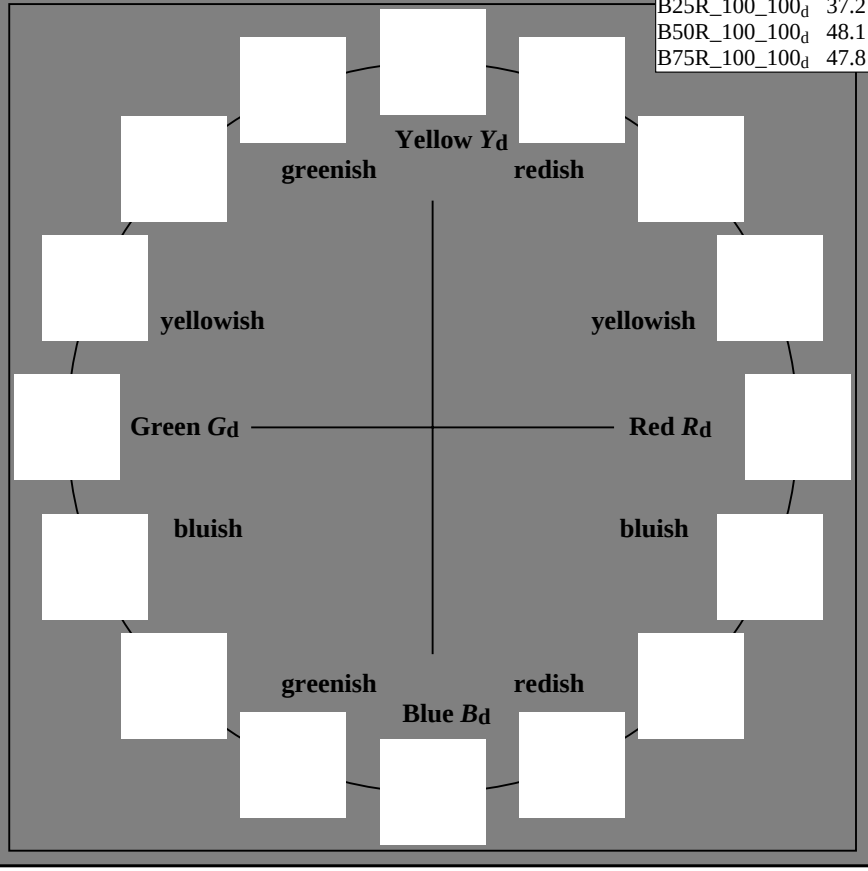
H^*_d	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R00Y_100_100$_d$	47.5	57.2	37.8	68.6	33
R25Y_100_100$_d$	57.4	43.5	54.5	69.7	51
R50Y_100_100$_d$	70.5	19.2	66.2	69.0	73
R75Y_100_100$_d$	83.5	−2.9	76.8	76.9	92
Y00G_100_100$_d$	91.5	−15.8	84.6	86.1	100
Y25G_100_100$_d$	90.4	−20.9	86.5	89.0	103
Y50G_100_100$_d$	70.9	−41.7	54.8	68.9	127
Y75G_100_100$_d$	60.1	−57.9	39.6	70.2	145
G00B_100_100$_d$	54.3	−67.6	30.8	74.3	155
G25B_100_100$_d$	55.0	−51.4	−8.9	52.2	189
G50B_100_100$_d$	53.1	−30.0	−43.1	52.5	235
G75B_100_100$_d$	46.1	−13.3	−49.4	51.1	254
B00R_100_100$_d$	32.5	16.9	−44.6	47.7	290
B25R_100_100$_d$	37.2	43.1	−30.8	53.0	324
B50R_100_100$_d$	48.1	65.4	−12.7	66.6	348
B75R_100_100$_d$	47.8	58.9	10.4	59.9	10

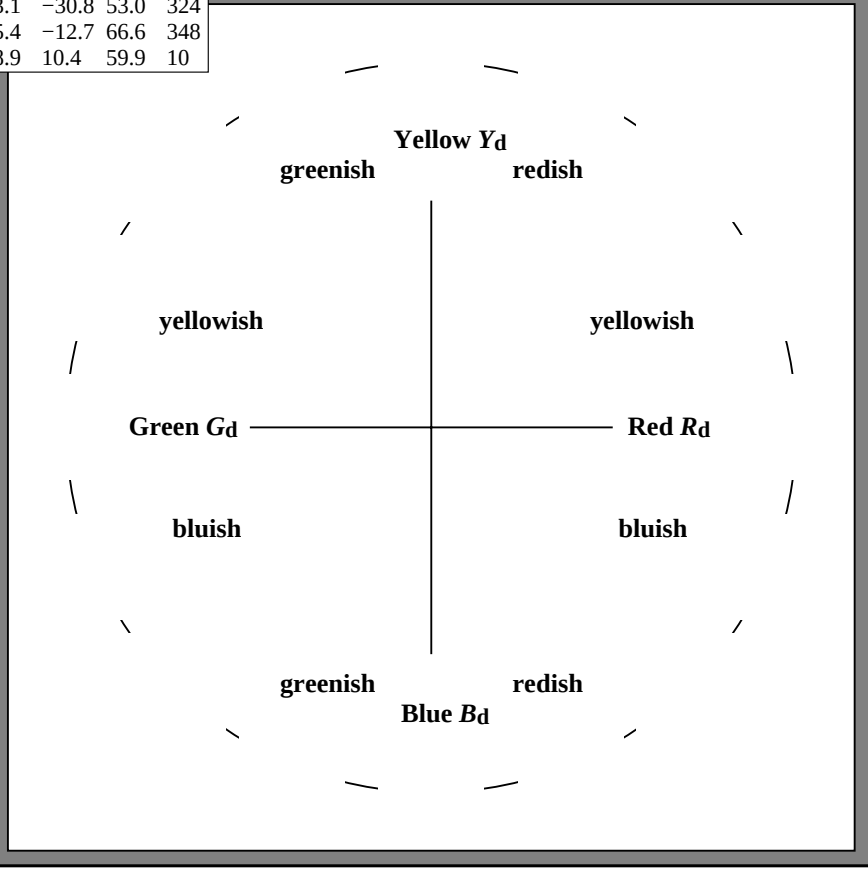


%Gamut
u*rel = 114
%Regularity
g*H,rel = 28
g*C,rel = 38

LRS18a; adapted (a) CIELAB data

name	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R$_{d,Ma}$	47.5	57.2	37.8	68.6	33
Y$_{d,Ma}$	91.5	−15.8	84.6	86.1	100
G$_{d,Ma}$	54.3	−67.6	30.8	74.3	155
C$_{d,Ma}$	53.1	−30.0	−43.1	52.5	235
B$_{d,Ma}$	32.5	16.9	−44.6	47.7	290
M$_{d,Ma}$	48.1	65.4	−12.7	66.6	348
N$_{d,Ma}$	23.8	0.0	0.0	0.0	0
W$_{d,Ma}$	95.8	0.0	0.0	0.0	0
R$_{d,CIE}$	39.9	58.7	27.9	65.0	25
Y$_{d,CIE}$	81.2	−2.8	71.5	71.6	92
G$_{d,CIE}$	52.2	−42.4	13.6	44.5	162
B$_{d,CIE}$	30.5	1.4	−46.4	46.4	271





see similar files: http://130.149.60.45/~farbmetrik/PE89/PE89.HTM
technical information: http://www.ps.bam.de or http://130.149.60.45/~farbmetrik

TUB registration: 20150701-PE89/PE89L0NP.PDF /.PS
application for measurement of laser printer output, separation cmyn6 (CMYK)

TUB material: code=rha4ta

1−003530−L0 PE890−70

TUB-test chart PE89; 16 step hue circle
Test chart according to DIN 33872, 3D=0, de=0, *cmyk*

input: *rgb/cmyk* −> *rgb*$_d$
output: transfer to *cmyk*$_d$

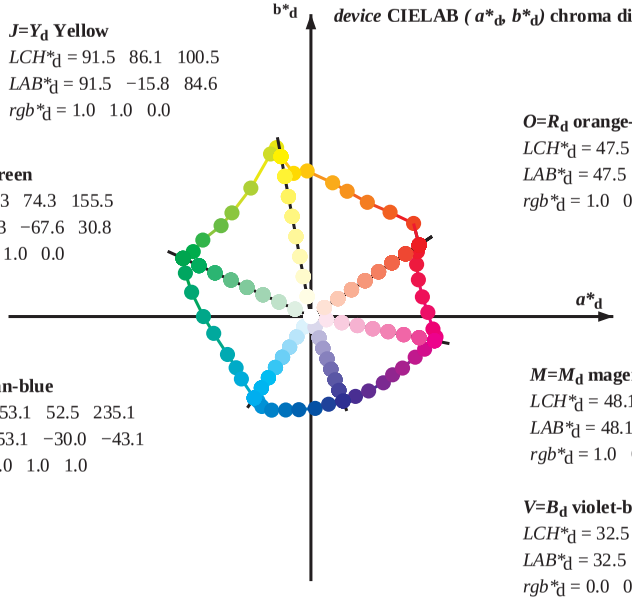
1−003530−F0

see similar files: http://130.149.60.45/~farbmetrik/PE89/PE89.HTM
technical information: http://www.ps.bam.de or http://130.149.60.45/~farbmetrik

TUB registration: 20150701-PE89/PE89L0NP.PDF /.PS
application for measurement of laser printer output, separation cmyn6 (CMYK)
TUB material: code=rha4ta

Data of Maximum color M in colorimetric system Laser printer output; separation cmyn6*, D65 for input or output; Six hue angles of the 60 degree standard colours *RYGCBM*$_s$: $h_{ab,ds}$ = 30.0, 90.0, 150.0, 210.0, 270.0, 330.0; Six hue angles of the device colours *RYGCBM*$_d$: $h_{ab,d}$ = 33.5, 100.6, 155.5, 235.2, 290.8, 348.9; Six hue angles of the elementary colours *RYGCBM*$_e$: $h_{ab,e}$ = 25.5, 92.3, 162.2, 217.0, 271.7, 328.6

device CIELAB (a^*_d, b^*_d) chroma diagram



J=Y_d Yellow
LCH^*_d = 91.5 86.1 100.5
LAB^*_d = 91.5 −15.8 84.6
rgb^*_d = 1.0 1.0 0.0

O=R_d orange-red
LCH^*_d = 47.5 68.6 33.4
LAB^*_d = 47.5 57.2 37.8
rgb^*_d = 1.0 0.0 0.0

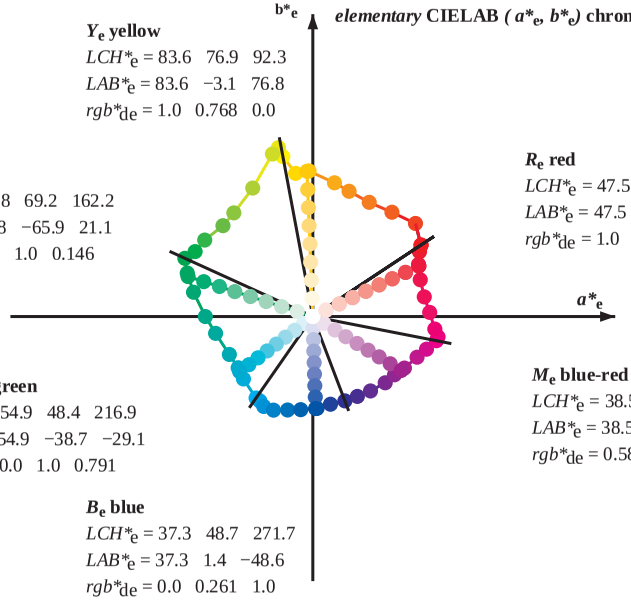
L=G_d leaf-green
LCH^*_d = 54.3 74.3 155.5
LAB^*_d = 54.3 −67.6 30.8
rgb^*_d = 0.0 1.0 0.0

C=C_d cyan-blue
LCH^*_d = 53.1 52.5 235.1
LAB^*_d = 53.1 −30.0 −43.1
rgb^*_d = 0.0 1.0 1.0

M=M_d magenta-red
LCH^*_d = 48.1 66.6 348.9
LAB^*_d = 48.1 65.4 −12.7
rgb^*_d = 1.0 0.0 1.0

V=B_d violet-blue
LCH^*_d = 32.5 47.7 290.8
LAB^*_d = 32.5 16.9 −44.6
rgb^*_d = 0.0 0.0 1.0

elementary CIELAB (a^*_e, b^*_e) chroma diagram



Y_e yellow
LCH^*_e = 83.6 76.9 92.3
LAB^*_e = 83.6 −3.1 76.8
rgb^*_{de} = 1.0 0.768 0.0

R_e red
LCH^*_e = 47.5 62.1 25.4
LAB^*_e = 47.5 56.0 26.7
rgb^*_{de} = 1.0 0.0 0.263

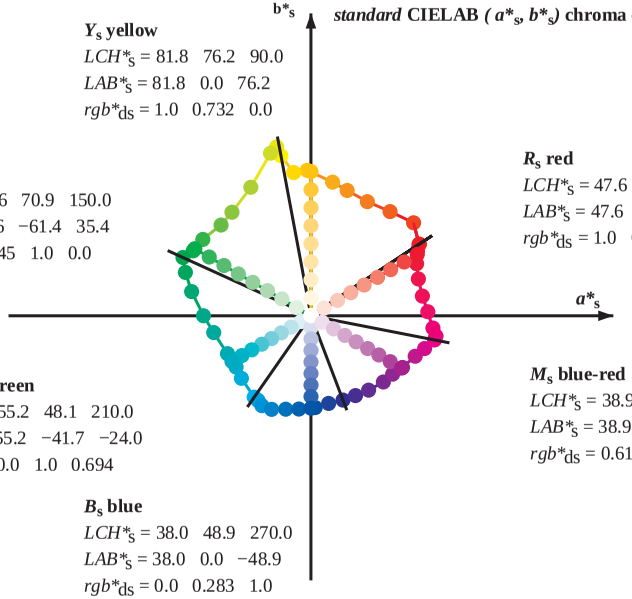
G_e green
LCH^*_e = 53.8 69.2 162.2
LAB^*_e = 53.8 −65.9 21.1
rgb^*_{de} = 0.0 1.0 0.146

C_e blue-green
LCH^*_e = 54.9 48.4 216.9
LAB^*_e = 54.9 −38.7 −29.1
rgb^*_{de} = 0.0 1.0 0.791

M_e blue-red
LCH^*_e = 38.5 54.7 328.6
LAB^*_e = 38.5 46.7 −28.5
rgb^*_{de} = 0.584 0.0 1.0

B_e blue
LCH^*_e = 37.3 48.7 271.7
LAB^*_e = 37.3 1.4 −48.6
rgb^*_{de} = 0.0 0.261 1.0

standard CIELAB (a^*_s, b^*_s) chroma diagram



Y_s yellow
LCH^*_s = 81.8 76.2 90.0
LAB^*_s = 81.8 0.0 76.2
rgb^*_{ds} = 1.0 0.732 0.0

R_s red
LCH^*_s = 47.6 65.0 30.0
LAB^*_s = 47.6 56.3 32.5
rgb^*_{ds} = 1.0 0.0 0.157

G_s green
LCH^*_s = 57.6 70.9 150.0
LAB^*_s = 57.6 −61.4 35.4
rgb^*_{ds} = 0.145 1.0 0.0

C_s blue-green
LCH^*_s = 55.2 48.1 210.0
LAB^*_s = 55.2 −41.7 −24.0
rgb^*_{ds} = 0.0 1.0 0.694

M_s blue-red
LCH^*_s = 38.9 55.3 330.0
LAB^*_s = 38.9 47.9 −27.6
rgb^*_{ds} = 0.612 0.0 1.0

B_s blue
LCH^*_s = 38.0 48.9 270.0
LAB^*_s = 38.0 0.0 −48.9
rgb^*_{ds} = 0.0 0.283 1.0

Notes to the CIELAB chroma diagrams (a^*_d, b^*_d), (a^*_s, b^*_s), (a^*_e, b^*_e)

1. For the rgb^*_d-input values the CIELAB data LCH^*_d and LAB^*_d have been calculated.
2. For the calculation of the standard hue angle $h_{ab,s}$ use for any device values rgb^*_d the equation:

$$h_{ab,s} = atan\ [\ r^*_d\ cos(30) + g^*_d\ cos(150)\ ]\ /\ [\ r^*_d\ sin(30) + g^*_d\ sin(150) + b^*_d\ sin(270)\ ] \quad (1)$$

3. For the 48 or 360 equally spaced standard hue angles $h_{ab,s}$ of the colours of maximum chroma use the seven hue angles of the 60 degree colours *s*: $h_{ab,si}$ = 30.0, 90.0, 150.0, 210.0, 270.0, 330.0, 390.0 (i=0,6) and the equations for a 48 and 360 step hue circle:

$$h_{48ab,sij} = h_{ab,si} + j\ [h_{ab,si+1} - h_{ab,si}\ ]\ /8\ (\ i = 0, 1, ..., 5;\ j = 0, 1, ..., 7) \quad (2)$$

$$h_{360ab,sij} = h_{ab,si} + j\ [h_{ab,si+1} - h_{ab,si}\ ]\ /60\ (\ i = 0, 1, ..., 5;\ j = 0, 1, ..., 59) \quad (3)$$

4. For the 48 or 360 elementary hue angles $h_{ab,e}$ of the colours of maximum chroma use the seven hue angles of the elementary colours *e*: $h_{ab,ei}$ = 25.5, 92.3, 162.2, 217.0, 271.7, 328.6, 385.5 (i=0,6) and the equations for a 48 and 360 step elementary hue circle:

$$h_{48ab,eij} = h_{ab,ei} + j\ [h_{ab,ei+1} - h_{ab,ei}\ ]\ /8\ (\ i = 0, 1, ..., 5;\ j = 0, 1, ..., 7) \quad (4)$$

$$h_{360ab,eij} = h_{ab,ei} + j\ [h_{ab,ei+1} - h_{ab,ei}\ ]\ /60\ (\ i = 0, 1, ..., 5;\ j = 0, 1, ..., 59) \quad (5)$$

5. For any elementary hue angle $h_{ab,e}$ there is a well defined device hue angle $h_{ab,d}$ see the following tables, columns 1 to 5 or 1 to 4.
6. The values rgb^*_{de} produce the output of the device-independent elementary hues

TUB-test chart PE89; 16 step hue circle
48 step hue circles; *rgb−LabCh**tables

input: *rgb/cmyk* −> rgb_d
output: transfer to $cmyk_d$

Data of Maximum color M in colorimetric system Laser printer output; separation cmyn6*, D65 for input or output; Six hue angles of the 60 degree standard colours *RYGCBM*$_s$: $h_{ab,ds}$ = 30.0, 90.0, 150.0, 210.0, 270.0, 330.0; Six hue angles of the device colours *RYGCBM*$_d$: $h_{ab,d}$ = 33.5, 100.6, 155.5, 235.2, 290.8, 348.9; Six hue angles of the elementary colours *RYGCBM*$_e$: $h_{ab,e}$ = 25.5, 92.3, 162.2, 217.0, 271.7, 328.6

$h_{ab,d}$	$h_{ab,s}$	$h_{ab,e}$	*rgb** dd64M			*LAB** ddx64M (x=LabCh)					*rgb** ddx361M			*LAB** ddx361M (x=LabCh)					*rgb** dsx361M			*LAB** dsx361M (x=LabCh)					*rgb** dex361M			*LAB** dex361M					rgb*$_{dd}$	rgb*$_{ds}$	rgb*$_{de}$
33.4	30.0	25.4	1.0	0.0	0.0	47.5	57.2	37.8	68.6	33.4	1.0	0.0	0.0	47.6	57.2	37.9	68.6	33	1.0	0.0	0.158	47.7	56.3	32.5	65.0	30	1.0	0.0	0.263	47.6	56.1	26.7	62.1	25			
42.1	37.5	33.8	1.0	0.125	0.0	51.9	54.3	49.2	73.2	42.1	1.0	0.117	0.0	51.7	54.6	48.5	73.0	41	1.0	0.05	0.0	49.4	56.3	42.4	70.5	37	1.0	0.0	0.012	47.6	57.2	37.5	68.4	33			
52.8	45.0	42.1	1.0	0.25	0.0	58.2	41.8	55.1	69.2	52.8	1.0	0.25	0.0	58.3	41.8	55.2	69.2	52	1.0	0.158	0.0	53.6	51.1	51.1	72.2	45	1.0	0.125	0.0	52.0	54.3	49.2	73.3	42			
63.7	52.5	50.5	1.0	0.375	0.0	64.6	29.8	60.4	67.3	63.7	1.0	0.367	0.0	64.2	30.6	60.1	67.5	63	1.0	0.24	0.0	57.8	42.8	54.8	69.6	52	1.0	0.216	0.0	56.6	45.2	53.9	70.3	49			
73.8	60.0	58.8	1.0	0.5	0.0	70.5	19.2	66.2	69.0	73.8	1.0	0.5	0.0	70.5	19.2	66.3	69.0	73	1.0	0.332	0.0	62.5	34.0	58.9	68.0	60	1.0	0.32	0.0	61.8	35.2	58.4	68.2	58			
80.7	67.5	67.2	1.0	0.625	0.0	74.9	11.4	70.7	71.6	80.7	1.0	0.617	0.0	74.6	12.0	70.5	71.5	80	1.0	0.416	0.0	66.6	26.5	62.5	67.9	67	1.0	0.412	0.0	66.4	26.9	62.3	67.9	66			
91.5	75.0	75.6	1.0	0.75	0.0	82.9	−2.0	76.9	77.0	91.5	1.0	0.75	0.0	83.0	−1.9	77.0	77.0	−268	1.0	0.521	0.0	71.3	18.0	67.1	69.5	75	1.0	0.532	0.0	71.6	17.3	67.5	69.7	75			
96.8	82.5	83.9	1.0	0.875	0.0	87.6	−9.0	75.7	76.3	96.8	1.0	0.867	0.0	87.3	−8.5	75.9	76.4	96	1.0	0.639	0.0	75.8	10.1	71.6	72.3	82	1.0	0.655	0.0	76.9	8.4	72.5	73.0	83			
100.5	90.0	92.3	1.0	1.0	0.0	91.5	−15.8	84.6	86.1	100.5	1.0	1.0	0.0	91.6	−15.7	84.7	86.2	100	1.0	0.732	0.0	81.8	0.0	76.3	76.3	90	1.0	0.769	0.0	83.7	−3.0	76.8	76.9	92			
101.4	97.5	101.0	0.875	1.0	0.0	92.8	−18.1	89.4	91.2	101.4	0.883	1.0	0.0	92.7	−17.9	89.1	90.9	101	1.0	0.88	0.0	87.8	−9.3	76.2	76.7	97	1.0	0.996	0.0	91.5	−15.5	84.4	85.8	100			
103.9	105.0	109.7	0.75	1.0	0.0	90.1	−21.3	86.0	88.6	103.9	0.75	1.0	0.0	90.1	−21.3	86.0	88.7	103	0.738	1.0	0.0	89.2	−22.5	84.4	87.4	105	0.684	1.0	0.0	84.7	−27.5	76.7	81.5	109			
115.0	112.5	118.5	0.625	1.0	0.0	79.9	−31.7	67.9	75.0	115.0	0.633	1.0	0.0	80.6	−31.1	69.2	75.9	114	0.659	1.0	0.0	82.7	−29.4	73.0	78.8	112	0.595	1.0	0.0	77.8	−34.4	65.0	73.6	117			
127.3	120.0	127.2	0.5	1.0	0.0	70.9	−41.7	54.8	68.9	127.3	0.5	1.0	0.0	71.0	−41.7	54.8	68.9	127	0.574	1.0	0.0	76.3	−36.2	62.8	72.6	120	0.501	1.0	0.0	71.0	−41.6	54.9	68.9	127			
134.7	127.5	136.0	0.375	1.0	0.0	66.5	−47.5	48.0	67.6	134.7	0.383	1.0	0.0	66.9	−47.1	48.5	67.7	134	0.503	1.0	0.0	71.2	−41.5	55.2	69.1	127	0.366	1.0	0.0	66.2	−48.2	47.6	67.8	135			
144.7	135.0	144.7	0.25	1.0	0.0	60.6	−57.2	40.4	70.1	144.7	0.25	1.0	0.0	60.6	−57.2	40.5	70.1	144	0.372	1.0	0.0	66.4	−47.8	47.9	67.7	135	0.25	1.0	0.0	60.6	−57.1	40.5	70.1	144			
151.0	142.5	153.4	0.125	1.0	0.0	57.0	−62.2	34.4	71.1	151.0	0.133	1.0	0.0	57.3	−61.8	34.8	71.0	150	0.284	1.0	0.0	62.3	−54.6	42.7	69.4	142	0.073	1.0	0.0	55.9	−64.4	33.0	72.5	152			
155.5	150.0	162.2	0.0	1.0	0.0	54.3	−67.6	30.8	74.3	155.5	0.0	1.0	0.0	54.3	−67.6	30.8	74.4	155	0.146	1.0	0.0	57.6	−61.3	35.5	70.9	150	0.0	1.0	0.147	53.8	−65.9	21.1	69.3	162			
160.8	157.5	169.0	0.0	1.0	0.125	53.8	−66.4	23.0	70.2	160.8	0.0	1.0	0.117	53.9	−66.4	23.5	70.6	160	0.0	1.0	0.035	54.2	−67.3	28.6	73.2	157	0.0	1.0	0.251	53.8	−63.0	12.7	64.4	168			
168.5	165.0	175.9	0.0	1.0	0.25	53.7	−63.1	12.8	64.4	168.5	0.0	1.0	0.25	53.8	−63.1	12.8	64.4	168	0.0	1.0	0.192	53.8	−64.7	17.4	67.1	165	0.0	1.0	0.331	54.4	−59.3	4.2	59.5	175			
179.9	172.5	182.7	0.0	1.0	0.375	54.7	−56.8	0.0	56.8	179.9	0.0	1.0	0.367	54.7	−57.2	0.8	57.3	179	0.0	1.0	0.288	54.1	−61.4	8.6	62.1	172	0.0	1.0	0.405	54.8	−55.6	−2.1	55.7	182			
189.8	180.0	189.6	0.0	1.0	0.5	55.0	−51.4	−8.9	52.2	189.8	0.0	1.0	0.5	55.0	−51.4	−8.8	52.2	189	0.0	1.0	0.375	54.8	−56.7	0.0	56.8	180	0.0	1.0	0.497	55.0	−51.5	−8.6	52.3	189			
204.4	187.5	196.4	0.0	1.0	0.625	55.3	−44.1	−20.0	48.5	204.4	0.0	1.0	0.617	55.3	−44.6	−19.3	48.8	203	0.0	1.0	0.464	55.0	−53.0	−6.4	53.5	187	0.0	1.0	0.553	55.2	−48.6	−13.9	50.7	195			
214.4	195.0	203.2	0.0	1.0	0.75	55.2	−39.5	−27.1	47.9	214.4	0.0	1.0	0.75	55.2	−39.4	−27.0	47.9	214	0.0	1.0	0.544	55.2	−49.1	−13.1	50.9	195	0.0	1.0	0.615	55.3	−44.7	−19.2	48.8	203			
221.9	202.5	210.1	0.0	1.0	0.875	54.4	−36.7	−33.0	49.4	221.9	0.0	1.0	0.867	54.5	−36.9	−32.6	49.4	221	0.0	1.0	0.604	55.3	−45.5	−18.3	49.1	202	0.0	1.0	0.69	55.3	−41.8	−23.8	48.2	209			
235.1	210.0	216.9	0.0	1.0	1.0	53.1	−30.0	−43.1	52.5	235.1	0.0	1.0	1.0	53.1	−29.9	−43.0	52.5	235	0.0	1.0	0.694	55.3	−41.6	−24.0	48.2	210	0.0	1.0	0.792	55.0	−38.6	−29.0	48.4	216			
237.9	217.5	223.8	0.0	0.875	1.0	53.1	−27.9	−44.7	52.7	237.9	0.0	0.883	1.0	53.1	−28.0	−44.5	52.8	237	0.0	1.0	0.792	55.0	−38.6	−29.1	48.5	217	0.0	1.0	0.888	54.3	−36.1	−34.1	49.8	223			
241.3	225.0	230.6	0.0	0.75	1.0	52.9	−25.9	−47.5	54.1	241.3	0.0	0.75	1.0	52.9	−25.8	−47.5	54.2	241	0.0	1.0	0.904	54.2	−35.4	−35.4	50.2	225	0.0	1.0	0.957	53.6	−32.5	−39.7	51.5	230			
247.2	232.5	237.5	0.0	0.625	1.0	50.5	−20.8	−49.5	53.7	247.2	0.0	0.633	1.0	50.7	−21.1	−49.3	53.8	246	0.0	1.0	0.97	53.5	−31.8	−40.7	51.8	232	0.0	0.916	1.0	53.1	−28.6	−44.1	52.7	237			
254.9	240.0	244.3	0.0	0.5	1.0	46.1	−13.3	−49.4	51.1	254.9	0.0	0.5	1.0	46.2	−13.2	−49.3	51.2	254	0.0	0.801	1.0	53.0	−26.7	−46.3	53.6	240	0.0	0.686	1.0	51.7	−23.3	−48.5	54.0	244			
262.6	247.5	251.2	0.0	0.375	1.0	41.4	−6.3	−49.2	49.6	262.6	0.0	0.383	1.0	41.7	−6.7	−49.2	49.8	262	0.0	0.63	1.0	50.7	−20.9	−49.4	53.8	247	0.0	0.568	1.0	48.6	−17.2	−49.5	52.6	250			
272.6	255.0	258.0	0.0	0.25	1.0	36.8	2.2	−48.5	48.6	272.6	0.0	0.25	1.0	36.9	2.2	−48.5	48.6	272	0.0	0.499	1.0	46.1	−13.1	−49.3	51.2	255	0.0	0.449	1.0	44.2	−10.4	−49.4	50.6	258			
281.4	262.5	264.8	0.0	0.125	1.0	35.0	9.4	−46.3	47.3	281.4	0.0	0.133	1.0	35.2	8.9	−46.5	47.4	280	0.0	0.386	1.0	41.8	−6.8	−49.2	49.8	262	0.0	0.353	1.0	40.6	−4.7	−49.2	49.5	264			
290.8	270.0	271.7	0.0	0.0	1.0	32.5	16.9	−44.6	47.7	290.8	0.0	0.0	1.0	32.6	16.9	−44.5	47.7	290	0.0	0.283	1.0	38.1	0.0	−48.8	48.9	270	0.0	0.261	1.0	37.3	1.5	−48.6	48.7	271			
299.2	277.5	278.8	0.125	0.0	1.0	31.6	23.6	−42.2	48.4	299.2	0.117	0.0	1.0	31.7	23.2	−42.3	48.4	298	0.0	0.188	1.0	36.0	5.8	−47.5	48.0	277	0.0	0.169	1.0	35.7	7.0	−47.2	47.8	278			
307.8	285.0	285.9	0.25	0.0	1.0	31.0	30.5	−39.3	49.8	307.8	0.25	0.0	1.0	31.0	30.6	−39.3	49.9	307	0.0	0.078	1.0	34.1	12.3	−45.8	47.5	285	0.0	0.065	1.0	33.9	13.1	−45.6	47.5	285			
317.5	292.5	293.0	0.375	0.0	1.0	34.2	38.2	−35.0	51.8	317.5	0.367	0.0	1.0	34.0	37.8	−35.3	51.7	316	0.018	0.0	1.0	32.4	17.9	−44.2	47.8	292	0.026	0.0	1.0	32.4	18.4	−44.1	47.9	292			
324.4	300.0	300.1	0.5	0.0	1.0	37.2	43.1	−30.8	53.0	324.4	0.5	0.0	1.0	37.2	43.2	−30.8	53.1	324	0.136	0.0	1.0	31.6	24.3	−41.9	48.5	300	0.139	0.0	1.0	31.5	24.4	−41.9	48.6	300			
330.6	307.5	307.2	0.625	0.0	1.0	39.1	48.4	−27.2	55.6	330.6	0.617	0.0	1.0	39.0	48.1	−27.4	55.4	330	0.238	0.0	1.0	31.1	29.9	−39.6	49.7	307	0.235	0.0	1.0	31.1	29.8	−39.7	49.7	306			
338.7	315.0	314.3	0.75	0.0	1.0	41.8	55.1	−21.4	59.1	338.7	0.75	0.0	1.0	41.9	55.2	−21.4	59.2	338	0.343	0.0	1.0	33.4	36.3	−36.2	51.4	315	0.335	0.0	1.0	33.2	35.8	−36.5	51.2	314			
343.9	322.5	321.4	0.875	0.0	1.0	45.6	60.1	−17.3	62.6	343.9	0.867	0.0	1.0	45.4	59.8	−17.5	62.4	343	0.456	0.0	1.0	36.2	41.5	−32.3	52.7	322	0.439	0.0	1.0	35.8	40.8	−32.9	52.5	321			
348.9	330.0	328.6	1.0	0.0	1.0	48.1	65.4	−12.7	66.6	348.9	1.0	0.0	1.0	48.2	65.4	−12.7	66.7	348	0.612	0.0	1.0	38.9	47.9	−27.6	55.4	330	0.584	0.0	1.0	38.5	46.8	−28.4	54.8	328			
350.7	337.5	335.7	1.0	0.0	0.875	49.5	66.1	−10.7	67.0	350.7	1.0	0.0	0.883	49.5	66.1	−10.8	67.0	350	0.723	0.0	1.0	41.3	53.8	−22.7	58.4	337	0.696	0.0	1.0	40.7	52.3	−24.0	57.6	335			
354.2	345.0	342.8	1.0	0.0	0.75	49.3	64.5	−6.5	64.8	354.2	1.0	0.0	0.75	49.3	64.6	−6.5	64.9	354	0.902	0.0	1.0	46.2	61.3	−16.3	63.5	345	0.848	0.0	1.0	44.9	59.1	−18.2	61.9	342			
361.9	352.5	349.9	1.0	0.0	0.625	48.0	61.8	2.1	61.8	361.9	1.0	0.0	0.633	48.1	62.0	1.6	62.0	361	1.0	0.0	0.83	49.5	65.6	−9.1	66.3	352	1.0	0.0	0.964	48.6	65.6	−12.1	66.8	349			
370.0	360.0	357.0	1.0	0.0	0.5	47.8	58.9	10.4	59.9	370.0	1.0	0.0	0.5	47.8	59.0	10.4	59.9	370	1.0	0.0	0.657	48.3	62.6	0.0	62.6	360	1.0	0.0	0.828	49.5	65.6	−9.0	66.2	352			
378.9	367.5	364.1	1.0	0.0	0.375	47.4	56.8	19.5	60.0	378.9	1.0	0.0	0.383	47.4	57.0	18.9	60.1	378	1.0	0.0	0.547	47.9	60.2	7.4	60.6	367	1.0	0.0	0.659	48.4	62.7	−0.1	62.7	359			
386.2	375.0	371.2	1.0	0.0	0.25	47.5	55.9	27.5	62.3	386.2	1.0	0.0	0.25	47.6	55.9	27.6	62.4	386	1.0	0.0	0.43	47.6	58.0	15.5	60.0	375	1.0	0.0	0.519	47.8	59.5	9.2	60.2	368			
391.3	382.5	378.3	1.0	0.0	0.125	47.6	56.3	34.2	65.9	391.3	1.0	0.0	0.133	47.7	56.4	33.8	65.7	390	1.0	0.0	0.323	47.5	56.6	22.9	61.0	382	1.0	0.0	0.408	47.5	57.6	17.1	60.0	376			
393.4	390.0	385.4	1.0	0.0	0.0	47.5	57.2	37.8	68.6	393.4	1.0	0.0	0.0	47.6	57.2	37.9	68.6	393	1.0	0.0	0.158	47.7	56.3	32.5	65.0	390	1.0	0.0	0.263	47.6	56.1	26.7	62.1	385			

1−003730−L0 PE890−70 LAB*la0, YN=0%, XYZnw=3.9, 4.1, 4.1, 84.7, 89.6, 93.9, LAB*nw=23.9, 0.0, 0.0, 95.8, 0.0, 0.0 Output: Laser printer output; separation cmyn6*, D65, page 8/33

TUB-test chart PE89; 16 step hue circle
48 step hue circles; *rgb−LabCh**tables

input: *rgb/cmyk* −> *rgb*$_d$
output: transfer to *cmyk*$_d$

see similar files: http://130.149.60.45/~farbmetrik/PE89/PE89.HTM
technical information: http://www.ps.bam.de or http://130.149.60.45/~farbmetrik

TUB registration: 20150701-PE89/PE89L0NP.PDF /.PS
application for measurement of laser printer output, separation cmyn6 (CMYK)

TUB material: code=rha4ta

1−003730−F0

Data of Maximum color M in colorimetric system Laser printer output; separation cmyn6*, D65 for input or output; Six hue angles of the 60 degree standard colours *RYGCBM*$_s$: $h_{ab,ds}$ = 30.0, 90.0, 150.0, 210.0, 270.0, 330.0; Six hue angles of the device colours *RYGCBM*$_d$: $h_{ab,d}$ = 33.5, 100.6, 155.5, 235.2, 290.8, 348.9; Six hue angles of the elementary colours *RYGCBM*$_e$: $h_{ab,e}$ = 25.5, 92.3, 162.2, 217.0, 271.7, 328.6

$h_{ab,d}$	$h_{ab,s}$	$h_{ab,e}$	*rgb** dd64M			*LAB** ddx64M (x=LabCh)				
33.4	30.0	25.4	1.0	0.0	0.0	47.5	57.2	37.8	68.6	33.4
42.1	37.5	33.8	1.0	0.125	0.0	51.9	54.3	49.2	73.2	42.1
52.8	45.0	42.1	1.0	0.25	0.0	58.2	41.8	55.1	69.2	52.8
63.7	52.5	50.5	1.0	0.375	0.0	64.6	29.8	60.4	67.3	63.7
73.8	60.0	58.8	1.0	0.5	0.0	70.5	19.2	66.2	69.0	73.8
80.7	67.5	67.2	1.0	0.625	0.0	74.9	11.4	70.7	71.6	80.7
91.5	75.0	75.6	1.0	0.75	0.0	82.9	−2.0	76.9	77.0	91.5
96.8	82.5	83.9	1.0	0.875	0.0	87.6	−9.0	75.7	76.3	96.8
100.5	90.0	92.3	1.0	1.0	0.0	91.5	−15.8	84.6	86.1	100.5
101.4	97.5	101.0	0.875	1.0	0.0	92.8	−18.1	89.4	91.2	101.4
103.9	105.0	109.7	0.75	1.0	0.0	90.1	−21.3	86.0	88.6	103.9
115.0	112.5	118.5	0.625	1.0	0.0	79.9	−31.7	67.9	75.0	115.0
127.3	120.0	127.2	0.5	1.0	0.0	70.9	−41.7	54.8	68.9	127.3
134.7	127.5	136.0	0.375	1.0	0.0	66.5	−47.5	48.0	67.6	134.7
144.7	135.0	144.7	0.25	1.0	0.0	60.6	−57.2	40.4	70.1	144.7
151.0	142.5	153.4	0.125	1.0	0.0	57.0	−62.2	34.4	71.1	151.0
155.5	150.0	162.2	0.0	1.0	0.0	54.3	−67.6	30.8	74.3	155.5
160.8	157.5	169.0	0.0	1.0	0.125	53.8	−66.4	23.0	70.2	160.8
168.5	165.0	175.9	0.0	1.0	0.25	53.7	−63.1	12.8	64.4	168.5
179.9	172.5	182.7	0.0	1.0	0.375	54.7	−56.8	0.0	56.8	179.9
189.8	180.0	189.6	0.0	1.0	0.5	55.0	−51.4	−8.9	52.2	189.8
204.4	187.5	196.4	0.0	1.0	0.625	55.3	−44.1	−20.0	48.5	204.4
214.4	195.0	203.2	0.0	1.0	0.75	55.2	−39.5	−27.1	47.9	214.4
221.9	202.5	210.1	0.0	1.0	0.875	54.4	−36.7	−33.0	49.4	221.9
235.1	210.0	216.9	0.0	1.0	1.0	53.1	−30.0	−43.1	52.5	235.1
237.9	217.5	223.8	0.0	0.875	1.0	53.1	−27.9	−44.7	52.7	237.9
241.3	225.0	230.6	0.0	0.75	1.0	52.9	−25.9	−47.5	54.1	241.3
247.2	232.5	237.5	0.0	0.625	1.0	50.5	−20.8	−49.5	53.7	247.2
254.9	240.0	244.3	0.0	0.5	1.0	46.1	−13.3	−49.4	51.1	254.9
262.6	247.5	251.2	0.0	0.375	1.0	41.4	−6.3	−49.2	49.6	262.6
272.6	255.0	258.0	0.0	0.25	1.0	36.8	2.2	−48.5	48.6	272.6
281.4	262.5	264.8	0.0	0.125	1.0	35.0	9.4	−46.3	47.3	281.4
290.8	270.0	271.7	0.0	0.0	1.0	32.5	16.9	−44.6	47.7	290.8
299.2	277.5	278.8	0.125	0.0	1.0	31.6	23.6	−42.2	48.4	299.2
307.8	285.0	285.9	0.25	0.0	1.0	31.0	30.5	−39.3	49.8	307.8
317.5	292.5	293.0	0.375	0.0	1.0	34.2	38.2	−35.0	51.8	317.5
324.4	300.0	300.1	0.5	0.0	1.0	37.2	43.1	−30.8	53.0	324.4
330.6	307.5	307.2	0.625	0.0	1.0	39.1	48.4	−27.2	55.6	330.6
338.7	315.0	314.3	0.75	0.0	1.0	41.8	55.1	−21.4	59.1	338.7
343.9	322.5	321.4	0.875	0.0	1.0	45.6	60.1	−17.3	62.6	343.9
348.9	330.0	328.6	1.0	0.0	1.0	48.1	65.4	−12.7	66.6	348.9
350.7	337.5	335.7	1.0	0.0	0.875	49.5	66.1	−10.7	67.0	350.7
354.2	345.0	342.8	1.0	0.0	0.75	49.3	64.5	−6.5	64.8	354.2
361.9	352.5	349.9	1.0	0.0	0.625	48.0	61.8	2.1	61.8	361.9
370.0	360.0	357.0	1.0	0.0	0.5	47.8	58.9	10.4	59.9	370.0
378.9	367.5	364.1	1.0	0.0	0.375	47.4	56.8	19.5	60.0	378.9
386.2	375.0	371.2	1.0	0.0	0.25	47.5	55.9	27.5	62.3	386.2
391.3	382.5	378.3	1.0	0.0	0.125	47.6	56.3	34.2	65.9	391.3
393.4	390.0	385.4	1.0	0.0	0.0	47.5	57.2	37.8	68.6	393.4

	*rgb** dex361M			*LAB** dex361M				
33.4	1.0	0.0	0.263	47.6	56.1	26.7	62.1	25
42.1	1.0	0.0	0.012	47.6	57.2	37.5	68.4	33
52.8	1.0	0.125	0.0	52.0	54.3	49.2	73.3	42
63.7	1.0	0.216	0.0	56.6	45.2	53.9	70.3	49
73.8	1.0	0.32	0.0	61.8	35.2	58.4	68.2	58
80.7	1.0	0.412	0.0	66.4	26.9	62.3	67.9	66
91.5	1.0	0.532	0.0	71.6	17.3	67.5	69.7	75
96.8	1.0	0.655	0.0	76.9	8.4	72.5	73.0	83
100.5	1.0	0.769	0.0	83.7	−3.0	76.8	76.9	92
101.4	1.0	0.996	0.0	91.5	−15.5	84.4	85.8	100
103.9	0.684	1.0	0.0	84.7	−27.5	76.7	81.5	109
115.0	0.595	1.0	0.0	77.8	−34.4	65.0	73.6	117
127.3	0.501	1.0	0.0	71.0	−41.6	54.9	68.9	127
134.7	0.366	1.0	0.0	66.2	−48.2	47.6	67.8	135
144.7	0.25	1.0	0.0	60.6	−57.1	40.5	70.1	144
151.0	0.073	1.0	0.0	55.9	−64.4	33.0	72.5	152
155.5	0.0	1.0	0.147	53.8	−65.9	21.1	69.3	162
160.8	0.0	1.0	0.251	53.8	−63.0	12.7	64.4	168
168.5	0.0	1.0	0.331	54.4	−59.3	4.2	59.5	175
179.9	0.0	1.0	0.405	54.8	−55.6	−2.1	55.7	182
189.8	0.0	1.0	0.497	55.0	−51.5	−8.6	52.3	189
204.4	0.0	1.0	0.553	55.2	−48.6	−13.9	50.7	195
214.4	0.0	1.0	0.615	55.3	−44.7	−19.2	48.8	203
221.9	0.0	1.0	0.69	55.3	−41.8	−23.8	48.2	209
235.1	0.0	1.0	0.792	55.0	−38.6	−29.0	48.4	216
237.9	0.0	1.0	0.888	54.3	−36.1	−34.1	49.8	223
241.3	0.0	1.0	0.957	53.6	−32.5	−39.7	51.5	230
247.2	0.0	0.916	1.0	53.1	−28.6	−44.1	52.7	237
254.9	0.0	0.686	1.0	51.7	−23.3	−48.5	54.0	244
262.6	0.0	0.568	1.0	48.6	−17.2	−49.5	52.6	250
272.6	0.0	0.449	1.0	44.2	−10.4	−49.4	50.6	258
281.4	0.0	0.353	1.0	40.6	−4.7	−49.2	49.5	264
290.8	0.0	0.261	1.0	37.3	1.5	−48.6	48.7	271
299.2	0.0	0.169	1.0	35.7	7.0	−47.2	47.8	278
307.8	0.0	0.065	1.0	33.9	13.1	−45.6	47.5	285
317.5	0.026	0.0	1.0	32.4	18.4	−44.1	47.9	292
324.4	0.139	0.0	1.0	31.5	24.4	−41.9	48.6	300
330.6	0.235	0.0	1.0	31.1	29.8	−39.7	49.7	306
338.7	0.335	0.0	1.0	33.2	35.8	−36.5	51.2	314
343.9	0.439	0.0	1.0	35.8	40.8	−32.9	52.5	321
348.9	0.584	0.0	1.0	38.5	46.8	−28.4	54.8	328
350.7	0.696	0.0	1.0	40.7	52.3	−24.0	57.6	335
354.2	0.848	0.0	1.0	44.9	59.1	−18.2	61.9	342
361.9	1.0	0.0	0.964	48.6	65.6	−12.1	66.8	349
370.0	1.0	0.0	0.828	49.5	65.6	−9.0	66.2	352
	1.0	0.0	0.659	48.4	62.7	−0.1	62.7	359
	1.0	0.0	0.519	47.8	59.5	9.2	60.2	368
	1.0	0.0	0.408	47.5	57.6	17.1	60.0	376
	1.0	0.0	0.263	47.6	56.1	26.7	62.1	385

*rgb**$_{dd}$ *rgb**$_{ds}$ *rgb**$_{de}$

TUB registration: 20150701-PE89/PE89L0NP.PDF /.PS
application for measurement of laser printer output, separation cmyn6 (CMYK)
TUB material: code=rha4ta
see similar files: http://130.149.60.45/~farbmetrik/PE89/PE89.HTM
technical information: http://www.ps.bam.de or http://130.149.60.45/~farbmetrik

see similar files: http://130.149.60.45/~farbmetrik/PE89/PE89.HTM
technical information: http://www.ps.bam.de or http://130.149.60.45/~farbmetrik

TUB registration: 20150701-PE89/PE89L0NP.PDF /.PS
application for measurement of laser printer output, separation cmyn6 (CMYK)
TUB material: code=rha4ta

Data of Maximum color M in colorimetric system Laser printer output; separation cmyn6*, D65 for input or output; Six hue angles of the 60 degree standard colours *RYGCBM*$_s$: $h_{ab,ds}$ = 30.0, 90.0, 150.0, 210.0, 270.0, 330.0; Six hue angles of the device colours *RYGCBM*$_d$: $h_{ab,d}$ = 33.5, 100.6, 155.5, 235.2, 290.8, 348.9; Six hue angles of the elementary colours *RYGCBM*$_e$: $h_{ab,e}$ = 25.5, 92.3, 162.2, 217.0, 271.7, 328.6

$h_{ab,d}$	$h_{ab,s}$	$h_{ab,e}$	*rgb**dd361M			*LAB**ddx361Mi (x=LabCh)						*rgb**ds361Mi			*LAB**dsx361Mi (x=LabCh)						*rgb**dd361Mi			*rgb**de361Mi			*LAB**dex361Mi (x=LabCh)						*rgb**dd361Mi			*rgb**$_{dd}$	*rgb**$_{ds}$	*rgb**$_{de}$
33	30	25	1.0	0.0	0.0	47.5	57.2	37.8	68.6	33	R_d	1.0	0.0	0.158	47.7	56.3	32.5	65.0	30	R_s	1.0	0.0	0.0	1.0	0.0	0.263	47.6	56.1	26.7	62.1	25	R_e	1.0	0.0	0.0			
34	31	26	1.0	0.016	0.0	48.1	56.9	39.3	69.2	34		1.0	0.0	0.133	47.7	56.4	33.9	65.8	31		1.0	0.017	0.0	1.0	0.0	0.242	47.6	56.0	28.0	62.6	26		1.0	0.017	0.0			
35	32	27	1.0	0.033	0.0	48.7	56.6	40.8	69.8	35		1.0	0.0	0.085	47.7	56.7	35.4	66.8	32		1.0	0.033	0.0	1.0	0.0	0.214	47.6	56.1	29.5	63.4	27		1.0	0.033	0.0			
36	33	28	1.0	0.05	0.0	49.3	56.3	42.3	70.4	36		1.0	0.0	0.028	47.6	57.1	37.0	68.0	33		1.0	0.05	0.0	1.0	0.0	0.187	47.6	56.2	30.9	64.2	28		1.0	0.05	0.0			
38	34	29	1.0	0.066	0.0	49.9	55.9	43.9	71.1	38		1.0	0.007	0.0	47.8	57.1	38.5	68.9	34		1.0	0.067	0.0	1.0	0.0	0.159	47.7	56.3	32.4	65.0	29		1.0	0.067	0.0			
39	35	31	1.0	0.083	0.0	50.5	55.5	45.4	71.7	39		1.0	0.022	0.0	48.4	56.9	39.8	69.4	35		1.0	0.083	0.0	1.0	0.0	0.132	47.7	56.4	33.9	65.8	31		1.0	0.083	0.0			
40	36	32	1.0	0.1	0.0	51.0	55.0	46.9	72.3	40		1.0	0.036	0.0	48.9	56.6	41.1	70.0	36		1.0	0.1	0.0	1.0	0.0	0.076	47.6	56.7	35.7	67.0	32		1.0	0.1	0.0			
41	37	33	1.0	0.116	0.0	51.6	54.5	48.4	72.9	41		1.0	0.05	0.0	49.4	56.3	42.4	70.5	37		1.0	0.117	0.0	1.0	0.0	0.012	47.6	57.2	37.5	68.4	33		1.0	0.117	0.0			
42	38	34	1.0	0.133	0.0	52.3	53.4	49.7	73.0	42		1.0	0.065	0.0	49.9	56.0	43.7	71.0	38		1.0	0.133	0.0	1.0	0.013	0.0	48.0	57.0	39.0	69.1	34		1.0	0.133	0.0			
44	39	35	1.0	0.15	0.0	53.2	51.8	50.6	72.4	44		1.0	0.079	0.0	50.4	55.6	45.0	71.6	39		1.0	0.15	0.0	1.0	0.029	0.0	48.6	56.7	40.5	69.7	35		1.0	0.15	0.0			
45	40	36	1.0	0.166	0.0	54.0	50.2	51.5	71.9	45		1.0	0.094	0.0	50.9	55.2	46.4	72.1	40		1.0	0.167	0.0	1.0	0.045	0.0	49.2	56.4	41.9	70.3	36		1.0	0.167	0.0			
47	41	37	1.0	0.183	0.0	54.9	48.5	52.3	71.4	47		1.0	0.108	0.0	51.4	54.8	47.7	72.7	41		1.0	0.183	0.0	1.0	0.061	0.0	49.7	56.1	43.4	70.9	37		1.0	0.183	0.0			
48	42	38	1.0	0.2	0.0	55.7	46.8	53.1	70.8	48		1.0	0.122	0.0	51.9	54.4	49.0	73.2	42		1.0	0.2	0.0	1.0	0.077	0.0	50.3	55.7	44.8	71.5	38		1.0	0.2	0.0			
50	43	39	1.0	0.216	0.0	56.6	45.2	53.8	70.3	50		1.0	0.134	0.0	52.5	53.4	49.8	73.0	43		1.0	0.217	0.0	1.0	0.093	0.0	50.8	55.3	46.3	72.1	39		1.0	0.217	0.0			
51	44	41	1.0	0.233	0.0	57.4	43.5	54.5	69.7	51		1.0	0.146	0.0	53.0	52.2	50.4	72.6	44		1.0	0.233	0.0	1.0	0.109	0.0	51.4	54.8	47.8	72.7	41		1.0	0.233	0.0			
52	45	42	1.0	0.25	0.0	58.2	41.8	55.1	69.2	52		1.0	0.158	0.0	53.6	51.1	51.1	72.2	45		1.0	0.25	0.0	1.0	0.125	0.0	52.0	54.3	49.2	73.3	42		1.0	0.25	0.0			
54	46	43	1.0	0.266	0.0	59.1	40.2	56.0	69.0	54		1.0	0.17	0.0	54.2	49.9	51.7	71.8	46		1.0	0.267	0.0	1.0	0.138	0.0	52.6	53.0	50.0	72.9	43		1.0	0.267	0.0			
55	47	44	1.0	0.283	0.0	59.9	38.6	56.8	68.7	55		1.0	0.181	0.0	54.8	48.7	52.3	71.5	47		1.0	0.283	0.0	1.0	0.151	0.0	53.3	51.8	50.7	72.4	44		1.0	0.283	0.0			
57	48	45	1.0	0.3	0.0	60.8	37.1	57.5	68.5	57		1.0	0.193	0.0	55.4	47.6	52.8	71.1	48		1.0	0.3	0.0	1.0	0.164	0.0	54.0	50.5	51.4	72.0	45		1.0	0.3	0.0			
58	49	46	1.0	0.316	0.0	61.6	35.5	58.2	68.2	58		1.0	0.205	0.0	56.0	46.4	53.4	70.7	49		1.0	0.317	0.0	1.0	0.177	0.0	54.6	49.2	52.1	71.6	46		1.0	0.317	0.0			
60	50	47	1.0	0.333	0.0	62.5	33.9	58.9	68.0	60		1.0	0.217	0.0	56.6	45.2	53.9	70.3	50		1.0	0.333	0.0	1.0	0.19	0.0	55.3	47.9	52.7	71.2	47		1.0	0.333	0.0			
61	51	48	1.0	0.35	0.0	63.3	32.2	59.5	67.7	61		1.0	0.228	0.0	57.2	44.0	54.4	69.9	51		1.0	0.35	0.0	1.0	0.203	0.0	55.9	46.5	53.3	70.8	48		1.0	0.35	0.0			
63	52	49	1.0	0.366	0.0	64.2	30.6	60.1	67.5	63		1.0	0.24	0.0	57.8	42.8	54.8	69.6	52		1.0	0.367	0.0	1.0	0.216	0.0	56.6	45.2	53.9	70.3	49		1.0	0.367	0.0			
64	53	51	1.0	0.383	0.0	65.0	29.1	60.8	67.4	64		1.0	0.252	0.0	58.4	41.7	55.3	69.2	53		1.0	0.383	0.0	1.0	0.23	0.0	57.3	43.9	54.4	69.9	51		1.0	0.383	0.0			
65	54	52	1.0	0.4	0.0	65.8	27.8	61.7	67.7	65		1.0	0.263	0.0	59.0	40.6	55.9	69.1	54		1.0	0.4	0.0	1.0	0.243	0.0	57.9	42.6	54.9	69.5	52		1.0	0.4	0.0			
67	55	53	1.0	0.416	0.0	66.6	26.4	62.5	67.9	67		1.0	0.275	0.0	59.6	39.5	56.4	68.9	55		1.0	0.417	0.0	1.0	0.256	0.0	58.6	41.3	55.5	69.2	53		1.0	0.417	0.0			
68	56	54	1.0	0.433	0.0	67.3	25.0	63.3	68.1	68		1.0	0.286	0.0	60.1	38.4	57.0	68.7	56		1.0	0.433	0.0	1.0	0.268	0.0	59.2	40.1	56.1	69.0	54		1.0	0.433	0.0			
69	57	55	1.0	0.45	0.0	68.1	23.6	64.1	68.3	69		1.0	0.298	0.0	60.7	37.3	57.5	68.5	57		1.0	0.45	0.0	1.0	0.281	0.0	59.9	38.9	56.7	68.8	55		1.0	0.45	0.0			
71	58	56	1.0	0.466	0.0	68.9	22.1	64.8	68.5	71		1.0	0.309	0.0	61.3	36.2	58.0	68.4	58		1.0	0.467	0.0	1.0	0.294	0.0	60.5	37.7	57.3	68.6	56		1.0	0.467	0.0			
72	59	57	1.0	0.483	0.0	69.7	20.7	65.6	68.8	72		1.0	0.321	0.0	61.9	35.1	58.5	68.2	59		1.0	0.483	0.0	1.0	0.307	0.0	61.2	36.5	57.9	68.4	57		1.0	0.483	0.0			
73	60	58	1.0	0.5	0.0	70.5	19.2	66.2	69.0	73		1.0	0.332	0.0	62.5	34.0	58.9	68.0	60		1.0	0.5	0.0	1.0	0.32	0.0	61.8	35.2	58.4	68.2	58		1.0	0.5	0.0			
74	61	60	1.0	0.516	0.0	71.0	18.2	66.9	69.3	74		1.0	0.344	0.0	63.1	32.9	59.3	67.8	61		1.0	0.517	0.0	1.0	0.332	0.0	62.5	34.0	58.9	68.0	60		1.0	0.517	0.0			
75	62	61	1.0	0.533	0.0	71.6	17.2	67.5	69.7	75		1.0	0.355	0.0	63.6	31.8	59.8	67.7	62		1.0	0.533	0.0	1.0	0.345	0.0	63.1	32.8	59.4	67.8	61		1.0	0.533	0.0			
76	63	62	1.0	0.55	0.0	72.2	16.2	68.1	70.0	76		1.0	0.367	0.0	64.2	30.6	60.1	67.5	63		1.0	0.55	0.0	1.0	0.358	0.0	63.8	31.5	59.9	67.6	62		1.0	0.55	0.0			
77	64	63	1.0	0.566	0.0	72.8	15.1	68.7	70.4	77		1.0	0.378	0.0	64.8	29.6	60.6	67.4	64		1.0	0.567	0.0	1.0	0.371	0.0	64.4	30.3	60.3	67.4	63		1.0	0.567	0.0			
78	65	64	1.0	0.583	0.0	73.4	14.1	69.3	70.7	78		1.0	0.391	0.0	65.4	28.6	61.3	67.6	65		1.0	0.583	0.0	1.0	0.384	0.0	65.1	29.1	60.9	67.5	64		1.0	0.583	0.0			
79	66	65	1.0	0.6	0.0	74.0	13.0	69.9	71.1	79		1.0	0.403	0.0	66.0	27.6	61.9	67.8	66		1.0	0.6	0.0	1.0	0.398	0.0	65.7	28.0	61.6	67.7	65		1.0	0.6	0.0			
80	67	66	1.0	0.616	0.0	74.6	12.0	70.4	71.4	80		1.0	0.416	0.0	66.6	26.5	62.5	67.9	67		1.0	0.617	0.0	1.0	0.412	0.0	66.4	26.9	62.3	67.9	66		1.0	0.617	0.0			
81	68	67	1.0	0.633	0.0	75.4	10.6	71.2	72.0	81		1.0	0.428	0.0	67.1	25.5	63.1	68.1	68		1.0	0.633	0.0	1.0	0.425	0.0	67.0	25.7	63.0	68.0	67		1.0	0.633	0.0			
82	69	68	1.0	0.65	0.0	76.5	8.9	72.1	72.7	82		1.0	0.44	0.0	67.7	24.5	63.7	68.2	69		1.0	0.65	0.0	1.0	0.439	0.0	67.7	24.5	63.7	68.2	68		1.0	0.65	0.0			
84	70	70	1.0	0.666	0.0	77.5	7.2	73.0	73.4	84		1.0	0.453	0.0	68.3	23.4	64.3	68.4	70		1.0	0.667	0.0	1.0	0.453	0.0	68.3	23.4	64.3	68.4	70		1.0	0.667	0.0			
85	71	71	1.0	0.683	0.0	78.6	5.4	73.9	74.1	85		1.0	0.465	0.0	68.9	22.3	64.8	68.6	71		1.0	0.683	0.0	1.0	0.467	0.0	69.0	22.2	64.9	68.6	71		1.0	0.683	0.0			
87	72	72	1.0	0.7	0.0	79.7	3.6	74.7	74.8	87		1.0	0.477	0.0	69.5	21.2	65.4	68.7	72		1.0	0.7	0.0	1.0	0.481	0.0	69.6	20.9	65.5	68.8	72		1.0	0.7	0.0			
88	73	73	1.0	0.716	0.0	80.8	1.7	75.5	75.5	88		1.0	0.49	0.0	70.0	20.1	65.9	68.9	73		1.0	0.717	0.0	1.0	0.494	0.0	70.2	19.7	66.1	68.9	73		1.0	0.717	0.0			
−269	74	74	1.0	0.733	0.0	81.8	−0.1	76.3	76.3	−269		1.0	0.503	0.0	70.6	19.0	66.4	69.1	74		1.0	0.733	0.0	1.0	0.512	0.0	70.9	18.5	66.7	69.3	74		1.0	0.733	0.0			
−268	75	75	1.0	0.75	0.0	82.9	−2.0	76.9	77.0	−268	R_d	1.0	0.521	0.0	71.3	18.0	67.1	69.5	75		1.0	0.75	0.0	1.0	0.532	0.0	71.6	17.3	67.5	69.7	75		1.0	0.75	0.0			

1−003930−L0 PE890−70 LAB*la0, YN=0%, XYZnw=3.9, 4.1, 4.1, 84.7, 89.6, 93.9, LAB*nw=23.9, 0.0, 0.0, 95.8, 0.0, 0.0 Output: Laser printer output; separation cmyn6*, D65, page 10/33

Data of Maximum color M in colorimetric system Laser printer output; separation cmyn6*, D65 for input or output; Six hue angles of the 60 degree standard colours *RYGCBM*$_s$: $h_{ab,ds}$ = 30.0, 90.0, 150.0, 210.0, 270.0, 330.0; Six hue angles of the device colours *RYGCBM*$_d$: $h_{ab,d}$ = 33.5, 100.6, 155.5, 235.2, 290.8, 348.9; Six hue angles of the elementary colours *RYGCBM*$_e$: $h_{ab,e}$ = 25.5, 92.3, 162.2, 217.0, 271.7, 328.6

$h_{ab,d}$	$h_{ab,s}$	$h_{ab,e}$	*rgb** dd361M			*LAB** ddx361Mi (x=LabCh)						*rgb** ds361Mi			*LAB** dsx361Mi (x=LabCh)						*rgb** dd361Mi			*rgb** de361Mi			*LAB** dex361Mi (x=LabCh)						*rgb** dd361Mi			*rgb*$_{dd}$ *rgb*$_{ds}$ *rgb*$_{de}$
−268	75	75	1.0	0.75	0.0	82.9	−2.0	76.9	77.0	−268	R_d	1.0	0.521	0.0	71.3	18.0	67.1	69.5	75	1.0	0.75	0.0	1.0	0.532	0.0	71.6	17.3	67.5	69.7	75	1.0	0.75	0.0	
92	76	76	1.0	0.766	0.0	83.5	−2.9	76.8	76.9	92		1.0	0.539	0.0	71.9	16.9	67.8	69.8	76	1.0	0.767	0.0	1.0	0.552	0.0	72.3	16.1	68.2	70.1	76	1.0	0.767	0.0	
92	77	77	1.0	0.783	0.0	84.2	−3.9	76.7	76.8	92		1.0	0.557	0.0	72.5	15.8	68.4	70.2	77	1.0	0.783	0.0	1.0	0.572	0.0	73.0	14.9	69.0	70.5	77	1.0	0.783	0.0	
93	78	78	1.0	0.8	0.0	84.8	−4.8	76.5	76.7	93		1.0	0.575	0.0	73.1	14.7	69.1	70.6	78	1.0	0.8	0.0	1.0	0.592	0.0	73.7	13.6	69.7	71.0	78	1.0	0.8	0.0	
94	79	80	1.0	0.816	0.0	85.4	−5.8	76.4	76.6	94		1.0	0.593	0.0	73.8	13.5	69.7	71.0	79	1.0	0.817	0.0	1.0	0.612	0.0	74.4	12.3	70.3	71.4	80	1.0	0.817	0.0	
95	80	81	1.0	0.833	0.0	86.0	−6.7	76.2	76.5	95		1.0	0.611	0.0	74.4	12.4	70.3	71.4	80	1.0	0.833	0.0	1.0	0.629	0.0	75.2	11.0	71.0	71.9	81	1.0	0.833	0.0	
95	81	82	1.0	0.85	0.0	86.6	−7.6	76.0	76.4	95		1.0	0.627	0.0	75.1	11.2	70.9	71.8	81	1.0	0.85	0.0	1.0	0.642	0.0	76.0	9.7	71.8	72.4	82	1.0	0.85	0.0	
96	82	83	1.0	0.866	0.0	87.3	−8.6	75.8	76.3	96		1.0	0.639	0.0	75.8	10.1	71.6	72.3	82	1.0	0.867	0.0	1.0	0.655	0.0	76.9	8.4	72.5	73.0	83	1.0	0.867	0.0	
97	83	84	1.0	0.883	0.0	87.8	−9.4	76.3	76.9	97		1.0	0.651	0.0	76.6	8.9	72.2	72.8	83	1.0	0.883	0.0	1.0	0.668	0.0	77.7	7.0	73.2	73.5	84	1.0	0.883	0.0	
97	84	85	1.0	0.9	0.0	88.4	−10.3	77.6	78.2	97		1.0	0.662	0.0	77.3	7.7	72.9	73.3	84	1.0	0.9	0.0	1.0	0.681	0.0	78.5	5.6	73.9	74.1	85	1.0	0.9	0.0	
98	85	86	1.0	0.916	0.0	88.9	−11.2	78.8	79.6	98		1.0	0.674	0.0	78.1	6.4	73.5	73.8	85	1.0	0.917	0.0	1.0	0.694	0.0	79.4	4.2	74.5	74.6	86	1.0	0.917	0.0	
98	86	87	1.0	0.933	0.0	89.4	−12.0	80.0	80.9	98		1.0	0.686	0.0	78.8	5.2	74.1	74.3	86	1.0	0.933	0.0	1.0	0.707	0.0	80.2	2.8	75.1	75.2	87	1.0	0.933	0.0	
99	87	88	1.0	0.95	0.0	89.9	−12.9	81.1	82.2	99		1.0	0.697	0.0	79.6	3.9	74.7	74.8	87	1.0	0.95	0.0	1.0	0.72	0.0	81.1	1.4	75.7	75.7	88	1.0	0.95	0.0	
99	88	90	1.0	0.966	0.0	90.5	−13.9	82.3	83.5	99		1.0	0.709	0.0	80.3	2.6	75.2	75.3	88	1.0	0.967	0.0	1.0	0.733	0.0	81.9	0.0	76.3	76.3	90	1.0	0.967	0.0	
100	89	91	1.0	0.983	0.0	91.0	−14.8	83.5	84.8	100		1.0	0.721	0.0	81.1	1.3	75.8	75.8	89	1.0	0.983	0.0	1.0	0.746	0.0	82.7	−1.5	76.8	76.9	91	1.0	0.983	0.0	
100	90	92	1.0	1.0	0.0	91.5	−15.8	84.6	86.1	100	Y_d	1.0	0.732	0.0	81.8	0.0	76.3	76.3	90	Y_s	1.0	1.0	0.0	1.0	0.769	0.0	83.7	−3.0	76.8	76.9	92	Y_e	1.0	1.0	0.0	
100	91	93	0.983	1.0	0.0	91.7	−16.1	85.3	86.8	100		1.0	0.744	0.0	82.6	−1.2	76.7	76.8	91		0.983	1.0	0.0	1.0	0.796	0.0	84.7	−4.6	76.6	76.8	93		0.983	1.0	0.0	
100	92	94	0.966	1.0	0.0	91.9	−16.4	85.9	87.5	100		1.0	0.761	0.0	83.4	−2.6	76.9	77.0	92		0.967	1.0	0.0	1.0	0.823	0.0	85.7	−6.1	76.4	76.6	94		0.967	1.0	0.0	
100	93	95	0.95	1.0	0.0	92.0	−16.7	86.5	88.2	100		1.0	0.785	0.0	84.3	−3.9	76.7	76.8	93		0.95	1.0	0.0	1.0	0.851	0.0	86.7	−7.6	76.1	76.5	95		0.95	1.0	0.0	
101	94	96	0.933	1.0	0.0	92.2	−17.0	87.2	88.8	101		1.0	0.808	0.0	85.1	−5.2	76.5	76.7	94		0.933	1.0	0.0	1.0	0.879	0.0	87.8	−9.2	76.1	76.7	96		0.933	1.0	0.0	
101	95	98	0.916	1.0	0.0	92.4	−17.3	87.8	89.5	101		1.0	0.832	0.0	86.0	−6.6	76.3	76.6	95		0.917	1.0	0.0	1.0	0.918	0.0	89.0	−11.2	78.9	79.7	98		0.917	1.0	0.0	
101	96	99	0.9	1.0	0.0	92.5	−17.6	88.4	90.2	101		1.0	0.855	0.0	86.9	−7.9	76.0	76.4	96		0.9	1.0	0.0	1.0	0.957	0.0	90.2	−13.3	81.7	82.8	99		0.9	1.0	0.0	
101	97	100	0.883	1.0	0.0	92.7	−18.0	89.1	90.9	101		1.0	0.88	0.0	87.8	−9.3	76.2	76.7	97		0.883	1.0	0.0	1.0	0.996	0.0	91.5	−15.5	84.4	85.8	100		0.883	1.0	0.0	
101	98	101	0.866	1.0	0.0	92.6	−18.3	89.2	91.0	101		1.0	0.914	0.0	88.8	−10.9	78.6	79.4	98		0.867	1.0	0.0	0.867	1.0	0.0	92.6	−18.3	89.2	91.1	101		0.867	1.0	0.0	
101	99	102	0.85	1.0	0.0	92.2	−18.8	88.7	90.7	101		1.0	0.947	0.0	89.9	−12.7	81.0	82.0	99		0.85	1.0	0.0	0.808	1.0	0.0	91.4	−19.8	87.6	89.9	102		0.85	1.0	0.0	
102	100	103	0.833	1.0	0.0	91.9	−19.2	88.3	90.3	102		1.0	0.98	0.0	91.0	−14.6	83.3	84.6	100		0.833	1.0	0.0	0.75	1.0	0.0	90.1	−21.3	86.0	88.6	103		0.833	1.0	0.0	
102	101	105	0.816	1.0	0.0	91.5	−19.6	87.8	90.0	102		0.943	1.0	0.0	92.2	−16.8	86.9	88.5	101		0.817	1.0	0.0	0.737	1.0	0.0	89.0	−22.7	84.2	87.2	105		0.817	1.0	0.0	
102	102	106	0.8	1.0	0.0	91.1	−20.1	87.4	89.7	102		0.849	1.0	0.0	92.2	−18.8	88.7	90.7	102		0.8	1.0	0.0	0.724	1.0	0.0	88.0	−24.0	82.3	85.8	106		0.8	1.0	0.0	
103	103	107	0.783	1.0	0.0	90.8	−20.5	86.9	89.3	103		0.798	1.0	0.0	91.2	−20.1	87.4	89.7	103		0.783	1.0	0.0	0.71	1.0	0.0	86.9	−25.2	80.5	84.3	107		0.783	1.0	0.0	
103	104	108	0.766	1.0	0.0	90.4	−20.9	86.5	89.0	103		0.749	1.0	0.0	90.1	−21.3	86.0	88.6	104		0.767	1.0	0.0	0.697	1.0	0.0	85.8	−26.4	78.6	82.9	108		0.767	1.0	0.0	
103	105	109	0.75	1.0	0.0	90.1	−21.3	86.0	88.6	103		0.738	1.0	0.0	89.2	−22.5	84.4	87.4	105		0.75	1.0	0.0	0.684	1.0	0.0	84.7	−27.5	76.7	81.5	109		0.75	1.0	0.0	
105	106	110	0.733	1.0	0.0	88.7	−23.1	83.7	86.8	105		0.727	1.0	0.0	88.2	−23.6	82.8	86.1	106		0.733	1.0	0.0	0.671	1.0	0.0	83.7	−28.5	74.8	80.0	110		0.733	1.0	0.0	
106	107	112	0.716	1.0	0.0	87.3	−24.7	81.3	85.0	106		0.716	1.0	0.0	87.3	−24.7	81.2	84.9	107		0.717	1.0	0.0	0.658	1.0	0.0	82.6	−29.5	72.8	78.6	112		0.717	1.0	0.0	
108	108	113	0.7	1.0	0.0	86.0	−26.2	78.9	83.2	108		0.704	1.0	0.0	86.4	−25.8	79.6	83.7	108		0.7	1.0	0.0	0.645	1.0	0.0	81.5	−30.4	70.9	77.2	113		0.7	1.0	0.0	
109	109	114	0.683	1.0	0.0	84.6	−27.6	76.5	81.3	109		0.693	1.0	0.0	85.5	−26.7	78.0	82.5	109		0.683	1.0	0.0	0.632	1.0	0.0	80.4	−31.3	69.0	75.7	114		0.683	1.0	0.0	
111	110	115	0.666	1.0	0.0	83.3	−28.9	74.1	79.5	111		0.682	1.0	0.0	84.5	−27.7	76.3	81.2	110		0.667	1.0	0.0	0.619	1.0	0.0	79.5	−32.2	67.4	74.7	115		0.667	1.0	0.0	
112	111	116	0.65	1.0	0.0	81.9	−30.1	71.6	77.7	112		0.67	1.0	0.0	83.6	−28.6	74.7	80.0	111		0.65	1.0	0.0	0.607	1.0	0.0	78.6	−33.3	66.2	74.2	116		0.65	1.0	0.0	
114	112	117	0.633	1.0	0.0	80.5	−31.2	69.2	75.9	114		0.659	1.0	0.0	82.7	−29.4	73.0	78.8	112		0.633	1.0	0.0	0.595	1.0	0.0	77.8	−34.4	65.0	73.6	117		0.633	1.0	0.0	
115	113	119	0.616	1.0	0.0	79.3	−32.5	67.1	74.6	115		0.648	1.0	0.0	81.8	−30.2	71.4	77.5	113		0.617	1.0	0.0	0.584	1.0	0.0	77.0	−35.4	63.8	73.0	119		0.617	1.0	0.0	
117	114	120	0.6	1.0	0.0	78.1	−34.0	65.4	73.8	117		0.637	1.0	0.0	80.9	−30.9	69.7	76.3	114		0.6	1.0	0.0	0.572	1.0	0.0	76.1	−36.4	62.5	72.4	120		0.6	1.0	0.0	
119	115	121	0.583	1.0	0.0	76.9	−35.5	63.7	72.9	119		0.625	1.0	0.0	79.9	−31.6	68.0	75.1	115		0.583	1.0	0.0	0.56	1.0	0.0	75.3	−37.4	61.3	71.8	121		0.583	1.0	0.0	
120	116	122	0.566	1.0	0.0	75.7	−36.9	62.0	72.1	120		0.615	1.0	0.0	79.2	−32.6	67.0	74.5	116		0.567	1.0	0.0	0.548	1.0	0.0	74.4	−38.3	60.0	71.3	122		0.567	1.0	0.0	
122	117	123	0.55	1.0	0.0	74.5	−38.2	60.2	71.3	122		0.605	1.0	0.0	78.5	−33.5	66.0	74.1	117		0.55	1.0	0.0	0.536	1.0	0.0	73.6	−39.2	58.8	70.7	123		0.55	1.0	0.0	
124	118	124	0.533	1.0	0.0	73.3	−39.4	58.4	70.5	124		0.595	1.0	0.0	77.8	−34.4	64.9	73.6	118		0.533	1.0	0.0	0.524	1.0	0.0	72.7	−40.0	57.5	70.1	124		0.533	1.0	0.0	
125	119	126	0.516	1.0	0.0	72.1	−40.6	56.6	69.7	125		0.585	1.0	0.0	77.0	−35.3	63.9	73.1	119		0.517	1.0	0.0	0.512	1.0	0.0	71.9	−40.9	56.2	69.5	126		0.517	1.0	0.0	
127	120	127	0.5	1.0	0.0	70.9	−41.7	54.8	68.9	127		0.574	1.0	0.0	76.3	−36.2	62.8	72.6	120		0.5	1.0	0.0	0.501	1.0	0.0	71.0	−41.6	54.9	68.9	127		0.5	1.0	0.0	

1−0031030−L0 PE890−70 LAB*la0, YN=0%, XYZnw=3.9, 4.1, 4.1, 84.7, 89.6, 93.9, LAB*nw=23.9, 0.0, 0.0, 95.8, 0.0, 0.0 Output: Laser printer output; separation cmyn6*, D65, page 11/33

TUB-test chart PE89; 16 step hue circle
48 step hue circles; *rgb*−*LabCh**tables

input: *rgb/cmyk* −> *rgb*$_d$
output: transfer to *cmyk*$_d$

see similar files: http://130.149.60.45/~farbmetrik/PE89/PE89.HTM
technical information: http://www.ps.bam.de or http://130.149.60.45/~farbmetrik

TUB registration: 20150701-PE89/PE89L0NP.PDF /.PS
application for measurement of laser printer output, separation cmyn6 (CMYK)

TUB material: code=rha4ta

1−0031030−F0

Data of Maximum color M in colorimetric system Laser printer output; separation cmyn6*, D65 for input or output; Six hue angles of the 60 degree standard colours *RYGCBM*$_s$: $h_{ab,ds}$ = 30.0, 90.0, 150.0, 210.0, 270.0, 330.0; Six hue angles of the device colours *RYGCBM*$_d$: $h_{ab,d}$ = 33.5, 100.6, 155.5, 235.2, 290.8, 348.9; Six hue angles of the elementary colours *RYGCBM*$_e$: $h_{ab,e}$ = 25.5, 92.3, 162.2, 217.0, 271.7, 328.6

$h_{ab,d}$	$h_{ab,s}$	$h_{ab,e}$	*rgb**dd361M			*LAB**ddx361Mi (x=LabCh)					*rgb**ds361Mi			*LAB**dsx361Mi (x=LabCh)					*rgb**dd361Mi			*rgb**de361Mi			*LAB**dex361Mi (x=LabCh)					*rgb**dd361Mi		
127	120	127	0.5	1.0	0.0	70.9	−41.7	54.8	68.9	127	0.574	1.0	0.0	76.3	−36.2	62.8	72.6	120	0.5	1.0	0.0	0.501	1.0	0.0	71.0	−41.6	54.9	68.9	127	0.5	1.0	0.0
128	121	128	0.483	1.0	0.0	70.4	−42.6	53.9	68.7	128	0.564	1.0	0.0	75.6	−37.0	61.8	72.1	121	0.483	1.0	0.0	0.481	1.0	0.0	70.3	−42.6	53.8	68.7	128	0.483	1.0	0.0
129	122	129	0.466	1.0	0.0	69.8	−43.4	53.0	68.5	129	0.554	1.0	0.0	74.9	−37.8	60.7	71.6	122	0.467	1.0	0.0	0.462	1.0	0.0	69.6	−43.6	52.8	68.5	129	0.467	1.0	0.0
130	123	130	0.45	1.0	0.0	69.2	−44.2	52.1	68.3	130	0.544	1.0	0.0	74.1	−38.6	59.6	71.1	123	0.45	1.0	0.0	0.442	1.0	0.0	68.9	−44.5	51.7	68.3	130	0.45	1.0	0.0
131	124	131	0.433	1.0	0.0	68.6	−45.0	51.2	68.2	131	0.534	1.0	0.0	73.4	−39.4	58.5	70.6	124	0.433	1.0	0.0	0.422	1.0	0.0	68.3	−45.4	50.7	68.1	131	0.433	1.0	0.0
132	125	133	0.416	1.0	0.0	68.0	−45.7	50.3	68.0	132	0.524	1.0	0.0	72.7	−40.1	57.4	70.1	125	0.417	1.0	0.0	0.403	1.0	0.0	67.6	−46.3	49.6	67.9	133	0.417	1.0	0.0
133	126	134	0.4	1.0	0.0	67.4	−46.5	49.4	67.8	133	0.513	1.0	0.0	72.0	−40.8	56.3	69.6	126	0.4	1.0	0.0	0.383	1.0	0.0	66.9	−47.1	48.5	67.7	134	0.4	1.0	0.0
134	127	135	0.383	1.0	0.0	66.8	−47.2	48.5	67.7	134	0.503	1.0	0.0	71.2	−41.5	55.2	69.1	127	0.383	1.0	0.0	0.366	1.0	0.0	66.2	−48.2	47.6	67.8	135	0.383	1.0	0.0
135	128	136	0.366	1.0	0.0	66.1	−48.2	47.5	67.7	135	0.489	1.0	0.0	70.6	−42.3	54.2	68.8	128	0.367	1.0	0.0	0.352	1.0	0.0	65.5	−49.4	46.8	68.1	136	0.367	1.0	0.0
136	129	137	0.35	1.0	0.0	65.4	−49.5	46.6	68.1	136	0.472	1.0	0.0	70.0	−43.1	53.3	68.6	129	0.35	1.0	0.0	0.337	1.0	0.0	64.8	−50.5	46.0	68.4	137	0.35	1.0	0.0
138	130	138	0.333	1.0	0.0	64.6	−50.9	45.7	68.4	138	0.455	1.0	0.0	69.4	−43.9	52.4	68.4	130	0.333	1.0	0.0	0.323	1.0	0.0	64.1	−51.7	45.1	68.7	138	0.333	1.0	0.0
139	131	140	0.316	1.0	0.0	63.8	−52.2	44.7	68.7	139	0.438	1.0	0.0	68.8	−44.7	51.5	68.3	131	0.317	1.0	0.0	0.308	1.0	0.0	63.4	−52.8	44.2	68.9	140	0.317	1.0	0.0
140	132	141	0.3	1.0	0.0	63.0	−53.5	43.7	69.1	140	0.421	1.0	0.0	68.2	−45.5	50.6	68.1	132	0.3	1.0	0.0	0.294	1.0	0.0	62.7	−53.9	43.3	69.2	141	0.3	1.0	0.0
142	133	142	0.283	1.0	0.0	62.2	−54.7	42.6	69.4	142	0.404	1.0	0.0	67.6	−46.2	49.7	67.9	133	0.283	1.0	0.0	0.279	1.0	0.0	62.0	−55.0	42.4	69.5	142	0.283	1.0	0.0
143	134	143	0.266	1.0	0.0	61.4	−56.0	41.5	69.7	143	0.387	1.0	0.0	67.0	−47.0	48.7	67.7	134	0.267	1.0	0.0	0.265	1.0	0.0	61.3	−56.1	41.4	69.8	143	0.267	1.0	0.0
144	135	144	0.25	1.0	0.0	60.6	−57.2	40.4	70.1	144	0.372	1.0	0.0	66.4	−47.8	47.9	67.7	135	0.25	1.0	0.0	0.25	1.0	0.0	60.6	−57.1	40.5	70.1	144	0.25	1.0	0.0
145	136	145	0.233	1.0	0.0	60.1	−57.9	39.6	70.2	145	0.359	1.0	0.0	65.8	−48.8	47.2	67.9	136	0.233	1.0	0.0	0.227	1.0	0.0	60.0	−58.1	39.4	70.3	145	0.233	1.0	0.0
146	137	147	0.216	1.0	0.0	59.6	−58.6	38.9	70.3	146	0.347	1.0	0.0	65.2	−49.8	46.5	68.2	137	0.217	1.0	0.0	0.204	1.0	0.0	59.3	−59.1	38.3	70.5	147	0.217	1.0	0.0
147	138	148	0.2	1.0	0.0	59.1	−59.3	38.1	70.5	147	0.334	1.0	0.0	64.7	−50.8	45.8	68.4	138	0.2	1.0	0.0	0.181	1.0	0.0	58.6	−60.0	37.2	70.7	148	0.2	1.0	0.0
148	139	149	0.183	1.0	0.0	58.7	−59.9	37.3	70.6	148	0.322	1.0	0.0	64.1	−51.7	45.1	68.7	139	0.183	1.0	0.0	0.158	1.0	0.0	58.0	−60.9	36.1	70.8	149	0.183	1.0	0.0
148	140	150	0.166	1.0	0.0	58.2	−60.6	36.4	70.7	148	0.309	1.0	0.0	63.5	−52.7	44.3	68.9	140	0.167	1.0	0.0	0.135	1.0	0.0	57.3	−61.8	34.9	71.0	150	0.167	1.0	0.0
149	141	151	0.15	1.0	0.0	57.7	−61.2	35.6	70.9	149	0.297	1.0	0.0	62.9	−53.7	43.5	69.2	141	0.15	1.0	0.0	0.106	1.0	0.0	56.6	−63.0	33.9	71.6	151	0.15	1.0	0.0
150	142	152	0.133	1.0	0.0	57.2	−61.9	34.8	71.0	150	0.284	1.0	0.0	62.3	−54.6	42.7	69.4	142	0.133	1.0	0.0	0.073	1.0	0.0	55.9	−64.4	33.0	72.5	152	0.133	1.0	0.0
151	143	154	0.116	1.0	0.0	56.8	−62.5	34.1	71.3	151	0.272	1.0	0.0	61.7	−55.5	41.9	69.7	143	0.117	1.0	0.0	0.041	1.0	0.0	55.2	−65.8	32.1	73.3	154	0.117	1.0	0.0
151	144	155	0.1	1.0	0.0	56.4	−63.3	33.7	71.7	151	0.259	1.0	0.0	61.1	−56.5	41.1	69.9	144	0.1	1.0	0.0	0.008	1.0	0.0	54.5	−67.2	31.1	74.2	155	0.1	1.0	0.0
152	145	156	0.083	1.0	0.0	56.1	−64.0	33.2	72.1	152	0.245	1.0	0.0	60.5	−57.4	40.2	70.1	145	0.083	1.0	0.0	0.0	1.0	0.021	54.3	−67.4	29.5	73.7	156	0.083	1.0	0.0
153	146	157	0.066	1.0	0.0	55.7	−64.7	32.8	72.6	153	0.225	1.0	0.0	59.9	−58.2	39.3	70.3	146	0.067	1.0	0.0	0.0	1.0	0.048	54.1	−67.2	27.8	72.8	157	0.067	1.0	0.0
153	147	158	0.049	1.0	0.0	55.4	−65.5	32.3	73.0	153	0.205	1.0	0.0	59.3	−59.0	38.4	70.5	147	0.05	1.0	0.0	0.0	1.0	0.075	54.0	−66.9	26.1	71.9	158	0.05	1.0	0.0
154	148	159	0.033	1.0	0.0	55.0	−66.2	31.8	73.5	154	0.186	1.0	0.0	58.8	−59.8	37.4	70.6	148	0.033	1.0	0.0	0.0	1.0	0.102	53.9	−66.6	24.4	71.0	159	0.033	1.0	0.0
154	149	161	0.016	1.0	0.0	54.7	−66.9	31.3	73.9	154	0.166	1.0	0.0	58.2	−60.6	36.5	70.8	149	0.017	1.0	0.0	0.0	1.0	0.128	53.8	−66.3	22.8	70.2	161	0.017	1.0	0.0
155	150	162	0.0	1.0	0.0	54.3	−67.6	30.8	74.3	155	G_d 0.146	1.0	0.0	57.6	−61.3	35.5	70.9	150	G_s 0.0	1.0	0.0	0.0	1.0	0.147	53.8	−65.9	21.1	69.3	162	G_e 0.0	1.0	0.0
156	151	163	0.0	1.0	0.016	54.2	−67.5	29.7	73.8	156	0.126	1.0	0.0	57.0	−62.1	34.5	71.1	151	0.0	1.0	0.017	0.0	1.0	0.162	53.8	−65.5	19.9	68.6	163	0.0	1.0	0.017
156	152	164	0.0	1.0	0.033	54.2	−67.4	28.6	73.2	156	0.099	1.0	0.0	56.4	−63.3	33.7	71.8	152	0.0	1.0	0.033	0.0	1.0	0.177	53.8	−65.2	18.7	67.9	164	0.0	1.0	0.033
157	153	164	0.0	1.0	0.05	54.1	−67.2	27.6	72.7	157	0.071	1.0	0.0	55.9	−64.5	32.9	72.5	153	0.0	1.0	0.05	0.0	1.0	0.192	53.8	−64.8	17.4	67.2	164	0.0	1.0	0.05
158	154	165	0.0	1.0	0.066	54.0	−67.1	26.6	72.1	158	0.042	1.0	0.0	55.3	−65.7	32.1	73.3	154	0.0	1.0	0.067	0.0	1.0	0.207	53.8	−64.4	16.2	66.5	165	0.0	1.0	0.067
159	155	166	0.0	1.0	0.083	53.9	−66.9	25.5	71.6	159	0.014	1.0	0.0	54.7	−67.0	31.3	74.0	155	0.0	1.0	0.083	0.0	1.0	0.222	53.8	−63.9	15.0	65.8	166	0.0	1.0	0.083
159	156	167	0.0	1.0	0.1	53.9	−66.7	24.5	71.1	159	0.0	1.0	0.011	54.3	−67.5	30.1	74.0	156	0.0	1.0	0.1	0.0	1.0	0.237	53.8	−63.5	13.9	65.1	167	0.0	1.0	0.1
160	157	168	0.0	1.0	0.116	53.8	−66.5	23.5	70.5	160	0.0	1.0	0.035	54.2	−67.3	28.6	73.2	157	0.0	1.0	0.117	0.0	1.0	0.251	53.8	−63.0	12.7	64.4	168	0.0	1.0	0.117
161	158	169	0.0	1.0	0.133	53.8	−66.2	22.3	69.9	161	0.0	1.0	0.058	54.1	−67.1	27.2	72.5	158	0.0	1.0	0.133	0.0	1.0	0.261	53.9	−62.6	11.6	63.8	169	0.0	1.0	0.133
162	159	170	0.0	1.0	0.15	53.8	−65.8	20.8	69.1	162	0.0	1.0	0.081	54.0	−66.9	25.7	71.7	159	0.0	1.0	0.15	0.0	1.0	0.271	54.0	−62.2	10.5	63.2	170	0.0	1.0	0.15
163	160	171	0.0	1.0	0.166	53.8	−65.5	19.4	68.3	163	0.0	1.0	0.104	53.9	−66.6	24.3	71.0	160	0.0	1.0	0.167	0.0	1.0	0.281	54.0	−61.7	9.4	62.6	171	0.0	1.0	0.167
164	161	172	0.0	1.0	0.183	53.8	−65.0	18.1	67.5	164	0.0	1.0	0.127	53.8	−66.3	22.9	70.2	161	0.0	1.0	0.183	0.0	1.0	0.291	54.1	−61.3	8.3	61.9	172	0.0	1.0	0.183
165	162	173	0.0	1.0	0.2	53.8	−64.6	16.7	66.7	165	0.0	1.0	0.143	53.8	−65.9	21.5	69.4	162	0.0	1.0	0.2	0.0	1.0	0.301	54.2	−60.8	7.3	61.3	173	0.0	1.0	0.2
166	163	174	0.0	1.0	0.216	53.7	−64.1	15.4	66.0	166	0.0	1.0	0.16	53.8	−65.6	20.1	68.7	163	0.0	1.0	0.217	0.0	1.0	0.311	54.3	−60.3	6.3	60.7	174	0.0	1.0	0.217
167	164	175	0.0	1.0	0.233	53.7	−63.6	14.1	65.2	167	0.0	1.0	0.176	53.8	−65.2	18.7	67.9	164	0.0	1.0	0.233	0.0	1.0	0.321	54.3	−59.8	5.2	60.1	175	0.0	1.0	0.233
168	165	175	0.0	1.0	0.25	53.7	−63.1	12.8	64.4	168	0.0	1.0	0.192	53.8	−64.7	17.4	67.1	165	0.0	1.0	0.25	0.0	1.0	0.331	54.4	−59.3	4.2	59.5	175	0.0	1.0	0.25

*rgb**$_{dd}$ *rgb**$_{ds}$ *rgb**$_{de}$

1−0031130−L0 PE890−70 LAB*la0, YN=0%, XYZnw=3.9, 4.1, 4.1, 84.7, 89.6, 93.9, LAB*nw=23.9, 0.0, 0.0, 95.8, 0.0, 0.0 Output: Laser printer output; separation cmyn6*, D65, page 12/33

TUB-test chart PE89; 16 step hue circle
48 step hue circles; *rgb*−*LabCh**tables

input: *rgb/cmyk* −> *rgb*$_d$
output: transfer to *cmyk*$_d$

see similar files: http://130.149.60.45/~farbmetrik/PE89/PE89.HTM
technical information: http://www.ps.bam.de or http://130.149.60.45/~farbmetrik

TUB registration: 20150701-PE89/PE89L0NP.PDF /.PS
application for measurement of laser printer output, separation cmyn6 (CMYK)
TUB material: code=rha4ta

Data of Maximum color M in colorimetric system Laser printer output; separation cmyn6*, D65 for input or output; Six hue angles of the 60 degree standard colours *RYGCBM*$_s$: $h_{ab,ds}$ = 30.0, 90.0, 150.0, 210.0, 270.0, 330.0; Six hue angles of the device colours *RYGCBM*$_d$: $h_{ab,d}$ = 33.5, 100.6, 155.5, 235.2, 290.8, 348.9; Six hue angles of the elementary colours *RYGCBM*$_e$: $h_{ab,e}$ = 25.5, 92.3, 162.2, 217.0, 271.7, 328.6

$h_{ab,d}$	$h_{ab,s}$	$h_{ab,e}$	*rgb**dd361M			*LAB**ddx361Mi (x=LabCh)						*rgb**ds361Mi			*LAB**dsx361Mi (x=LabCh)						*rgb**dd361Mi			*rgb**de361Mi			*LAB**dex361Mi (x=LabCh)						*rgb**dd361Mi			*rgb**dd	*rgb**ds	*rgb**de
168	165	175	0.0	1.0	0.25	53.7	−63.1	12.8	64.4	168	0.0	1.0	0.192	53.8	−64.7	17.4	67.1	165	0.0	1.0	0.25	0.0	1.0	0.331	54.4	−59.3	4.2	59.5	175	0.0	1.0	0.25			
170	166	176	0.0	1.0	0.266	53.9	−62.4	10.9	63.4	170	0.0	1.0	0.209	53.8	−64.3	16.1	66.4	166	0.0	1.0	0.267	0.0	1.0	0.341	54.5	−58.7	3.3	58.9	176	0.0	1.0	0.267			
171	167	177	0.0	1.0	0.283	54.0	−61.7	9.1	62.4	171	0.0	1.0	0.225	53.8	−63.8	14.8	65.6	167	0.0	1.0	0.283	0.0	1.0	0.351	54.6	−58.2	2.3	58.3	177	0.0	1.0	0.283			
173	168	178	0.0	1.0	0.3	54.1	−60.9	7.3	61.3	173	0.0	1.0	0.242	53.8	−63.3	13.5	64.8	168	0.0	1.0	0.3	0.0	1.0	0.361	54.7	−57.6	1.4	57.7	178	0.0	1.0	0.3			
174	169	179	0.0	1.0	0.316	54.3	−60.1	5.6	60.3	174	0.0	1.0	0.255	53.8	−62.8	12.2	64.1	169	0.0	1.0	0.317	0.0	1.0	0.371	54.7	−57.0	0.4	57.1	179	0.0	1.0	0.317			
176	170	180	0.0	1.0	0.333	54.4	−59.2	3.9	59.3	176	0.0	1.0	0.266	53.9	−62.4	11.0	63.5	170	0.0	1.0	0.333	0.0	1.0	0.382	54.8	−56.5	−0.4	56.6	180	0.0	1.0	0.333			
177	171	181	0.0	1.0	0.35	54.5	−58.2	2.3	58.3	177	0.0	1.0	0.277	54.0	−61.9	9.8	62.8	171	0.0	1.0	0.35	0.0	1.0	0.393	54.8	−56.0	−1.3	56.2	181	0.0	1.0	0.35			
179	172	182	0.0	1.0	0.366	54.7	−57.3	0.8	57.3	179	0.0	1.0	0.288	54.1	−61.4	8.6	62.1	172	0.0	1.0	0.367	0.0	1.0	0.405	54.8	−55.6	−2.1	55.7	182	0.0	1.0	0.367			
180	173	183	0.0	1.0	0.383	54.7	−56.5	−0.6	56.5	180	0.0	1.0	0.299	54.2	−60.9	7.5	61.5	173	0.0	1.0	0.383	0.0	1.0	0.416	54.9	−55.1	−3.0	55.3	183	0.0	1.0	0.383			
181	174	184	0.0	1.0	0.4	54.8	−55.8	−1.8	55.9	181	0.0	1.0	0.31	54.3	−60.4	6.4	60.8	174	0.0	1.0	0.4	0.0	1.0	0.428	54.9	−54.6	−3.8	54.9	184	0.0	1.0	0.4			
183	175	185	0.0	1.0	0.416	54.8	−55.2	−3.1	55.2	183	0.0	1.0	0.321	54.3	−59.8	5.2	60.1	175	0.0	1.0	0.417	0.0	1.0	0.439	54.9	−54.1	−4.7	54.5	185	0.0	1.0	0.417			
184	176	185	0.0	1.0	0.433	54.8	−54.5	−4.3	54.6	184	0.0	1.0	0.332	54.4	−59.2	4.1	59.5	176	0.0	1.0	0.433	0.0	1.0	0.451	54.9	−53.6	−5.5	54.0	185	0.0	1.0	0.433			
185	177	186	0.0	1.0	0.45	54.9	−53.7	−5.5	54.0	185	0.0	1.0	0.343	54.5	−58.6	3.1	58.8	177	0.0	1.0	0.45	0.0	1.0	0.463	55.0	−53.1	−6.3	53.6	186	0.0	1.0	0.45			
187	178	187	0.0	1.0	0.466	54.9	−53.0	−6.6	53.4	187	0.0	1.0	0.354	54.6	−58.0	2.0	58.1	178	0.0	1.0	0.467	0.0	1.0	0.474	55.0	−52.6	−7.1	53.2	187	0.0	1.0	0.467			
188	179	188	0.0	1.0	0.483	55.0	−52.2	−7.8	52.8	188	0.0	1.0	0.365	54.7	−57.3	1.0	57.5	179	0.0	1.0	0.483	0.0	1.0	0.486	55.0	−52.1	−7.9	52.8	188	0.0	1.0	0.483			
189	180	189	0.0	1.0	0.5	55.0	−51.4	−8.9	52.2	189	0.0	1.0	0.375	54.8	−56.7	0.0	56.8	180	0.0	1.0	0.5	0.0	1.0	0.497	55.0	−51.5	−8.6	52.3	189	0.0	1.0	0.5			
191	181	190	0.0	1.0	0.516	55.0	−50.6	−10.5	51.7	191	0.0	1.0	0.388	54.8	−56.2	−0.9	56.3	181	0.0	1.0	0.517	0.0	1.0	0.506	55.1	−51.1	−9.4	52.1	190	0.0	1.0	0.517			
193	182	191	0.0	1.0	0.533	55.1	−49.7	−12.1	51.2	193	0.0	1.0	0.401	54.8	−55.7	−1.8	55.9	182	0.0	1.0	0.533	0.0	1.0	0.514	55.1	−50.7	−10.2	51.8	191	0.0	1.0	0.533			
195	183	192	0.0	1.0	0.55	55.1	−48.8	−13.7	50.7	195	0.0	1.0	0.414	54.9	−55.2	−2.8	55.4	183	0.0	1.0	0.55	0.0	1.0	0.522	55.1	−50.3	−10.9	51.6	192	0.0	1.0	0.55			
197	184	193	0.0	1.0	0.566	55.2	−47.8	−15.2	50.2	197	0.0	1.0	0.426	54.9	−54.7	−3.7	54.9	184	0.0	1.0	0.567	0.0	1.0	0.529	55.1	−49.9	−11.7	51.4	193	0.0	1.0	0.567			
199	185	194	0.0	1.0	0.583	55.2	−46.8	−16.6	49.7	199	0.0	1.0	0.439	54.9	−54.2	−4.6	54.5	185	0.0	1.0	0.583	0.0	1.0	0.537	55.1	−49.5	−12.4	51.1	194	0.0	1.0	0.583			
201	186	195	0.0	1.0	0.6	55.2	−45.8	−18.0	49.2	201	0.0	1.0	0.452	54.9	−53.6	−5.5	54.0	186	0.0	1.0	0.6	0.0	1.0	0.545	55.2	−49.0	−13.1	50.9	195	0.0	1.0	0.6			
203	187	195	0.0	1.0	0.616	55.3	−44.7	−19.4	48.7	203	0.0	1.0	0.464	55.0	−53.0	−6.4	53.5	187	0.0	1.0	0.617	0.0	1.0	0.553	55.2	−48.6	−13.9	50.7	195	0.0	1.0	0.617			
205	188	196	0.0	1.0	0.633	55.3	−43.8	−20.5	48.4	205	0.0	1.0	0.477	55.0	−52.5	−7.3	53.1	188	0.0	1.0	0.633	0.0	1.0	0.561	55.2	−48.2	−14.6	50.4	196	0.0	1.0	0.633			
206	189	197	0.0	1.0	0.65	55.3	−43.3	−21.5	48.3	206	0.0	1.0	0.49	55.0	−51.9	−8.1	52.6	189	0.0	1.0	0.65	0.0	1.0	0.568	55.2	−47.7	−15.3	50.2	197	0.0	1.0	0.65			
207	190	198	0.0	1.0	0.666	55.3	−42.7	−22.5	48.3	207	0.0	1.0	0.502	55.1	−51.3	−9.0	52.2	190	0.0	1.0	0.667	0.0	1.0	0.576	55.2	−47.2	−15.9	50.0	198	0.0	1.0	0.667			
209	191	199	0.0	1.0	0.683	55.2	−42.1	−23.4	48.2	209	0.0	1.0	0.51	55.1	−50.9	−9.8	51.9	191	0.0	1.0	0.683	0.0	1.0	0.584	55.3	−46.7	−16.6	49.7	199	0.0	1.0	0.683			
210	192	200	0.0	1.0	0.7	55.2	−41.5	−24.4	48.1	210	0.0	1.0	0.519	55.1	−50.5	−10.6	51.7	192	0.0	1.0	0.7	0.0	1.0	0.592	55.3	−46.3	−17.3	49.5	200	0.0	1.0	0.7			
211	193	201	0.0	1.0	0.716	55.2	−40.8	−25.3	48.0	211	0.0	1.0	0.527	55.1	−50.0	−11.5	51.4	193	0.0	1.0	0.717	0.0	1.0	0.6	55.3	−45.8	−17.9	49.3	201	0.0	1.0	0.717			
213	194	202	0.0	1.0	0.733	55.2	−40.2	−26.2	48.0	213	0.0	1.0	0.536	55.1	−49.6	−12.3	51.2	194	0.0	1.0	0.733	0.0	1.0	0.607	55.3	−45.2	−18.6	49.0	202	0.0	1.0	0.733			
214	195	203	0.0	1.0	0.75	55.2	−39.5	−27.1	47.9	214	0.0	1.0	0.544	55.2	−49.1	−13.1	50.9	195	0.0	1.0	0.75	0.0	1.0	0.615	55.3	−44.7	−19.2	48.8	203	0.0	1.0	0.75			
215	196	204	0.0	1.0	0.766	55.1	−39.2	−27.9	48.1	215	0.0	1.0	0.553	55.2	−48.6	−13.9	50.7	196	0.0	1.0	0.767	0.0	1.0	0.623	55.4	−44.2	−19.8	48.6	204	0.0	1.0	0.767			
216	197	205	0.0	1.0	0.783	55.0	−38.8	−28.7	48.3	216	0.0	1.0	0.561	55.2	−48.1	−14.6	50.4	197	0.0	1.0	0.783	0.0	1.0	0.633	55.3	−43.8	−20.5	48.5	205	0.0	1.0	0.783			
217	198	206	0.0	1.0	0.8	54.9	−38.5	−29.5	48.5	217	0.0	1.0	0.57	55.2	−47.6	−15.4	50.2	198	0.0	1.0	0.8	0.0	1.0	0.645	55.3	−43.4	−21.1	48.4	206	0.0	1.0	0.8			
218	199	206	0.0	1.0	0.816	54.8	−38.1	−30.3	48.7	218	0.0	1.0	0.578	55.2	−47.1	−16.1	49.9	199	0.0	1.0	0.817	0.0	1.0	0.656	55.3	−43.0	−21.8	48.4	206	0.0	1.0	0.817			
219	200	207	0.0	1.0	0.833	54.7	−37.7	−31.1	48.9	219	0.0	1.0	0.587	55.3	−46.6	−16.9	49.6	200	0.0	1.0	0.833	0.0	1.0	0.667	55.3	−42.6	−22.5	48.3	207	0.0	1.0	0.833			
220	201	208	0.0	1.0	0.85	54.6	−37.3	−31.9	49.1	220	0.0	1.0	0.596	55.3	−46.0	−17.6	49.4	201	0.0	1.0	0.85	0.0	1.0	0.679	55.3	−42.2	−23.1	48.3	208	0.0	1.0	0.85			
221	202	209	0.0	1.0	0.866	54.5	−36.9	−32.6	49.3	221	0.0	1.0	0.604	55.3	−45.5	−18.3	49.1	202	0.0	1.0	0.867	0.0	1.0	0.69	55.3	−41.8	−23.8	48.2	209	0.0	1.0	0.867			
222	203	210	0.0	1.0	0.883	54.3	−36.4	−33.7	49.6	222	0.0	1.0	0.613	55.3	−44.9	−19.0	48.9	203	0.0	1.0	0.883	0.0	1.0	0.702	55.3	−41.4	−24.4	48.2	210	0.0	1.0	0.883			
224	204	211	0.0	1.0	0.9	54.2	−35.6	−35.1	50.0	224	0.0	1.0	0.621	55.3	−44.3	−19.7	48.6	204	0.0	1.0	0.9	0.0	1.0	0.713	55.3	−40.9	−25.0	48.1	211	0.0	1.0	0.9			
226	205	212	0.0	1.0	0.916	54.0	−34.8	−36.5	50.4	226	0.0	1.0	0.632	55.3	−43.8	−20.4	48.5	205	0.0	1.0	0.917	0.0	1.0	0.724	55.3	−40.5	−25.7	48.1	212	0.0	1.0	0.917			
228	206	213	0.0	1.0	0.933	53.8	−33.9	−37.8	50.8	228	0.0	1.0	0.644	55.3	−43.4	−21.1	48.4	206	0.0	1.0	0.933	0.0	1.0	0.736	55.2	−40.0	−26.3	48.0	213	0.0	1.0	0.933			
229	207	214	0.0	1.0	0.95	53.6	−33.0	−39.2	51.2	229	0.0	1.0	0.657	55.3	−43.0	−21.9	48.4	207	0.0	1.0	0.95	0.0	1.0	0.747	55.2	−39.5	−26.9	48.0	214	0.0	1.0	0.95			
231	208	215	0.0	1.0	0.966	53.4	−32.0	−40.5	51.7	231	0.0	1.0	0.669	55.3	−42.6	−22.6	48.3	208	0.0	1.0	0.967	0.0	1.0	0.761	55.2	−39.2	−27.6	48.1	215	0.0	1.0	0.967			
233	209	216	0.0	1.0	0.983	53.3	−31.0	−41.8	52.1	233	0.0	1.0	0.682	55.3	−42.1	−23.3	48.3	209	0.0	1.0	0.983	0.0	1.0	0.777	55.1	−38.9	−28.3	48.3	216	0.0	1.0	0.983			
235	210	216	0.0	1.0	1.0	53.1	−30.0	−43.1	52.5	235	C_d	0.0	1.0	0.694	55.3	−41.6	−24.0	48.2	210	C_s	0.0	1.0	1.0	0.0	1.0	0.792	55.0	−38.6	−29.0	48.4	216	C_e	0.0	1.0	1.0			

1−0031230−L0 PE890−70 LAB*la0, YN=0%, XYZnw=3.9, 4.1, 4.1, 84.7, 89.6, 93.9, LAB*nw=23.9, 0.0, 0.0, 95.8, 0.0, 0.0 Output: Laser printer output; separation cmyn6*, D65, page 13/33

TUB-test chart PE89; 16 step hue circle
48 step hue circles; *rgb*−*LabCh**tables

input: *rgb/cmyk* −> *rgb*$_d$
output: transfer to *cmyk*$_d$

see similar files: http://130.149.60.45/~farbmetrik/PE89/PE89.HTM
technical information: http://www.ps.bam.de or http://130.149.60.45/~farbmetrik

TUB registration: 20150701-PE89/PE89L0NP.PDF /.PS
application for measurement of laser printer output, separation cmyn6 (CMYK)
TUB material: code=rha4ta

Data of Maximum color M in colorimetric system Laser printer output; separation cmyn6*, D65 for input or output; Six hue angles of the 60 degree standard colours *RYGCBM*$_s$: $h_{ab,ds}$ = 30.0, 90.0, 150.0, 210.0, 270.0, 330.0; Six hue angles of the device colours *RYGCBM*$_d$: $h_{ab,d}$ = 33.5, 100.6, 155.5, 235.2, 290.8, 348.9; Six hue angles of the elementary colours *RYGCBM*$_e$: $h_{ab,e}$ = 25.5, 92.3, 162.2, 217.0, 271.7, 328.6

$h_{ab,d}$	$h_{ab,s}$	$h_{ab,e}$	*rgb**dd361M			*LAB**ddx361Mi (x=LabCh)						*rgb**ds361Mi			*LAB**dsx361Mi (x=LabCh)						*rgb**dd361Mi			*rgb**de361Mi			*LAB**dex361Mi (x=LabCh)						*rgb**dd361Mi			*rgb**dd *rgb**ds *rgb**de
235	210	216	0.0	1.0	1.0	53.1	−30.0	−43.1	52.5	235	C_d	0.0	1.0	0.694	55.3	−41.6	−24.0	48.2	210	C_s	0.0	1.0	1.0	0.0	1.0	0.792	55.0	−38.6	−29.0	48.4	216	C_e	0.0	1.0	1.0	
235	211	217	0.0	0.983	1.0	53.1	−29.7	−43.3	52.5	235		0.0	1.0	0.707	55.3	−41.2	−24.7	48.1	211		0.0	0.983	1.0	0.0	1.0	0.807	54.9	−38.3	−29.8	48.6	217		0.0	0.983	1.0	
235	212	218	0.0	0.966	1.0	53.1	−29.4	−43.5	52.5	235		0.0	1.0	0.719	55.3	−40.7	−25.4	48.1	212		0.0	0.967	1.0	0.0	1.0	0.822	54.8	−37.9	−30.5	48.8	218		0.0	0.967	1.0	
236	213	219	0.0	0.95	1.0	53.1	−29.2	−43.7	52.6	236		0.0	1.0	0.732	55.3	−40.2	−26.1	48.0	213		0.0	0.95	1.0	0.0	1.0	0.837	54.7	−37.6	−31.2	49.0	219		0.0	0.95	1.0	
236	214	220	0.0	0.933	1.0	53.1	−28.9	−43.9	52.6	236		0.0	1.0	0.744	55.2	−39.7	−26.7	48.0	214		0.0	0.933	1.0	0.0	1.0	0.853	54.6	−37.2	−31.9	49.2	220		0.0	0.933	1.0	
237	215	221	0.0	0.916	1.0	53.1	−28.6	−44.2	52.6	237		0.0	1.0	0.759	55.2	−39.3	−27.5	48.1	215		0.0	0.917	1.0	0.0	1.0	0.868	54.5	−36.9	−32.6	49.4	221		0.0	0.917	1.0	
237	216	222	0.0	0.9	1.0	53.1	−28.3	−44.4	52.7	237		0.0	1.0	0.775	55.1	−38.9	−28.3	48.3	216		0.0	0.9	1.0	0.0	1.0	0.88	54.4	−36.5	−33.4	49.6	222		0.0	0.9	1.0	
237	217	223	0.0	0.883	1.0	53.1	−28.1	−44.6	52.7	237		0.0	1.0	0.792	55.0	−38.6	−29.1	48.5	217		0.0	0.883	1.0	0.0	1.0	0.888	54.3	−36.1	−34.1	49.8	223		0.0	0.883	1.0	
238	218	224	0.0	0.866	1.0	53.0	−27.8	−44.9	52.8	238		0.0	1.0	0.809	54.9	−38.2	−29.9	48.7	218		0.0	0.867	1.0	0.0	1.0	0.897	54.2	−35.7	−34.8	50.0	224		0.0	0.867	1.0	
238	219	225	0.0	0.85	1.0	53.0	−27.5	−45.3	53.0	238		0.0	1.0	0.825	54.8	−37.9	−30.6	48.9	219		0.0	0.85	1.0	0.0	1.0	0.906	54.1	−35.3	−35.5	50.2	225		0.0	0.85	1.0	
239	220	226	0.0	0.833	1.0	53.0	−27.3	−45.6	53.2	239		0.0	1.0	0.842	54.7	−37.5	−31.4	49.1	220		0.0	0.833	1.0	0.0	1.0	0.914	54.1	−34.9	−36.2	50.4	226		0.0	0.833	1.0	
239	221	227	0.0	0.816	1.0	53.0	−27.0	−46.0	53.4	239		0.0	1.0	0.859	54.6	−37.1	−32.2	49.3	221		0.0	0.817	1.0	0.0	1.0	0.923	54.0	−34.4	−36.9	50.6	227		0.0	0.817	1.0	
240	222	227	0.0	0.8	1.0	52.9	−26.7	−46.4	53.6	240		0.0	1.0	0.875	54.5	−36.7	−33.0	49.5	222		0.0	0.8	1.0	0.0	1.0	0.932	53.9	−34.0	−37.6	50.8	227		0.0	0.8	1.0	
240	223	228	0.0	0.783	1.0	52.9	−26.5	−46.8	53.8	240		0.0	1.0	0.885	54.4	−36.2	−33.8	49.7	223		0.0	0.783	1.0	0.0	1.0	0.94	53.8	−33.5	−38.3	51.1	228		0.0	0.783	1.0	
240	224	229	0.0	0.766	1.0	52.9	−26.2	−47.2	53.9	240		0.0	1.0	0.894	54.3	−35.8	−34.6	49.9	224		0.0	0.767	1.0	0.0	1.0	0.949	53.7	−33.0	−39.0	51.3	229		0.0	0.767	1.0	
241	225	230	0.0	0.75	1.0	52.9	−25.9	−47.5	54.1	241		0.0	1.0	0.904	54.2	−35.4	−35.4	50.2	225		0.0	0.75	1.0	0.0	1.0	0.957	53.6	−32.5	−39.7	51.5	230		0.0	0.75	1.0	
242	226	231	0.0	0.733	1.0	52.6	−25.2	−47.8	54.1	242		0.0	1.0	0.913	54.1	−34.9	−36.2	50.4	226		0.0	0.733	1.0	0.0	1.0	0.966	53.5	−32.0	−40.4	51.7	231		0.0	0.733	1.0	
242	227	232	0.0	0.716	1.0	52.2	−24.5	−48.1	54.0	242		0.0	1.0	0.923	54.0	−34.4	−36.9	50.6	227		0.0	0.717	1.0	0.0	1.0	0.975	53.4	−31.5	−41.1	51.9	232		0.0	0.717	1.0	
243	228	233	0.0	0.7	1.0	51.9	−23.9	−48.4	54.0	243		0.0	1.0	0.932	53.9	−33.9	−37.7	50.9	228		0.0	0.7	1.0	0.0	1.0	0.983	53.3	−31.0	−41.7	52.1	233		0.0	0.7	1.0	
244	229	234	0.0	0.683	1.0	51.6	−23.2	−48.6	53.9	244		0.0	1.0	0.942	53.8	−33.4	−38.5	51.1	229		0.0	0.683	1.0	0.0	1.0	0.992	53.2	−30.4	−42.4	52.3	234		0.0	0.683	1.0	
245	230	235	0.0	0.666	1.0	51.3	−22.5	−48.9	53.8	245		0.0	1.0	0.951	53.7	−32.9	−39.2	51.3	230		0.0	0.667	1.0	0.0	0.997	1.0	53.1	−29.9	−43.1	52.5	235		0.0	0.667	1.0	
246	231	236	0.0	0.65	1.0	51.0	−21.8	−49.1	53.8	246		0.0	1.0	0.961	53.6	−32.3	−40.0	51.6	231		0.0	0.65	1.0	0.0	0.956	1.0	53.1	−29.2	−43.6	52.6	236		0.0	0.65	1.0	
246	232	237	0.0	0.633	1.0	50.7	−21.1	−49.4	53.7	246		0.0	1.0	0.97	53.5	−31.8	−40.7	51.8	232		0.0	0.633	1.0	0.0	0.916	1.0	53.1	−28.6	−44.1	52.7	237		0.0	0.633	1.0	
247	233	237	0.0	0.616	1.0	50.2	−20.2	−49.5	53.5	247		0.0	1.0	0.98	53.4	−31.2	−41.5	52.0	233		0.0	0.617	1.0	0.0	0.876	1.0	53.1	−27.9	−44.6	52.8	237		0.0	0.617	1.0	
248	234	238	0.0	0.6	1.0	49.7	−19.2	−49.6	53.2	248		0.0	1.0	0.989	53.2	−30.6	−42.2	52.3	234		0.0	0.6	1.0	0.0	0.842	1.0	53.1	−27.4	−45.4	53.1	238		0.0	0.6	1.0	
249	235	239	0.0	0.583	1.0	49.1	−18.2	−49.6	52.8	249		0.0	1.0	0.999	53.1	−30.0	−42.9	52.5	235		0.0	0.583	1.0	0.0	0.809	1.0	53.0	−26.8	−46.2	53.5	239		0.0	0.583	1.0	
250	236	240	0.0	0.566	1.0	48.5	−17.2	−49.6	52.5	250		0.0	0.963	1.0	53.1	−29.3	−43.5	52.6	236		0.0	0.567	1.0	0.0	0.775	1.0	53.0	−26.3	−46.9	53.9	240		0.0	0.567	1.0	
251	237	241	0.0	0.55	1.0	47.9	−16.2	−49.5	52.2	251		0.0	0.918	1.0	53.1	−28.6	−44.1	52.7	237		0.0	0.55	1.0	0.0	0.745	1.0	52.8	−25.6	−47.6	54.2	241		0.0	0.55	1.0	
252	238	242	0.0	0.533	1.0	47.3	−15.2	−49.5	51.8	252		0.0	0.874	1.0	53.1	−27.9	−44.7	52.8	238		0.0	0.533	1.0	0.0	0.726	1.0	52.5	−24.9	−47.9	54.1	242		0.0	0.533	1.0	
253	239	243	0.0	0.516	1.0	46.7	−14.3	−49.4	51.5	253		0.0	0.838	1.0	53.0	−27.3	−45.5	53.2	239		0.0	0.517	1.0	0.0	0.706	1.0	52.1	−24.1	−48.2	54.0	243		0.0	0.517	1.0	
254	240	244	0.0	0.5	1.0	46.1	−13.3	−49.4	51.1	254		0.0	0.801	1.0	53.0	−26.7	−46.3	53.6	240		0.0	0.5	1.0	0.0	0.686	1.0	51.7	−23.3	−48.5	54.0	244		0.0	0.5	1.0	
255	241	245	0.0	0.483	1.0	45.5	−12.3	−49.4	50.9	255		0.0	0.764	1.0	52.9	−26.1	−47.2	54.0	241		0.0	0.483	1.0	0.0	0.667	1.0	51.4	−22.4	−48.8	53.9	245		0.0	0.483	1.0	
256	242	246	0.0	0.466	1.0	44.8	−11.4	−49.4	50.7	256		0.0	0.737	1.0	52.7	−25.3	−47.7	54.1	242		0.0	0.467	1.0	0.0	0.647	1.0	51.0	−21.6	−49.1	53.8	246		0.0	0.467	1.0	
258	243	247	0.0	0.45	1.0	44.2	−10.5	−49.4	50.5	258		0.0	0.716	1.0	52.3	−24.4	−48.1	54.1	243		0.0	0.45	1.0	0.0	0.628	1.0	50.6	−20.8	−49.4	53.8	247		0.0	0.45	1.0	
259	244	248	0.0	0.433	1.0	43.6	−9.5	−49.4	50.3	259		0.0	0.694	1.0	51.9	−23.6	−48.4	54.0	244		0.0	0.433	1.0	0.0	0.612	1.0	50.1	−19.9	−49.5	53.5	248		0.0	0.433	1.0	
260	245	248	0.0	0.416	1.0	42.9	−8.6	−49.4	50.1	260		0.0	0.673	1.0	51.5	−22.7	−48.8	53.9	245		0.0	0.417	1.0	0.0	0.597	1.0	49.6	−19.0	−49.5	53.2	248		0.0	0.417	1.0	
261	246	249	0.0	0.4	1.0	42.3	−7.7	−49.3	49.9	261		0.0	0.651	1.0	51.1	−21.8	−49.1	53.8	246		0.0	0.4	1.0	0.0	0.582	1.0	49.1	−18.1	−49.5	52.9	249		0.0	0.4	1.0	
262	247	250	0.0	0.383	1.0	41.7	−6.8	−49.3	49.7	262		0.0	0.63	1.0	50.7	−20.9	−49.4	53.8	247		0.0	0.383	1.0	0.0	0.568	1.0	48.6	−17.2	−49.5	52.6	250		0.0	0.383	1.0	
263	248	251	0.0	0.366	1.0	41.1	−5.7	−49.2	49.6	263		0.0	0.612	1.0	50.1	−19.9	−49.5	53.5	248		0.0	0.367	1.0	0.0	0.553	1.0	48.0	−16.3	−49.5	52.3	251		0.0	0.367	1.0	
264	249	252	0.0	0.35	1.0	40.5	−4.6	−49.2	49.4	264		0.0	0.596	1.0	49.6	−18.9	−49.5	53.1	249		0.0	0.35	1.0	0.0	0.538	1.0	47.5	−15.5	−49.5	52.0	252		0.0	0.35	1.0	
265	250	253	0.0	0.333	1.0	39.9	−3.4	−49.2	49.3	265		0.0	0.58	1.0	49.0	−18.0	−49.5	52.8	250		0.0	0.333	1.0	0.0	0.523	1.0	47.0	−14.6	−49.4	51.6	253		0.0	0.333	1.0	
267	251	254	0.0	0.316	1.0	39.3	−2.3	−49.1	49.1	267		0.0	0.564	1.0	48.4	−17.0	−49.5	52.5	251		0.0	0.317	1.0	0.0	0.508	1.0	46.5	−13.7	−49.4	51.3	254		0.0	0.317	1.0	
268	252	255	0.0	0.3	1.0	38.7	−1.1	−49.0	49.0	268		0.0	0.547	1.0	47.8	−16.0	−49.5	52.1	252		0.0	0.3	1.0	0.0	0.494	1.0	45.9	−12.9	−49.3	51.1	255		0.0	0.3	1.0	
269	253	256	0.0	0.283	1.0	38.1	0.0	−48.9	48.9	269		0.0	0.531	1.0	47.3	−15.0	−49.4	51.8	253		0.0	0.283	1.0	0.0	0.479	1.0	45.4	−12.0	−49.4	50.9	256		0.0	0.283	1.0	
271	254	257	0.0	0.266	1.0	37.4	1.1	−48.7	48.7	271		0.0	0.515	1.0	46.7	−14.1	−49.4	51.5	254		0.0	0.267	1.0	0.0	0.464	1.0	44.8	−11.2	−49.4	50.7	257		0.0	0.267	1.0	
272	255	258	0.0	0.25	1.0	36.8	2.2	−48.5	48.6	272		0.0	0.499	1.0	46.1	−13.1	−49.3	51.2	255		0.0	0.25	1.0	0.0	0.449	1.0	44.2	−10.4	−49.4	50.6	258		0.0	0.25	1.0	

1−0031330−L0 PE890−70 LAB*la0, YN=0%, XYZnw=3.9, 4.1, 4.1, 84.7, 89.6, 93.9, LAB*nw=23.9, 0.0, 0.0, 95.8, 0.0, 0.0 Output: Laser printer output; separation cmyn6*, D65, page 14/33

TUB-test chart PE89; 16 step hue circle
48 step hue circles; *rgb−LabCh**tables

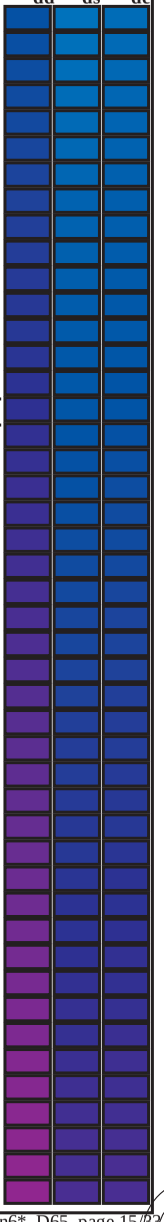
input: *rgb/cmyk* −> *rgb*$_d$
output: transfer to *cmyk*$_d$

see similar files: http://130.149.60.45/~farbmetrik/PE89/PE89.HTM
technical information: http://www.ps.bam.de or http://130.149.60.45/~farbmetrik

TUB registration: 20150701-PE89/PE89L0NP.PDF /.PS
application for measurement of laser printer output, separation cmyn6 (CMYK)
TUB material: code=rha4ta

Data of Maximum color M in colorimetric system Laser printer output; separation cmyn6*, D65 for input or output; Six hue angles of the 60 degree standard colours *RYGCBM*$_s$: $h_{ab,ds}$ = 30.0, 90.0, 150.0, 210.0, 270.0, 330.0; Six hue angles of the device colours *RYGCBM*$_d$: $h_{ab,d}$ = 33.5, 100.6, 155.5, 235.2, 290.8, 348.9; Six hue angles of the elementary colours *RYGCBM*$_e$: $h_{ab,e}$ = 25.5, 92.3, 162.2, 217.0, 271.7, 328.6

$h_{ab,d}$	$h_{ab,s}$	$h_{ab,e}$	*rgb**dd361M			*LAB**ddx361Mi (x=LabCh)						*rgb**ds361Mi			*LAB**dsx361Mi (x=LabCh)						*rgb**dd361Mi			*rgb**de361Mi			*LAB**dex361Mi (x=LabCh)						*rgb**dd361Mi			*rgb**dd *rgb**ds *rgb**de
272	255	258	0.0	0.25	1.0	36.8	2.2	−48.5	48.6	272		0.0	0.499	1.0	46.1	−13.1	−49.3	51.2	255		0.0	0.25	1.0	0.0	0.449	1.0	44.2	−10.4	−49.4	50.6	258		0.0	0.25	1.0	
273	256	258	0.0	0.233	1.0	36.6	3.2	−48.3	48.4	273		0.0	0.482	1.0	45.5	−12.2	−49.4	51.0	256		0.0	0.233	1.0	0.0	0.435	1.0	43.7	−9.5	−49.4	50.4	258		0.0	0.233	1.0	
274	257	259	0.0	0.216	1.0	36.4	4.1	−48.0	48.2	274		0.0	0.466	1.0	44.9	−11.3	−49.4	50.8	257		0.0	0.217	1.0	0.0	0.42	1.0	43.1	−8.7	−49.3	50.2	259		0.0	0.217	1.0	
276	258	260	0.0	0.2	1.0	36.1	5.1	−47.8	48.1	276		0.0	0.45	1.0	44.3	−10.4	−49.4	50.6	258		0.0	0.2	1.0	0.0	0.405	1.0	42.6	−7.9	−49.3	50.0	260		0.0	0.2	1.0	
277	259	261	0.0	0.183	1.0	35.9	6.1	−47.5	47.9	277		0.0	0.434	1.0	43.7	−9.5	−49.4	50.4	259		0.0	0.183	1.0	0.0	0.39	1.0	42.0	−7.1	−49.3	49.9	261		0.0	0.183	1.0	
278	260	262	0.0	0.166	1.0	35.6	7.0	−47.2	47.7	278		0.0	0.418	1.0	43.0	−8.6	−49.3	50.2	260		0.0	0.167	1.0	0.0	0.376	1.0	41.4	−6.3	−49.2	49.7	262		0.0	0.167	1.0	
279	261	263	0.0	0.15	1.0	35.4	8.0	−46.9	47.5	279		0.0	0.402	1.0	42.4	−7.7	−49.3	50.0	261		0.0	0.15	1.0	0.0	0.364	1.0	41.0	−5.5	−49.2	49.6	263		0.0	0.15	1.0	
280	262	264	0.0	0.133	1.0	35.2	8.9	−46.5	47.4	280		0.0	0.386	1.0	41.8	−6.8	−49.2	49.8	262		0.0	0.133	1.0	0.0	0.353	1.0	40.6	−4.7	−49.2	49.5	264		0.0	0.133	1.0	
282	263	265	0.0	0.116	1.0	34.9	9.9	−46.3	47.3	282		0.0	0.371	1.0	41.3	−6.0	−49.2	49.7	263		0.0	0.117	1.0	0.0	0.341	1.0	40.2	−3.9	−49.1	49.4	265		0.0	0.117	1.0	
283	264	266	0.0	0.1	1.0	34.5	10.9	−46.1	47.4	283		0.0	0.358	1.0	40.8	−5.1	−49.2	49.5	264		0.0	0.1	1.0	0.0	0.33	1.0	39.8	−3.1	−49.1	49.3	266		0.0	0.1	1.0	
284	265	267	0.0	0.083	1.0	34.2	11.9	−45.9	47.4	284		0.0	0.346	1.0	40.4	−4.2	−49.2	49.4	265		0.0	0.083	1.0	0.0	0.318	1.0	39.4	−2.3	−49.0	49.2	267		0.0	0.083	1.0	
285	266	268	0.0	0.066	1.0	33.9	12.9	−45.7	47.5	285		0.0	0.333	1.0	39.9	−3.3	−49.1	49.3	266		0.0	0.067	1.0	0.0	0.307	1.0	39.0	−1.5	−49.0	49.1	268		0.0	0.067	1.0	
287	267	269	0.0	0.049	1.0	33.5	13.9	−45.4	47.5	287		0.0	0.321	1.0	39.5	−2.5	−49.1	49.2	267		0.0	0.05	1.0	0.0	0.296	1.0	38.5	−0.8	−48.9	49.0	269		0.0	0.05	1.0	
288	268	269	0.0	0.033	1.0	33.2	14.9	−45.2	47.6	288		0.0	0.308	1.0	39.0	−1.6	−49.0	49.1	268		0.0	0.033	1.0	0.0	0.284	1.0	38.1	0.0	−48.8	48.9	269		0.0	0.033	1.0	
289	269	270	0.0	0.016	1.0	32.9	15.9	−44.9	47.6	289		0.0	0.296	1.0	38.5	−0.8	−48.9	49.0	269		0.0	0.017	1.0	0.0	0.273	1.0	37.7	0.7	−48.7	48.8	270		0.0	0.017	1.0	
290	270	271	0.0	0.0	1.0	32.5	16.9	−44.6	47.7	290	***B*$_d$**	0.0	0.283	1.0	38.1	0.0	−48.8	48.9	270	***B*$_s$**	0.0	0.0	1.0	0.0	0.261	1.0	37.3	1.5	−48.6	48.7	271	***B*$_e$**	0.0	0.0	1.0	
291	271	272	0.016	0.0	1.0	32.4	17.8	−44.3	47.8	291		0.0	0.27	1.0	37.6	0.9	−48.7	48.8	271		0.017	0.0	1.0	0.0	0.249	1.0	36.9	2.3	−48.5	48.6	272		0.017	0.0	1.0	
293	272	273	0.033	0.0	1.0	32.3	18.7	−44.0	47.9	293		0.0	0.258	1.0	37.2	1.7	−48.6	48.7	272		0.033	0.0	1.0	0.0	0.236	1.0	36.7	3.1	−48.3	48.5	273		0.033	0.0	1.0	
294	273	274	0.05	0.0	1.0	32.1	19.6	−43.7	47.9	294		0.0	0.245	1.0	36.8	2.5	−48.4	48.6	273		0.05	0.0	1.0	0.0	0.222	1.0	36.5	3.9	−48.1	48.3	274		0.05	0.0	1.0	
295	274	275	0.066	0.0	1.0	32.0	20.5	−43.4	48.0	295		0.0	0.231	1.0	36.6	3.4	−48.2	48.4	274		0.067	0.0	1.0	0.0	0.209	1.0	36.3	4.6	−47.9	48.2	275		0.067	0.0	1.0	
296	275	276	0.083	0.0	1.0	31.9	21.4	−43.1	48.1	296		0.0	0.217	1.0	36.4	4.2	−48.0	48.3	275		0.083	0.0	1.0	0.0	0.196	1.0	36.1	5.4	−47.7	48.1	276		0.083	0.0	1.0	
297	276	277	0.1	0.0	1.0	31.8	22.3	−42.7	48.2	297		0.0	0.202	1.0	36.2	5.0	−47.8	48.1	276		0.1	0.0	1.0	0.0	0.182	1.0	35.9	6.2	−47.4	47.9	277		0.1	0.0	1.0	
298	277	278	0.116	0.0	1.0	31.6	23.1	−42.4	48.3	298		0.0	0.188	1.0	36.0	5.8	−47.5	48.0	277		0.117	0.0	1.0	0.0	0.169	1.0	35.7	7.0	−47.2	47.8	278		0.117	0.0	1.0	
299	278	279	0.133	0.0	1.0	31.5	24.1	−42.0	48.4	299		0.0	0.174	1.0	35.8	6.7	−47.3	47.8	278		0.133	0.0	1.0	0.0	0.155	1.0	35.5	7.7	−46.9	47.6	279		0.133	0.0	1.0	
300	279	280	0.15	0.0	1.0	31.4	25.0	−41.7	48.6	300		0.0	0.16	1.0	35.6	7.5	−47.0	47.7	279		0.15	0.0	1.0	0.0	0.142	1.0	35.3	8.5	−46.6	47.5	280		0.15	0.0	1.0	
302	280	281	0.166	0.0	1.0	31.4	25.9	−41.4	48.8	302		0.0	0.146	1.0	35.4	8.3	−46.7	47.5	280		0.167	0.0	1.0	0.0	0.129	1.0	35.1	9.2	−46.4	47.4	281		0.167	0.0	1.0	
303	281	282	0.183	0.0	1.0	31.3	26.8	−41.0	49.0	303		0.0	0.132	1.0	35.2	9.0	−46.4	47.4	281		0.183	0.0	1.0	0.0	0.116	1.0	34.9	10.0	−46.2	47.4	282		0.183	0.0	1.0	
304	282	283	0.2	0.0	1.0	31.2	27.8	−40.6	49.2	304		0.0	0.118	1.0	34.9	9.8	−46.2	47.4	282		0.2	0.0	1.0	0.0	0.103	1.0	34.6	10.8	−46.1	47.4	283		0.2	0.0	1.0	
305	283	284	0.216	0.0	1.0	31.1	28.7	−40.2	49.4	305		0.0	0.104	1.0	34.7	10.7	−46.1	47.4	283		0.217	0.0	1.0	0.0	0.09	1.0	34.4	11.5	−45.9	47.4	284		0.217	0.0	1.0	
306	284	285	0.233	0.0	1.0	31.1	29.6	−39.8	49.6	306		0.0	0.091	1.0	34.4	11.5	−45.9	47.4	284		0.233	0.0	1.0	0.0	0.078	1.0	34.1	12.3	−45.8	47.5	285		0.233	0.0	1.0	
307	285	285	0.25	0.0	1.0	31.0	30.5	−39.3	49.8	307		0.0	0.078	1.0	34.1	12.3	−45.8	47.5	285		0.25	0.0	1.0	0.0	0.065	1.0	33.9	13.1	−45.6	47.5	285		0.25	0.0	1.0	
309	286	286	0.266	0.0	1.0	31.4	31.6	−38.8	50.1	309		0.0	0.064	1.0	33.9	13.1	−45.6	47.5	286		0.267	0.0	1.0	0.0	0.052	1.0	33.6	13.8	−45.4	47.6	286		0.267	0.0	1.0	
310	287	287	0.283	0.0	1.0	31.8	32.6	−38.3	50.3	310		0.0	0.051	1.0	33.6	13.9	−45.4	47.6	287		0.283	0.0	1.0	0.0	0.04	1.0	33.4	14.6	−45.2	47.6	287		0.283	0.0	1.0	
311	288	288	0.3	0.0	1.0	32.3	33.6	−37.8	50.6	311		0.0	0.038	1.0	33.3	14.7	−45.2	47.6	288		0.3	0.0	1.0	0.0	0.027	1.0	33.1	15.4	−45.0	47.6	288		0.3	0.0	1.0	
312	289	289	0.316	0.0	1.0	32.7	34.7	−37.2	50.9	312		0.0	0.024	1.0	33.1	15.5	−44.9	47.6	289		0.317	0.0	1.0	0.0	0.014	1.0	32.9	16.1	−44.8	47.7	289		0.317	0.0	1.0	
314	290	290	0.333	0.0	1.0	33.1	35.7	−36.6	51.2	314		0.0	0.011	1.0	32.8	16.3	−44.7	47.7	290		0.333	0.0	1.0	0.0	0.001	1.0	32.6	16.9	−44.5	47.7	290		0.333	0.0	1.0	
315	291	291	0.35	0.0	1.0	33.6	36.7	−36.0	51.4	315		0.003	0.0	1.0	32.5	17.1	−44.5	47.7	291		0.35	0.0	1.0	0.012	0.0	1.0	32.5	17.6	−44.3	47.8	291		0.35	0.0	1.0	
316	292	292	0.366	0.0	1.0	34.0	37.7	−35.3	51.7	316		0.018	0.0	1.0	32.4	17.9	−44.2	47.8	292		0.367	0.0	1.0	0.026	0.0	1.0	32.4	18.4	−44.1	47.9	292		0.367	0.0	1.0	
317	293	293	0.383	0.0	1.0	34.4	38.5	−34.7	51.9	317		0.033	0.0	1.0	32.3	18.7	−44.0	47.9	293		0.383	0.0	1.0	0.041	0.0	1.0	32.3	19.1	−43.9	47.9	293		0.383	0.0	1.0	
318	294	294	0.4	0.0	1.0	34.8	39.2	−34.2	52.1	318		0.047	0.0	1.0	32.2	19.5	−43.7	48.0	294		0.4	0.0	1.0	0.055	0.0	1.0	32.1	19.9	−43.6	48.0	294		0.4	0.0	1.0	
319	295	295	0.416	0.0	1.0	35.2	39.9	−33.7	52.2	319		0.062	0.0	1.0	32.1	20.3	−43.5	48.1	295		0.417	0.0	1.0	0.069	0.0	1.0	32.0	20.7	−43.3	48.1	295		0.417	0.0	1.0	
320	296	296	0.433	0.0	1.0	35.6	40.5	−33.1	52.4	320		0.077	0.0	1.0	32.0	21.1	−43.2	48.1	296		0.433	0.0	1.0	0.083	0.0	1.0	31.9	21.4	−43.1	48.2	296		0.433	0.0	1.0	
321	297	297	0.45	0.0	1.0	36.0	41.2	−32.6	52.5	321		0.092	0.0	1.0	31.9	21.9	−42.9	48.2	297		0.45	0.0	1.0	0.097	0.0	1.0	31.8	22.2	−42.8	48.2	297		0.45	0.0	1.0	
322	298	298	0.466	0.0	1.0	36.4	41.8	−32.0	52.7	322		0.107	0.0	1.0	31.7	22.7	−42.5	48.3	298		0.467	0.0	1.0	0.111	0.0	1.0	31.7	22.9	−42.5	48.3	298		0.467	0.0	1.0	
323	299	299	0.483	0.0	1.0	36.8	42.5	−31.4	52.9	323		0.122	0.0	1.0	31.6	23.5	−42.2	48.4	299		0.483	0.0	1.0	0.125	0.0	1.0	31.6	23.6	−42.1	48.4	299		0.483	0.0	1.0	
324	300	300	0.5	0.0	1.0	37.2	43.1	−30.8	53.0	324		0.136	0.0	1.0	31.6	24.3	−41.9	48.5	300		0.5	0.0	1.0	0.139	0.0	1.0	31.5	24.4	−41.9	48.6	300		0.5	0.0	1.0	



1−0031430−L0 PE890−70 LAB*la0, YN=0%, XYZnw=3.9, 4.1, 4.1, 84.7, 89.6, 93.9, LAB*nw=23.9, 0.0, 0.0, 95.8, 0.0, 0.0 Output: Laser printer output; separation cmyn6*, D65, page 15/33

TUB-test chart PE89; 16 step hue circle
48 step hue circles; *rgb*−*LabCh**tables

input: *rgb/cmyk* −> *rgb*$_d$
output: transfer to *cmyk*$_d$

see similar files: http://130.149.60.45/~farbmetrik/PE89/PE89.HTM
technical information: http://www.ps.bam.de or http://130.149.60.45/~farbmetrik

TUB registration: 20150701-PE89/PE89L0NP.PDF /.PS
application for measurement of laser printer output, separation cmyn6 (CMYK)
TUB material: code=rha4ta

Data of Maximum color M in colorimetric system Laser printer output; separation cmyn6*, D65 for input or output; Six hue angles of the 60 degree standard colours *RYGCBM*$_s$: $h_{ab,ds}$ = 30.0, 90.0, 150.0, 210.0, 270.0, 330.0; Six hue angles of the device colours *RYGCBM*$_d$: $h_{ab,d}$ = 33.5, 100.6, 155.5, 235.2, 290.8, 348.9; Six hue angles of the elementary colours *RYGCBM*$_e$: $h_{ab,e}$ = 25.5, 92.3, 162.2, 217.0, 271.7, 328.6

$h_{ab,d}$	$h_{ab,s}$	$h_{ab,e}$	*rgb** dd361M			*LAB** ddx361Mi (x=LabCh)					*rgb** ds361Mi			*LAB** dsx361Mi (x=LabCh)					*rgb** dd361Mi			*rgb** de361Mi			*LAB** dex361Mi (x=LabCh)					*rgb** dd361Mi			*rgb**$_{dd}$	*rgb**$_{ds}$	*rgb**$_{de}$
324	300	300	0.5	0.0	1.0	37.2	43.1	−30.8	53.0	324	0.136	0.0	1.0	31.6	24.3	−41.9	48.5	300	0.5	0.0	1.0	0.139	0.0	1.0	31.5	24.4	−41.9	48.6	300	0.5	0.0	1.0			
325	301	301	0.516	0.0	1.0	37.4	43.8	−30.4	53.4	325	0.151	0.0	1.0	31.5	25.1	−41.6	48.7	301	0.517	0.0	1.0	0.153	0.0	1.0	31.5	25.2	−41.6	48.7	301	0.517	0.0	1.0			
326	302	302	0.533	0.0	1.0	37.7	44.5	−29.9	53.7	326	0.165	0.0	1.0	31.4	25.9	−41.3	48.9	302	0.533	0.0	1.0	0.166	0.0	1.0	31.4	26.0	−41.3	48.9	302	0.533	0.0	1.0			
326	303	303	0.55	0.0	1.0	37.9	45.3	−29.5	54.0	326	0.18	0.0	1.0	31.4	26.7	−41.0	49.0	303	0.55	0.0	1.0	0.18	0.0	1.0	31.4	26.7	−41.0	49.0	303	0.55	0.0	1.0			
327	304	303	0.566	0.0	1.0	38.2	46.0	−29.0	54.4	327	0.194	0.0	1.0	31.3	27.5	−40.7	49.2	304	0.567	0.0	1.0	0.194	0.0	1.0	31.3	27.5	−40.7	49.2	303	0.567	0.0	1.0			
328	305	304	0.583	0.0	1.0	38.4	46.7	−28.5	54.7	328	0.209	0.0	1.0	31.2	28.3	−40.3	49.4	305	0.583	0.0	1.0	0.208	0.0	1.0	31.2	28.3	−40.4	49.4	304	0.583	0.0	1.0			
329	306	305	0.6	0.0	1.0	38.7	47.4	−28.0	55.1	329	0.224	0.0	1.0	31.1	29.1	−40.0	49.5	306	0.6	0.0	1.0	0.222	0.0	1.0	31.2	29.0	−40.0	49.5	305	0.6	0.0	1.0			
330	307	306	0.616	0.0	1.0	38.9	48.1	−27.5	55.4	330	0.238	0.0	1.0	31.1	29.9	−39.6	49.7	307	0.617	0.0	1.0	0.235	0.0	1.0	31.1	29.8	−39.7	49.7	306	0.617	0.0	1.0			
331	308	307	0.633	0.0	1.0	39.2	48.9	−26.9	55.8	331	0.252	0.0	1.0	31.1	30.7	−39.2	49.9	308	0.633	0.0	1.0	0.249	0.0	1.0	31.0	30.5	−39.3	49.8	307	0.633	0.0	1.0			
332	309	308	0.65	0.0	1.0	39.6	49.8	−26.2	56.3	332	0.265	0.0	1.0	31.4	31.5	−38.8	50.1	309	0.65	0.0	1.0	0.261	0.0	1.0	31.3	31.3	−39.0	50.0	308	0.65	0.0	1.0			
333	310	309	0.666	0.0	1.0	40.0	50.7	−25.4	56.8	333	0.278	0.0	1.0	31.8	32.3	−38.4	50.3	310	0.667	0.0	1.0	0.274	0.0	1.0	31.6	32.1	−38.6	50.2	309	0.667	0.0	1.0			
334	311	310	0.683	0.0	1.0	40.4	51.6	−24.7	57.2	334	0.291	0.0	1.0	32.1	33.1	−38.0	50.5	311	0.683	0.0	1.0	0.286	0.0	1.0	32.0	32.8	−38.2	50.4	310	0.683	0.0	1.0			
335	312	311	0.7	0.0	1.0	40.7	52.5	−23.9	57.7	335	0.304	0.0	1.0	32.4	33.9	−37.6	50.7	312	0.7	0.0	1.0	0.298	0.0	1.0	32.3	33.6	−37.8	50.6	311	0.7	0.0	1.0			
336	313	312	0.716	0.0	1.0	41.1	53.4	−23.1	58.2	336	0.317	0.0	1.0	32.8	34.7	−37.2	50.9	313	0.717	0.0	1.0	0.31	0.0	1.0	32.6	34.3	−37.4	50.8	312	0.717	0.0	1.0			
337	314	313	0.733	0.0	1.0	41.5	54.3	−22.3	58.7	337	0.33	0.0	1.0	33.1	35.5	−36.7	51.1	314	0.733	0.0	1.0	0.323	0.0	1.0	32.9	35.1	−37.0	51.0	313	0.733	0.0	1.0			
338	315	314	0.75	0.0	1.0	41.8	55.1	−21.4	59.1	338	0.343	0.0	1.0	33.4	36.3	−36.2	51.4	315	0.75	0.0	1.0	0.335	0.0	1.0	33.2	35.8	−36.5	51.2	314	0.75	0.0	1.0			
339	316	315	0.766	0.0	1.0	42.4	55.8	−20.9	59.6	339	0.356	0.0	1.0	33.8	37.1	−35.7	51.6	316	0.767	0.0	1.0	0.347	0.0	1.0	33.5	36.6	−36.0	51.4	315	0.767	0.0	1.0			
340	317	316	0.783	0.0	1.0	42.9	56.5	−20.4	60.1	340	0.368	0.0	1.0	34.1	37.9	−35.2	51.8	317	0.783	0.0	1.0	0.359	0.0	1.0	33.9	37.3	−35.6	51.6	316	0.783	0.0	1.0			
340	318	317	0.8	0.0	1.0	43.4	57.2	−19.8	60.5	340	0.384	0.0	1.0	34.5	38.6	−34.7	52.0	318	0.8	0.0	1.0	0.371	0.0	1.0	34.2	38.0	−35.1	51.8	317	0.8	0.0	1.0			
341	319	318	0.816	0.0	1.0	43.9	57.8	−19.3	61.0	341	0.402	0.0	1.0	34.9	39.3	−34.1	52.1	319	0.817	0.0	1.0	0.387	0.0	1.0	34.6	38.8	−34.6	52.0	318	0.817	0.0	1.0			
342	320	319	0.833	0.0	1.0	44.4	58.5	−18.7	61.4	342	0.42	0.0	1.0	35.3	40.1	−33.5	52.3	320	0.833	0.0	1.0	0.404	0.0	1.0	35.0	39.4	−34.0	52.2	319	0.833	0.0	1.0			
342	321	320	0.85	0.0	1.0	44.9	59.1	−18.2	61.9	342	0.438	0.0	1.0	35.8	40.8	−32.9	52.5	321	0.85	0.0	1.0	0.421	0.0	1.0	35.4	40.1	−33.5	52.3	320	0.85	0.0	1.0			
343	322	321	0.866	0.0	1.0	45.4	59.8	−17.6	62.3	343	0.456	0.0	1.0	36.2	41.5	−32.3	52.7	322	0.867	0.0	1.0	0.439	0.0	1.0	35.8	40.8	−32.9	52.5	321	0.867	0.0	1.0			
344	323	321	0.883	0.0	1.0	45.8	60.5	−17.0	62.8	344	0.474	0.0	1.0	36.6	42.2	−31.7	52.8	323	0.883	0.0	1.0	0.456	0.0	1.0	36.2	41.5	−32.3	52.6	321	0.883	0.0	1.0			
344	324	322	0.9	0.0	1.0	46.1	61.2	−16.4	63.4	344	0.492	0.0	1.0	37.1	42.9	−31.1	53.0	324	0.9	0.0	1.0	0.473	0.0	1.0	36.6	42.1	−31.7	52.8	322	0.9	0.0	1.0			
345	325	323	0.916	0.0	1.0	46.5	61.9	−15.9	63.9	345	0.512	0.0	1.0	37.4	43.7	−30.5	53.3	325	0.917	0.0	1.0	0.49	0.0	1.0	37.0	42.8	−31.1	53.0	323	0.917	0.0	1.0			
346	326	324	0.933	0.0	1.0	46.8	62.6	−15.3	64.5	346	0.532	0.0	1.0	37.7	44.5	−29.9	53.7	326	0.933	0.0	1.0	0.508	0.0	1.0	37.4	43.5	−30.6	53.2	324	0.933	0.0	1.0			
346	327	325	0.95	0.0	1.0	47.1	63.3	−14.6	65.0	346	0.552	0.0	1.0	38.0	45.4	−29.4	54.1	327	0.95	0.0	1.0	0.527	0.0	1.0	37.6	44.3	−30.1	53.6	325	0.95	0.0	1.0			
347	328	326	0.966	0.0	1.0	47.5	64.0	−14.0	65.5	347	0.572	0.0	1.0	38.3	46.2	−28.8	54.5	328	0.967	0.0	1.0	0.546	0.0	1.0	37.9	45.1	−29.5	54.0	326	0.967	0.0	1.0			
348	329	327	0.983	0.0	1.0	47.8	64.7	−13.4	66.1	348	0.592	0.0	1.0	38.6	47.1	−28.2	54.9	329	0.983	0.0	1.0	0.565	0.0	1.0	38.2	46.0	−29.0	54.4	327	0.983	0.0	1.0			
348	330	328	1.0	0.0	1.0	48.1	65.4	−12.7	66.6	348	M_d 0.612	0.0	1.0	38.9	47.9	−27.6	55.4	330	M_s 1.0	0.0	1.0	0.584	0.0	1.0	38.5	46.8	−28.4	54.8	328	M_e 1.0	0.0	1.0			
349	331	329	1.0	0.0	0.983	48.3	65.5	−12.5	66.7	349	0.631	0.0	1.0	39.2	48.8	−26.9	55.8	331	1.0	0.0	0.983	0.603	0.0	1.0	38.8	47.6	−27.9	55.2	329	1.0	0.0	0.983			
349	332	330	1.0	0.0	0.966	48.5	65.6	−12.2	66.7	349	0.646	0.0	1.0	39.6	49.6	−26.3	56.2	332	1.0	0.0	0.967	0.623	0.0	1.0	39.1	48.4	−27.3	55.6	330	1.0	0.0	0.967			
349	333	331	1.0	0.0	0.95	48.7	65.7	−11.9	66.8	349	0.662	0.0	1.0	39.9	50.5	−25.6	56.7	333	1.0	0.0	0.95	0.638	0.0	1.0	39.4	49.2	−26.7	56.0	331	1.0	0.0	0.95			
349	334	332	1.0	0.0	0.933	48.9	65.8	−11.7	66.8	349	0.677	0.0	1.0	40.3	51.3	−24.9	57.1	334	1.0	0.0	0.933	0.652	0.0	1.0	39.7	50.0	−26.0	56.4	332	1.0	0.0	0.933			
350	335	333	1.0	0.0	0.916	49.0	65.9	−11.4	66.9	350	0.692	0.0	1.0	40.6	52.1	−24.2	57.5	335	1.0	0.0	0.917	0.667	0.0	1.0	40.0	50.8	−25.4	56.8	333	1.0	0.0	0.917			
350	336	334	1.0	0.0	0.9	49.2	66.0	−11.1	66.9	350	0.708	0.0	1.0	41.0	53.0	−23.5	58.0	336	1.0	0.0	0.9	0.681	0.0	1.0	40.4	51.6	−24.7	57.2	334	1.0	0.0	0.9			
350	337	335	1.0	0.0	0.883	49.4	66.1	−10.9	67.0	350	0.723	0.0	1.0	41.3	53.8	−22.7	58.4	337	1.0	0.0	0.883	0.696	0.0	1.0	40.7	52.3	−24.0	57.6	335	1.0	0.0	0.883			
350	338	336	1.0	0.0	0.866	49.5	66.0	−10.4	66.9	350	0.738	0.0	1.0	41.6	54.6	−22.0	58.9	338	1.0	0.0	0.867	0.711	0.0	1.0	41.0	53.1	−23.3	58.1	336	1.0	0.0	0.867			
351	339	337	1.0	0.0	0.85	49.4	65.8	−9.9	66.6	351	0.756	0.0	1.0	42.1	55.4	−21.2	59.4	339	1.0	0.0	0.85	0.725	0.0	1.0	41.3	53.9	−22.6	58.5	337	1.0	0.0	0.85			
351	340	338	1.0	0.0	0.833	49.4	65.6	−9.3	66.3	351	0.78	0.0	1.0	42.8	56.4	−20.4	60.0	340	1.0	0.0	0.833	0.74	0.0	1.0	41.7	54.6	−21.9	58.9	338	1.0	0.0	0.833			
352	341	339	1.0	0.0	0.816	49.4	65.4	−8.7	66.0	352	0.804	0.0	1.0	43.5	57.4	−19.7	60.7	341	1.0	0.0	0.817	0.757	0.0	1.0	42.1	55.5	−21.1	59.4	339	1.0	0.0	0.817			
352	342	339	1.0	0.0	0.8	49.4	65.2	−8.2	65.7	352	0.828	0.0	1.0	44.3	58.3	−18.9	61.3	342	1.0	0.0	0.8	0.78	0.0	1.0	42.8	56.4	−20.4	60.0	339	1.0	0.0	0.8			
353	343	340	1.0	0.0	0.783	49.3	65.0	−7.6	65.4	353	0.852	0.0	1.0	45.0	59.3	−18.0	62.0	343	1.0	0.0	0.783	0.802	0.0	1.0	43.5	57.3	−19.7	60.6	340	1.0	0.0	0.783			
353	344	341	1.0	0.0	0.766	49.3	64.7	−7.1	65.1	353	0.877	0.0	1.0	45.7	60.2	−17.2	62.7	344	1.0	0.0	0.767	0.825	0.0	1.0	44.2	58.2	−19.0	61.3	341	1.0	0.0	0.767			
354	345	342	1.0	0.0	0.75	49.3	64.5	−6.5	64.8	354	0.902	0.0	1.0	46.2	61.3	−16.3	63.5	345	1.0	0.0	0.75	0.848	0.0	1.0	44.9	59.1	−18.2	61.9	342	1.0	0.0	0.75			

1−0031530−L0 PE890−70 LAB*la0, YN=0%, XYZnw=3.9, 4.1, 4.1, 84.7, 89.6, 93.9, LAB*nw=23.9, 0.0, 0.0, 95.8, 0.0, 0.0 Output: Laser printer output; separation cmyn6*, D65, page 16/33

TUB-test chart PE89; 16 step hue circle
48 step hue circles; *rgb−LabCh**tables

input: *rgb/cmyk* −> *rgb*$_d$
output: transfer to *cmyk*$_d$

see similar files: http://130.149.60.45/~farbmetrik/PE89/PE89.HTM
technical information: http://www.ps.bam.de or http://130.149.60.45/~farbmetrik

TUB registration: 20150701-PE89/PE89L0NP.PDF /.PS
application for measurement of laser printer output, separation cmyn6 (CMYK)

TUB material: code=rha4ta

Data of Maximum color M in colorimetric system Laser printer output; separation cmyn6*, D65 for input or output; Six hue angles of the 60 degree standard colours *RYGCBM*$_s$: $h_{ab,ds}$ = 30.0, 90.0, 150.0, 210.0, 270.0, 330.0; Six hue angles of the device colours *RYGCBM*$_d$: $h_{ab,d}$ = 33.5, 100.6, 155.5, 235.2, 290.8, 348.9; Six hue angles of the elementary colours *RYGCBM*$_e$: $h_{ab,e}$ = 25.5, 92.3, 162.2, 217.0, 271.7, 328.6

$h_{ab,d}$	$h_{ab,s}$	$h_{ab,e}$	*rgb** dd361M			*LAB** ddx361Mi (x=LabCh)						*rgb** ds361Mi			*LAB** dsx361Mi (x=LabCh)						*rgb** dd361Mi			*rgb** de361Mi			*LAB** dex361Mi (x=LabCh)						*rgb** dd361Mi			*rgb*$_{dd}$	*rgb*$_{ds}$	*rgb*$_{de}$
354	345	342	1.0	0.0	0.75	49.3	64.5	−6.5	64.8	354		0.902	0.0	1.0	46.2	61.3	−16.3	63.5	345		1.0	0.0	0.75	0.848	0.0	1.0	44.9	59.1	−18.2	61.9	342		1.0	0.0	0.75			
355	346	343	1.0	0.0	0.733	49.1	64.2	−5.3	64.4	355		0.926	0.0	1.0	46.7	62.4	−15.5	64.3	346		1.0	0.0	0.733	0.871	0.0	1.0	45.6	60.0	−17.4	62.5	343		1.0	0.0	0.733			
356	347	344	1.0	0.0	0.716	48.9	63.9	−4.1	64.0	356		0.951	0.0	1.0	47.2	63.4	−14.5	65.1	347		1.0	0.0	0.717	0.895	0.0	1.0	46.1	61.0	−16.6	63.2	344		1.0	0.0	0.717			
357	348	345	1.0	0.0	0.7	48.7	63.5	−2.9	63.6	357		0.976	0.0	1.0	47.7	64.5	−13.6	65.9	348		1.0	0.0	0.7	0.918	0.0	1.0	46.5	62.0	−15.7	64.0	345		1.0	0.0	0.7			
358	349	346	1.0	0.0	0.683	48.6	63.2	−1.8	63.2	358		1.0	0.0	0.996	48.2	65.4	−12.6	66.7	349		1.0	0.0	0.683	0.942	0.0	1.0	47.0	63.0	−14.9	64.8	346		1.0	0.0	0.683			
359	350	347	1.0	0.0	0.666	48.4	62.8	−0.6	62.8	359		1.0	0.0	0.927	49.0	65.9	−11.5	66.9	350		1.0	0.0	0.667	0.966	0.0	1.0	47.5	64.0	−14.0	65.5	347		1.0	0.0	0.667			
360	351	348	1.0	0.0	0.65	48.2	62.4	0.4	62.4	360		1.0	0.0	0.866	49.5	66.1	−10.4	66.9	351		1.0	0.0	0.65	0.989	0.0	1.0	48.0	65.0	−13.1	66.3	348		1.0	0.0	0.65			
361	352	349	1.0	0.0	0.633	48.0	62.0	1.5	62.0	361		1.0	0.0	0.83	49.5	65.6	−9.1	66.3	352		1.0	0.0	0.633	1.0	0.0	0.964	48.6	65.6	−12.1	66.8	349		1.0	0.0	0.633			
362	353	350	1.0	0.0	0.616	47.9	61.6	2.7	61.7	362		1.0	0.0	0.794	49.4	65.2	−7.9	65.6	353		1.0	0.0	0.617	1.0	0.0	0.899	49.3	66.0	−11.1	67.0	350		1.0	0.0	0.617			
363	354	351	1.0	0.0	0.6	47.9	61.3	3.8	61.4	363		1.0	0.0	0.757	49.3	64.7	−6.7	65.0	354		1.0	0.0	0.6	1.0	0.0	0.853	49.5	65.9	−9.9	66.7	351		1.0	0.0	0.6			
364	355	352	1.0	0.0	0.583	47.9	60.9	4.9	61.1	364		1.0	0.0	0.737	49.2	64.3	−5.5	64.6	355		1.0	0.0	0.583	1.0	0.0	0.819	49.4	65.5	−8.7	66.1	352		1.0	0.0	0.583			
365	356	353	1.0	0.0	0.566	47.9	60.6	6.0	60.9	365		1.0	0.0	0.721	49.0	64.0	−4.4	64.2	356		1.0	0.0	0.567	1.0	0.0	0.785	49.4	65.0	−7.6	65.5	353		1.0	0.0	0.567			
366	357	354	1.0	0.0	0.55	47.8	60.2	7.1	60.6	366		1.0	0.0	0.705	48.9	63.7	−3.2	63.8	357		1.0	0.0	0.55	1.0	0.0	0.75	49.3	64.6	−6.5	64.9	354		1.0	0.0	0.55			
367	358	355	1.0	0.0	0.533	47.8	59.8	8.2	60.4	367		1.0	0.0	0.689	48.7	63.4	−2.1	63.4	358		1.0	0.0	0.533	1.0	0.0	0.735	49.2	64.3	−5.4	64.5	355		1.0	0.0	0.533			
368	359	356	1.0	0.0	0.516	47.8	59.4	9.3	60.1	368		1.0	0.0	0.673	48.5	63.0	−1.0	63.0	359		1.0	0.0	0.517	1.0	0.0	0.72	49.0	64.0	−4.3	64.1	356		1.0	0.0	0.517			
370	360	352	1.0	0.0	0.5	47.8	58.9	10.4	59.9	370		1.0	0.0	0.657	48.3	62.6	0.0	62.6	360		1.0	0.0	0.5	1.0	0.0	0.828	49.5	65.6	−9.0	66.2	352		1.0	0.0	0.5			
371	361	353	1.0	0.0	0.483	47.7	58.7	11.6	59.9	371		1.0	0.0	0.641	48.2	62.2	1.1	62.2	361		1.0	0.0	0.483	1.0	0.0	0.787	49.4	65.1	−7.7	65.5	353		1.0	0.0	0.483			
372	362	354	1.0	0.0	0.466	47.7	58.5	12.8	59.9	372		1.0	0.0	0.625	48.0	61.8	2.2	61.8	362		1.0	0.0	0.467	1.0	0.0	0.749	49.3	64.5	−6.4	64.8	354		1.0	0.0	0.467			
373	363	355	1.0	0.0	0.45	47.6	58.3	14.0	59.9	373		1.0	0.0	0.609	48.0	61.5	3.2	61.6	363		1.0	0.0	0.45	1.0	0.0	0.731	49.1	64.2	−5.1	64.4	355		1.0	0.0	0.45			
374	364	356	1.0	0.0	0.433	47.5	58.0	15.2	60.0	374		1.0	0.0	0.594	48.0	61.2	4.3	61.4	364		1.0	0.0	0.433	1.0	0.0	0.713	48.9	63.9	−3.8	64.0	356		1.0	0.0	0.433			
375	365	357	1.0	0.0	0.416	47.5	57.7	16.5	60.0	375		1.0	0.0	0.578	47.9	60.9	5.3	61.1	365		1.0	0.0	0.417	1.0	0.0	0.695	48.7	63.5	−2.5	63.5	357		1.0	0.0	0.417			
377	366	358	1.0	0.0	0.4	47.4	57.3	17.7	60.0	377		1.0	0.0	0.562	47.9	60.5	6.4	60.9	366		1.0	0.0	0.4	1.0	0.0	0.677	48.6	63.1	−1.3	63.1	358		1.0	0.0	0.4			
378	367	359	1.0	0.0	0.383	47.4	57.0	18.9	60.0	378		1.0	0.0	0.547	47.9	60.2	7.4	60.6	367		1.0	0.0	0.383	1.0	0.0	0.659	48.4	62.7	−0.1	62.7	359		1.0	0.0	0.383			
379	368	360	1.0	0.0	0.366	47.4	56.8	20.0	60.2	379		1.0	0.0	0.531	47.9	59.8	8.4	60.4	368		1.0	0.0	0.367	1.0	0.0	0.641	48.2	62.2	1.1	62.2	360		1.0	0.0	0.367			
380	369	362	1.0	0.0	0.35	47.4	56.7	21.1	60.5	380		1.0	0.0	0.516	47.8	59.4	9.4	60.2	369		1.0	0.0	0.35	1.0	0.0	0.624	48.0	61.8	2.3	61.8	362		1.0	0.0	0.35			
381	370	363	1.0	0.0	0.333	47.4	56.6	22.1	60.8	381		1.0	0.0	0.5	47.8	59.0	10.4	59.9	370		1.0	0.0	0.333	1.0	0.0	0.606	48.0	61.5	3.4	61.5	363		1.0	0.0	0.333			
382	371	364	1.0	0.0	0.316	47.4	56.5	23.2	61.1	382		1.0	0.0	0.486	47.8	58.8	11.4	59.9	371		1.0	0.0	0.317	1.0	0.0	0.589	47.9	61.1	4.6	61.3	364		1.0	0.0	0.317			
383	372	365	1.0	0.0	0.3	47.5	56.4	24.3	61.4	383		1.0	0.0	0.472	47.7	58.6	12.5	60.0	372		1.0	0.0	0.3	1.0	0.0	0.571	47.9	60.7	5.8	61.0	365		1.0	0.0	0.3			
384	373	366	1.0	0.0	0.283	47.5	56.2	25.4	61.7	384		1.0	0.0	0.458	47.7	58.4	13.5	60.0	373		1.0	0.0	0.283	1.0	0.0	0.554	47.9	60.3	6.9	60.7	366		1.0	0.0	0.283			
385	374	367	1.0	0.0	0.266	47.5	56.1	26.5	62.0	385		1.0	0.0	0.444	47.6	58.2	14.5	60.0	374		1.0	0.0	0.267	1.0	0.0	0.537	47.9	59.9	8.1	60.5	367		1.0	0.0	0.267			
386	375	368	1.0	0.0	0.25	47.5	55.9	27.5	62.3	386		1.0	0.0	0.43	47.6	58.0	15.5	60.0	375		1.0	0.0	0.25	1.0	0.0	0.519	47.8	59.5	9.2	60.2	368		1.0	0.0	0.25			
386	376	369	1.0	0.0	0.233	47.5	56.0	28.4	62.8	386		1.0	0.0	0.416	47.5	57.7	16.5	60.0	376		1.0	0.0	0.233	1.0	0.0	0.502	47.8	59.1	10.3	59.9	369		1.0	0.0	0.233			
387	377	370	1.0	0.0	0.216	47.6	56.1	29.3	63.3	387		1.0	0.0	0.402	47.5	57.4	17.6	60.1	377		1.0	0.0	0.217	1.0	0.0	0.486	47.8	58.8	11.4	59.9	370		1.0	0.0	0.217			
388	378	372	1.0	0.0	0.2	47.6	56.1	30.2	63.8	388		1.0	0.0	0.388	47.5	57.1	18.6	60.1	378		1.0	0.0	0.2	1.0	0.0	0.471	47.7	58.6	12.6	60.0	372		1.0	0.0	0.2			
388	379	373	1.0	0.0	0.183	47.6	56.2	31.1	64.2	388		1.0	0.0	0.374	47.4	56.8	19.6	60.1	379		1.0	0.0	0.183	1.0	0.0	0.455	47.7	58.4	13.7	60.0	373		1.0	0.0	0.183			
389	380	374	1.0	0.0	0.166	47.6	56.3	32.0	64.7	389		1.0	0.0	0.357	47.4	56.8	20.7	60.4	380		1.0	0.0	0.167	1.0	0.0	0.439	47.6	58.1	14.9	60.0	374		1.0	0.0	0.167			
390	381	375	1.0	0.0	0.15	47.6	56.3	32.9	65.2	390		1.0	0.0	0.34	47.5	56.7	21.8	60.7	381		1.0	0.0	0.15	1.0	0.0	0.424	47.6	57.9	16.0	60.0	375		1.0	0.0	0.15			
390	382	376	1.0	0.0	0.133	47.6	56.3	33.8	65.7	390		1.0	0.0	0.323	47.5	56.6	22.9	61.0	382		1.0	0.0	0.133	1.0	0.0	0.408	47.5	57.6	17.1	60.0	376		1.0	0.0	0.133			
391	383	377	1.0	0.0	0.116	47.6	56.4	34.5	66.1	391		1.0	0.0	0.306	47.5	56.5	24.0	61.4	383		1.0	0.0	0.117	1.0	0.0	0.393	47.5	57.2	18.2	60.1	377		1.0	0.0	0.117			
391	384	378	1.0	0.0	0.1	47.6	56.5	34.9	66.5	391		1.0	0.0	0.289	47.5	56.3	25.1	61.7	384		1.0	0.0	0.1	1.0	0.0	0.377	47.4	56.9	19.4	60.1	378		1.0	0.0	0.1			
392	385	379	1.0	0.0	0.083	47.6	56.6	35.4	66.8	392		1.0	0.0	0.272	47.6	56.2	26.2	62.0	385		1.0	0.0	0.083	1.0	0.0	0.358	47.4	56.8	20.6	60.4	379		1.0	0.0	0.083			
392	386	381	1.0	0.0	0.066	47.6	56.7	35.9	67.2	392		1.0	0.0	0.255	47.6	56.0	27.3	62.3	386		1.0	0.0	0.067	1.0	0.0	0.339	47.5	56.7	21.8	60.7	381		1.0	0.0	0.067			
392	387	382	1.0	0.0	0.049	47.6	56.9	36.4	67.5	392		1.0	0.0	0.232	47.6	56.0	28.5	62.9	387		1.0	0.0	0.05	1.0	0.0	0.32	47.5	56.6	23.0	61.1	382		1.0	0.0	0.05			
392	388	383	1.0	0.0	0.033	47.6	57.0	36.8	67.9	392		1.0	0.0	0.207	47.6	56.2	29.9	63.6	388		1.0	0.0	0.033	1.0	0.0	0.301	47.5	56.4	24.2	61.4	383		1.0	0.0	0.033			
393	389	384	1.0	0.0	0.016	47.6	57.1	37.3	68.2	393		1.0	0.0	0.182	47.6	56.3	31.2	64.3	389		1.0	0.0	0.017	1.0	0.0	0.282	47.5	56.3	25.5	61.8	384		1.0	0.0	0.017			
393	390	385	1.0	0.0	0.0	47.5	57.2	37.8	68.6	393	***R***$_d$	1.0	0.0	0.158	47.7	56.3	32.5	65.0	390	***R***$_s$	1.0	0.0	0.0	1.0	0.0	0.263	47.6	56.1	26.7	62.1	385	***R***$_e$	1.0	0.0	0.0			

TUB-test chart PE89; 16 step hue circle
48 step hue circles; *rgb−LabCh**tables

input: *rgb/cmyk* −> *rgb*$_d$
output: transfer to *cmyk*$_d$

see similar files: http://130.149.60.45/~farbmetrik/PE89/PE89.HTM
technical information: http://www.ps.bam.de or http://130.149.60.45/~farbmetrik

TUB registration: 20150701-PE89/PE89L0NP.PDF /.PS
application for measurement of laser printer output, separation cmyn6 (CMYK)
TUB material: code=rha4ta

see similar files: http://130.149.60.45/~farbmetrik/PE89/PE89.HTM
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n/j	HIC*$_{Fd}$	*rgb*$_{Fd}$			*ict*$_{Fd}$			$h_{si\_F,d}$	*rgb**$_{Fd}$			*LabCh**$_{Fd}$					*rgb*'*$_{Fd}$			*LabCh*'*$_{Fd}$					*DE*'*$_{Fd}$	$h_{siM,d}$	*rgb**$_{Md}$			*LabCh**$_{Md}$				
0/648	R00Y_100_100$_d$	1.0	0.0	0.0	1.0	1.0	0.5	390	1.0	0.0	0.0	47.5	57.2	37.8	68.6	33.4	1.0	0.0	0.0	47.5	57.2	37.8	68.6	33.4	0.0	389	1.0	0.0	0.0	47.5	57.2	37.8	68.6	33.4
1/657	R13Y_100_100$_d$	1.0	0.125	0.0	1.0	1.0	0.5	37	1.0	0.116	0.0	51.6	54.5	48.4	72.9	41.6	1.0	0.125	0.0	51.9	54.3	49.2	73.2	42.1	0.8	36	1.0	0.116	0.0	51.6	54.5	48.4	72.9	41.6
2/666	R25Y_100_100$_d$	1.0	0.25	0.0	1.0	1.0	0.5	44	1.0	0.233	0.0	57.4	43.5	54.5	69.7	51.4	1.0	0.25	0.0	58.2	41.8	55.1	69.2	52.8	1.9	42	1.0	0.233	0.0	57.4	43.5	54.5	69.7	51.4
3/675	R38Y_100_100$_d$	1.0	0.375	0.0	1.0	1.0	0.5	52	1.0	0.366	0.0	64.2	30.6	60.1	67.5	63.0	1.0	0.375	0.0	64.6	29.8	60.4	67.3	63.7	0.9	51	1.0	0.366	0.0	64.2	30.6	60.1	67.5	63.0
4/684	R50Y_100_100$_d$	1.0	0.5	0.0	1.0	1.0	0.5	60	1.0	0.5	0.0	70.5	19.2	66.2	69.0	73.8	1.0	0.5	0.0	70.5	19.2	66.2	69.0	73.8	0.0	59	1.0	0.5	0.0	70.5	19.2	66.2	69.0	73.8
5/693	R63Y_100_100$_d$	1.0	0.625	0.0	1.0	1.0	0.5	68	1.0	0.633	0.0	75.4	10.6	71.2	72.0	81.5	1.0	0.625	0.0	74.9	11.4	70.7	71.6	80.7	1.1	68	1.0	0.633	0.0	75.4	10.6	71.2	72.0	81.5
6/702	R75Y_100_100$_d$	1.0	0.75	0.0	1.0	1.0	0.5	76	1.0	0.766	0.0	83.5	−2.9	76.8	76.9	92.2	1.0	0.75	0.0	82.9	−2.0	76.9	77.0	91.5	1.1	77	1.0	0.766	0.0	83.5	−2.9	76.8	76.9	92.2
7/711	R88Y_100_100$_d$	1.0	0.875	0.0	1.0	1.0	0.5	83	1.0	0.883	0.0	87.8	−9.4	76.3	76.9	97.0	1.0	0.875	0.0	87.6	−9.0	75.7	76.3	96.8	0.7	83	1.0	0.883	0.0	87.8	−9.4	76.3	76.9	97.0
8/720	Y00G_100_100$_d$	1.0	1.0	0.0	1.0	1.0	0.5	90	1.0	1.0	0.0	91.5	−15.8	84.6	86.1	100.5	1.0	1.0	0.0	91.5	−15.8	84.6	86.1	100.5	0.0	89	1.0	1.0	0.0	91.5	−15.8	84.6	86.1	100.5
9/639	Y13G_100_100$_d$	0.875	1.0	0.0	1.0	1.0	0.5	97	0.883	1.0	0.0	92.7	−18.0	89.1	90.9	101.4	0.875	1.0	0.0	92.8	−18.1	89.4	91.2	101.4	0.3	96	0.883	1.0	0.0	92.7	−18.0	89.1	90.9	101.4
10/558	Y25G_100_100$_d$	0.75	1.0	0.0	1.0	1.0	0.5	104	0.766	1.0	0.0	90.4	−20.9	86.5	89.0	103.6	0.75	1.0	0.0	90.1	−21.3	86.0	88.6	103.9	0.7	102	0.766	1.0	0.0	90.4	−20.9	86.5	89.0	103.6
11/477	Y38G_100_100$_d$	0.625	1.0	0.0	1.0	1.0	0.5	112	0.633	1.0	0.0	80.5	−31.2	69.2	75.9	114.2	0.625	1.0	0.0	79.9	−31.7	67.9	75.0	115.0	1.4	111	0.633	1.0	0.0	80.5	−31.2	69.2	75.9	114.2
12/396	Y50G_100_100$_d$	0.5	1.0	0.0	1.0	1.0	0.5	120	0.5	1.0	0.0	70.9	−41.7	54.8	68.9	127.3	0.5	1.0	0.0	70.9	−41.7	54.8	68.9	127.3	0.0	119	0.5	1.0	0.0	70.9	−41.7	54.8	68.9	127.3
13/315	Y63G_100_100$_d$	0.375	1.0	0.0	1.0	1.0	0.5	128	0.366	1.0	0.0	66.1	−48.2	47.5	67.7	135.3	0.375	1.0	0.0	66.5	−47.5	48.0	67.6	134.7	0.8	128	0.366	1.0	0.0	66.1	−48.2	47.5	67.7	135.3
14/234	Y75G_100_100$_d$	0.25	1.0	0.0	1.0	1.0	0.5	136	0.233	1.0	0.0	60.1	−57.9	39.6	70.2	145.5	0.25	1.0	0.0	60.6	−57.2	40.4	70.1	144.7	1.1	137	0.233	1.0	0.0	60.1	−57.9	39.6	70.2	145.5
15/153	Y88G_100_100$_d$	0.125	1.0	0.0	1.0	1.0	0.5	143	0.116	1.0	0.0	56.8	−62.5	34.1	71.3	151.3	0.125	1.0	0.0	57.0	−62.2	34.4	71.1	151.0	0.4	143	0.116	1.0	0.0	56.8	−62.5	34.1	71.3	151.3
16/72	G00C_100_100$_d$	0.0	1.0	0.0	1.0	1.0	0.5	150	0.0	1.0	0.0	54.3	−67.6	30.8	74.3	155.5	0.0	1.0	0.0	54.3	−67.6	30.8	74.3	155.5	0.0	149	0.0	1.0	0.0	54.3	−67.6	30.8	74.3	155.5
17/73	G13C_100_100$_d$	0.0	1.0	0.125	1.0	1.0	0.5	157	0.0	1.0	0.116	53.8	−66.5	23.5	70.5	160.5	0.0	1.0	0.125	53.8	−66.4	23.0	70.2	160.8	0.5	156	0.0	1.0	0.116	53.8	−66.5	23.5	70.5	160.5
18/74	G25C_100_100$_d$	0.0	1.0	0.25	1.0	1.0	0.5	164	0.0	1.0	0.233	53.7	−63.6	14.1	65.2	167.4	0.0	1.0	0.25	53.7	−63.1	12.8	64.4	168.5	1.3	162	0.0	1.0	0.233	53.7	−63.6	14.1	65.2	167.4
19/75	G38C_100_100$_d$	0.0	1.0	0.375	1.0	1.0	0.5	172	0.0	1.0	0.366	54.7	−57.3	0.8	57.3	179.1	0.0	1.0	0.375	54.7	−56.8	0.0	56.8	179.9	0.9	171	0.0	1.0	0.366	54.7	−57.3	0.8	57.3	179.1
20/76	G50C_100_100$_d$	0.0	1.0	0.5	1.0	1.0	0.5	180	0.0	1.0	0.5	55.0	−51.4	−8.9	52.2	189.8	0.0	1.0	0.5	55.0	−51.4	−8.9	52.2	189.8	0.0	180	0.0	1.0	0.5	55.0	−51.4	−8.9	52.2	189.8
21/77	G63C_100_100$_d$	0.0	1.0	0.625	1.0	1.0	0.5	188	0.0	1.0	0.633	55.3	−43.8	−20.5	48.4	205.1	0.0	1.0	0.625	55.3	−44.1	−20.0	48.5	204.4	0.5	188	0.0	1.0	0.633	55.3	−43.8	−20.5	48.4	205.1
22/78	G75C_100_100$_d$	0.0	1.0	0.75	1.0	1.0	0.5	196	0.0	1.0	0.766	55.1	−39.2	−27.9	48.1	215.4	0.0	1.0	0.75	55.2	−39.5	−27.1	47.9	214.4	0.8	197	0.0	1.0	0.766	55.1	−39.2	−27.9	48.1	215.4
23/79	G88C_100_100$_d$	0.0	1.0	0.875	1.0	1.0	0.5	203	0.0	1.0	0.883	54.3	−36.4	−33.7	49.6	222.8	0.0	1.0	0.875	54.4	−36.7	−33.0	49.4	221.9	0.7	203	0.0	1.0	0.883	54.3	−36.4	−33.7	49.6	222.8
24/80	C00B_100_100$_d$	0.0	1.0	1.0	1.0	1.0	0.5	210	0.0	1.0	1.0	53.1	−30.0	−43.1	52.5	235.1	0.0	1.0	1.0	53.1	−30.0	−43.1	52.5	235.1	0.0	210	0.0	1.0	1.0	53.1	−30.0	−43.1	52.5	235.1
25/71	C13B_100_100$_d$	0.0	0.875	1.0	1.0	1.0	0.5	217	0.0	0.883	1.0	53.1	−28.1	−44.6	52.7	237.7	0.0	0.875	1.0	53.1	−27.9	−44.7	52.7	237.9	0.1	216	0.0	0.883	1.0	53.1	−28.1	−44.6	52.7	237.7
26/62	C25B_100_100$_d$	0.0	0.75	1.0	1.0	1.0	0.5	224	0.0	0.766	1.0	52.9	−26.2	−47.2	53.9	240.9	0.0	0.75	1.0	52.9	−25.9	−47.5	54.1	241.3	0.4	222	0.0	0.766	1.0	52.9	−26.2	−47.2	53.9	240.9
27/53	C38B_100_100$_d$	0.0	0.625	1.0	1.0	1.0	0.5	232	0.0	0.633	1.0	50.7	−21.1	−49.4	53.7	246.8	0.0	0.625	1.0	50.5	−20.8	−49.5	53.7	247.2	0.3	231	0.0	0.633	1.0	50.7	−21.1	−49.4	53.7	246.8
28/44	C50B_100_100$_d$	0.0	0.5	1.0	1.0	1.0	0.5	240	0.0	0.5	1.0	46.1	−13.3	−49.4	51.1	254.9	0.0	0.5	1.0	46.1	−13.3	−49.4	51.1	254.9	0.0	240	0.0	0.5	1.0	46.1	−13.3	−49.4	51.1	254.9
29/35	C63B_100_100$_d$	0.0	0.375	1.0	1.0	1.0	0.5	248	0.0	0.366	1.0	41.1	−5.7	−49.2	49.6	263.3	0.0	0.375	1.0	41.4	−6.3	−49.2	49.6	262.6	0.6	248	0.0	0.366	1.0	41.1	−5.7	−49.2	49.6	263.3
30/26	C75B_100_100$_d$	0.0	0.25	1.0	1.0	1.0	0.5	256	0.0	0.233	1.0	36.6	3.2	−48.3	48.4	273.8	0.0	0.25	1.0	36.8	2.2	−48.5	48.6	272.6	1.0	257	0.0	0.233	1.0	36.6	3.2	−48.3	48.4	273.8
31/17	C88B_100_100$_d$	0.0	0.125	1.0	1.0	1.0	0.5	263	0.0	0.116	1.0	34.9	9.9	−46.3	47.3	282.0	0.0	0.125	1.0	35.0	9.4	−46.3	47.3	281.4	0.5	263	0.0	0.116	1.0	34.9	9.9	−46.3	47.3	282.0
32/8	B00M_100_100$_d$	0.0	0.0	1.0	1.0	1.0	0.5	270	0.0	0.0	1.0	32.5	16.9	−44.6	47.7	290.8	0.0	0.0	1.0	32.5	16.9	−44.6	47.7	290.8	0.0	270	0.0	0.0	1.0	32.5	16.9	−44.6	47.7	290.8
33/89	B13M_100_100$_d$	0.125	0.0	1.0	1.0	1.0	0.5	277	0.116	0.0	1.0	31.6	23.1	−42.4	48.3	298.6	0.125	0.0	1.0	31.6	23.6	−42.2	48.4	299.2	0.4	276	0.116	0.0	1.0	31.6	23.1	−42.4	48.3	298.6
34/170	B25M_100_100$_d$	0.25	0.0	1.0	1.0	1.0	0.5	284	0.233	0.0	1.0	31.1	29.6	−39.8	49.6	306.6	0.25	0.0	1.0	31.0	30.5	−39.3	49.8	307.8	1.0	282	0.233	0.0	1.0	31.1	29.6	−39.8	49.6	306.6
35/251	B38M_100_100$_d$	0.375	0.0	1.0	1.0	1.0	0.5	292	0.366	0.0	1.0	34.0	37.7	−35.3	51.7	316.8	0.375	0.0	1.0	34.2	38.2	−35.0	51.8	317.5	0.6	291	0.366	0.0	1.0	34.0	37.7	−35.3	51.7	316.8
36/332	B50M_100_100$_d$	0.5	0.0	1.0	1.0	1.0	0.5	300	0.5	0.0	1.0	37.2	43.1	−30.8	53.0	324.4	0.5	0.0	1.0	37.2	43.1	−30.8	53.0	324.4	0.0	300	0.5	0.0	1.0	37.2	43.1	−30.8	53.0	324.4
37/413	B63M_100_100$_d$	0.625	0.0	1.0	1.0	1.0	0.5	308	0.633	0.0	1.0	39.2	48.9	−26.9	55.8	331.1	0.625	0.0	1.0	39.1	48.4	−27.2	55.6	330.6	0.6	308	0.633	0.0	1.0	39.2	48.9	−26.9	55.8	331.1
38/494	B75M_100_100$_d$	0.75	0.0	1.0	1.0	1.0	0.5	316	0.766	0.0	1.0	42.4	55.8	−20.9	59.6	339.4	0.75	0.0	1.0	41.8	55.1	−21.4	59.1	338.7	0.9	317	0.766	0.0	1.0	42.4	55.8	−20.9	59.6	339.4
39/575	B88M_100_100$_d$	0.875	0.0	1.0	1.0	1.0	0.5	323	0.883	0.0	1.0	45.8	60.5	−17.0	62.8	344.2	0.875	0.0	1.0	45.6	60.1	−17.3	62.6	343.9	0.4	323	0.883	0.0	1.0	45.8	60.5	−17.0	62.8	344.2
40/656	M00R_100_100$_d$	1.0	0.0	1.0	1.0	1.0	0.5	330	1.0	0.0	1.0	48.1	65.4	−12.7	66.6	348.9	1.0	0.0	1.0	48.1	65.4	−12.7	66.6	348.9	0.0	330	1.0	0.0	1.0	48.1	65.4	−12.7	66.6	348.9
41/655	M13R_100_100$_d$	1.0	0.0	0.875	1.0	1.0	0.5	337	1.0	0.0	0.883	49.4	66.1	−10.9	67.0	350.6	1.0	0.0	0.875	49.5	66.1	−10.7	67.0	350.7	0.1	336	1.0	0.0	0.883	49.4	66.1	−10.9	67.0	350.6
42/654	M25R_100_100$_d$	1.0	0.0	0.75	1.0	1.0	0.5	344	1.0	0.0	0.766	49.3	64.7	−7.1	65.1	353.7	1.0	0.0	0.75	49.3	64.5	−6.5	64.8	354.2	0.5	342	1.0	0.0	0.766	49.3	64.7	−7.1	65.1	353.7
43/653	M38R_100_100$_d$	1.0	0.0	0.625	1.0	1.0	0.5	352	1.0	0.0	0.633	48.0	62.0	1.5	62.0	1.4	1.0	0.0	0.625	48.0	61.8	2.1	61.8	361.9	0.6	351	1.0	0.0	0.633	48.0	62.0	1.5	62.0	1.4
44/652	M50R_100_100$_d$	1.0	0.0	0.5	1.0	1.0	0.5	360	1.0	0.0	0.5	47.8	58.9	10.4	59.9	10.0	1.0	0.0	0.5	47.8	58.9	10.4	59.9	370.0	0.0	360	1.0	0.0	0.5	47.8	58.9	10.4	59.9	10.0
45/651	M63R_100_100$_d$	1.0	0.0	0.375	1.0	1.0	0.5	368	1.0	0.0	0.366	47.4	56.8	20.0	60.2	19.4	1.0	0.0	0.375	47.4	56.8	19.5	60.0	378.9	0.5	368	1.0	0.0	0.366	47.4	56.8	20.0	60.2	19.4
46/650	M75R_100_100$_d$	1.0	0.0	0.25	1.0	1.0	0.5	376	1.0	0.0	0.233	47.5	56.0	28.4	62.8	26.9	1.0	0.0	0.25	47.5	55.9	27.5	62.3	386.2	0.8	377	1.0	0.0	0.233	47.5	56.0	28.4	62.8	26.9
47/649	M88R_100_100$_d$	1.0	0.0	0.125	1.0	1.0	0.5	383	1.0	0.0	0.116	47.6	56.4	34.5	66.1	31.4	1.0	0.0	0.125	47.6	56.3	34.2	65.9	391.3	0.2	383	1.0	0.0	0.116	47.6	56.4	34.5	66.1	31.4
48/648	R00Y_100_100$_d$	1.0	0.0	0.0	1.0	1.0	0.5	390	1.0	0.0	0.0	47.5	57.2	37.8	68.6	33.4	1.0	0.0	0.0	47.5	57.2	37.8	68.6	393.4	0.0	389	1.0	0.0	0.0	47.5	57.2	37.8	68.6	33.4
49/0	NW_000$_d$	0.0	0.0	0.0	0.0	0.0	0.0	360	0.0	0.0	0.0	23.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	51.9	54.3	49.2	73.2	402.1	78.5	360	1.0	1.0	1.0	95.8	0.0	0.0	0.0	0.0
50/91	NW_013$_d$	0.125	0.125	0.125	0.125	0.0	0.125	360	0.125	0.125	0.125	32.8	0.0	0.0	0.0	0.0	0.125	0.125	0.125	23.8	0.0	0.0	0.0	0.0	8.9	360	1.0	1.0	1.0	95.8	0.0	0.0	0.0	0.0
51/182	NW_025$_d$	0.25	0.25	0.25	0.25	0.0	0.25	360	0.25	0.25	0.25	41.8	0.0	0.0	0.0	0.0	0.25	0.25	0.25	27.8	0.0	−0.5	0.5	273.6	14.0	360	1.0	1.0	1.0	95.8	0.0	0.0	0.0	0.0
52/273	NW_038$_d$	0.375	0.375	0.375	0.375	0.0	0.375	360	0.375	0.375	0.375	50.8	0.0	0.0	0.0	0.0	0.375	0.375	0.375	39.8	−0.1	−1.2	1.2	265.1	11.0	360	1.0	1.0	1.0	95.8	0.0	0.0	0.0	0.0
53/364	NW_050$_d$	0.5	0.5	0.5	0.5	0.0	0.5	360	0.5	0.5	0.5	59.8	0.0	0.0	0.0	0.0	0.5	0.5	0.5	51.9	0.0	−1.3	1.3	267.6	7.9	360	1.0	1.0	1.0	95.8	0.0	0.0	0.0	0.0
54/455	NW_063$_d$	0.625	0.625	0.625	0.625	0.0	0.625	360	0.625	0.625	0.625	68.8	0.0	0.0	0.0	0.0	0.625	0.625	0.625	61.2	0.0	−1.2	1.2	268.4	7.6	360	1.0	1.0	1.0	95.8	0.0	0.0	0.0	0.0
55/546	NW_075$_d$	0.75	0.75	0.75	0.75	0.0	0.75	360	0.75	0.75	0.75	77.8	0.0	0.0	0.0	0.0	0.75	0.75	0.75	72.6	0.0	−1.0	1.0	269.8	5.3	360	1.0	1.0	1.0	95.8	0.0	0.0	0.0	0.0
56/637	NW_088$_d$	0.875	0.875	0.875	0.875	0.0	0.875	360	0.875	0.875	0.875	86.8	0.0	0.0	0.0	0.0	0.875	0.875	0.875	80.4	0.0	−0.3	0.3	272.2	6.3	360	1.0	1.0	1.0	95.8	0.0	0.0	0.0	0.0
57/728	NW_100$_d$	1.0	1.0	1.0	1.0	0.0	1.0	360	1.0	1.0	1.0	95.8	0.0	0.0	0.0	0.0	1.0	1.0	1.0	90.8	0.0	−0.1	0.1	266.5	4.9	360	1.0	1.0	1.0	95.8	0.0	0.0	0.0	0.0

Mean color difference of this page: delta *E*'* = 2.9

TUB-test chart PE89; 16 step hue circle
colors and differences, ΔE^*'

input: *rgb/cmyk* −> *rgb*$_d$
output: transer to *cmyk*$_d$

1−0031730−F0

see similar files: http://130.149.60.45/~farbmetrik/PE89/PE89.HTM
technical information: http://www.ps.bam.de or http://130.149.60.45/~farbmetrik

TUB registration: 20150701-PE89/PE89L0NP.PDF /.PS
application for measurement of laser printer output, separation cmyn6 (CMYK)
TUB material: code=rha4ta

n/j	HIC*$_{Fd}$	*rgb*$_{Fd}$			*ict*$_{Fd}$			$h_{si\_F,d}$	*rgb**$_{Fd}$			*LabCh**$_{Fd}$					*rgb*'$_{Fd}$			*LabCh*'$_{Fd}$					*DE*'$_{Fd}$	$h_{siM,d}$	*rgb**$_{Md}$			*LabCh**$_{Md}$				
0/648	R00Y_100_100$_d$	1.0	0.0	0.0	1.0	1.0	0.5	390	1.0	0.0	0.0	47.5	57.2	37.8	68.6	33.4	1.0	0.0	0.0	47.5	57.2	37.8	68.6	33.4	0.0	389	1.0	0.0	0.0	47.5	57.2	37.8	68.6	33.4
1/666	R25Y_100_100$_d$	1.0	0.25	0.0	1.0	1.0	0.5	44	1.0	0.233	0.0	57.4	43.5	54.5	69.7	51.4	1.0	0.25	0.0	58.2	41.8	55.1	69.2	52.8	1.9	42	1.0	0.233	0.0	57.4	43.5	54.5	69.7	51.4
2/684	R50Y_100_100$_d$	1.0	0.5	0.0	1.0	1.0	0.5	60	1.0	0.5	0.0	70.5	19.2	66.2	69.0	73.8	1.0	0.5	0.0	70.5	19.2	66.2	69.0	73.8	0.0	59	1.0	0.5	0.0	70.5	19.2	66.2	69.0	73.8
3/702	R75Y_100_100$_d$	1.0	0.75	0.0	1.0	1.0	0.5	76	1.0	0.766	0.0	83.5	−2.9	76.8	76.9	92.2	1.0	0.75	0.0	82.9	−2.0	76.9	77.0	91.5	1.1	77	1.0	0.766	0.0	83.5	−2.9	76.8	76.9	92.2
4/720	Y00G_100_100$_d$	1.0	1.0	0.0	1.0	1.0	0.5	90	1.0	1.0	0.0	91.5	−15.8	84.6	86.1	100.5	1.0	1.0	0.0	91.5	−15.8	84.6	86.1	100.5	0.0	89	1.0	1.0	0.0	91.5	−15.8	84.6	86.1	100.5
5/558	Y25G_100_100$_d$	0.75	1.0	0.0	1.0	1.0	0.5	104	0.766	1.0	0.0	90.4	−20.9	86.5	89.0	103.6	0.75	1.0	0.0	90.1	−21.3	86.0	88.6	103.9	0.7	102	0.766	1.0	0.0	90.4	−20.9	86.5	89.0	103.6
6/396	Y50G_100_100$_d$	0.5	1.0	0.0	1.0	1.0	0.5	120	0.5	1.0	0.0	70.9	−41.7	54.8	68.9	127.3	0.5	1.0	0.0	70.9	−41.7	54.8	68.9	127.3	0.0	119	0.5	1.0	0.0	70.9	−41.7	54.8	68.9	127.3
7/234	Y75G_100_100$_d$	0.25	1.0	0.0	1.0	1.0	0.5	136	0.233	1.0	0.0	60.1	−57.9	39.6	70.2	145.5	0.25	1.0	0.0	60.6	−57.2	40.4	70.1	144.7	1.1	137	0.233	1.0	0.0	60.1	−57.9	39.6	70.2	145.5
8/72	G00B_100_100$_d$	0.0	1.0	0.0	1.0	1.0	0.5	150	0.0	1.0	0.0	54.3	−67.6	30.8	74.3	155.5	0.0	1.0	0.0	54.3	−67.6	30.8	74.3	155.5	0.0	149	0.0	1.0	0.0	54.3	−67.6	30.8	74.3	155.5
9/72	G00B_100_100$_d$	0.0	1.0	0.0	1.0	1.0	0.5	150	0.0	1.0	0.0	54.3	−67.6	30.8	74.3	155.5	0.0	1.0	0.0	54.3	−67.6	30.8	74.3	155.5	0.0	149	0.0	1.0	0.0	54.3	−67.6	30.8	74.3	155.5
10/76	G25B_100_100$_d$	0.0	1.0	0.5	1.0	1.0	0.5	180	0.0	1.0	0.5	55.0	−51.4	−8.9	52.2	189.8	0.0	1.0	0.5	55.0	−51.4	−8.9	52.2	189.8	0.0	180	0.0	1.0	0.5	55.0	−51.4	−8.9	52.2	189.8
11/80	G50B_100_100$_d$	0.0	1.0	1.0	1.0	1.0	0.5	210	0.0	1.0	1.0	53.1	−30.0	−43.1	52.5	235.1	0.0	1.0	1.0	53.1	−30.0	−43.1	52.5	235.1	0.0	210	0.0	1.0	1.0	53.1	−30.0	−43.1	52.5	235.1
12/44	G75B_100_100$_d$	0.0	0.5	1.0	1.0	1.0	0.5	240	0.0	0.5	1.0	46.1	−13.3	−49.4	51.1	254.9	0.0	0.5	1.0	46.1	−13.3	−49.4	51.1	254.9	0.0	240	0.0	0.5	1.0	46.1	−13.3	−49.4	51.1	254.9
13/8	B00M_100_100$_d$	0.0	0.0	1.0	1.0	1.0	0.5	270	0.0	0.0	1.0	32.5	16.9	−44.6	47.7	290.8	0.0	0.0	1.0	32.5	16.9	−44.6	47.7	290.8	0.0	270	0.0	0.0	1.0	32.5	16.9	−44.6	47.7	290.8
14/332	B25R_100_100$_d$	0.5	0.0	1.0	1.0	1.0	0.5	300	0.5	0.0	1.0	37.2	43.1	−30.8	53.0	324.4	0.5	0.0	1.0	37.2	43.1	−30.8	53.0	324.4	0.0	300	0.5	0.0	1.0	37.2	43.1	−30.8	53.0	324.4
15/656	B50R_100_100$_d$	1.0	0.0	1.0	1.0	1.0	0.5	330	1.0	0.0	1.0	48.1	65.4	−12.7	66.6	348.9	1.0	0.0	1.0	48.1	65.4	−12.7	66.6	348.9	0.0	330	1.0	0.0	1.0	48.1	65.4	−12.7	66.6	348.9
16/652	B75R_100_100$_d$	1.0	0.0	0.5	1.0	1.0	0.5	360	1.0	0.0	0.5	47.8	58.9	10.4	59.9	10.0	1.0	0.0	0.5	47.8	58.9	10.4	59.9	10.0	0.0	360	1.0	0.0	0.5	47.8	58.9	10.4	59.9	10.0
17/648	R00Y_100_100$_d$	1.0	0.0	0.0	1.0	1.0	0.5	390	1.0	0.0	0.0	47.5	57.2	37.8	68.6	33.4	1.0	0.0	0.0	47.5	57.2	37.8	68.6	33.4	0.0	389	1.0	0.0	0.0	47.5	57.2	37.8	68.6	33.4
18/688	R00Y_100_050$_d$	1.0	0.5	0.5	1.0	0.5	0.75	390	1.0	0.5	0.5	71.7	28.6	18.9	34.3	33.4	1.0	0.5	0.5	71.4	24.0	27.4	36.4	48.8	9.6	389	1.0	0.0	0.0	47.5	57.2	37.8	68.6	33.4
19/706	R50Y_100_050$_d$	1.0	0.75	0.5	1.0	0.5	0.75	60	1.0	0.75	0.5	83.1	9.6	33.1	34.5	73.8	1.0	0.75	0.5	83.6	2.8	39.3	39.4	85.7	9.1	59	1.0	0.5	0.0	70.5	19.2	66.2	69.0	73.8
20/724	Y00G_100_050$_d$	1.0	1.0	0.5	1.0	0.5	0.75	90	1.0	1.0	0.5	93.7	−7.9	42.3	43.0	100.5	1.0	1.0	0.5	93.1	−11.8	45.5	47.0	104.6	5.0	89	1.0	1.0	0.0	91.5	−15.8	84.6	86.1	100.5
21/562	Y50G_100_050$_d$	0.75	1.0	0.5	1.0	0.5	0.75	120	0.75	1.0	0.5	83.4	−20.8	27.4	34.4	127.3	0.75	1.0	0.5	86.2	−21.9	37.8	43.7	120.1	10.8	119	0.5	1.0	0.0	70.9	−41.7	54.8	68.9	127.3
22/400	G00B_100_050$_d$	0.5	1.0	0.5	1.0	0.5	0.75	150	0.5	1.0	0.5	75.0	−33.8	15.4	37.1	155.5	0.5	1.0	0.5	74.1	−30.5	11.7	32.6	158.9	5.0	149	0.0	1.0	0.0	54.3	−67.6	30.8	74.3	155.5
23/404	G50B_100_050$_d$	0.5	1.0	1.0	1.0	0.5	0.75	210	0.5	1.0	1.0	74.4	−15.0	−21.5	26.2	235.1	0.5	1.0	1.0	73.7	−17.1	−27.4	32.3	238.0	6.3	210	0.0	1.0	1.0	53.1	−30.0	−43.1	52.5	235.1
24/368	B00R_100_050$_d$	0.5	0.5	1.0	1.0	0.5	0.75	270	0.5	0.5	1.0	64.2	8.4	−22.3	23.8	290.8	0.5	0.5	1.0	54.8	11.5	−32.2	34.2	289.7	14.0	270	0.0	0.0	1.0	32.5	16.9	−44.6	47.7	290.8
25/692	B50R_100_050$_d$	1.0	0.5	1.0	1.0	0.5	0.75	330	1.0	0.5	1.0	72.0	32.7	−6.3	33.3	348.9	1.0	0.5	1.0	71.6	36.1	−8.9	37.2	346.1	4.3	330	1.0	0.0	1.0	48.1	65.4	−12.7	66.6	348.9
26/688	R00Y_100_050$_d$	1.0	0.5	0.5	1.0	0.5	0.75	390	1.0	0.5	0.5	71.7	28.6	18.9	34.3	33.4	1.0	0.5	0.5	71.4	24.0	27.4	36.4	48.8	9.6	389	1.0	0.0	0.0	47.5	57.2	37.8	68.6	33.4
27/506	R00Y_075_050$_d$	0.75	0.25	0.25	0.75	0.5	0.5	390	0.75	0.25	0.25	53.7	28.6	18.9	34.3	33.4	0.75	0.25	0.25	52.4	27.1	25.3	37.1	43.0	6.7	389	1.0	0.0	0.0	47.5	57.2	37.8	68.6	33.4
28/524	R50Y_075_050$_d$	0.75	0.5	0.25	0.75	0.5	0.5	60	0.75	0.5	0.25	65.1	9.6	33.1	34.5	73.8	0.75	0.5	0.25	66.1	6.5	36.1	36.6	79.7	4.3	59	1.0	0.5	0.0	70.5	19.2	66.2	69.0	73.8
29/542	Y00G_075_050$_d$	0.75	0.75	0.25	0.75	0.5	0.5	90	0.75	0.75	0.25	75.7	−7.9	42.3	43.0	100.5	0.75	0.75	0.25	81.7	−11.5	50.7	52.0	102.8	10.9	89	1.0	1.0	0.0	91.5	−15.8	84.6	86.1	100.5
30/380	Y50G_075_050$_d$	0.5	0.75	0.25	0.75	0.5	0.5	120	0.5	0.75	0.25	65.4	−20.8	27.4	34.4	127.3	0.5	0.75	0.25	70.5	−23.0	31.5	39.0	126.1	6.9	119	0.5	1.0	0.0	70.9	−41.7	54.8	68.9	127.3
31/218	G00B_075_050$_d$	0.25	0.75	0.25	0.75	0.5	0.5	150	0.25	0.75	0.25	57.0	−33.8	15.4	37.1	155.5	0.25	0.75	0.25	57.2	−36.4	13.9	39.0	159.0	2.9	149	0.0	1.0	0.0	54.3	−67.6	30.8	74.3	155.5
32/222	G50B_075_050$_d$	0.25	0.75	0.75	0.75	0.5	0.5	210	0.25	0.75	0.75	56.4	−15.0	−21.5	26.2	235.1	0.25	0.75	0.75	60.1	−19.6	−29.7	35.6	236.5	10.1	210	0.0	1.0	1.0	53.1	−30.0	−43.1	52.5	235.1
33/186	B00R_075_050$_d$	0.25	0.25	0.75	0.75	0.5	0.5	270	0.25	0.25	0.75	46.2	8.4	−22.3	23.8	290.8	0.25	0.25	0.75	43.1	11.1	−34.5	36.3	287.8	12.9	270	0.0	0.0	1.0	32.5	16.9	−44.6	47.7	290.8
34/510	B50R_075_050$_d$	0.75	0.25	0.75	0.75	0.5	0.5	330	0.75	0.25	0.75	54.0	32.7	−6.3	33.3	348.9	0.75	0.25	0.75	53.9	38.1	−12.4	40.1	341.9	8.1	330	1.0	0.0	1.0	48.1	65.4	−12.7	66.6	348.9
35/506	R00Y_075_050$_d$	0.75	0.25	0.25	0.75	0.5	0.5	390	0.75	0.25	0.25	53.7	28.6	18.9	34.3	33.4	0.75	0.25	0.25	52.4	27.1	25.3	37.1	43.0	6.7	389	1.0	0.0	0.0	47.5	57.2	37.8	68.6	33.4
36/324	R00Y_050_050$_d$	0.5	0.0	0.0	0.5	0.5	0.25	390	0.5	0.0	0.0	35.7	28.6	18.9	34.3	33.4	0.5	0.0	0.0	33.0	34.7	23.4	41.8	34.0	8.0	389	1.0	0.0	0.0	47.5	57.2	37.8	68.6	33.4
37/342	R50Y_050_050$_d$	0.5	0.25	0.0	0.5	0.5	0.25	60	0.5	0.25	0.0	47.1	9.6	33.1	34.5	73.8	0.5	0.25	0.0	42.9	9.5	37.9	39.1	75.8	6.3	59	1.0	0.5	0.0	70.5	19.2	66.2	69.0	73.8
38/360	Y00G_050_050$_d$	0.5	0.5	0.0	0.5	0.5	0.25	90	0.5	0.5	0.0	57.7	−7.9	42.3	43.0	100.5	0.5	0.5	0.0	58.4	−9.8	54.3	55.2	100.3	12.1	89	1.0	1.0	0.0	91.5	−15.8	84.6	86.1	100.5
39/198	Y50G_050_050$_d$	0.25	0.5	0.0	0.5	0.5	0.25	120	0.25	0.5	0.0	47.4	−20.8	27.4	34.4	127.3	0.25	0.5	0.0	43.9	−28.1	32.6	43.1	130.7	9.6	119	0.5	1.0	0.0	70.9	−41.7	54.8	68.9	127.3
40/36	G00B_050_050$_d$	0.0	0.5	0.0	0.5	0.5	0.25	150	0.0	0.5	0.0	39.0	−33.8	15.4	37.1	155.5	0.0	0.5	0.0	42.9	−59.6	21.5	63.4	160.1	26.8	149	0.0	1.0	0.0	54.3	−67.6	30.8	74.3	155.5
41/40	G50B_050_050$_d$	0.0	0.5	0.5	0.5	0.5	0.25	210	0.0	0.5	0.5	38.4	−15.0	−21.5	26.2	235.1	0.0	0.5	0.5	44.1	−23.4	−34.5	41.7	235.7	16.4	210	0.0	1.0	1.0	53.1	−30.0	−43.1	52.5	235.1
42/4	B00R_050_050$_d$	0.0	0.0	0.5	0.5	0.5	0.25	270	0.0	0.0	0.5	28.2	8.4	−22.3	23.8	290.8	0.0	0.0	0.5	30.3	13.1	−38.9	41.0	288.6	17.3	270	0.0	0.0	1.0	32.5	16.9	−44.6	47.7	290.8
43/328	B50R_050_050$_d$	0.5	0.0	0.5	0.5	0.5	0.25	330	0.5	0.0	0.5	36.0	32.7	−6.3	33.3	348.9	0.5	0.0	0.5	35.4	43.7	−12.1	45.3	344.4	12.4	330	1.0	0.0	1.0	48.1	65.4	−12.7	66.6	348.9
44/324	R00Y_050_050$_d$	0.5	0.0	0.0	0.5	0.5	0.25	390	0.5	0.0	0.0	35.7	28.6	18.9	34.3	33.4	0.5	0.0	0.0	33.0	34.7	23.4	41.8	34.0	8.0	389	1.0	0.0	0.0	47.5	57.2	37.8	68.6	33.4
45/0	NW_000$_d$	0.0	0.0	0.0	0.0	0.0	0.0	360	0.0	0.0	0.0	23.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	23.8	0.0	0.0	0.0	0.0	0.0	360	1.0	1.0	1.0	95.8	0.0	0.0	0.0	0.0
46/91	NW_013$_d$	0.125	0.125	0.125	0.125	0.0	0.125	360	0.125	0.125	0.125	32.8	0.0	0.0	0.0	0.0	0.125	0.125	0.125	27.8	0.0	−0.5	0.5	273.6	5.0	360	1.0	1.0	1.0	95.8	0.0	0.0	0.0	0.0
47/182	NW_025$_d$	0.25	0.25	0.25	0.25	0.0	0.25	360	0.25	0.25	0.25	41.8	0.0	0.0	0.0	0.0	0.25	0.25	0.25	39.8	−0.1	−1.2	1.2	265.1	2.3	360	1.0	1.0	1.0	95.8	0.0	0.0	0.0	0.0
48/273	NW_038$_d$	0.375	0.375	0.375	0.375	0.0	0.375	360	0.375	0.375	0.375	50.8	0.0	0.0	0.0	0.0	0.375	0.375	0.375	51.9	0.0	−1.3	1.3	267.6	1.7	360	1.0	1.0	1.0	95.8	0.0	0.0	0.0	0.0
49/364	NW_050$_d$	0.5	0.5	0.5	0.5	0.0	0.5	360	0.5	0.5	0.5	59.8	0.0	0.0	0.0	0.0	0.5	0.5	0.5	61.2	0.0	−1.2	1.2	268.4	1.9	360	1.0	1.0	1.0	95.8	0.0	0.0	0.0	0.0
50/455	NW_063$_d$	0.625	0.625	0.625	0.625	0.0	0.625	360	0.625	0.625	0.625	68.8	0.0	0.0	0.0	0.0	0.625	0.625	0.625	72.6	0.0	−1.0	1.0	269.8	3.9	360	1.0	1.0	1.0	95.8	0.0	0.0	0.0	0.0
51/546	NW_075$_d$	0.75	0.75	0.75	0.75	0.0	0.75	360	0.75	0.75	0.75	77.8	0.0	0.0	0.0	0.0	0.75	0.75	0.75	80.4	0.0	−0.3	0.3	272.2	2.6	360	1.0	1.0	1.0	95.8	0.0	0.0	0.0	0.0
52/637	NW_088$_d$	0.875	0.875	0.875	0.875	0.0	0.875	360	0.875	0.875	0.875	86.8	0.0	0.0	0.0	0.0	0.875	0.875	0.875	90.8	0.0	−0.1	0.1	266.5	4.0	360	1.0	1.0	1.0	95.8	0.0	0.0	0.0	0.0
53/728	NW_100$_d$	1.0	1.0	1.0	1.0	0.0	1.0	360	1.0	1.0	1.0	95.8	0.0	0.0	0.0	0.0	1.0	1.0	1.0	95.8	0.0	0.0	0.0	0.0	0.0	360	1.0	1.0	1.0	95.8	0.0	0.0	0.0	0.0

Mean color difference of this page: delta *E' = *5.3***

TUB-test chart PE89; 16 step hue circle colors and differences, $\Delta E^{*\prime}$

input: *rgb/cmyk* −> *rgb*$_d$
output: transfer to *cmyk*$_d$

1−0031830−F0

TUB registration: 20150701-PE89/PE89L0NP.PDF /.PS TUB material: code=rha4ta
application for measurement of laser printer output, separation cmyn6 (CMYK)

http://130.149.60.45/~farbmetrik/PE89/PE89L0NP.PDF /.PS; transfer output
N: no 3D-linearization (OL) in file (F) or PS-startup (S), page 20/33

n=j	HIC*Fd	rgb_Fd			ict_Fd			hsi_F,d	rgb*Fd			LabCh*Fd					rgb*'Fd			LabCh*'Fd					DE*'Fd	hsiM,d	rgb*Md			LabCh*Md				
0	NW_000d	0.0	0.0	0.0	0.0	0.0	0.0	360	0.0	0.0	0.0	23.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	23.8	0.0	0.0	0.0	0.0	0.0	360	1.0	1.0	1.0	95.8	0.0	0.0	0.0	0.0
1	B00R_012_012d	0.0	0.0	0.125	0.125	0.125	0.062	270	0.0	0.0	0.125	24.9	2.1	−5.5	5.9	290.8	0.0	0.0	0.125	24.3	4.0	−14.1	14.7	285.9	8.8	270	0.0	0.0	1.0	32.5	16.9	−44.6	47.7	290.8
2	B00R_025_025d	0.0	0.0	0.25	0.25	0.25	0.125	270	0.0	0.0	0.25	26.0	4.2	−11.1	11.9	290.8	0.0	0.0	0.25	22.7	3.9	−22.0	22.4	280.2	11.3	270	0.0	0.0	1.0	32.5	16.9	−44.6	47.7	290.8
3	B00R_037_037d	0.0	0.0	0.375	0.375	0.375	0.187	270	0.0	0.0	0.375	27.1	6.3	−16.7	17.8	290.8	0.0	0.0	0.375	28.0	6.9	−29.3	30.1	283.3	12.6	270	0.0	0.0	1.0	32.5	16.9	−44.6	47.7	290.8
4	B00R_050_050d	0.0	0.0	0.5	0.5	0.5	0.25	270	0.0	0.0	0.5	28.2	8.4	−22.3	23.8	290.8	0.0	0.0	0.5	30.3	13.1	−38.9	41.0	288.6	17.3	270	0.0	0.0	1.0	32.5	16.9	−44.6	47.7	290.8
5	B00R_062_062d	0.0	0.0	0.625	0.625	0.625	0.312	270	0.0	0.0	0.625	29.2	10.5	−27.8	29.8	290.8	0.0	0.0	0.625	29.5	18.8	−44.4	48.2	292.9	18.5	270	0.0	0.0	1.0	32.5	16.9	−44.6	47.7	290.8
6	B00R_075_075d	0.0	0.0	0.75	0.75	0.75	0.375	270	0.0	0.0	0.75	30.3	12.7	−33.4	35.7	290.8	0.0	0.0	0.75	30.6	18.1	−43.9	47.5	292.4	11.8	270	0.0	0.0	1.0	32.5	16.9	−44.6	47.7	290.8
7	B00R_087_087d	0.0	0.0	0.875	0.875	0.875	0.437	270	0.0	0.0	0.875	31.4	14.8	−39.0	41.7	290.8	0.0	0.0	0.875	31.4	18.7	−44.2	48.0	292.9	6.5	270	0.0	0.0	1.0	32.5	16.9	−44.6	47.7	290.8
8	B00R_100_100d	0.0	0.0	1.0	1.0	1.0	0.5	270	0.0	0.0	1.0	32.5	16.9	−44.6	47.7	290.8	0.0	0.0	1.0	32.5	16.9	−44.6	47.7	290.8	0.0	270	0.0	0.0	1.0	32.5	16.9	−44.6	47.7	290.8
9	G00B_012_012d	0.0	0.125	0.0	0.125	0.125	0.062	150	0.0	0.125	0.0	27.6	−8.4	3.8	9.2	155.5	0.0	0.125	0.0	32.1	−10.6	2.4	10.9	167.0	5.1	149	0.0	1.0	0.0	54.3	−67.6	30.8	74.3	155.5
10	G50B_012_012d	0.0	0.125	0.125	0.125	0.125	0.062	210	0.0	0.125	0.125	27.5	−3.7	−5.3	6.5	235.1	0.0	0.125	0.125	29.2	−10.0	−14.4	17.6	235.3	11.1	210	0.0	1.0	1.0	53.1	−30.0	−43.1	52.5	235.1
11	G75B_025_025d	0.0	0.125	0.25	0.25	0.25	0.125	240	0.0	0.125	0.25	29.4	−3.3	−12.3	12.7	254.9	0.0	0.125	0.25	28.0	−6.3	−22.2	23.1	254.1	10.4	240	0.0	0.5	1.0	46.1	−13.3	−49.4	51.1	254.9
12	G84B_037_037d	0.0	0.125	0.375	0.375	0.375	0.187	251	0.0	0.118	0.375	29.6	−0.8	−18.4	18.4	267.3	0.0	0.125	0.375	29.7	−4.1	−29.3	29.6	261.9	11.4	251	0.0	0.316	1.0	39.3	−2.3	−49.1	49.1	267.3
13	G88B_050_050d	0.0	0.125	0.5	0.5	0.5	0.25	256	0.0	0.116	0.5	30.2	1.6	−24.1	24.2	273.8	0.0	0.125	0.5	32.7	1.3	−38.5	38.5	272.0	14.5	257	0.0	0.233	1.0	36.6	3.2	−48.3	48.4	273.8
14	G90B_062_062d	0.0	0.125	0.625	0.625	0.625	0.312	259	0.0	0.114	0.625	31.4	3.8	−29.7	29.9	277.3	0.0	0.125	0.625	34.6	6.4	−44.4	44.9	278.2	15.3	260	0.0	0.183	1.0	35.9	6.1	−47.5	47.9	277.3
15	G92B_075_075d	0.0	0.125	0.75	0.75	0.75	0.375	261	0.0	0.112	0.75	32.5	6.0	−35.1	35.6	279.6	0.0	0.125	0.75	33.3	11.2	−45.8	47.2	283.7	11.9	262	0.0	0.15	1.0	35.4	8.0	−46.9	47.5	279.6
16	G93B_087_087d	0.0	0.125	0.875	0.875	0.875	0.437	262	0.0	0.116	0.875	33.7	7.8	−40.7	41.4	280.8	0.0	0.125	0.875	34.2	11.2	−45.9	47.2	283.7	6.2	262	0.0	0.133	1.0	35.2	8.9	−46.5	47.4	280.8
17	G94B_100_100d	0.0	0.125	1.0	1.0	1.0	0.5	263	0.0	0.116	1.0	34.9	9.9	−46.3	47.3	282.0	0.0	0.125	1.0	35.0	9.4	−46.3	47.3	281.4	0.5	263	0.0	0.116	1.0	34.9	9.9	−46.3	47.3	282.0
18	G00B_025_025d	0.0	0.25	0.0	0.25	0.25	0.125	150	0.0	0.25	0.0	31.4	−16.9	7.7	18.5	155.5	0.0	0.25	0.0	35.0	−23.6	3.8	23.9	170.7	8.5	149	0.0	1.0	0.0	54.3	−67.6	30.8	74.3	155.5
19	G25B_025_025d	0.0	0.25	0.125	0.25	0.25	0.125	180	0.0	0.25	0.125	31.6	−12.8	−2.2	13.0	189.8	0.0	0.25	0.125	31.9	−20.0	−8.5	21.8	203.1	9.6	180	0.0	1.0	0.5	55.0	−51.4	−8.9	52.2	189.8
20	G50B_025_025d	0.0	0.25	0.25	0.25	0.25	0.125	210	0.0	0.25	0.25	31.1	−7.5	−10.7	13.1	235.1	0.0	0.25	0.25	34.5	−15.1	−21.3	26.2	234.6	13.5	210	0.0	1.0	1.0	53.1	−30.0	−43.1	52.5	235.1
21	G65B_037_037d	0.0	0.25	0.375	0.375	0.375	0.187	229	0.0	0.256	0.375	34.2	−8.7	−18.2	20.2	244.5	0.0	0.25	0.375	35.2	−12.0	−28.6	31.1	247.2	10.9	228	0.0	0.683	1.0	51.6	−23.2	−48.6	53.9	244.5
22	G75B_050_050d	0.0	0.25	0.5	0.5	0.5	0.25	240	0.0	0.25	0.5	35.0	−6.6	−24.7	25.5	254.9	0.0	0.25	0.5	35.9	−8.9	−35.7	36.8	255.8	11.2	240	0.0	0.5	1.0	46.1	−13.3	−49.4	51.1	254.9
23	G80B_062_062d	0.0	0.25	0.625	0.625	0.625	0.312	247	0.0	0.239	0.625	35.0	−4.2	−30.8	31.1	262.1	0.0	0.25	0.625	36.9	−5.0	−42.8	43.1	263.3	12.2	247	0.0	0.383	1.0	41.7	−6.8	−49.3	49.7	262.1
24	G84B_075_075d	0.0	0.25	0.75	0.75	0.75	0.375	251	0.0	0.237	0.75	35.4	−1.7	−36.8	36.8	267.3	0.0	0.25	0.75	36.9	−0.1	−47.3	47.3	269.8	10.7	251	0.0	0.316	1.0	39.3	−2.3	−49.1	49.1	267.3
25	G86B_087_087d	0.0	0.25	0.875	0.875	0.875	0.437	254	0.0	0.233	0.875	35.7	0.9	−42.6	42.6	271.3	0.0	0.25	0.875	36.4	3.0	−48.2	48.3	273.6	5.9	255	0.0	0.266	1.0	37.4	1.1	−48.7	48.7	271.3
26	G88B_100_100d	0.0	0.25	1.0	1.0	1.0	0.5	256	0.0	0.233	1.0	36.6	3.2	−48.3	48.4	273.8	0.0	0.25	1.0	36.8	2.2	−48.5	48.6	272.6	1.0	257	0.0	0.233	1.0	36.6	3.2	−48.3	48.4	273.8
27	G00B_037_037d	0.0	0.375	0.0	0.375	0.375	0.187	150	0.0	0.375	0.0	35.2	−25.3	11.5	27.8	155.5	0.0	0.375	0.0	38.3	−37.3	12.4	39.3	161.6	12.3	149	0.0	1.0	0.0	54.3	−67.6	30.8	74.3	155.5
28	G15B_037_037d	0.0	0.375	0.125	0.375	0.375	0.187	169	0.0	0.375	0.118	35.2	−22.5	2.1	22.6	174.6	0.0	0.375	0.125	36.9	−33.5	−0.5	33.5	180.9	11.4	168	0.0	1.0	0.316	54.3	−60.1	5.6	60.3	174.6
29	G34B_037_037d	0.0	0.375	0.25	0.375	0.375	0.187	191	0.0	0.375	0.256	35.6	−15.8	−8.8	18.0	209.1	0.0	0.375	0.25	37.0	−24.9	−17.0	30.1	214.3	12.3	191	0.0	1.0	0.683	55.2	−42.1	−23.4	48.2	209.1
30	G50B_037_037d	0.0	0.375	0.375	0.375	0.375	0.187	210	0.0	0.375	0.375	34.8	−11.2	−16.1	19.6	235.1	0.0	0.375	0.375	39.2	−20.3	−28.2	34.8	234.3	15.7	210	0.0	1.0	1.0	53.1	−30.0	−43.1	52.5	235.1
31	G61B_050_050d	0.0	0.375	0.5	0.5	0.5	0.25	224	0.0	0.383	0.5	38.3	−13.1	−23.6	26.9	240.9	0.0	0.375	0.5	39.8	−16.8	−35.0	38.8	244.3	12.0	222	0.0	0.766	1.0	52.9	−26.2	−47.2	53.9	240.9
32	G69B_062_062d	0.0	0.375	0.625	0.625	0.625	0.312	233	0.0	0.385	0.625	40.3	−12.6	−30.9	33.4	247.7	0.0	0.375	0.625	40.9	−13.4	−40.7	42.9	251.7	9.8	232	0.0	0.616	1.0	50.2	−20.2	−49.5	53.5	247.7
33	G75B_075_075d	0.0	0.375	0.75	0.75	0.75	0.375	240	0.0	0.375	0.75	40.5	−9.9	−37.0	38.3	254.9	0.0	0.375	0.75	42.8	−9.7	−47.0	48.0	258.2	10.2	240	0.0	0.5	1.0	46.1	−13.3	−49.4	51.1	254.9
34	G79B_087_087d	0.0	0.375	0.875	0.875	0.875	0.437	245	0.0	0.364	0.875	40.6	−7.5	−43.2	43.9	260.0	0.0	0.375	0.875	42.0	−7.5	−48.5	49.0	261.1	5.4	245	0.0	0.416	1.0	42.9	−8.6	−49.4	50.1	260.0
35	G81B_100_100d	0.0	0.375	1.0	1.0	1.0	0.5	248	0.0	0.366	1.0	41.1	−5.7	−49.2	49.6	263.3	0.0	0.375	1.0	41.4	−6.3	−49.2	49.6	262.6	0.6	248	0.0	0.366	1.0	41.1	−5.7	−49.2	49.6	263.3
36	G00B_050_050d	0.0	0.5	0.0	0.5	0.5	0.25	150	0.0	0.5	0.0	39.0	−33.8	15.4	37.1	155.5	0.0	0.5	0.0	42.9	−59.6	21.5	63.4	160.1	26.8	149	0.0	1.0	0.0	54.3	−67.6	30.8	74.3	155.5
37	G11B_050_050d	0.0	0.5	0.125	0.5	0.5	0.25	164	0.0	0.5	0.116	38.8	−31.8	7.0	32.6	167.4	0.0	0.5	0.125	43.3	−58.0	11.6	59.2	168.6	27.0	162	0.0	1.0	0.233	53.7	−63.6	14.1	65.2	167.4
38	G25B_050_050d	0.0	0.5	0.25	0.5	0.5	0.25	180	0.0	0.5	0.25	39.4	−25.7	−4.4	26.1	189.8	0.0	0.5	0.25	41.6	−43.2	−7.9	43.9	190.3	17.9	180	0.0	1.0	0.5	55.0	−51.4	−8.9	52.2	189.8
39	G38B_050_050d	0.0	0.5	0.375	0.5	0.5	0.25	196	0.0	0.5	0.383	39.4	−19.6	−13.9	24.0	215.4	0.0	0.5	0.375	43.4	−33.1	−24.1	41.0	216.0	17.4	197	0.0	1.0	0.766	55.1	−39.2	−27.9	48.1	215.4
40	G50B_050_050d	0.0	0.5	0.5	0.5	0.5	0.25	210	0.0	0.5	0.5	38.4	−15.0	−21.5	26.2	235.1	0.0	0.5	0.5	44.1	−23.4	−34.5	41.7	235.7	16.4	210	0.0	1.0	1.0	53.1	−30.0	−43.1	52.5	235.1
41	G59B_062_062d	0.0	0.5	0.625	0.625	0.625	0.312	221	0.0	0.51	0.625	42.0	−16.9	−28.7	33.3	239.5	0.0	0.5	0.625	45.2	−22.0	−38.7	44.6	240.3	11.6	219	0.0	0.816	1.0	53.0	−27.0	−46.0	53.4	239.5
42	G65B_075_075d	0.0	0.5	0.75	0.75	0.75	0.375	229	0.0	0.512	0.75	44.7	−17.4	−36.5	40.4	244.5	0.0	0.5	0.75	48.0	−20.7	−45.0	49.6	245.3	9.7	228	0.0	0.683	1.0	51.6	−23.2	−48.6	53.9	244.5
43	G70B_087_087d	0.0	0.5	0.875	0.875	0.875	0.437	235	0.0	0.51	0.875	45.9	−15.9	−43.4	46.2	249.7	0.0	0.5	0.875	48.8	−17.7	−48.5	51.6	249.9	6.1	234	0.0	0.583	1.0	49.1	−18.2	−49.6	52.8	249.7
44	G75B_100_100d	0.0	0.5	1.0	1.0	1.0	0.5	240	0.0	0.5	1.0	46.1	−13.3	−49.4	51.1	254.9	0.0	0.5	1.0	46.1	−13.3	−49.4	51.1	254.9	0.0	240	0.0	0.5	1.0	46.1	−13.3	−49.4	51.1	254.9
45	G00B_062_062d	0.0	0.625	0.0	0.625	0.625	0.312	150	0.0	0.625	0.0	42.9	−42.3	19.2	46.4	155.5	0.0	0.625	0.0	47.5	−66.8	25.1	71.4	159.4	25.6	149	0.0	1.0	0.0	54.3	−67.6	30.8	74.3	155.5
46	G09B_062_062d	0.0	0.625	0.125	0.625	0.625	0.312	161	0.0	0.625	0.114	42.5	−40.6	11.3	42.2	164.4	0.0	0.625	0.125	48.3	−71.5	21.8	74.7	163.0	33.0	159	0.0	1.0	0.183	53.8	−65.0	18.1	67.5	164.4
47	G19B_062_062d	0.0	0.625	0.25	0.625	0.625	0.312	173	0.0	0.625	0.239	43.1	−35.3	−0.3	35.3	180.6	0.0	0.625	0.25	49.2	−68.2	6.7	68.5	174.3	34.2	172	0.0	1.0	0.383	54.7	−56.5	−0.6	56.5	180.6
48	G30B_062_062d	0.0	0.625	0.375	0.625	0.625	0.312	187	0.0	0.625	0.385	43.5	−27.9	−12.1	30.4	203.4	0.0	0.625	0.375	50.2	−50.9	−15.0	53.1	196.5	24.1	187	0.0	1.0	0.616	55.3	−44.7	−19.4	48.7	203.4
49	G40B_062_062d	0.0	0.625	0.5	0.625	0.625	0.312	199	0.0	0.625	0.51	43.2	−23.8	−18.9	30.4	218.4	0.0	0.625	0.5	51.5	−41.6	−28.4	50.4	214.3	21.8	200	0.0	1.0	0.816	54.8	−38.1	−30.3	48.7	218.4
50	G50B_062_062d	0.0	0.625	0.625	0.625	0.625	0.312	210	0.0	0.625	0.625	42.1	−18.7	−26.9	32.8	235.1	0.0	0.625	0.625	50.5	−29.5	−38.7	48.7	232.6	18.1	210	0.0	1.0	1.0	53.1	−30.0	−43.1	52.5	235.1
51	G57B_075_075d	0.0	0.625	0.75	0.75	0.75	0.375	219	0.0	0.637	0.75	45.7	−20.6	−33.9	39.7	238.6	0.0	0.625	0.75	51.2	−27.9	−42.6	50.9	236.7	12.5	217	0.0	0.85	1.0	53.0	−27.5	−45.3	53.0	238.6
52	G63B_087_087d	0.0	0.625	0.875	0.875	0.875	0.437	226	0.0	0.641	0.875	49.0	−22.1	−41.8	47.3	242.1	0.0	0.625	0.875	52.2	−25.9	−46.0	52.8	240.6	6.5	224	0.0	0.733	1.0	52.6	−25.2	−47.8	54.1	242.1
53	G68B_100_100d	0.0	0.625	1.0	1.0	1.0	0.5	232	0.0	0.633	1.0	50.7	−21.1	−49.4	53.7	246.8	0.0	0.625	1.0	50.5	−20.8	−49.5	53.7	247.2	0.3	231	0.0	0.633	1.0	50.7	−21.1	−49.4	53.7	246.8
54	G00B_075_075d	0.0	0.75	0.0	0.75	0.75	0.375	150	0.0	0.75	0.0	46.7	−50.7	23.1	55.7	155.5	0.0	0.75	0.0	51.0	−71.0	27.5	76.2	158.7	21.2	149	0.0	1.0	0.0	54.3	−67.6	30.8	74.3	155.5
55	G07B_075_075d	0.0	0.75	0.125	0.75	0.75	0.375	159	0.0	0.75	0.112	46.3	−49.4	15.6	51.8	162.4	0.0	0.75	0.125	50.5	−72.8	23.2	76.4	162.3	25.0	157	0.0	1.0	0.15	53.8	−65.8	20.8	69.1	162.4
56	G15B_075_075d	0.0	0.75	0.25	0.75	0.75	0.375	169	0.0	0.75	0.237	46.6	−45.0	4.2	45.2	174.6	0.0	0.75	0.25	50.4	−68.4	10.3	69.1	171.3	24.4	168	0.0	1.0	0.316	54.3	−60.1	5.6	60.3	174.6
57	G25B_075_075d	0.0	0.75	0.375	0.75	0.75	0.375	180	0.0	0.75	0.375	47.2	−38.6	−6.6	39.1	189.8	0.0	0.75	0.375	51.9	−57.1	−8.2	57.7	188.2	19.1	180	0.0	1.0	0.5	55.0	−51.4	−8.9	52.2	189.8
58	G34B_075_075d	0.0	0.75	0.5	0.75	0.75	0.375	191	0.0	0.75	0.512	47.4	−31.6	−17.6	36.1	209.1	0.0	0.75	0.5	52.7	−46.9	−21.7	51.7	204.8	16.7	191	0.0	1.0	0.683	55.2	−42.1	−23.4	48.2	209.1
59	G42B_075_075d	0.0	0.75	0.625	0.75	0.75	0.375	201	0.0	0.75	0.637	46.9	−28.0	−23.9	36.8	220.4	0.0	0.75	0.625	52.9	−39.5	−31.2	50.3	218.2	14.8	202	0.0	1.0	0.85	54.6	−37.3	−31.9	49.1	220.4
60	G50B_075_075d	0.0	0.75	0.75	0.75	0.75	0.375	210	0.0	0.75	0.75	45.8	−22.5	−32.3	39.3	235.1	0.0	0.75	0.75	52.6	−33.6	−38.2	50.9	228.7	14.3	210	0.0	1.0	1.0	53.1	−30.0	−43.1	52.5	235.1
61	G56B_087_087d	0.0	0.75	0.875	0.875	0.875	0.437	218	0.0	0.758	0.875	49.4	−24.3	−39.3	46.2	238.2	0.0	0.75	0.875	53.0	−29.9	−43.0	52.4	235.1	7.6	217	0.0	0.866	1.0	53.0	−27.8	−44.9	52.8	238.2
62	G61B_100_100d	0.0	0.75	1.0	1.0	1.0	0.5	224	0.0	0.766	1.0	52.9	−26.2	−47.2	53.9	240.9	0.0	0.75	1.0	52.9	−25.9	−47.5	54.1	241.3	0.4	222	0.0	0.766	1.0	52.9	−26.2	−47.2	53.9	240.9
63	G00B_087_087d	0.0	0.875	0.0	0.875	0.875	0.437	150	0.0	0.875	0.0	50.5	−59.2	26.9	65.0	155.5	0.0	0.875	0.0	52.7	−69.8	28.5	75.4	157.7	10.9	149	0.0	1.0	0.0	54.3	−67.6	30.8	74.3	155.5
64	G06B_087_087d	0.0	0.875	0.125	0.875	0.875	0.437	158	0.0	0.875	0.116	50.0	−57.9	19.5	61.1	161.3	0.0	0.875	0.125	51.8	−69.7	22.8	73.3	161.8	12.3	157	0.0	1.0	0.133	53.8	−66.2	22.3	69.9	161.3
65	G13B_087_087d	0.0	0.875	0.25	0.875	0.875	0.437	166	0.0	0.875	0.233	50.1	−54.6	9.6	55.4	170.0	0.0	0.875	0.25	52.2	−65.0	11.1	65.9	170.2	10.6	164	0.0	1.0	0.266	53.9	−62.4	10.9	63.4	170.0
66	G20B_087_087d	0.0	0.875	0.375	0.875	0.875	0.437	175	0.0	0.875	0.364	50.9	−48.3	−2.7	48.3	183.2	0.0	0.875	0.375	53.2	−57.4	−2.5	57.5	182.5	9.4	174	0.0	1.0	0.416	54.8	−55.2	−3.1	55.2	183.2
67	G29B_087_087d	0.0	0.875	0.5	0.875	0.875	0.437	185	0.0	0.875	0.51	51.3	−41.0	−14.5	43.5	199.5	0.0	0.875	0.5	53.9	−49.3	−15.1	51.6	197.0	8.7	185	0.0	1.0	0.583	55.2	−46.8	−16.6	49.7	199.5
68	G36B_087_087d	0.0	0.875	0.625	0.875	0.875	0.437	194	0.0	0.875	0.641	51.3	−35.1	−22.9	42.0	213.1	0.0	0.875	0.625	53.9	−42.2	−24.7	49.0	210.3	7.7	195	0.0	1.0	0.733	55.2	−40.2	−26.2	48.0	213.1
69	G43B_087_087d	0.0	0.875	0.75	0.875	0.875	0.437	202	0.0	0.875	0.758	50.6	−32.3	−28.6	43.1	221.4	0.0	0.875	0.75	53.6	−37.4	−32.1	49.3	220.6	6.8	202	0.0	1.0	0.866	54.5	−36.9	−32.6	49.3	221.4
70	G50B_087_087d	0.0	0.875	0.875	0.875	0.875	0.437	210	0.0	0.875	0.875	49.4	−26.2	−37.7	45.9	235.1	0.0	0.875	0.875	53.1	−30.9	−41.2	51.6	233.1	6.9	210	0.0	1.0	1.0	53.1	−30.0	−43.1	52.5	235.1
71	G55B_100_100d	0.0	0.875	1.0	1.0	1.0	0.5	217	0.0	0.883	1.0	53.1	−28.1	−44.6	52.7	237.7	0.0	0.875	1.0	53.1	−27.9	−44.7	52.7	237.9	0.1	216	0.0	0.883	1.0	53.1	−28.1	−44.6	52.7	237.7
72	G00B_100_100d	0.0	1.0	0.0	1.0	1.0	0.5	150	0.0	1.0	0.0	54.3	−67.6	30.8	74.3	155.5	0.0	1.0	0.0	54.3	−67.6	30.8	74.3	155.5	0.0	149	0.0	1.0	0.0	54.3	−67.6	30.8	74.3	155.5
73	G05B_100_100d	0.0	1.0	0.125	1.0	1.0	0.5	157	0.0	1.0	0.116	53.8	−66.5	23.5	70.5	160.5	0.0	1.0	0.125	53.8	−66.4	23.0	70.2	160.8	0.5	156	0.0	1.0	0.116	53.8	−66.5	23.5	70.5	160.5
74	G11B_100_100d	0.0	1.0	0.25	1.0	1.0	0.5	164	0.0	1.0	0.233	53.7	−63.6	14.1	65.2	167.4	0.0	1.0	0.25	53.7	−63.1	12.8	64.4	168.5	1.3	162	0.0	1.0	0.233	53.7	−63.6	14.1	65.2	167.4
75	G18B_100_100d	0.0	1.0	0.375	1.0	1.0	0.5	172	0.0	1.0	0.366	54.7	−57.3	0.8	57.3	179.1	0.0	1.0	0.375	54.7	−56.8	0.0	56.8	179.9	0.9	171	0.0	1.0	0.366	54.7	−57.3	0.8	57.3	179.1
76	G25B_100_100d	0.0	1.0	0.5	1.0	1.0	0.5	180	0.0	1.0	0.5	55.0	−51.4	−8.9	52.2	189.8	0.0	1.0	0.5	55.0	−51.4	−8.9	52.2	189.8	0.0	180	0.0	1.0	0.5	55.0	−51.4	−8.9	52.2	189.8
77	G31B_100_100d	0.0	1.0	0.625	1.0	1.0	0.5	188	0.0	1.0	0.633	55.3	−43.8	−20.5	48.4	205.1	0.0	1.0	0.625	55.3	−44.1	−20.0	48.5	204.4	0.5	188	0.0	1.0	0.633	55.3	−43.8	−20.5	48.4	205.1
78	G38B_100_100d	0.0	1.0	0.75	1.0	1.0	0.5	196	0.0	1.0	0.766	55.1	−39.2	−27.9	48.1	215.4	0.0	1.0	0.75	55.2	−39.5	−27.1	47.9	214.4	0.8	197	0.0	1.0	0.766	55.1	−39.2	−27.9	48.1	215.4
79	G44B_100_100d	0.0	1.0	0.875	1.0	1.0	0.5	203	0.0	1.0	0.883	54.3	−36.4	−33.7	49.6	222.8	0.0	1.0	0.875	54.4	−36.7	−33.0	49.4	221.9	0.7	203	0.0	1.0	0.883	54.3	−36.4	−33.7	49.6	222.8
80	G50B_100_100d	0.0	1.0	1.0	1.0	1.0	0.5	210	0.0	1.0	1.0	53.1	−30.0	−43.1	52.5	235.1	0.0	1.0	1.0	53.1	−30.0	−43.1	52.5	235.1	0.0	210	0.0	1.0	1.0	53.1	−30.0	−43.1	52.5	235.1

Mean color difference of this page: **delta $E^{*\prime}$ = 10.8**

1−0031930−F0

PE890−7N, Page 20/33−F

TUB-test chart PE89; 16 step hue circle
colors and differences, $\Delta E^{*\prime}$

input: *rgb/cmyk* −> rgb_d
output: transfer to $cmyk_d$

see similar files: http://130.149.60.45/~farbmetrik/PE89/PE89.HTM
technical information: http://www.ps.bam.de or http://130.149.60.45/~farbmetrik

1−0031930−F0

http://130.149.60.45/~farbmetrik/PE89/PE89L0NP.PDF /.PS; transfer output
N: no 3D-linearization (OL) in file (F) or PS-startup (S), page 21/33

n	HIC*Fd	rgb_Fd			ict_Fd			$h_{si_F,d}$	rgb*Fd			LabCh*Fd				
81	R00Y_012_012d	0.125	0.0	0.0	0.125	0.125	0.062	390	0.125	0.0	0.0	26.8	7.1	4.7	8.5	33.4
82	B50R_012_012d	0.125	0.0	0.125	0.125	0.125	0.062	330	0.125	0.0	0.125	26.8	8.1	−1.5	8.3	348.9
83	B25R_025_025d	0.125	0.0	0.25	0.25	0.25	0.125	300	0.125	0.0	0.25	27.1	10.7	−7.7	13.2	324.4
84	B15R_037_037d	0.125	0.0	0.375	0.375	0.375	0.187	289	0.118	0.0	0.375	27.1	13.0	−13.9	19.1	312.9
85	B11R_050_050d	0.125	0.0	0.5	0.5	0.5	0.25	284	0.116	0.0	0.5	27.4	14.8	−19.9	24.8	306.6
86	B09R_062_062d	0.125	0.0	0.625	0.625	0.625	0.312	281	0.114	0.0	0.625	28.5	16.8	−25.6	30.6	303.2
87	B07R_075_075d	0.125	0.0	0.75	0.75	0.75	0.375	279	0.112	0.0	0.75	29.5	18.7	−31.3	36.5	300.9
88	B06R_087_087d	0.125	0.0	0.875	0.875	0.875	0.437	278	0.116	0.0	0.875	30.6	21.0	−36.8	42.4	299.8
89	B05R_100_100d	0.125	0.0	1.0	1.0	1.0	0.5	277	0.116	0.0	1.0	31.6	23.1	−42.4	48.3	298.6
90	Y00G_012_012d	0.125	0.125	0.0	0.125	0.125	0.062	90	0.125	0.125	0.0	32.3	−1.9	10.5	10.7	100.5
91	NW_012d	0.125	0.125	0.125	0.125	0.0	0.125	360	0.125	0.125	0.125	32.8	0.0	0.0	0.0	0.0
92	B00R_025_012d	0.125	0.125	0.25	0.25	0.125	0.187	270	0.124	0.124	0.25	33.9	2.1	−5.5	5.9	290.8
93	B00R_037_025d	0.125	0.125	0.375	0.375	0.25	0.25	270	0.124	0.124	0.375	35.0	4.2	−11.1	11.9	290.8
94	B00R_050_037d	0.125	0.125	0.5	0.5	0.375	0.312	270	0.124	0.124	0.5	36.1	6.3	−16.7	17.8	290.8
95	B00R_062_050d	0.125	0.125	0.625	0.625	0.5	0.375	270	0.125	0.125	0.625	37.2	8.4	−22.3	23.8	290.8
96	B00R_075_062d	0.125	0.125	0.75	0.75	0.625	0.437	270	0.125	0.125	0.75	38.2	10.5	−27.8	29.8	290.8
97	B00R_087_075d	0.125	0.125	0.875	0.875	0.75	0.5	270	0.125	0.125	0.875	39.3	12.7	−33.4	35.7	290.8
98	B00R_100_087d	0.125	0.125	1.0	1.0	0.875	0.562	270	0.125	0.125	1.0	40.4	14.8	−39.0	41.7	290.8
99	Y50G_025_025d	0.125	0.25	0.0	0.25	0.25	0.125	120	0.125	0.25	0.0	35.6	−10.4	13.7	17.2	127.3
100	G00B_025_012d	0.125	0.25	0.125	0.25	0.125	0.187	150	0.124	0.25	0.124	36.6	−8.4	3.8	9.2	155.5
101	G50B_025_012d	0.125	0.25	0.25	0.25	0.125	0.187	210	0.124	0.25	0.25	36.5	−3.7	−5.3	6.5	235.1
102	G75B_037_025d	0.125	0.25	0.375	0.375	0.25	0.25	240	0.124	0.25	0.375	38.4	−3.3	−12.3	12.7	254.9
103	G84B_050_037d	0.125	0.25	0.5	0.5	0.375	0.312	251	0.124	0.243	0.5	38.6	−0.8	−18.4	18.4	267.3
104	G88B_062_050d	0.125	0.25	0.625	0.625	0.5	0.375	256	0.125	0.241	0.625	39.2	1.6	−24.1	24.2	273.8
105	G90B_075_062d	0.125	0.25	0.75	0.75	0.625	0.437	259	0.125	0.239	0.75	40.3	3.8	−29.7	29.9	277.3
106	G92B_087_075d	0.125	0.25	0.875	0.875	0.75	0.5	261	0.125	0.237	0.875	41.5	6.0	−35.1	35.6	279.6
107	G93B_100_087d	0.125	0.25	1.0	1.0	0.875	0.562	262	0.125	0.241	1.0	42.7	7.8	−40.7	41.4	280.8
108	Y68G_037_037d	0.125	0.375	0.0	0.375	0.375	0.187	131	0.118	0.375	0.0	38.8	−19.5	16.7	25.7	139.4
109	G00B_037_025d	0.125	0.375	0.125	0.375	0.25	0.25	150	0.124	0.375	0.124	40.4	−16.9	7.7	18.5	155.5
110	G25B_037_025d	0.125	0.375	0.25	0.375	0.25	0.25	180	0.124	0.375	0.25	40.6	−12.8	−2.2	13.0	189.8
111	G50B_037_025d	0.125	0.375	0.375	0.375	0.25	0.25	210	0.124	0.375	0.375	40.1	−7.5	−10.7	13.1	235.1
112	G65B_050_037d	0.125	0.375	0.5	0.5	0.375	0.312	229	0.124	0.381	0.5	43.2	−8.7	−18.2	20.2	244.5
113	G75B_062_050d	0.125	0.375	0.625	0.625	0.5	0.375	240	0.125	0.375	0.625	44.0	−6.6	−24.7	25.5	254.9
114	G80B_075_062d	0.125	0.375	0.75	0.75	0.625	0.437	247	0.125	0.364	0.75	44.0	−4.2	−30.8	31.1	262.1
115	G84B_087_075d	0.125	0.375	0.875	0.875	0.75	0.5	251	0.125	0.362	0.875	44.4	−1.7	−36.8	36.8	267.3
116	G86B_100_087d	0.125	0.375	1.0	1.0	0.875	0.562	254	0.125	0.358	1.0	44.7	0.9	−42.6	42.6	271.3
117	Y76G_050_050d	0.125	0.5	0.0	0.5	0.5	0.25	136	0.116	0.5	0.0	42.0	−28.9	19.8	35.1	145.5
118	G00B_050_037d	0.125	0.5	0.125	0.5	0.375	0.312	150	0.124	0.5	0.124	44.2	−25.3	11.5	27.8	155.5
119	G15B_050_037d	0.125	0.5	0.25	0.5	0.375	0.312	169	0.124	0.5	0.243	44.2	−22.5	2.1	22.6	174.6
120	G34B_050_037d	0.125	0.5	0.375	0.5	0.375	0.312	191	0.124	0.5	0.381	44.6	−15.8	−8.8	18.0	209.1
121	G50B_050_037d	0.125	0.5	0.5	0.5	0.375	0.312	210	0.124	0.5	0.5	43.8	−11.2	−16.1	19.6	235.1
122	G61B_062_050d	0.125	0.5	0.625	0.625	0.5	0.375	224	0.125	0.508	0.625	47.3	−13.1	−23.6	26.9	240.9
123	G69B_075_062d	0.125	0.5	0.75	0.75	0.625	0.437	233	0.125	0.51	0.75	49.3	−12.6	−30.9	33.4	247.7
124	G75B_087_075d	0.125	0.5	0.875	0.875	0.75	0.5	240	0.125	0.5	0.875	49.5	−9.9	−37.0	38.3	254.9
125	G79B_100_087d	0.125	0.5	1.0	1.0	0.875	0.562	245	0.125	0.489	1.0	49.6	−7.5	−43.2	43.9	260.0
126	Y81G_062_062d	0.125	0.625	0.0	0.625	0.625	0.312	139	0.114	0.625	0.0	45.6	−37.4	23.3	44.1	148.1
127	G00B_062_050d	0.125	0.625	0.125	0.625	0.5	0.375	150	0.125	0.625	0.125	48.0	−33.8	15.4	37.1	155.5
128	G11B_062_050d	0.125	0.625	0.25	0.625	0.5	0.375	164	0.125	0.625	0.241	47.8	−31.8	7.0	32.6	167.4
129	G25B_062_050d	0.125	0.625	0.375	0.625	0.5	0.375	180	0.125	0.625	0.375	48.4	−25.7	−4.4	26.1	189.8
130	G38B_062_050d	0.125	0.625	0.5	0.625	0.5	0.375	196	0.125	0.625	0.508	48.4	−19.6	−13.9	24.0	215.4
131	G50B_062_050d	0.125	0.625	0.625	0.625	0.5	0.375	210	0.125	0.625	0.625	47.4	−15.0	−21.5	26.2	235.1
132	G59B_075_062d	0.125	0.625	0.75	0.75	0.625	0.437	221	0.125	0.635	0.75	51.0	−16.9	−28.7	33.3	239.5
133	G65B_087_075d	0.125	0.625	0.875	0.875	0.75	0.5	229	0.125	0.637	0.875	53.7	−17.4	−36.5	40.4	244.5
134	G70B_100_087d	0.125	0.625	1.0	1.0	0.875	0.562	235	0.125	0.635	1.0	54.9	−15.9	−43.4	46.2	249.7
135	Y85G_075_075d	0.125	0.75	0.0	0.75	0.75	0.375	141	0.112	0.75	0.0	49.2	−45.9	26.7	53.1	149.7
136	G00B_075_062d	0.125	0.75	0.125	0.75	0.625	0.437	150	0.125	0.75	0.125	51.9	−42.3	19.2	46.4	155.5
137	G09B_075_062d	0.125	0.75	0.25	0.75	0.625	0.437	161	0.125	0.75	0.239	51.5	−40.6	11.3	42.2	164.4
138	G19B_075_062d	0.125	0.75	0.375	0.75	0.625	0.437	173	0.125	0.75	0.364	52.1	−35.3	−0.3	35.3	180.6
139	G30B_075_062d	0.125	0.75	0.5	0.75	0.625	0.437	187	0.125	0.75	0.51	52.5	−27.9	−12.1	30.4	203.4
140	G40B_075_062d	0.125	0.75	0.625	0.75	0.625	0.437	199	0.125	0.75	0.635	52.2	−23.8	−18.9	30.4	218.4
141	G50B_075_062d	0.125	0.75	0.75	0.75	0.625	0.437	210	0.125	0.75	0.75	51.1	−18.7	−26.9	32.8	235.1
142	G57B_087_075d	0.125	0.75	0.875	0.875	0.75	0.5	219	0.125	0.762	0.875	54.7	−20.6	−33.9	39.7	238.6
143	G63B_100_087d	0.125	0.75	1.0	1.0	0.875	0.562	226	0.125	0.766	1.0	58.0	−22.1	−41.8	47.3	242.1
144	Y86G_087_087d	0.125	0.875	0.0	0.875	0.875	0.437	142	0.116	0.875	0.0	53.0	−54.1	30.4	62.1	150.6
145	G00B_087_075d	0.125	0.875	0.125	0.875	0.75	0.5	150	0.125	0.875	0.125	55.7	−50.7	23.1	55.7	155.5
146	G07B_087_075d	0.125	0.875	0.25	0.875	0.75	0.5	159	0.125	0.875	0.237	55.3	−49.4	15.6	51.8	162.4
147	G15B_087_075d	0.125	0.875	0.375	0.875	0.75	0.5	169	0.125	0.875	0.362	55.6	−45.0	4.2	45.2	174.6
148	G25B_087_075d	0.125	0.875	0.5	0.875	0.75	0.5	180	0.125	0.875	0.5	56.2	−38.6	−6.6	39.1	189.8
149	G34B_087_075d	0.125	0.875	0.625	0.875	0.75	0.5	191	0.125	0.875	0.637	56.4	−31.6	−17.6	36.1	209.1
150	G42B_087_075d	0.125	0.875	0.75	0.875	0.75	0.5	201	0.125	0.875	0.762	55.9	−28.0	−23.9	36.8	220.4
151	G50B_087_075d	0.125	0.875	0.875	0.875	0.75	0.5	210	0.125	0.875	0.875	54.8	−22.5	−32.3	39.3	235.1
152	G56B_100_087d	0.125	0.875	1.0	1.0	0.875	0.562	218	0.125	0.883	1.0	58.4	−24.3	−39.3	46.2	238.2
153	Y88G_100_100d	0.125	1.0	0.0	1.0	1.0	0.5	143	0.116	1.0	0.0	56.8	−62.5	34.1	71.3	151.3
154	G00B_100_087d	0.125	1.0	0.125	1.0	0.875	0.562	150	0.125	1.0	0.125	59.5	−59.2	26.9	65.0	155.5
155	G06B_100_087d	0.125	1.0	0.25	1.0	0.875	0.562	158	0.125	1.0	0.241	59.0	−57.9	19.5	61.1	161.3
156	G13B_100_087d	0.125	1.0	0.375	1.0	0.875	0.562	166	0.125	1.0	0.358	59.1	−54.6	9.6	55.4	170.0
157	G20B_100_087d	0.125	1.0	0.5	1.0	0.875	0.562	175	0.125	1.0	0.489	59.9	−48.3	−2.7	48.3	183.2
158	G29B_100_087d	0.125	1.0	0.625	1.0	0.875	0.562	185	0.125	1.0	0.635	60.3	−41.0	−14.5	43.5	199.5
159	G36B_100_087d	0.125	1.0	0.75	1.0	0.875	0.562	194	0.125	1.0	0.766	60.3	−35.1	−22.9	42.0	213.1
160	G43B_100_087d	0.125	1.0	0.875	1.0	0.875	0.562	202	0.125	1.0	0.883	59.6	−32.3	−28.6	43.1	221.4
161	G50B_100_087d	0.125	1.0	1.0	1.0	0.875	0.562	210	0.125	1.0	1.0	58.4	−26.2	−37.7	45.9	235.1

n	rgb*'Fd			LabCh*'Fd					DE*'Fd	$h_{siM,d}$	rgb*Md			LabCh*Md				
81	0.125	0.0	0.0	24.7	7.7	8.0	11.1	45.9	3.9	389	1.0	0.0	0.0	47.5	57.2	37.8	68.6	33.4
82	0.125	0.0	0.125	26.6	12.3	−6.3	13.8	332.7	6.3	330	1.0	0.0	1.0	48.1	65.4	−12.7	66.6	348.9
83	0.125	0.0	0.25	25.7	13.6	−17.5	22.2	307.9	10.3	300	0.5	0.0	1.0	37.2	43.1	−30.8	53.0	324.4
84	0.125	0.0	0.375	27.6	14.3	−24.2	28.1	300.5	10.3	288	0.316	0.0	1.0	32.7	34.7	−37.2	50.9	312.9
85	0.125	0.0	0.5	29.0	21.5	−32.8	39.2	303.2	14.6	282	0.233	0.0	1.0	31.1	29.6	−39.8	49.6	306.6
86	0.125	0.0	0.625	29.5	25.2	−36.3	44.2	304.7	13.6	279	0.183	0.0	1.0	31.3	26.8	−41.0	49.0	303.2
87	0.125	0.0	0.75	30.6	25.4	−39.9	47.4	302.5	11.0	278	0.15	0.0	1.0	31.4	25.0	−41.7	48.6	300.9
88	0.125	0.0	0.875	30.8	25.7	−41.3	48.7	301.9	6.5	277	0.133	0.0	1.0	31.5	24.1	−42.0	48.4	299.8
89	0.125	0.0	1.0	31.6	23.6	−42.2	48.4	299.2	0.4	276	0.116	0.0	1.0	31.6	23.1	−42.4	48.3	298.6
90	0.125	0.125	0.0	32.9	−5.2	16.0	16.9	108.2	6.4	89	1.0	1.0	0.0	91.5	−15.8	84.6	86.1	100.5
91	0.125	0.125	0.125	27.8	0.0	−0.5	0.5	273.6	5.0	360	1.0	1.0	1.0	95.8	0.0	0.0	0.0	0.0
92	0.125	0.125	0.25	27.8	2.1	−17.8	17.9	276.9	13.6	270	0.0	0.0	1.0	32.5	16.9	−44.6	47.7	290.8
93	0.125	0.125	0.375	30.4	4.1	−25.6	25.9	279.1	15.1	270	0.0	0.0	1.0	32.5	16.9	−44.6	47.7	290.8
94	0.125	0.125	0.5	33.6	7.2	−30.1	31.0	283.5	13.6	270	0.0	0.0	1.0	32.5	16.9	−44.6	47.7	290.8
95	0.125	0.125	0.625	36.0	11.5	−35.5	37.4	287.9	13.6	270	0.0	0.0	1.0	32.5	16.9	−44.6	47.7	290.8
96	0.125	0.125	0.75	37.8	12.8	−40.0	42.0	287.7	12.4	270	0.0	0.0	1.0	32.5	16.9	−44.6	47.7	290.8
97	0.125	0.125	0.875	35.7	15.8	−43.8	46.5	289.8	11.4	270	0.0	0.0	1.0	32.5	16.9	−44.6	47.7	290.8
98	0.125	0.125	1.0	34.1	17.5	−43.8	47.2	291.8	8.4	270	0.0	0.0	1.0	32.5	16.9	−44.6	47.7	290.8
99	0.125	0.25	0.0	36.4	−13.3	17.0	21.6	127.9	4.4	119	0.5	1.0	0.0	70.9	−41.7	54.8	68.9	127.3
100	0.125	0.25	0.125	37.3	−12.7	1.8	12.8	171.8	4.7	149	0.0	1.0	0.0	54.3	−67.6	30.8	74.3	155.5
101	0.125	0.25	0.25	34.1	−10.5	−16.7	19.7	237.8	13.4	210	0.0	1.0	1.0	53.1	−30.0	−43.1	52.5	235.1
102	0.125	0.25	0.375	36.2	−6.8	−24.4	25.4	254.3	12.8	240	0.0	0.5	1.0	46.1	−13.3	−49.4	51.1	254.9
103	0.125	0.25	0.5	37.9	−3.1	−29.4	29.6	263.8	11.2	251	0.0	0.316	1.0	39.3	−2.3	−49.1	49.1	267.3
104	0.125	0.25	0.625	40.5	−0.2	−32.8	32.8	269.6	8.9	257	0.0	0.233	1.0	36.6	3.2	−48.3	48.4	273.8
105	0.125	0.25	0.75	41.5	2.5	−38.3	38.4	273.7	8.8	260	0.0	0.183	1.0	35.9	6.1	−47.5	47.9	277.3
106	0.125	0.25	0.875	37.9	7.9	−45.5	46.2	279.9	11.1	262	0.0	0.15	1.0	35.4	8.0	−46.9	47.5	279.6
107	0.125	0.25	1.0	36.4	10.6	−45.2	46.4	283.2	8.2	262	0.0	0.133	1.0	35.2	8.9	−46.5	47.4	280.8
108	0.125	0.375	0.0	39.5	−30.9	19.8	36.7	147.2	11.7	131	0.316	1.0	0.0	63.8	−52.2	44.7	68.7	139.4
109	0.125	0.375	0.125	39.1	−24.1	4.4	24.5	169.4	8.0	149	0.0	1.0	0.0	54.3	−67.6	30.8	74.3	155.5
110	0.125	0.375	0.25	37.7	−18.6	−9.6	20.9	207.3	9.8	180	0.0	1.0	0.5	55.0	−51.4	−8.9	52.2	189.8
111	0.125	0.375	0.375	41.9	−14.5	−23.1	27.3	237.7	14.3	210	0.0	1.0	1.0	53.1	−30.0	−43.1	52.5	235.1
112	0.125	0.375	0.5	42.5	−11.5	−28.8	31.0	248.1	10.9	228	0.0	0.683	1.0	51.6	−23.2	−48.6	53.9	244.5
113	0.125	0.375	0.625	43.5	−8.6	−31.7	32.8	254.7	7.3	240	0.0	0.5	1.0	46.1	−13.3	−49.4	51.1	254.9
114	0.125	0.375	0.75	44.9	−6.0	−36.4	36.9	260.5	5.9	247	0.0	0.383	1.0	41.7	−6.8	−49.3	49.7	262.1
115	0.125	0.375	0.875	43.8	−4.2	−45.9	46.1	264.7	9.4	251	0.0	0.316	1.0	39.3	−2.3	−49.1	49.1	267.3
116	0.125	0.375	1.0	39.2	1.2	−47.2	47.3	271.4	7.2	255	0.0	0.266	1.0	37.4	1.1	−48.7	48.7	271.3
117	0.125	0.5	0.0	41.4	−44.7	24.0	50.7	151.6	16.3	137	0.233	1.0	0.0	60.1	−57.9	39.6	70.2	145.5
118	0.125	0.5	0.125	42.7	−31.6	8.9	32.8	164.2	6.9	149	0.0	1.0	0.0	54.3	−67.6	30.8	74.3	155.5
119	0.125	0.5	0.25	43.1	−29.5	−2.1	29.5	184.0	8.2	168	0.0	1.0	0.316	54.3	−60.1	5.6	60.3	174.6
120	0.125	0.5	0.375	44.4	−22.2	−17.9	28.6	218.8	11.2	191	0.0	1.0	0.683	55.2	−42.1	−23.4	48.2	209.1
121	0.125	0.5	0.5	45.7	−17.6	−27.9	33.0	237.6	13.5	210	0.0	1.0	1.0	53.1	−30.0	−43.1	52.5	235.1
122	0.125	0.5	0.625	47.3	−14.4	−32.2	35.2	245.8	8.7	222	0.0	0.766	1.0	52.9	−26.2	−47.2	53.9	240.9
123	0.125	0.5	0.75	47.8	−13.4	−35.8	38.3	249.4	5.1	232	0.0	0.616	1.0	50.2	−20.2	−49.5	53.5	247.7
124	0.125	0.5	0.875	48.0	−12.0	−43.4	45.0	254.4	6.8	240	0.0	0.5	1.0	46.1	−13.3	−49.4	51.1	254.9
125	0.125	0.5	1.0	44.3	−8.4	−48.1	48.9	260.0	7.2	245	0.0	0.416	1.0	42.9	−8.6	−49.4	50.1	260.0
126	0.125	0.625	0.0	47.0	−55.6	28.1	62.3	153.1	18.8	140	0.183	1.0	0.0	58.7	−59.9	37.3	70.6	148.1
127	0.125	0.625	0.125	47.4	−40.2	14.8	42.9	159.7	6.4	149	0.0	1.0	0.0	54.3	−67.6	30.8	74.3	155.5
128	0.125	0.625	0.25	47.8	−37.6	3.8	37.8	174.1	6.6	162	0.0	1.0	0.233	53.7	−63.6	14.1	65.2	167.4
129	0.125	0.625	0.375	49.3	−31.0	−11.2	33.0	199.9	8.6	180	0.0	1.0	0.5	55.0	−51.4	−8.9	52.2	189.8
130	0.125	0.625	0.5	50.1	−24.7	−22.9	33.7	222.8	10.4	197	0.0	1.0	0.766	55.1	−39.2	−27.9	48.1	215.4
131	0.125	0.625	0.625	50.9	−21.6	−30.9	37.7	234.9	12.0	210	0.0	1.0	1.0	53.1	−30.0	−43.1	52.5	235.1
132	0.125	0.625	0.75	51.4	−18.6	−35.6	40.2	242.4	7.0	219	0.0	0.816	1.0	53.0	−27.0	−46.0	53.4	239.5
133	0.125	0.625	0.875	51.5	−17.0	−40.6	44.0	247.2	4.6	228	0.0	0.683	1.0	51.6	−23.2	−48.6	53.9	244.5
134	0.125	0.625	1.0	49.7	−15.8	−47.6	50.1	251.6	6.7	234	0.0	0.583	1.0	49.1	−18.2	−49.6	52.8	249.7
135	0.125	0.75	0.0	52.8	−59.5	31.8	67.5	151.8	14.9	142	0.15	1.0	0.0	57.7	−61.2	35.6	70.9	149.7
136	0.125	0.75	0.125	52.5	−46.5	19.1	50.3	157.6	4.3	149	0.0	1.0	0.0	54.3	−67.6	30.8	74.3	155.5
137	0.125	0.75	0.25	53.2	−43.8	9.1	44.7	168.2	4.1	159	0.0	1.0	0.183	53.8	−65.0	18.1	67.5	164.4
138	0.125	0.75	0.375	54.5	−42.1	−2.9	42.2	184.0	7.6	172	0.0	1.0	0.383	54.7	−56.5	−0.6	56.5	180.6
139	0.125	0.75	0.5	56.3	−33.9	−17.4	38.1	207.1	8.8	187	0.0	1.0	0.616	55.3	−44.7	−19.4	48.7	203.4
140	0.125	0.75	0.625	56.4	−29.5	−26.1	39.4	221.4	10.0	200	0.0	1.0	0.816	54.8	−38.1	−30.3	48.7	218.4
141	0.125	0.75	0.75	55.6	−25.0	−35.2	43.2	234.6	11.3	210	0.0	1.0	1.0	53.1	−30.0	−43.1	52.5	235.1
142	0.125	0.75	0.875	55.3	−22.8	−39.2	45.4	239.7	5.7	217	0.0	0.85	1.0	53.0	−27.5	−45.3	53.0	238.6
143	0.125	0.75	1.0	54.2	−21.2	−45.5	50.2	244.9	5.3	224	0.0	0.733	1.0	52.6	−25.2	−47.8	54.1	242.1
144	0.125	0.875	0.0	57.3	−62.3	36.0	72.0	149.9	10.7	142	0.133	1.0	0.0	57.2	−61.9	34.8	71.0	150.6
145	0.125	0.875	0.125	58.1	−59.2	28.1	65.5	154.5	10.1	149	0.0	1.0	0.0	54.3	−67.6	30.8	74.3	155.5
146	0.125	0.875	0.25	57.8	−56.9	17.5	59.5	162.8	8.1	157	0.0	1.0	0.15	53.8	−65.8	20.8	69.1	162.4
147	0.125	0.875	0.375	58.4	−51.0	2.6	51.1	177.0	6.7	168	0.0	1.0	0.316	54.3	−60.1	5.6	60.3	174.6
148	0.125	0.875	0.5	58.7	−44.7	−9.1	45.6	191.5	7.0	180	0.0	1.0	0.5	55.0	−51.4	−8.9	52.2	189.8
149	0.125	0.875	0.625	58.9	−38.3	−20.3	43.4	208.0	7.6	191	0.0	1.0	0.683	55.2	−42.1	−23.4	48.2	209.1
150	0.125	0.875	0.75	58.2	−33.3	−29.3	44.4	221.3	7.9	202	0.0	1.0	0.85	54.6	−37.3	−31.9	49.1	220.4
151	0.125	0.875	0.875	57.5	−28.7	−38.2	47.8	233.0	9.0	210	0.0	1.0	1.0	53.1	−30.0	−43.1	52.5	235.1
152	0.125	0.875	1.0	56.0	−26.3	−43.4	50.8	238.7	5.1	217	0.0	0.866	1.0	53.0	−27.8	−44.9	52.8	238.2
153	0.125	1.0	0.0	57.0	−62.2	34.4	71.1	151.0	0.4	143	0.116	1.0	0.0	56.8	−62.5	34.1	71.3	151.3
154	0.125	1.0	0.125	55.9	−63.0	28.6	69.2	155.5	5.4	149	0.0	1.0	0.0	54.3	−67.6	30.8	74.3	155.5
155	0.125	1.0	0.25	55.6	−60.9	18.4	63.7	163.1	4.6	157	0.0	1.0	0.133	53.8	−66.2	22.3	69.9	161.3
156	0.125	1.0	0.375	56.4	−55.3	6.3	55.7	173.4	4.3	164	0.0	1.0	0.266	53.9	−62.4	10.9	63.4	170.0
157	0.125	1.0	0.5	57.3	−49.3	−4.7	49.5	185.4	3.4	174	0.0	1.0	0.416	54.8	−55.2	−3.1	55.2	183.2
158	0.125	1.0	0.625	57.3	−41.3	−18.6	45.3	204.2	5.0	185	0.0	1.0	0.583	55.2	−46.8	−16.6	49.7	199.5
159	0.125	1.0	0.75	57.1	−37.2	−25.8	45.2	214.7	4.7	195	0.0	1.0	0.733	55.2	−40.2	−26.2	48.0	213.1
160	0.125	1.0	0.875	57.0	−33.2	−32.3	46.4	224.2	4.6	202	0.0	1.0	0.866	54.5	−36.9	−32.6	49.3	221.4
161	0.125	1.0	1.0	54.6	−29.4	−41.5	50.9	234.6	6.2	210	0.0	1.0	1.0	53.1	−30.0	−43.1	52.5	235.1

Mean color difference of this page: delta $E^{*\prime}$ = 8.5

1−0032030−F0 PE890−7N, Page 21/33−F

TUB-test chart PE89; 16 step hue circle
colors and differences, $\Delta E^{*\prime}$

input: $rgb/cmyk -> rgb_d$
output: transfer to $cmyk_d$

http://130.149.60.45/~farbmetrik/PE89/PE89L0NP.PDF /.PS; transfer output
N: no 3D-linearization (OL) in file (F) or PS-startup (S), page 22/33

n	HIC^*_{Fd}	rgb_{Fd}			ict_{Fd}			$h_{si_F,d}$	rgb^*_{Fd}			$LabCh^*_{Fd}$				
162	R00Y_025_025d	0.25	0.0	0.0	0.25	0.25	0.125	390	0.25	0.0	0.0	29.7	14.3	9.4	17.1	33.4
163	R00Y_025_025d	0.25	0.0	0.125	0.25	0.25	0.125	360	0.25	0.0	0.125	29.8	14.7	2.6	14.9	10.0
164	B50R_025_025d	0.25	0.0	0.25	0.25	0.25	0.125	330	0.25	0.0	0.25	29.9	16.3	−3.1	16.6	348.9
165	B34R_037_037d	0.25	0.0	0.375	0.375	0.375	0.187	311	0.256	0.0	0.375	30.0	19.3	−9.2	21.4	334.4
166	B25R_050_050d	0.25	0.0	0.5	0.5	0.5	0.25	300	0.25	0.0	0.5	30.5	21.5	−15.4	26.5	324.4
167	B19R_062_062d	0.25	0.0	0.625	0.625	0.625	0.312	293	0.239	0.0	0.625	30.4	24.1	−21.7	32.4	317.9
168	B15R_075_075d	0.25	0.0	0.75	0.75	0.75	0.375	289	0.237	0.0	0.75	30.5	26.0	−27.9	38.2	312.9
169	B13R_087_087d	0.25	0.0	0.875	0.875	0.875	0.437	286	0.233	0.0	0.875	30.5	27.6	−34.0	43.8	309.1
170	B11R_100_100d	0.25	0.0	1.0	1.0	1.0	0.5	284	0.233	0.0	1.0	31.1	29.6	−39.8	49.6	306.6
171	R50Y_025_025d	0.25	0.125	0.0	0.25	0.25	0.125	60	0.25	0.125	0.0	35.5	4.8	16.5	17.2	73.8
172	R00Y_025_012d	0.25	0.125	0.125	0.25	0.125	0.187	390	0.25	0.124	0.124	35.8	7.1	4.7	8.5	33.4
173	B50R_025_012d	0.25	0.125	0.25	0.25	0.125	0.187	330	0.25	0.124	0.25	35.8	8.1	−1.5	8.3	348.9
174	B25R_037_025d	0.25	0.125	0.375	0.375	0.25	0.25	300	0.25	0.124	0.375	36.1	10.7	−7.7	13.2	324.4
175	B15R_050_037d	0.25	0.125	0.5	0.5	0.375	0.312	289	0.243	0.124	0.5	36.1	13.0	−13.9	19.1	312.9
176	B11R_062_050d	0.25	0.125	0.625	0.625	0.5	0.375	284	0.241	0.125	0.625	36.4	14.8	−19.9	24.8	306.6
177	B09R_075_062d	0.25	0.125	0.75	0.75	0.625	0.437	281	0.239	0.125	0.75	37.5	16.8	−25.6	30.6	303.2
178	B07R_087_075d	0.25	0.125	0.875	0.875	0.75	0.5	279	0.237	0.125	0.875	38.5	18.7	−31.3	36.5	300.9
179	B06R_100_087d	0.25	0.125	1.0	1.0	0.875	0.562	278	0.241	0.125	1.0	39.6	21.0	−36.8	42.4	299.8
180	Y00G_025_025d	0.25	0.25	0.0	0.25	0.25	0.125	90	0.25	0.25	0.0	40.7	−3.9	21.1	21.5	100.5
181	Y00G_025_012d	0.25	0.25	0.125	0.25	0.125	0.187	90	0.25	0.25	0.124	41.3	−1.9	10.5	10.7	100.5
182	NW_025d	0.25	0.25	0.25	0.25	0.0	0.25	360	0.25	0.25	0.25	41.8	0.0	0.0	0.0	0.0
183	B00R_037_012d	0.25	0.25	0.375	0.375	0.125	0.312	270	0.249	0.249	0.375	42.9	2.1	−5.5	5.9	290.8
184	B00R_050_025d	0.25	0.25	0.5	0.5	0.25	0.375	270	0.249	0.249	0.5	44.0	4.2	−11.1	11.9	290.8
185	B00R_062_037d	0.25	0.25	0.625	0.625	0.375	0.437	270	0.25	0.25	0.625	45.1	6.3	−16.7	17.8	290.8
186	B00R_075_050d	0.25	0.25	0.75	0.75	0.5	0.5	270	0.25	0.25	0.75	46.2	8.4	−22.3	23.8	290.8
187	B00R_087_062d	0.25	0.25	0.875	0.875	0.625	0.562	270	0.25	0.25	0.875	47.2	10.5	−27.8	29.8	290.8
188	B00R_100_075d	0.25	0.25	1.0	1.0	0.75	0.625	270	0.25	0.25	1.0	48.3	12.7	−33.4	35.7	290.8
189	Y31G_037_037d	0.25	0.375	0.0	0.375	0.375	0.187	109	0.256	0.375	0.0	46.6	−10.3	28.7	30.5	109.8
190	Y50G_037_025d	0.25	0.375	0.125	0.375	0.25	0.25	120	0.25	0.375	0.124	44.6	−10.4	13.7	17.2	127.3
191	G00B_037_012d	0.25	0.375	0.25	0.375	0.125	0.312	150	0.249	0.375	0.249	45.6	−8.4	3.8	9.2	155.5
192	G50B_037_012d	0.25	0.375	0.375	0.375	0.125	0.312	210	0.249	0.375	0.375	45.5	−3.7	−5.3	6.5	235.1
193	G75B_050_025d	0.25	0.375	0.5	0.5	0.25	0.375	240	0.249	0.375	0.5	47.4	−3.3	−12.3	12.7	254.9
194	G84B_062_037d	0.25	0.375	0.625	0.625	0.375	0.437	251	0.25	0.368	0.625	47.6	−0.8	−18.4	18.4	267.3
195	G88B_075_050d	0.25	0.375	0.75	0.75	0.5	0.5	256	0.25	0.366	0.75	48.2	1.6	−24.1	24.2	273.8
196	G90B_087_062d	0.25	0.375	0.875	0.875	0.625	0.562	259	0.25	0.364	0.875	49.3	3.8	−29.7	29.9	277.3
197	G92B_100_075d	0.25	0.375	1.0	1.0	0.75	0.625	261	0.25	0.362	1.0	50.5	6.0	−35.1	35.6	279.6
198	Y50G_050_050d	0.25	0.5	0.0	0.5	0.5	0.25	120	0.25	0.5	0.0	47.4	−20.8	27.4	34.4	127.3
199	Y68G_050_037d	0.25	0.5	0.125	0.5	0.375	0.312	131	0.243	0.5	0.124	47.8	−19.5	16.7	25.7	139.4
200	G00B_050_025d	0.25	0.5	0.25	0.5	0.25	0.375	150	0.249	0.5	0.249	49.4	−16.9	7.7	18.5	155.5
201	G25B_050_025d	0.25	0.5	0.375	0.5	0.25	0.375	180	0.249	0.5	0.375	49.6	−12.8	−2.2	13.0	189.8
202	G50B_050_025d	0.25	0.5	0.5	0.5	0.25	0.375	210	0.249	0.5	0.5	49.1	−7.5	−10.7	13.1	235.1
203	G65B_062_037d	0.25	0.5	0.625	0.625	0.375	0.437	229	0.25	0.506	0.625	52.2	−8.7	−18.2	20.2	244.5
204	G75B_075_050d	0.25	0.5	0.75	0.75	0.5	0.5	240	0.25	0.5	0.75	53.0	−6.6	−24.7	25.5	254.9
205	G80B_087_062d	0.25	0.5	0.875	0.875	0.625	0.562	247	0.25	0.489	0.875	53.0	−4.2	−30.8	31.1	262.1
206	G84B_100_075d	0.25	0.5	1.0	1.0	0.75	0.625	251	0.25	0.487	1.0	53.4	−1.7	−36.8	36.8	267.3
207	Y61G_062_062d	0.25	0.625	0.0	0.625	0.625	0.312	127	0.239	0.625	0.0	50.7	−29.5	30.3	42.3	134.2
208	Y76G_062_050d	0.25	0.625	0.125	0.625	0.5	0.375	136	0.241	0.625	0.125	51.0	−28.9	19.8	35.1	145.5
209	G00B_062_037d	0.25	0.625	0.25	0.625	0.375	0.437	150	0.25	0.625	0.25	53.2	−25.3	11.5	27.8	155.5
210	G15B_062_037d	0.25	0.625	0.375	0.625	0.375	0.437	169	0.25	0.625	0.368	53.2	−22.5	2.1	22.6	174.6
211	G34B_062_037d	0.25	0.625	0.5	0.625	0.375	0.437	191	0.25	0.625	0.506	53.6	−15.8	−8.8	18.0	209.1
212	G50B_062_037d	0.25	0.625	0.625	0.625	0.375	0.437	210	0.25	0.625	0.625	52.8	−11.2	−16.1	19.6	235.1
213	G61B_075_050d	0.25	0.625	0.75	0.75	0.5	0.5	224	0.25	0.633	0.75	56.3	−13.1	−23.6	26.9	240.9
214	G69B_087_062d	0.25	0.625	0.875	0.875	0.625	0.562	233	0.25	0.635	0.875	58.3	−12.6	−30.9	33.4	247.7
215	G75B_100_075d	0.25	0.625	1.0	1.0	0.75	0.625	240	0.25	0.625	1.0	58.5	−9.9	−37.0	38.3	254.9
216	Y68G_075_075d	0.25	0.75	0.0	0.75	0.75	0.375	131	0.237	0.75	0.0	53.8	−39.1	33.5	51.5	139.4
217	Y81G_075_062d	0.25	0.75	0.125	0.75	0.625	0.437	139	0.239	0.75	0.125	54.6	−37.4	23.3	44.1	148.1
218	G00B_075_050d	0.25	0.75	0.25	0.75	0.5	0.5	150	0.25	0.75	0.25	57.0	−33.8	15.4	37.1	155.5
219	G11B_075_050d	0.25	0.75	0.375	0.75	0.5	0.5	164	0.25	0.75	0.366	56.8	−31.8	7.0	32.6	167.4
220	G25B_075_050d	0.25	0.75	0.5	0.75	0.5	0.5	180	0.25	0.75	0.5	57.4	−25.7	−4.4	26.1	189.8
221	G38B_075_050d	0.25	0.75	0.625	0.75	0.5	0.5	196	0.25	0.75	0.633	57.4	−19.6	−13.9	24.0	215.4
222	G50B_075_050d	0.25	0.75	0.75	0.75	0.5	0.5	210	0.25	0.75	0.75	56.4	−15.0	−21.5	26.2	235.1
223	G59B_087_062d	0.25	0.75	0.875	0.875	0.625	0.562	221	0.25	0.76	0.875	60.0	−16.9	−28.7	33.3	239.5
224	G65B_100_075d	0.25	0.75	1.0	1.0	0.75	0.625	229	0.25	0.762	1.0	62.7	−17.4	−36.5	40.4	244.5
225	Y73G_087_087d	0.25	0.875	0.0	0.875	0.875	0.437	134	0.233	0.875	0.0	56.7	−49.0	36.3	61.0	143.4
226	Y85G_087_075d	0.25	0.875	0.125	0.875	0.75	0.5	141	0.237	0.875	0.125	58.2	−45.9	26.7	53.1	149.7
227	G00B_087_062d	0.25	0.875	0.25	0.875	0.625	0.562	150	0.25	0.875	0.25	60.9	−42.3	19.2	46.4	155.5
228	G09B_087_062d	0.25	0.875	0.375	0.875	0.625	0.562	161	0.25	0.875	0.364	60.5	−40.6	11.3	42.2	164.4
229	G19B_087_062d	0.25	0.875	0.5	0.875	0.625	0.562	173	0.25	0.875	0.489	61.1	−35.3	−0.3	35.3	180.6
230	G30B_087_062d	0.25	0.875	0.625	0.875	0.625	0.562	187	0.25	0.875	0.635	61.5	−27.9	−12.1	30.4	203.4
231	G40B_087_062d	0.25	0.875	0.75	0.875	0.625	0.562	199	0.25	0.875	0.76	61.2	−23.8	−18.9	30.4	218.4
232	G50B_087_062d	0.25	0.875	0.875	0.875	0.625	0.562	210	0.25	0.875	0.875	60.1	−18.7	−26.9	32.8	235.1
233	G57B_100_075d	0.25	0.875	1.0	1.0	0.75	0.625	219	0.25	0.887	1.0	63.7	−20.6	−33.9	39.7	238.6
234	Y76G_100_100d	0.25	1.0	0.0	1.0	1.0	0.5	136	0.233	1.0	0.0	60.1	−57.9	39.6	70.2	145.5
235	Y86G_100_087d	0.25	1.0	0.125	1.0	0.875	0.562	142	0.241	1.0	0.125	62.0	−54.1	30.4	62.1	150.6
236	G00B_100_075d	0.25	1.0	0.25	1.0	0.75	0.625	150	0.25	1.0	0.25	64.7	−50.7	23.1	55.7	155.5
237	G07B_100_075d	0.25	1.0	0.375	1.0	0.75	0.625	159	0.25	1.0	0.362	64.3	−49.4	15.6	51.8	162.4
238	G15B_100_075d	0.25	1.0	0.5	1.0	0.75	0.625	169	0.25	1.0	0.487	64.6	−45.0	4.2	45.2	174.6
239	G25B_100_075d	0.25	1.0	0.625	1.0	0.75	0.625	180	0.25	1.0	0.625	65.2	−38.6	−6.6	39.1	189.8
240	G34B_100_075d	0.25	1.0	0.75	1.0	0.75	0.625	191	0.25	1.0	0.762	65.4	−31.6	−17.6	36.1	209.1
241	G42B_100_075d	0.25	1.0	0.875	1.0	0.75	0.625	201	0.25	1.0	0.887	64.9	−28.0	−23.9	36.8	220.4
242	G50B_100_075d	0.25	1.0	1.0	1.0	0.75	0.625	210	0.25	1.0	1.0	63.8	−22.5	−32.3	39.3	235.1

n	$rgb^{*\prime}_{Fd}$			$LabCh^{*\prime}_{Fd}$					$DE^{*\prime}_{Fd}$	$h_{siM,d}$	rgb^*_{Md}			$LabCh^*_{Md}$				
162	0.25	0.0	0.0	26.6	14.4	12.1	18.9	40.1	4.1	389	1.0	0.0	0.0	47.5	57.2	37.8	68.6	33.4
163	0.25	0.0	0.125	26.4	17.6	2.2	17.7	7.1	4.4	360	1.0	0.0	0.5	47.8	58.9	10.4	59.9	10.0
164	0.25	0.0	0.25	27.9	22.7	−10.0	24.8	336.0	9.6	330	1.0	0.0	1.0	48.1	65.4	−12.7	66.6	348.9
165	0.25	0.0	0.375	28.8	24.9	−17.6	30.5	324.6	10.1	311	0.683	0.0	1.0	40.4	51.6	−24.7	57.2	334.4
166	0.25	0.0	0.5	28.9	25.7	−25.1	35.9	315.6	10.6	300	0.5	0.0	1.0	37.2	43.1	−30.8	53.0	324.4
167	0.25	0.0	0.625	29.8	28.8	−31.0	42.3	312.9	10.4	292	0.383	0.0	1.0	34.4	38.5	−34.7	51.9	317.9
168	0.25	0.0	0.75	31.0	30.1	−35.2	46.3	310.5	8.3	288	0.316	0.0	1.0	32.7	34.7	−37.2	50.9	312.9
169	0.25	0.0	0.875	31.5	30.7	−38.1	48.9	308.8	5.2	284	0.266	0.0	1.0	31.4	31.6	−38.8	50.1	309.1
170	0.25	0.0	1.0	31.0	30.5	−39.3	49.8	307.8	1.0	282	0.233	0.0	1.0	31.1	29.6	−39.8	49.6	306.6
171	0.25	0.125	0.0	32.1	3.1	19.8	20.0	81.0	5.0	59	1.0	0.5	0.0	70.5	19.2	66.2	69.0	73.8
172	0.25	0.125	0.125	30.7	8.8	7.3	11.5	39.8	5.9	389	1.0	0.0	0.0	47.5	57.2	37.8	68.6	33.4
173	0.25	0.125	0.25	32.9	13.4	−8.4	15.9	327.8	9.1	330	1.0	0.0	1.0	48.1	65.4	−12.7	66.6	348.9
174	0.25	0.125	0.375	33.3	13.6	−17.6	22.3	307.5	10.7	300	0.5	0.0	1.0	37.2	43.1	−30.8	53.0	324.4
175	0.25	0.125	0.5	34.1	15.5	−25.6	30.0	301.2	12.1	288	0.316	0.0	1.0	32.7	34.7	−37.2	50.9	312.9
176	0.25	0.125	0.625	37.0	18.0	−31.1	36.0	300.1	11.7	282	0.233	0.0	1.0	31.1	29.6	−39.8	49.6	306.6
177	0.25	0.125	0.75	38.2	19.8	−36.3	41.4	298.5	11.1	279	0.183	0.0	1.0	31.3	26.8	−41.0	49.0	303.2
178	0.25	0.125	0.875	35.5	24.3	−40.4	47.1	301.0	11.1	278	0.15	0.0	1.0	31.4	25.0	−41.7	48.6	300.9
179	0.25	0.125	1.0	34.9	24.2	−40.6	47.3	300.7	6.8	277	0.133	0.0	1.0	31.5	24.1	−42.0	48.4	299.8
180	0.25	0.25	0.0	39.4	−7.8	29.7	30.8	104.8	9.5	89	1.0	1.0	0.0	91.5	−15.8	84.6	86.1	100.5
181	0.25	0.25	0.125	39.8	−5.3	15.2	16.1	109.2	5.8	89	1.0	1.0	0.0	91.5	−15.8	84.6	86.1	100.5
182	0.25	0.25	0.25	39.8	−0.1	−1.2	1.2	265.1	2.3	360	1.0	1.0	1.0	95.8	0.0	0.0	0.0	0.0
183	0.25	0.25	0.375	37.2	2.3	−18.7	18.9	276.9	14.3	270	0.0	0.0	1.0	32.5	16.9	−44.6	47.7	290.8
184	0.25	0.25	0.5	39.7	5.0	−25.0	25.4	281.3	14.5	270	0.0	0.0	1.0	32.5	16.9	−44.6	47.7	290.8
185	0.25	0.25	0.625	41.8	8.2	−29.3	30.4	285.7	13.1	270	0.0	0.0	1.0	32.5	16.9	−44.6	47.7	290.8
186	0.25	0.25	0.75	43.1	11.1	−34.5	36.3	287.8	12.9	270	0.0	0.0	1.0	32.5	16.9	−44.6	47.7	290.8
187	0.25	0.25	0.875	40.2	15.3	−41.4	44.1	290.2	15.9	270	0.0	0.0	1.0	32.5	16.9	−44.6	47.7	290.8
188	0.25	0.25	1.0	38.0	16.5	−42.0	45.1	291.5	14.0	270	0.0	0.0	1.0	32.5	16.9	−44.6	47.7	290.8
189	0.25	0.375	0.0	41.6	−14.3	30.8	34.0	114.9	6.7	108	0.683	1.0	0.0	84.6	−27.6	76.5	81.3	109.8
190	0.25	0.375	0.125	44.8	−13.9	15.6	20.9	131.6	4.0	119	0.5	1.0	0.0	70.9	−41.7	54.8	68.9	127.3
191	0.25	0.375	0.25	43.9	−11.7	−0.1	11.7	180.5	5.4	149	0.0	1.0	0.0	54.3	−67.6	30.8	74.3	155.5
192	0.25	0.375	0.375	44.7	−10.3	−17.0	19.9	238.7	13.3	210	0.0	1.0	1.0	53.1	−30.0	−43.1	52.5	235.1
193	0.25	0.375	0.5	46.4	−5.5	−23.0	23.6	256.5	10.9	240	0.0	0.5	1.0	46.1	−13.3	−49.4	51.1	254.9
194	0.25	0.375	0.625	46.8	−2.5	−27.6	27.7	264.7	9.4	251	0.0	0.316	1.0	39.3	−2.3	−49.1	49.1	267.3
195	0.25	0.375	0.75	46.6	0.6	−33.1	33.1	271.0	9.1	257	0.0	0.233	1.0	36.6	3.2	−48.3	48.4	273.8
196	0.25	0.375	0.875	45.7	4.1	−41.8	42.1	275.7	12.7	260	0.0	0.183	1.0	35.9	6.1	−47.5	47.9	277.3
197	0.25	0.375	1.0	42.5	7.0	−42.9	43.5	279.3	11.2	262	0.0	0.15	1.0	35.4	8.0	−46.9	47.5	279.6
198	0.25	0.5	0.0	43.9	−28.1	32.6	43.1	130.7	9.6	119	0.5	1.0	0.0	70.9	−41.7	54.8	68.9	127.3
199	0.25	0.5	0.125	47.6	−24.8	16.6	29.9	146.1	5.2	131	0.316	1.0	0.0	63.8	−52.2	44.7	68.7	139.4
200	0.25	0.5	0.25	46.4	−22.2	3.8	22.6	170.1	7.2	149	0.0	1.0	0.0	54.3	−67.6	30.8	74.3	155.5
201	0.25	0.5	0.375	48.2	−16.8	−9.9	19.5	210.3	8.7	180	0.0	1.0	0.5	55.0	−51.4	−8.9	52.2	189.8
202	0.25	0.5	0.5	50.5	−14.1	−21.4	25.7	236.7	12.6	210	0.0	1.0	1.0	53.1	−30.0	−43.1	52.5	235.1
203	0.25	0.5	0.625	51.2	−10.1	−27.6	29.4	249.8	9.5	228	0.0	0.683	1.0	51.6	−23.2	−48.6	53.9	244.5
204	0.25	0.5	0.75	51.3	−8.5	−31.4	32.6	254.7	7.2	240	0.0	0.5	1.0	46.1	−13.3	−49.4	51.1	254.9
205	0.25	0.5	0.875	51.1	−6.6	−39.5	40.0	260.4	9.2	247	0.0	0.383	1.0	41.7	−6.8	−49.3	49.7	262.1
206	0.25	0.5	1.0	45.0	−0.5	−44.4	44.4	269.3	11.3	251	0.0	0.316	1.0	39.3	−2.3	−49.1	49.1	267.3
207	0.25	0.625	0.0	49.0	−39.1	34.5	52.1	138.5	10.6	127	0.383	1.0	0.0	66.8	−47.2	48.5	67.7	134.2
208	0.25	0.625	0.125	51.3	−33.6	22.4	40.4	146.3	5.3	137	0.233	1.0	0.0	60.1	−57.9	39.6	70.2	145.5
209	0.25	0.625	0.25	51.5	−29.9	9.9	31.5	161.5	5.1	149	0.0	1.0	0.0	54.3	−67.6	30.8	74.3	155.5
210	0.25	0.625	0.375	53.7	−24.9	−3.1	25.1	187.0	5.7	168	0.0	1.0	0.316	54.3	−60.1	5.6	60.3	174.6
211	0.25	0.625	0.5	54.8	−20.1	−15.5	25.4	217.5	8.0	191	0.0	1.0	0.683	55.2	−42.1	−23.4	48.2	209.1
212	0.25	0.625	0.625	54.2	−16.5	−26.0	30.8	237.5	11.2	210	0.0	1.0	1.0	53.1	−30.0	−43.1	52.5	235.1
213	0.25	0.625	0.75	55.1	−13.9	−31.3	34.2	245.9	7.8	222	0.0	0.766	1.0	52.9	−26.2	−47.2	53.9	240.9
214	0.25	0.625	0.875	55.5	−12.8	−36.5	38.7	250.6	6.3	232	0.0	0.616	1.0	50.2	−20.2	−49.5	53.5	247.7
215	0.25	0.625	1.0	52.2	−11.8	−43.9	45.5	254.8	9.5	240	0.0	0.5	1.0	46.1	−13.3	−49.4	51.1	254.9
216	0.25	0.75	0.0	57.1	−46.6	39.6	61.1	139.6	10.1	131	0.316	1.0	0.0	63.8	−52.2	44.7	68.7	139.4
217	0.25	0.75	0.125	56.1	−40.3	24.6	47.2	148.6	3.4	140	0.183	1.0	0.0	58.7	−59.9	37.3	70.6	148.1
218	0.25	0.75	0.25	57.2	−36.4	13.9	39.0	159.0	2.9	149	0.0	1.0	0.0	54.3	−67.6	30.8	74.3	155.5
219	0.25	0.75	0.375	58.6	−33.1	4.1	33.4	172.9	3.6	162	0.0	1.0	0.233	53.7	−63.6	14.1	65.2	167.4
220	0.25	0.75	0.5	59.9	−28.0	−8.3	29.2	196.5	5.1	180	0.0	1.0	0.5	55.0	−51.4	−8.9	52.2	189.8
221	0.25	0.75	0.625	60.4	−22.8	−20.5	30.7	221.9	7.8	197	0.0	1.0	0.766	55.1	−39.2	−27.9	48.1	215.4
222	0.25	0.75	0.75	60.1	−19.6	−29.7	35.6	236.5	10.1	210	0.0	1.0	1.0	53.1	−30.0	−43.1	52.5	235.1
223	0.25	0.75	0.875	60.2	−18.2	−35.1	39.5	242.5	6.4	219	0.0	0.816	1.0	53.0	−27.0	−46.0	53.4	239.5
224	0.25	0.75	1.0	58.4	−17.7	−41.7	45.3	246.9	6.7	228	0.0	0.683	1.0	51.6	−23.2	−48.6	53.9	244.5
225	0.25	0.875	0.0	61.6	−55.2	42.0	69.3	142.7	9.7	135	0.266	1.0	0.0	61.4	−56.0	41.5	69.7	143.4
226	0.25	0.875	0.125	62.1	−53.8	33.1	63.2	148.4	10.9	142	0.15	1.0	0.0	57.7	−61.2	35.6	70.9	149.7
227	0.25	0.875	0.25	63.3	−48.9	21.1	53.3	156.5	7.3	149	0.0	1.0	0.0	54.3	−67.6	30.8	74.3	155.5
228	0.25	0.875	0.375	64.3	−43.8	9.2	44.7	168.0	5.3	159	0.0	1.0	0.183	53.8	−65.0	18.1	67.5	164.4
229	0.25	0.875	0.5	64.5	−38.8	−3.1	38.9	184.6	5.6	172	0.0	1.0	0.383	54.7	−56.5	−0.6	56.5	180.6
230	0.25	0.875	0.625	65.0	−31.9	−14.1	34.9	203.9	5.7	187	0.0	1.0	0.616	55.3	−44.7	−19.4	48.7	203.4
231	0.25	0.875	0.75	63.2	−26.7	−25.9	37.2	224.1	7.8	200	0.0	1.0	0.816	54.8	−38.1	−30.3	48.7	218.4
232	0.25	0.875	0.875	63.6	−23.3	−33.5	40.9	235.1	8.8	210	0.0	1.0	1.0	53.1	−30.0	−43.1	52.5	235.1
233	0.25	0.875	1.0	62.8	−20.3	−38.6	43.6	242.1	4.7	217	0.0	0.85	1.0	53.0	−27.5	−45.3	53.0	238.6
234	0.25	1.0	0.0	60.6	−57.2	40.4	70.1	144.7	1.1	137	0.233	1.0	0.0	60.1	−57.9	39.6	70.2	145.5
235	0.25	1.0	0.125	62.6	−52.4	32.5	61.7	148.2	2.7	142	0.133	1.0	0.0	57.2	−61.9	34.8	71.0	150.6
236	0.25	1.0	0.25	61.1	−52.9	23.4	57.9	156.0	4.2	149	0.0	1.0	0.0	54.3	−67.6	30.8	74.3	155.5
237	0.25	1.0	0.375	61.0	−49.8	12.0	51.2	166.4	4.8	157	0.0	1.0	0.15	53.8	−65.8	20.8	69.1	162.4
238	0.25	1.0	0.5	61.5	−44.6	1.0	44.6	178.7	4.5	168	0.0	1.0	0.316	54.3	−60.1	5.6	60.3	174.6
239	0.25	1.0	0.625	62.3	−36.8	−13.9	39.3	200.7	8.0	180	0.0	1.0	0.5	55.0	−51.4	−8.9	52.2	189.8
240	0.25	1.0	0.75	62.6	−31.9	−21.4	38.4	213.8	4.7	191	0.0	1.0	0.683	55.2	−42.1	−23.4	48.2	209.1
241	0.25	1.0	0.875	62.7	−28.1	−29.2	40.5	226.1	5.7	202	0.0	1.0	0.85	54.6	−37.3	−31.9	49.1	220.4
242	0.25	1.0	1.0	59.3	−26.4	−37.8	46.1	235.0	8.1	210	0.0	1.0	1.0	53.1	−30.0	−43.1	52.5	235.1

Mean color difference of this page: **delta $E^{*\prime}$ = 8.0**

1−0032130−F0 PE890−7N, Page 22/33−F

TUB-test chart PE89; 16 step hue circle
colors and differences, $\Delta E^{*\prime}$

input: $rgb/cmyk \rightarrow rgb_d$
output: transfer to $cmyk_d$

1−0032130−F0

http://130.149.60.45/~farbmetrik/PE89/PE89L0NP.PDF /.PS; transfer output
N: no 3D-linearization (OL) in file (F) or PS-startup (S), page 23/33

n	HIC*Fd	rgb_Fd			ict_Fd			hsi_F,d	rgb*Fd			LabCh*Fd					rgb*'Fd			LabCh*'Fd					DE*'Fd	hsiM,d	rgb*Md			LabCh*Md				
243	R00Y_037_037d	0.375	0.0	0.0	0.375	0.375	0.187	390	0.375	0.0	0.0	32.7	21.4	14.1	25.7	33.4	0.375	0.0	0.0	31.0	26.1	19.8	32.8	37.1	7.5	389	1.0	0.0	0.0	47.5	57.2	37.8	68.6	33.4
244	R18Y_037_037d	0.375	0.0	0.125	0.375	0.375	0.187	371	0.375	0.0	0.118	32.7	21.2	8.7	22.9	22.3	0.375	0.0	0.125	33.0	25.3	9.6	27.1	20.9	4.2	371	1.0	0.0	0.316	47.4	56.5	23.2	61.1	22.3
245	B65R_037_037d	0.375	0.0	0.25	0.375	0.375	0.187	349	0.375	0.0	0.256	33.1	23.7	−0.6	23.7	358.3	0.375	0.0	0.25	32.8	30.2	−2.5	30.3	355.1	6.8	348	1.0	0.0	0.683	48.6	63.2	−1.8	63.2	358.3
246	B50R_037_037d	0.375	0.0	0.375	0.375	0.375	0.187	330	0.375	0.0	0.375	32.9	24.5	−4.7	24.9	348.9	0.375	0.0	0.375	33.5	35.7	−11.0	37.4	342.8	12.8	330	1.0	0.0	1.0	48.1	65.4	−12.7	66.6	348.9
247	B38R_050_050d	0.375	0.0	0.5	0.5	0.5	0.25	316	0.383	0.0	0.5	33.1	27.9	−10.4	29.8	339.4	0.375	0.0	0.5	32.8	37.7	−16.7	41.2	336.0	11.6	317	0.766	0.0	1.0	42.4	55.8	−20.9	59.6	339.4
248	B30R_062_062d	0.375	0.0	0.625	0.625	0.625	0.312	307	0.385	0.0	0.625	33.3	30.0	−17.2	34.6	330.2	0.375	0.0	0.625	32.2	37.2	−24.4	44.5	326.7	10.2	307	0.616	0.0	1.0	38.9	48.1	−27.5	55.4	330.2
249	B25R_075_075d	0.375	0.0	0.75	0.75	0.75	0.375	300	0.375	0.0	0.75	33.8	32.3	−23.1	39.8	324.4	0.375	0.0	0.75	33.6	38.5	−29.6	48.6	322.4	9.0	300	0.5	0.0	1.0	37.2	43.1	−30.8	53.0	324.4
250	B20R_087_087d	0.375	0.0	0.875	0.875	0.875	0.437	295	0.364	0.0	0.875	33.8	34.9	−29.5	45.7	319.8	0.375	0.0	0.875	34.5	38.8	−33.1	51.0	319.5	5.3	294	0.416	0.0	1.0	35.2	39.9	−33.7	52.2	319.8
251	B18R_100_100d	0.375	0.0	1.0	1.0	1.0	0.5	292	0.366	0.0	1.0	34.0	37.7	−35.3	51.7	316.8	0.375	0.0	1.0	34.2	38.2	−35.0	51.8	317.5	0.6	291	0.366	0.0	1.0	34.0	37.7	−35.3	51.7	316.8
252	R31Y_037_037d	0.375	0.125	0.0	0.375	0.375	0.187	49	0.375	0.118	0.0	38.0	13.3	21.8	25.5	58.6	0.375	0.125	0.0	36.3	11.9	25.7	28.3	65.0	4.4	48	1.0	0.316	0.0	61.6	35.5	58.2	68.2	58.6
253	R00Y_037_025d	0.375	0.125	0.125	0.375	0.25	0.25	390	0.375	0.124	0.124	38.7	14.3	9.4	17.1	33.4	0.375	0.125	0.125	38.6	13.7	16.1	21.2	49.5	6.7	389	1.0	0.0	0.0	47.5	57.2	37.8	68.6	33.4
254	R00Y_037_025d	0.375	0.125	0.25	0.375	0.25	0.25	360	0.375	0.124	0.25	38.8	14.7	2.6	14.9	10.0	0.375	0.125	0.25	37.5	19.2	1.8	19.3	5.6	4.7	360	1.0	0.0	0.5	47.8	58.9	10.4	59.9	10.0
255	B50R_037_025d	0.375	0.125	0.375	0.375	0.25	0.25	330	0.375	0.124	0.375	38.9	16.3	−3.1	16.6	348.9	0.375	0.125	0.375	38.9	24.5	−10.7	26.7	336.2	11.1	330	1.0	0.0	1.0	48.1	65.4	−12.7	66.6	348.9
256	B34R_050_037d	0.375	0.125	0.5	0.5	0.375	0.312	311	0.381	0.124	0.5	39.0	19.3	−9.2	21.4	334.4	0.375	0.125	0.5	38.4	26.0	−16.9	31.0	326.8	10.2	311	0.683	0.0	1.0	40.4	51.6	−24.7	57.2	334.4
257	B25R_062_050d	0.375	0.125	0.625	0.625	0.5	0.375	300	0.375	0.125	0.625	39.5	21.5	−15.4	26.5	324.4	0.375	0.125	0.625	38.1	26.4	−24.3	35.9	317.3	10.2	300	0.5	0.0	1.0	37.2	43.1	−30.8	53.0	324.4
258	B19R_075_062d	0.375	0.125	0.75	0.75	0.625	0.437	293	0.364	0.125	0.75	39.4	24.1	−21.7	32.4	317.9	0.375	0.125	0.75	39.9	26.8	−29.2	39.7	312.5	8.0	292	0.383	0.0	1.0	34.4	38.5	−34.7	51.9	317.9
259	B15R_087_075d	0.375	0.125	0.875	0.875	0.75	0.5	289	0.362	0.125	0.875	39.5	26.0	−27.9	38.2	312.9	0.375	0.125	0.875	36.6	33.1	−35.8	48.7	312.7	10.9	288	0.316	0.0	1.0	32.7	34.7	−37.2	50.9	312.9
260	B13R_100_087d	0.375	0.125	1.0	1.0	0.875	0.562	286	0.358	0.125	1.0	39.5	27.6	−34.0	43.8	309.1	0.375	0.125	1.0	36.6	31.2	−36.5	48.1	310.4	5.2	284	0.266	0.0	1.0	31.4	31.6	−38.8	50.1	309.1
261	R68Y_037_037d	0.375	0.25	0.0	0.375	0.375	0.187	71	0.375	0.256	0.0	44.4	2.0	27.7	27.8	85.7	0.375	0.25	0.0	41.9	0.3	36.3	36.3	89.4	9.1	71	1.0	0.683	0.0	78.6	5.4	73.9	74.1	85.7
262	R50Y_037_025d	0.375	0.25	0.125	0.375	0.25	0.25	60	0.375	0.25	0.124	44.5	4.8	16.5	17.2	73.8	0.375	0.25	0.125	46.0	1.9	22.4	22.4	84.9	6.6	59	1.0	0.5	0.0	70.5	19.2	66.2	69.0	73.8
263	R00Y_037_012d	0.375	0.25	0.25	0.375	0.125	0.312	390	0.375	0.249	0.249	44.8	7.1	4.7	8.5	33.4	0.375	0.25	0.25	44.2	8.2	6.2	10.3	37.2	2.0	389	1.0	0.0	0.0	47.5	57.2	37.8	68.6	33.4
264	B50R_037_012d	0.375	0.25	0.375	0.375	0.125	0.312	330	0.375	0.249	0.375	44.8	8.1	−1.5	8.3	348.9	0.375	0.25	0.375	44.6	12.6	−8.8	15.4	324.8	8.5	330	1.0	0.0	1.0	48.1	65.4	−12.7	66.6	348.9
265	B25R_050_025d	0.375	0.25	0.5	0.5	0.25	0.375	300	0.375	0.249	0.5	45.1	10.7	−7.7	13.2	324.4	0.375	0.25	0.5	43.9	14.9	−17.7	23.1	310.0	10.9	300	0.5	0.0	1.0	37.2	43.1	−30.8	53.0	324.4
266	B15R_062_037d	0.375	0.25	0.625	0.625	0.375	0.437	289	0.368	0.25	0.625	45.1	13.0	−13.9	19.1	312.9	0.375	0.25	0.625	43.8	16.7	−24.9	30.0	303.9	11.6	288	0.316	0.0	1.0	32.7	34.7	−37.2	50.9	312.9
267	B11R_075_050d	0.375	0.25	0.75	0.75	0.5	0.5	284	0.366	0.25	0.75	45.4	14.8	−19.9	24.8	306.6	0.375	0.25	0.75	45.3	17.2	−29.4	34.1	300.3	9.8	282	0.233	0.0	1.0	31.1	29.6	−39.8	49.6	306.6
268	B09R_087_062d	0.375	0.25	0.875	0.875	0.625	0.562	281	0.364	0.25	0.875	46.5	16.8	−25.6	30.6	303.2	0.375	0.25	0.875	41.4	23.7	−37.0	43.9	302.7	14.2	279	0.183	0.0	1.0	31.3	26.8	−41.0	49.0	303.2
269	B07R_100_075d	0.375	0.25	1.0	1.0	0.75	0.625	279	0.362	0.25	1.0	47.5	18.7	−31.3	36.5	300.9	0.375	0.25	1.0	40.0	23.6	−38.0	44.7	301.8	11.1	278	0.15	0.0	1.0	31.4	25.0	−41.7	48.6	300.9
270	Y00G_037_037d	0.375	0.375	0.0	0.375	0.375	0.187	90	0.375	0.375	0.0	49.2	−5.9	31.7	32.3	100.5	0.375	0.375	0.0	51.3	−10.5	44.1	45.3	103.3	13.3	89	1.0	1.0	0.0	91.5	−15.8	84.6	86.1	100.5
271	Y00G_037_025d	0.375	0.375	0.125	0.375	0.25	0.25	90	0.375	0.375	0.124	49.7	−3.9	21.1	21.5	100.5	0.375	0.375	0.125	54.5	−9.1	32.2	33.5	105.8	13.1	89	1.0	1.0	0.0	91.5	−15.8	84.6	86.1	100.5
272	Y00G_037_012d	0.375	0.375	0.25	0.375	0.125	0.312	90	0.375	0.375	0.249	50.3	−1.9	10.5	10.7	100.5	0.375	0.375	0.25	52.7	−5.7	13.0	14.2	113.7	5.0	89	1.0	1.0	0.0	91.5	−15.8	84.6	86.1	100.5
273	NW_037d	0.375	0.375	0.375	0.375	0.0	0.375	360	0.375	0.375	0.375	50.8	0.0	0.0	0.0	0.0	0.375	0.375	0.375	51.9	0.0	−1.3	1.3	267.6	1.7	360	1.0	1.0	1.0	95.8	0.0	0.0	0.0	0.0
274	B00R_050_012d	0.375	0.375	0.5	0.5	0.125	0.437	270	0.375	0.375	0.5	51.9	2.1	−5.5	5.9	290.8	0.375	0.375	0.5	49.1	2.6	−17.1	17.3	278.8	11.8	270	0.0	0.0	1.0	32.5	16.9	−44.6	47.7	290.8
275	B00R_062_025d	0.375	0.375	0.625	0.625	0.25	0.5	270	0.375	0.375	0.625	53.0	4.2	−11.1	11.9	290.8	0.375	0.375	0.625	49.0	5.4	−23.7	24.3	282.9	13.2	270	0.0	0.0	1.0	32.5	16.9	−44.6	47.7	290.8
276	B00R_075_037d	0.375	0.375	0.75	0.75	0.375	0.562	270	0.375	0.375	0.75	54.1	6.3	−16.7	17.8	290.8	0.375	0.375	0.75	50.1	8.2	−28.1	29.3	286.2	12.2	270	0.0	0.0	1.0	32.5	16.9	−44.6	47.7	290.8
277	B00R_087_050d	0.375	0.375	0.875	0.875	0.5	0.625	270	0.375	0.375	0.875	55.2	8.4	−22.3	23.8	290.8	0.375	0.375	0.875	48.1	13.7	−36.3	38.8	290.6	16.5	270	0.0	0.0	1.0	32.5	16.9	−44.6	47.7	290.8
278	B00R_100_062d	0.375	0.375	1.0	1.0	0.625	0.687	270	0.375	0.375	1.0	56.2	10.5	−27.8	29.8	290.8	0.375	0.375	1.0	45.6	15.1	−37.4	40.3	291.9	14.9	270	0.0	0.0	1.0	32.5	16.9	−44.6	47.7	290.8
279	Y23G_050_050d	0.375	0.5	0.0	0.5	0.5	0.25	104	0.383	0.5	0.0	57.1	−10.4	43.2	44.5	103.6	0.375	0.5	0.0	52.5	−14.9	46.5	48.9	107.8	7.2	102	0.766	1.0	0.0	90.4	−20.9	86.5	89.0	103.6
280	Y31G_050_037d	0.375	0.5	0.125	0.5	0.375	0.312	109	0.381	0.5	0.124	55.6	−10.3	28.7	30.5	109.8	0.375	0.5	0.125	58.4	−15.5	32.6	36.1	115.5	7.0	108	0.683	1.0	0.0	84.6	−27.6	76.5	81.3	109.8
281	Y50G_050_025d	0.375	0.5	0.25	0.5	0.25	0.375	120	0.375	0.5	0.249	53.6	−10.4	13.7	17.2	127.3	0.375	0.5	0.25	57.6	−13.8	15.4	20.6	131.8	5.5	119	0.5	1.0	0.0	70.9	−41.7	54.8	68.9	127.3
282	G00B_050_012d	0.375	0.5	0.375	0.5	0.125	0.437	150	0.375	0.5	0.375	54.6	−8.4	3.8	9.2	155.5	0.375	0.5	0.375	57.3	−10.5	1.3	10.6	172.6	4.2	149	0.0	1.0	0.0	54.3	−67.6	30.8	74.3	155.5
283	G50B_050_012d	0.375	0.5	0.5	0.5	0.125	0.437	210	0.375	0.5	0.5	54.5	−3.7	−5.3	6.5	235.1	0.375	0.5	0.5	57.8	−8.1	−14.6	16.7	240.7	10.7	210	0.0	1.0	1.0	53.1	−30.0	−43.1	52.5	235.1
284	G75B_062_025d	0.375	0.5	0.625	0.625	0.25	0.5	240	0.375	0.5	0.625	56.4	−3.3	−12.3	12.7	254.9	0.375	0.5	0.625	55.5	−5.3	−22.4	23.0	256.4	10.2	240	0.0	0.5	1.0	46.1	−13.3	−49.4	51.1	254.9
285	G84B_075_037d	0.375	0.5	0.75	0.75	0.375	0.562	251	0.375	0.493	0.75	56.6	−0.8	−18.4	18.4	267.3	0.375	0.5	0.75	55.8	−1.9	−26.2	26.2	265.7	7.8	251	0.0	0.316	1.0	39.3	−2.3	−49.1	49.1	267.3
286	G88B_087_050d	0.375	0.5	0.875	0.875	0.5	0.625	256	0.375	0.491	0.875	57.2	1.6	−24.1	24.2	273.8	0.375	0.5	0.875	55.6	1.9	−34.3	34.3	273.1	10.2	257	0.0	0.233	1.0	36.6	3.2	−48.3	48.4	273.8
287	G90B_100_062d	0.375	0.5	1.0	1.0	0.625	0.687	259	0.375	0.489	1.0	58.3	3.8	−29.7	29.9	277.3	0.375	0.5	1.0	50.5	7.1	−37.2	37.9	280.8	11.3	260	0.0	0.183	1.0	35.9	6.1	−47.5	47.9	277.3
288	Y38G_062_062d	0.375	0.625	0.0	0.625	0.625	0.312	113	0.385	0.625	0.0	58.5	−20.3	41.9	46.6	115.8	0.375	0.625	0.0	54.6	−24.7	44.4	50.8	119.1	6.3	112	0.616	1.0	0.0	79.3	−32.5	67.1	74.6	115.8
289	Y50G_062_050d	0.375	0.625	0.125	0.625	0.5	0.375	120	0.375	0.625	0.125	56.4	−20.8	27.4	34.4	127.3	0.375	0.625	0.125	60.5	−24.0	33.1	40.9	125.9	7.7	119	0.5	1.0	0.0	70.9	−41.7	54.8	68.9	127.3
290	Y68G_062_037d	0.375	0.625	0.25	0.625	0.375	0.437	131	0.368	0.625	0.25	56.8	−19.5	16.7	25.7	139.4	0.375	0.625	0.25	59.6	−23.4	16.6	28.7	144.4	4.7	131	0.316	1.0	0.0	63.8	−52.2	44.7	68.7	139.4
291	G00B_062_025d	0.375	0.625	0.375	0.625	0.25	0.5	150	0.375	0.625	0.375	58.4	−16.9	7.7	18.5	155.5	0.375	0.625	0.375	59.8	−21.2	2.2	21.3	174.0	7.1	149	0.0	1.0	0.0	54.3	−67.6	30.8	74.3	155.5
292	G25B_062_025d	0.375	0.625	0.5	0.625	0.25	0.5	180	0.375	0.625	0.5	58.6	−12.8	−2.2	13.0	189.8	0.375	0.625	0.5	61.0	−16.0	−9.8	18.8	211.6	8.6	180	0.0	1.0	0.5	55.0	−51.4	−8.9	52.2	189.8
293	G50B_062_025d	0.375	0.625	0.625	0.625	0.25	0.5	210	0.375	0.625	0.625	58.1	−7.5	−10.7	13.1	235.1	0.375	0.625	0.625	61.7	−13.9	−20.3	24.6	235.5	12.0	210	0.0	1.0	1.0	53.1	−30.0	−43.1	52.5	235.1
294	G65B_075_037d	0.375	0.625	0.75	0.75	0.375	0.562	229	0.375	0.631	0.75	61.2	−8.7	−18.2	20.2	244.5	0.375	0.625	0.75	62.0	−10.7	−25.9	28.0	247.4	7.9	228	0.0	0.683	1.0	51.6	−23.2	−48.6	53.9	244.5
295	G75B_087_050d	0.375	0.625	0.875	0.875	0.5	0.625	240	0.375	0.625	0.875	61.9	−6.6	−24.7	25.5	254.9	0.375	0.625	0.875	60.9	−8.3	−30.8	32.0	254.8	6.5	240	0.0	0.5	1.0	46.1	−13.3	−49.4	51.1	254.9
296	G80B_100_062d	0.375	0.625	1.0	1.0	0.625	0.687	247	0.375	0.614	1.0	62.0	−4.2	−30.8	31.1	262.1	0.375	0.625	1.0	55.0	−3.9	−38.4	38.6	264.0	10.3	247	0.0	0.383	1.0	41.7	−6.8	−49.3	49.7	262.1
297	Y50G_075_075d	0.375	0.75	0.0	0.75	0.75	0.375	120	0.375	0.75	0.0	59.2	−31.3	41.1	51.6	127.3	0.375	0.75	0.0	59.8	−35.2	45.5	57.5	127.7	5.9	119	0.5	1.0	0.0	70.9	−41.7	54.8	68.9	127.3
298	Y61G_075_062d	0.375	0.75	0.125	0.75	0.625	0.437	127	0.364	0.75	0.125	59.7	−29.5	30.3	42.3	134.2	0.375	0.75	0.125	63.2	−34.1	33.8	48.0	135.2	6.7	127	0.383	1.0	0.0	66.8	−47.2	48.5	67.7	134.2
299	Y76G_075_050d	0.375	0.75	0.25	0.75	0.5	0.5	136	0.366	0.75	0.25	59.9	−28.9	19.8	35.1	145.5	0.375	0.75	0.25	63.2	−31.5	18.9	36.8	148.9	4.1	137	0.233	1.0	0.0	60.1	−57.9	39.6	70.2	145.5
300	G00B_075_037d	0.375	0.75	0.375	0.75	0.375	0.562	150	0.375	0.75	0.375	62.2	−25.3	11.5	27.8	155.5	0.375	0.75	0.375	64.0	−28.1	7.2	29.0	165.5	5.3	149	0.0	1.0	0.0	54.3	−67.6	30.8	74.3	155.5
301	G15B_075_037d	0.375	0.75	0.5	0.75	0.375	0.562	169	0.375	0.75	0.493	62.2	−22.5	2.1	22.6	174.6	0.375	0.75	0.5	65.6	−24.0	−3.0	24.2	187.1	6.3	168	0.0	1.0	0.316	54.3	−60.1	5.6	60.3	174.6
302	G34B_075_037d	0.375	0.75	0.625	0.75	0.375	0.562	191	0.375	0.75	0.631	62.6	−15.8	−8.8	18.0	209.1	0.375	0.75	0.625	65.5	−19.9	−16.4	25.8	219.4	9.1	191	0.0	1.0	0.683	55.2	−42.1	−23.4	48.2	209.1
303	G50B_075_037d	0.375	0.75	0.75	0.75	0.375	0.562	210	0.375	0.75	0.75	61.8	−11.2	−16.1	19.6	235.1	0.375	0.75	0.75	66.7	−17.2	−24.6	30.1	234.9	11.5	210	0.0	1.0	1.0	53.1	−30.0	−43.1	52.5	235.1
304	G61B_087_050d	0.375	0.75	0.875	0.875	0.5	0.625	224	0.375	0.758	0.875	65.3	−13.1	−23.6	26.9	240.9	0.375	0.75	0.875	66.6	−15.4	−30.4	34.1	243.0	7.3	222	0.0	0.766	1.0	52.9	−26.2	−47.2	53.9	240.9
305	G69B_100_062d	0.375	0.75	1.0	1.0	0.625	0.687	233	0.375	0.76	1.0	67.3	−12.6	−30.9	33.4	247.7	0.375	0.75	1.0	65.2	−14.4	−34.4	37.3	247.2	4.4	232	0.0	0.616	1.0	50.2	−20.2	−49.5	53.5	247.7
306	Y58G_087_087d	0.375	0.875	0.0	0.875	0.875	0.437	125	0.364	0.875	0.0	62.5	−40.0	44.0	59.5	132.2	0.375	0.875	0.0	65.1	−42.1	48.4	64.2	131.0	5.5	125	0.416	1.0	0.0	68.0	−45.7	50.3	68.0	132.2
307	Y68G_087_075d	0.375	0.875	0.125	0.875	0.75	0.5	131	0.362	0.875	0.125	62.8	−39.1	33.5	51.5	139.4	0.375	0.875	0.125	68.5	−42.0	41.3	58.9	135.4	10.0	131	0.316	1.0	0.0	63.8	−52.2	44.7	68.7	139.4
308	Y81G_087_062d	0.375	0.875	0.25	0.875	0.625	0.562	139	0.364	0.875	0.25	63.6	−37.4	23.3	44.1	148.1	0.375	0.875	0.25	69.1	−38.0	25.3	45.7	146.3	5.9	140	0.183	1.0	0.0	58.7	−59.9	37.3	70.6	148.1
309	G00B_087_050d	0.375	0.875	0.375	0.875	0.5	0.625	150	0.375	0.875	0.375	66.0	−33.8	15.4	37.1	155.5	0.375	0.875	0.375	70.2	−35.8	15.5	39.0	156.5	4.6	149	0.0	1.0	0.0	54.3	−67.6	30.8	74.3	155.5
310	G11B_087_050d	0.375	0.875	0.5	0.875	0.5	0.625	164	0.375	0.875	0.491	65.8	−31.8	7.0	32.6	167.4	0.375	0.875	0.5	70.5	−32.5	4.6	32.8	171.8	5.3	162	0.0	1.0	0.233	53.7	−63.6	14.1	65.2	167.4
311	G25B_087_050d	0.375	0.875	0.625	0.875	0.5	0.625	180	0.375	0.875	0.625	66.4	−25.7	−4.4	26.1	189.8	0.375	0.875	0.625	70.2	−27.4	−7.1	28.4	194.5	4.9	180	0.0	1.0	0.5	55.0	−51.4	−8.9	52.2	189.8
312	G38B_087_050d	0.375	0.875	0.75	0.875	0.5	0.625	196	0.375	0.875	0.758	66.4	−19.6	−13.9	24.0	215.4	0.375	0.875	0.75	69.8	−23.6	−19.2	30.4	219.2	7.4	197	0.0	1.0	0.766	55.1	−39.2	−27.9	48.1	215.4
313	G50B_087_050d	0.375	0.875	0.875	0.875	0.5	0.625	210	0.375	0.875	0.875	65.4	−15.0	−21.5	26.2	235.1	0.375	0.875	0.875	69.6	−19.7	−29.8	35.8	236.5	10.4	210	0.0	1.0	1.0	53.1	−30.0	−43.1	52.5	235.1
314	G59B_100_062d	0.375	0.875	1.0	1.0	0.625	0.687	221	0.375	0.885	1.0	69.0	−16.9	−28.7	33.3	239.5	0.375	0.875	1.0	69.0	−18.0	−32.5	37.1	240.9	3.8	219	0.0	0.816	1.0	53.0	−27.0	−46.0	53.4	239.5
315	Y63G_100_100d	0.375	1.0	0.0	1.0	1.0	0.5	128	0.366	1.0	0.0	66.1	−48.2	47.5	67.7	135.3	0.375	1.0	0.0	66.5	−47.5	48.0	67.6	134.7	0.8	128	0.366	1.0	0.0	66.1	−48.2	47.5	67.7	135.3
316	Y73G_100_087d	0.375	1.0	0.125	1.0	0.875	0.562	134	0.358	1.0	0.125	65.7	−49.0	36.3	61.0	143.4	0.375	1.0	0.125	65.8	−48.1	40.9	63.2	139.6	4.6	135	0.266	1.0	0.0	61.4	−56.0	41.5	69.7	143.4
317	Y85G_100_075d	0.375	1.0	0.25	1.0	0.75	0.625	141	0.362	1.0	0.25	67.2	−45.9	26.7	53.1	149.7	0.375	1.0	0.25	68.6	−41.6	26.2	49.1	147.8	4.5	142	0.15	1.0	0.0	57.7	−61.2	35.6	70.9	149.7
318	G00B_100_062d	0.375	1.0	0.375	1.0	0.625	0.687	150	0.375	1.0	0.375	69.9	−42.3	19.2	46.4	155.5	0.375	1.0	0.375	67.7	−40.5	17.5	44.1	156.6	3.2	149	0.0	1.0	0.0	54.3	−67.6	30.8	74.3	155.5
319	G09B_100_062d	0.375	1.0	0.5	1.0	0.625	0.687	161	0.375	1.0	0.489	69.5	−40.6	11.3	42.2	164.4	0.375	1.0	0.5	68.0	−37.8	9.0	38.9	166.4	3.9	159	0.0	1.0	0.183	53.8	−65.0	18.1	67.5	164.4
320	G19B_100_062d	0.375	1.0	0.625	1.0	0.625	0.687	173	0.375	1.0	0.614	70.1	−35.3	−0.3	35.3	180.6	0.375	1.0	0.625	69.0	−32.3	−4.1	32.5	187.3	4.9	172	0.0	1.0	0.383	54.7	−56.5	−0.6	56.5	180.6
321	G30B_100_062d	0.375	1.0	0.75	1.0	0.625	0.687	187	0.375	1.0	0.76	70.5	−27.9	−12.1	30.4	203.4	0.375	1.0	0.75	69.0	−27.4	−16.8	32.2	211.4	4.9	187	0.0	1.0	0.616	55.3	−44.7	−19.4	48.7	203.4
322	G40B_100_062d	0.375	1.0	0.875	1.0	0.625	0.687	199	0.375	1.0	0.885	70.2	−23.8	−18.9	30.4	218.4	0.375	1.0	0.875	69.3	−23.5	−24.1	33.7	225.7	5.3	200	0.0	1.0	0.816	54.8	−38.1	−30.3	48.7	218.4
323	G50B_100_062d	0.375	1.0	1.0	1.0	0.625	0.687	210	0.375	1.0	1.0	69.1	−18.7	−26.9	32.8	235.1	0.375	1.0	1.0	67.9	−20.6	−32.1	38.2	237.3	5.6	210	0.0	1.0	1.0	53.1	−30.0	−43.1	52.5	235.1

Mean color difference of this page: **delta *E**' = *7.7***

1−0032230−F0

PE890−7N, Page 23/33−F

TUB-test chart PE89; 16 step hue circle
colors and differences, $\Delta E^{*\prime}$

input: *rgb/cmyk* −> rgb_d
output: transfer to $cmyk_d$

TUB registration: 20150701-PE89/PE89L0NP.PDF /.PS TUB material: code=rha4ta
application for measurement of laser printer output, separation cmyn6 (CMYK)

see similar files: http://130.149.60.45/~farbmetrik/PE89/PE89.HTM
technical information: http://www.ps.bam.de or http://130.149.60.45/~farbmetrik

1−0032230−F0

TUB registration: 20150701-PE89/PE89L0NP.PDF /.PS TUB material: code=rha4ta
application for measurement of laser printer output, separation cmyn6 (CMYK)

n	HIC*Fd	rgb_Fd			ict_Fd			hsi_F,d
324	R00Y_050_050d	0.5	0.0	0.0	0.5	0.5	0.25	390
325	R26Y_050_050d	0.5	0.0	0.125	0.5	0.5	0.25	376
326	R00Y_050_050d	0.5	0.0	0.25	0.5	0.5	0.25	360
327	B61R_050_050d	0.5	0.0	0.375	0.5	0.5	0.25	344
328	B50R_050_050d	0.5	0.0	0.5	0.5	0.5	0.25	330
329	B40R_062_062d	0.5	0.0	0.625	0.625	0.625	0.312	319
330	B34R_075_075d	0.5	0.0	0.75	0.75	0.75	0.375	311
331	B29R_087_087d	0.5	0.0	0.875	0.875	0.875	0.437	305
332	B25R_100_100d	0.5	0.0	1.0	1.0	1.0	0.5	300
333	R23Y_050_050d	0.5	0.125	0.0	0.5	0.5	0.25	44
334	R00Y_050_037d	0.5	0.125	0.125	0.5	0.375	0.312	390
335	R18Y_050_037d	0.5	0.125	0.25	0.5	0.375	0.312	371
336	B65R_050_037d	0.5	0.125	0.375	0.5	0.375	0.312	349
337	B50R_050_037d	0.5	0.125	0.5	0.5	0.375	0.312	330
338	B38R_062_050d	0.5	0.125	0.625	0.625	0.5	0.375	316
339	B30R_075_062d	0.5	0.125	0.75	0.75	0.625	0.437	307
340	B25R_087_075d	0.5	0.125	0.875	0.875	0.75	0.5	300
341	B20R_100_087d	0.5	0.125	1.0	1.0	0.875	0.562	295
342	R50Y_050_050d	0.5	0.25	0.0	0.5	0.5	0.25	60
343	R31Y_050_037d	0.5	0.25	0.125	0.5	0.375	0.312	49
344	R00Y_050_025d	0.5	0.25	0.25	0.5	0.25	0.375	390
345	R00Y_050_025d	0.5	0.25	0.375	0.5	0.25	0.375	360
346	B50R_050_025d	0.5	0.25	0.5	0.5	0.25	0.375	330
347	B34R_062_037d	0.5	0.25	0.625	0.625	0.375	0.437	311
348	B25R_075_050d	0.5	0.25	0.75	0.75	0.5	0.5	300
349	B19R_087_062d	0.5	0.25	0.875	0.875	0.625	0.562	293
350	B15R_100_075d	0.5	0.25	1.0	1.0	0.75	0.625	289
351	R76Y_050_050d	0.5	0.375	0.0	0.5	0.5	0.25	76
352	R68Y_050_037d	0.5	0.375	0.125	0.5	0.375	0.312	71
353	R50Y_050_025d	0.5	0.375	0.25	0.5	0.25	0.375	60
354	R00Y_050_012d	0.5	0.375	0.375	0.5	0.125	0.437	390
355	B50R_050_012d	0.5	0.375	0.5	0.5	0.125	0.437	330
356	B25R_062_025d	0.5	0.375	0.625	0.625	0.25	0.5	300
357	B15R_075_037d	0.5	0.375	0.75	0.75	0.375	0.562	289
358	B11R_087_050d	0.5	0.375	0.875	0.875	0.5	0.625	284
359	B09R_100_062d	0.5	0.375	1.0	1.0	0.625	0.687	281
360	Y00G_050_050d	0.5	0.5	0.0	0.5	0.5	0.25	90
361	Y00G_050_037d	0.5	0.5	0.125	0.5	0.375	0.312	90
362	Y00G_050_025d	0.5	0.5	0.25	0.5	0.25	0.375	90
363	Y00G_050_012d	0.5	0.5	0.375	0.5	0.125	0.437	90
364	NW_050d	0.5	0.5	0.5	0.5	0.0	0.5	360
365	B00R_062_012d	0.5	0.5	0.625	0.625	0.125	0.562	270
366	B00R_075_025d	0.5	0.5	0.75	0.75	0.25	0.625	270
367	B00R_087_037d	0.5	0.5	0.875	0.875	0.375	0.687	270
368	B00R_100_050d	0.5	0.5	1.0	1.0	0.5	0.75	270
369	Y18G_062_062d	0.5	0.625	0.0	0.625	0.625	0.312	101
370	Y23G_062_050d	0.5	0.625	0.125	0.625	0.5	0.375	104
371	Y31G_062_037d	0.5	0.625	0.25	0.625	0.375	0.437	109
372	Y50G_062_025d	0.5	0.625	0.375	0.625	0.25	0.5	120
373	G00B_062_012d	0.5	0.625	0.5	0.625	0.125	0.562	150
374	G50B_062_012d	0.5	0.625	0.625	0.625	0.125	0.562	210
375	G75B_075_025d	0.5	0.625	0.75	0.75	0.25	0.625	240
376	G84B_087_037d	0.5	0.625	0.875	0.875	0.375	0.687	251
377	G88B_100_050d	0.5	0.625	1.0	1.0	0.5	0.75	256
378	Y31G_075_075d	0.5	0.75	0.0	0.75	0.75	0.375	109
379	Y38G_075_062d	0.5	0.75	0.125	0.75	0.625	0.437	113
380	Y50G_075_050d	0.5	0.75	0.25	0.75	0.5	0.5	120
381	Y68G_075_037d	0.5	0.75	0.375	0.75	0.375	0.562	131
382	G00B_075_025d	0.5	0.75	0.5	0.75	0.25	0.625	150
383	G25B_075_025d	0.5	0.75	0.625	0.75	0.25	0.625	180
384	G50B_075_025d	0.5	0.75	0.75	0.75	0.25	0.625	210
385	G65B_087_037d	0.5	0.75	0.875	0.875	0.375	0.687	229
386	G75B_100_050d	0.5	0.75	1.0	1.0	0.5	0.75	240
387	Y41G_087_087d	0.5	0.875	0.0	0.875	0.875	0.437	115
388	Y50G_087_075d	0.5	0.875	0.125	0.875	0.75	0.5	120
389	Y61G_087_062d	0.5	0.875	0.25	0.875	0.625	0.562	127
390	Y76G_087_050d	0.5	0.875	0.375	0.875	0.5	0.625	136
391	G00B_087_037d	0.5	0.875	0.5	0.875	0.375	0.687	150
392	G15B_087_037d	0.5	0.875	0.625	0.875	0.375	0.687	169
393	G34B_087_037d	0.5	0.875	0.75	0.875	0.375	0.687	191
394	G50B_087_037d	0.5	0.875	0.875	0.875	0.375	0.687	210
395	G61B_100_050d	0.5	0.875	1.0	1.0	0.5	0.75	224
396	Y50G_100_100d	0.5	1.0	0.0	1.0	1.0	0.5	120
397	Y58G_100_087d	0.5	1.0	0.125	1.0	0.875	0.562	125
398	Y68G_100_075d	0.5	1.0	0.25	1.0	0.75	0.625	131
399	Y81G_100_062d	0.5	1.0	0.375	1.0	0.625	0.687	139
400	G00B_100_050d	0.5	1.0	0.5	1.0	0.5	0.75	150
401	G11B_100_050d	0.5	1.0	0.625	1.0	0.5	0.75	164
402	G25B_100_050d	0.5	1.0	0.75	1.0	0.5	0.75	180
403	G38B_100_050d	0.5	1.0	0.875	1.0	0.5	0.75	196
404	G50B_100_050d	0.5	1.0	1.0	1.0	0.5	0.75	210

n	rgb*Fd			LabCh*Fd				
324	0.5	0.0	0.0	35.7	28.6	18.9	34.3	33.4
325	0.5	0.0	0.116	35.7	28.0	14.2	31.4	26.9
326	0.5	0.0	0.25	35.8	29.4	5.2	29.9	10.0
327	0.5	0.0	0.383	36.6	32.3	−3.5	32.5	353.7
328	0.5	0.0	0.5	36.0	32.7	−6.3	33.3	348.9
329	0.51	0.0	0.625	36.3	36.1	−12.0	38.1	341.5
330	0.512	0.0	0.75	36.2	38.7	−18.5	42.9	334.4
331	0.51	0.0	0.875	36.6	40.8	−24.9	47.9	328.5
332	0.5	0.0	1.0	37.2	43.1	−30.8	53.0	324.4
333	0.5	0.116	0.0	40.6	21.7	27.2	34.8	51.4
334	0.5	0.124	0.124	41.7	21.4	14.1	25.7	33.4
335	0.5	0.124	0.243	41.7	21.2	8.7	22.9	22.3
336	0.5	0.124	0.381	42.1	23.7	−0.6	23.7	358.3
337	0.5	0.124	0.5	41.9	24.5	−4.7	24.9	348.9
338	0.508	0.125	0.625	42.1	27.9	−10.4	29.8	339.4
339	0.51	0.125	0.75	42.3	30.0	−17.2	34.6	330.2
340	0.5	0.125	0.875	42.8	32.3	−23.1	39.8	324.4
341	0.489	0.125	1.0	42.8	34.9	−29.5	45.7	319.8
342	0.5	0.25	0.0	47.1	9.6	33.1	34.5	73.8
343	0.5	0.243	0.124	47.0	13.3	21.8	25.5	58.6
344	0.5	0.249	0.249	47.7	14.3	9.4	17.1	33.4
345	0.5	0.249	0.375	47.8	14.7	2.6	14.9	10.0
346	0.5	0.249	0.5	47.9	16.3	−3.1	16.6	348.9
347	0.506	0.25	0.625	48.0	19.3	−9.2	21.4	334.4
348	0.5	0.25	0.75	48.5	21.5	−15.4	26.5	324.4
349	0.489	0.25	0.875	48.4	24.1	−21.7	32.4	317.9
350	0.487	0.25	1.0	48.5	26.0	−27.9	38.2	312.9
351	0.5	0.383	0.0	53.7	−1.4	38.4	38.4	92.2
352	0.5	0.381	0.124	53.4	2.0	27.7	27.8	85.7
353	0.5	0.375	0.249	53.5	4.8	16.5	17.2	73.8
354	0.5	0.375	0.375	53.8	7.1	4.7	8.5	33.4
355	0.5	0.375	0.5	53.8	8.1	−1.5	8.3	348.9
356	0.5	0.375	0.625	54.1	10.7	−7.7	13.2	324.4
357	0.493	0.375	0.75	54.1	13.0	−13.9	19.1	312.9
358	0.491	0.375	0.875	54.4	14.8	−19.9	24.8	306.6
359	0.489	0.375	1.0	55.5	16.8	−25.6	30.6	303.2
360	0.5	0.5	0.0	57.7	−7.9	42.3	43.0	100.5
361	0.5	0.5	0.124	58.2	−5.9	31.7	32.3	100.5
362	0.5	0.5	0.249	58.7	−3.9	21.1	21.5	100.5
363	0.5	0.5	0.375	59.3	−1.9	10.5	10.7	100.5
364	0.5	0.5	0.5	59.8	0.0	0.0	0.0	0.0
365	0.5	0.5	0.625	60.9	2.1	−5.5	5.9	290.8
366	0.5	0.5	0.75	62.0	4.2	−11.1	11.9	290.8
367	0.5	0.5	0.875	63.1	6.3	−16.7	17.8	290.8
368	0.5	0.5	1.0	64.2	8.4	−22.3	23.8	290.8
369	0.51	0.625	0.0	66.1	−12.3	54.9	56.2	102.6
370	0.508	0.625	0.125	66.1	−10.4	43.2	44.5	103.6
371	0.506	0.625	0.25	64.6	−10.3	28.7	30.5	109.8
372	0.5	0.625	0.375	62.6	−10.4	13.7	17.2	127.3
373	0.5	0.625	0.5	63.6	−8.4	3.8	9.2	155.5
374	0.5	0.625	0.625	63.5	−3.7	−5.3	6.5	235.1
375	0.5	0.625	0.75	65.4	−3.3	−12.3	12.7	254.9
376	0.5	0.618	0.875	65.6	−0.8	−18.4	18.4	267.3
377	0.5	0.616	1.0	66.2	1.6	−24.1	24.2	273.8
378	0.512	0.75	0.0	69.4	−20.7	57.4	61.0	109.8
379	0.51	0.75	0.125	67.5	−20.3	41.9	46.6	115.8
380	0.5	0.75	0.25	65.4	−20.8	27.4	34.4	127.3
381	0.493	0.75	0.375	65.8	−19.5	16.7	25.7	139.4
382	0.5	0.75	0.5	67.4	−16.9	7.7	18.5	155.5
383	0.5	0.75	0.625	67.6	−12.8	−2.2	13.0	189.8
384	0.5	0.75	0.75	67.1	−7.5	−10.7	13.1	235.1
385	0.5	0.756	0.875	70.2	−8.7	−18.2	20.2	244.5
386	0.5	0.75	1.0	70.9	−6.6	−24.7	25.5	254.9
387	0.51	0.875	0.0	70.3	−31.0	55.7	63.8	119.1
388	0.5	0.875	0.125	68.2	−31.3	41.1	51.6	127.3
389	0.489	0.875	0.25	68.7	−29.5	30.3	42.3	134.2
390	0.491	0.875	0.375	68.9	−28.9	19.8	35.1	145.5
391	0.5	0.875	0.5	71.2	−25.3	11.5	27.8	155.5
392	0.5	0.875	0.618	71.2	−22.5	2.1	22.6	174.6
393	0.5	0.875	0.756	71.6	−15.8	−8.8	18.0	209.1
394	0.5	0.875	0.875	70.8	−11.2	−16.1	19.6	235.1
395	0.5	0.883	1.0	74.3	−13.1	−23.6	26.9	240.9
396	0.5	1.0	0.0	70.9	−41.7	54.8	68.9	127.3
397	0.489	1.0	0.125	71.5	−40.0	44.0	59.5	132.2
398	0.487	1.0	0.25	71.8	−39.1	33.5	51.5	139.4
399	0.489	1.0	0.375	72.6	−37.4	23.3	44.1	148.1
400	0.5	1.0	0.5	75.0	−33.8	15.4	37.1	155.5
401	0.5	1.0	0.616	74.8	−31.8	7.0	32.6	167.4
402	0.5	1.0	0.75	75.4	−25.7	−4.4	26.1	189.8
403	0.5	1.0	0.883	75.4	−19.6	−13.9	24.0	215.4
404	0.5	1.0	1.0	74.4	−15.0	−21.5	26.2	235.1

n	rgb*'Fd			LabCh*'Fd					DE*'Fd	hsiM,d
324	0.5	0.0	0.0	33.0	34.7	23.4	41.8	34.0	8.0	389
325	0.5	0.0	0.125	35.0	33.1	15.9	36.8	25.6	5.4	377
326	0.5	0.0	0.25	34.5	35.7	4.5	36.0	7.2	6.4	360
327	0.5	0.0	0.375	34.5	40.0	−4.9	40.3	352.9	8.0	342
328	0.5	0.0	0.5	35.4	43.7	−12.1	45.3	344.4	12.4	330
329	0.5	0.0	0.625	36.0	44.3	−17.4	47.6	338.4	9.7	320
330	0.5	0.0	0.75	36.1	42.9	−25.1	49.7	329.7	7.8	311
331	0.5	0.0	0.875	36.8	43.9	−29.1	52.7	326.4	5.1	305
332	0.5	0.0	1.0	37.2	43.1	−30.8	53.0	324.4	0.0	300
333	0.5	0.125	0.0	37.8	21.9	30.7	37.7	54.4	4.4	42
334	0.5	0.125	0.125	40.9	20.9	22.3	30.6	46.9	8.2	389
335	0.5	0.125	0.25	40.4	24.2	10.5	26.4	23.4	3.7	371
336	0.5	0.125	0.375	40.9	29.5	−2.3	29.6	355.4	6.1	348
337	0.5	0.125	0.5	41.4	34.0	−11.7	35.9	340.9	11.7	330
338	0.5	0.125	0.625	41.7	36.1	−16.8	39.8	334.9	10.3	317
339	0.5	0.125	0.75	42.1	36.6	−22.8	43.1	328.0	8.6	307
340	0.5	0.125	0.875	39.4	40.7	−31.1	51.2	322.5	12.0	300
341	0.5	0.125	1.0	38.1	38.1	−33.2	50.5	318.9	6.8	294
342	0.5	0.25	0.0	42.9	9.5	37.9	39.1	75.8	6.3	59
343	0.5	0.25	0.125	47.7	9.2	27.3	28.8	71.3	6.8	48
344	0.5	0.25	0.25	47.3	12.4	14.0	18.8	48.4	4.9	389
345	0.5	0.25	0.375	47.4	17.7	0.5	17.7	1.7	3.6	360
346	0.5	0.25	0.5	48.2	22.5	−10.7	24.9	334.5	9.7	330
347	0.5	0.25	0.625	47.0	26.3	−16.8	31.2	327.4	10.3	311
348	0.5	0.25	0.75	47.2	25.4	−23.0	34.2	317.8	8.5	300
349	0.5	0.25	0.875	44.2	30.7	−32.3	44.6	313.5	13.2	292
350	0.5	0.25	1.0	41.5	30.8	−33.9	45.9	312.2	10.3	288
351	0.5	0.375	0.0	49.5	−1.5	44.7	44.8	92.0	7.5	77
352	0.5	0.375	0.125	55.2	−1.8	35.0	35.0	93.0	8.4	71
353	0.5	0.375	0.25	55.5	1.1	20.0	20.0	86.5	5.3	59
354	0.5	0.375	0.375	55.3	6.0	4.5	7.5	37.0	1.8	389
355	0.5	0.375	0.5	55.1	10.6	−8.5	13.6	321.0	7.5	330
356	0.5	0.375	0.625	53.7	15.0	−15.6	21.7	313.8	9.0	300
357	0.5	0.375	0.75	52.8	15.2	−22.5	27.2	304.0	8.9	288
358	0.5	0.375	0.875	51.3	19.7	−31.2	36.9	302.2	12.7	282
359	0.5	0.375	1.0	48.9	19.7	−33.2	38.6	300.6	10.4	279
360	0.5	0.5	0.0	58.4	−9.8	54.3	55.2	100.3	12.1	89
361	0.5	0.5	0.125	63.3	−10.2	43.2	44.4	103.3	13.2	89
362	0.5	0.5	0.25	63.4	−8.3	26.8	28.1	107.2	8.5	89
363	0.5	0.5	0.375	62.4	−4.5	10.1	11.1	114.2	4.1	89
364	0.5	0.5	0.5	61.2	0.0	−1.2	1.2	268.4	1.9	360
365	0.5	0.5	0.625	60.7	2.8	−14.6	14.9	280.9	9.1	270
366	0.5	0.5	0.75	59.3	5.1	−20.9	21.5	283.9	10.1	270
367	0.5	0.5	0.875	58.7	9.0	−29.2	30.6	287.1	13.5	270
368	0.5	0.5	1.0	54.8	11.5	−32.2	34.2	289.7	14.0	270
369	0.5	0.625	0.0	62.4	−14.6	58.2	60.1	104.1	5.5	99
370	0.5	0.625	0.125	66.6	−15.4	47.2	49.7	108.1	6.4	102
371	0.5	0.625	0.25	66.7	−14.9	30.6	34.1	116.0	5.4	108
372	0.5	0.625	0.375	67.2	−12.6	14.5	19.3	131.0	5.1	119
373	0.5	0.625	0.5	68.1	−10.3	1.1	10.3	173.6	5.5	149
374	0.5	0.625	0.625	67.6	−7.6	−13.2	15.3	240.0	9.7	210
375	0.5	0.625	0.75	66.4	−4.0	−18.8	19.2	257.9	6.6	240
376	0.5	0.625	0.875	65.0	−2.1	−26.5	26.6	265.4	8.2	251
377	0.5	0.625	1.0	61.1	1.9	−31.0	31.1	273.5	8.5	257
378	0.5	0.75	0.0	68.3	−23.0	59.6	63.9	111.1	3.4	108
379	0.5	0.75	0.125	71.0	−23.7	51.2	56.4	114.8	10.4	112
380	0.5	0.75	0.25	70.5	−23.0	31.5	39.0	126.1	6.9	119
381	0.5	0.75	0.375	70.5	−21.9	16.7	27.5	142.6	5.2	131
382	0.5	0.75	0.5	71.5	−17.7	5.1	18.4	163.7	4.8	149
383	0.5	0.75	0.625	71.7	−14.2	−8.4	16.5	210.8	7.6	180
384	0.5	0.75	0.75	71.8	−13.8	−19.5	23.9	234.6	11.8	210
385	0.5	0.75	0.875	71.1	−12.0	−24.9	27.6	244.2	7.5	228
386	0.5	0.75	1.0	67.8	−8.8	−30.1	31.4	253.6	6.6	240
387	0.5	0.875	0.0	72.6	−31.6	60.6	68.4	117.5	5.3	114
388	0.5	0.875	0.125	73.5	−32.7	52.2	61.7	122.0	12.4	119
389	0.5	0.875	0.25	72.6	−31.8	30.2	43.8	136.4	4.5	127
390	0.5	0.875	0.375	72.3	−31.3	18.4	36.3	149.5	4.3	137
391	0.5	0.875	0.5	73.6	−28.3	8.6	29.5	163.0	4.8	149
392	0.5	0.875	0.625	74.8	−24.7	−0.8	24.7	181.9	5.1	168
393	0.5	0.875	0.75	74.3	−20.6	−15.5	25.8	217.0	8.7	191
394	0.5	0.875	0.875	74.6	−17.1	−25.0	30.3	235.6	11.3	210
395	0.5	0.875	1.0	72.3	−14.9	−28.6	32.3	242.4	5.7	222
396	0.5	1.0	0.0	70.9	−41.7	54.8	68.9	127.3	0.0	119
397	0.5	1.0	0.125	71.6	−40.9	49.7	64.4	129.4	5.7	125
398	0.5	1.0	0.25	71.0	−39.5	34.9	52.7	138.5	1.6	131
399	0.5	1.0	0.375	72.8	−34.1	19.5	39.4	150.1	4.9	140
400	0.5	1.0	0.5	74.1	−30.5	11.7	32.6	158.9	5.0	149
401	0.5	1.0	0.625	74.3	−28.1	3.1	28.3	173.6	5.4	162
402	0.5	1.0	0.75	74.5	−23.4	−10.6	25.7	204.5	6.7	180
403	0.5	1.0	0.875	73.9	−20.3	−19.9	28.5	224.5	6.2	197
404	0.5	1.0	1.0	73.7	−17.1	−27.4	32.3	238.0	6.3	210

Mean color difference of this page: **delta *E**' = 7.3**

n	rgb*Md			LabCh*Md				
324	1.0	0.0	0.0	47.5	57.2	37.8	68.6	33.4
325	1.0	0.0	0.233	47.5	56.0	28.4	62.8	26.9
326	1.0	0.0	0.5	47.8	58.9	10.4	59.9	10.0
327	1.0	0.0	0.766	49.3	64.7	−7.1	65.1	353.7
328	1.0	0.0	1.0	48.1	65.4	−12.7	66.6	348.9
329	0.816	0.0	1.0	43.9	57.8	−19.3	61.0	341.5
330	0.683	0.0	1.0	40.4	51.6	−24.7	57.2	334.4
331	0.583	0.0	1.0	38.4	46.7	−28.5	54.7	328.5
332	0.5	0.0	1.0	37.2	43.1	−30.8	53.0	324.4
333	1.0	0.233	0.0	57.4	43.5	54.5	69.7	51.4
334	1.0	0.0	0.0	47.5	57.2	37.8	68.6	33.4
335	1.0	0.0	0.316	47.4	56.5	23.2	61.1	22.3
336	1.0	0.0	0.683	48.6	63.2	−1.8	63.2	358.3
337	1.0	0.0	1.0	48.1	65.4	−12.7	66.6	348.9
338	0.766	0.0	1.0	42.4	55.8	−20.9	59.6	339.4
339	0.616	0.0	1.0	38.9	48.1	−27.5	55.4	330.2
340	0.5	0.0	1.0	37.2	43.1	−30.8	53.0	324.4
341	0.416	0.0	1.0	35.2	39.9	−33.7	52.2	319.8
342	1.0	0.5	0.0	70.5	19.2	66.2	69.0	73.8
343	1.0	0.316	0.0	61.6	35.5	58.2	68.2	58.6
344	1.0	0.0	0.0	47.5	57.2	37.8	68.6	33.4
345	1.0	0.0	0.5	47.8	58.9	10.4	59.9	10.0
346	1.0	0.0	1.0	48.1	65.4	−12.7	66.6	348.9
347	0.683	0.0	1.0	40.4	51.6	−24.7	57.2	334.4
348	0.5	0.0	1.0	37.2	43.1	−30.8	53.0	324.4
349	0.383	0.0	1.0	34.4	38.5	−34.7	51.9	317.9
350	0.316	0.0	1.0	32.7	34.7	−37.2	50.9	312.9
351	1.0	0.766	0.0	83.5	−2.9	76.8	76.9	92.2
352	1.0	0.683	0.0	78.6	5.4	73.9	74.1	85.7
353	1.0	0.5	0.0	70.5	19.2	66.2	69.0	73.8
354	1.0	0.0	0.0	47.5	57.2	37.8	68.6	33.4
355	1.0	0.0	1.0	48.1	65.4	−12.7	66.6	348.9
356	0.5	0.0	1.0	37.2	43.1	−30.8	53.0	324.4
357	0.316	0.0	1.0	32.7	34.7	−37.2	50.9	312.9
358	0.233	0.0	1.0	31.1	29.6	−39.8	49.6	306.6
359	0.183	0.0	1.0	31.3	26.8	−41.0	49.0	303.2
360	1.0	1.0	0.0	91.5	−15.8	84.6	86.1	100.5
361	1.0	1.0	0.0	91.5	−15.8	84.6	86.1	100.5
362	1.0	1.0	0.0	91.5	−15.8	84.6	86.1	100.5
363	1.0	1.0	0.0	91.5	−15.8	84.6	86.1	100.5
364	1.0	1.0	1.0	95.8	0.0	0.0	0.0	0.0
365	0.0	0.0	1.0	32.5	16.9	−44.6	47.7	290.8
366	0.0	0.0	1.0	32.5	16.9	−44.6	47.7	290.8
367	0.0	0.0	1.0	32.5	16.9	−44.6	47.7	290.8
368	0.0	0.0	1.0	32.5	16.9	−44.6	47.7	290.8
369	0.816	1.0	0.0	91.5	−19.6	87.8	90.0	102.6
370	0.766	1.0	0.0	90.4	−20.9	86.5	89.0	103.6
371	0.683	1.0	0.0	84.6	−27.6	76.5	81.3	109.8
372	0.5	1.0	0.0	70.9	−41.7	54.8	68.9	127.3
373	0.0	1.0	0.0	54.3	−67.6	30.8	74.3	155.5
374	0.0	1.0	1.0	53.1	−30.0	−43.1	52.5	235.1
375	0.0	0.5	1.0	46.1	−13.3	−49.4	51.1	254.9
376	0.0	0.316	1.0	39.3	−2.3	−49.1	49.1	267.3
377	0.0	0.233	1.0	36.6	3.2	−48.3	48.4	273.8
378	0.683	1.0	0.0	84.6	−27.6	76.5	81.3	109.8
379	0.616	1.0	0.0	79.3	−32.5	67.1	74.6	115.8
380	0.5	1.0	0.0	70.9	−41.7	54.8	68.9	127.3
381	0.316	1.0	0.0	63.8	−52.2	44.7	68.7	139.4
382	0.0	1.0	0.0	54.3	−67.6	30.8	74.3	155.5
383	0.0	1.0	0.5	55.0	−51.4	−8.9	52.2	189.8
384	0.0	1.0	1.0	53.1	−30.0	−43.1	52.5	235.1
385	0.0	0.683	1.0	51.6	−23.2	−48.6	53.9	244.5
386	0.0	0.5	1.0	46.1	−13.3	−49.4	51.1	254.9
387	0.583	1.0	0.0	76.9	−35.5	63.7	72.9	119.1
388	0.5	1.0	0.0	70.9	−41.7	54.8	68.9	127.3
389	0.383	1.0	0.0	66.8	−47.2	48.5	67.7	134.2
390	0.233	1.0	0.0	60.1	−57.9	39.6	70.2	145.5
391	0.0	1.0	0.0	54.3	−67.6	30.8	74.3	155.5
392	0.0	1.0	0.316	54.3	−60.1	5.6	60.3	174.6
393	0.0	1.0	0.683	55.2	−42.1	−23.4	48.2	209.1
394	0.0	1.0	1.0	53.1	−30.0	−43.1	52.5	235.1
395	0.0	0.766	1.0	52.9	−26.2	−47.2	53.9	240.9
396	0.5	1.0	0.0	70.9	−41.7	54.8	68.9	127.3
397	0.416	1.0	0.0	68.0	−45.7	50.3	68.0	132.2
398	0.316	1.0	0.0	63.8	−52.2	44.7	68.7	139.4
399	0.183	1.0	0.0	58.7	−59.9	37.3	70.6	148.1
400	0.0	1.0	0.0	54.3	−67.6	30.8	74.3	155.5
401	0.0	1.0	0.233	53.7	−63.6	14.1	65.2	167.4
402	0.0	1.0	0.5	55.0	−51.4	−8.9	52.2	189.8
403	0.0	1.0	0.766	55.1	−39.2	−27.9	48.1	215.4
404	0.0	1.0	1.0	53.1	−30.0	−43.1	52.5	235.1

1−0032330−F0 PE890−7N, Page 24/33−F

TUB-test chart PE89; 16 step hue circle
colors and differences, $\Delta E^{*\prime}$

input: *rgb/cmyk* −> *rgb*d
output: transfer to *cmyk*d

1−0032330−F0

http://130.149.60.45/~farbmetrik/PE89/PE89L0NP.PDF /.PS; transfer output
N: no 3D-linearization (OL) in file (F) or PS-startup (S), page 25/33

n	HIC*Fd	rgb_Fd			ict_Fd			$h_{si_F,d}$	rgb*Fd			LabCh*Fd				
405	R00Y_062_062d	0.625	0.0	0.0	0.625	0.625	0.312	390	0.625	0.0	0.0	38.6	35.7	23.6	42.8	33.4
406	R31Y_062_062d	0.625	0.0	0.125	0.625	0.625	0.312	379	0.625	0.0	0.114	38.7	35.1	19.4	40.1	28.9
407	R11Y_062_062d	0.625	0.0	0.25	0.625	0.625	0.312	367	0.625	0.0	0.239	38.5	35.6	11.8	37.5	18.3
408	B69R_062_062d	0.625	0.0	0.375	0.625	0.625	0.312	353	0.625	0.0	0.385	38.9	38.5	1.6	38.5	2.5
409	B59R_062_062d	0.625	0.0	0.5	0.625	0.625	0.312	341	0.625	0.0	0.51	39.8	40.9	−5.4	41.2	352.3
410	B50R_062_062d	0.625	0.0	0.625	0.625	0.625	0.312	330	0.625	0.0	0.625	39.0	40.8	−7.9	41.6	348.9
411	B42R_075_075d	0.625	0.0	0.75	0.75	0.75	0.375	321	0.637	0.0	0.75	39.6	44.3	−13.6	46.4	342.9
412	B36R_087_087d	0.625	0.0	0.875	0.875	0.875	0.437	314	0.641	0.0	0.875	39.3	47.5	−19.5	51.3	337.6
413	B31R_100_100d	0.625	0.0	1.0	1.0	1.0	0.5	308	0.633	0.0	1.0	39.2	48.9	−26.9	55.8	331.1
414	R18Y_062_062d	0.625	0.125	0.0	0.625	0.625	0.312	41	0.625	0.114	0.0	43.2	30.3	32.7	44.6	47.1
415	R00Y_062_050d	0.625	0.125	0.125	0.625	0.5	0.375	390	0.625	0.125	0.125	44.7	28.6	18.9	34.3	33.4
416	R26Y_062_050d	0.625	0.125	0.25	0.625	0.5	0.375	376	0.625	0.125	0.241	44.7	28.0	14.2	31.4	26.9
417	R00Y_062_050d	0.625	0.125	0.375	0.625	0.5	0.375	360	0.625	0.125	0.375	44.8	29.4	5.2	29.9	10.0
418	B61R_062_050d	0.625	0.125	0.5	0.625	0.5	0.375	344	0.625	0.125	0.508	45.6	32.3	−3.5	32.5	353.7
419	B50R_062_050d	0.625	0.125	0.625	0.625	0.5	0.375	330	0.625	0.125	0.625	45.0	32.7	−6.3	33.3	348.9
420	B40R_075_062d	0.625	0.125	0.75	0.75	0.625	0.437	319	0.635	0.125	0.75	45.3	36.1	−12.0	38.1	341.5
421	B34R_087_075d	0.625	0.125	0.875	0.875	0.75	0.5	311	0.637	0.125	0.875	45.2	38.7	−18.5	42.9	334.4
422	B29R_100_087d	0.625	0.125	1.0	1.0	0.875	0.562	305	0.635	0.125	1.0	45.6	40.8	−24.9	47.9	328.5
423	R38Y_062_062d	0.625	0.25	0.0	0.625	0.625	0.312	53	0.625	0.239	0.0	49.5	18.2	38.0	42.1	64.4
424	R23Y_062_050d	0.625	0.25	0.125	0.625	0.5	0.375	44	0.625	0.241	0.125	49.6	21.7	27.2	34.8	51.4
425	R00Y_062_037d	0.625	0.25	0.25	0.625	0.375	0.437	390	0.625	0.25	0.25	50.7	21.4	14.1	25.7	33.4
426	R18Y_062_037d	0.625	0.25	0.375	0.625	0.375	0.437	371	0.625	0.25	0.368	50.7	21.2	8.7	22.9	22.3
427	B65R_062_037d	0.625	0.25	0.5	0.625	0.375	0.437	349	0.625	0.25	0.506	51.1	23.7	−0.6	23.7	358.3
428	B50R_062_037d	0.625	0.25	0.625	0.625	0.375	0.437	330	0.625	0.25	0.625	50.9	24.5	−4.7	24.9	348.9
429	B38R_075_050d	0.625	0.25	0.75	0.75	0.5	0.5	316	0.633	0.25	0.75	51.1	27.9	−10.4	29.8	339.4
430	B30R_087_062d	0.625	0.25	0.875	0.875	0.625	0.562	307	0.635	0.25	0.875	51.3	30.0	−17.2	34.6	330.2
431	B25R_100_075d	0.625	0.25	1.0	1.0	0.75	0.625	300	0.625	0.25	1.0	51.8	32.3	−23.1	39.8	324.4
432	R61Y_062_062d	0.625	0.375	0.0	0.625	0.625	0.312	67	0.625	0.385	0.0	55.5	7.5	44.0	44.6	80.3
433	R50Y_062_050d	0.625	0.375	0.125	0.625	0.5	0.375	60	0.625	0.375	0.125	56.1	9.6	33.1	34.5	73.8
434	R31Y_062_037d	0.625	0.375	0.25	0.625	0.375	0.437	49	0.625	0.368	0.25	56.0	13.3	21.8	25.5	58.6
435	R00Y_062_025d	0.625	0.375	0.375	0.625	0.25	0.5	390	0.625	0.375	0.375	56.7	14.3	9.4	17.1	33.4
436	R00Y_062_025d	0.625	0.375	0.5	0.625	0.25	0.5	360	0.625	0.375	0.5	56.8	14.7	2.6	14.9	10.0
437	B50R_062_025d	0.625	0.375	0.625	0.625	0.25	0.5	330	0.625	0.375	0.625	56.9	16.3	−3.1	16.6	348.9
438	B34R_075_037d	0.625	0.375	0.75	0.75	0.375	0.562	311	0.631	0.375	0.75	57.0	19.3	−9.2	21.4	334.4
439	B25R_087_050d	0.625	0.375	0.875	0.875	0.5	0.625	300	0.625	0.375	0.875	57.5	21.5	−15.4	26.5	324.4
440	B19R_100_062d	0.625	0.375	1.0	1.0	0.625	0.687	293	0.614	0.375	1.0	57.4	24.1	−21.7	32.4	317.9
441	R81Y_062_062d	0.625	0.5	0.0	0.625	0.625	0.312	79	0.625	0.51	0.0	62.3	−3.6	47.7	47.9	94.3
442	R76Y_062_050d	0.625	0.5	0.125	0.625	0.5	0.375	76	0.625	0.508	0.125	62.7	−1.4	38.4	38.4	92.2
443	R68Y_062_037d	0.625	0.5	0.25	0.625	0.375	0.437	71	0.625	0.506	0.25	62.4	2.0	27.7	27.8	85.7
444	R50Y_062_025d	0.625	0.5	0.375	0.625	0.25	0.5	60	0.625	0.5	0.375	62.5	4.8	16.5	17.2	73.8
445	R00Y_062_012d	0.625	0.5	0.5	0.625	0.125	0.562	390	0.625	0.5	0.5	62.8	7.1	4.7	8.5	33.4
446	B50R_062_012d	0.625	0.5	0.625	0.625	0.125	0.562	330	0.625	0.5	0.625	62.8	8.1	−1.5	8.3	348.9
447	B25R_075_025d	0.625	0.5	0.75	0.75	0.25	0.625	300	0.625	0.5	0.75	63.1	10.7	−7.7	13.2	324.4
448	B15R_087_037d	0.625	0.5	0.875	0.875	0.375	0.687	289	0.618	0.5	0.875	63.1	13.0	−13.9	19.1	312.9
449	B11R_100_050d	0.625	0.5	1.0	1.0	0.5	0.75	284	0.616	0.5	1.0	63.4	14.8	−19.9	24.8	306.6
450	Y00G_062_062d	0.625	0.625	0.0	0.625	0.625	0.312	90	0.625	0.625	0.0	66.1	−9.9	52.9	53.8	100.5
451	Y00G_062_050d	0.625	0.625	0.125	0.625	0.5	0.375	90	0.625	0.625	0.125	66.7	−7.9	42.3	43.0	100.5
452	Y00G_062_037d	0.625	0.625	0.25	0.625	0.375	0.437	90	0.625	0.625	0.25	67.2	−5.9	31.7	32.3	100.5
453	Y00G_062_025d	0.625	0.625	0.375	0.625	0.25	0.5	90	0.625	0.625	0.375	67.7	−3.9	21.1	21.5	100.5
454	Y00G_062_012d	0.625	0.625	0.5	0.625	0.125	0.562	90	0.625	0.625	0.5	68.3	−1.9	10.5	10.7	100.5
455	NW_062d	0.625	0.625	0.625	0.625	0.0	0.625	360	0.625	0.625	0.625	68.8	0.0	0.0	0.0	0.0
456	B00R_075_012d	0.625	0.625	0.75	0.75	0.125	0.687	270	0.625	0.625	0.75	69.9	2.1	−5.5	5.9	290.8
457	B00R_087_025d	0.625	0.625	0.875	0.875	0.25	0.75	270	0.625	0.625	0.875	71.0	4.2	−11.1	11.9	290.8
458	B00R_100_037d	0.625	0.625	1.0	1.0	0.375	0.812	270	0.625	0.625	1.0	72.1	6.3	−16.7	17.8	290.8
459	Y15G_075_075d	0.625	0.75	0.0	0.75	0.75	0.375	99	0.637	0.75	0.0	75.1	−14.1	66.5	68.0	101.9
460	Y18G_075_062d	0.625	0.75	0.125	0.75	0.625	0.437	101	0.635	0.75	0.125	75.1	−12.3	54.9	56.2	102.6
461	Y23G_075_050d	0.625	0.75	0.25	0.75	0.5	0.5	104	0.633	0.75	0.25	75.1	−10.4	43.2	44.5	103.6
462	Y31G_075_037d	0.625	0.75	0.375	0.75	0.375	0.562	109	0.631	0.75	0.375	73.6	−10.3	28.7	30.5	109.8
463	Y50G_075_025d	0.625	0.75	0.5	0.75	0.25	0.625	120	0.625	0.75	0.5	71.6	−10.4	13.7	17.2	127.3
464	G00B_075_012d	0.625	0.75	0.625	0.75	0.125	0.687	150	0.625	0.75	0.625	72.6	−8.4	3.8	9.2	155.5
465	G50B_075_012d	0.625	0.75	0.75	0.75	0.125	0.687	210	0.625	0.75	0.75	72.5	−3.7	−5.3	6.5	235.1
466	G75B_087_025d	0.625	0.75	0.875	0.875	0.25	0.75	240	0.625	0.75	0.875	74.4	−3.3	−12.3	12.7	254.9
467	G84B_100_037d	0.625	0.75	1.0	1.0	0.375	0.812	251	0.625	0.743	1.0	74.6	−0.8	−18.4	18.4	267.3
468	Y26G_087_087d	0.625	0.875	0.0	0.875	0.875	0.437	106	0.641	0.875	0.0	80.6	−20.2	73.2	75.9	105.4
469	Y31G_087_075d	0.625	0.875	0.125	0.875	0.75	0.5	109	0.637	0.875	0.125	78.4	−20.7	57.4	61.0	109.8
470	Y38G_087_062d	0.625	0.875	0.25	0.875	0.625	0.562	113	0.635	0.875	0.25	76.5	−20.3	41.9	46.6	115.8
471	Y50G_087_050d	0.625	0.875	0.375	0.875	0.5	0.625	120	0.625	0.875	0.375	74.4	−20.8	27.4	34.4	127.3
472	Y68G_087_037d	0.625	0.875	0.5	0.875	0.375	0.687	131	0.618	0.875	0.5	74.8	−19.5	16.7	25.7	139.4
473	G00B_087_025d	0.625	0.875	0.625	0.875	0.25	0.75	150	0.625	0.875	0.625	76.4	−16.9	7.7	18.5	155.5
474	G25B_087_025d	0.625	0.875	0.75	0.875	0.25	0.75	180	0.625	0.875	0.75	76.6	−12.8	−2.2	13.0	189.8
475	G50B_087_025d	0.625	0.875	0.875	0.875	0.25	0.75	210	0.625	0.875	0.875	76.1	−7.5	−10.7	13.1	235.1
476	G65B_100_037d	0.625	0.875	1.0	1.0	0.375	0.812	229	0.625	0.881	1.0	79.2	−8.7	−18.2	20.2	244.5
477	Y36G_100_100d	0.625	1.0	0.0	1.0	1.0	0.5	112	0.633	1.0	0.0	80.5	−31.2	69.2	75.9	114.2
478	Y41G_100_087d	0.625	1.0	0.125	1.0	0.875	0.562	115	0.635	1.0	0.125	79.2	−31.0	55.7	63.8	119.1
479	Y50G_100_075d	0.625	1.0	0.25	1.0	0.75	0.625	120	0.625	1.0	0.25	77.1	−31.3	41.1	51.6	127.3
480	Y61G_100_062d	0.625	1.0	0.375	1.0	0.625	0.687	127	0.614	1.0	0.375	77.7	−29.5	30.3	42.3	134.2
481	Y76G_100_050d	0.625	1.0	0.5	1.0	0.5	0.75	136	0.616	1.0	0.5	77.9	−28.9	19.8	35.1	145.5
482	G00B_100_037d	0.625	1.0	0.625	1.0	0.375	0.812	150	0.625	1.0	0.625	80.2	−25.3	11.5	27.8	155.5
483	G15B_100_037d	0.625	1.0	0.75	1.0	0.375	0.812	169	0.625	1.0	0.743	80.2	−22.5	2.1	22.6	174.6
484	G34B_100_037d	0.625	1.0	0.875	1.0	0.375	0.812	191	0.625	1.0	0.881	80.6	−15.8	−8.8	18.0	209.1
485	G50B_100_037d	0.625	1.0	1.0	1.0	0.375	0.812	210	0.625	1.0	1.0	79.8	−11.2	−16.1	19.6	235.1

n	rgb*'Fd			LabCh*'Fd					DE*'Fd	$h_{siM,d}$
405	0.625	0.0	0.0	36.3	40.2	26.2	48.0	33.1	5.6	389
406	0.625	0.0	0.125	37.1	40.1	21.9	45.7	28.6	5.8	380
407	0.625	0.0	0.25	36.4	41.6	12.6	43.4	16.8	6.3	367
408	0.625	0.0	0.375	36.9	45.2	0.9	45.2	1.1	6.9	352
409	0.625	0.0	0.5	37.2	49.0	−7.9	49.6	350.7	8.8	339
410	0.625	0.0	0.625	37.9	49.8	−14.9	52.0	343.3	11.4	330
411	0.625	0.0	0.75	38.9	50.3	−20.0	54.1	338.3	8.7	322
412	0.625	0.0	0.875	39.3	49.4	−24.6	55.2	333.4	5.4	315
413	0.625	0.0	1.0	39.1	48.4	−27.2	55.6	330.6	0.6	308
414	0.625	0.125	0.0	40.3	31.8	34.0	46.6	46.8	3.5	39
415	0.625	0.125	0.125	44.2	28.5	28.7	40.5	45.1	9.8	389
416	0.625	0.125	0.25	43.5	29.7	15.8	33.7	28.0	2.6	377
417	0.625	0.125	0.375	43.7	33.1	4.7	33.5	8.0	3.8	360
418	0.625	0.125	0.5	43.8	38.9	−5.6	39.3	351.7	7.1	342
419	0.625	0.125	0.625	44.4	41.4	−12.9	43.4	342.7	10.9	330
420	0.625	0.125	0.75	44.8	43.5	−17.8	47.0	337.7	9.3	320
421	0.625	0.125	0.875	44.1	46.8	−24.2	52.7	332.6	9.9	311
422	0.625	0.125	1.0	41.0	43.2	−29.0	52.0	326.1	6.5	305
423	0.625	0.25	0.0	45.9	19.0	40.0	44.3	64.5	4.2	52
424	0.625	0.25	0.125	50.5	16.9	33.1	37.2	62.8	7.5	42
425	0.625	0.25	0.25	50.5	18.8	20.3	27.7	47.2	6.7	389
426	0.625	0.25	0.375	50.6	22.5	8.2	24.0	19.9	1.4	371
427	0.625	0.25	0.5	51.8	27.5	−4.1	27.8	351.4	5.2	348
428	0.625	0.25	0.625	52.0	30.3	−11.7	32.5	338.7	9.1	330
429	0.625	0.25	0.75	52.3	31.0	−15.4	34.7	333.4	6.0	317
430	0.625	0.25	0.875	50.3	37.1	−24.3	44.3	326.7	10.0	307
431	0.625	0.25	1.0	45.0	36.4	−29.0	46.6	321.4	9.9	300
432	0.625	0.375	0.0	51.0	6.3	45.7	46.2	82.0	4.9	67
433	0.625	0.375	0.125	57.4	6.1	39.1	39.6	81.0	7.0	59
434	0.625	0.375	0.25	57.6	8.9	25.0	26.5	70.2	5.6	48
435	0.625	0.375	0.375	58.1	11.8	11.2	16.3	43.4	3.3	389
436	0.625	0.375	0.5	59.0	15.5	−0.3	15.5	358.8	3.7	360
437	0.625	0.375	0.625	59.5	19.7	−8.9	21.7	335.6	7.2	330
438	0.625	0.375	0.75	58.0	21.5	−14.7	26.1	325.7	5.9	311
439	0.625	0.375	0.875	56.8	27.0	−23.8	36.0	318.5	10.0	300
440	0.625	0.375	1.0	51.8	26.1	−28.3	38.6	312.6	8.9	292
441	0.625	0.5	0.0	60.5	−3.4	56.6	56.7	93.4	9.0	80
442	0.625	0.5	0.125	64.8	−4.4	49.8	50.0	95.0	11.9	77
443	0.625	0.5	0.25	66.0	−2.3	33.6	33.7	94.0	8.2	71
444	0.625	0.5	0.375	65.6	1.4	17.9	17.9	85.5	4.8	59
445	0.625	0.5	0.5	65.7	5.9	3.3	6.8	29.2	3.4	389
446	0.625	0.5	0.625	66.0	10.0	−6.8	12.1	325.7	6.4	330
447	0.625	0.5	0.75	64.0	12.6	−14.1	18.9	311.9	6.7	300
448	0.625	0.5	0.875	63.7	17.1	−22.5	28.3	307.1	9.5	288
449	0.625	0.5	1.0	58.6	17.0	−26.9	31.9	302.3	8.8	282
450	0.625	0.625	0.0	69.0	−11.6	64.7	65.7	100.2	12.2	89
451	0.625	0.625	0.125	72.2	−11.5	57.1	58.2	101.4	16.1	89
452	0.625	0.625	0.25	73.6	−10.3	39.6	40.9	104.5	11.0	89
453	0.625	0.625	0.375	73.4	−7.2	24.6	25.7	106.2	7.4	89
454	0.625	0.625	0.5	73.6	−3.7	7.8	8.7	115.5	6.2	89
455	0.625	0.625	0.625	72.6	0.0	−1.0	1.0	269.8	3.9	360
456	0.625	0.625	0.75	71.3	2.6	−12.5	12.8	281.7	7.1	270
457	0.625	0.625	0.875	70.0	4.8	−20.0	20.6	283.6	9.0	270
458	0.625	0.625	1.0	65.8	6.5	−25.3	26.1	284.4	10.6	270
459	0.625	0.75	0.0	76.9	−16.4	72.1	74.0	102.8	6.3	97
460	0.625	0.75	0.125	77.9	−16.7	61.6	63.9	105.1	8.5	99
461	0.625	0.75	0.25	78.2	−15.5	44.3	46.9	109.2	5.9	102
462	0.625	0.75	0.375	77.8	−14.2	29.5	32.8	115.8	5.7	108
463	0.625	0.75	0.5	77.7	−12.0	15.9	19.9	126.9	6.7	119
464	0.625	0.75	0.625	77.9	−9.9	1.7	10.0	169.7	5.8	149
465	0.625	0.75	0.75	78.0	−6.9	−10.4	12.5	236.2	8.2	210
466	0.625	0.75	0.875	75.9	−4.2	−17.9	18.4	256.7	5.8	240
467	0.625	0.75	1.0	71.6	−4.4	−25.0	25.4	259.8	8.0	251
468	0.625	0.875	0.0	81.1	−22.3	74.3	77.5	106.7	2.4	104
469	0.625	0.875	0.125	80.8	−22.7	66.0	69.9	109.0	9.2	108
470	0.625	0.875	0.25	80.4	−21.1	43.8	48.6	115.7	4.4	112
471	0.625	0.875	0.375	80.0	−21.4	31.6	38.1	124.1	7.0	119
472	0.625	0.875	0.5	80.2	−20.3	18.6	27.6	137.6	5.8	131
473	0.625	0.875	0.625	82.0	−16.8	8.8	19.0	152.2	5.6	149
474	0.625	0.875	0.75	81.6	−14.3	−5.4	15.3	200.6	6.1	180
475	0.625	0.875	0.875	81.5	−12.0	−17.9	21.6	236.0	10.0	210
476	0.625	0.875	1.0	78.2	−11.8	−22.1	25.0	241.8	5.0	228
477	0.625	1.0	0.0	79.9	−31.7	67.9	75.0	115.0	1.4	111
478	0.625	1.0	0.125	82.0	−29.5	65.0	71.4	114.4	9.7	114
479	0.625	1.0	0.25	79.5	−31.2	50.7	59.6	121.6	9.9	119
480	0.625	1.0	0.375	77.8	−30.6	32.6	44.7	133.1	2.6	127
481	0.625	1.0	0.5	79.6	−26.0	19.7	32.6	142.9	3.3	137
482	0.625	1.0	0.625	81.7	−21.5	10.6	24.0	153.7	4.2	149
483	0.625	1.0	0.75	82.0	−18.1	0.0	18.1	179.9	5.1	168
484	0.625	1.0	0.875	80.6	−15.2	−13.3	20.3	221.2	4.6	191
485	0.625	1.0	1.0	79.2	−13.6	−21.2	25.2	237.2	5.6	210

Mean color difference of this page: **delta *E**' = 6.8**

n	rgb*Md			LabCh*Md				
405	1.0	0.0	0.0	47.5	57.2	37.8	68.6	33.4
406	1.0	0.0	0.183	47.6	56.2	31.1	64.2	28.9
407	1.0	0.0	0.383	47.4	57.0	18.9	60.0	18.3
408	1.0	0.0	0.616	47.9	61.6	2.7	61.7	2.5
409	1.0	0.0	0.816	49.4	65.4	−8.7	66.0	352.3
410	1.0	0.0	1.0	48.1	65.4	−12.7	66.6	348.9
411	0.85	0.0	1.0	44.9	59.1	−18.2	61.9	342.9
412	0.733	0.0	1.0	41.5	54.3	−22.3	58.7	337.6
413	0.633	0.0	1.0	39.2	48.9	−26.9	55.8	331.1
414	1.0	0.183	0.0	54.9	48.5	52.3	71.4	47.1
415	1.0	0.0	0.0	47.5	57.2	37.8	68.6	33.4
416	1.0	0.0	0.233	47.5	56.0	28.4	62.8	26.9
417	1.0	0.0	0.5	47.8	58.9	10.4	59.9	10.0
418	1.0	0.0	0.766	49.3	64.7	−7.1	65.1	353.7
419	1.0	0.0	1.0	48.1	65.4	−12.7	66.6	348.9
420	0.816	0.0	1.0	43.9	57.8	−19.3	61.0	341.5
421	0.683	0.0	1.0	40.4	51.6	−24.7	57.2	334.4
422	0.583	0.0	1.0	38.4	46.7	−28.5	54.7	328.5
423	1.0	0.383	0.0	65.0	29.1	60.8	67.4	64.4
424	1.0	0.233	0.0	57.4	43.5	54.5	69.7	51.4
425	1.0	0.0	0.0	47.5	57.2	37.8	68.6	33.4
426	1.0	0.0	0.316	47.4	56.5	23.2	61.1	22.3
427	1.0	0.0	0.683	48.6	63.2	−1.8	63.2	358.3
428	1.0	0.0	1.0	48.1	65.4	−12.7	66.6	348.9
429	0.766	0.0	1.0	42.4	55.8	−20.9	59.6	339.4
430	0.616	0.0	1.0	38.9	48.1	−27.5	55.4	330.2
431	0.5	0.0	1.0	37.2	43.1	−30.8	53.0	324.4
432	1.0	0.616	0.0	74.6	12.0	70.4	71.4	80.3
433	1.0	0.5	0.0	70.5	19.2	66.2	69.0	73.8
434	1.0	0.316	0.0	61.6	35.5	58.2	68.2	58.6
435	1.0	0.0	0.0	47.5	57.2	37.8	68.6	33.4
436	1.0	0.0	0.5	47.8	58.9	10.4	59.9	10.0
437	1.0	0.0	1.0	48.1	65.4	−12.7	66.6	348.9
438	0.683	0.0	1.0	40.4	51.6	−24.7	57.2	334.4
439	0.5	0.0	1.0	37.2	43.1	−30.8	53.0	324.4
440	0.383	0.0	1.0	34.4	38.5	−34.7	51.9	317.9
441	1.0	0.816	0.0	85.4	−5.8	76.4	76.6	94.3
442	1.0	0.766	0.0	83.5	−2.9	76.8	76.9	92.2
443	1.0	0.683	0.0	78.6	5.4	73.9	74.1	85.7
444	1.0	0.5	0.0	70.5	19.2	66.2	69.0	73.8
445	1.0	0.0	0.0	47.5	57.2	37.8	68.6	33.4
446	1.0	0.0	1.0	48.1	65.4	−12.7	66.6	348.9
447	0.5	0.0	1.0	37.2	43.1	−30.8	53.0	324.4
448	0.316	0.0	1.0	32.7	34.7	−37.2	50.9	312.9
449	0.233	0.0	1.0	31.1	29.6	−39.8	49.6	306.6
450	1.0	1.0	0.0	91.5	−15.8	84.6	86.1	100.5
451	1.0	1.0	0.0	91.5	−15.8	84.6	86.1	100.5
452	1.0	1.0	0.0	91.5	−15.8	84.6	86.1	100.5
453	1.0	1.0	0.0	91.5	−15.8	84.6	86.1	100.5
454	1.0	1.0	0.0	91.5	−15.8	84.6	86.1	100.5
455	1.0	1.0	1.0	95.8	0.0	0.0	0.0	0.0
456	0.0	0.0	1.0	32.5	16.9	−44.6	47.7	290.8
457	0.0	0.0	1.0	32.5	16.9	−44.6	47.7	290.8
458	0.0	0.0	1.0	32.5	16.9	−44.6	47.7	290.8
459	0.85	1.0	0.0	92.2	−18.8	88.7	90.7	101.9
460	0.816	1.0	0.0	91.5	−19.6	87.8	90.0	102.6
461	0.766	1.0	0.0	90.4	−20.9	86.5	89.0	103.6
462	0.683	1.0	0.0	84.6	−27.6	76.5	81.3	109.8
463	0.5	1.0	0.0	70.9	−41.7	54.8	68.9	127.3
464	0.0	1.0	0.0	54.3	−67.6	30.8	74.3	155.5
465	0.0	1.0	1.0	53.1	−30.0	−43.1	52.5	235.1
466	0.0	0.5	1.0	46.1	−13.3	−49.4	51.1	254.9
467	0.0	0.316	1.0	39.3	−2.3	−49.1	49.1	267.3
468	0.733	1.0	0.0	88.7	−23.1	83.7	86.8	105.4
469	0.683	1.0	0.0	84.6	−27.6	76.5	81.3	109.8
470	0.616	1.0	0.0	79.3	−32.5	67.1	74.6	115.8
471	0.5	1.0	0.0	70.9	−41.7	54.8	68.9	127.3
472	0.316	1.0	0.0	63.8	−52.2	44.7	68.7	139.4
473	0.0	1.0	0.0	54.3	−67.6	30.8	74.3	155.5
474	0.0	1.0	0.5	55.0	−51.4	−8.9	52.2	189.8
475	0.0	1.0	1.0	53.1	−30.0	−43.1	52.5	235.1
476	0.0	0.683	1.0	51.6	−23.2	−48.6	53.9	244.5
477	0.633	1.0	0.0	80.5	−31.2	69.2	75.9	114.2
478	0.583	1.0	0.0	76.9	−35.5	63.7	72.9	119.1
479	0.5	1.0	0.0	70.9	−41.7	54.8	68.9	127.3
480	0.383	1.0	0.0	66.8	−47.2	48.5	67.7	134.2
481	0.233	1.0	0.0	60.1	−57.9	39.6	70.2	145.5
482	0.0	1.0	0.0	54.3	−67.6	30.8	74.3	155.5
483	0.0	1.0	0.316	54.3	−60.1	5.6	60.3	174.6
484	0.0	1.0	0.683	55.2	−42.1	−23.4	48.2	209.1
485	0.0	1.0	1.0	53.1	−30.0	−43.1	52.5	235.1

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TUB-test chart PE89; 16 step hue circle
colors and differences, $\Delta E^{*\prime}$

input: *rgb/cmyk* −> rgb_d
output: transfer to $cmyk_d$

see similar files: http://130.149.60.45/~farbmetrik/PE89/PE89.HTM
technical information: http://www.ps.bam.de or http://130.149.60.45/~farbmetrik

TUB registration: 20150701-PE89/PE89L0NP.PDF /.PS
application for measurement of laser printer output, separation cmyn6 (CMYK)

TUB material: code=rha4ta

n	HIC*Fd	*rgb*_Fd			*ict*_Fd			$h_{si\_F,d}$	*rgb**Fd			*LabCh**Fd				
486	R00Y_075_075d	0.75	0.0	0.0	0.75	0.75	0.375	390	0.75	0.0	0.0	41.6	42.9	28.3	51.4	33.4
487	R35Y_075_075d	0.75	0.0	0.125	0.75	0.75	0.375	381	0.75	0.0	0.112	41.7	42.2	24.6	48.9	30.3
488	R18Y_075_075d	0.75	0.0	0.25	0.75	0.75	0.375	371	0.75	0.0	0.237	41.5	42.4	17.4	45.8	22.3
489	R00Y_075_075d	0.75	0.0	0.375	0.75	0.75	0.375	360	0.75	0.0	0.375	41.8	44.2	7.8	44.9	10.0
490	B65R_075_075d	0.75	0.0	0.5	0.75	0.75	0.375	349	0.75	0.0	0.512	42.4	47.4	−1.3	47.4	358.3
491	B57R_075_075d	0.75	0.0	0.625	0.75	0.75	0.375	339	0.75	0.0	0.637	43.0	49.4	−7.4	49.9	351.4
492	B50R_075_075d	0.75	0.0	0.75	0.75	0.75	0.375	330	0.75	0.0	0.75	42.1	49.0	−9.5	49.9	348.9
493	B43R_087_087d	0.75	0.0	0.875	0.875	0.875	0.437	322	0.758	0.0	0.875	42.7	52.3	−15.4	54.5	343.5
494	B38R_100_100d	0.75	0.0	1.0	1.0	1.0	0.5	316	0.766	0.0	1.0	42.4	55.8	−20.9	59.6	339.4
495	R15Y_075_075d	0.75	0.125	0.0	0.75	0.75	0.375	39	0.75	0.112	0.0	45.8	38.8	37.9	54.3	44.3
496	R00Y_075_062d	0.75	0.125	0.125	0.75	0.625	0.437	390	0.75	0.125	0.125	47.6	35.7	23.6	42.8	33.4
497	R31Y_075_062d	0.75	0.125	0.25	0.75	0.625	0.437	379	0.75	0.125	0.239	47.7	35.1	19.4	40.1	28.9
498	R11Y_075_062d	0.75	0.125	0.375	0.75	0.625	0.437	367	0.75	0.125	0.364	47.5	35.6	11.8	37.5	18.3
499	B69R_075_062d	0.75	0.125	0.5	0.75	0.625	0.437	353	0.75	0.125	0.51	47.9	38.5	1.6	38.5	2.5
500	B59R_075_062d	0.75	0.125	0.625	0.75	0.625	0.437	341	0.75	0.125	0.635	48.8	40.9	−5.4	41.2	352.3
501	B50R_075_062d	0.75	0.125	0.75	0.75	0.625	0.437	330	0.75	0.125	0.75	48.0	40.8	−7.9	41.6	348.9
502	B42R_087_075d	0.75	0.125	0.875	0.875	0.75	0.5	321	0.762	0.125	0.875	48.6	44.3	−13.6	46.4	342.9
503	B36R_100_087d	0.75	0.125	1.0	1.0	0.875	0.562	314	0.766	0.125	1.0	48.3	47.5	−19.5	51.3	337.6
504	R31Y_075_075d	0.75	0.25	0.0	0.75	0.75	0.375	49	0.75	0.237	0.0	52.2	26.6	43.7	51.1	58.6
505	R18Y_075_062d	0.75	0.25	0.125	0.75	0.625	0.437	41	0.75	0.239	0.125	52.2	30.3	32.7	44.6	47.1
506	R00Y_075_050d	0.75	0.25	0.25	0.75	0.5	0.5	390	0.75	0.25	0.25	53.7	28.6	18.9	34.3	33.4
507	R26Y_075_050d	0.75	0.25	0.375	0.75	0.5	0.5	376	0.75	0.25	0.366	53.7	28.0	14.2	31.4	26.9
508	R00Y_075_050d	0.75	0.25	0.5	0.75	0.5	0.5	360	0.75	0.25	0.5	53.8	29.4	5.2	29.9	10.0
509	B61R_075_050d	0.75	0.25	0.625	0.75	0.5	0.5	344	0.75	0.25	0.633	54.5	32.3	−3.5	32.5	353.7
510	B50R_075_050d	0.75	0.25	0.75	0.75	0.5	0.5	330	0.75	0.25	0.75	54.0	32.7	−6.3	33.3	348.9
511	B40R_087_062d	0.75	0.25	0.875	0.875	0.625	0.562	319	0.76	0.25	0.875	54.3	36.1	−12.0	38.1	341.5
512	B34R_100_075d	0.75	0.25	1.0	1.0	0.75	0.625	311	0.762	0.25	1.0	54.2	38.7	−18.5	42.9	334.4
513	R50Y_075_075d	0.75	0.375	0.0	0.75	0.75	0.375	60	0.75	0.375	0.0	58.8	14.4	49.7	51.7	73.8
514	R38Y_075_062d	0.75	0.375	0.125	0.75	0.625	0.437	53	0.75	0.364	0.125	58.5	18.2	38.0	42.1	64.4
515	R23Y_075_050d	0.75	0.375	0.25	0.75	0.5	0.5	44	0.75	0.366	0.25	58.6	21.7	27.2	34.8	51.4
516	R00Y_075_037d	0.75	0.375	0.375	0.75	0.375	0.562	390	0.75	0.375	0.375	59.7	21.4	14.1	25.7	33.4
517	R18Y_075_037d	0.75	0.375	0.5	0.75	0.375	0.562	371	0.75	0.375	0.493	59.7	21.2	8.7	22.9	22.3
518	B65R_075_037d	0.75	0.375	0.625	0.75	0.375	0.562	349	0.75	0.375	0.631	60.1	23.7	−0.6	23.7	358.3
519	B50R_075_037d	0.75	0.375	0.75	0.75	0.375	0.562	330	0.75	0.375	0.75	59.9	24.5	−4.7	24.9	348.9
520	B38R_087_050d	0.75	0.375	0.875	0.875	0.5	0.625	316	0.758	0.375	0.875	60.1	27.9	−10.4	29.8	339.4
521	B30R_100_062d	0.75	0.375	1.0	1.0	0.625	0.687	307	0.76	0.375	1.0	60.3	30.0	−17.2	34.6	330.2
522	R68Y_075_075d	0.75	0.5	0.0	0.75	0.75	0.375	71	0.75	0.512	0.0	64.9	4.0	55.4	55.6	85.7
523	R61Y_075_062d	0.75	0.5	0.125	0.75	0.625	0.437	67	0.75	0.51	0.125	64.5	7.5	44.0	44.6	80.3
524	R50Y_075_050d	0.75	0.5	0.25	0.75	0.5	0.5	60	0.75	0.5	0.25	65.1	9.6	33.1	34.5	73.8
525	R31Y_075_037d	0.75	0.5	0.375	0.75	0.375	0.562	49	0.75	0.493	0.375	65.0	13.3	21.8	25.5	58.6
526	R00Y_075_025d	0.75	0.5	0.5	0.75	0.25	0.625	390	0.75	0.5	0.5	65.7	14.3	9.4	17.1	33.4
527	R00Y_075_025d	0.75	0.5	0.625	0.75	0.25	0.625	360	0.75	0.5	0.625	65.8	14.7	2.6	14.9	10.0
528	B50R_075_025d	0.75	0.5	0.75	0.75	0.25	0.625	330	0.75	0.5	0.75	65.9	16.3	−3.1	16.6	348.9
529	B34R_087_037d	0.75	0.5	0.875	0.875	0.375	0.687	311	0.756	0.5	0.875	66.0	19.3	−9.2	21.4	334.4
530	B25R_100_050d	0.75	0.5	1.0	1.0	0.5	0.75	300	0.75	0.5	1.0	66.5	21.5	−15.4	26.5	324.4
531	R85Y_075_075d	0.75	0.625	0.0	0.75	0.75	0.375	81	0.75	0.637	0.0	70.9	−5.7	57.0	57.3	95.7
532	R81Y_075_062d	0.75	0.625	0.125	0.75	0.625	0.437	79	0.75	0.635	0.125	71.3	−3.6	47.7	47.9	94.3
533	R76Y_075_050d	0.75	0.625	0.25	0.75	0.5	0.5	76	0.75	0.633	0.25	71.7	−1.4	38.4	38.4	92.2
534	R68Y_075_037d	0.75	0.625	0.375	0.75	0.375	0.562	71	0.75	0.631	0.375	71.4	2.0	27.7	27.8	85.7
535	R50Y_075_025d	0.75	0.625	0.5	0.75	0.25	0.625	60	0.75	0.625	0.5	71.5	4.8	16.5	17.2	73.8
536	R00Y_075_012d	0.75	0.625	0.625	0.75	0.125	0.687	390	0.75	0.625	0.625	71.8	7.1	4.7	8.5	33.4
537	B50R_075_012d	0.75	0.625	0.75	0.75	0.125	0.687	330	0.75	0.625	0.75	71.8	8.1	−1.5	8.3	348.9
538	B25R_087_025d	0.75	0.625	0.875	0.875	0.25	0.75	300	0.75	0.625	0.875	72.1	10.7	−7.7	13.2	324.4
539	B15R_100_037d	0.75	0.625	1.0	1.0	0.375	0.812	289	0.743	0.625	1.0	72.1	13.0	−13.9	19.1	312.9
540	Y00G_075_075d	0.75	0.75	0.0	0.75	0.75	0.375	90	0.75	0.75	0.0	74.6	−11.8	63.5	64.6	100.5
541	Y00G_075_062d	0.75	0.75	0.125	0.75	0.625	0.437	90	0.75	0.75	0.125	75.1	−9.9	52.9	53.8	100.5
542	Y00G_075_050d	0.75	0.75	0.25	0.75	0.5	0.5	90	0.75	0.75	0.25	75.7	−7.9	42.3	43.0	100.5
543	Y00G_075_037d	0.75	0.75	0.375	0.75	0.375	0.562	90	0.75	0.75	0.375	76.2	−5.9	31.7	32.3	100.5
544	Y00G_075_025d	0.75	0.75	0.5	0.75	0.25	0.625	90	0.75	0.75	0.5	76.7	−3.9	21.1	21.5	100.5
545	Y00G_075_012d	0.75	0.75	0.625	0.75	0.125	0.687	90	0.75	0.75	0.625	77.3	−1.9	10.5	10.7	100.5
546	NW_075d	0.75	0.75	0.75	0.75	0.0	0.75	360	0.75	0.75	0.75	77.8	0.0	0.0	0.0	0.0
547	B00R_087_012d	0.75	0.75	0.875	0.875	0.125	0.812	270	0.75	0.75	0.875	78.9	2.1	−5.5	5.9	290.8
548	B00R_100_025d	0.75	0.75	1.0	1.0	0.25	0.875	270	0.75	0.75	1.0	80.0	4.2	−11.1	11.9	290.8
549	Y13G_087_087d	0.75	0.875	0.0	0.875	0.875	0.437	98	0.758	0.875	0.0	84.0	−16.0	78.0	79.7	101.6
550	Y15G_087_075d	0.75	0.875	0.125	0.875	0.75	0.5	99	0.762	0.875	0.125	84.1	−14.1	66.5	68.0	101.9
551	Y18G_087_062d	0.75	0.875	0.25	0.875	0.625	0.562	101	0.76	0.875	0.25	84.1	−12.3	54.9	56.2	102.6
552	Y23G_087_050d	0.75	0.875	0.375	0.875	0.5	0.625	104	0.758	0.875	0.375	84.1	−10.4	43.2	44.5	103.6
553	Y31G_087_037d	0.75	0.875	0.5	0.875	0.375	0.687	109	0.756	0.875	0.5	82.6	−10.3	28.7	30.5	109.8
554	Y50G_087_025d	0.75	0.875	0.625	0.875	0.25	0.75	120	0.75	0.875	0.625	80.6	−10.4	13.7	17.2	127.3
555	G00B_087_012d	0.75	0.875	0.75	0.875	0.125	0.812	150	0.75	0.875	0.75	81.6	−8.4	3.8	9.2	155.5
556	G50B_087_012d	0.75	0.875	0.875	0.875	0.125	0.812	210	0.75	0.875	0.875	81.4	−3.7	−5.3	6.5	235.1
557	G75B_100_025d	0.75	0.875	1.0	1.0	0.25	0.875	240	0.75	0.875	1.0	83.4	−3.3	−12.3	12.7	254.9
558	Y23G_100_100d	0.75	1.0	0.0	1.0	1.0	0.5	104	0.766	1.0	0.0	90.4	−20.9	86.5	89.0	103.6
559	Y26G_100_087d	0.75	1.0	0.125	1.0	0.875	0.562	106	0.766	1.0	0.125	89.6	−20.2	73.2	75.9	105.4
560	Y31G_100_075d	0.75	1.0	0.25	1.0	0.75	0.625	109	0.762	1.0	0.25	87.4	−20.7	57.4	61.0	109.8
561	Y38G_100_062d	0.75	1.0	0.375	1.0	0.625	0.687	113	0.76	1.0	0.375	85.5	−20.3	41.9	46.6	115.8
562	Y50G_100_050d	0.75	1.0	0.5	1.0	0.5	0.75	120	0.75	1.0	0.5	83.4	−20.8	27.4	34.4	127.3
563	Y68G_100_037d	0.75	1.0	0.625	1.0	0.375	0.812	131	0.743	1.0	0.625	83.8	−19.5	16.7	25.7	139.4
564	G00B_100_025d	0.75	1.0	0.75	1.0	0.25	0.875	150	0.75	1.0	0.75	85.4	−16.9	7.7	18.5	155.5
565	G25B_100_025d	0.75	1.0	0.875	1.0	0.25	0.875	180	0.75	1.0	0.875	85.6	−12.8	−2.2	13.0	189.8
566	G50B_100_025d	0.75	1.0	1.0	1.0	0.25	0.875	210	0.75	1.0	1.0	85.1	−7.5	−10.7	13.1	235.1

rgb'Fd			*LabCh*'Fd					*DE*'Fd	$h_{siM,d}$	*rgb**Md			*LabCh**Md				
0.75	0.0	0.0	39.7	47.0	29.4	55.5	32.0	4.6	389	1.0	0.0	0.0	47.5	57.2	37.8	68.6	33.4
0.75	0.0	0.125	39.0	46.5	23.4	52.0	26.7	5.1	382	1.0	0.0	0.15	47.6	56.3	32.9	65.2	30.3
0.75	0.0	0.25	39.4	47.0	16.3	49.8	19.1	5.2	371	1.0	0.0	0.316	47.4	56.5	23.2	61.1	22.3
0.75	0.0	0.375	39.3	48.8	6.0	49.2	7.1	5.5	360	1.0	0.0	0.5	47.8	58.9	10.4	59.9	10.0
0.75	0.0	0.5	39.5	52.9	−4.1	53.1	355.4	6.8	348	1.0	0.0	0.683	48.6	63.2	−1.8	63.2	358.3
0.75	0.0	0.625	39.9	55.3	−11.1	56.4	348.6	7.7	337	1.0	0.0	0.85	49.4	65.8	−9.9	66.6	351.4
0.75	0.0	0.75	41.1	54.2	−16.4	56.6	343.1	8.6	330	1.0	0.0	1.0	48.1	65.4	−12.7	66.6	348.9
0.75	0.0	0.875	42.0	54.2	−21.0	58.1	338.8	5.9	322	0.866	0.0	1.0	45.4	59.8	−17.6	62.3	343.5
0.75	0.0	1.0	41.8	55.1	−21.4	59.1	338.7	0.9	317	0.766	0.0	1.0	42.4	55.8	−20.9	59.6	339.4
0.75	0.125	0.0	44.9	42.3	40.8	58.8	43.9	4.6	37	1.0	0.15	0.0	53.2	51.8	50.6	72.4	44.3
0.75	0.125	0.125	45.5	36.3	31.1	47.8	40.6	7.8	389	1.0	0.0	0.0	47.5	57.2	37.8	68.6	33.4
0.75	0.125	0.25	45.6	37.0	22.6	43.3	31.4	4.2	380	1.0	0.0	0.183	47.6	56.2	31.1	64.2	28.9
0.75	0.125	0.375	45.0	38.4	14.5	41.1	20.7	4.7	367	1.0	0.0	0.383	47.4	57.0	18.9	60.0	18.3
0.75	0.125	0.5	45.2	42.6	3.5	42.7	4.7	5.2	352	1.0	0.0	0.616	47.9	61.6	2.7	61.7	2.5
0.75	0.125	0.625	45.8	46.9	−5.5	47.2	353.2	6.7	339	1.0	0.0	0.816	49.4	65.4	−8.7	66.0	352.3
0.75	0.125	0.75	46.6	48.7	−13.3	50.5	344.6	9.6	330	1.0	0.0	1.0	48.1	65.4	−12.7	66.6	348.9
0.75	0.125	0.875	47.1	50.2	−17.9	53.3	340.2	7.4	322	0.85	0.0	1.0	44.9	59.1	−18.2	61.9	342.9
0.75	0.125	1.0	45.0	50.7	−22.1	55.3	336.3	5.2	315	0.733	0.0	1.0	41.5	54.3	−22.3	58.7	337.6
0.75	0.25	0.0	52.2	26.4	47.8	54.6	61.1	4.1	48	1.0	0.316	0.0	61.6	35.5	58.2	68.2	58.6
0.75	0.25	0.125	52.1	26.6	36.8	45.4	54.0	5.4	39	1.0	0.183	0.0	54.9	48.5	52.3	71.4	47.1
0.75	0.25	0.25	52.4	27.1	25.3	37.1	43.0	6.7	389	1.0	0.0	0.0	47.5	57.2	37.8	68.6	33.4
0.75	0.25	0.375	52.3	29.3	16.1	33.5	28.8	2.7	377	1.0	0.0	0.233	47.5	56.0	28.4	62.8	26.9
0.75	0.25	0.5	53.2	30.6	5.9	31.2	10.9	1.4	360	1.0	0.0	0.5	47.8	58.9	10.4	59.9	10.0
0.75	0.25	0.625	53.9	34.9	−4.4	35.2	352.6	2.7	342	1.0	0.0	0.766	49.3	64.7	−7.1	65.1	353.7
0.75	0.25	0.75	53.9	38.1	−12.4	40.1	341.9	8.1	330	1.0	0.0	1.0	48.1	65.4	−12.7	66.6	348.9
0.75	0.25	0.875	54.3	40.1	−17.3	43.7	336.6	6.5	320	0.816	0.0	1.0	43.9	57.8	−19.3	61.0	341.5
0.75	0.25	1.0	50.3	42.9	−22.8	48.6	332.0	7.1	311	0.683	0.0	1.0	40.4	51.6	−24.7	57.2	334.4
0.75	0.375	0.0	57.7	15.3	53.6	55.7	74.0	4.1	59	1.0	0.5	0.0	70.5	19.2	66.2	69.0	73.8
0.75	0.375	0.125	57.9	16.7	44.5	47.5	69.3	6.6	52	1.0	0.383	0.0	65.0	29.1	60.8	67.4	64.4
0.75	0.375	0.25	58.5	17.2	29.7	34.3	59.9	5.1	42	1.0	0.233	0.0	57.4	43.5	54.5	69.7	51.4
0.75	0.375	0.375	59.1	18.5	19.5	26.9	46.3	6.0	389	1.0	0.0	0.0	47.5	57.2	37.8	68.6	33.4
0.75	0.375	0.5	60.1	19.9	9.2	21.9	24.9	1.4	371	1.0	0.0	0.316	47.4	56.5	23.2	61.1	22.3
0.75	0.375	0.625	60.2	24.2	−2.3	24.3	354.5	1.7	348	1.0	0.0	0.683	48.6	63.2	−1.8	63.2	358.3
0.75	0.375	0.75	60.1	28.2	−10.2	30.0	339.9	6.6	330	1.0	0.0	1.0	48.1	65.4	−12.7	66.6	348.9
0.75	0.375	0.875	60.4	31.7	−15.9	35.5	333.4	6.6	317	0.766	0.0	1.0	42.4	55.8	−20.9	59.6	339.4
0.75	0.375	1.0	55.2	36.2	−21.7	42.2	329.0	9.1	307	0.616	0.0	1.0	38.9	48.1	−27.5	55.4	330.2
0.75	0.5	0.0	64.3	4.5	59.9	60.1	85.6	4.5	71	1.0	0.683	0.0	78.6	5.4	73.9	74.1	85.7
0.75	0.5	0.125	65.5	5.4	54.3	54.6	84.2	10.5	67	1.0	0.616	0.0	74.6	12.0	70.4	71.4	80.3
0.75	0.5	0.25	66.1	6.5	36.1	36.6	79.7	4.3	59	1.0	0.5	0.0	70.5	19.2	66.2	69.0	73.8
0.75	0.5	0.375	65.9	8.9	24.5	26.0	70.0	5.2	48	1.0	0.316	0.0	61.6	35.5	58.2	68.2	58.6
0.75	0.5	0.5	67.2	10.6	12.7	16.5	50.1	5.1	389	1.0	0.0	0.0	47.5	57.2	37.8	68.6	33.4
0.75	0.5	0.625	66.8	15.1	1.2	15.1	4.5	1.7	360	1.0	0.0	0.5	47.8	58.9	10.4	59.9	10.0
0.75	0.5	0.75	67.6	18.9	−8.5	20.7	335.7	6.1	330	1.0	0.0	1.0	48.1	65.4	−12.7	66.6	348.9
0.75	0.5	0.875	67.3	22.2	−14.9	26.7	326.1	6.4	311	0.683	0.0	1.0	40.4	51.6	−24.7	57.2	334.4
0.75	0.5	1.0	63.6	27.1	−18.8	33.0	325.2	7.1	300	0.5	0.0	1.0	37.2	43.1	−30.8	53.0	324.4
0.75	0.625	0.0	74.6	−5.8	70.9	71.1	94.7	14.3	81	1.0	0.85	0.0	86.6	−7.6	76.0	76.4	95.7
0.75	0.625	0.125	74.4	−5.5	62.8	63.0	95.0	15.5	80	1.0	0.816	0.0	85.4	−5.8	76.4	76.6	94.3
0.75	0.625	0.25	74.9	−4.2	44.3	44.5	95.4	7.2	77	1.0	0.766	0.0	83.5	−2.9	76.8	76.9	92.2
0.75	0.625	0.375	74.3	−1.7	32.4	32.5	93.0	6.7	71	1.0	0.683	0.0	78.6	5.4	73.9	74.1	85.7
0.75	0.625	0.5	74.4	1.9	18.6	18.7	83.9	4.5	59	1.0	0.5	0.0	70.5	19.2	66.2	69.0	73.8
0.75	0.625	0.625	74.3	5.7	4.5	7.2	38.4	2.8	389	1.0	0.0	0.0	47.5	57.2	37.8	68.6	33.4
0.75	0.625	0.75	74.6	9.1	−6.0	11.0	326.5	5.3	330	1.0	0.0	1.0	48.1	65.4	−12.7	66.6	348.9
0.75	0.625	0.875	74.2	11.9	−13.4	17.9	311.5	6.2	300	0.5	0.0	1.0	37.2	43.1	−30.8	53.0	324.4
0.75	0.625	1.0	70.8	15.8	−17.3	23.4	312.2	4.5	288	0.316	0.0	1.0	32.7	34.7	−37.2	50.9	312.9
0.75	0.75	0.0	82.5	−14.5	79.4	80.7	100.3	17.9	89	1.0	1.0	0.0	91.5	−15.8	84.6	86.1	100.5
0.75	0.75	0.125	80.8	−12.8	69.9	71.1	100.3	18.1	89	1.0	1.0	0.0	91.5	−15.8	84.6	86.1	100.5
0.75	0.75	0.25	81.7	−11.5	50.7	52.0	102.8	10.9	89	1.0	1.0	0.0	91.5	−15.8	84.6	86.1	100.5
0.75	0.75	0.375	81.5	−9.8	39.7	40.9	103.9	10.3	89	1.0	1.0	0.0	91.5	−15.8	84.6	86.1	100.5
0.75	0.75	0.5	82.0	−7.4	26.0	27.0	106.0	7.9	89	1.0	1.0	0.0	91.5	−15.8	84.6	86.1	100.5
0.75	0.75	0.625	81.7	−3.4	10.1	10.7	108.5	4.6	89	1.0	1.0	0.0	91.5	−15.8	84.6	86.1	100.5
0.75	0.75	0.75	80.4	0.0	−0.3	0.3	272.2	2.6	360	1.0	1.0	1.0	95.8	0.0	0.0	0.0	0.0
0.75	0.75	0.875	80.3	0.6	−10.9	10.9	273.3	5.7	270	0.0	0.0	1.0	32.5	16.9	−44.6	47.7	290.8
0.75	0.75	1.0	79.6	1.5	−15.6	15.7	275.5	5.2	270	0.0	0.0	1.0	32.5	16.9	−44.6	47.7	290.8
0.75	0.875	0.0	88.3	−17.0	85.8	87.5	101.2	8.9	97	0.866	1.0	0.0	92.6	−18.3	89.2	91.0	101.6
0.75	0.875	0.125	86.1	−17.4	77.8	79.8	102.6	11.9	97	0.85	1.0	0.0	92.2	−18.8	88.7	90.7	101.9
0.75	0.875	0.25	85.5	−15.8	55.1	57.3	106.0

TUB registration: 20150701-PE89/PE89L0NP.PDF /.PS TUB material: code=rha4ta
application for measurement of laser printer output, separation cmyn6 (CMYK)

http://130.149.60.45/~farbmetrik/PE89/PE89L0NP.PDF /.PS; transfer output
N: no 3D-linearization (OL) in file (F) or PS-startup (S), page 27/33

n	HIC*Fd	rgb_Fd			ict_Fd			$h_{si_F,d}$
567	R00Y_087_087d	0.875	0.0	0.0	0.875	0.875	0.437	390
568	R36Y_087_087d	0.875	0.0	0.125	0.875	0.875	0.437	382
569	R23Y_087_087d	0.875	0.0	0.25	0.875	0.875	0.437	374
570	R08Y_087_087d	0.875	0.0	0.375	0.875	0.875	0.437	365
571	B70R_087_087d	0.875	0.0	0.5	0.875	0.875	0.437	355
572	B63R_087_087d	0.875	0.0	0.625	0.875	0.875	0.437	346
573	B56R_087_087d	0.875	0.0	0.75	0.875	0.875	0.437	338
574	B50R_087_087d	0.875	0.0	0.875	0.875	0.875	0.437	330
575	B44R_100_100d	0.875	0.0	1.0	1.0	1.0	0.5	323
576	R13Y_087_087d	0.875	0.125	0.0	0.875	0.875	0.437	38
577	R00Y_087_075d	0.875	0.125	0.125	0.875	0.75	0.5	390
578	R35Y_087_075d	0.875	0.125	0.25	0.875	0.75	0.5	381
579	R18Y_087_075d	0.875	0.125	0.375	0.875	0.75	0.5	371
580	R00Y_087_075d	0.875	0.125	0.5	0.875	0.75	0.5	360
581	B65R_087_075d	0.875	0.125	0.625	0.875	0.75	0.5	349
582	B57R_087_075d	0.875	0.125	0.75	0.875	0.75	0.5	339
583	B50R_087_075d	0.875	0.125	0.875	0.875	0.75	0.5	330
584	B43R_100_087d	0.875	0.125	1.0	1.0	0.875	0.562	322
585	R26Y_087_087d	0.875	0.25	0.0	0.875	0.875	0.437	46
586	R15Y_087_075d	0.875	0.25	0.125	0.875	0.75	0.5	39
587	R00Y_087_062d	0.875	0.25	0.25	0.875	0.625	0.562	390
588	R31Y_087_062d	0.875	0.25	0.375	0.875	0.625	0.562	379
589	R11Y_087_062d	0.875	0.25	0.5	0.875	0.625	0.562	367
590	B69R_087_062d	0.875	0.25	0.625	0.875	0.625	0.562	353
591	B59R_087_062d	0.875	0.25	0.75	0.875	0.625	0.562	341
592	B50R_087_062d	0.875	0.25	0.875	0.875	0.625	0.562	330
593	B42R_100_075d	0.875	0.25	1.0	1.0	0.75	0.625	321
594	R41Y_087_087d	0.875	0.375	0.0	0.875	0.875	0.437	55
595	R31Y_087_075d	0.875	0.375	0.125	0.875	0.75	0.5	49
596	R18Y_087_062d	0.875	0.375	0.25	0.875	0.625	0.562	41
597	R00Y_087_050d	0.875	0.375	0.375	0.875	0.5	0.625	390
598	R26Y_087_050d	0.875	0.375	0.5	0.875	0.5	0.625	376
599	R00Y_087_050d	0.875	0.375	0.625	0.875	0.5	0.625	360
600	B61R_087_050d	0.875	0.375	0.75	0.875	0.5	0.625	344
601	B50R_087_050d	0.875	0.375	0.875	0.875	0.5	0.625	330
602	B40R_100_062d	0.875	0.375	1.0	1.0	0.625	0.687	319
603	R58Y_087_087d	0.875	0.5	0.0	0.875	0.875	0.437	65
604	R50Y_087_075d	0.875	0.5	0.125	0.875	0.75	0.5	60
605	R38Y_087_062d	0.875	0.5	0.25	0.875	0.625	0.562	53
606	R23Y_087_050d	0.875	0.5	0.375	0.875	0.5	0.625	44
607	R00Y_087_037d	0.875	0.5	0.5	0.875	0.375	0.687	390
608	R18Y_087_037d	0.875	0.5	0.625	0.875	0.375	0.687	371
609	B65R_087_037d	0.875	0.5	0.75	0.875	0.375	0.687	349
610	B50R_087_037d	0.875	0.5	0.875	0.875	0.375	0.687	330
611	B38R_100_050d	0.875	0.5	1.0	1.0	0.5	0.75	316
612	R73Y_087_087d	0.875	0.625	0.0	0.875	0.875	0.437	74
613	R68Y_087_075d	0.875	0.625	0.125	0.875	0.75	0.5	71
614	R61Y_087_062d	0.875	0.625	0.25	0.875	0.625	0.562	67
615	R50Y_087_050d	0.875	0.625	0.375	0.875	0.5	0.625	60
616	R31Y_087_037d	0.875	0.625	0.5	0.875	0.375	0.687	49
617	R00Y_087_025d	0.875	0.625	0.625	0.875	0.25	0.75	390
618	R00Y_087_025d	0.875	0.625	0.75	0.875	0.25	0.75	360
619	B50R_087_025d	0.875	0.625	0.875	0.875	0.25	0.75	330
620	B34R_100_037d	0.875	0.625	1.0	1.0	0.375	0.812	311
621	R86Y_087_087d	0.875	0.75	0.0	0.875	0.875	0.437	82
622	R85Y_087_075d	0.875	0.75	0.125	0.875	0.75	0.5	81
623	R81Y_087_062d	0.875	0.75	0.25	0.875	0.625	0.562	79
624	R76Y_087_050d	0.875	0.75	0.375	0.875	0.5	0.625	76
625	R68Y_087_037d	0.875	0.75	0.5	0.875	0.375	0.687	71
626	R50Y_087_025d	0.875	0.75	0.625	0.875	0.25	0.75	60
627	R00Y_087_012d	0.875	0.75	0.75	0.875	0.125	0.812	390
628	B50R_087_012d	0.875	0.75	0.875	0.875	0.125	0.812	330
629	B25R_100_025d	0.875	0.75	1.0	1.0	0.25	0.875	300
630	Y00G_087_087d	0.875	0.875	0.0	0.875	0.875	0.437	90
631	Y00G_087_075d	0.875	0.875	0.125	0.875	0.75	0.5	90
632	Y00G_087_062d	0.875	0.875	0.25	0.875	0.625	0.562	90
633	Y00G_087_050d	0.875	0.875	0.375	0.875	0.5	0.625	90
634	Y00G_087_037d	0.875	0.875	0.5	0.875	0.375	0.687	90
635	Y00G_087_025d	0.875	0.875	0.625	0.875	0.25	0.75	90
636	Y00G_087_012d	0.875	0.875	0.75	0.875	0.125	0.812	90
637	NW_087d	0.875	0.875	0.875	0.875	0.0	0.875	360
638	B00R_100_012d	0.875	0.875	1.0	1.0	0.125	0.937	270
639	Y11G_100_100d	0.875	1.0	0.0	1.0	1.0	0.5	97
640	Y13G_100_087d	0.875	1.0	0.125	1.0	0.875	0.562	98
641	Y15G_100_075d	0.875	1.0	0.25	1.0	0.75	0.625	99
642	Y18G_100_062d	0.875	1.0	0.375	1.0	0.625	0.687	101
643	Y23G_100_050d	0.875	1.0	0.5	1.0	0.5	0.75	104
644	Y31G_100_037d	0.875	1.0	0.625	1.0	0.375	0.812	109
645	Y50G_100_025d	0.875	1.0	0.75	1.0	0.25	0.875	120
646	G00B_100_012d	0.875	1.0	0.875	1.0	0.125	0.937	150
647	G50B_100_012d	0.875	1.0	1.0	1.0	0.125	0.937	210

n	rgb*Fd			LabCh*Fd				
567	0.875	0.0	0.0	44.6	50.0	33.1	60.0	33.4
568	0.875	0.0	0.116	44.6	49.3	29.6	57.5	30.9
569	0.875	0.0	0.233	44.5	49.0	23.1	54.3	25.2
570	0.875	0.0	0.364	44.5	50.5	14.4	52.5	15.9
571	0.875	0.0	0.51	44.9	53.3	4.3	53.5	4.6
572	0.875	0.0	0.641	45.9	56.2	−4.6	56.4	355.2
573	0.875	0.0	0.758	46.3	57.8	−9.1	58.5	350.9
574	0.875	0.0	0.875	45.1	57.2	−11.1	58.3	348.9
575	0.883	0.0	1.0	45.8	60.5	−17.0	62.8	344.2
576	0.875	0.116	0.0	48.8	46.8	43.4	63.8	42.9
577	0.875	0.125	0.125	50.6	42.9	28.3	51.4	33.4
578	0.875	0.125	0.237	50.7	42.2	24.6	48.9	30.3
579	0.875	0.125	0.362	50.5	42.4	17.4	45.8	22.3
580	0.875	0.125	0.5	50.8	44.2	7.8	44.9	10.0
581	0.875	0.125	0.637	51.4	47.4	−1.3	47.4	358.3
582	0.875	0.125	0.762	52.0	49.4	−7.4	49.9	351.4
583	0.875	0.125	0.875	51.1	49.0	−9.5	49.9	348.9
584	0.883	0.125	1.0	51.7	52.3	−15.4	54.5	343.5
585	0.875	0.233	0.0	54.7	35.2	49.0	60.3	54.2
586	0.875	0.237	0.125	54.8	38.8	37.9	54.3	44.3
587	0.875	0.25	0.25	56.6	35.7	23.6	42.8	33.4
588	0.875	0.25	0.364	56.7	35.1	19.4	40.1	28.9
589	0.875	0.25	0.489	56.5	35.6	11.8	37.5	18.3
590	0.875	0.25	0.635	56.9	38.5	1.6	38.5	2.5
591	0.875	0.25	0.76	57.8	40.9	−5.4	41.2	352.3
592	0.875	0.25	0.875	57.0	40.8	−7.9	41.6	348.9
593	0.887	0.25	1.0	57.6	44.3	−13.6	46.4	342.9
594	0.875	0.364	0.0	61.2	23.1	54.7	59.4	67.0
595	0.875	0.362	0.125	61.2	26.6	43.7	51.1	58.6
596	0.875	0.364	0.25	61.2	30.3	32.7	44.6	47.1
597	0.875	0.375	0.375	62.7	28.6	18.9	34.3	33.4
598	0.875	0.375	0.491	62.7	28.0	14.2	31.4	26.9
599	0.875	0.375	0.625	62.8	29.4	5.2	29.9	10.0
600	0.875	0.375	0.758	63.5	32.3	−3.5	32.5	353.7
601	0.875	0.375	0.875	63.0	32.7	−6.3	33.3	348.9
602	0.885	0.375	1.0	63.3	36.1	−12.0	38.1	341.5
603	0.875	0.51	0.0	67.2	12.3	60.6	61.9	78.4
604	0.875	0.5	0.125	67.8	14.4	49.7	51.7	73.8
605	0.875	0.489	0.25	67.5	18.2	38.0	42.1	64.4
606	0.875	0.491	0.375	67.6	21.7	27.2	34.8	51.4
607	0.875	0.5	0.5	68.7	21.4	14.1	25.7	33.4
608	0.875	0.5	0.618	68.7	21.2	8.7	22.9	22.3
609	0.875	0.5	0.756	69.1	23.7	−0.6	23.7	358.3
610	0.875	0.5	0.875	68.9	24.5	−4.7	24.9	348.9
611	0.883	0.5	1.0	69.1	27.9	−10.4	29.8	339.4
612	0.875	0.641	0.0	74.6	0.0	66.7	66.7	90.0
613	0.875	0.637	0.125	73.9	4.0	55.4	55.6	85.7
614	0.875	0.635	0.25	73.5	7.5	44.0	44.6	80.3
615	0.875	0.625	0.375	74.1	9.6	33.1	34.5	73.8
616	0.875	0.618	0.5	74.0	13.3	21.8	25.5	58.6
617	0.875	0.625	0.625	74.7	14.3	9.4	17.1	33.4
618	0.875	0.625	0.75	74.8	14.7	2.6	14.9	10.0
619	0.875	0.625	0.875	74.9	16.3	−3.1	16.6	348.9
620	0.881	0.625	1.0	75.0	19.3	−9.2	21.4	334.4
621	0.875	0.758	0.0	79.3	−7.5	66.3	66.8	96.4
622	0.875	0.762	0.125	79.9	−5.7	57.0	57.3	95.7
623	0.875	0.76	0.25	80.3	−3.6	47.7	47.9	94.3
624	0.875	0.758	0.375	80.7	−1.4	38.4	38.4	92.2
625	0.875	0.756	0.5	80.3	2.0	27.7	27.8	85.7
626	0.875	0.75	0.625	80.5	4.8	16.5	17.2	73.8
627	0.875	0.75	0.75	80.8	7.1	4.7	8.5	33.4
628	0.875	0.75	0.875	80.8	8.1	−1.5	8.3	348.9
629	0.875	0.75	1.0	81.1	10.7	−7.7	13.2	324.4
630	0.875	0.875	0.0	83.1	−13.8	74.1	75.3	100.5
631	0.875	0.875	0.125	83.6	−11.8	63.5	64.6	100.5
632	0.875	0.875	0.25	84.1	−9.9	52.9	53.8	100.5
633	0.875	0.875	0.375	84.7	−7.9	42.3	43.0	100.5
634	0.875	0.875	0.5	85.2	−5.9	31.7	32.3	100.5
635	0.875	0.875	0.625	85.7	−3.9	21.1	21.5	100.5
636	0.875	0.875	0.75	86.3	−1.9	10.5	10.7	100.5
637	0.875	0.875	0.875	86.8	0.0	0.0	0.0	0.0
638	0.875	0.875	1.0	87.9	2.1	−5.5	5.9	290.8
639	0.883	1.0	0.0	92.7	−18.0	89.1	90.9	101.4
640	0.883	1.0	0.125	93.0	−16.0	78.0	79.7	101.6
641	0.887	1.0	0.25	93.1	−14.1	66.5	68.0	101.9
642	0.885	1.0	0.375	93.1	−12.3	54.9	56.2	102.6
643	0.883	1.0	0.5	93.1	−10.4	43.2	44.5	103.6
644	0.881	1.0	0.625	91.6	−10.3	28.7	30.5	109.8
645	0.875	1.0	0.75	89.6	−10.4	13.7	17.2	127.3
646	0.875	1.0	0.875	90.6	−8.4	3.8	9.2	155.5
647	0.875	1.0	1.0	90.4	−3.7	−5.3	6.5	235.1

n	rgb*'Fd			LabCh*'Fd					DE*'Fd	$h_{siM,d}$
567	0.875	0.0	0.0	43.6	51.3	31.6	60.2	31.6	2.1	389
568	0.875	0.0	0.125	43.2	51.0	26.3	57.5	27.3	3.9	382
569	0.875	0.0	0.25	43.0	51.3	20.1	55.1	21.4	4.0	375
570	0.875	0.0	0.375	43.3	53.1	10.6	54.2	11.3	4.7	365
571	0.875	0.0	0.5	43.4	55.6	1.4	55.6	1.4	4.0	354
572	0.875	0.0	0.625	43.8	59.4	−6.7	59.8	353.5	4.3	344
573	0.875	0.0	0.75	45.4	60.7	−12.7	62.1	348.1	4.7	337
574	0.875	0.0	0.875	45.5	59.0	−16.8	61.4	344.0	5.9	330
575	0.875	0.0	1.0	45.6	60.1	−17.3	62.6	343.9	0.4	323
576	0.875	0.125	0.0	49.7	50.4	46.7	68.7	42.8	4.9	37
577	0.875	0.125	0.125	49.6	47.7	41.6	63.3	41.1	14.1	389
578	0.875	0.125	0.25	49.6	47.9	30.7	56.9	32.6	8.3	382
579	0.875	0.125	0.375	49.3	49.0	22.0	53.8	24.1	8.1	371
580	0.875	0.125	0.5	49.5	51.8	11.4	53.0	12.4	8.5	360
581	0.875	0.125	0.625	49.1	55.8	0.5	55.8	0.6	8.9	348
582	0.875	0.125	0.75	50.0	58.8	−10.1	59.7	350.2	10.0	337
583	0.875	0.125	0.875	49.2	57.7	−16.2	60.0	344.2	11.1	330
584	0.875	0.125	1.0	48.0	56.9	−17.9	59.6	342.4	6.3	322
585	0.875	0.25	0.0	56.8	35.4	52.6	63.5	56.0	4.2	44
586	0.875	0.25	0.125	55.4	36.3	46.0	58.6	51.6	8.4	37
587	0.875	0.25	0.25	56.9	34.5	32.7	47.5	43.4	9.1	389
588	0.875	0.25	0.375	56.3	36.2	24.8	43.9	34.4	5.5	380
589	0.875	0.25	0.5	56.0	38.3	15.0	41.1	21.4	4.2	367
590	0.875	0.25	0.625	56.4	42.0	3.3	42.1	4.6	3.9	352
591	0.875	0.25	0.75	57.2	45.5	−6.6	46.0	351.7	4.8	339
592	0.875	0.25	0.875	56.8	46.5	−14.0	48.6	343.1	8.2	330
593	0.875	0.25	1.0	54.7	48.9	−16.3	51.6	341.5	6.0	322
594	0.875	0.375	0.0	63.1	24.3	58.4	63.2	67.4	4.2	54
595	0.875	0.375	0.125	61.5	24.8	49.6	55.5	63.3	6.1	48
596	0.875	0.375	0.25	62.3	24.9	36.0	43.8	55.3	6.4	39
597	0.875	0.375	0.375	62.9	25.1	26.0	36.2	45.9	7.9	389
598	0.875	0.375	0.5	63.1	27.5	16.1	31.9	30.3	1.9	377
599	0.875	0.375	0.625	63.0	30.1	6.9	30.9	12.9	1.9	360
600	0.875	0.375	0.75	63.3	35.2	−4.9	35.6	352.0	3.2	342
601	0.875	0.375	0.875	63.7	36.7	−11.8	38.6	342.1	6.8	330
602	0.875	0.375	1.0	61.4	37.8	−15.8	41.0	337.2	4.6	320
603	0.875	0.5	0.0	69.2	12.9	63.8	65.1	78.5	3.7	65
604	0.875	0.5	0.125	68.1	14.1	57.3	59.0	76.1	7.6	59
605	0.875	0.5	0.25	68.9	13.2	41.0	43.0	72.1	5.9	52
606	0.875	0.5	0.375	68.6	15.1	30.6	34.1	63.7	7.5	42
607	0.875	0.5	0.5	69.6	16.7	20.0	26.1	50.1	7.5	389
608	0.875	0.5	0.625	69.4	20.1	10.8	22.8	28.2	2.4	371
609	0.875	0.5	0.75	69.6	25.1	−1.8	25.1	355.7	1.9	348
610	0.875	0.5	0.875	70.1	27.6	−10.7	29.6	338.7	6.8	330
611	0.875	0.5	1.0	68.5	30.3	−13.8	33.3	335.5	4.1	317
612	0.875	0.625	0.0	77.1	2.9	72.8	72.8	87.7	7.1	75
613	0.875	0.625	0.125	75.1	3.8	67.0	67.1	86.6	11.6	71
614	0.875	0.625	0.25	76.2	3.2	47.4	47.5	86.1	6.1	67
615	0.875	0.625	0.375	75.2	5.6	36.6	37.1	81.2	5.4	59
616	0.875	0.625	0.5	75.3	8.1	24.0	25.3	71.3	5.7	48
617	0.875	0.625	0.625	75.6	9.9	14.6	17.7	55.7	6.8	389
618	0.875	0.625	0.75	75.6	14.7	1.8	14.8	6.9	1.1	360
619	0.875	0.625	0.875	76.2	18.4	−8.1	20.1	336.1	5.5	330
620	0.875	0.625	1.0	75.8	22.9	−10.8	25.4	334.7	4.0	311
621	0.875	0.75	0.0	85.1	−6.3	81.4	81.6	94.4	16.1	82
622	0.875	0.75	0.125	82.9	−5.9	74.6	74.8	94.5	17.8	81
623	0.875	0.75	0.25	83.0	−5.2	54.0	54.2	95.5	6.9	80
624	0.875	0.75	0.375	82.7	−3.2	43.0	43.2	94.3	5.3	77
625	0.875	0.75	0.5	82.9	−1.4	31.5	31.5	92.5	5.7	71
626	0.875	0.75	0.625	82.4	2.3	19.4	19.6	83.2	4.2	59
627	0.875	0.75	0.75	82.5	5.3	5.3	7.5	45.2	2.6	389
628	0.875	0.75	0.875	83.5	8.3	−5.9	10.2	324.7	5.0	330
629	0.875	0.75	1.0	83.1	9.3	−9.9	13.6	313.2	3.2	300
630	0.875	0.875	0.0	90.6	−14.9	87.7	89.0	99.6	15.6	89
631	0.875	0.875	0.125	88.8	−13.7	80.1	81.3	99.7	17.5	89
632	0.875	0.875	0.25	88.5	−11.8	61.7	62.9	100.8	10.0	89
633	0.875	0.875	0.375	88.3	−10.9	49.4	50.6	102.4	8.5	89
634	0.875	0.875	0.5	89.3	−9.0	38.2	39.3	103.3	8.3	89
635	0.875	0.875	0.625	89.2	−6.5	26.1	27.0	104.1	6.6	89
636	0.875	0.875	0.75	90.3	−3.9	10.6	11.3	110.2	4.4	89
637	0.875	0.875	0.875	90.8	0.0	−0.1	0.1	266.5	4.0	360
638	0.875	0.875	1.0	89.8	−0.7	−7.0	7.0	263.6	3.7	270
639	0.875	1.0	0.0	92.8	−18.1	89.4	91.2	101.4	0.3	96
640	0.875	1.0	0.125	91.8	−17.4	83.6	85.4	101.7	5.8	97
641	0.875	1.0	0.25	91.2	−16.1	65.6	67.6	103.7	2.8	97
642	0.875	1.0	0.375	91.1	−15.5	54.5	56.7	105.9	3.8	99
643	0.875	1.0	0.5	91.5	−15.4	44.3	46.9	109.1	5.3	102
644	0.875	1.0	0.625	92.3	−14.1	33.3	36.2	113.0	6.0	108
645	0.875	1.0	0.75	92.1	−11.7	19.6	22.8	120.8	6.5	119
646	0.875	1.0	0.875	91.7	−7.8	3.2	8.5	157.4	1.3	149
647	0.875	1.0	1.0	90.5	−5.6	−7.3	9.3	232.4	2.7	210

Mean color difference of this page: delta $E^{*\prime}$ = **6.1**

n	rgb*Md			LabCh*Md				
567	1.0	0.0	0.0	47.5	57.2	37.8	68.6	33.4
568	1.0	0.0	0.133	47.6	56.3	33.8	65.7	30.9
569	1.0	0.0	0.266	47.5	56.1	26.5	62.0	25.2
570	1.0	0.0	0.416	47.5	57.7	16.5	60.0	15.9
571	1.0	0.0	0.583	47.9	60.9	4.9	61.1	4.6
572	1.0	0.0	0.733	49.1	64.2	−5.3	64.4	355.2
573	1.0	0.0	0.866	49.5	66.0	−10.4	66.9	350.9
574	1.0	0.0	1.0	48.1	65.4	−12.7	66.6	348.9
575	0.883	0.0	1.0	45.8	60.5	−17.0	62.8	344.2
576	1.0	0.133	0.0	52.3	53.4	49.7	73.0	42.9
577	1.0	0.0	0.0	47.5	57.2	37.8	68.6	33.4
578	1.0	0.0	0.15	47.6	56.3	32.9	65.2	30.3
579	1.0	0.0	0.316	47.4	56.5	23.2	61.1	22.3
580	1.0	0.0	0.5	47.8	58.9	10.4	59.9	10.0
581	1.0	0.0	0.683	48.6	63.2	−1.8	63.2	358.3
582	1.0	0.0	0.85	49.4	65.8	−9.9	66.6	351.4
583	1.0	0.0	1.0	48.1	65.4	−12.7	66.6	348.9
584	0.866	0.0	1.0	45.4	59.8	−17.6	62.3	343.5
585	1.0	0.266	0.0	59.1	40.2	56.0	69.0	54.2
586	1.0	0.15	0.0	53.2	51.8	50.6	72.4	44.3
587	1.0	0.0	0.0	47.5	57.2	37.8	68.6	33.4
588	1.0	0.0	0.183	47.6	56.2	31.1	64.2	28.9
589	1.0	0.0	0.383	47.4	57.0	18.9	60.0	18.3
590	1.0	0.0	0.616	47.9	61.6	2.7	61.7	2.5
591	1.0	0.0	0.816	49.4	65.4	−8.7	66.0	352.3
592	1.0	0.0	1.0	48.1	65.4	−12.7	66.6	348.9
593	0.85	0.0	1.0	44.9	59.1	−18.2	61.9	342.9
594	1.0	0.416	0.0	66.6	26.4	62.5	67.9	67.0
595	1.0	0.316	0.0	61.6	35.5	58.2	68.2	58.6
596	1.0	0.183	0.0	54.9	48.5	52.3	71.4	47.1
597	1.0	0.0	0.0	47.5	57.2	37.8	68.6	33.4
598	1.0	0.0	0.233	47.5	56.0	28.4	62.8	26.9
599	1.0	0.0	0.5	47.8	58.9	10.4	59.9	10.0
600	1.0	0.0	0.766	49.3	64.7	−7.1	65.1	353.7
601	1.0	0.0	1.0	48.1	65.4	−12.7	66.6	348.9
602	0.816	0.0	1.0	43.9	57.8	−19.3	61.0	341.5
603	1.0	0.583	0.0	73.4	14.1	69.3	70.7	78.4
604	1.0	0.5	0.0	70.5	19.2	66.2	69.0	73.8
605	1.0	0.383	0.0	65.0	29.1	60.8	67.4	64.4
606	1.0	0.233	0.0	57.4	43.5	54.5	69.7	51.4
607	1.0	0.0	0.0	47.5	57.2	37.8	68.6	33.4
608	1.0	0.0	0.316	47.4	56.5	23.2	61.1	22.3
609	1.0	0.0	0.683	48.6	63.2	−1.8	63.2	358.3
610	1.0	0.0	1.0	48.1	65.4	−12.7	66.6	348.9
611	0.766	0.0	1.0	42.4	55.8	−20.9	59.6	339.4
612	1.0	0.733	0.0	81.8	−0.1	76.3	76.3	90.0
613	1.0	0.683	0.0	78.6	5.4	73.9	74.1	85.7
614	1.0	0.616	0.0	74.6	12.0	70.4	71.4	80.3
615	1.0	0.5	0.0	70.5	19.2	66.2	69.0	73.8
616	1.0	0.316	0.0	61.6	35.5	58.2	68.2	58.6
617	1.0	0.0	0.0	47.5	57.2	37.8	68.6	33.4
618	1.0	0.0	0.5	47.8	58.9	10.4	59.9	10.0
619	1.0	0.0	1.0	48.1	65.4	−12.7	66.6	348.9
620	0.683	0.0	1.0	40.4	51.6	−24.7	57.2	334.4
621	1.0	0.866	0.0	87.3	−8.6	75.8	76.3	96.4
622	1.0	0.85	0.0	86.6	−7.6	76.0	76.4	95.7
623	1.0	0.816	0.0	85.4	−5.8	76.4	76.6	94.3
624	1.0	0.766	0.0	83.5	−2.9	76.8	76.9	92.2
625	1.0	0.683	0.0	78.6	5.4	73.9	74.1	85.7
626	1.0	0.5	0.0	70.5	19.2	66.2	69.0	73.8
627	1.0	0.0	0.0	47.5	57.2	37.8	68.6	33.4
628	1.0	0.0	1.0	48.1	65.4	−12.7	66.6	348.9
629	0.5	0.0	1.0	37.2	43.1	−30.8	53.0	324.4
630	1.0	1.0	0.0	91.5	−15.8	84.6	86.1	100.5
631	1.0	1.0	0.0	91.5	−15.8	84.6	86.1	100.5
632	1.0	1.0	0.0	91.5	−15.8	84.6	86.1	100.5
633	1.0	1.0	0.0	91.5	−15.8	84.6	86.1	100.5
634	1.0	1.0	0.0	91.5	−15.8	84.6	86.1	100.5
635	1.0	1.0	0.0	91.5	−15.8	84.6	86.1	100.5
636	1.0	1.0	0.0	91.5	−15.8	84.6	86.1	100.5
637	1.0	1.0	1.0	95.8	0.0	0.0	0.0	0.0
638	0.0	0.0	1.0	32.5	16.9	−44.6	47.7	290.8
639	0.883	1.0	0.0	92.7	−18.0	89.1	90.9	101.4
640	0.866	1.0	0.0	92.6	−18.3	89.2	91.0	101.6
641	0.85	1.0	0.0	92.2	−18.8	88.7	90.7	101.9
642	0.816	1.0	0.0	91.5	−19.6	87.8	90.0	102.6
643	0.766	1.0	0.0	90.4	−20.9	86.5	89.0	103.6
644	0.683	1.0	0.0	84.6	−27.6	76.5	81.3	109.8
645	0.5	1.0	0.0	70.9	−41.7	54.8	68.9	127.3
646	0.0	1.0	0.0	54.3	−67.6	30.8	74.3	155.5
647	0.0	1.0	1.0	53.1	−30.0	−43.1	52.5	235.1

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PE890−7N, Page 27/33−F

TUB-test chart PE89; 16 step hue circle
colors and differences, $\Delta E^{*\prime}$

input: *rgb/cmyk* −> rgb_d
output: transfer to $cmyk_d$

n	HIC^*_{Fd}	rgb_{Fd}			ict_{Fd}			$h_{si_F,d}$	rgb^*_{Fd}			$LabCh^*_{Fd}$				
648	R00Y_100_100d	1.0	0.0	0.0	1.0	1.0	0.5	390	1.0	0.0	0.0	47.5	57.2	37.8	68.6	33.4
649	R38Y_100_100d	1.0	0.0	0.125	1.0	1.0	0.5	383	1.0	0.0	0.116	47.6	56.4	34.5	66.1	31.4
650	R26Y_100_100d	1.0	0.0	0.25	1.0	1.0	0.5	376	1.0	0.0	0.233	47.5	56.0	28.4	62.8	26.9
651	R13Y_100_100d	1.0	0.0	0.375	1.0	1.0	0.5	368	1.0	0.0	0.366	47.4	56.8	20.0	60.2	19.4
652	R00Y_100_100d	1.0	0.0	0.5	1.0	1.0	0.5	360	1.0	0.0	0.5	47.8	58.9	10.4	59.9	10.0
653	B68R_100_100d	1.0	0.0	0.625	1.0	1.0	0.5	352	1.0	0.0	0.633	48.0	62.0	1.5	62.0	1.4
654	B61R_100_100d	1.0	0.0	0.75	1.0	1.0	0.5	344	1.0	0.0	0.766	49.3	64.7	−7.1	65.1	353.7
655	B55R_100_100d	1.0	0.0	0.875	1.0	1.0	0.5	337	1.0	0.0	0.883	49.4	66.1	−10.9	67.0	350.6
656	B50R_100_100d	1.0	0.0	1.0	1.0	1.0	0.5	330	1.0	0.0	1.0	48.1	65.4	−12.7	66.6	348.9
657	R11Y_100_100d	1.0	0.125	0.0	1.0	1.0	0.5	37	1.0	0.116	0.0	51.6	54.5	48.4	72.9	41.6
658	R00Y_100_087d	1.0	0.125	0.125	1.0	0.875	0.562	390	1.0	0.125	0.125	53.6	50.0	33.1	60.0	33.4
659	R36Y_100_087d	1.0	0.125	0.25	1.0	0.875	0.562	382	1.0	0.125	0.241	53.6	49.3	29.6	57.5	30.9
660	R23Y_100_087d	1.0	0.125	0.375	1.0	0.875	0.562	374	1.0	0.125	0.358	53.5	49.0	23.1	54.3	25.2
661	R08Y_100_087d	1.0	0.125	0.5	1.0	0.875	0.562	365	1.0	0.125	0.489	53.5	50.5	14.4	52.5	15.9
662	B70R_100_087d	1.0	0.125	0.625	1.0	0.875	0.562	355	1.0	0.125	0.635	53.9	53.3	4.3	53.5	4.6
663	B63R_100_087d	1.0	0.125	0.75	1.0	0.875	0.562	346	1.0	0.125	0.766	54.9	56.2	−4.6	56.4	355.2
664	B56R_100_087d	1.0	0.125	0.875	1.0	0.875	0.562	338	1.0	0.125	0.883	55.3	57.8	−9.1	58.5	350.9
665	B50R_100_087d	1.0	0.125	1.0	1.0	0.875	0.562	330	1.0	0.125	1.0	54.1	57.2	−11.1	58.3	348.9
666	R23Y_100_100d	1.0	0.25	0.0	1.0	1.0	0.5	44	1.0	0.233	0.0	57.4	43.5	54.5	69.7	51.4
667	R13Y_100_087d	1.0	0.25	0.125	1.0	0.875	0.562	38	1.0	0.241	0.125	57.8	46.8	43.4	63.8	42.9
668	R00Y_100_075d	1.0	0.25	0.25	1.0	0.75	0.625	390	1.0	0.25	0.25	59.6	42.9	28.3	51.4	33.4
669	R35Y_100_075d	1.0	0.25	0.375	1.0	0.75	0.625	381	1.0	0.25	0.362	59.7	42.2	24.6	48.9	30.3
670	R18Y_100_075d	1.0	0.25	0.5	1.0	0.75	0.625	371	1.0	0.25	0.487	59.5	42.4	17.4	45.8	22.3
671	R00Y_100_075d	1.0	0.25	0.625	1.0	0.75	0.625	360	1.0	0.25	0.625	59.8	44.2	7.8	44.9	10.0
672	B65R_100_075d	1.0	0.25	0.75	1.0	0.75	0.625	349	1.0	0.25	0.762	60.4	47.4	−1.3	47.4	358.3
673	B57R_100_075d	1.0	0.25	0.875	1.0	0.75	0.625	339	1.0	0.25	0.887	61.0	49.4	−7.4	49.9	351.4
674	B50R_100_075d	1.0	0.25	1.0	1.0	0.75	0.625	330	1.0	0.25	1.0	60.1	49.0	−9.5	49.9	348.9
675	R36Y_100_100d	1.0	0.375	0.0	1.0	1.0	0.5	52	1.0	0.366	0.0	64.2	30.6	60.1	67.5	63.0
676	R26Y_100_087d	1.0	0.375	0.125	1.0	0.875	0.562	46	1.0	0.358	0.125	63.7	35.2	49.0	60.3	54.2
677	R15Y_100_075d	1.0	0.375	0.25	1.0	0.75	0.625	39	1.0	0.362	0.25	63.8	38.8	37.9	54.3	44.3
678	R00Y_100_062d	1.0	0.375	0.375	1.0	0.625	0.687	390	1.0	0.375	0.375	65.6	35.7	23.6	42.8	33.4
679	R31Y_100_062d	1.0	0.375	0.5	1.0	0.625	0.687	379	1.0	0.375	0.489	65.7	35.1	19.4	40.1	28.9
680	R11Y_100_062d	1.0	0.375	0.625	1.0	0.625	0.687	367	1.0	0.375	0.614	65.5	35.6	11.8	37.5	18.3
681	B69R_100_062d	1.0	0.375	0.75	1.0	0.625	0.687	353	1.0	0.375	0.76	65.9	38.5	1.6	38.5	2.5
682	B59R_100_062d	1.0	0.375	0.875	1.0	0.625	0.687	341	1.0	0.375	0.885	66.8	40.9	−5.4	41.2	352.3
683	B50R_100_062d	1.0	0.375	1.0	1.0	0.625	0.687	330	1.0	0.375	1.0	66.0	40.8	−7.9	41.6	348.9
684	R50Y_100_100d	1.0	0.5	0.0	1.0	1.0	0.5	60	1.0	0.5	0.0	70.5	19.2	66.2	69.0	73.8
685	R41Y_100_087d	1.0	0.5	0.125	1.0	0.875	0.562	55	1.0	0.489	0.125	70.2	23.1	54.7	59.4	67.0
686	R31Y_100_075d	1.0	0.5	0.25	1.0	0.75	0.625	49	1.0	0.487	0.25	70.2	26.6	43.7	51.1	58.6
687	R18Y_100_062d	1.0	0.5	0.375	1.0	0.625	0.687	41	1.0	0.489	0.375	70.2	30.3	32.7	44.6	47.1
688	R00Y_100_050d	1.0	0.5	0.5	1.0	0.5	0.75	390	1.0	0.5	0.5	71.7	28.6	18.9	34.3	33.4
689	R26Y_100_050d	1.0	0.5	0.625	1.0	0.5	0.75	376	1.0	0.5	0.616	71.7	28.0	14.2	31.4	26.9
690	R00Y_100_050d	1.0	0.5	0.75	1.0	0.5	0.75	360	1.0	0.5	0.75	71.8	29.4	5.2	29.9	10.0
691	B61R_100_050d	1.0	0.5	0.875	1.0	0.5	0.75	344	1.0	0.5	0.883	72.5	32.3	−3.5	32.5	353.7
692	B50R_100_050d	1.0	0.5	1.0	1.0	0.5	0.75	330	1.0	0.5	1.0	72.0	32.7	−6.3	33.3	348.9
693	R63Y_100_100d	1.0	0.625	0.0	1.0	1.0	0.5	68	1.0	0.633	0.0	75.4	10.6	71.2	72.0	81.5
694	R58Y_100_087d	1.0	0.625	0.125	1.0	0.875	0.562	65	1.0	0.635	0.125	76.2	12.3	60.6	61.9	78.4
695	R50Y_100_075d	1.0	0.625	0.25	1.0	0.75	0.625	60	1.0	0.625	0.25	76.8	14.4	49.7	51.7	73.8
696	R38Y_100_062d	1.0	0.625	0.375	1.0	0.625	0.687	53	1.0	0.614	0.375	76.5	18.2	38.0	42.1	64.4
697	R23Y_100_050d	1.0	0.625	0.5	1.0	0.5	0.75	44	1.0	0.616	0.5	76.6	21.7	27.2	34.8	51.4
698	R00Y_100_037d	1.0	0.625	0.625	1.0	0.375	0.812	390	1.0	0.625	0.625	77.7	21.4	14.1	25.7	33.4
699	R18Y_100_037d	1.0	0.625	0.75	1.0	0.375	0.812	371	1.0	0.625	0.743	77.7	21.2	8.7	22.9	22.3
700	B65R_100_037d	1.0	0.625	0.875	1.0	0.375	0.812	349	1.0	0.625	0.881	78.1	23.7	−0.6	23.7	358.3
701	B50R_100_037d	1.0	0.625	1.0	1.0	0.375	0.812	330	1.0	0.625	1.0	77.9	24.5	−4.7	24.9	348.9
702	R76Y_100_100d	1.0	0.75	0.0	1.0	1.0	0.5	76	1.0	0.766	0.0	83.5	−2.9	76.8	76.9	92.2
703	R73Y_100_087d	1.0	0.75	0.125	1.0	0.875	0.562	74	1.0	0.766	0.125	83.6	0.0	66.7	66.7	90.0
704	R68Y_100_075d	1.0	0.75	0.25	1.0	0.75	0.625	71	1.0	0.762	0.25	82.9	4.0	55.4	55.6	85.7
705	R61Y_100_062d	1.0	0.75	0.375	1.0	0.625	0.687	67	1.0	0.76	0.375	82.5	7.5	44.0	44.6	80.3
706	R50Y_100_050d	1.0	0.75	0.5	1.0	0.5	0.75	60	1.0	0.75	0.5	83.1	9.6	33.1	34.5	73.8
707	R31Y_100_037d	1.0	0.75	0.625	1.0	0.375	0.812	49	1.0	0.743	0.625	83.0	13.3	21.8	25.5	58.6
708	R00Y_100_025d	1.0	0.75	0.75	1.0	0.25	0.875	390	1.0	0.75	0.75	83.7	14.3	9.4	17.1	33.4
709	R00Y_100_025d	1.0	0.75	0.875	1.0	0.25	0.875	360	1.0	0.75	0.875	83.8	14.7	2.6	14.9	10.0
710	B50R_100_025d	1.0	0.75	1.0	1.0	0.25	0.875	330	1.0	0.75	1.0	83.9	16.3	−3.1	16.6	348.9
711	R88Y_100_100d	1.0	0.875	0.0	1.0	1.0	0.5	83	1.0	0.883	0.0	87.8	−9.4	76.3	76.9	97.0
712	R86Y_100_087d	1.0	0.875	0.125	1.0	0.875	0.562	82	1.0	0.883	0.125	88.3	−7.5	66.3	66.8	96.4
713	R85Y_100_075d	1.0	0.875	0.25	1.0	0.75	0.625	81	1.0	0.887	0.25	88.9	−5.7	57.0	57.3	95.7
714	R81Y_100_062d	1.0	0.875	0.375	1.0	0.625	0.687	79	1.0	0.885	0.375	89.3	−3.6	47.7	47.9	94.3
715	R76Y_100_050d	1.0	0.875	0.5	1.0	0.5	0.75	76	1.0	0.883	0.5	89.7	−1.4	38.4	38.4	92.2
716	R68Y_100_037d	1.0	0.875	0.625	1.0	0.375	0.812	71	1.0	0.881	0.625	89.3	2.0	27.7	27.8	85.7
717	R50Y_100_025d	1.0	0.875	0.75	1.0	0.25	0.875	60	1.0	0.875	0.75	89.5	4.8	16.5	17.2	73.8
718	R00Y_100_012d	1.0	0.875	0.875	1.0	0.125	0.937	390	1.0	0.875	0.875	89.8	7.1	4.7	8.5	33.4
719	B50R_100_012d	1.0	0.875	1.0	1.0	0.125	0.937	330	1.0	0.875	1.0	89.8	8.1	−1.5	8.3	348.9
720	Y00G_100_100d	1.0	1.0	0.0	1.0	1.0	0.5	90	1.0	1.0	0.0	91.5	−15.8	84.6	86.1	100.5
721	Y00G_100_087d	1.0	1.0	0.125	1.0	0.875	0.562	90	1.0	1.0	0.125	92.1	−13.8	74.1	75.3	100.5
722	Y00G_100_075d	1.0	1.0	0.25	1.0	0.75	0.625	90	1.0	1.0	0.25	92.6	−11.8	63.5	64.6	100.5
723	Y00G_100_062d	1.0	1.0	0.375	1.0	0.625	0.687	90	1.0	1.0	0.375	93.1	−9.9	52.9	53.8	100.5
724	Y00G_100_050d	1.0	1.0	0.5	1.0	0.5	0.75	90	1.0	1.0	0.5	93.7	−7.9	42.3	43.0	100.5
725	Y00G_100_037d	1.0	1.0	0.625	1.0	0.375	0.812	90	1.0	1.0	0.625	94.2	−5.9	31.7	32.3	100.5
726	Y00G_100_025d	1.0	1.0	0.75	1.0	0.25	0.875	90	1.0	1.0	0.75	94.7	−3.9	21.1	21.5	100.5
727	Y00G_100_012d	1.0	1.0	0.875	1.0	0.125	0.937	90	1.0	1.0	0.875	95.3	−1.9	10.5	10.7	100.5
728	NW_100d	1.0	1.0	1.0	1.0	0.0	1.0	360	1.0	1.0	1.0	95.8	0.0	0.0	0.0	0.0

n	$rgb^{*\prime}_{Fd}$			$LabCh^{*\prime}_{Fd}$					$DE^{*\prime}_{Fd}$	$h_{siM,d}$
648	1.0	0.0	0.0	47.5	57.2	37.8	68.6	33.4	0.0	389
649	1.0	0.0	0.125	47.6	56.3	34.2	65.9	31.3	0.2	383
650	1.0	0.0	0.25	47.5	55.9	27.5	62.3	26.2	0.8	377
651	1.0	0.0	0.375	47.4	56.8	19.5	60.0	18.9	0.5	368
652	1.0	0.0	0.5	47.8	58.9	10.4	59.9	10.0	0.0	360
653	1.0	0.0	0.625	48.0	61.8	2.1	61.8	1.9	0.6	351
654	1.0	0.0	0.75	49.3	64.5	−6.5	64.8	354.2	0.5	342
655	1.0	0.0	0.875	49.5	66.1	−10.7	67.0	350.7	0.1	336
656	1.0	0.0	1.0	48.1	65.4	−12.7	66.6	348.9	0.0	330
657	1.0	0.125	0.0	51.9	54.3	49.2	73.2	42.1	0.8	36
658	1.0	0.125	0.125	50.9	56.4	46.0	72.8	39.1	14.6	389
659	1.0	0.125	0.25	51.1	57.3	36.9	68.2	32.7	11.1	382
660	1.0	0.125	0.375	50.9	59.2	26.9	65.0	24.4	11.1	375
661	1.0	0.125	0.5	51.5	60.5	17.6	63.0	16.2	10.7	365
662	1.0	0.125	0.625	51.1	64.7	5.0	64.9	4.4	11.7	354
663	1.0	0.125	0.75	51.5	67.6	−5.3	67.8	355.4	11.9	344
664	1.0	0.125	0.875	52.1	68.4	−9.9	69.1	351.7	11.1	337
665	1.0	0.125	1.0	51.6	65.2	−11.3	66.1	350.0	8.3	330
666	1.0	0.25	0.0	58.2	41.8	55.1	69.2	52.8	1.9	42
667	1.0	0.25	0.125	57.8	42.8	53.7	68.7	51.4	11.0	37
668	1.0	0.25	0.25	58.2	43.1	44.9	62.3	46.1	16.5	389
669	1.0	0.25	0.375	57.6	45.9	33.2	56.7	35.9	9.5	382
670	1.0	0.25	0.5	56.8	49.3	23.4	54.6	25.4	9.5	371
671	1.0	0.25	0.625	57.2	52.2	10.3	53.2	11.2	8.7	360
672	1.0	0.25	0.75	58.2	54.5	−1.8	54.5	358.0	7.4	348
673	1.0	0.25	0.875	58.8	56.4	−9.7	57.2	350.2	7.7	337
674	1.0	0.25	1.0	59.2	53.0	−11.1	54.2	348.1	4.4	330
675	1.0	0.375	0.0	64.6	29.8	60.4	67.3	63.7	0.9	51
676	1.0	0.375	0.125	63.2	32.5	57.2	65.9	60.3	8.6	44
677	1.0	0.375	0.25	63.3	33.3	49.0	59.3	55.8	12.4	37
678	1.0	0.375	0.375	64.5	33.3	35.8	48.9	47.0	12.4	389
679	1.0	0.375	0.5	64.4	35.7	25.6	44.0	35.7	6.3	380
680	1.0	0.375	0.625	64.1	39.5	13.1	41.6	18.3	4.3	367
681	1.0	0.375	0.75	64.9	42.1	1.3	42.1	1.8	3.7	352
682	1.0	0.375	0.875	65.6	44.6	−7.7	45.2	350.1	4.4	339
683	1.0	0.375	1.0	66.3	43.9	−9.3	44.9	348.0	3.3	330
684	1.0	0.5	0.0	70.5	19.2	66.2	69.0	73.8	0.0	59
685	1.0	0.5	0.125	68.8	22.5	62.1	66.1	70.0	7.5	54
686	1.0	0.5	0.25	69.3	22.8	50.9	55.8	65.8	8.1	48
687	1.0	0.5	0.375	69.7	24.5	38.1	45.3	57.2	7.9	39
688	1.0	0.5	0.5	71.4	24.0	27.4	36.4	48.8	9.6	389
689	1.0	0.5	0.625	71.6	27.0	15.7	31.2	30.2	1.8	377
690	1.0	0.5	0.75	71.9	30.4	4.7	30.7	8.8	1.0	360
691	1.0	0.5	0.875	71.8	34.7	−5.9	35.2	350.3	3.3	342
692	1.0	0.5	1.0	71.6	36.1	−8.9	37.2	346.1	4.3	330
693	1.0	0.625	0.0	74.9	11.4	70.7	71.6	80.7	1.1	68
694	1.0	0.625	0.125	75.7	10.3	67.8	68.6	81.3	7.5	65
695	1.0	0.625	0.25	75.9	11.1	56.5	57.6	78.8	7.6	59
696	1.0	0.625	0.375	76.0	13.2	42.5	44.6	72.7	6.7	52
697	1.0	0.625	0.5	77.1	14.1	31.2	34.3	65.5	8.5	42
698	1.0	0.625	0.625	78.4	15.6	19.6	25.1	51.4	7.9	389
699	1.0	0.625	0.75	78.6	19.2	8.4	21.0	23.7	2.1	371
700	1.0	0.625	0.875	79.4	23.4	−4.3	23.8	349.5	3.8	348
701	1.0	0.625	1.0	78.5	25.6	−7.2	26.6	344.3	2.7	330
702	1.0	0.75	0.0	82.9	−2.0	76.9	77.0	91.5	1.1	77
703	1.0	0.75	0.125	82.6	−0.5	66.7	66.7	90.5	1.0	75
704	1.0	0.75	0.25	82.8	0.4	57.8	57.8	89.5	4.3	71
705	1.0	0.75	0.375	83.4	1.1	48.4	48.4	88.6	7.8	67
706	1.0	0.75	0.5	83.6	2.8	39.3	39.4	85.7	9.1	59
707	1.0	0.75	0.625	84.0	5.8	25.8	26.5	77.2	8.5	48
708	1.0	0.75	0.75	86.4	7.3	12.4	14.4	59.6	8.0	389
709	1.0	0.75	0.875	85.5	13.2	0.6	13.2	2.8	2.9	360
710	1.0	0.75	1.0	86.0	15.3	−5.2	16.2	341.0	3.1	330
711	1.0	0.875	0.0	87.6	−9.0	75.7	76.3	96.8	0.7	83
712	1.0	0.875	0.125	87.3	−8.0	69.2	69.7	96.6	3.1	82
713	1.0	0.875	0.25	88.1	−7.3	58.0	58.5	97.2	2.0	81
714	1.0	0.875	0.375	88.4	−6.1	49.5	49.9	97.1	3.2	80
715	1.0	0.875	0.5	88.8	−4.4	40.1	40.4	96.3	3.5	77
716	1.0	0.875	0.625	89.1	−2.1	30.3	30.3	93.9	4.8	71
717	1.0	0.875	0.75	91.6	−1.9	18.5	18.6	95.8	7.3	59
718	1.0	0.875	0.875	92.0	3.1	4.8	5.7	56.9	4.5	389
719	1.0	0.875	1.0	93.0	5.1	−2.4	5.6	334.7	4.4	330
720	1.0	1.0	0.0	91.5	−15.8	84.6	86.1	100.5	0.0	89
721	1.0	1.0	0.125	91.7	−15.4	78.3	79.8	101.1	4.5	89
722	1.0	1.0	0.25	91.8	−13.6	64.0	65.5	102.0	2.0	89
723	1.0	1.0	0.375	92.6	−12.9	53.9	55.5	103.4	3.2	89
724	1.0	1.0	0.5	93.1	−11.8	45.5	47.0	104.6	5.0	89
725	1.0	1.0	0.625	93.6	−9.6	34.9	36.2	105.3	4.8	89
726	1.0	1.0	0.75	95.1	−8.9	25.6	27.1	109.2	6.6	89
727	1.0	1.0	0.875	95.7	−4.6	11.5	12.4	111.7	2.8	89
728	1.0	1.0	1.0	95.8	0.0	0.0	0.0	0.0	0.0	360

Mean color difference of this page: **delta $E^{*\prime}$ = 5.3**

n	rgb^*_{Md}			$LabCh^*_{Md}$				
648	1.0	0.0	0.0	47.5	57.2	37.8	68.6	33.4
649	1.0	0.0	0.116	47.6	56.4	34.5	66.1	31.4
650	1.0	0.0	0.233	47.5	56.0	28.4	62.8	26.9
651	1.0	0.0	0.366	47.4	56.8	20.0	60.2	19.4
652	1.0	0.0	0.5	47.8	58.9	10.4	59.9	10.0
653	1.0	0.0	0.633	48.0	62.0	1.5	62.0	1.4
654	1.0	0.0	0.766	49.3	64.7	−7.1	65.1	353.7
655	1.0	0.0	0.883	49.4	66.1	−10.9	67.0	350.6
656	1.0	0.0	1.0	48.1	65.4	−12.7	66.6	348.9
657	1.0	0.116	0.0	51.6	54.5	48.4	72.9	41.6
658	1.0	0.0	0.0	47.5	57.2	37.8	68.6	33.4
659	1.0	0.0	0.133	47.6	56.3	33.8	65.7	30.9
660	1.0	0.0	0.266	47.5	56.1	26.5	62.0	25.2
661	1.0	0.0	0.416	47.5	57.7	16.5	60.0	15.9
662	1.0	0.0	0.583	47.9	60.9	4.9	61.1	4.6
663	1.0	0.0	0.733	49.1	64.2	−5.3	64.4	355.2
664	1.0	0.0	0.866	49.5	66.0	−10.4	66.9	350.9
665	1.0	0.0	1.0	48.1	65.4	−12.7	66.6	348.9
666	1.0	0.233	0.0	57.4	43.5	54.5	69.7	51.4
667	1.0	0.133	0.0	52.3	53.4	49.7	73.0	42.9
668	1.0	0.0	0.0	47.5	57.2	37.8	68.6	33.4
669	1.0	0.0	0.15	47.6	56.3	32.9	65.2	30.3
670	1.0	0.0	0.316	47.4	56.5	23.2	61.1	22.3
671	1.0	0.0	0.5	47.8	58.9	10.4	59.9	10.0
672	1.0	0.0	0.683	48.6	63.2	−1.8	63.2	358.3
673	1.0	0.0	0.85	49.4	65.8	−9.9	66.6	351.4
674	1.0	0.0	1.0	48.1	65.4	−12.7	66.6	348.9
675	1.0	0.366	0.0	64.2	30.6	60.1	67.5	63.0
676	1.0	0.266	0.0	59.1	40.2	56.0	69.0	54.2
677	1.0	0.15	0.0	53.2	51.8	50.6	72.4	44.3
678	1.0	0.0	0.0	47.5	57.2	37.8	68.6	33.4
679	1.0	0.0	0.183	47.6	56.2	31.1	64.2	28.9
680	1.0	0.0	0.383	47.4	57.0	18.9	60.0	18.3
681	1.0	0.0	0.616	47.9	61.6	2.7	61.7	2.5
682	1.0	0.0	0.816	49.4	65.4	−8.7	66.0	352.3
683	1.0	0.0	1.0	48.1	65.4	−12.7	66.6	348.9
684	1.0	0.5	0.0	70.5	19.2	66.2	69.0	73.8
685	1.0	0.416	0.0	66.6	26.4	62.5	67.9	67.0
686	1.0	0.316	0.0	61.6	35.5	58.2	68.2	58.6
687	1.0	0.183	0.0	54.9	48.5	52.3	71.4	47.1
688	1.0	0.0	0.0	47.5	57.2	37.8	68.6	33.4
689	1.0	0.0	0.233	47.5	56.0	28.4	62.8	26.9
690	1.0	0.0	0.5	47.8	58.9	10.4	59.9	10.0
691	1.0	0.0	0.766	49.3	64.7	−7.1	65.1	353.7
692	1.0	0.0	1.0	48.1	65.4	−12.7	66.6	348.9
693	1.0	0.633	0.0	75.4	10.6	71.2	72.0	81.5
694	1.0	0.583	0.0	73.4	14.1	69.3	70.7	78.4
695	1.0	0.5	0.0	70.5	19.2	66.2	69.0	73.8
696	1.0	0.383	0.0	65.0	29.1	60.8	67.4	64.4
697	1.0	0.233	0.0	57.4	43.5	54.5	69.7	51.4
698	1.0	0.0	0.0	47.5	57.2	37.8	68.6	33.4
699	1.0	0.0	0.316	47.4	56.5	23.2	61.1	22.3
700	1.0	0.0	0.683	48.6	63.2	−1.8	63.2	358.3
701	1.0	0.0	1.0	48.1	65.4	−12.7	66.6	348.9
702	1.0	0.766	0.0	83.5	−2.9	76.8	76.9	92.2
703	1.0	0.733	0.0	81.8	−0.1	76.3	76.3	90.0
704	1.0	0.683	0.0	78.6	5.4	73.9	74.1	85.7
705	1.0	0.616	0.0	74.6	12.0	70.4	71.4	80.3
706	1.0	0.5	0.0	70.5	19.2	66.2	69.0	73.8
707	1.0	0.316	0.0	61.6	35.5	58.2	68.2	58.6
708	1.0	0.0	0.0	47.5	57.2	37.8	68.6	33.4
709	1.0	0.0	0.5	47.8	58.9	10.4	59.9	10.0
710	1.0	0.0	1.0	48.1	65.4	−12.7	66.6	348.9
711	1.0	0.883	0.0	87.8	−9.4	76.3	76.9	97.0
712	1.0	0.866	0.0	87.3	−8.6	75.8	76.3	96.4
713	1.0	0.85	0.0	86.6	−7.6	76.0	76.4	95.7
714	1.0	0.816	0.0	85.4	−5.8	76.4	76.6	94.3
715	1.0	0.766	0.0	83.5	−2.9	76.8	76.9	92.2
716	1.0	0.683	0.0	78.6	5.4	73.9	74.1	85.7
717	1.0	0.5	0.0	70.5	19.2	66.2	69.0	73.8
718	1.0	0.0	0.0	47.5	57.2	37.8	68.6	33.4
719	1.0	0.0	1.0	48.1	65.4	−12.7	66.6	348.9
720	1.0	1.0	0.0	91.5	−15.8	84.6	86.1	100.5
721	1.0	1.0	0.0	91.5	−15.8	84.6	86.1	100.5
722	1.0	1.0	0.0	91.5	−15.8	84.6	86.1	100.5
723	1.0	1.0	0.0	91.5	−15.8	84.6	86.1	100.5
724	1.0	1.0	0.0	91.5	−15.8	84.6	86.1	100.5
725	1.0	1.0	0.0	91.5	−15.8	84.6	86.1	100.5
726	1.0	1.0	0.0	91.5	−15.8	84.6	86.1	100.5
727	1.0	1.0	0.0	91.5	−15.8	84.6	86.1	100.5
728	1.0	1.0	1.0	95.8	0.0	0.0	0.0	0.0

1−0032730−F0

PE890−7N, Page 28/33−F

TUB-test chart PE89; 16 step hue circle
colors and differences, $\Delta E^{*\prime}$

input: $rgb/cmyk$ −> rgb_d
output: transfer to $cmyk_d$

TUB registration: 20150701-PE89/PE89L0NP.PDF /.PS
application for measurement of laser printer output, separation cmyn6 (CMYK)

TUB material: code=rha4ta

1−0032730−F0

TUB registration: 20150701-PE89/PE89L0NP.PDF /.PS
application for measurement of laser printer output, separation cmyn6 (CMYK)

TUB material: code=rha4ta

n	HIC*$_{Fd}$	*rgb*$_{Fd}$			*ict*$_{Fd}$			$h_{si\_F,d}$	*rgb**$_{Fd}$			*LabCh**$_{Fd}$					*rgb*'*$_{Fd}$			*LabCh*'*$_{Fd}$					*DE*'*$_{Fd}$	$h_{siM,d}$	*rgb**$_{Md}$			*LabCh**$_{Md}$				
729	NW_100$_d$	1.0	1.0	1.0	1.0	0.0	1.0	360	1.0	1.0	1.0	95.8	0.0	0.0	0.0	0.0	1.0	1.0	1.0	96.1	0.0	0.0	0.0	178.6	0.2	360	1.0	1.0	1.0	95.8	0.0	0.0	0.0	0.0
730	G50B_100_012$_d$	0.875	1.0	1.0	1.0	0.125	0.937	210	0.875	1.0	1.0	90.4	−3.7	−5.3	6.5	235.1	0.875	1.0	1.0	90.5	−5.7	−7.6	9.6	232.8	3.0	210	0.0	1.0	1.0	53.1	−30.0	−43.1	52.5	235.1
731	G50B_100_025$_d$	0.75	1.0	1.0	1.0	0.25	0.875	210	0.75	1.0	1.0	85.1	−7.5	−10.7	13.1	235.1	0.75	1.0	1.0	84.8	−9.9	−14.7	17.7	236.0	4.6	210	0.0	1.0	1.0	53.1	−30.0	−43.1	52.5	235.1
732	G50B_100_037$_d$	0.625	1.0	1.0	1.0	0.375	0.812	210	0.625	1.0	1.0	79.8	−11.2	−16.1	19.6	235.1	0.625	1.0	1.0	78.6	−14.0	−21.7	25.8	237.2	6.3	210	0.0	1.0	1.0	53.1	−30.0	−43.1	52.5	235.1
733	G50B_100_050$_d$	0.5	1.0	1.0	1.0	0.5	0.75	210	0.5	1.0	1.0	74.4	−15.0	−21.5	26.2	235.1	0.5	1.0	1.0	73.1	−16.9	−27.8	32.5	238.7	6.7	210	0.0	1.0	1.0	53.1	−30.0	−43.1	52.5	235.1
734	G50B_100_062$_d$	0.375	1.0	1.0	1.0	0.625	0.687	210	0.375	1.0	1.0	69.1	−18.7	−26.9	32.8	235.1	0.375	1.0	1.0	67.3	−20.0	−32.8	38.5	238.6	6.3	210	0.0	1.0	1.0	53.1	−30.0	−43.1	52.5	235.1
735	G50B_100_075$_d$	0.25	1.0	1.0	1.0	0.75	0.625	210	0.25	1.0	1.0	63.8	−22.5	−32.3	39.3	235.1	0.25	1.0	1.0	59.2	−26.0	−38.7	46.6	236.0	8.6	210	0.0	1.0	1.0	53.1	−30.0	−43.1	52.5	235.1
736	G50B_100_087$_d$	0.125	1.0	1.0	1.0	0.875	0.562	210	0.125	1.0	1.0	58.4	−26.2	−37.7	45.9	235.1	0.125	1.0	1.0	54.7	−28.9	−42.5	51.4	235.7	6.6	210	0.0	1.0	1.0	53.1	−30.0	−43.1	52.5	235.1
737	G50B_100_00$_d$	0.0	1.0	1.0	1.0	1.0	0.5	210	0.0	1.0	1.0	53.1	−30.0	−43.1	52.5	235.1	0.0	1.0	1.0	52.2	−29.2	−44.1	52.9	236.4	1.5	210	0.0	1.0	1.0	53.1	−30.0	−43.1	52.5	235.1
738	R00Y_100_012$_d$	1.0	0.875	0.875	1.0	0.125	0.937	390	1.0	0.875	0.875	89.8	7.1	4.7	8.5	33.4	1.0	0.875	0.875	91.5	4.1	3.9	5.7	43.0	3.5	389	1.0	0.0	0.0	47.5	57.2	37.8	68.6	33.4
739	NW_087$_d$	0.875	0.875	0.875	0.875	0.0	0.875	360	0.875	0.875	0.875	86.8	0.0	0.0	0.0	0.0	0.875	0.875	0.875	90.3	0.0	−0.2	0.2	277.5	3.5	360	1.0	1.0	1.0	95.8	0.0	0.0	0.0	0.0
740	G50B_087_012$_d$	0.75	0.875	0.875	0.875	0.125	0.812	210	0.75	0.875	0.875	81.4	−3.7	−5.3	6.5	235.1	0.75	0.875	0.875	85.5	−7.5	−10.5	12.9	234.5	7.5	210	0.0	1.0	1.0	53.1	−30.0	−43.1	52.5	235.1
741	G50B_087_025$_d$	0.625	0.875	0.875	0.875	0.25	0.75	210	0.625	0.875	0.875	76.1	−7.5	−10.7	13.1	235.1	0.625	0.875	0.875	80.6	−12.5	−18.7	22.5	236.2	10.4	210	0.0	1.0	1.0	53.1	−30.0	−43.1	52.5	235.1
742	G50B_087_037$_d$	0.5	0.875	0.875	0.875	0.375	0.687	210	0.5	0.875	0.875	70.8	−11.2	−16.1	19.6	235.1	0.5	0.875	0.875	73.7	−17.3	−25.2	30.7	235.4	11.3	210	0.0	1.0	1.0	53.1	−30.0	−43.1	52.5	235.1
743	G50B_087_050$_d$	0.375	0.875	0.875	0.875	0.5	0.625	210	0.375	0.875	0.875	65.4	−15.0	−21.5	26.2	235.1	0.375	0.875	0.875	68.3	−20.0	−31.6	37.4	237.7	11.6	210	0.0	1.0	1.0	53.1	−30.0	−43.1	52.5	235.1
744	G50B_087_062$_d$	0.25	0.875	0.875	0.875	0.625	0.562	210	0.25	0.875	0.875	60.1	−18.7	−26.9	32.8	235.1	0.25	0.875	0.875	63.0	−23.7	−34.2	41.7	235.2	9.3	210	0.0	1.0	1.0	53.1	−30.0	−43.1	52.5	235.1
745	G50B_087_075$_d$	0.125	0.875	0.875	0.875	0.75	0.5	210	0.125	0.875	0.875	54.8	−22.5	−32.3	39.3	235.1	0.125	0.875	0.875	57.0	−28.4	−39.3	48.5	234.1	9.4	210	0.0	1.0	1.0	53.1	−30.0	−43.1	52.5	235.1
746	G50B_087_087$_d$	0.0	0.875	0.875	0.875	0.875	0.437	210	0.0	0.875	0.875	49.4	−26.2	−37.7	45.9	235.1	0.0	0.875	0.875	52.0	−31.5	−42.1	52.6	233.1	7.3	210	0.0	1.0	1.0	53.1	−30.0	−43.1	52.5	235.1
747	R00Y_100_025$_d$	1.0	0.75	0.75	1.0	0.25	0.875	390	1.0	0.75	0.75	83.7	14.3	9.4	17.1	33.4	1.0	0.75	0.75	86.6	8.0	10.0	12.8	51.3	6.9	389	1.0	0.0	0.0	47.5	57.2	37.8	68.6	33.4
748	R00Y_087_012$_d$	0.875	0.75	0.75	0.875	0.125	0.812	390	0.875	0.75	0.75	80.8	7.1	4.7	8.5	33.4	0.875	0.75	0.75	83.1	5.7	3.9	7.0	34.1	2.8	389	1.0	0.0	0.0	47.5	57.2	37.8	68.6	33.4
749	NW_075$_d$	0.75	0.75	0.75	0.75	0.0	0.75	360	0.75	0.75	0.75	77.8	0.0	0.0	0.0	0.0	0.75	0.75	0.75	80.9	0.0	−0.5	0.5	269.9	3.1	360	1.0	1.0	1.0	95.8	0.0	0.0	0.0	0.0
750	G50B_075_012$_d$	0.625	0.75	0.75	0.75	0.125	0.687	210	0.625	0.75	0.75	72.5	−3.7	−5.3	6.5	235.1	0.625	0.75	0.75	77.5	−6.9	−10.7	12.8	237.0	8.0	210	0.0	1.0	1.0	53.1	−30.0	−43.1	52.5	235.1
751	G50B_075_025$_d$	0.5	0.75	0.75	0.75	0.25	0.625	210	0.5	0.75	0.75	67.1	−7.5	−10.7	13.1	235.1	0.5	0.75	0.75	71.5	−14.0	−19.5	24.0	234.3	11.7	210	0.0	1.0	1.0	53.1	−30.0	−43.1	52.5	235.1
752	G50B_075_037$_d$	0.375	0.75	0.75	0.75	0.375	0.562	210	0.375	0.75	0.75	61.8	−11.2	−16.1	19.6	235.1	0.375	0.75	0.75	66.6	−17.0	−24.9	30.2	235.6	11.6	210	0.0	1.0	1.0	53.1	−30.0	−43.1	52.5	235.1
753	G50B_075_050$_d$	0.25	0.75	0.75	0.75	0.5	0.5	210	0.25	0.75	0.75	56.4	−15.0	−21.5	26.2	235.1	0.25	0.75	0.75	60.0	−20.0	−30.4	36.4	236.6	10.8	210	0.0	1.0	1.0	53.1	−30.0	−43.1	52.5	235.1
754	G50B_075_062$_d$	0.125	0.75	0.75	0.75	0.625	0.437	210	0.125	0.75	0.75	51.1	−18.7	−26.9	32.8	235.1	0.125	0.75	0.75	55.7	−25.2	−35.3	43.4	234.5	11.5	210	0.0	1.0	1.0	53.1	−30.0	−43.1	52.5	235.1
755	G50B_075_075$_d$	0.0	0.75	0.75	0.75	0.75	0.375	210	0.0	0.75	0.75	45.8	−22.5	−32.3	39.3	235.1	0.0	0.75	0.75	52.0	−33.9	−38.5	51.3	228.5	14.4	210	0.0	1.0	1.0	53.1	−30.0	−43.1	52.5	235.1
756	R00Y_100_037$_d$	1.0	0.625	0.625	1.0	0.375	0.812	390	1.0	0.625	0.625	77.7	21.4	14.1	25.7	33.4	1.0	0.625	0.625	79.0	15.4	17.7	23.4	48.9	7.1	389	1.0	0.0	0.0	47.5	57.2	37.8	68.6	33.4
757	R00Y_087_025$_d$	0.875	0.625	0.625	0.875	0.25	0.75	390	0.875	0.625	0.625	74.7	14.3	9.4	17.1	33.4	0.875	0.625	0.625	76.0	9.9	12.8	16.2	52.1	5.6	389	1.0	0.0	0.0	47.5	57.2	37.8	68.6	33.4
758	R00Y_075_012$_d$	0.75	0.625	0.625	0.75	0.125	0.687	390	0.75	0.625	0.625	71.8	7.1	4.7	8.5	33.4	0.75	0.625	0.625	74.8	5.4	4.1	6.8	37.0	3.5	389	1.0	0.0	0.0	47.5	57.2	37.8	68.6	33.4
759	NW_062$_d$	0.625	0.625	0.625	0.625	0.0	0.625	360	0.625	0.625	0.625	68.8	0.0	0.0	0.0	0.0	0.625	0.625	0.625	71.8	0.0	−1.0	1.0	270.7	3.1	360	1.0	1.0	1.0	95.8	0.0	0.0	0.0	0.0
760	G50B_062_012$_d$	0.5	0.625	0.625	0.625	0.125	0.562	210	0.5	0.625	0.625	63.5	−3.7	−5.3	6.5	235.1	0.5	0.625	0.625	67.1	−7.7	−13.2	15.3	239.7	9.5	210	0.0	1.0	1.0	53.1	−30.0	−43.1	52.5	235.1
761	G50B_062_025$_d$	0.375	0.625	0.625	0.625	0.25	0.5	210	0.375	0.625	0.625	58.1	−7.5	−10.7	13.1	235.1	0.375	0.625	0.625	61.5	−13.9	−20.3	24.7	235.6	12.0	210	0.0	1.0	1.0	53.1	−30.0	−43.1	52.5	235.1
762	G50B_062_037$_d$	0.25	0.625	0.625	0.625	0.375	0.437	210	0.25	0.625	0.625	52.8	−11.2	−16.1	19.6	235.1	0.25	0.625	0.625	55.0	−17.0	−27.0	31.9	237.6	12.5	210	0.0	1.0	1.0	53.1	−30.0	−43.1	52.5	235.1
763	G50B_062_050$_d$	0.125	0.625	0.625	0.625	0.5	0.375	210	0.125	0.625	0.625	47.4	−15.0	−21.5	26.2	235.1	0.125	0.625	0.625	51.6	−22.0	−31.5	38.5	234.9	12.9	210	0.0	1.0	1.0	53.1	−30.0	−43.1	52.5	235.1
764	G50B_062_062$_d$	0.0	0.625	0.625	0.625	0.625	0.312	210	0.0	0.625	0.625	42.1	−18.7	−26.9	32.8	235.1	0.0	0.625	0.625	49.9	−30.2	−39.0	49.4	232.3	18.4	210	0.0	1.0	1.0	53.1	−30.0	−43.1	52.5	235.1
765	R00Y_100_050$_d$	1.0	0.5	0.5	1.0	0.5	0.75	390	1.0	0.5	0.5	71.7	28.6	18.9	34.3	33.4	1.0	0.5	0.5	72.0	23.9	24.2	34.0	45.3	7.0	389	1.0	0.0	0.0	47.5	57.2	37.8	68.6	33.4
766	R00Y_087_037$_d$	0.875	0.5	0.5	0.875	0.375	0.687	390	0.875	0.5	0.5	68.7	21.4	14.1	25.7	33.4	0.875	0.5	0.5	70.4	16.5	16.7	23.5	45.4	5.8	389	1.0	0.0	0.0	47.5	57.2	37.8	68.6	33.4
767	R00Y_075_025$_d$	0.75	0.5	0.5	0.75	0.25	0.625	390	0.75	0.5	0.5	65.7	14.3	9.4	17.1	33.4	0.75	0.5	0.5	66.8	10.9	11.1	15.6	45.6	3.9	389	1.0	0.0	0.0	47.5	57.2	37.8	68.6	33.4
768	R00Y_062_012$_d$	0.625	0.5	0.5	0.625	0.125	0.562	390	0.625	0.5	0.5	62.8	7.1	4.7	8.5	33.4	0.625	0.5	0.5	64.1	6.0	2.5	6.5	22.6	2.7	389	1.0	0.0	0.0	47.5	57.2	37.8	68.6	33.4
769	NW_050$_d$	0.5	0.5	0.5	0.5	0.0	0.5	360	0.5	0.5	0.5	59.8	0.0	0.0	0.0	0.0	0.5	0.5	0.5	61.1	0.0	−1.1	1.1	268.7	1.7	360	1.0	1.0	1.0	95.8	0.0	0.0	0.0	0.0
770	G50B_050_012$_d$	0.375	0.5	0.5	0.5	0.125	0.437	210	0.375	0.5	0.5	54.5	−3.7	−5.3	6.5	235.1	0.375	0.5	0.5	56.7	−8.0	−14.5	16.5	240.9	10.3	210	0.0	1.0	1.0	53.1	−30.0	−43.1	52.5	235.1
771	G50B_050_025$_d$	0.25	0.5	0.5	0.5	0.25	0.375	210	0.249	0.5	0.5	49.1	−7.5	−10.7	13.1	235.1	0.25	0.5	0.5	51.3	−13.9	−22.4	26.4	238.1	13.5	210	0.0	1.0	1.0	53.1	−30.0	−43.1	52.5	235.1
772	G50B_050_037$_d$	0.125	0.5	0.5	0.5	0.375	0.312	210	0.124	0.5	0.5	43.8	−11.2	−16.1	19.6	235.1	0.125	0.5	0.5	47.6	−17.3	−28.5	33.3	238.7	14.3	210	0.0	1.0	1.0	53.1	−30.0	−43.1	52.5	235.1
773	G50B_050_050$_d$	0.0	0.5	0.5	0.5	0.5	0.25	210	0.0	0.5	0.5	38.4	−15.0	−21.5	26.2	235.1	0.0	0.5	0.5	43.7	−23.2	−34.9	41.9	236.3	16.5	210	0.0	1.0	1.0	53.1	−30.0	−43.1	52.5	235.1
774	R00Y_100_062$_d$	1.0	0.375	0.375	1.0	0.625	0.687	390	1.0	0.375	0.375	65.6	35.7	23.6	42.8	33.4	1.0	0.375	0.375	65.7	31.7	34.9	47.2	47.7	12.0	389	1.0	0.0	0.0	47.5	57.2	37.8	68.6	33.4
775	R00Y_087_050$_d$	0.875	0.375	0.375	0.875	0.5	0.625	390	0.875	0.375	0.375	62.7	28.6	18.9	34.3	33.4	0.875	0.375	0.375	63.8	24.2	23.9	34.0	44.6	6.7	389	1.0	0.0	0.0	47.5	57.2	37.8	68.6	33.4
776	R00Y_075_037$_d$	0.75	0.375	0.375	0.75	0.375	0.562	390	0.75	0.375	0.375	59.7	21.4	14.1	25.7	33.4	0.75	0.375	0.375	59.3	17.8	17.4	24.9	44.3	4.8	389	1.0	0.0	0.0	47.5	57.2	37.8	68.6	33.4
777	R00Y_062_025$_d$	0.625	0.375	0.375	0.625	0.25	0.5	390	0.625	0.375	0.375	56.7	14.3	9.4	17.1	33.4	0.625	0.375	0.375	55.8	12.5	10.7	16.4	40.7	2.4	389	1.0	0.0	0.0	47.5	57.2	37.8	68.6	33.4
778	R00Y_050_012$_d$	0.5	0.375	0.375	0.5	0.125	0.437	390	0.5	0.375	0.375	53.8	7.1	4.7	8.5	33.4	0.5	0.375	0.375	54.4	6.2	3.6	7.2	30.3	1.5	389	1.0	0.0	0.0	47.5	57.2	37.8	68.6	33.4
779	NW_037$_d$	0.375	0.375	0.375	0.375	0.0	0.375	360	0.375	0.375	0.375	50.8	0.0	0.0	0.0	0.0	0.375	0.375	0.375	52.2	0.0	−1.4	1.4	267.3	2.0	360	1.0	1.0	1.0	95.8	0.0	0.0	0.0	0.0
780	G50B_037_012$_d$	0.25	0.375	0.375	0.375	0.125	0.312	210	0.249	0.375	0.375	45.5	−3.7	−5.3	6.5	235.1	0.25	0.375	0.375	46.6	−10.3	−18.0	20.8	240.1	14.3	210	0.0	1.0	1.0	53.1	−30.0	−43.1	52.5	235.1
781	G50B_037_025$_d$	0.125	0.375	0.375	0.375	0.25	0.25	210	0.124	0.375	0.375	40.1	−7.5	−10.7	13.1	235.1	0.125	0.375	0.375	43.9	−14.0	−24.0	27.8	239.6	15.2	210	0.0	1.0	1.0	53.1	−30.0	−43.1	52.5	235.1
782	G50B_037_037$_d$	0.0	0.375	0.375	0.375	0.375	0.187	210	0.0	0.375	0.375	34.8	−11.2	−16.1	19.6	235.1	0.0	0.375	0.375	40.7	−19.5	−29.2	35.1	236.2	16.5	210	0.0	1.0	1.0	53.1	−30.0	−43.1	52.5	235.1
783	R00Y_100_075$_d$	1.0	0.25	0.25	1.0	0.75	0.625	390	1.0	0.25	0.25	59.6	42.9	28.3	51.4	33.4	1.0	0.25	0.25	59.4	40.9	44.3	60.3	47.2	16.0	389	1.0	0.0	0.0	47.5	57.2	37.8	68.6	33.4
784	R00Y_087_062$_d$	0.875	0.25	0.25	0.875	0.625	0.562	390	0.875	0.25	0.25	56.6	35.7	23.6	42.8	33.4	0.875	0.25	0.25	58.0	32.4	32.2	45.7	44.8	9.2	389	1.0	0.0	0.0	47.5	57.2	37.8	68.6	33.4
785	R00Y_075_050$_d$	0.75	0.25	0.25	0.75	0.5	0.5	390	0.75	0.25	0.25	53.7	28.6	18.9	34.3	33.4	0.75	0.25	0.25	51.9	25.4	24.5	35.3	43.9	6.6	389	1.0	0.0	0.0	47.5	57.2	37.8	68.6	33.4
786	R00Y_062_037$_d$	0.625	0.25	0.25	0.625	0.375	0.437	390	0.625	0.25	0.25	50.7	21.4	14.1	25.7	33.4	0.625	0.25	0.25	47.6	19.8	19.2	27.6	44.1	6.1	389	1.0	0.0	0.0	47.5	57.2	37.8	68.6	33.4
787	R00Y_050_025$_d$	0.5	0.25	0.25	0.5	0.25	0.375	390	0.5	0.249	0.249	47.7	14.3	9.4	17.1	33.4	0.5	0.25	0.25	45.3	12.7	13.5	18.6	46.5	4.9	389	1.0	0.0	0.0	47.5	57.2	37.8	68.6	33.4
788	R00Y_037_012$_d$	0.375	0.25	0.25	0.375	0.125	0.312	390	0.375	0.249	0.249	44.8	7.1	4.7	8.5	33.4	0.375	0.25	0.25	42.8	8.4	5.7	10.2	34.0	2.5	389	1.0	0.0	0.0	47.5	57.2	37.8	68.6	33.4
789	NW_025$_d$	0.25	0.25	0.25	0.25	0.0	0.25	360	0.25	0.25	0.25	41.8	0.0	0.0	0.0	0.0	0.25	0.25	0.25	42.4	0.0	−1.2	1.2	267.2	1.3	360	1.0	1.0	1.0	95.8	0.0	0.0	0.0	0.0
790	G50B_025_012$_d$	0.125	0.25	0.25	0.25	0.125	0.187	210	0.124	0.25	0.25	36.5	−3.7	−5.3	6.5	235.1	0.125	0.25	0.25	37.7	−10.4	−17.9	20.7	239.6	14.2	210	0.0	1.0	1.0	53.1	−30.0	−43.1	52.5	235.1
791	G50B_025_025$_d$	0.0	0.25	0.25	0.25	0.25	0.125	210	0.0	0.25	0.25	31.1	−7.5	−10.7	13.1	235.1	0.0	0.25	0.25	37.1	−15.7	−22.3	27.3	234.7	15.4	210	0.0	1.0	1.0	53.1	−30.0	−43.1	52.5	235.1
792	R00Y_100_087$_d$	1.0	0.125	0.125	1.0	0.875	0.562	390	1.0	0.125	0.125	53.6	50.0	33.1	60.0	33.4	1.0	0.125	0.125	52.1	54.1	46.6	71.5	40.7	14.2	389	1.0	0.0	0.0	47.5	57.2	37.8	68.6	33.4
793	R00Y_087_075$_d$	0.875	0.125	0.125	0.875	0.75	0.5	390	0.875	0.125	0.125	50.6	42.9	28.3	51.4	33.4	0.875	0.125	0.125	50.7	44.3	39.9	59.6	42.0	11.6	389	1.0	0.0	0.0	47.5	57.2	37.8	68.6	33.4
794	R00Y_075_062$_d$	0.75	0.125	0.125	0.75	0.625	0.437	390	0.75	0.125	0.125	47.6	35.7	23.6	42.8	33.4	0.75	0.125	0.125	45.6	33.5	29.4	44.6	41.2	6.5	389	1.0	0.0	0.0	47.5	57.2	37.8	68.6	33.4
795	R00Y_062_050$_d$	0.625	0.125	0.125	0.625	0.5	0.375	390	0.625	0.125	0.125	44.7	28.6	18.9	34.3	33.4	0.625	0.125	0.125	41.4	28.6	26.8	39.2	43.1	8.5	389	1.0	0.0	0.0	47.5	57.2	37.8	68.6	33.4
796	R00Y_050_037$_d$	0.5	0.125	0.125	0.5	0.375	0.312	390	0.5	0.124	0.124	41.7	21.4	14.1	25.7	33.4	0.5	0.125	0.125	38.5	20.6	20.3	28.9	44.5	6.9	389	1.0	0.0	0.0	47.5	57.2	37.8	68.6	33.4
797	R00Y_037_025$_d$	0.375	0.125	0.125	0.375	0.25	0.25	390	0.375	0.124	0.124	38.7	14.3	9.4	17.1	33.4	0.375	0.125	0.125	36.5	14.2	14.1	20.0	44.8	5.1	389	1.0	0.0	0.0	47.5	57.2	37.8	68.6	33.4
798	R00Y_025_012$_d$	0.25	0.125	0.125	0.25	0.125	0.187	390	0.25	0.124	0.124	35.8	7.1	4.7	8.5	33.4	0.25	0.125	0.125	34.1	8.5	7.1	11.1	40.0	3.2	389	1.0	0.0	0.0	47.5	57.2	37.8	68.6	33.4
799	NW_012$_d$	0.125	0.125	0.125	0.125	0.0	0.125	360	0.125	0.125	0.125	32.8	0.0	0.0	0.0	0.0	0.125	0.125	0.125	29.1	0.0	−0.5	0.5	270.7	3.7	360	1.0	1.0	1.0	95.8	0.0	0.0	0.0	0.0
800	G50B_012_012$_d$	0.0	0.125	0.125	0.125	0.125	0.062	210	0.0	0.125	0.125	27.5	−3.7	−5.3	6.5	235.1	0.0	0.125	0.125	32.2	−10.8	−16.3	19.5	236.4	13.8	210	0.0	1.0	1.0	53.1	−30.0	−43.1	52.5	235.1
801	R00Y_100_100$_d$	1.0	0.0	0.0	1.0	1.0	0.5	390	1.0	0.0	0.0	47.5	57.2	37.8	68.6	33.4	1.0	0.0	0.0	47.8	55.2	38.8	67.5	35.1	2.2	389	1.0	0.0	0.0	47.5	57.2	37

TUB registration: 20150701-PE89/PE89L0NP.PDF /.PS TUB material: code=rha4ta
application for measurement of laser printer output, separation cmyn6 (CMYK)

n	HIC^*_{Fd}	rgb_{Fd}			ict_{Fd}			$h_{si_F,d}$	rgb^*_{Fd}			$LabCh^*_{Fd}$					$rgb^{*\prime}_{Fd}$			$LabCh^{*\prime}_{Fd}$					$DE^{*\prime}_{Fd}$	$h_{siM,d}$	rgb^*_{Md}			$LabCh^*_{Md}$				
810	NW_100d	1.0	1.0	1.0	1.0	0.0	1.0	360	1.0	1.0	1.0	95.8	0.0	0.0	0.0	0.0	1.0	1.0	1.0	96.1	−0.1	0.0	0.1	188.0	0.3	360	1.0	1.0	1.0	95.8	0.0	0.0	0.0	0.0
811	B00R_100_012d	0.875	0.875	1.0	1.0	0.125	0.937	270	0.875	0.875	1.0	87.9	2.1	−5.5	5.9	290.8	0.875	0.875	1.0	88.8	0.5	−7.8	7.8	273.8	2.9	270	0.0	0.0	1.0	32.5	16.9	−44.6	47.7	290.8
812	B00R_100_025d	0.75	0.75	1.0	1.0	0.25	0.875	270	0.75	0.75	1.0	80.0	4.2	−11.1	11.9	290.8	0.75	0.75	1.0	79.2	2.5	−15.9	16.1	278.9	5.2	270	0.0	0.0	1.0	32.5	16.9	−44.6	47.7	290.8
813	B00R_100_037d	0.625	0.625	1.0	1.0	0.375	0.812	270	0.625	0.625	1.0	72.1	6.3	−16.7	17.8	290.8	0.625	0.625	1.0	65.8	5.5	−25.7	26.3	282.2	10.9	270	0.0	0.0	1.0	32.5	16.9	−44.6	47.7	290.8
814	B00R_100_050d	0.5	0.5	1.0	1.0	0.5	0.75	270	0.5	0.5	1.0	64.2	8.4	−22.3	23.8	290.8	0.5	0.5	1.0	54.6	10.9	−32.6	34.4	288.5	14.3	270	0.0	0.0	1.0	32.5	16.9	−44.6	47.7	290.8
815	B00R_100_062d	0.375	0.375	1.0	1.0	0.625	0.687	270	0.375	0.375	1.0	56.2	10.5	−27.8	29.8	290.8	0.375	0.375	1.0	45.7	14.0	−37.9	40.4	290.3	14.9	270	0.0	0.0	1.0	32.5	16.9	−44.6	47.7	290.8
816	B00R_100_075d	0.25	0.25	1.0	1.0	0.75	0.625	270	0.25	0.25	1.0	48.3	12.7	−33.4	35.7	290.8	0.25	0.25	1.0	38.1	18.6	−41.2	45.2	294.2	14.1	270	0.0	0.0	1.0	32.5	16.9	−44.6	47.7	290.8
817	B00R_100_087d	0.125	0.125	1.0	1.0	0.875	0.562	270	0.125	0.125	1.0	40.4	14.8	−39.0	41.7	290.8	0.125	0.125	1.0	34.5	19.2	−42.9	47.0	294.1	8.3	270	0.0	0.0	1.0	32.5	16.9	−44.6	47.7	290.8
818	B00R_100_100d	0.0	0.0	1.0	1.0	1.0	0.5	270	0.0	0.0	1.0	32.5	16.9	−44.6	47.7	290.8	0.0	0.0	1.0	30.8	20.2	−44.2	48.6	294.6	3.7	270	0.0	0.0	1.0	32.5	16.9	−44.6	47.7	290.8
819	Y00G_100_012d	1.0	1.0	0.875	1.0	0.125	0.937	90	1.0	1.0	0.875	95.3	−1.9	10.5	10.7	100.5	1.0	1.0	0.875	95.9	−3.8	9.4	10.2	111.9	2.2	89	1.0	1.0	0.0	91.5	−15.8	84.6	86.1	100.5
820	NW_087d	0.875	0.875	0.875	0.875	0.0	0.875	360	0.875	0.875	0.875	86.8	0.0	0.0	0.0	0.0	0.875	0.875	0.875	91.1	0.0	−0.1	0.1	242.5	4.3	360	1.0	1.0	1.0	95.8	0.0	0.0	0.0	0.0
821	B00R_087_012d	0.75	0.75	0.875	0.875	0.125	0.812	270	0.75	0.75	0.875	78.9	2.1	−5.5	5.9	290.8	0.75	0.75	0.875	80.2	1.7	−11.6	11.7	278.4	6.2	270	0.0	0.0	1.0	32.5	16.9	−44.6	47.7	290.8
822	B00R_087_025d	0.625	0.625	0.875	0.875	0.25	0.75	270	0.625	0.625	0.875	71.0	4.2	−11.1	11.9	290.8	0.625	0.625	0.875	69.8	4.2	−20.4	20.8	281.7	9.3	270	0.0	0.0	1.0	32.5	16.9	−44.6	47.7	290.8
823	B00R_087_037d	0.5	0.5	0.875	0.875	0.375	0.687	270	0.5	0.5	0.875	63.1	6.3	−16.7	17.8	290.8	0.5	0.5	0.875	58.7	8.3	−29.7	30.9	285.6	13.9	270	0.0	0.0	1.0	32.5	16.9	−44.6	47.7	290.8
824	B00R_087_050d	0.375	0.375	0.875	0.875	0.5	0.625	270	0.375	0.375	0.875	55.2	8.4	−22.3	23.8	290.8	0.375	0.375	0.875	47.8	12.6	−36.7	38.8	288.9	16.7	270	0.0	0.0	1.0	32.5	16.9	−44.6	47.7	290.8
825	B00R_087_062d	0.25	0.25	0.875	0.875	0.625	0.562	270	0.25	0.25	0.875	47.2	10.5	−27.8	29.8	290.8	0.25	0.25	0.875	39.6	16.7	−41.1	44.4	292.2	16.5	270	0.0	0.0	1.0	32.5	16.9	−44.6	47.7	290.8
826	B00R_087_075d	0.125	0.125	0.875	0.875	0.75	0.5	270	0.125	0.125	0.875	39.3	12.7	−33.4	35.7	290.8	0.125	0.125	0.875	35.1	17.5	−43.1	46.5	292.1	11.5	270	0.0	0.0	1.0	32.5	16.9	−44.6	47.7	290.8
827	B00R_087_087d	0.0	0.0	0.875	0.875	0.875	0.437	270	0.0	0.0	0.875	31.4	14.8	−39.0	41.7	290.8	0.0	0.0	0.875	29.1	21.9	−44.4	49.5	296.2	9.2	270	0.0	0.0	1.0	32.5	16.9	−44.6	47.7	290.8
828	Y00G_100_025d	1.0	1.0	0.75	1.0	0.25	0.875	90	1.0	1.0	0.75	94.7	−3.9	21.1	21.5	100.5	1.0	1.0	0.75	95.2	−8.7	24.8	26.3	109.2	6.0	89	1.0	1.0	0.0	91.5	−15.8	84.6	86.1	100.5
829	Y00G_087_012d	0.875	0.875	0.75	0.875	0.125	0.812	90	0.875	0.875	0.75	86.3	−1.9	10.5	10.7	100.5	0.875	0.875	0.75	91.4	−3.2	9.1	9.6	109.3	5.5	89	1.0	1.0	0.0	91.5	−15.8	84.6	86.1	100.5
830	NW_075d	0.75	0.75	0.75	0.75	0.0	0.75	360	0.75	0.75	0.75	77.8	0.0	0.0	0.0	0.0	0.75	0.75	0.75	82.2	0.0	−0.5	0.5	270.3	4.4	360	1.0	1.0	1.0	95.8	0.0	0.0	0.0	0.0
831	B00R_075_012d	0.625	0.625	0.75	0.75	0.125	0.687	270	0.625	0.625	0.75	69.9	2.1	−5.5	5.9	290.8	0.625	0.625	0.75	71.5	2.2	−12.7	12.9	280.2	7.3	270	0.0	0.0	1.0	32.5	16.9	−44.6	47.7	290.8
832	B00R_075_025d	0.5	0.5	0.75	0.75	0.25	0.625	270	0.5	0.5	0.75	62.0	4.2	−11.1	11.9	290.8	0.5	0.5	0.75	60.6	4.4	−20.2	20.7	282.3	9.2	270	0.0	0.0	1.0	32.5	16.9	−44.6	47.7	290.8
833	B00R_075_037d	0.375	0.375	0.75	0.75	0.375	0.562	270	0.375	0.375	0.75	54.1	6.3	−16.7	17.8	290.8	0.375	0.375	0.75	50.8	6.5	−27.4	28.2	283.3	11.2	270	0.0	0.0	1.0	32.5	16.9	−44.6	47.7	290.8
834	B00R_075_050d	0.25	0.25	0.75	0.75	0.5	0.5	270	0.25	0.25	0.75	46.2	8.4	−22.3	23.8	290.8	0.25	0.25	0.75	44.3	10.9	−33.2	35.0	288.2	11.3	270	0.0	0.0	1.0	32.5	16.9	−44.6	47.7	290.8
835	B00R_075_062d	0.125	0.125	0.75	0.75	0.625	0.437	270	0.125	0.125	0.75	38.2	10.5	−27.8	29.8	290.8	0.125	0.125	0.75	38.2	13.3	−39.1	41.3	288.7	11.6	270	0.0	0.0	1.0	32.5	16.9	−44.6	47.7	290.8
836	B00R_075_075d	0.0	0.0	0.75	0.75	0.75	0.375	270	0.0	0.0	0.75	30.3	12.7	−33.4	35.7	290.8	0.0	0.0	0.75	29.0	20.6	−44.7	49.2	294.7	13.8	270	0.0	0.0	1.0	32.5	16.9	−44.6	47.7	290.8
837	Y00G_100_037d	1.0	1.0	0.625	1.0	0.375	0.812	90	1.0	1.0	0.625	94.2	−5.9	31.7	32.3	100.5	1.0	1.0	0.625	93.4	−9.0	33.9	35.0	104.9	3.8	89	1.0	1.0	0.0	91.5	−15.8	84.6	86.1	100.5
838	Y00G_087_025d	0.875	0.875	0.625	0.875	0.25	0.75	90	0.875	0.875	0.625	85.7	−3.9	21.1	21.5	100.5	0.875	0.875	0.625	90.1	−6.3	24.9	25.7	104.2	6.2	89	1.0	1.0	0.0	91.5	−15.8	84.6	86.1	100.5
839	Y00G_075_012d	0.75	0.75	0.625	0.75	0.125	0.687	90	0.75	0.75	0.625	77.3	−1.9	10.5	10.7	100.5	0.75	0.75	0.625	83.0	−2.2	7.7	8.1	106.0	6.4	89	1.0	1.0	0.0	91.5	−15.8	84.6	86.1	100.5
840	NW_062d	0.625	0.625	0.625	0.625	0.0	0.625	360	0.625	0.625	0.625	68.8	0.0	0.0	0.0	0.0	0.625	0.625	0.625	72.5	0.0	−1.0	1.0	270.5	3.8	360	1.0	1.0	1.0	95.8	0.0	0.0	0.0	0.0
841	B00R_062_012d	0.5	0.5	0.625	0.625	0.125	0.562	270	0.5	0.5	0.625	60.9	2.1	−5.5	5.9	290.8	0.5	0.5	0.625	61.7	2.6	−14.3	14.5	280.2	8.8	270	0.0	0.0	1.0	32.5	16.9	−44.6	47.7	290.8
842	B00R_062_025d	0.375	0.375	0.625	0.625	0.25	0.5	270	0.375	0.375	0.625	53.0	4.2	−11.1	11.9	290.8	0.375	0.375	0.625	50.5	4.0	−22.7	23.0	280.0	11.8	270	0.0	0.0	1.0	32.5	16.9	−44.6	47.7	290.8
843	B00R_062_037d	0.25	0.25	0.625	0.625	0.375	0.437	270	0.25	0.25	0.625	45.1	6.3	−16.7	17.8	290.8	0.25	0.25	0.625	44.0	8.2	−27.8	29.0	286.5	11.3	270	0.0	0.0	1.0	32.5	16.9	−44.6	47.7	290.8
844	B00R_062_050d	0.125	0.125	0.625	0.625	0.5	0.375	270	0.125	0.125	0.625	37.2	8.4	−22.3	23.8	290.8	0.125	0.125	0.625	37.5	11.3	−34.2	36.1	288.3	12.3	270	0.0	0.0	1.0	32.5	16.9	−44.6	47.7	290.8
845	B00R_062_062d	0.0	0.0	0.625	0.625	0.625	0.312	270	0.0	0.0	0.625	29.2	10.5	−27.8	29.8	290.8	0.0	0.0	0.625	28.0	21.5	−45.0	49.9	295.5	20.4	270	0.0	0.0	1.0	32.5	16.9	−44.6	47.7	290.8
846	Y00G_100_050d	1.0	1.0	0.5	1.0	0.5	0.75	90	1.0	1.0	0.5	93.7	−7.9	42.3	43.0	100.5	1.0	1.0	0.5	92.9	−11.3	44.8	46.2	104.1	4.2	89	1.0	1.0	0.0	91.5	−15.8	84.6	86.1	100.5
847	Y00G_087_037d	0.875	0.875	0.5	0.875	0.375	0.687	90	0.875	0.875	0.5	85.2	−5.9	31.7	32.3	100.5	0.875	0.875	0.5	90.0	−8.5	36.5	37.5	103.2	7.2	89	1.0	1.0	0.0	91.5	−15.8	84.6	86.1	100.5
848	Y00G_075_025d	0.75	0.75	0.5	0.75	0.25	0.625	90	0.75	0.75	0.5	76.7	−3.9	21.1	21.5	100.5	0.75	0.75	0.5	82.9	−6.7	24.9	25.8	105.2	7.7	89	1.0	1.0	0.0	91.5	−15.8	84.6	86.1	100.5
849	Y00G_062_012d	0.625	0.625	0.5	0.625	0.125	0.562	90	0.625	0.625	0.5	68.3	−1.9	10.5	10.7	100.5	0.625	0.625	0.5	73.9	−3.5	7.3	8.1	115.9	6.6	89	1.0	1.0	0.0	91.5	−15.8	84.6	86.1	100.5
850	NW_050d	0.5	0.5	0.5	0.5	0.0	0.5	360	0.5	0.5	0.5	59.8	0.0	0.0	0.0	0.0	0.5	0.5	0.5	61.9	0.0	−1.2	1.2	270.4	2.4	360	1.0	1.0	1.0	95.8	0.0	0.0	0.0	0.0
851	B00R_050_012d	0.375	0.375	0.5	0.5	0.125	0.437	270	0.375	0.375	0.5	51.9	2.1	−5.5	5.9	290.8	0.375	0.375	0.5	50.4	2.1	−16.8	17.0	277.2	11.3	270	0.0	0.0	1.0	32.5	16.9	−44.6	47.7	290.8
852	B00R_050_025d	0.25	0.25	0.5	0.5	0.25	0.375	270	0.249	0.249	0.5	44.0	4.2	−11.1	11.9	290.8	0.25	0.25	0.5	42.6	4.6	−23.9	24.4	280.9	12.9	270	0.0	0.0	1.0	32.5	16.9	−44.6	47.7	290.8
853	B00R_050_037d	0.125	0.125	0.5	0.5	0.375	0.312	270	0.124	0.124	0.5	36.1	6.3	−16.7	17.8	290.8	0.125	0.125	0.5	35.8	7.9	−29.0	30.1	285.2	12.4	270	0.0	0.0	1.0	32.5	16.9	−44.6	47.7	290.8
854	B00R_050_050d	0.0	0.0	0.5	0.5	0.5	0.25	270	0.0	0.0	0.5	28.2	8.4	−22.3	23.8	290.8	0.0	0.0	0.5	29.9	15.0	−39.3	42.0	290.9	18.3	270	0.0	0.0	1.0	32.5	16.9	−44.6	47.7	290.8
855	Y00G_100_062d	1.0	1.0	0.375	1.0	0.625	0.687	90	1.0	1.0	0.375	93.1	−9.9	52.9	53.8	100.5	1.0	1.0	0.375	92.5	−12.7	53.3	54.8	103.4	2.9	89	1.0	1.0	0.0	91.5	−15.8	84.6	86.1	100.5
856	Y00G_087_050d	0.875	0.875	0.375	0.875	0.5	0.625	90	0.875	0.875	0.375	84.7	−7.9	42.3	43.0	100.5	0.875	0.875	0.375	89.1	−10.8	48.0	49.2	102.7	7.7	89	1.0	1.0	0.0	91.5	−15.8	84.6	86.1	100.5
857	Y00G_075_037d	0.75	0.75	0.375	0.75	0.375	0.562	90	0.75	0.75	0.375	76.2	−5.9	31.7	32.3	100.5	0.75	0.75	0.375	82.6	−9.1	37.6	38.7	103.7	9.2	89	1.0	1.0	0.0	91.5	−15.8	84.6	86.1	100.5
858	Y00G_062_025d	0.625	0.625	0.375	0.625	0.25	0.5	90	0.625	0.625	0.375	67.7	−3.9	21.1	21.5	100.5	0.625	0.625	0.375	73.7	−7.0	24.2	25.2	106.1	7.3	89	1.0	1.0	0.0	91.5	−15.8	84.6	86.1	100.5
859	Y00G_050_012d	0.5	0.5	0.375	0.5	0.125	0.437	90	0.5	0.5	0.375	59.3	−1.9	10.5	10.7	100.5	0.5	0.5	0.375	63.0	−4.3	9.6	10.5	114.4	4.5	89	1.0	1.0	0.0	91.5	−15.8	84.6	86.1	100.5
860	NW_037d	0.375	0.375	0.375	0.375	0.0	0.375	360	0.375	0.375	0.375	50.8	0.0	0.0	0.0	0.0	0.375	0.375	0.375	53.1	0.0	−1.1	1.1	270.9	2.5	360	1.0	1.0	1.0	95.8	0.0	0.0	0.0	0.0
861	B00R_037_012d	0.25	0.25	0.375	0.375	0.125	0.312	270	0.249	0.249	0.375	42.9	2.1	−5.5	5.9	290.8	0.25	0.25	0.375	40.7	2.0	−18.7	18.8	276.3	13.3	270	0.0	0.0	1.0	32.5	16.9	−44.6	47.7	290.8
862	B00R_037_025d	0.125	0.125	0.375	0.375	0.25	0.25	270	0.124	0.124	0.375	35.0	4.2	−11.1	11.9	290.8	0.125	0.125	0.375	33.3	4.4	−25.1	25.5	280.0	14.1	270	0.0	0.0	1.0	32.5	16.9	−44.6	47.7	290.8
863	B00R_037_037d	0.0	0.0	0.375	0.375	0.375	0.187	270	0.0	0.0	0.375	27.1	6.3	−16.7	17.8	290.8	0.0	0.0	0.375	29.5	7.3	−30.0	30.9	283.7	13.5	270	0.0	0.0	1.0	32.5	16.9	−44.6	47.7	290.8
864	Y00G_100_075d	1.0	1.0	0.25	1.0	0.75	0.625	90	1.0	1.0	0.25	92.6	−11.8	63.5	64.6	100.5	1.0	1.0	0.25	91.7	−13.4	63.5	64.9	101.9	1.8	89	1.0	1.0	0.0	91.5	−15.8	84.6	86.1	100.5
865	Y00G_087_062d	0.875	0.875	0.25	0.875	0.625	0.562	90	0.875	0.875	0.25	84.1	−9.9	52.9	53.8	100.5	0.875	0.875	0.25	88.8	−11.8	60.5	61.7	101.0	9.1	89	1.0	1.0	0.0	91.5	−15.8	84.6	86.1	100.5
866	Y00G_075_050d	0.75	0.75	0.25	0.75	0.5	0.5	90	0.75	0.75	0.25	75.7	−7.9	42.3	43.0	100.5	0.75	0.75	0.25	82.4	−11.6	50.3	51.7	102.9	11.1	89	1.0	1.0	0.0	91.5	−15.8	84.6	86.1	100.5
867	Y00G_062_037d	0.625	0.625	0.25	0.625	0.375	0.437	90	0.625	0.625	0.25	67.2	−5.9	31.7	32.3	100.5	0.625	0.625	0.25	73.1	−10.2	39.0	40.3	104.7	10.3	89	1.0	1.0	0.0	91.5	−15.8	84.6	86.1	100.5
868	Y00G_050_025d	0.5	0.5	0.25	0.5	0.25	0.375	90	0.5	0.5	0.249	58.7	−3.9	21.1	21.5	100.5	0.5	0.5	0.25	63.0	−8.2	26.7	27.9	107.2	8.2	89	1.0	1.0	0.0	91.5	−15.8	84.6	86.1	100.5
869	Y00G_037_012d	0.375	0.375	0.25	0.375	0.125	0.312	90	0.375	0.375	0.249	50.3	−1.9	10.5	10.7	100.5	0.375	0.375	0.25	53.1	−5.6	13.2	14.4	113.0	5.3	89	1.0	1.0	0.0	91.5	−15.8	84.6	86.1	100.5
870	NW_025d	0.25	0.25	0.25	0.25	0.0	0.25	360	0.25	0.25	0.25	41.8	0.0	0.0	0.0	0.0	0.25	0.25	0.25	42.8	0.0	−1.0	1.0	272.0	1.4	360	1.0	1.0	1.0	95.8	0.0	0.0	0.0	0.0
871	B00R_025_012d	0.125	0.125	0.25	0.25	0.125	0.187	270	0.124	0.124	0.25	33.9	2.1	−5.5	5.9	290.8	0.125	0.125	0.25	31.9	1.9	−18.0	18.1	276.1	12.6	270	0.0	0.0	1.0	32.5	16.9	−44.6	47.7	290.8
872	B00R_025_025d	0.0	0.0	0.25	0.25	0.25	0.125	270	0.0	0.0	0.25	26.0	4.2	−11.1	11.9	290.8	0.0	0.0	0.25	25.3	4.2	−24.7	25.1	279.6	13.6	270	0.0	0.0	1.0	32.5	16.9	−44.6	47.7	290.8
873	Y00G_100_087d	1.0	1.0	0.125	1.0	0.875	0.562	90	1.0	1.0	0.125	92.1	−13.8	74.1	75.3	100.5	1.0	1.0	0.125	91.5	−15.0	76.9	78.3	101.0	3.0	89	1.0	1.0	0.0	91.5	−15.8	84.6	86.1	100.5
874	Y00G_087_075d	0.875	0.875	0.125	0.875	0.75	0.5	90	0.875	0.875	0.125	83.6	−11.8	63.5	64.6	100.5	0.875	0.875	0.125	88.9	−13.6	78.1	79.3	99.9	15.6	89	1.0	1.0	0.0	91.5	−15.8	84.6	86.1	100.5
875	Y00G_075_062d	0.75	0.75	0.125	0.75	0.625	0.437	90	0.75	0.75	0.125	75.1	−9.9	52.9	53.8	100.5	0.75	0.75	0.125	81.4	−12.5	67.8	68.9	100.4	16.3	89	1.0	1.0	0.0	91.5	−15.8	84.6	86.1	100.5
876	Y00G_062_050d	0.625	0.625	0.125	0.625	0.5	0.375	90	0.625	0.625	0.125	66.7	−7.9	42.3	43.0	100.5	0.625	0.625	0.125	71.5	−11.5	55.8	57.0	101.6	14.8	89	1.0	1.0	0.0	91.5	−15.8	84.6	86.1	100.5
877	Y00G_050_037d	0.5	0.5	0.125	0.5	0.375	0.312	90	0.5	0.5	0.124	58.2	−5.9	31.7	32.3	100.5	0.5	0.5	0.125	62.9	−10.0	41.1	42.3	103.7	11.2	89	1.0	1.0	0.0	91.5	−15.8	84.6	86.1	100.5
878	Y00G_037_025d	0.375	0.375	0.125	0.375	0.25	0.25	90	0.375	0.375	0.124	49.7	−3.9	21.1	21.5	100.5	0.375	0.375	0.125	54.9	−8.9	30.7	32.0	106.2	11.9	89	1.0	1.0	0.0	91.5	−15.8	84.6	86.1	100.5
879	Y00G_025_012d	0.25	0.25	0.125	0.25	0.125	0.187	90	0.25	0.25	0.124	41.3	−1.9	10.5	10.7	100.5	0.25	0.25	0.125	44.1	−5.4	15.5	16.4	109.3	6.6	89	1.0	1.0	0.0	91.5	−15.8	84.6	86.1	100.5
880	NW_012d	0.125	0.125	0.125	0.125	0.0	0.125	360	0.125	0.125	0.125	32.8	0.0	0.0	0.0	0.0	0.125	0.125	0.125	27.6	0.0	−0.2	0.3	283.5	5.1	360	1.0	1.0	1.0	95.8	0.0	0.0	0.0	0.0
881	B00R_012_012d	0.0	0.0	0.125	0.125	0.125	0.062	270	0.0	0.0	0.125	24.9	2.1	−5.5	5.9	290.8	0.0	0.0	0.125	28.2	4.0	−15.3	15.8	284.8	10.5	270	0.0	0.0	1.0	32.5	16.9	−44.6	47.7	290.8
882	Y00G_100_100d	1.0	1.0	0.0	1.0	1.0	0.5	90	1.0	1.0	0.0	91.5	−15.8	84.6	86.1	100.5	1.0	1.0	0.0	91.4	−15.6	84.1	85.5	100.5	0.6	89	1.0	1.0	0.0	91.5	−15.8	84.6	86.1	100.5
883	Y00G_087_087d	0.875	0.875	0.0	0.875	0.875	0.437	90	0.875	0.875	0.0	83.1	−13.8	74.1	75.3	100.5	0.875	0.875	0.0	90.6	−14.8	86.7	87.9	99.7	14.7	89	1.0	1.0	0.0	91.5	−15.8	84.6	86.1	100.5
884	Y00G_075_075d	0.75	0.75	0.0	0.75	0.75	0.375	90	0.75	0.75	0.0	74.6	−11.8	63.5	64.6	100.5	0.75	0.75	0.0	82.4	−14.2	78.8	80.1	100.2	17.4	89	1.0	1.0	0.0	91.5	−15.8	84.6	86.1	100.5
885	Y00G_062_062d	0.625	0.625	0.0	0.625	0.625	0.312	90	0.625	0.625	0.0	66.1	−9.9	52.9	53.8	100.5	0.625	0.625	0.0	69.1	−12.2	64.9	66.0	100.6	12.5	89	1.0	1.0	0.0	91.5	−15.8	84.6	86.1	100.5
886	Y00G_050_050d	0.5	0.5	0.0	0.5	0.5	0.25	90	0.5	0.5	0.0	57.7	−7.9	42.3	43.0	100.5	0.5	0.5	0.0	58.4	−10.2	53.9	54.8	100.7	11.8	89	1.0	1.0	0.0	91.5	−15.8	84.6	86.1	100.5
887	Y00G_037_037d	0.375	0.375	0.0	0.375	0.375	0.187	90	0.375	0.375	0.0	49.2	−5.9	31.7	32.3	100.5	0.375	0.375	0.0	52.1	−10.7	44.3	45.6	103.6	13.8	89	1.0	1.0	0.0	91.5	−15.8	84.6	86.1	100.5
888	Y00G_025_025d	0.25	0.25	0.0	0.25	0.25	0.125	90	0.25	0.25	0.0	40.7	−3.9	21.1	21.5	100.5	0.25	0.25	0.0	44.5	−8.6	32.1	33.3	105.1	12.5	89	1.0	1.0	0.0	91.5	−15.8	84.6	86.1	100.5
889	Y00G_012_012d	0.125	0.125	0.0	0.125	0.125	0.062	90	0.125	0.125	0.0	32.3	−1.9	10.5	10.7	100.5	0.125	0.125	0.0	36.5	−5.3	16.3	17.1	108.0	7.8	89	1.0	1.0	0.0	91.5	−15.8	84.6	86.1	100.5
890	NW_000d	0.0	0.0	0.0	0.0	0.0	0.0	360	0.0	0.0	0.0	23.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	21.6	0.2	0.8	0.8	70.4	2.3	360	1.0	1.0	1.0	95.8	0.0	0.0	0.0	0.0

Mean color difference of this page: **delta $E^{*\prime}$ = *9.2***

1−0032930−F0

PE890−7N, Page 30/33−F

TUB-test chart PE89; 16 step hue circle
colors and differences, $\Delta E^{*\prime}$

input: *rgb/cmyk* −> rgb_d
output: transfer to $cmyk_d$

1−0032930−F0

TUB registration: 20150701-PE89/PE89L0NP.PDF /.PS TUB material: code=rha4ta
application for measurement of laser printer output, separation cmyn6 (CMYK)

n	HIC*Fd	rgb_Fd			ict_Fd			hsi_F,d	rgb*Fd			LabCh*Fd					rgb*'Fd			LabCh*'Fd					DE*'Fd	hsiM,d	rgb*Md			LabCh*Md				
891	NW_100d	1.0	1.0	1.0	1.0	0.0	1.0	360	1.0	1.0	1.0	95.8	0.0	0.0	0.0	0.0	1.0	1.0	1.0	96.1	−0.1	0.0	0.1	168.6	0.3	360	1.0	1.0	1.0	95.8	0.0	0.0	0.0	0.0
892	B50R_100_012d	1.0	0.875	1.0	1.0	0.125	0.937	330	1.0	0.875	1.0	89.8	8.1	−1.5	8.3	348.9	1.0	0.875	1.0	91.4	7.6	−3.0	8.1	338.4	2.1	330	1.0	0.0	1.0	48.1	65.4	−12.7	66.6	348.9
893	B50R_100_025d	1.0	0.75	1.0	1.0	0.25	0.875	330	1.0	0.75	1.0	83.9	16.3	−3.1	16.6	348.9	1.0	0.75	1.0	85.5	16.1	−5.2	16.9	341.9	2.6	330	1.0	0.0	1.0	48.1	65.4	−12.7	66.6	348.9
894	B50R_100_037d	1.0	0.625	1.0	1.0	0.375	0.812	330	1.0	0.625	1.0	77.9	24.5	−4.7	24.9	348.9	1.0	0.625	1.0	78.4	26.0	−7.1	26.9	344.6	2.7	330	1.0	0.0	1.0	48.1	65.4	−12.7	66.6	348.9
895	B50R_100_050d	1.0	0.5	1.0	1.0	0.5	0.75	330	1.0	0.5	1.0	72.0	32.7	−6.3	33.3	348.9	1.0	0.5	1.0	71.7	36.3	−8.9	37.4	346.1	4.4	330	1.0	0.0	1.0	48.1	65.4	−12.7	66.6	348.9
896	B50R_100_062d	1.0	0.375	1.0	1.0	0.625	0.687	330	1.0	0.375	1.0	66.0	40.8	−7.9	41.6	348.9	1.0	0.375	1.0	66.1	44.6	−9.4	45.6	348.0	4.0	330	1.0	0.0	1.0	48.1	65.4	−12.7	66.6	348.9
897	B50R_100_075d	1.0	0.25	1.0	1.0	0.75	0.625	330	1.0	0.25	1.0	60.1	49.0	−9.5	49.9	348.9	1.0	0.25	1.0	59.2	53.6	−11.4	54.8	347.9	4.9	330	1.0	0.0	1.0	48.1	65.4	−12.7	66.6	348.9
898	B50R_100_087d	1.0	0.125	1.0	1.0	0.875	0.562	330	1.0	0.125	1.0	54.1	57.2	−11.1	58.3	348.9	1.0	0.125	1.0	52.3	65.2	−11.5	66.2	349.9	8.2	330	1.0	0.0	1.0	48.1	65.4	−12.7	66.6	348.9
899	B50R_100_100d	1.0	0.0	1.0	1.0	1.0	0.5	330	1.0	0.0	1.0	48.1	65.4	−12.7	66.6	348.9	1.0	0.0	1.0	48.3	65.1	−12.7	66.3	348.9	0.3	330	1.0	0.0	1.0	48.1	65.4	−12.7	66.6	348.9
900	G00B_100_012d	0.875	1.0	0.875	1.0	0.125	0.937	150	0.875	1.0	0.875	90.6	−8.4	3.8	9.2	155.5	0.875	1.0	0.875	92.1	−6.9	1.8	7.1	165.1	2.9	149	0.0	1.0	0.0	54.3	−67.6	30.8	74.3	155.5
901	NW_087d	0.875	0.875	0.875	0.875	0.0	0.875	360	0.875	0.875	0.875	86.8	0.0	0.0	0.0	0.0	0.875	0.875	0.875	91.6	0.0	−0.2	0.2	263.1	4.8	360	1.0	1.0	1.0	95.8	0.0	0.0	0.0	0.0
902	B50R_087_012d	0.875	0.75	0.875	0.875	0.125	0.812	330	0.875	0.75	0.875	80.8	8.1	−1.5	8.3	348.9	0.875	0.75	0.875	84.3	8.6	−5.6	10.2	326.9	5.3	330	1.0	0.0	1.0	48.1	65.4	−12.7	66.6	348.9
903	B50R_087_025d	0.875	0.625	0.875	0.875	0.25	0.75	330	0.875	0.625	0.875	74.9	16.3	−3.1	16.6	348.9	0.875	0.625	0.875	77.2	18.7	−8.0	20.4	336.6	5.9	330	1.0	0.0	1.0	48.1	65.4	−12.7	66.6	348.9
904	B50R_087_037d	0.875	0.5	0.875	0.875	0.375	0.687	330	0.875	0.5	0.875	68.9	24.5	−4.7	24.9	348.9	0.875	0.5	0.875	70.8	27.7	−10.0	29.5	340.0	6.4	330	1.0	0.0	1.0	48.1	65.4	−12.7	66.6	348.9
905	B50R_087_050d	0.875	0.375	0.875	0.875	0.5	0.625	330	0.875	0.375	0.875	63.0	32.7	−6.3	33.3	348.9	0.875	0.375	0.875	64.0	37.0	−11.8	38.8	342.2	7.0	330	1.0	0.0	1.0	48.1	65.4	−12.7	66.6	348.9
906	B50R_087_062d	0.875	0.25	0.875	0.875	0.625	0.562	330	0.875	0.25	0.875	57.0	40.8	−7.9	41.6	348.9	0.875	0.25	0.875	57.7	45.0	−13.6	47.1	343.1	7.1	330	1.0	0.0	1.0	48.1	65.4	−12.7	66.6	348.9
907	B50R_087_075d	0.875	0.125	0.875	0.875	0.75	0.5	330	0.875	0.125	0.875	51.1	49.0	−9.5	49.9	348.9	0.875	0.125	0.875	49.8	55.9	−16.4	58.3	343.6	9.8	330	1.0	0.0	1.0	48.1	65.4	−12.7	66.6	348.9
908	B50R_087_087d	0.875	0.0	0.875	0.875	0.875	0.437	330	0.875	0.0	0.875	45.1	57.2	−11.1	58.3	348.9	0.875	0.0	0.875	44.7	59.0	−15.8	61.1	344.9	4.9	330	1.0	0.0	1.0	48.1	65.4	−12.7	66.6	348.9
909	G00B_100_025d	0.75	1.0	0.75	1.0	0.25	0.875	150	0.75	1.0	0.75	85.4	−16.9	7.7	18.5	155.5	0.75	1.0	0.75	87.7	−14.1	8.3	16.4	149.3	3.6	149	0.0	1.0	0.0	54.3	−67.6	30.8	74.3	155.5
910	G00B_087_012d	0.75	0.875	0.75	0.875	0.125	0.812	150	0.75	0.875	0.75	81.6	−8.4	3.8	9.2	155.5	0.75	0.875	0.75	87.2	−9.9	2.7	10.3	164.7	5.9	149	0.0	1.0	0.0	54.3	−67.6	30.8	74.3	155.5
911	NW_075d	0.75	0.75	0.75	0.75	0.0	0.75	360	0.75	0.75	0.75	77.8	0.0	0.0	0.0	0.0	0.75	0.75	0.75	82.6	0.0	−0.4	0.4	270.1	4.8	360	1.0	1.0	1.0	95.8	0.0	0.0	0.0	0.0
912	B50R_075_012d	0.75	0.625	0.75	0.75	0.125	0.687	330	0.75	0.625	0.75	71.8	8.1	−1.5	8.3	348.9	0.75	0.625	0.75	75.8	9.0	−5.9	10.8	326.6	5.9	330	1.0	0.0	1.0	48.1	65.4	−12.7	66.6	348.9
913	B50R_075_025d	0.75	0.5	0.75	0.75	0.25	0.625	330	0.75	0.5	0.75	65.9	16.3	−3.1	16.6	348.9	0.75	0.5	0.75	68.2	19.3	−8.4	21.0	336.3	6.4	330	1.0	0.0	1.0	48.1	65.4	−12.7	66.6	348.9
914	B50R_075_037d	0.75	0.375	0.75	0.75	0.375	0.562	330	0.75	0.375	0.75	59.9	24.5	−4.7	24.9	348.9	0.75	0.375	0.75	60.9	27.8	−9.9	29.5	340.2	6.2	330	1.0	0.0	1.0	48.1	65.4	−12.7	66.6	348.9
915	B50R_075_050d	0.75	0.25	0.75	0.75	0.5	0.5	330	0.75	0.25	0.75	54.0	32.7	−6.3	33.3	348.9	0.75	0.25	0.75	54.4	37.2	−12.4	39.2	341.5	7.5	330	1.0	0.0	1.0	48.1	65.4	−12.7	66.6	348.9
916	B50R_075_062d	0.75	0.125	0.75	0.75	0.625	0.437	330	0.75	0.125	0.75	48.0	40.8	−7.9	41.6	348.9	0.75	0.125	0.75	47.9	47.7	−13.2	49.5	344.5	8.6	330	1.0	0.0	1.0	48.1	65.4	−12.7	66.6	348.9
917	B50R_075_075d	0.75	0.0	0.75	0.75	0.75	0.375	330	0.75	0.0	0.75	42.1	49.0	−9.5	49.9	348.9	0.75	0.0	0.75	41.5	53.5	−15.6	55.7	343.6	7.5	330	1.0	0.0	1.0	48.1	65.4	−12.7	66.6	348.9
918	G00B_100_037d	0.625	1.0	0.625	1.0	0.375	0.812	150	0.625	1.0	0.625	80.2	−25.3	11.5	27.8	155.5	0.625	1.0	0.625	81.7	−21.9	10.5	24.3	154.3	3.9	149	0.0	1.0	0.0	54.3	−67.6	30.8	74.3	155.5
919	G00B_087_025d	0.625	0.875	0.625	0.875	0.25	0.75	150	0.625	0.875	0.625	76.4	−16.9	7.7	18.5	155.5	0.625	0.875	0.625	82.1	−17.2	9.2	19.6	151.7	5.8	149	0.0	1.0	0.0	54.3	−67.6	30.8	74.3	155.5
920	G00B_075_012d	0.625	0.75	0.625	0.75	0.125	0.687	150	0.625	0.75	0.625	72.6	−8.4	3.8	9.2	155.5	0.625	0.75	0.625	77.8	−10.0	1.7	10.1	169.8	5.7	149	0.0	1.0	0.0	54.3	−67.6	30.8	74.3	155.5
921	NW_062d	0.625	0.625	0.625	0.625	0.0	0.625	360	0.625	0.625	0.625	68.8	0.0	0.0	0.0	0.0	0.625	0.625	0.625	72.1	0.0	−0.9	0.9	268.7	3.4	360	1.0	1.0	1.0	95.8	0.0	0.0	0.0	0.0
922	B50R_062_012d	0.625	0.5	0.625	0.625	0.125	0.562	330	0.625	0.5	0.625	62.8	8.1	−1.5	8.3	348.9	0.625	0.5	0.625	65.6	9.6	−6.6	11.7	325.4	5.9	330	1.0	0.0	1.0	48.1	65.4	−12.7	66.6	348.9
923	B50R_062_025d	0.625	0.375	0.625	0.625	0.25	0.5	330	0.625	0.375	0.625	56.9	16.3	−3.1	16.6	348.9	0.625	0.375	0.625	57.2	19.8	−8.9	21.7	335.8	6.7	330	1.0	0.0	1.0	48.1	65.4	−12.7	66.6	348.9
924	B50R_062_037d	0.625	0.25	0.625	0.625	0.375	0.437	330	0.625	0.25	0.625	50.9	24.5	−4.7	24.9	348.9	0.625	0.25	0.625	50.0	29.9	−11.7	32.1	338.6	8.8	330	1.0	0.0	1.0	48.1	65.4	−12.7	66.6	348.9
925	B50R_062_050d	0.625	0.125	0.625	0.625	0.5	0.375	330	0.625	0.125	0.625	45.0	32.7	−6.3	33.3	348.9	0.625	0.125	0.625	43.2	39.6	−12.4	41.5	342.5	9.3	330	1.0	0.0	1.0	48.1	65.4	−12.7	66.6	348.9
926	B50R_062_062d	0.625	0.0	0.625	0.625	0.625	0.312	330	0.625	0.0	0.625	39.0	40.8	−7.9	41.6	348.9	0.625	0.0	0.625	37.3	48.6	−13.9	50.5	343.9	9.9	330	1.0	0.0	1.0	48.1	65.4	−12.7	66.6	348.9
927	G00B_100_050d	0.5	1.0	0.5	1.0	0.5	0.75	150	0.5	1.0	0.5	75.0	−33.8	15.4	37.1	155.5	0.5	1.0	0.5	75.2	−29.8	11.7	32.0	158.4	5.4	149	0.0	1.0	0.0	54.3	−67.6	30.8	74.3	155.5
928	G00B_087_037d	0.5	0.875	0.5	0.875	0.375	0.687	150	0.5	0.875	0.5	71.2	−25.3	11.5	27.8	155.5	0.5	0.875	0.5	74.3	−28.1	10.0	29.8	160.3	4.4	149	0.0	1.0	0.0	54.3	−67.6	30.8	74.3	155.5
929	G00B_075_025d	0.5	0.75	0.5	0.75	0.25	0.625	150	0.5	0.75	0.5	67.4	−16.9	7.7	18.5	155.5	0.5	0.75	0.5	71.8	−17.6	5.6	18.5	162.3	4.8	149	0.0	1.0	0.0	54.3	−67.6	30.8	74.3	155.5
930	G00B_062_012d	0.5	0.625	0.5	0.625	0.125	0.562	150	0.5	0.625	0.5	63.6	−8.4	3.8	9.2	155.5	0.5	0.625	0.5	68.1	−10.1	1.4	10.2	171.5	5.3	149	0.0	1.0	0.0	54.3	−67.6	30.8	74.3	155.5
931	NW_050d	0.5	0.5	0.5	0.5	0.0	0.5	360	0.5	0.5	0.5	59.8	0.0	0.0	0.0	0.0	0.5	0.5	0.5	61.3	0.0	−1.1	1.1	271.0	1.9	360	1.0	1.0	1.0	95.8	0.0	0.0	0.0	0.0
932	B50R_050_012d	0.5	0.375	0.5	0.5	0.125	0.437	330	0.5	0.375	0.5	53.8	8.1	−1.5	8.3	348.9	0.5	0.375	0.5	53.3	10.5	−8.2	13.4	321.9	7.0	330	1.0	0.0	1.0	48.1	65.4	−12.7	66.6	348.9
933	B50R_050_025d	0.5	0.25	0.5	0.5	0.25	0.375	330	0.5	0.249	0.5	47.9	16.3	−3.1	16.6	348.9	0.5	0.25	0.5	47.1	21.9	−10.7	24.4	333.8	9.4	330	1.0	0.0	1.0	48.1	65.4	−12.7	66.6	348.9
934	B50R_050_037d	0.5	0.125	0.5	0.5	0.375	0.312	330	0.5	0.124	0.5	41.9	24.5	−4.7	24.9	348.9	0.5	0.125	0.5	40.5	32.1	−11.6	34.1	340.0	10.3	330	1.0	0.0	1.0	48.1	65.4	−12.7	66.6	348.9
935	B50R_050_050d	0.5	0.0	0.5	0.5	0.5	0.25	330	0.5	0.0	0.5	36.0	32.7	−6.3	33.3	348.9	0.5	0.0	0.5	34.7	41.4	−11.9	43.1	343.9	10.4	330	1.0	0.0	1.0	48.1	65.4	−12.7	66.6	348.9
936	G00B_100_062d	0.375	1.0	0.375	1.0	0.625	0.687	150	0.375	1.0	0.375	69.9	−42.3	19.2	46.4	155.5	0.375	1.0	0.375	68.6	−39.6	17.6	43.4	156.0	3.3	149	0.0	1.0	0.0	54.3	−67.6	30.8	74.3	155.5
937	G00B_087_050d	0.375	0.875	0.375	0.875	0.5	0.625	150	0.375	0.875	0.375	66.0	−33.8	15.4	37.1	155.5	0.375	0.875	0.375	70.2	−36.7	16.1	40.2	156.2	5.1	149	0.0	1.0	0.0	54.3	−67.6	30.8	74.3	155.5
938	G00B_075_037d	0.375	0.75	0.375	0.75	0.375	0.562	150	0.375	0.75	0.375	62.2	−25.3	11.5	27.8	155.5	0.375	0.75	0.375	64.6	−28.0	9.1	29.5	162.0	4.3	149	0.0	1.0	0.0	54.3	−67.6	30.8	74.3	155.5
939	G00B_062_025d	0.375	0.625	0.375	0.625	0.25	0.5	150	0.375	0.625	0.375	58.4	−16.9	7.7	18.5	155.5	0.375	0.625	0.375	59.6	−21.1	3.4	21.4	170.7	6.1	149	0.0	1.0	0.0	54.3	−67.6	30.8	74.3	155.5
940	G00B_050_012d	0.375	0.5	0.375	0.5	0.125	0.437	150	0.375	0.5	0.375	54.6	−8.4	3.8	9.2	155.5	0.375	0.5	0.375	56.1	−10.2	1.5	10.3	171.6	3.3	149	0.0	1.0	0.0	54.3	−67.6	30.8	74.3	155.5
941	NW_037d	0.375	0.375	0.375	0.375	0.0	0.375	360	0.375	0.375	0.375	50.8	0.0	0.0	0.0	0.0	0.375	0.375	0.375	51.6	0.0	−1.1	1.1	268.8	1.3	360	1.0	1.0	1.0	95.8	0.0	0.0	0.0	0.0
942	B50R_037_012d	0.375	0.25	0.375	0.375	0.125	0.312	330	0.375	0.249	0.375	44.8	8.1	−1.5	8.3	348.9	0.375	0.25	0.375	42.0	12.3	−8.8	15.1	324.4	8.7	330	1.0	0.0	1.0	48.1	65.4	−12.7	66.6	348.9
943	B50R_037_025d	0.375	0.125	0.375	0.375	0.25	0.25	330	0.375	0.124	0.375	38.9	16.3	−3.1	16.6	348.9	0.375	0.125	0.375	37.3	23.8	−10.6	26.1	336.0	10.6	330	1.0	0.0	1.0	48.1	65.4	−12.7	66.6	348.9
944	B50R_037_037d	0.375	0.0	0.375	0.375	0.375	0.187	330	0.375	0.0	0.375	32.9	24.5	−4.7	24.9	348.9	0.375	0.0	0.375	32.2	34.5	−10.8	36.2	342.5	11.7	330	1.0	0.0	1.0	48.1	65.4	−12.7	66.6	348.9
945	G00B_100_075d	0.25	1.0	0.25	1.0	0.75	0.625	150	0.25	1.0	0.25	64.7	−50.7	23.1	55.7	155.5	0.25	1.0	0.25	63.0	−50.8	23.7	56.1	154.9	1.8	149	0.0	1.0	0.0	54.3	−67.6	30.8	74.3	155.5
946	G00B_087_062d	0.25	0.875	0.25	0.875	0.625	0.562	150	0.25	0.875	0.25	60.9	−42.3	19.2	46.4	155.5	0.25	0.875	0.25	65.0	−47.4	22.1	52.3	155.0	7.2	149	0.0	1.0	0.0	54.3	−67.6	30.8	74.3	155.5
947	G00B_075_050d	0.25	0.75	0.25	0.75	0.5	0.5	150	0.25	0.75	0.25	57.0	−33.8	15.4	37.1	155.5	0.25	0.75	0.25	59.1	−37.1	15.4	40.1	157.4	3.8	149	0.0	1.0	0.0	54.3	−67.6	30.8	74.3	155.5
948	G00B_062_037d	0.25	0.625	0.25	0.625	0.375	0.437	150	0.25	0.625	0.25	53.2	−25.3	11.5	27.8	155.5	0.25	0.625	0.25	54.0	−30.7	11.4	32.8	159.5	5.4	149	0.0	1.0	0.0	54.3	−67.6	30.8	74.3	155.5
949	G00B_050_025d	0.25	0.5	0.25	0.5	0.25	0.375	150	0.249	0.5	0.249	49.4	−16.9	7.7	18.5	155.5	0.25	0.5	0.25	47.5	−23.1	5.6	23.8	166.3	6.8	149	0.0	1.0	0.0	54.3	−67.6	30.8	74.3	155.5
950	G00B_037_012d	0.25	0.375	0.25	0.375	0.125	0.312	150	0.249	0.375	0.249	45.6	−8.4	3.8	9.2	155.5	0.25	0.375	0.25	45.0	−12.7	1.6	12.8	172.6	4.8	149	0.0	1.0	0.0	54.3	−67.6	30.8	74.3	155.5
951	NW_025d	0.25	0.25	0.25	0.25	0.0	0.25	360	0.25	0.25	0.25	41.8	0.0	0.0	0.0	0.0	0.25	0.25	0.25	41.4	0.0	−0.8	0.8	273.1	0.9	360	1.0	1.0	1.0	95.8	0.0	0.0	0.0	0.0
952	B50R_025_012d	0.25	0.125	0.25	0.25	0.125	0.187	330	0.25	0.124	0.25	35.8	8.1	−1.5	8.3	348.9	0.25	0.125	0.25	34.2	13.2	−8.5	15.7	327.1	8.7	330	1.0	0.0	1.0	48.1	65.4	−12.7	66.6	348.9
953	B50R_025_025d	0.25	0.0	0.25	0.25	0.25	0.125	330	0.25	0.0	0.25	29.9	16.3	−3.1	16.6	348.9	0.25	0.0	0.25	30.1	24.2	−10.5	26.4	336.4	10.8	330	1.0	0.0	1.0	48.1	65.4	−12.7	66.6	348.9
954	G00B_100_087d	0.125	1.0	0.125	1.0	0.875	0.562	150	0.125	1.0	0.125	59.5	−59.2	26.9	65.0	155.5	0.125	1.0	0.125	57.4	−61.7	27.5	67.5	155.9	3.2	149	0.0	1.0	0.0	54.3	−67.6	30.8	74.3	155.5
955	G00B_087_075d	0.125	0.875	0.125	0.875	0.75	0.5	150	0.125	0.875	0.125	55.7	−50.7	23.1	55.7	155.5	0.125	0.875	0.125	59.3	−58.5	27.5	64.6	154.8	9.6	149	0.0	1.0	0.0	54.3	−67.6	30.8	74.3	155.5
956	G00B_075_062d	0.125	0.75	0.125	0.75	0.625	0.437	150	0.125	0.75	0.125	51.9	−42.3	19.2	46.4	155.5	0.125	0.75	0.125	55.2	−46.1	20.6	50.5	155.9	5.2	149	0.0	1.0	0.0	54.3	−67.6	30.8	74.3	155.5
957	G00B_062_050d	0.125	0.625	0.125	0.625	0.5	0.375	150	0.125	0.625	0.125	48.0	−33.8	15.4	37.1	155.5	0.125	0.625	0.125	50.2	−39.7	15.9	42.8	158.0	6.3	149	0.0	1.0	0.0	54.3	−67.6	30.8	74.3	155.5
958	G00B_050_037d	0.125	0.5	0.125	0.5	0.375	0.312	150	0.124	0.5	0.124	44.2	−25.3	11.5	27.8	155.5	0.125	0.5	0.125	45.0	−31.7	10.2	33.3	162.0	6.5	149	0.0	1.0	0.0	54.3	−67.6	30.8	74.3	155.5
959	G00B_037_025d	0.125	0.375	0.125	0.375	0.25	0.25	150	0.124	0.375	0.124	40.4	−16.9	7.7	18.5	155.5	0.125	0.375	0.125	41.1	−24.7	7.0	25.6	164.0	7.8	149	0.0	1.0	0.0	54.3	−67.6	30.8	74.3	155.5
960	G00B_025_012d	0.125	0.25	0.125	0.25	0.125	0.187	150	0.124	0.25	0.124	36.6	−8.4	3.8	9.2	155.5	0.125	0.25	0.125	39.8	−12.8	3.1	13.2	166.1	5.4	149	0.0	1.0	0.0	54.3	−67.6	30.8	74.3	155.5
961	NW_012d	0.125	0.125	0.125	0.125	0.0	0.125	360	0.125	0.125	0.125	32.8	0.0	0.0	0.0	0.0	0.125	0.125	0.125	29.4	0.1	0.0	0.1	353.4	3.3	360	1.0	1.0	1.0	95.8	0.0	0.0	0.0	0.0
962	B50R_012_012d	0.125	0.0	0.125	0.125	0.125	0.062	330	0.125	0.0	0.125	26.8	8.1	−1.5	8.3	348.9	0.125	0.0	0.125	28.8	12.7	−6.6	14.3	332.5	7.0	330	1.0	0.0	1.0	48.1	65.4	−12.7	66.6	348.9
963	G00B_100_100d	0.0	1.0	0.0	1.0	1.0	0.5	150	0.0	1.0	0.0	54.3	−67.6	30.8	74.3	155.5	0.0	1.0	0.0	55.1	−67.3	29.7	73.6	156.1	1.3	149	0.0	1.0	0.0	54.3	−67.6	30.8	74.3	155.5
964	G00B_087_087d	0.0	0.875	0.0	0.875	0.875	0.437	150	0.0	0.875	0.0	50.5	−59.2	26.9	65.0	155.5	0.0	0.875	0.0	53.2	−71.7	28.9	77.4	158.0	12.9	149	0.0	1.0	0.0	54.3	−67.6	30.8	74.3	155.5
965	G00B_075_075d	0.0	0.75	0.0	0.75	0.75	0.375	150	0.0	0.75	0.0	46.7	−50.7	23.1	55.7	155.5	0.0	0.75	0.0	51.2	−73.4	27.7	78.5	159.3	23.5	149	0.0	1.0	0.0	54.3	−67.6	30.8	74.3	155.5
966	G00B_062_062d	0.0	0.625	0.0	0.625	0.625	0.312	150	0.0	0.625	0.0	42.9	−42.3	19.2	46.4	155.5	0.0	0.625	0.0	48.2	−69.5	26.5	74.4	159.1	28.7	149	0.0	1.0	0.0	54.3	−67.6	30.8	74.3	155.5
967	G00B_050_050d	0.0	0.5	0.0	0.5	0.5	0.25	150	0.0	0.5	0.0	39.0	−33.8	15.4	37.1	155.5	0.0	0.5	0.0	43.5	−61.7	23.1	65.9	159.4	29.2	149	0.0	1.0	0.0	54.3	−67.6	30.8	74.3	155.5
968	G00B_037_037d	0.0	0.375	0.0	0.375	0.375	0.187	150	0.0	0.375	0.0	35.2	−25.3	11.5	27.8	155.5	0.0	0.375	0.0	39.2	−37.6	14.0	40.2	159.6	13.1	149	0.0	1.0	0.0	54.3	−67.6	30.8	74.3	155.5
969	G00B_025_025d	0.0	0.25	0.0	0.25	0.25	0.125	150	0.0	0.25	0.0	31.4	−16.9	7.7	18.5	155.5	0.0	0.25	0.0	36.4	−24.0	5.6	24.6	166.7	8.9	149	0.0	1.0	0.0	54.3	−67.6	30.8	74.3	155.5
970	G00B_012_012d	0.0	0.125	0.0	0.125	0.125	0.062	150	0.0	0.125	0.0	27.6	−8.4	3.8	9.2	155.5	0.0	0.125	0.0	34.9	−10.6	3.3	11.1	162.7	7.6	149	0.0	1.0	0.0	54.3	−67.6	30.8	74.3	155.5
971	NW_000d	0.0	0.0	0.0	0.0	0.0	0.0	360	0.0	0.0	0.0	23.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	24.4	0.2	0.3	0.4	54.5	0.7	360	1.0	1.0	1.0	95.8	0.0	0.0	0.0	0.0

Mean color difference of this page: **delta $E^{*\prime}$ = 6.7**

1−0033030−F0

PE890−7N, Page 31/33−F

TUB-test chart PE89; 16 step hue circle
colors and differences, $\Delta E^{*\prime}$

input: *rgb/cmyk* −> rgb_d
output: transfer to $cmyk_d$

1−0033030−F0

http://130.149.60.45/~farbmetrik/PE89/PE89L0NP.PDF /.PS; transfer output
N: no 3D-linearization (OL) in file (F) or PS-startup (S), page 32/33

n	HIC*Fd	rgb_Fd			ict_Fd			hsi_F,d	rgb*Fd			LabCh*Fd				
972	NW_000d	0.0	0.0	0.0	0.0	0.0	0.0	360	0.0	0.0	0.0	23.8	0.0	0.0	0.0	0.0
973	NW_012d	0.125	0.125	0.125	0.125	0.0	0.125	360	0.125	0.125	0.125	32.8	0.0	0.0	0.0	0.0
974	NW_025d	0.25	0.25	0.25	0.25	0.0	0.25	360	0.25	0.25	0.25	41.8	0.0	0.0	0.0	0.0
975	NW_037d	0.375	0.375	0.375	0.375	0.0	0.375	360	0.375	0.375	0.375	50.8	0.0	0.0	0.0	0.0
976	NW_050d	0.5	0.5	0.5	0.5	0.0	0.5	360	0.5	0.5	0.5	59.8	0.0	0.0	0.0	0.0
977	NW_062d	0.625	0.625	0.625	0.625	0.0	0.625	360	0.625	0.625	0.625	68.8	0.0	0.0	0.0	0.0
978	NW_075d	0.75	0.75	0.75	0.75	0.0	0.75	360	0.75	0.75	0.75	77.8	0.0	0.0	0.0	0.0
979	NW_087d	0.875	0.875	0.875	0.875	0.0	0.875	360	0.875	0.875	0.875	86.8	0.0	0.0	0.0	0.0
980	NW_100d	1.0	1.0	1.0	1.0	0.0	1.0	360	1.0	1.0	1.0	95.8	0.0	0.0	0.0	0.0
981	NW_000d	0.0	0.0	0.0	0.0	0.0	0.0	360	0.0	0.0	0.0	23.8	0.0	0.0	0.0	0.0
982	NW_012d	0.125	0.125	0.125	0.125	0.0	0.125	360	0.125	0.125	0.125	32.8	0.0	0.0	0.0	0.0
983	NW_025d	0.25	0.25	0.25	0.25	0.0	0.25	360	0.25	0.25	0.25	41.8	0.0	0.0	0.0	0.0
984	NW_037d	0.375	0.375	0.375	0.375	0.0	0.375	360	0.375	0.375	0.375	50.8	0.0	0.0	0.0	0.0
985	NW_050d	0.5	0.5	0.5	0.5	0.0	0.5	360	0.5	0.5	0.5	59.8	0.0	0.0	0.0	0.0
986	NW_062d	0.625	0.625	0.625	0.625	0.0	0.625	360	0.625	0.625	0.625	68.8	0.0	0.0	0.0	0.0
987	NW_075d	0.75	0.75	0.75	0.75	0.0	0.75	360	0.75	0.75	0.75	77.8	0.0	0.0	0.0	0.0
988	NW_087d	0.875	0.875	0.875	0.875	0.0	0.875	360	0.875	0.875	0.875	86.8	0.0	0.0	0.0	0.0
989	NW_100d	1.0	1.0	1.0	1.0	0.0	1.0	360	1.0	1.0	1.0	95.8	0.0	0.0	0.0	0.0
990	NW_000d	0.0	0.0	0.0	0.0	0.0	0.0	360	0.0	0.0	0.0	23.8	0.0	0.0	0.0	0.0
991	NW_012d	0.125	0.125	0.125	0.125	0.0	0.125	360	0.125	0.125	0.125	32.8	0.0	0.0	0.0	0.0
992	NW_025d	0.25	0.25	0.25	0.25	0.0	0.25	360	0.25	0.25	0.25	41.8	0.0	0.0	0.0	0.0
993	NW_037d	0.375	0.375	0.375	0.375	0.0	0.375	360	0.375	0.375	0.375	50.8	0.0	0.0	0.0	0.0
994	NW_050d	0.5	0.5	0.5	0.5	0.0	0.5	360	0.5	0.5	0.5	59.8	0.0	0.0	0.0	0.0
995	NW_062d	0.625	0.625	0.625	0.625	0.0	0.625	360	0.625	0.625	0.625	68.8	0.0	0.0	0.0	0.0
996	NW_075d	0.75	0.75	0.75	0.75	0.0	0.75	360	0.75	0.75	0.75	77.8	0.0	0.0	0.0	0.0
997	NW_087d	0.875	0.875	0.875	0.875	0.0	0.875	360	0.875	0.875	0.875	86.8	0.0	0.0	0.0	0.0
998	NW_100d	1.0	1.0	1.0	1.0	0.0	1.0	360	1.0	1.0	1.0	95.8	0.0	0.0	0.0	0.0
999	NW_000d	0.0	0.0	0.0	0.0	0.0	0.0	360	0.0	0.0	0.0	23.8	0.0	0.0	0.0	0.0
1000	NW_012d	0.125	0.125	0.125	0.125	0.0	0.125	360	0.125	0.125	0.125	32.8	0.0	0.0	0.0	0.0
1001	NW_025d	0.25	0.25	0.25	0.25	0.0	0.25	360	0.25	0.25	0.25	41.8	0.0	0.0	0.0	0.0
1002	NW_037d	0.375	0.375	0.375	0.375	0.0	0.375	360	0.375	0.375	0.375	50.8	0.0	0.0	0.0	0.0
1003	NW_050d	0.5	0.5	0.5	0.5	0.0	0.5	360	0.5	0.5	0.5	59.8	0.0	0.0	0.0	0.0
1004	NW_062d	0.625	0.625	0.625	0.625	0.0	0.625	360	0.625	0.625	0.625	68.8	0.0	0.0	0.0	0.0
1005	NW_075d	0.75	0.75	0.75	0.75	0.0	0.75	360	0.75	0.75	0.75	77.8	0.0	0.0	0.0	0.0
1006	NW_087d	0.875	0.875	0.875	0.875	0.0	0.875	360	0.875	0.875	0.875	86.8	0.0	0.0	0.0	0.0
1007	NW_100d	1.0	1.0	1.0	1.0	0.0	1.0	360	1.0	1.0	1.0	95.8	0.0	0.0	0.0	0.0
1008	NW_000d	0.0	0.0	0.0	0.0	0.0	0.0	360	0.0	0.0	0.0	23.8	0.0	0.0	0.0	0.0
1009	NW_006d	0.066	0.066	0.066	0.066	0.0	0.066	360	0.066	0.066	0.066	28.6	0.0	0.0	0.0	0.0
1010	NW_013d	0.133	0.133	0.133	0.133	0.0	0.133	360	0.133	0.133	0.133	33.4	0.0	0.0	0.0	0.0
1011	NW_020d	0.2	0.2	0.2	0.2	0.0	0.2	360	0.2	0.2	0.2	38.2	0.0	0.0	0.0	0.0
1012	NW_026d	0.266	0.266	0.266	0.266	0.0	0.266	360	0.266	0.266	0.266	42.9	0.0	0.0	0.0	0.0
1013	NW_033d	0.333	0.333	0.333	0.333	0.0	0.333	360	0.333	0.333	0.333	47.8	0.0	0.0	0.0	0.0
1014	NW_040d	0.4	0.4	0.4	0.4	0.0	0.4	360	0.4	0.4	0.4	52.6	0.0	0.0	0.0	0.0
1015	NW_046d	0.466	0.466	0.466	0.466	0.0	0.466	360	0.466	0.466	0.466	57.3	0.0	0.0	0.0	0.0
1016	NW_053d	0.533	0.533	0.533	0.533	0.0	0.533	360	0.533	0.533	0.533	62.2	0.0	0.0	0.0	0.0
1017	NW_060d	0.6	0.6	0.6	0.6	0.0	0.6	360	0.6	0.6	0.6	67.0	0.0	0.0	0.0	0.0
1018	NW_066d	0.666	0.666	0.666	0.666	0.0	0.666	360	0.666	0.666	0.666	71.7	0.0	0.0	0.0	0.0
1019	NW_073d	0.734	0.734	0.734	0.734	0.0	0.734	360	0.734	0.734	0.734	76.6	0.0	0.0	0.0	0.0
1020	NW_080d	0.8	0.8	0.8	0.8	0.0	0.8	360	0.8	0.8	0.8	81.4	0.0	0.0	0.0	0.0
1021	NW_086d	0.866	0.866	0.866	0.866	0.0	0.866	360	0.866	0.866	0.866	86.1	0.0	0.0	0.0	0.0
1022	NW_093d	0.933	0.933	0.933	0.933	0.0	0.933	360	0.933	0.933	0.933	91.0	0.0	0.0	0.0	0.0
1023	NW_100d	1.0	1.0	1.0	1.0	0.0	1.0	360	1.0	1.0	1.0	95.8	0.0	0.0	0.0	0.0
1024	NW_000d	0.0	0.0	0.0	0.0	0.0	0.0	360	0.0	0.0	0.0	23.8	0.0	0.0	0.0	0.0
1025	NW_006d	0.066	0.066	0.066	0.066	0.0	0.066	360	0.066	0.066	0.066	28.6	0.0	0.0	0.0	0.0
1026	NW_013d	0.133	0.133	0.133	0.133	0.0	0.133	360	0.133	0.133	0.133	33.4	0.0	0.0	0.0	0.0
1027	NW_020d	0.2	0.2	0.2	0.2	0.0	0.2	360	0.2	0.2	0.2	38.2	0.0	0.0	0.0	0.0
1028	NW_026d	0.266	0.266	0.266	0.266	0.0	0.266	360	0.266	0.266	0.266	42.9	0.0	0.0	0.0	0.0
1029	NW_033d	0.333	0.333	0.333	0.333	0.0	0.333	360	0.333	0.333	0.333	47.8	0.0	0.0	0.0	0.0
1030	NW_040d	0.4	0.4	0.4	0.4	0.0	0.4	360	0.4	0.4	0.4	52.6	0.0	0.0	0.0	0.0
1031	NW_046d	0.466	0.466	0.466	0.466	0.0	0.466	360	0.466	0.466	0.466	57.3	0.0	0.0	0.0	0.0
1032	NW_053d	0.533	0.533	0.533	0.533	0.0	0.533	360	0.533	0.533	0.533	62.2	0.0	0.0	0.0	0.0
1033	NW_060d	0.6	0.6	0.6	0.6	0.0	0.6	360	0.6	0.6	0.6	67.0	0.0	0.0	0.0	0.0
1034	NW_066d	0.666	0.666	0.666	0.666	0.0	0.666	360	0.666	0.666	0.666	71.7	0.0	0.0	0.0	0.0
1035	NW_073d	0.734	0.734	0.734	0.734	0.0	0.734	360	0.734	0.734	0.734	76.6	0.0	0.0	0.0	0.0
1036	NW_080d	0.8	0.8	0.8	0.8	0.0	0.8	360	0.8	0.8	0.8	81.4	0.0	0.0	0.0	0.0
1037	NW_086d	0.866	0.866	0.866	0.866	0.0	0.866	360	0.866	0.866	0.866	86.1	0.0	0.0	0.0	0.0
1038	NW_093d	0.933	0.933	0.933	0.933	0.0	0.933	360	0.933	0.933	0.933	91.0	0.0	0.0	0.0	0.0
1039	NW_100d	1.0	1.0	1.0	1.0	0.0	1.0	360	1.0	1.0	1.0	95.8	0.0	0.0	0.0	0.0
1040	NW_000d	0.0	0.0	0.0	0.0	0.0	0.0	360	0.0	0.0	0.0	23.8	0.0	0.0	0.0	0.0
1041	NW_006d	0.066	0.066	0.066	0.066	0.0	0.066	360	0.066	0.066	0.066	28.6	0.0	0.0	0.0	0.0
1042	NW_013d	0.133	0.133	0.133	0.133	0.0	0.133	360	0.133	0.133	0.133	33.4	0.0	0.0	0.0	0.0
1043	NW_020d	0.2	0.2	0.2	0.2	0.0	0.2	360	0.2	0.2	0.2	38.2	0.0	0.0	0.0	0.0
1044	NW_026d	0.266	0.266	0.266	0.266	0.0	0.266	360	0.266	0.266	0.266	42.9	0.0	0.0	0.0	0.0
1045	NW_033d	0.333	0.333	0.333	0.333	0.0	0.333	360	0.333	0.333	0.333	47.8	0.0	0.0	0.0	0.0
1046	NW_040d	0.4	0.4	0.4	0.4	0.0	0.4	360	0.4	0.4	0.4	52.6	0.0	0.0	0.0	0.0
1047	NW_046d	0.466	0.466	0.466	0.466	0.0	0.466	360	0.466	0.466	0.466	57.3	0.0	0.0	0.0	0.0
1048	NW_053d	0.533	0.533	0.533	0.533	0.0	0.533	360	0.533	0.533	0.533	62.2	0.0	0.0	0.0	0.0
1049	NW_060d	0.6	0.6	0.6	0.6	0.0	0.6	360	0.6	0.6	0.6	67.0	0.0	0.0	0.0	0.0
1050	NW_066d	0.666	0.666	0.666	0.666	0.0	0.666	360	0.666	0.666	0.666	71.7	0.0	0.0	0.0	0.0
1051	NW_073d	0.734	0.734	0.734	0.734	0.0	0.734	360	0.734	0.734	0.734	76.6	0.0	0.0	0.0	0.0
1052	NW_080d	0.8	0.8	0.8	0.8	0.0	0.8	360	0.8	0.8	0.8	81.4	0.0	0.0	0.0	0.0

n	rgb*'Fd			LabCh*'Fd					DE*'Fd	hsiM,d	rgb*Md			LabCh*Md				
972	0.0	0.0	0.0	22.5	0.0	0.0	0.0	49.6	1.3	360	1.0	1.0	1.0	95.8	0.0	0.0	0.0	0.0
973	0.125	0.125	0.125	26.8	0.0	−0.3	0.3	272.9	5.9	360	1.0	1.0	1.0	95.8	0.0	0.0	0.0	0.0
974	0.25	0.25	0.25	39.6	0.0	−1.0	1.0	266.3	2.4	360	1.0	1.0	1.0	95.8	0.0	0.0	0.0	0.0
975	0.375	0.375	0.375	50.3	0.0	−1.1	1.1	265.7	1.2	360	1.0	1.0	1.0	95.8	0.0	0.0	0.0	0.0
976	0.5	0.5	0.5	60.6	0.0	−1.1	1.1	268.6	1.4	360	1.0	1.0	1.0	95.8	0.0	0.0	0.0	0.0
977	0.625	0.625	0.625	72.2	0.0	−1.0	1.0	266.5	3.5	360	1.0	1.0	1.0	95.8	0.0	0.0	0.0	0.0
978	0.75	0.75	0.75	82.1	0.0	−0.6	0.6	266.9	4.3	360	1.0	1.0	1.0	95.8	0.0	0.0	0.0	0.0
979	0.875	0.875	0.875	91.4	0.0	−0.2	0.2	248.8	4.6	360	1.0	1.0	1.0	95.8	0.0	0.0	0.0	0.0
980	1.0	1.0	1.0	95.9	−0.1	−0.1	0.2	233.6	0.2	360	1.0	1.0	1.0	95.8	0.0	0.0	0.0	0.0
981	0.0	0.0	0.0	26.9	0.1	−0.1	0.1	320.1	3.1	360	1.0	1.0	1.0	95.8	0.0	0.0	0.0	0.0
982	0.125	0.125	0.125	28.4	0.0	−0.3	0.3	273.4	4.4	360	1.0	1.0	1.0	95.8	0.0	0.0	0.0	0.0
983	0.25	0.25	0.25	40.5	0.0	−1.1	1.1	267.1	1.7	360	1.0	1.0	1.0	95.8	0.0	0.0	0.0	0.0
984	0.375	0.375	0.375	50.9	0.0	−1.2	1.2	268.0	1.2	360	1.0	1.0	1.0	95.8	0.0	0.0	0.0	0.0
985	0.5	0.5	0.5	61.3	0.0	−1.2	1.2	269.0	1.9	360	1.0	1.0	1.0	95.8	0.0	0.0	0.0	0.0
986	0.625	0.625	0.625	72.8	0.0	−1.1	1.1	268.3	4.1	360	1.0	1.0	1.0	95.8	0.0	0.0	0.0	0.0
987	0.75	0.75	0.75	82.1	0.0	−0.6	0.6	269.6	4.3	360	1.0	1.0	1.0	95.8	0.0	0.0	0.0	0.0
988	0.875	0.875	0.875	91.9	0.0	−0.2	0.3	264.1	5.1	360	1.0	1.0	1.0	95.8	0.0	0.0	0.0	0.0
989	1.0	1.0	1.0	95.9	−0.1	0.0	0.1	206.3	0.2	360	1.0	1.0	1.0	95.8	0.0	0.0	0.0	0.0
990	0.0	0.0	0.0	23.2	0.0	0.1	0.1	60.9	0.5	360	1.0	1.0	1.0	95.8	0.0	0.0	0.0	0.0
991	0.125	0.125	0.125	28.8	0.0	−0.3	0.3	283.8	3.9	360	1.0	1.0	1.0	95.8	0.0	0.0	0.0	0.0
992	0.25	0.25	0.25	39.9	0.0	−1.0	1.0	268.4	2.1	360	1.0	1.0	1.0	95.8	0.0	0.0	0.0	0.0
993	0.375	0.375	0.375	51.0	0.0	−1.1	1.1	270.7	1.1	360	1.0	1.0	1.0	95.8	0.0	0.0	0.0	0.0
994	0.5	0.5	0.5	60.9	0.0	−1.0	1.0	270.4	1.5	360	1.0	1.0	1.0	95.8	0.0	0.0	0.0	0.0
995	0.625	0.625	0.625	72.5	0.0	−1.1	1.1	271.0	3.8	360	1.0	1.0	1.0	95.8	0.0	0.0	0.0	0.0
996	0.75	0.75	0.75	82.1	0.0	−0.5	0.6	273.6	4.3	360	1.0	1.0	1.0	95.8	0.0	0.0	0.0	0.0
997	0.875	0.875	0.875	91.9	0.0	−0.3	0.3	275.0	5.0	360	1.0	1.0	1.0	95.8	0.0	0.0	0.0	0.0
998	1.0	1.0	1.0	96.1	−0.1	−0.1	0.1	228.6	0.3	360	1.0	1.0	1.0	95.8	0.0	0.0	0.0	0.0
999	0.0	0.0	0.0	21.1	0.0	0.1	0.1	67.1	2.7	360	1.0	1.0	1.0	95.8	0.0	0.0	0.0	0.0
1000	0.125	0.125	0.125	26.0	0.0	−0.2	0.2	280.7	6.8	360	1.0	1.0	1.0	95.8	0.0	0.0	0.0	0.0
1001	0.25	0.25	0.25	39.5	0.0	−0.8	0.8	266.7	2.4	360	1.0	1.0	1.0	95.8	0.0	0.0	0.0	0.0
1002	0.375	0.375	0.375	50.1	0.0	−1.0	1.0	267.9	1.2	360	1.0	1.0	1.0	95.8	0.0	0.0	0.0	0.0
1003	0.5	0.5	0.5	60.3	0.0	−0.9	0.9	268.1	1.0	360	1.0	1.0	1.0	95.8	0.0	0.0	0.0	0.0
1004	0.625	0.625	0.625	72.2	0.0	−1.0	1.0	268.5	3.5	360	1.0	1.0	1.0	95.8	0.0	0.0	0.0	0.0
1005	0.75	0.75	0.75	81.9	0.0	−0.5	0.5	268.1	4.1	360	1.0	1.0	1.0	95.8	0.0	0.0	0.0	0.0
1006	0.875	0.875	0.875	91.7	0.0	−0.1	0.1	258.6	4.9	360	1.0	1.0	1.0	95.8	0.0	0.0	0.0	0.0
1007	1.0	1.0	1.0	96.1	−0.2	0.0	0.2	162.0	0.3	360	1.0	1.0	1.0	95.8	0.0	0.0	0.0	0.0
1008	0.0	0.0	0.0	16.9	0.0	0.3	0.3	84.0	6.9	360	1.0	1.0	1.0	95.8	0.0	0.0	0.0	0.0
1009	0.066	0.066	0.066	19.7	0.1	0.2	0.2	63.9	8.8	360	1.0	1.0	1.0	95.8	0.0	0.0	0.0	0.0
1010	0.133	0.133	0.133	28.3	0.0	−0.8	0.8	265.4	5.1	360	1.0	1.0	1.0	95.8	0.0	0.0	0.0	0.0
1011	0.2	0.2	0.2	36.6	−0.1	−1.3	1.3	264.5	2.0	360	1.0	1.0	1.0	95.8	0.0	0.0	0.0	0.0
1012	0.266	0.266	0.266	43.7	0.0	−1.2	1.2	265.5	1.4	360	1.0	1.0	1.0	95.8	0.0	0.0	0.0	0.0
1013	0.333	0.333	0.333	50.0	0.0	−1.0	1.0	270.1	2.4	360	1.0	1.0	1.0	95.8	0.0	0.0	0.0	0.0
1014	0.4	0.4	0.4	53.7	0.0	−1.0	1.0	268.9	1.5	360	1.0	1.0	1.0	95.8	0.0	0.0	0.0	0.0
1015	0.466	0.466	0.466	59.7	0.0	−1.2	1.2	267.1	2.6	360	1.0	1.0	1.0	95.8	0.0	0.0	0.0	0.0
1016	0.533	0.533	0.533	65.4	0.0	−1.1	1.1	268.4	3.4	360	1.0	1.0	1.0	95.8	0.0	0.0	0.0	0.0
1017	0.6	0.6	0.6	70.4	0.0	−1.0	1.0	269.4	3.5	360	1.0	1.0	1.0	95.8	0.0	0.0	0.0	0.0
1018	0.666	0.666	0.666	75.6	0.0	−0.8	0.8	267.4	3.9	360	1.0	1.0	1.0	95.8	0.0	0.0	0.0	0.0
1019	0.734	0.734	0.734	81.0	0.0	−0.4	0.4	263.3	4.3	360	1.0	1.0	1.0	95.8	0.0	0.0	0.0	0.0
1020	0.8	0.8	0.8	85.5	0.0	−0.1	0.1	258.0	4.0	360	1.0	1.0	1.0	95.8	0.0	0.0	0.0	0.0
1021	0.866	0.866	0.866	90.1	0.0	0.0	0.0	216.7	3.9	360	1.0	1.0	1.0	95.8	0.0	0.0	0.0	0.0
1022	0.933	0.933	0.933	94.2	0.0	0.0	0.0	173.3	3.1	360	1.0	1.0	1.0	95.8	0.0	0.0	0.0	0.0
1023	1.0	1.0	1.0	95.7	0.0	0.0	0.0	305.0	0.1	360	1.0	1.0	1.0	95.8	0.0	0.0	0.0	0.0
1024	0.0	0.0	0.0	18.5	0.0	0.2	0.2	69.9	5.2	360	1.0	1.0	1.0	95.8	0.0	0.0	0.0	0.0
1025	0.066	0.066	0.066	21.7	0.1	0.0	0.1	12.0	6.8	360	1.0	1.0	1.0	95.8	0.0	0.0	0.0	0.0
1026	0.133	0.133	0.133	29.3	0.0	−0.9	0.9	267.1	4.2	360	1.0	1.0	1.0	95.8	0.0	0.0	0.0	0.0
1027	0.2	0.2	0.2	37.8	0.0	−1.2	1.2	266.4	1.3	360	1.0	1.0	1.0	95.8	0.0	0.0	0.0	0.0
1028	0.266	0.266	0.266	44.9	0.0	−1.3	1.3	267.8	2.3	360	1.0	1.0	1.0	95.8	0.0	0.0	0.0	0.0
1029	0.333	0.333	0.333	50.3	0.0	−1.1	1.1	270.1	2.7	360	1.0	1.0	1.0	95.8	0.0	0.0	0.0	0.0
1030	0.4	0.4	0.4	54.5	0.0	−1.1	1.1	269.6	2.2	360	1.0	1.0	1.0	95.8	0.0	0.0	0.0	0.0
1031	0.466	0.466	0.466	60.5	0.0	−1.3	1.3	268.9	3.4	360	1.0	1.0	1.0	95.8	0.0	0.0	0.0	0.0
1032	0.533	0.533	0.533	66.1	0.0	−1.1	1.1	268.9	4.1	360	1.0	1.0	1.0	95.8	0.0	0.0	0.0	0.0
1033	0.6	0.6	0.6	70.6	0.0	−1.1	1.1	270.8	3.8	360	1.0	1.0	1.0	95.8	0.0	0.0	0.0	0.0
1034	0.666	0.666	0.666	76.0	0.0	−0.9	0.9	269.6	4.3	360	1.0	1.0	1.0	95.8	0.0	0.0	0.0	0.0
1035	0.734	0.734	0.734	81.1	0.0	−0.5	0.5	269.9	4.5	360	1.0	1.0	1.0	95.8	0.0	0.0	0.0	0.0
1036	0.8	0.8	0.8	85.8	0.0	−0.2	0.2	269.3	4.4	360	1.0	1.0	1.0	95.8	0.0	0.0	0.0	0.0
1037	0.866	0.866	0.866	90.6	0.0	−0.1	0.1	248.4	4.4	360	1.0	1.0	1.0	95.8	0.0	0.0	0.0	0.0
1038	0.933	0.933	0.933	94.2	−0.1	0.0	0.1	208.1	3.2	360	1.0	1.0	1.0	95.8	0.0	0.0	0.0	0.0
1039	1.0	1.0	1.0	95.7	−0.2	0.0	0.2	166.5	0.2	360	1.0	1.0	1.0	95.8	0.0	0.0	0.0	0.0
1040	0.0	0.0	0.0	18.9	0.1	0.2	0.2	63.5	4.9	360	1.0	1.0	1.0	95.8	0.0	0.0	0.0	0.0
1041	0.066	0.066	0.066	22.2	0.1	0.1	0.2	54.5	6.4	360	1.0	1.0	1.0	95.8	0.0	0.0	0.0	0.0
1042	0.133	0.133	0.133	29.5	0.0	−0.7	0.7	271.7	3.9	360	1.0	1.0	1.0	95.8	0.0	0.0	0.0	0.0
1043	0.2	0.2	0.2	37.3	0.0	−1.1	1.1	266.3	1.4	360	1.0	1.0	1.0	95.8	0.0	0.0	0.0	0.0
1044	0.266	0.266	0.266	44.7	0.0	−1.1	1.1	269.8	2.0	360	1.0	1.0	1.0	95.8	0.0	0.0	0.0	0.0
1045	0.333	0.333	0.333	50.3	0.0	−0.8	0.8	273.6	2.6	360	1.0	1.0	1.0	95.8	0.0	0.0	0.0	0.0
1046	0.4	0.4	0.4	54.2	0.0	−1.0	1.0	275.3	1.9	360	1.0	1.0	1.0	95.8	0.0	0.0	0.0	0.0
1047	0.466	0.466	0.466	59.3	0.0	−1.1	1.1	270.4	2.2	360	1.0	1.0	1.0	95.8	0.0	0.0	0.0	0.0
1048	0.533	0.533	0.533	65.8	0.0	−1.0	1.0	274.3	3.7	360	1.0	1.0	1.0	95.8	0.0	0.0	0.0	0.0
1049	0.6	0.6	0.6	70.3	0.0	−0.9	0.9	272.4	3.4	360	1.0	1.0	1.0	95.8	0.0	0.0	0.0	0.0
1050	0.666	0.666	0.666	75.7	0.0	−0.8	0.8	273.0	4.0	360	1.0	1.0	1.0	95.8	0.0	0.0	0.0	0.0
1051	0.734	0.734	0.734	81.1	0.0	−0.4	0.4	271.3	4.5	360	1.0	1.0	1.0	95.8	0.0	0.0	0.0	0.0
1052	0.8	0.8	0.8	85.7	0.0	−0.3	0.3	279.0	4.3	360	1.0	1.0	1.0	95.8	0.0	0.0	0.0	0.0

Mean color difference of this page: delta E*' = 3.2

1-0033130-F0

PE890-7N, Page 32/33-F

input: $rgb/cmyk \rightarrow rgb_d$
output: transfer to $cmyk_d$

TUB-test chart PE89; 16 step hue circle
colors and differences, $\Delta E^{*\prime}$

1-0033130-F0

n	HIC*$_{Fd}$	*rgb*$_{\_Fd}$			*ict*$_{\_Fd}$			$h_{si\_F,d}$	*rgb**$_{Fd}$			*LabCh**$_{Fd}$					*rgb*'*$_{Fd}$			*LabCh*'*$_{Fd}$					*DE*'*$_{Fd}$	$h_{siM,d}$	*rgb**$_{Md}$			*LabCh**$_{Md}$				
1053	NW_086$_d$	0.866	0.866	0.866	0.866	0.0	0.866	360	0.866	0.866	0.866	86.1	0.0	0.0	0.0	0.0	0.866	0.866	0.866	90.6	0.0	−0.1	0.1	266.5	4.4	360	1.0	1.0	1.0	95.8	0.0	0.0	0.0	0.0
1054	NW_093$_d$	0.933	0.933	0.933	0.933	0.0	0.933	360	0.933	0.933	0.933	91.0	0.0	0.0	0.0	0.0	0.933	0.933	0.933	94.4	0.0	−0.2	0.2	278.1	3.4	360	1.0	1.0	1.0	95.8	0.0	0.0	0.0	0.0
1055	NW_100$_d$	1.0	1.0	1.0	1.0	0.0	1.0	360	1.0	1.0	1.0	95.8	0.0	0.0	0.0	0.0	1.0	1.0	1.0	95.8	0.0	0.0	0.0	152.8	0.0	360	1.0	1.0	1.0	95.8	0.0	0.0	0.0	0.0
1056	NW_000$_d$	0.0	0.0	0.0	0.0	0.0	0.0	360	0.0	0.0	0.0	23.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	18.1	0.0	0.2	0.2	83.2	5.6	360	1.0	1.0	1.0	95.8	0.0	0.0	0.0	0.0
1057	NW_006$_d$	0.066	0.066	0.066	0.066	0.0	0.066	360	0.066	0.066	0.066	28.6	0.0	0.0	0.0	0.0	0.066	0.066	0.066	21.5	0.1	0.1	0.2	48.9	7.0	360	1.0	1.0	1.0	95.8	0.0	0.0	0.0	0.0
1058	NW_013$_d$	0.133	0.133	0.133	0.133	0.0	0.133	360	0.133	0.133	0.133	33.4	0.0	0.0	0.0	0.0	0.133	0.133	0.133	28.9	0.0	−0.7	0.7	268.2	4.4	360	1.0	1.0	1.0	95.8	0.0	0.0	0.0	0.0
1059	NW_020$_d$	0.2	0.2	0.2	0.2	0.0	0.2	360	0.2	0.2	0.2	38.2	0.0	0.0	0.0	0.0	0.2	0.2	0.2	37.3	0.0	−1.1	1.1	267.2	1.4	360	1.0	1.0	1.0	95.8	0.0	0.0	0.0	0.0
1060	NW_026$_d$	0.266	0.266	0.266	0.266	0.0	0.266	360	0.266	0.266	0.266	42.9	0.0	0.0	0.0	0.0	0.266	0.266	0.266	44.2	0.0	−1.1	1.1	269.1	1.7	360	1.0	1.0	1.0	95.8	0.0	0.0	0.0	0.0
1061	NW_033$_d$	0.333	0.333	0.333	0.333	0.0	0.333	360	0.333	0.333	0.333	47.8	0.0	0.0	0.0	0.0	0.333	0.333	0.333	49.9	0.0	−0.8	0.8	274.5	2.3	360	1.0	1.0	1.0	95.8	0.0	0.0	0.0	0.0
1062	NW_040$_d$	0.4	0.4	0.4	0.4	0.0	0.4	360	0.4	0.4	0.4	52.6	0.0	0.0	0.0	0.0	0.4	0.4	0.4	53.8	0.0	−0.9	0.9	273.2	1.4	360	1.0	1.0	1.0	95.8	0.0	0.0	0.0	0.0
1063	NW_046$_d$	0.466	0.466	0.466	0.466	0.0	0.466	360	0.466	0.466	0.466	57.3	0.0	0.0	0.0	0.0	0.466	0.466	0.466	59.7	0.0	−1.1	1.1	268.9	2.6	360	1.0	1.0	1.0	95.8	0.0	0.0	0.0	0.0
1064	NW_053$_d$	0.533	0.533	0.533	0.533	0.0	0.533	360	0.533	0.533	0.533	62.2	0.0	0.0	0.0	0.0	0.533	0.533	0.533	65.4	0.0	−0.9	0.9	273.1	3.3	360	1.0	1.0	1.0	95.8	0.0	0.0	0.0	0.0
1065	NW_060$_d$	0.6	0.6	0.6	0.6	0.0	0.6	360	0.6	0.6	0.6	67.0	0.0	0.0	0.0	0.0	0.6	0.6	0.6	70.2	0.0	−0.8	0.8	268.8	3.2	360	1.0	1.0	1.0	95.8	0.0	0.0	0.0	0.0
1066	NW_066$_d$	0.666	0.666	0.666	0.666	0.0	0.666	360	0.666	0.666	0.666	71.7	0.0	0.0	0.0	0.0	0.666	0.666	0.666	75.5	0.0	−0.7	0.7	271.9	3.8	360	1.0	1.0	1.0	95.8	0.0	0.0	0.0	0.0
1067	NW_073$_d$	0.734	0.734	0.734	0.734	0.0	0.734	360	0.734	0.734	0.734	76.6	0.0	0.0	0.0	0.0	0.734	0.734	0.734	80.8	0.0	−0.4	0.4	265.0	4.1	360	1.0	1.0	1.0	95.8	0.0	0.0	0.0	0.0
1068	NW_080$_d$	0.8	0.8	0.8	0.8	0.0	0.8	360	0.8	0.8	0.8	81.4	0.0	0.0	0.0	0.0	0.8	0.8	0.8	85.3	0.0	−0.3	0.3	279.5	3.9	360	1.0	1.0	1.0	95.8	0.0	0.0	0.0	0.0
1069	NW_086$_d$	0.866	0.866	0.866	0.866	0.0	0.866	360	0.866	0.866	0.866	86.1	0.0	0.0	0.0	0.0	0.866	0.866	0.866	90.2	0.0	0.0	0.0	252.2	4.0	360	1.0	1.0	1.0	95.8	0.0	0.0	0.0	0.0
1070	NW_093$_d$	0.933	0.933	0.933	0.933	0.0	0.933	360	0.933	0.933	0.933	91.0	0.0	0.0	0.0	0.0	0.933	0.933	0.933	94.2	0.0	−0.2	0.2	289.2	3.2	360	1.0	1.0	1.0	95.8	0.0	0.0	0.0	0.0
1071	NW_100$_d$	1.0	1.0	1.0	1.0	0.0	1.0	360	1.0	1.0	1.0	95.8	0.0	0.0	0.0	0.0	1.0	1.0	1.0	95.8	0.0	0.0	0.1	331.9	0.1	360	1.0	1.0	1.0	95.8	0.0	0.0	0.0	0.0
1072	NW_000$_d$	0.0	0.0	0.0	0.0	0.0	0.0	360	0.0	0.0	0.0	23.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	19.2	0.1	0.2	0.2	58.1	4.6	360	1.0	1.0	1.0	95.8	0.0	0.0	0.0	0.0
1073	NW_100$_d$	1.0	1.0	1.0	1.0	0.0	1.0	360	1.0	1.0	1.0	95.8	0.0	0.0	0.0	0.0	1.0	1.0	1.0	95.7	0.0	−0.2	0.2	284.6	0.2	360	1.0	1.0	1.0	95.8	0.0	0.0	0.0	0.0
1074	R00Y_100_100$_d$	1.0	0.0	0.0	1.0	1.0	0.5	390	1.0	0.0	0.0	47.5	57.2	37.8	68.6	33.4	1.0	0.0	0.0	47.0	56.3	40.2	69.2	35.5	2.6	389	1.0	0.0	0.0	47.5	57.2	37.8	68.6	33.4
1075	G50B_100_100$_d$	0.0	1.0	1.0	1.0	1.0	0.5	210	0.0	1.0	1.0	53.1	−30.0	−43.1	52.5	235.1	0.0	1.0	1.0	54.9	−30.4	−42.0	51.8	234.0	2.1	210	0.0	1.0	1.0	53.1	−30.0	−43.1	52.5	235.1
1076	Y00G_100_100$_d$	1.0	1.0	0.0	1.0	1.0	0.5	90	1.0	1.0	0.0	91.5	−15.8	84.6	86.1	100.5	1.0	1.0	0.0	91.5	−16.0	86.1	87.6	100.5	1.5	89	1.0	1.0	0.0	91.5	−15.8	84.6	86.1	100.5
1077	B00R_100_100$_d$	0.0	0.0	1.0	1.0	1.0	0.5	270	0.0	0.0	1.0	32.5	16.9	−44.6	47.7	290.8	0.0	0.0	1.0	30.7	21.3	−44.1	49.0	295.7	4.7	270	0.0	0.0	1.0	32.5	16.9	−44.6	47.7	290.8
1078	G00B_100_100$_d$	0.0	1.0	0.0	1.0	1.0	0.5	150	0.0	1.0	0.0	54.3	−67.6	30.8	74.3	155.5	0.0	1.0	0.0	54.6	−69.2	33.1	76.7	154.3	2.8	149	0.0	1.0	0.0	54.3	−67.6	30.8	74.3	155.5
1079	B50R_100_100$_d$	1.0	0.0	1.0	1.0	1.0	0.5	330	1.0	0.0	1.0	48.1	65.4	−12.7	66.6	348.9	1.0	0.0	1.0	48.3	66.3	−13.8	67.7	348.1	1.4	330	1.0	0.0	1.0	48.1	65.4	−12.7	66.6	348.9

Mean color difference of this page: delta *E' = *3.0***

1−0033230−F0

PE890−7N, Page 33/33−F

TUB-test chart PE89; 16 step hue circle
colors and differences, $\Delta E^{*\prime}$

input: *rgb/cmyk* −> rgb_d
output: transfer to $cmyk_d$

see similar files: http://130.149.60.45/~farbmetrik/PE89/PE89.HTM
technical information: http://www.ps.bam.de or http://130.149.60.45/~farbmetrik

TUB registration: 20150701-PE89/PE89L0NP.PDF /.PS
application for measurement of laser printer output, separation cmyn6 (CMYK)

TUB material: code=rha4ta

1−0033230−F0

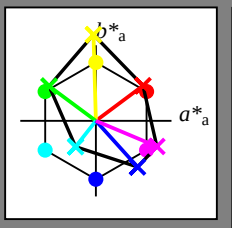
PE89S0P

Input and Output: Printer Reflective System FRS06a

Data for any device (d) or elementary (e) colour:
HIC*–
hue text for the colours of this page:
***H*–* = R00Y–, R25Y–, ..., B75R–**

ORS20a; adapted (a) CIELAB data

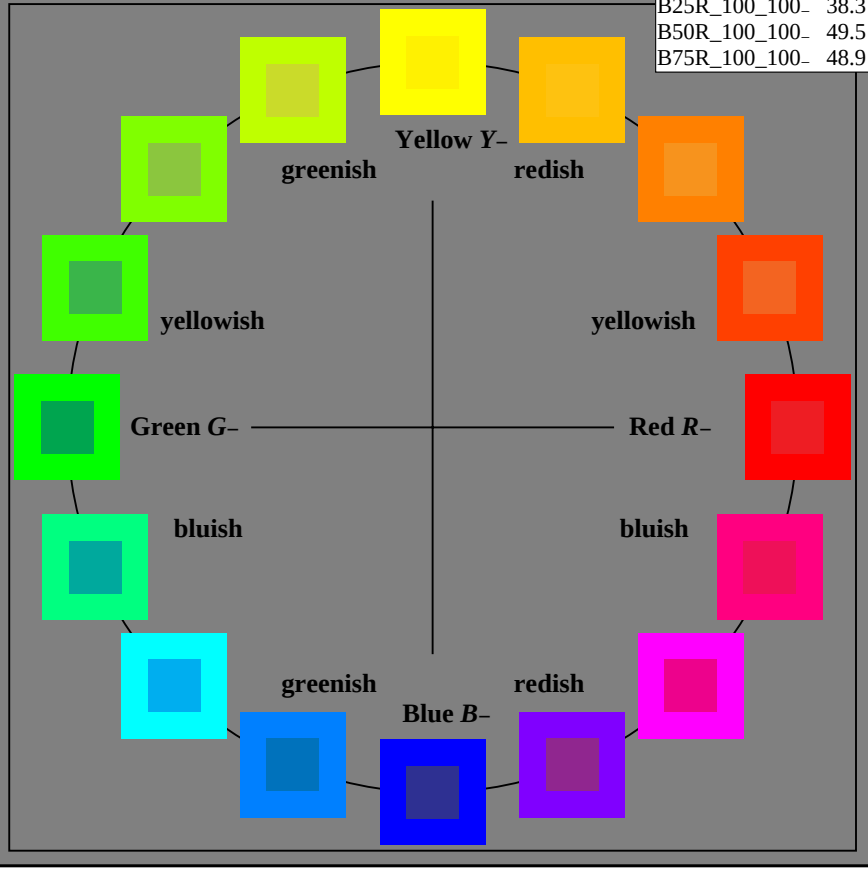
H–*	*L*=L*a*	*a*a*	*b*a*	*C*ab,a*	*h*ab,a*
R00Y_100_100–	48.4	66.1	40.2	77.3	31
R25Y_100_100–	56.8	48.0	50.5	69.6	46
R50Y_100_100–	68.6	25.0	63.9	68.6	68
R75Y_100_100–	80.6	4.8	77.2	77.3	86
Y00G_100_100–	90.2	−9.6	88.2	88.7	96
Y25G_100_100–	83.2	−18.4	79.9	81.9	102
Y50G_100_100–	73.3	−31.7	62.7	70.2	116
Y75G_100_100–	62.0	−49.7	43.2	65.8	139
G00B_100_100–	55.8	−65.2	33.8	73.4	152
G25B_100_100–	59.3	−50.3	−9.0	51.0	190
G50B_100_100–	63.0	−30.5	−42.0	51.9	234
G75B_100_100–	45.7	−5.7	−44.6	44.9	262
B00R_100_100–	27.5	25.9	−47.3	53.9	298
B25R_100_100–	38.3	52.6	−28.5	59.8	331
B50R_100_100–	49.5	73.5	−9.0	74.0	353
B75R_100_100–	48.9	69.3	12.9	70.4	10

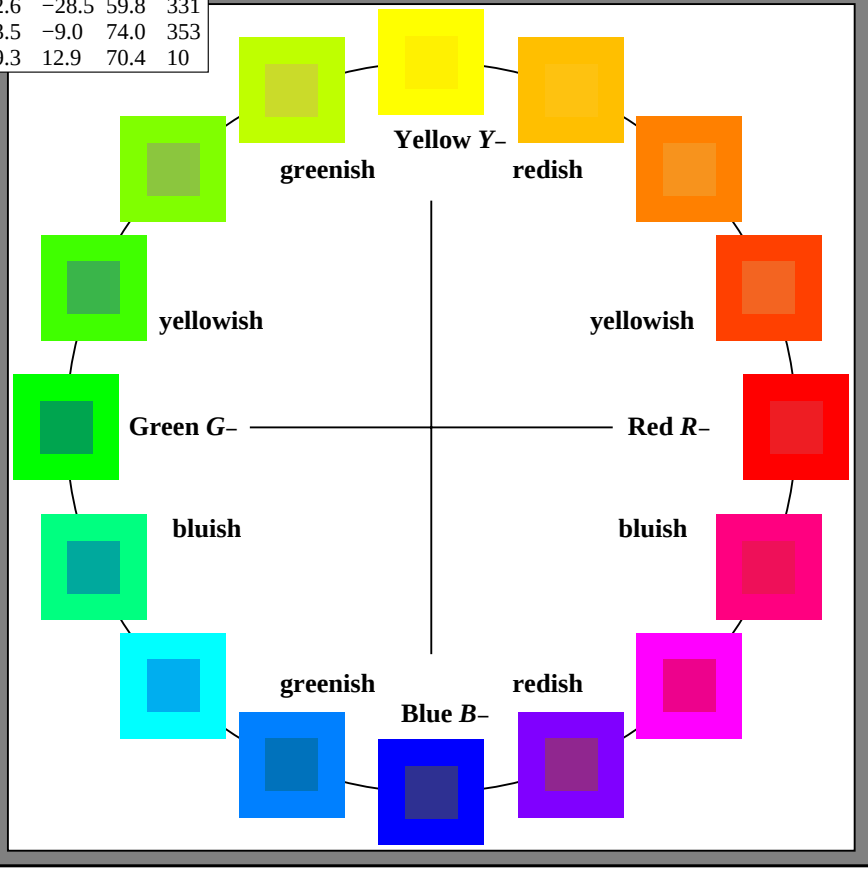


%Gamut
u*rel = 114
%Regularity
g*H,rel = 28
g*C,rel = 38

FRS06a; adapted (a) CIELAB data

name	*L*=L*a*	*a*a*	*b*a*	*C*ab,a*	*h*ab,a*
R–,Ma	32.5	62.3	46.4	77.7	36
Y–,Ma	82.7	−3.1	113.9	114.0	91
G–,Ma	39.4	−61.8	45.8	76.9	143
C–,Ma	47.8	−26.8	−34.2	43.4	231
B–,Ma	10.1	55.1	−61.0	82.2	312
M–,Ma	34.5	80.6	−33.9	87.5	337
N–,Ma	6.2	0.0	0.0	0.0	0
W–,Ma	91.9	0.0	0.0	0.0	0
R–,CIE	39.9	58.7	27.9	65.0	25
Y–,CIE	81.2	−2.8	71.5	71.6	92
G–,CIE	52.2	−42.4	13.6	44.5	162
B–,CIE	30.5	1.4	−46.4	46.4	271





see similar files: http://130.149.60.45/~farbmetrik/PE89/PE89.HTM
technical information: http://www.ps.bam.de or http://130.149.60.45/~farbmetrik

TUB registration: 20150701-PE89/PE89L0NP.PDF /.PS
application for measurement of laser printer output

TUB material: code=rha4ta

1−013030−L0 PE890−7N

TUB-test chart PE89; 16 step hue circle
Test chart according to DIN 33872, 3D=0, de=1, *cmyk*

input: *rgb/cmyk* −> *rgb/cmyk*
output: no change

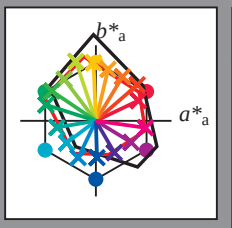
PE8901P

Input and Output: Printer Reflective System FRS06a

Data for any device (d) or elementary (e) colour:
HIC**e
hue text for the colours of this page:
***H**e = R00Ye, R25Ye, ..., B75Re**

LRS18a; adapted (a) CIELAB data

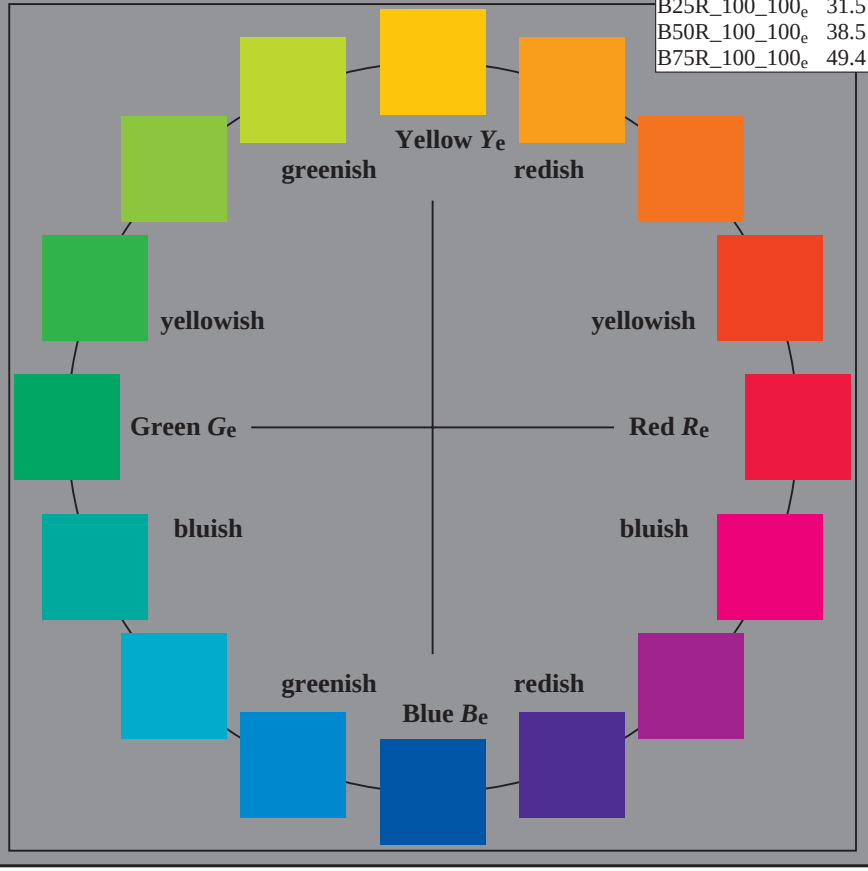
H^*_e	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R00Y_100_100e	47.5	56.0	26.7	62.1	25
R25Y_100_100e	51.4	54.8	47.7	72.6	41
R50Y_100_100e	61.8	35.2	58.4	68.2	58
R75Y_100_100e	72.3	16.1	68.2	70.1	76
Y00G_100_100e	83.6	−3.1	76.8	76.9	92
Y25G_100_100e	85.8	−26.4	78.5	82.9	108
Y50G_100_100e	71.0	−41.7	54.8	68.9	127
Y75G_100_100e	59.9	−58.2	39.3	70.2	145
G00B_100_100e	53.8	−65.9	21.1	69.2	162
G25B_100_100e	55.0	−51.6	−8.7	52.3	189
G50B_100_100e	54.9	−38.7	−29.1	48.4	216
G75B_100_100e	51.7	−23.3	−48.6	53.9	244
B00R_100_100e	37.3	1.4	−48.6	48.7	271
B25R_100_100e	31.5	24.4	−41.9	48.5	300
B50R_100_100e	38.5	46.7	−28.5	54.7	328
B75R_100_100e	49.4	65.5	−9.1	66.2	352

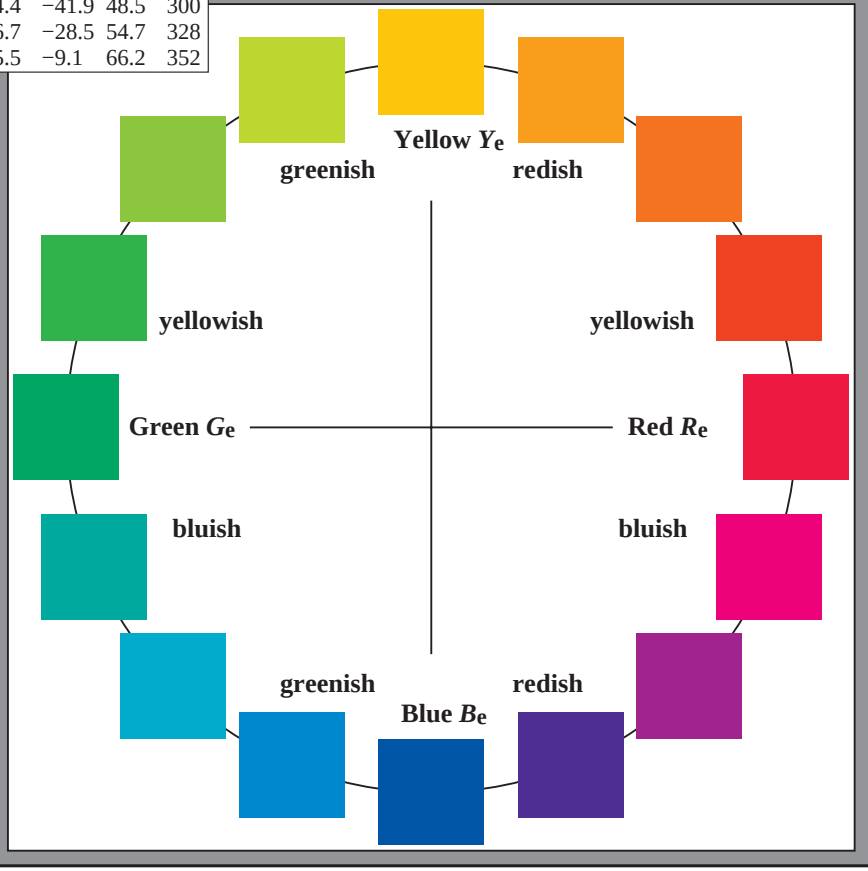


%Gamut
u*rel = 114
%Regularity
g*H,rel = 28
g*C,rel = 38

LRS18a; adapted (a) CIELAB data

name	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
Re,Ma	47.5	56.0	26.7	62.1	25
Ye,Ma	83.6	−3.1	76.8	76.9	92
Ge,Ma	53.8	−65.9	21.1	69.2	162
Ce,Ma	54.9	−38.7	−29.1	48.4	216
Be,Ma	37.3	1.4	−48.6	48.7	271
Me,Ma	38.5	46.7	−28.5	54.7	328
Ne,Ma	23.8	0.0	0.0	0.0	0
We,Ma	95.8	0.0	0.0	0.0	0
Re,CIE	39.9	58.7	27.9	65.0	25
Ye,CIE	81.2	−2.8	71.5	71.6	92
Ge,CIE	52.2	−42.4	13.6	44.5	162
Be,CIE	30.5	1.4	−46.4	46.4	271





see similar files: http://130.149.60.45/~farbmetrik/PE89/PE89.HTM
technical information: http://www.ps.bam.de or http://130.149.60.45/~farbmetrik

TUB registration: 20150701-PE89/PE89L0NP.PDF /.PS
application for measurement of laser printer output, separation cmyn6 (CMYK)

TUB material: code=rha4ta

1−013130−L0 PE890−71

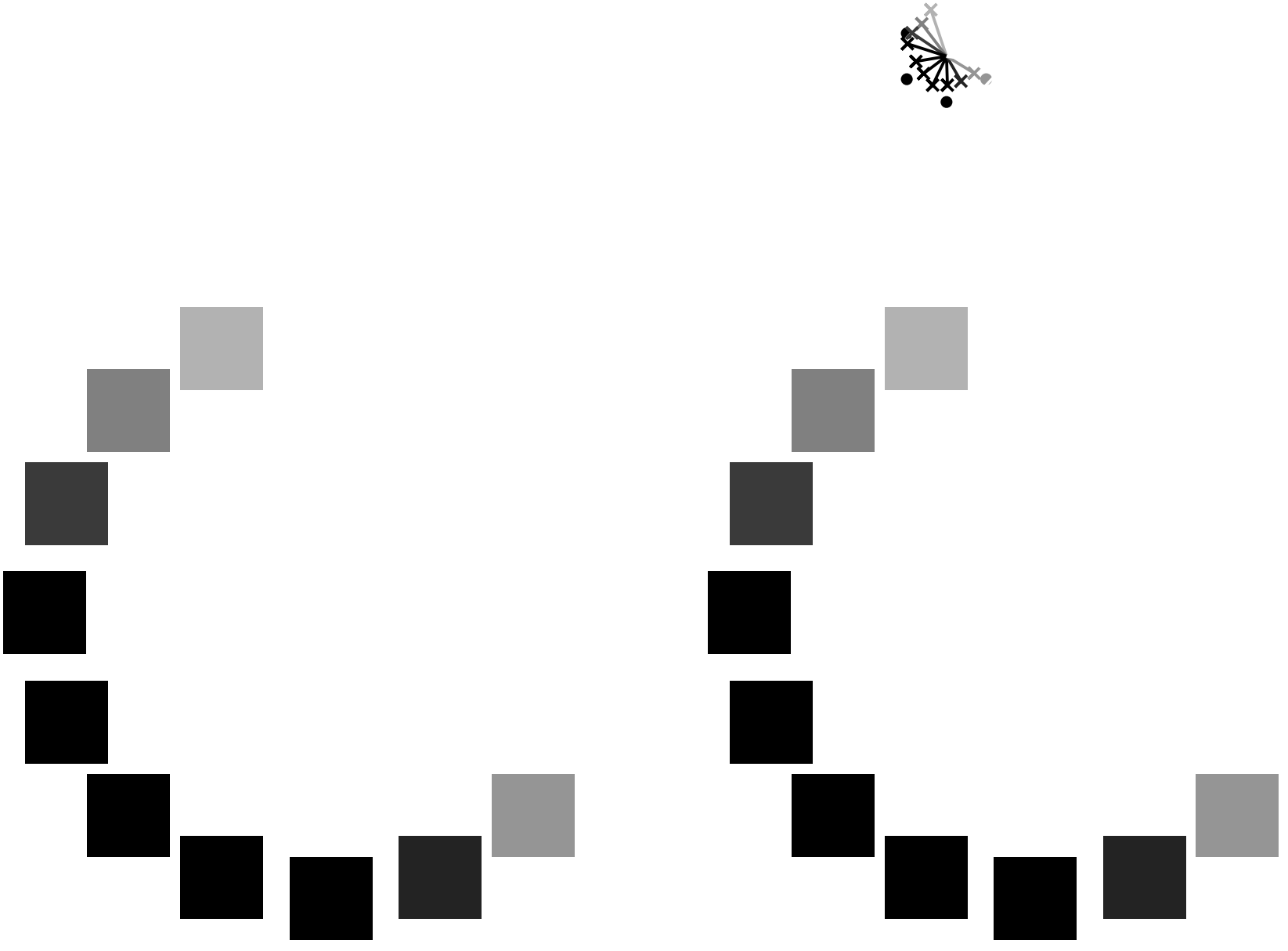
TUB-test chart PE89; 16 step hue circle
Test chart according to DIN 33872, 3D=0, de=1, *cmyk*

input: *rgb/cmyk* −> *rgbe*
output: transfer to *cmyke*

1−013130−F0

see similar files: http://130.149.60.45/~farbmetrik/PE89/PE89.HTM
technical information: http://www.ps.bam.de or http://130.149.60.45/~farbmetrik

TUB registration: 20150701-PE89/PE89L0NP.PDF /.PS
application for measurement of laser printer output, separation cmyn6 (CMYK)
TUB material: code=rha4ta



1−013230−L0 PE890−71

TUB-test chart PE89; 16 step hue circle
Test chart according to DIN 33872, 3D=0, de=1, *cmyk*

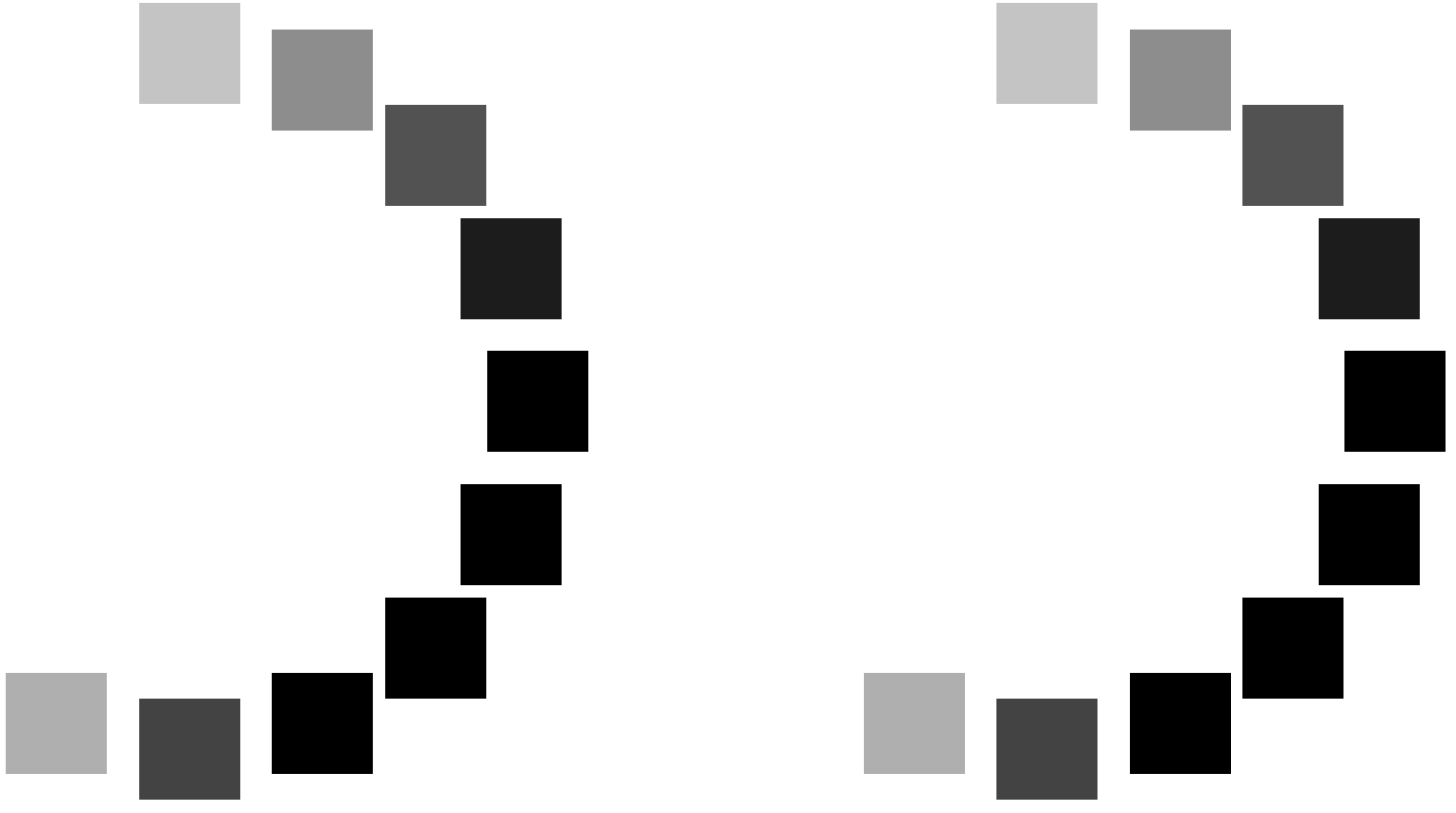
input: *rgb/cmyk* −> rgb_e
output: transfer to $cmyk_e$

1−013230−F0

see similar files: http://130.149.60.45/~farbmetrik/PE89/PE89.HTM
technical information: http://www.ps.bam.de or http://130.149.60.45/~farbmetrik

TUB registration: 20150701-PE89/PE89L0NP.PDF /.PS
application for measurement of laser printer output, separation cmyn6 (CMYK)

TUB material: code=rha4ta



1−013330−L0 PE890−71

TUB-test chart PE89; 16 step hue circle
Test chart according to DIN 33872, 3D=0, de=1, *cmyk*

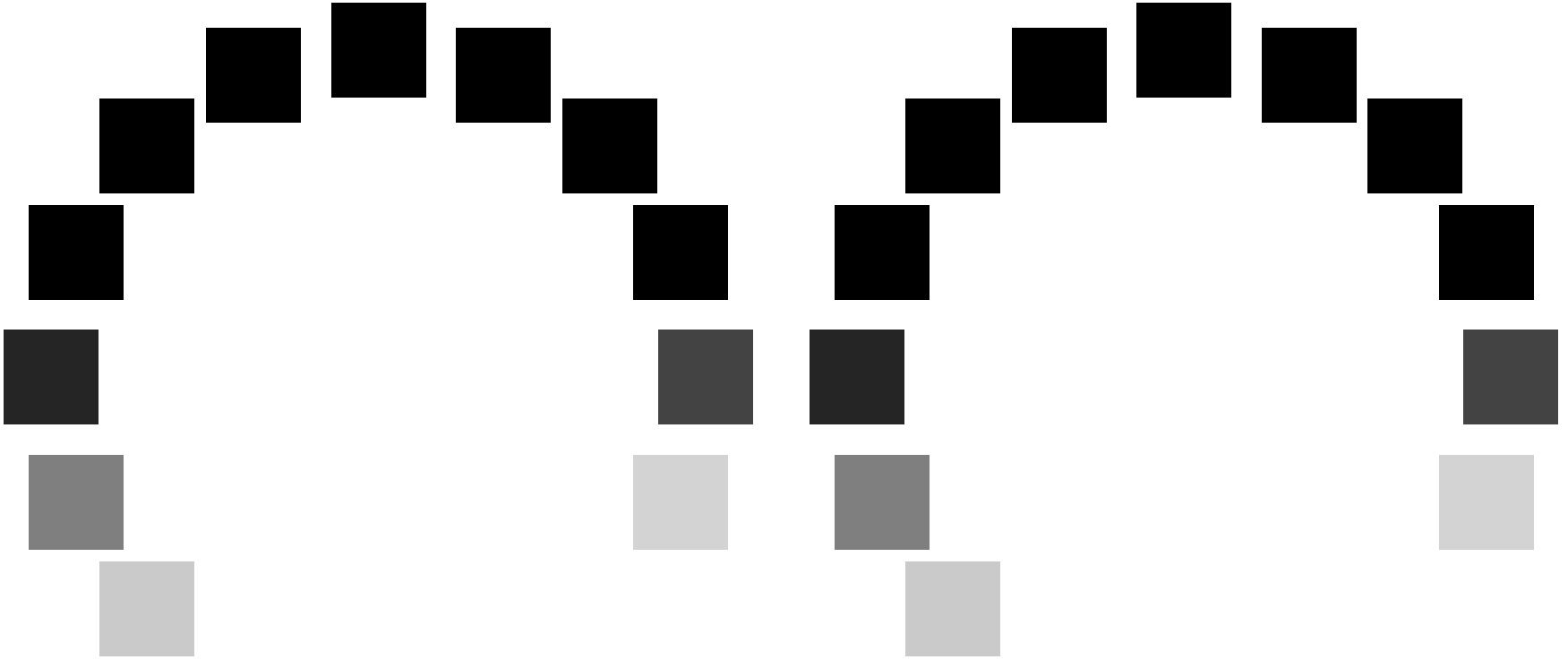
input: *rgb/cmyk* −> rgb_e
output: transfer to $cmyk_e$

1−013330−F0

see similar files: http://130.149.60.45/~farbmetrik/PE89/PE89.HTM
technical information: http://www.ps.bam.de or http://130.149.60.45/~farbmetrik

TUB registration: 20150701-PE89/PE89L0NP.PDF /.PS
application for measurement of laser printer output, separation cmyn6 (CMYK)

TUB material: code=rha4ta



1−013430−L0 PE890−71

TUB-test chart PE89; 16 step hue circle
Test chart according to DIN 33872, 3D=0, de=1, *cmyk*

input: *rgb/cmyk* −> rgb_e
output: transfer to $cmyk_e$

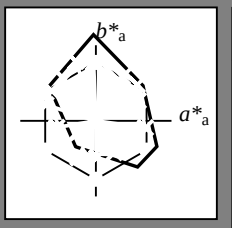
1−013430−F0

Input and Output: Printer Reflective System FRS06a

Data for any device (d) or elementary (e) colour:
HIC**e
hue text for the colours of this page:
***H**e = R00Ye, R25Ye, ..., B75Re**

LRS18a; adapted (a) CIELAB data

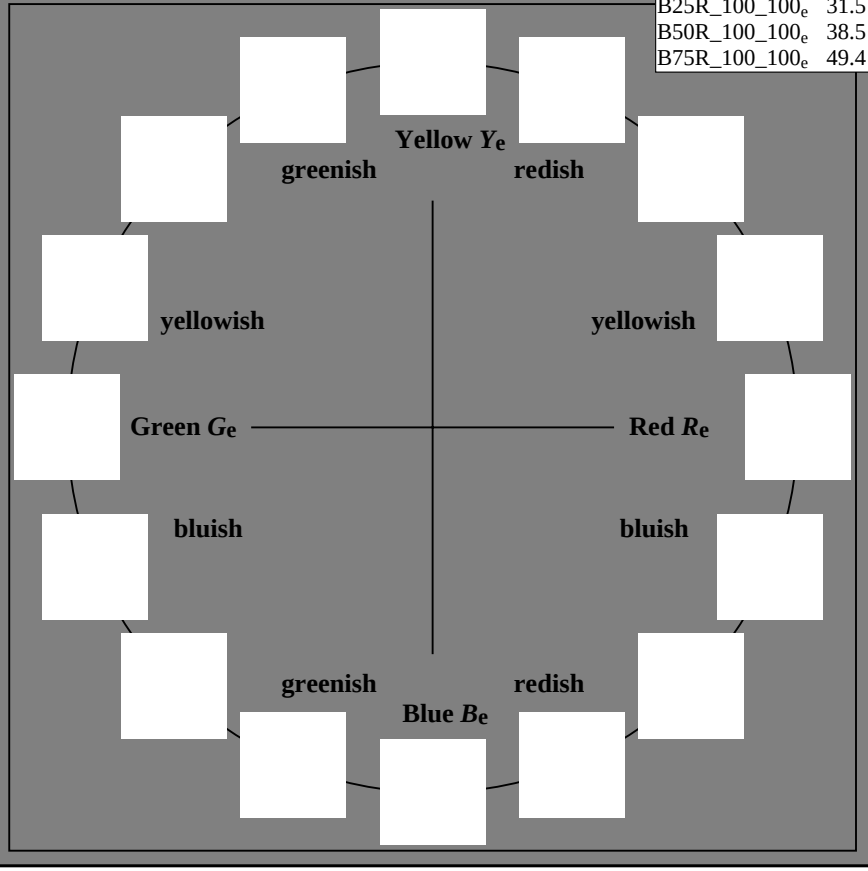
H^*_e	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R00Y_100_100e	47.5	56.0	26.7	62.1	25
R25Y_100_100e	51.4	54.8	47.7	72.6	41
R50Y_100_100e	61.8	35.2	58.4	68.2	58
R75Y_100_100e	72.3	16.1	68.2	70.1	76
Y00G_100_100e	83.6	−3.1	76.8	76.9	92
Y25G_100_100e	85.8	−26.4	78.5	82.9	108
Y50G_100_100e	71.0	−41.7	54.8	68.9	127
Y75G_100_100e	59.9	−58.2	39.3	70.2	145
G00B_100_100e	53.8	−65.9	21.1	69.2	162
G25B_100_100e	55.0	−51.6	−8.7	52.3	189
G50B_100_100e	54.9	−38.7	−29.1	48.4	216
G75B_100_100e	51.7	−23.3	−48.6	53.9	244
B00R_100_100e	37.3	1.4	−48.6	48.7	271
B25R_100_100e	31.5	24.4	−41.9	48.5	300
B50R_100_100e	38.5	46.7	−28.5	54.7	328
B75R_100_100e	49.4	65.5	−9.1	66.2	352

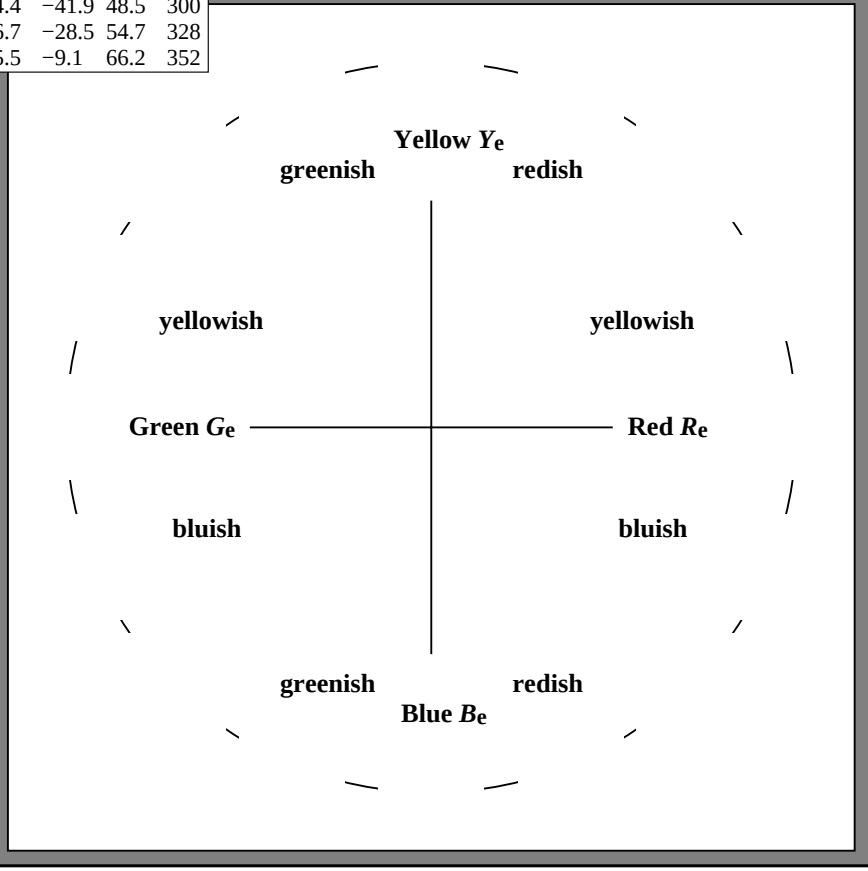


%Gamut
u*rel = 114
%Regularity
g*H,rel = 28
g*C,rel = 38

LRS18a; adapted (a) CIELAB data

name	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
$R_{e,Ma}$	47.5	56.0	26.7	62.1	25
$Y_{e,Ma}$	83.6	−3.1	76.8	76.9	92
$G_{e,Ma}$	53.8	−65.9	21.1	69.2	162
$C_{e,Ma}$	54.9	−38.7	−29.1	48.4	216
$B_{e,Ma}$	37.3	1.4	−48.6	48.7	271
$M_{e,Ma}$	38.5	46.7	−28.5	54.7	328
$N_{e,Ma}$	23.8	0.0	0.0	0.0	0
$W_{e,Ma}$	95.8	0.0	0.0	0.0	0
$R_{e,CIE}$	39.9	58.7	27.9	65.0	25
$Y_{e,CIE}$	81.2	−2.8	71.5	71.6	92
$G_{e,CIE}$	52.2	−42.4	13.6	44.5	162
$B_{e,CIE}$	30.5	1.4	−46.4	46.4	271





see similar files: http://130.149.60.45/~farbmetrik/PE89/PE89.HTM
technical information: http://www.ps.bam.de or http://130.149.60.45/~farbmetrik

TUB registration: 20150701-PE89/PE89L0NP.PDF /.PS
application for measurement of laser printer output, separation cmyn6 (CMYK)

TUB material: code=rha4ta

1−013530−L0 PE890−71

TUB-test chart PE89; 16 step hue circle
Test chart according to DIN 33872, 3D=0, de=1, *cmyk*

input: *rgb/cmyk* −> *rgb*e
output: transfer to *cmyk*e

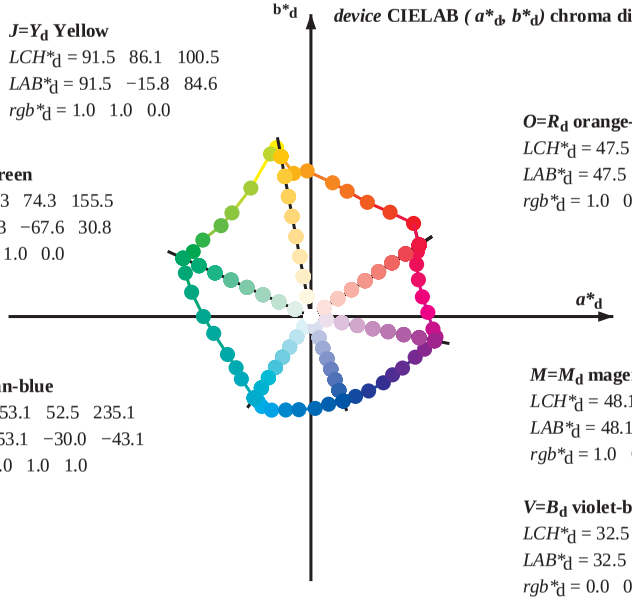
1−013530−F0

see similar files: http://130.149.60.45/~farbmetrik/PE89/PE89.HTM
technical information: http://www.ps.bam.de or http://130.149.60.45/~farbmetrik

TUB registration: 20150701-PE89/PE89L0NP.PDF /.PS
application for measurement of laser printer output, separation cmyn6 (CMYK)
TUB material: code=rha4ta

Data of Maximum color M in colorimetric system Laser printer output; separation cmyn6*, D65 for input or output; Six hue angles of the 60 degree standard colours *RYGCBM*$_s$: $h_{ab,ds}$ = 30.0, 90.0, 150.0, 210.0, 270.0, 330.0; Six hue angles of the device colours *RYGCBM*$_d$: $h_{ab,d}$ = 33.5, 100.6, 155.5, 235.2, 290.8, 348.9; Six hue angles of the elementary colours *RYGCBM*$_e$: $h_{ab,e}$ = 25.5, 92.3, 162.2, 217.0, 271.7, 328.6

***device* CIELAB (a^*_d, b^*_d) chroma diagram**



J=Y_d Yellow
LCH^*_d = 91.5 86.1 100.5
LAB^*_d = 91.5 −15.8 84.6
rgb^*_d = 1.0 1.0 0.0

O=R_d orange-red
LCH^*_d = 47.5 68.6 33.4
LAB^*_d = 47.5 57.2 37.8
rgb^*_d = 1.0 0.0 0.0

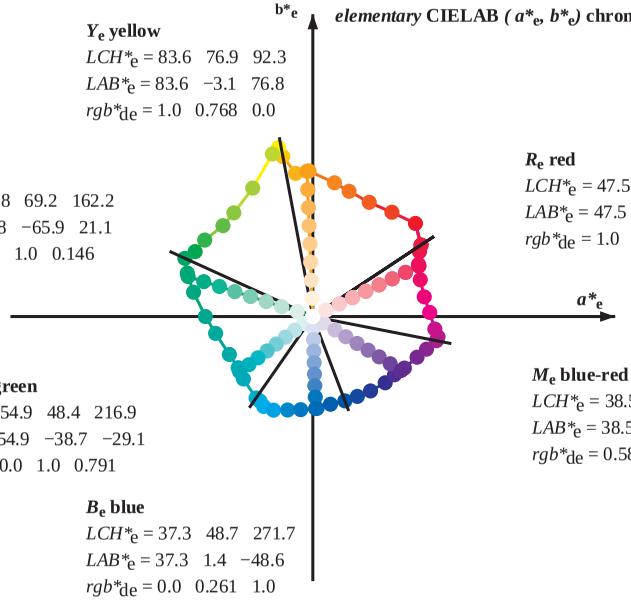
L=G_d leaf-green
LCH^*_d = 54.3 74.3 155.5
LAB^*_d = 54.3 −67.6 30.8
rgb^*_d = 0.0 1.0 0.0

C=C_d cyan-blue
LCH^*_d = 53.1 52.5 235.1
LAB^*_d = 53.1 −30.0 −43.1
rgb^*_d = 0.0 1.0 1.0

M=M_d magenta-red
LCH^*_d = 48.1 66.6 348.9
LAB^*_d = 48.1 65.4 −12.7
rgb^*_d = 1.0 0.0 1.0

V=B_d violet-blue
LCH^*_d = 32.5 47.7 290.8
LAB^*_d = 32.5 16.9 −44.6
rgb^*_d = 0.0 0.0 1.0

***elementary* CIELAB (a^*_e, b^*_e) chroma diagram**



Y_e yellow
LCH^*_e = 83.6 76.9 92.3
LAB^*_e = 83.6 −3.1 76.8
rgb^*_{de} = 1.0 0.768 0.0

G_e green
LCH^*_e = 53.8 69.2 162.2
LAB^*_e = 53.8 −65.9 21.1
rgb^*_{de} = 0.0 1.0 0.146

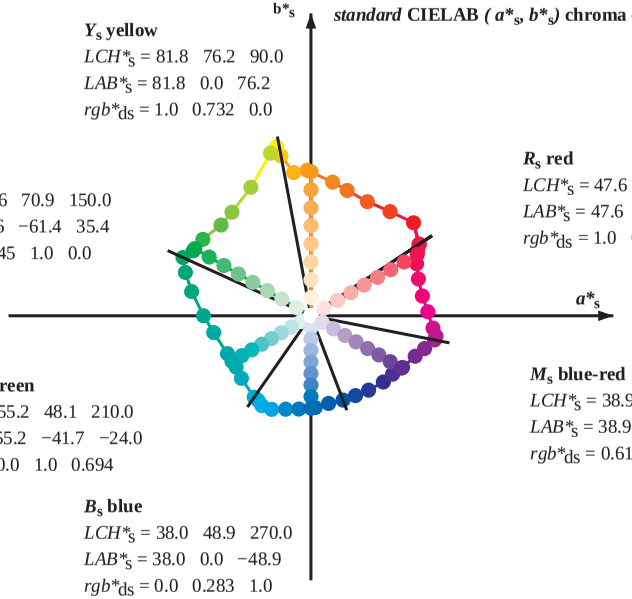
R_e red
LCH^*_e = 47.5 62.1 25.4
LAB^*_e = 47.5 56.0 26.7
rgb^*_{de} = 1.0 0.0 0.263

C_e blue-green
LCH^*_e = 54.9 48.4 216.9
LAB^*_e = 54.9 −38.7 −29.1
rgb^*_{de} = 0.0 1.0 0.791

M_e blue-red
LCH^*_e = 38.5 54.7 328.6
LAB^*_e = 38.5 46.7 −28.5
rgb^*_{de} = 0.584 0.0 1.0

B_e blue
LCH^*_e = 37.3 48.7 271.7
LAB^*_e = 37.3 1.4 −48.6
rgb^*_{de} = 0.0 0.261 1.0

***standard* CIELAB (a^*_s, b^*_s) chroma diagram**



Y_s yellow
LCH^*_s = 81.8 76.2 90.0
LAB^*_s = 81.8 0.0 76.2
rgb^*_{ds} = 1.0 0.732 0.0

G_s green
LCH^*_s = 57.6 70.9 150.0
LAB^*_s = 57.6 −61.4 35.4
rgb^*_{ds} = 0.145 1.0 0.0

R_s red
LCH^*_s = 47.6 65.0 30.0
LAB^*_s = 47.6 56.3 32.5
rgb^*_{ds} = 1.0 0.0 0.157

C_s blue-green
LCH^*_s = 55.2 48.1 210.0
LAB^*_s = 55.2 −41.7 −24.0
rgb^*_{ds} = 0.0 1.0 0.694

M_s blue-red
LCH^*_s = 38.9 55.3 330.0
LAB^*_s = 38.9 47.9 −27.6
rgb^*_{ds} = 0.612 0.0 1.0

B_s blue
LCH^*_s = 38.0 48.9 270.0
LAB^*_s = 38.0 0.0 −48.9
rgb^*_{ds} = 0.0 0.283 1.0

Notes to the CIELAB chroma diagrams (a^*_d, b^*_d), (a^*_s, b^*_s), (a^*_e, b^*_e)

1. For the rgb^*_d-input values the CIELAB data LCH^*_d and LAB^*_d have been calculated.
2. For the calculation of the standard hue angle $h_{ab,s}$ use for any device values rgb^*_d the equation:

$$h_{ab,s} = atan\ [\ r^*_d\ cos(30) + g^*_d\ cos(150)\ ]\ /\ [\ r^*_d\ sin(30) + g^*_d\ sin(150) + b^*_d\ sin(270)\ ] \quad (1)$$

3. For the 48 or 360 equally spaced standard hue angles $h_{ab,s}$ of the colours of maximum chroma use the seven hue angles of the 60 degree colours *s:* $h_{ab,si}$ = 30.0, 90.0, 150.0, 210.0, 270.0, 330.0, 390.0 (i=0,6) and the equations for a 48 and 360 step hue circle:

$$h_{48ab,sij} = h_{ab,si} + j\ [h_{ab,si+1} - h_{ab,si}\ ]\ /8\ (\ i = 0, 1, ..., 5;\ j = 0, 1, ..., 7) \quad (2)$$

$$h_{360ab,sij} = h_{ab,si} + j\ [h_{ab,si+1} - h_{ab,si}\ ]\ /60\ (\ i = 0, 1, ..., 5;\ j = 0, 1, ..., 59) \quad (3)$$

4. For the 48 or 360 elementary hue angles $h_{ab,e}$ of the colours of maximum chroma use the seven hue angles of the elementary colours *e:* $h_{ab,ei}$ = 25.5, 92.3, 162.2, 217.0, 271.7, 328.6, 385.5 (i=0,6) and the equations for a 48 and 360 step elementary hue circle:

$$h_{48ab,eij} = h_{ab,ei} + j\ [h_{ab,ei+1} - h_{ab,ei}\ ]\ /8\ (\ i = 0, 1, ..., 5;\ j = 0, 1, ..., 7) \quad (4)$$

$$h_{360ab,eij} = h_{ab,ei} + j\ [h_{ab,ei+1} - h_{ab,ei}\ ]\ /60\ (\ i = 0, 1, ..., 5;\ j = 0, 1, ..., 59) \quad (5)$$

5. For any elementary hue angle $h_{ab,e}$ there is a well defined device hue angle $h_{ab,d}$ see the following tables, columns 1 to 5 or 1 to 4.
6. The values rgb^*_{de} produce the output of the device-independent elementary hues

Data of Maximum color M in colorimetric system Laser printer output; separation cmyn6*, D65 for input or output; Six hue angles of the 60 degree standard colours *RYGCBM*$_s$: $h_{ab,ds}$ = 30.0, 90.0, 150.0, 210.0, 270.0, 330.0; Six hue angles of the device colours *RYGCBM*$_d$: $h_{ab,d}$ = 33.5, 100.6, 155.5, 235.2, 290.8, 348.9; Six hue angles of the elementary colours *RYGCBM*$_e$: $h_{ab,e}$ = 25.5, 92.3, 162.2, 217.0, 271.7, 328.6

$h_{ab,d}$	$h_{ab,s}$	$h_{ab,e}$	*rgb** dd64M			*LAB** ddx64M (x=LabCh)					*rgb** ddx361M			*LAB** ddx361M (x=LabCh)					*rgb** dsx361M			*LAB** dsx361M (x=LabCh)					*rgb** dex361M			*LAB** dex361M					rgb*$_{dd}$	*rgb**$_{ds}$	*rgb**$_{de}$
33.4	30.0	25.4	1.0	0.0	0.0	47.5	57.2	37.8	68.6	33.4	1.0	0.0	0.0	47.6	57.2	37.9	68.6	33	1.0	0.0	0.158	47.7	56.3	32.5	65.0	30	1.0	0.0	0.263	47.6	56.1	26.7	62.1	25			
42.1	37.5	33.8	1.0	0.125	0.0	51.9	54.3	49.2	73.2	42.1	1.0	0.117	0.0	51.7	54.6	48.5	73.0	41	1.0	0.05	0.0	49.4	56.3	42.4	70.5	37	1.0	0.0	0.012	47.6	57.2	37.5	68.4	33			
52.8	45.0	42.1	1.0	0.25	0.0	58.2	41.8	55.1	69.2	52.8	1.0	0.25	0.0	58.3	41.8	55.2	69.2	52	1.0	0.158	0.0	53.6	51.1	51.1	72.2	45	1.0	0.125	0.0	52.0	54.3	49.2	73.3	42			
63.7	52.5	50.5	1.0	0.375	0.0	64.6	29.8	60.4	67.3	63.7	1.0	0.367	0.0	64.2	30.6	60.1	67.5	63	1.0	0.24	0.0	57.8	42.8	54.8	69.6	52	1.0	0.216	0.0	56.6	45.2	53.9	70.3	49			
73.8	60.0	58.8	1.0	0.5	0.0	70.5	19.2	66.2	69.0	73.8	1.0	0.5	0.0	70.5	19.2	66.3	69.0	73	1.0	0.332	0.0	62.5	34.0	58.9	68.0	60	1.0	0.32	0.0	61.8	35.2	58.4	68.2	58			
80.7	67.5	67.2	1.0	0.625	0.0	74.9	11.4	70.7	71.6	80.7	1.0	0.617	0.0	74.6	12.0	70.5	71.5	80	1.0	0.416	0.0	66.6	26.5	62.5	67.9	67	1.0	0.412	0.0	66.4	26.9	62.3	67.9	66			
91.5	75.0	75.6	1.0	0.75	0.0	82.9	−2.0	76.9	77.0	91.5	1.0	0.75	0.0	83.0	−1.9	77.0	77.0	−268	1.0	0.521	0.0	71.3	18.0	67.1	69.5	75	1.0	0.532	0.0	71.6	17.3	67.5	69.7	75			
96.8	82.5	83.9	1.0	0.875	0.0	87.6	−9.0	75.7	76.3	96.8	1.0	0.867	0.0	87.3	−8.5	75.9	76.4	96	1.0	0.639	0.0	75.8	10.1	71.6	72.3	82	1.0	0.655	0.0	76.9	8.4	72.5	73.0	83			
100.5	90.0	92.3	1.0	1.0	0.0	91.5	−15.8	84.6	86.1	100.5	1.0	1.0	0.0	91.6	−15.7	84.7	86.2	100	1.0	0.732	0.0	81.8	0.0	76.3	76.3	90	1.0	0.769	0.0	83.7	−3.0	76.8	76.9	92			
101.4	97.5	101.0	0.875	1.0	0.0	92.8	−18.1	89.4	91.2	101.4	0.883	1.0	0.0	92.7	−17.9	89.1	90.9	101	1.0	0.88	0.0	87.8	−9.3	76.2	76.7	97	1.0	0.996	0.0	91.5	−15.5	84.4	85.8	100			
103.9	105.0	109.7	0.75	1.0	0.0	90.1	−21.3	86.0	88.6	103.9	0.75	1.0	0.0	90.1	−21.3	86.0	88.7	103	0.738	1.0	0.0	89.2	−22.5	84.4	87.4	105	0.684	1.0	0.0	84.7	−27.5	76.7	81.5	109			
115.0	112.5	118.5	0.625	1.0	0.0	79.9	−31.7	67.9	75.0	115.0	0.633	1.0	0.0	80.6	−31.1	69.2	75.9	114	0.659	1.0	0.0	82.7	−29.4	73.0	78.8	112	0.595	1.0	0.0	77.8	−34.4	65.0	73.6	117			
127.3	120.0	127.2	0.5	1.0	0.0	70.9	−41.7	54.8	68.9	127.3	0.5	1.0	0.0	71.0	−41.7	54.8	68.9	127	0.574	1.0	0.0	76.3	−36.2	62.8	72.6	120	0.501	1.0	0.0	71.0	−41.6	54.9	68.9	127			
134.7	127.5	136.0	0.375	1.0	0.0	66.5	−47.5	48.0	67.6	134.7	0.383	1.0	0.0	66.9	−47.1	48.5	67.7	134	0.503	1.0	0.0	71.2	−41.5	55.2	69.1	127	0.366	1.0	0.0	66.2	−48.2	47.6	67.8	135			
144.7	135.0	144.7	0.25	1.0	0.0	60.6	−57.2	40.4	70.1	144.7	0.25	1.0	0.0	60.6	−57.2	40.5	70.1	144	0.372	1.0	0.0	66.4	−47.8	47.9	67.7	135	0.25	1.0	0.0	60.6	−57.1	40.5	70.1	144			
151.0	142.5	153.4	0.125	1.0	0.0	57.0	−62.2	34.4	71.1	151.0	0.133	1.0	0.0	57.3	−61.8	34.8	71.0	150	0.284	1.0	0.0	62.3	−54.6	42.7	69.4	142	0.073	1.0	0.0	55.9	−64.4	33.0	72.5	152			
155.5	150.0	162.2	0.0	1.0	0.0	54.3	−67.6	30.8	74.3	155.5	0.0	1.0	0.0	54.3	−67.6	30.8	74.4	155	0.146	1.0	0.0	57.6	−61.3	35.5	70.9	150	0.0	1.0	0.147	53.8	−65.9	21.1	69.3	162			
160.8	157.5	169.0	0.0	1.0	0.125	53.8	−66.4	23.0	70.2	160.8	0.0	1.0	0.117	53.9	−66.4	23.5	70.6	160	0.0	1.0	0.035	54.2	−67.3	28.6	73.2	157	0.0	1.0	0.251	53.8	−63.0	12.7	64.4	168			
168.5	165.0	175.9	0.0	1.0	0.25	53.7	−63.1	12.8	64.4	168.5	0.0	1.0	0.25	53.8	−63.1	12.8	64.4	168	0.0	1.0	0.192	53.8	−64.7	17.4	67.1	165	0.0	1.0	0.331	54.4	−59.3	4.2	59.5	175			
179.9	172.5	182.7	0.0	1.0	0.375	54.7	−56.8	0.0	56.8	179.9	0.0	1.0	0.367	54.7	−57.2	0.8	57.3	179	0.0	1.0	0.288	54.1	−61.4	8.6	62.1	172	0.0	1.0	0.405	54.8	−55.6	−2.1	55.7	182			
189.8	180.0	189.6	0.0	1.0	0.5	55.0	−51.4	−8.9	52.2	189.8	0.0	1.0	0.5	55.0	−51.4	−8.8	52.2	189	0.0	1.0	0.375	54.8	−56.7	0.0	56.8	180	0.0	1.0	0.497	55.0	−51.5	−8.6	52.3	189			
204.4	187.5	196.4	0.0	1.0	0.625	55.3	−44.1	−20.0	48.5	204.4	0.0	1.0	0.617	55.3	−44.6	−19.3	48.8	203	0.0	1.0	0.464	55.0	−53.0	−6.4	53.5	187	0.0	1.0	0.553	55.2	−48.6	−13.9	50.7	195			
214.4	195.0	203.2	0.0	1.0	0.75	55.2	−39.5	−27.1	47.9	214.4	0.0	1.0	0.75	55.2	−39.4	−27.0	47.9	214	0.0	1.0	0.544	55.2	−49.1	−13.1	50.9	195	0.0	1.0	0.615	55.3	−44.7	−19.2	48.8	203			
221.9	202.5	210.1	0.0	1.0	0.875	54.4	−36.7	−33.0	49.4	221.9	0.0	1.0	0.867	54.5	−36.9	−32.6	49.4	221	0.0	1.0	0.604	55.3	−45.5	−18.3	49.1	202	0.0	1.0	0.69	55.3	−41.8	−23.8	48.2	209			
235.1	210.0	216.9	0.0	1.0	1.0	53.1	−30.0	−43.1	52.5	235.1	0.0	1.0	1.0	53.1	−29.9	−43.0	52.5	235	0.0	1.0	0.694	55.3	−41.6	−24.0	48.2	210	0.0	1.0	0.792	55.0	−38.6	−29.0	48.4	216			
237.9	217.5	223.8	0.0	0.875	1.0	53.1	−27.9	−44.7	52.7	237.9	0.0	0.883	1.0	53.1	−28.0	−44.5	52.8	237	0.0	1.0	0.792	55.0	−38.6	−29.1	48.5	217	0.0	1.0	0.888	54.3	−36.1	−34.1	49.8	223			
241.3	225.0	230.6	0.0	0.75	1.0	52.9	−25.9	−47.5	54.1	241.3	0.0	0.75	1.0	52.9	−25.8	−47.5	54.2	241	0.0	1.0	0.904	54.2	−35.4	−35.4	50.2	225	0.0	1.0	0.957	53.6	−32.5	−39.7	51.5	230			
247.2	232.5	237.5	0.0	0.625	1.0	50.5	−20.8	−49.5	53.7	247.2	0.0	0.633	1.0	50.7	−21.1	−49.3	53.8	246	0.0	1.0	0.97	53.5	−31.8	−40.7	51.8	232	0.0	0.916	1.0	53.1	−28.6	−44.1	52.7	237			
254.9	240.0	244.3	0.0	0.5	1.0	46.1	−13.3	−49.4	51.1	254.9	0.0	0.5	1.0	46.2	−13.2	−49.3	51.2	254	0.0	0.801	1.0	53.0	−26.7	−46.3	53.6	240	0.0	0.686	1.0	51.7	−23.3	−48.5	54.0	244			
262.6	247.5	251.2	0.0	0.375	1.0	41.4	−6.3	−49.2	49.6	262.6	0.0	0.383	1.0	41.7	−6.7	−49.2	49.8	262	0.0	0.63	1.0	50.7	−20.9	−49.4	53.8	247	0.0	0.568	1.0	48.6	−17.2	−49.5	52.6	250			
272.6	255.0	258.0	0.0	0.25	1.0	36.8	2.2	−48.5	48.6	272.6	0.0	0.25	1.0	36.9	2.2	−48.5	48.6	272	0.0	0.499	1.0	46.1	−13.1	−49.3	51.2	255	0.0	0.449	1.0	44.2	−10.4	−49.4	50.6	258			
281.4	262.5	264.8	0.0	0.125	1.0	35.0	9.4	−46.3	47.3	281.4	0.0	0.133	1.0	35.2	8.9	−46.5	47.4	280	0.0	0.386	1.0	41.8	−6.8	−49.2	49.8	262	0.0	0.353	1.0	40.6	−4.7	−49.2	49.5	264			
290.8	270.0	271.7	0.0	0.0	1.0	32.5	16.9	−44.6	47.7	290.8	0.0	0.0	1.0	32.6	16.9	−44.5	47.7	290	0.0	0.283	1.0	38.1	0.0	−48.8	48.9	270	0.0	0.261	1.0	37.3	1.5	−48.6	48.7	271			
299.2	277.5	278.8	0.125	0.0	1.0	31.6	23.6	−42.2	48.4	299.2	0.117	0.0	1.0	31.7	23.2	−42.3	48.4	298	0.0	0.188	1.0	36.0	5.8	−47.5	48.0	277	0.0	0.169	1.0	35.7	7.0	−47.2	47.8	278			
307.8	285.0	285.9	0.25	0.0	1.0	31.0	30.5	−39.3	49.8	307.8	0.25	0.0	1.0	31.0	30.6	−39.3	49.9	307	0.0	0.078	1.0	34.1	12.3	−45.8	47.5	285	0.0	0.065	1.0	33.9	13.1	−45.6	47.5	285			
317.5	292.5	293.0	0.375	0.0	1.0	34.2	38.2	−35.0	51.8	317.5	0.367	0.0	1.0	34.0	37.8	−35.3	51.7	316	0.018	0.0	1.0	32.4	17.9	−44.2	47.8	292	0.026	0.0	1.0	32.4	18.4	−44.1	47.9	292			
324.4	300.0	300.1	0.5	0.0	1.0	37.2	43.1	−30.8	53.0	324.4	0.5	0.0	1.0	37.2	43.2	−30.8	53.1	324	0.136	0.0	1.0	31.6	24.3	−41.9	48.5	300	0.139	0.0	1.0	31.5	24.4	−41.9	48.6	300			
330.6	307.5	307.2	0.625	0.0	1.0	39.1	48.4	−27.2	55.6	330.6	0.617	0.0	1.0	39.0	48.1	−27.4	55.4	330	0.238	0.0	1.0	31.1	29.9	−39.6	49.7	307	0.235	0.0	1.0	31.1	29.8	−39.7	49.7	306			
338.7	315.0	314.3	0.75	0.0	1.0	41.8	55.1	−21.4	59.1	338.7	0.75	0.0	1.0	41.9	55.2	−21.4	59.2	338	0.343	0.0	1.0	33.4	36.3	−36.2	51.4	315	0.335	0.0	1.0	33.2	35.8	−36.5	51.2	314			
343.9	322.5	321.4	0.875	0.0	1.0	45.6	60.1	−17.3	62.6	343.9	0.867	0.0	1.0	45.4	59.8	−17.5	62.4	343	0.456	0.0	1.0	36.2	41.5	−32.3	52.7	322	0.439	0.0	1.0	35.8	40.8	−32.9	52.5	321			
348.9	330.0	328.6	1.0	0.0	1.0	48.1	65.4	−12.7	66.6	348.9	1.0	0.0	1.0	48.2	65.4	−12.7	66.7	348	0.612	0.0	1.0	38.9	47.9	−27.6	55.4	330	0.584	0.0	1.0	38.5	46.8	−28.4	54.8	328			
350.7	337.5	335.7	1.0	0.0	0.875	49.5	66.1	−10.7	67.0	350.7	1.0	0.0	0.883	49.5	66.1	−10.8	67.0	350	0.723	0.0	1.0	41.3	53.8	−22.7	58.4	337	0.696	0.0	1.0	40.7	52.3	−24.0	57.6	335			
354.2	345.0	342.8	1.0	0.0	0.75	49.3	64.5	−6.5	64.8	354.2	1.0	0.0	0.75	49.3	64.6	−6.5	64.9	354	0.902	0.0	1.0	46.2	61.3	−16.3	63.5	345	0.848	0.0	1.0	44.9	59.1	−18.2	61.9	342			
361.9	352.5	349.9	1.0	0.0	0.625	48.0	61.8	2.1	61.8	361.9	1.0	0.0	0.633	48.1	62.0	1.6	62.0	361	1.0	0.0	0.83	49.5	65.6	−9.1	66.3	352	1.0	0.0	0.964	48.6	65.6	−12.1	66.8	349			
370.0	360.0	357.0	1.0	0.0	0.5	47.8	58.9	10.4	59.9	370.0	1.0	0.0	0.5	47.8	59.0	10.4	59.9	370	1.0	0.0	0.657	48.3	62.6	0.0	62.6	360	1.0	0.0	0.828	49.5	65.6	−9.0	66.2	352			
378.9	367.5	364.1	1.0	0.0	0.375	47.4	56.8	19.5	60.0	378.9	1.0	0.0	0.383	47.4	57.0	18.9	60.1	378	1.0	0.0	0.547	47.9	60.2	7.4	60.6	367	1.0	0.0	0.659	48.4	62.7	−0.1	62.7	359			
386.2	375.0	371.2	1.0	0.0	0.25	47.5	55.9	27.5	62.3	386.2	1.0	0.0	0.25	47.6	55.9	27.6	62.4	386	1.0	0.0	0.43	47.6	58.0	15.5	60.0	375	1.0	0.0	0.519	47.8	59.5	9.2	60.2	368			
391.3	382.5	378.3	1.0	0.0	0.125	47.6	56.3	34.2	65.9	391.3	1.0	0.0	0.133	47.7	56.4	33.8	65.7	390	1.0	0.0	0.323	47.5	56.6	22.9	61.0	382	1.0	0.0	0.408	47.5	57.6	17.1	60.0	376			
393.4	390.0	385.4	1.0	0.0	0.0	47.5	57.2	37.8	68.6	393.4	1.0	0.0	0.0	47.6	57.2	37.9	68.6	393	1.0	0.0	0.158	47.7	56.3	32.5	65.0	390	1.0	0.0	0.263	47.6	56.1	26.7	62.1	385			

1−013730−L0 PE890−71 LAB*la0, YN=0%, XYZnw=3.9, 4.1, 4.1, 84.7, 89.6, 93.9, LAB*nw=23.9, 0.0, 0.0, 95.8, 0.0, 0.0 Output: Laser printer output; separation cmyn6*, D65, page 8/33

TUB-test chart PE89; 16 step hue circle
48 step hue circles; *rgb−LabCh**tables

input: *rgb/cmyk* −> *rgb*$_e$
output: transfer to *cmyk*$_e$

see similar files: http://130.149.60.45/~farbmetrik/PE89/PE89.HTM
technical information: http://www.ps.bam.de or http://130.149.60.45/~farbmetrik

TUB registration: 20150701-PE89/PE89L0NP.PDF /.PS
application for measurement of laser printer output, separation cmyn6 (CMYK)

TUB material: code=rha4ta

1−013730−F0

Data of Maximum color M in colorimetric system Laser printer output; separation cmyn6*, D65 for input or output; Six hue angles of the 60 degree standard colours *RYGCBM*$_s$: $h_{ab,ds}$ = 30.0, 90.0, 150.0, 210.0, 270.0, 330.0; Six hue angles of the device colours *RYGCBM*$_d$: $h_{ab,d}$ = 33.5, 100.6, 155.5, 235.2, 290.8, 348.9; Six hue angles of the elementary colours *RYGCBM*$_e$: $h_{ab,e}$ = 25.5, 92.3, 162.2, 217.0, 271.7, 328.6

$h_{ab,d}$	$h_{ab,s}$	$h_{ab,e}$	*rgb** dd64M			*LAB** ddx64M (x=LabCh)				
33.4	30.0	25.4	1.0	0.0	0.0	47.5	57.2	37.8	68.6	33.4
42.1	37.5	33.8	1.0	0.125	0.0	51.9	54.3	49.2	73.2	42.1
52.8	45.0	42.1	1.0	0.25	0.0	58.2	41.8	55.1	69.2	52.8
63.7	52.5	50.5	1.0	0.375	0.0	64.6	29.8	60.4	67.3	63.7
73.8	60.0	58.8	1.0	0.5	0.0	70.5	19.2	66.2	69.0	73.8
80.7	67.5	67.2	1.0	0.625	0.0	74.9	11.4	70.7	71.6	80.7
91.5	75.0	75.6	1.0	0.75	0.0	82.9	−2.0	76.9	77.0	91.5
96.8	82.5	83.9	1.0	0.875	0.0	87.6	−9.0	75.7	76.3	96.8
100.5	90.0	92.3	1.0	1.0	0.0	91.5	−15.8	84.6	86.1	100.5
101.4	97.5	101.0	0.875	1.0	0.0	92.8	−18.1	89.4	91.2	101.4
103.9	105.0	109.7	0.75	1.0	0.0	90.1	−21.3	86.0	88.6	103.9
115.0	112.5	118.5	0.625	1.0	0.0	79.9	−31.7	67.9	75.0	115.0
127.3	120.0	127.2	0.5	1.0	0.0	70.9	−41.7	54.8	68.9	127.3
134.7	127.5	136.0	0.375	1.0	0.0	66.5	−47.5	48.0	67.6	134.7
144.7	135.0	144.7	0.25	1.0	0.0	60.6	−57.2	40.4	70.1	144.7
151.0	142.5	153.4	0.125	1.0	0.0	57.0	−62.2	34.4	71.1	151.0
155.5	150.0	162.2	0.0	1.0	0.0	54.3	−67.6	30.8	74.3	155.5
160.8	157.5	169.0	0.0	1.0	0.125	53.8	−66.4	23.0	70.2	160.8
168.5	165.0	175.9	0.0	1.0	0.25	53.7	−63.1	12.8	64.4	168.5
179.9	172.5	182.7	0.0	1.0	0.375	54.7	−56.8	0.0	56.8	179.9
189.8	180.0	189.6	0.0	1.0	0.5	55.0	−51.4	−8.9	52.2	189.8
204.4	187.5	196.4	0.0	1.0	0.625	55.3	−44.1	−20.0	48.5	204.4
214.4	195.0	203.2	0.0	1.0	0.75	55.2	−39.5	−27.1	47.9	214.4
221.9	202.5	210.1	0.0	1.0	0.875	54.4	−36.7	−33.0	49.4	221.9
235.1	210.0	216.9	0.0	1.0	1.0	53.1	−30.0	−43.1	52.5	235.1
237.9	217.5	223.8	0.0	0.875	1.0	53.1	−27.9	−44.7	52.7	237.9
241.3	225.0	230.6	0.0	0.75	1.0	52.9	−25.9	−47.5	54.1	241.3
247.2	232.5	237.5	0.0	0.625	1.0	50.5	−20.8	−49.5	53.7	247.2
254.9	240.0	244.3	0.0	0.5	1.0	46.1	−13.3	−49.4	51.1	254.9
262.6	247.5	251.2	0.0	0.375	1.0	41.4	−6.3	−49.2	49.6	262.6
272.6	255.0	258.0	0.0	0.25	1.0	36.8	2.2	−48.5	48.6	272.6
281.4	262.5	264.8	0.0	0.125	1.0	35.0	9.4	−46.3	47.3	281.4
290.8	270.0	271.7	0.0	0.0	1.0	32.5	16.9	−44.6	47.7	290.8
299.2	277.5	278.8	0.125	0.0	1.0	31.6	23.6	−42.2	48.4	299.2
307.8	285.0	285.9	0.25	0.0	1.0	31.0	30.5	−39.3	49.8	307.8
317.5	292.5	293.0	0.375	0.0	1.0	34.2	38.2	−35.0	51.8	317.5
324.4	300.0	300.1	0.5	0.0	1.0	37.2	43.1	−30.8	53.0	324.4
330.6	307.5	307.2	0.625	0.0	1.0	39.1	48.4	−27.2	55.6	330.6
338.7	315.0	314.3	0.75	0.0	1.0	41.8	55.1	−21.4	59.1	338.7
343.9	322.5	321.4	0.875	0.0	1.0	45.6	60.1	−17.3	62.6	343.9
348.9	330.0	328.6	1.0	0.0	1.0	48.1	65.4	−12.7	66.6	348.9
350.7	337.5	335.7	1.0	0.0	0.875	49.5	66.1	−10.7	67.0	350.7
354.2	345.0	342.8	1.0	0.0	0.75	49.3	64.5	−6.5	64.8	354.2
361.9	352.5	349.9	1.0	0.0	0.625	48.0	61.8	2.1	61.8	361.9
370.0	360.0	357.0	1.0	0.0	0.5	47.8	58.9	10.4	59.9	370.0
378.9	367.5	364.1	1.0	0.0	0.375	47.4	56.8	19.5	60.0	378.9
386.2	375.0	371.2	1.0	0.0	0.25	47.5	55.9	27.5	62.3	386.2
391.3	382.5	378.3	1.0	0.0	0.125	47.6	56.3	34.2	65.9	391.3
393.4	390.0	385.4	1.0	0.0	0.0	47.5	57.2	37.8	68.6	393.4

	*rgb** dex361M			*LAB** dex361M				
33.4	1.0	0.0	0.263	47.6	56.1	26.7	62.1	25
42.1	1.0	0.0	0.012	47.6	57.2	37.5	68.4	33
52.8	1.0	0.125	0.0	52.0	54.3	49.2	73.3	42
63.7	1.0	0.216	0.0	56.6	45.2	53.9	70.3	49
73.8	1.0	0.32	0.0	61.8	35.2	58.4	68.2	58
80.7	1.0	0.412	0.0	66.4	26.9	62.3	67.9	66
91.5	1.0	0.532	0.0	71.6	17.3	67.5	69.7	75
96.8	1.0	0.655	0.0	76.9	8.4	72.5	73.0	83
100.5	1.0	0.769	0.0	83.7	−3.0	76.8	76.9	92
101.4	1.0	0.996	0.0	91.5	−15.5	84.4	85.8	100
103.9	0.684	1.0	0.0	84.7	−27.5	76.7	81.5	109
115.0	0.595	1.0	0.0	77.8	−34.4	65.0	73.6	117
127.3	0.501	1.0	0.0	71.0	−41.6	54.9	68.9	127
134.7	0.366	1.0	0.0	66.2	−48.2	47.6	67.8	135
144.7	0.25	1.0	0.0	60.6	−57.1	40.5	70.1	144
151.0	0.073	1.0	0.0	55.9	−64.4	33.0	72.5	152
160.8	0.0	1.0	0.147	53.8	−65.9	21.1	69.3	162
168.5	0.0	1.0	0.251	53.8	−63.0	12.7	64.4	168
179.9	0.0	1.0	0.331	54.4	−59.3	4.2	59.5	175
189.8	0.0	1.0	0.405	54.8	−55.6	−2.1	55.7	182
204.4	0.0	1.0	0.497	55.0	−51.5	−8.6	52.3	189
214.4	0.0	1.0	0.553	55.2	−48.6	−13.9	50.7	195
221.9	0.0	1.0	0.615	55.3	−44.7	−19.2	48.8	203
235.1	0.0	1.0	0.69	55.3	−41.8	−23.8	48.2	209
237.9	0.0	1.0	0.792	55.0	−38.6	−29.0	48.4	216
241.3	0.0	1.0	0.888	54.3	−36.1	−34.1	49.8	223
247.2	0.0	1.0	0.957	53.6	−32.5	−39.7	51.5	230
254.9	0.0	0.916	1.0	53.1	−28.6	−44.1	52.7	237
262.6	0.0	0.686	1.0	51.7	−23.3	−48.5	54.0	244
272.6	0.0	0.568	1.0	48.6	−17.2	−49.5	52.6	250
281.4	0.0	0.449	1.0	44.2	−10.4	−49.4	50.6	258
290.8	0.0	0.353	1.0	40.6	−4.7	−49.2	49.5	264
299.2	0.0	0.261	1.0	37.3	1.5	−48.6	48.7	271
307.8	0.0	0.169	1.0	35.7	7.0	−47.2	47.8	278
317.5	0.0	0.065	1.0	33.9	13.1	−45.6	47.5	285
324.4	0.026	0.0	1.0	32.4	18.4	−44.1	47.9	292
330.6	0.139	0.0	1.0	31.5	24.4	−41.9	48.6	300
338.7	0.235	0.0	1.0	31.1	29.8	−39.7	49.7	306
343.9	0.335	0.0	1.0	33.2	35.8	−36.5	51.2	314
348.9	0.439	0.0	1.0	35.8	40.8	−32.9	52.5	321
350.7	0.584	0.0	1.0	38.5	46.8	−28.4	54.8	328
354.2	0.696	0.0	1.0	40.7	52.3	−24.0	57.6	335
361.9	0.848	0.0	1.0	44.9	59.1	−18.2	61.9	342
370.0	1.0	0.0	0.964	48.6	65.6	−12.1	66.8	349
	1.0	0.0	0.828	49.5	65.6	−9.0	66.2	352
	1.0	0.0	0.659	48.4	62.7	−0.1	62.7	359
	1.0	0.0	0.519	47.8	59.5	9.2	60.2	368
	1.0	0.0	0.408	47.5	57.6	17.1	60.0	376
	1.0	0.0	0.263	47.6	56.1	26.7	62.1	385

*rgb**$_{dd}$ *rgb**$_{ds}$ *rgb**$_{de}$

1−013830−L0 PE890−71 LAB*la0, YN=0%, XYZnw=3.9, 4.1, 4.1, 84.7, 89.6, 93.9, LAB*nw=23.9, 0.0, 0.0, 95.8, 0.0, 0.0 Output: Laser printer output; separation cmyn6*, D65, page 9/33

TUB-test chart PE89; 16 step hue circle
48 step hue circles; *rgb−LabCh**tables

input: *rgb/cmyk* −> *rgb*$_e$
output: transfer to *cmyk*$_e$

1−013830−F0

see similar files: http://130.149.60.45/~farbmetrik/PE89/PE89.HTM
technical information: http://www.ps.bam.de or http://130.149.60.45/~farbmetrik

TUB registration: 20150701-PE89/PE89L0NP.PDF /.PS TUB material: code=rha4ta
application for measurement of laser printer output, separation cmyn6 (CMYK)

see similar files: http://130.149.60.45/~farbmetrik/PE89/PE89.HTM
technical information: http://www.ps.bam.de or http://130.149.60.45/~farbmetrik

TUB registration: 20150701-PE89/PE89L0NP.PDF /.PS
application for measurement of laser printer output, separation cmyn6 (CMYK)
TUB material: code=rha4ta

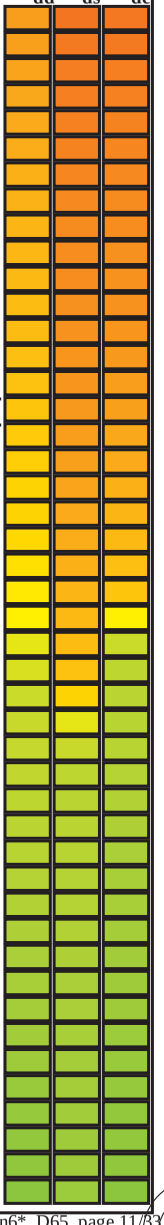
Data of Maximum color M in colorimetric system Laser printer output; separation cmyn6*, D65 for input or output; Six hue angles of the 60 degree standard colours *RYGCBM*$_s$: $h_{ab,ds}$ = 30.0, 90.0, 150.0, 210.0, 270.0, 330.0; Six hue angles of the device colours *RYGCBM*$_d$: $h_{ab,d}$ = 33.5, 100.6, 155.5, 235.2, 290.8, 348.9; Six hue angles of the elementary colours *RYGCBM*$_e$: $h_{ab,e}$ = 25.5, 92.3, 162.2, 217.0, 271.7, 328.6

$h_{ab,d}$	$h_{ab,s}$	$h_{ab,e}$	*rgb**dd361M			*LAB**ddx361Mi (x=LabCh)						*rgb**ds361Mi			*LAB**dsx361Mi (x=LabCh)						*rgb**dd361Mi			*rgb**de361Mi			*LAB**dex361Mi (x=LabCh)						*rgb**dd361Mi			*rgb**$_{dd}$	*rgb**$_{ds}$	*rgb**$_{de}$
33	30	25	1.0	0.0	0.0	47.5	57.2	37.8	68.6	33	R_d	1.0	0.0	0.158	47.7	56.3	32.5	65.0	30	R_s	1.0	0.0	0.0	1.0	0.0	0.263	47.6	56.1	26.7	62.1	25	R_e	1.0	0.0	0.0			
34	31	26	1.0	0.016	0.0	48.1	56.9	39.3	69.2	34		1.0	0.0	0.133	47.7	56.4	33.9	65.8	31		1.0	0.017	0.0	1.0	0.0	0.242	47.6	56.0	28.0	62.6	26		1.0	0.017	0.0			
35	32	27	1.0	0.033	0.0	48.7	56.6	40.8	69.8	35		1.0	0.0	0.085	47.7	56.7	35.4	66.8	32		1.0	0.033	0.0	1.0	0.0	0.214	47.6	56.1	29.5	63.4	27		1.0	0.033	0.0			
36	33	28	1.0	0.05	0.0	49.3	56.3	42.3	70.4	36		1.0	0.0	0.028	47.6	57.1	37.0	68.0	33		1.0	0.05	0.0	1.0	0.0	0.187	47.6	56.2	30.9	64.2	28		1.0	0.05	0.0			
38	34	29	1.0	0.066	0.0	49.9	55.9	43.9	71.1	38		1.0	0.007	0.0	47.8	57.1	38.5	68.9	34		1.0	0.067	0.0	1.0	0.0	0.159	47.7	56.3	32.4	65.0	29		1.0	0.067	0.0			
39	35	31	1.0	0.083	0.0	50.5	55.5	45.4	71.7	39		1.0	0.022	0.0	48.4	56.9	39.8	69.4	35		1.0	0.083	0.0	1.0	0.0	0.132	47.7	56.4	33.9	65.8	31		1.0	0.083	0.0			
40	36	32	1.0	0.1	0.0	51.0	55.0	46.9	72.3	40		1.0	0.036	0.0	48.9	56.6	41.1	70.0	36		1.0	0.1	0.0	1.0	0.0	0.076	47.6	56.7	35.7	67.0	32		1.0	0.1	0.0			
41	37	33	1.0	0.116	0.0	51.6	54.5	48.4	72.9	41		1.0	0.05	0.0	49.4	56.3	42.4	70.5	37		1.0	0.117	0.0	1.0	0.0	0.012	47.6	57.2	37.5	68.4	33		1.0	0.117	0.0			
42	38	34	1.0	0.133	0.0	52.3	53.4	49.7	73.0	42		1.0	0.065	0.0	49.9	56.0	43.7	71.0	38		1.0	0.133	0.0	1.0	0.013	0.0	48.0	57.0	39.0	69.1	34		1.0	0.133	0.0			
44	39	35	1.0	0.15	0.0	53.2	51.8	50.6	72.4	44		1.0	0.079	0.0	50.4	55.6	45.0	71.6	39		1.0	0.15	0.0	1.0	0.029	0.0	48.6	56.7	40.5	69.7	35		1.0	0.15	0.0			
45	40	36	1.0	0.166	0.0	54.0	50.2	51.5	71.9	45		1.0	0.094	0.0	50.9	55.2	46.4	72.1	40		1.0	0.167	0.0	1.0	0.045	0.0	49.2	56.4	41.9	70.3	36		1.0	0.167	0.0			
47	41	37	1.0	0.183	0.0	54.9	48.5	52.3	71.4	47		1.0	0.108	0.0	51.4	54.8	47.7	72.7	41		1.0	0.183	0.0	1.0	0.061	0.0	49.7	56.1	43.4	70.9	37		1.0	0.183	0.0			
48	42	38	1.0	0.2	0.0	55.7	46.8	53.1	70.8	48		1.0	0.122	0.0	51.9	54.4	49.0	73.2	42		1.0	0.2	0.0	1.0	0.077	0.0	50.3	55.7	44.8	71.5	38		1.0	0.2	0.0			
50	43	39	1.0	0.216	0.0	56.6	45.2	53.8	70.3	50		1.0	0.134	0.0	52.5	53.4	49.8	73.0	43		1.0	0.217	0.0	1.0	0.093	0.0	50.8	55.3	46.3	72.1	39		1.0	0.217	0.0			
51	44	41	1.0	0.233	0.0	57.4	43.5	54.5	69.7	51		1.0	0.146	0.0	53.0	52.2	50.4	72.6	44		1.0	0.233	0.0	1.0	0.109	0.0	51.4	54.8	47.8	72.7	41		1.0	0.233	0.0			
52	45	42	1.0	0.25	0.0	58.2	41.8	55.1	69.2	52		1.0	0.158	0.0	53.6	51.1	51.1	72.2	45		1.0	0.25	0.0	1.0	0.125	0.0	52.0	54.3	49.2	73.3	42		1.0	0.25	0.0			
54	46	43	1.0	0.266	0.0	59.1	40.2	56.0	69.0	54		1.0	0.17	0.0	54.2	49.9	51.7	71.8	46		1.0	0.267	0.0	1.0	0.138	0.0	52.6	53.0	50.0	72.9	43		1.0	0.267	0.0			
55	47	44	1.0	0.283	0.0	59.9	38.6	56.8	68.7	55		1.0	0.181	0.0	54.8	48.7	52.3	71.5	47		1.0	0.283	0.0	1.0	0.151	0.0	53.3	51.8	50.7	72.4	44		1.0	0.283	0.0			
57	48	45	1.0	0.3	0.0	60.8	37.1	57.5	68.5	57		1.0	0.193	0.0	55.4	47.6	52.8	71.1	48		1.0	0.3	0.0	1.0	0.164	0.0	54.0	50.5	51.4	72.0	45		1.0	0.3	0.0			
58	49	46	1.0	0.316	0.0	61.6	35.5	58.2	68.2	58		1.0	0.205	0.0	56.0	46.4	53.4	70.7	49		1.0	0.317	0.0	1.0	0.177	0.0	54.6	49.2	52.1	71.6	46		1.0	0.317	0.0			
60	50	47	1.0	0.333	0.0	62.5	33.9	58.9	68.0	60		1.0	0.217	0.0	56.6	45.2	53.9	70.3	50		1.0	0.333	0.0	1.0	0.19	0.0	55.3	47.9	52.7	71.2	47		1.0	0.333	0.0			
61	51	48	1.0	0.35	0.0	63.3	32.2	59.5	67.7	61		1.0	0.228	0.0	57.2	44.0	54.4	69.9	51		1.0	0.35	0.0	1.0	0.203	0.0	55.9	46.5	53.3	70.8	48		1.0	0.35	0.0			
63	52	49	1.0	0.366	0.0	64.2	30.6	60.1	67.5	63		1.0	0.24	0.0	57.8	42.8	54.8	69.6	52		1.0	0.367	0.0	1.0	0.216	0.0	56.6	45.2	53.9	70.3	49		1.0	0.367	0.0			
64	53	51	1.0	0.383	0.0	65.0	29.1	60.8	67.4	64		1.0	0.252	0.0	58.4	41.7	55.3	69.2	53		1.0	0.383	0.0	1.0	0.23	0.0	57.3	43.9	54.4	69.9	51		1.0	0.383	0.0			
65	54	52	1.0	0.4	0.0	65.8	27.8	61.7	67.7	65		1.0	0.263	0.0	59.0	40.6	55.9	69.1	54		1.0	0.4	0.0	1.0	0.243	0.0	57.9	42.6	54.9	69.5	52		1.0	0.4	0.0			
67	55	53	1.0	0.416	0.0	66.6	26.4	62.5	67.9	67		1.0	0.275	0.0	59.6	39.5	56.4	68.9	55		1.0	0.417	0.0	1.0	0.256	0.0	58.6	41.3	55.5	69.2	53		1.0	0.417	0.0			
68	56	54	1.0	0.433	0.0	67.3	25.0	63.3	68.1	68		1.0	0.286	0.0	60.1	38.4	57.0	68.7	56		1.0	0.433	0.0	1.0	0.268	0.0	59.2	40.1	56.1	69.0	54		1.0	0.433	0.0			
69	57	55	1.0	0.45	0.0	68.1	23.6	64.1	68.3	69		1.0	0.298	0.0	60.7	37.3	57.5	68.5	57		1.0	0.45	0.0	1.0	0.281	0.0	59.9	38.9	56.7	68.8	55		1.0	0.45	0.0			
71	58	56	1.0	0.466	0.0	68.9	22.1	64.8	68.5	71		1.0	0.309	0.0	61.3	36.2	58.0	68.4	58		1.0	0.467	0.0	1.0	0.294	0.0	60.5	37.7	57.3	68.6	56		1.0	0.467	0.0			
72	59	57	1.0	0.483	0.0	69.7	20.7	65.6	68.8	72		1.0	0.321	0.0	61.9	35.1	58.5	68.2	59		1.0	0.483	0.0	1.0	0.307	0.0	61.2	36.5	57.9	68.4	57		1.0	0.483	0.0			
73	60	58	1.0	0.5	0.0	70.5	19.2	66.2	69.0	73		1.0	0.332	0.0	62.5	34.0	58.9	68.0	60		1.0	0.5	0.0	1.0	0.32	0.0	61.8	35.2	58.4	68.2	58		1.0	0.5	0.0			
74	61	60	1.0	0.516	0.0	71.0	18.2	66.9	69.3	74		1.0	0.344	0.0	63.1	32.9	59.3	67.8	61		1.0	0.517	0.0	1.0	0.332	0.0	62.5	34.0	58.9	68.0	60		1.0	0.517	0.0			
75	62	61	1.0	0.533	0.0	71.6	17.2	67.5	69.7	75		1.0	0.355	0.0	63.6	31.8	59.8	67.7	62		1.0	0.533	0.0	1.0	0.345	0.0	63.1	32.8	59.4	67.8	61		1.0	0.533	0.0			
76	63	62	1.0	0.55	0.0	72.2	16.2	68.1	70.0	76		1.0	0.367	0.0	64.2	30.6	60.1	67.5	63		1.0	0.55	0.0	1.0	0.358	0.0	63.8	31.5	59.9	67.6	62		1.0	0.55	0.0			
77	64	63	1.0	0.566	0.0	72.8	15.1	68.7	70.4	77		1.0	0.378	0.0	64.8	29.6	60.6	67.4	64		1.0	0.567	0.0	1.0	0.371	0.0	64.4	30.3	60.3	67.4	63		1.0	0.567	0.0			
78	65	64	1.0	0.583	0.0	73.4	14.1	69.3	70.7	78		1.0	0.391	0.0	65.4	28.6	61.3	67.6	65		1.0	0.583	0.0	1.0	0.384	0.0	65.1	29.1	60.9	67.5	64		1.0	0.583	0.0			
79	66	65	1.0	0.6	0.0	74.0	13.0	69.9	71.1	79		1.0	0.403	0.0	66.0	27.6	61.9	67.8	66		1.0	0.6	0.0	1.0	0.398	0.0	65.7	28.0	61.6	67.7	65		1.0	0.6	0.0			
80	67	66	1.0	0.616	0.0	74.6	12.0	70.4	71.4	80		1.0	0.416	0.0	66.6	26.5	62.5	67.9	67		1.0	0.617	0.0	1.0	0.412	0.0	66.4	26.9	62.3	67.9	66		1.0	0.617	0.0			
81	68	67	1.0	0.633	0.0	75.4	10.6	71.2	72.0	81		1.0	0.428	0.0	67.1	25.5	63.1	68.1	68		1.0	0.633	0.0	1.0	0.425	0.0	67.0	25.7	63.0	68.0	67		1.0	0.633	0.0			
82	69	68	1.0	0.65	0.0	76.5	8.9	72.1	72.7	82		1.0	0.44	0.0	67.7	24.5	63.7	68.2	69		1.0	0.65	0.0	1.0	0.439	0.0	67.7	24.5	63.7	68.2	68		1.0	0.65	0.0			
84	70	70	1.0	0.666	0.0	77.5	7.2	73.0	73.4	84		1.0	0.453	0.0	68.3	23.4	64.3	68.4	70		1.0	0.667	0.0	1.0	0.453	0.0	68.3	23.4	64.3	68.4	70		1.0	0.667	0.0			
85	71	71	1.0	0.683	0.0	78.6	5.4	73.9	74.1	85		1.0	0.465	0.0	68.9	22.3	64.8	68.6	71		1.0	0.683	0.0	1.0	0.467	0.0	69.0	22.2	64.9	68.6	71		1.0	0.683	0.0			
87	72	72	1.0	0.7	0.0	79.7	3.6	74.7	74.8	87		1.0	0.477	0.0	69.5	21.2	65.4	68.7	72		1.0	0.7	0.0	1.0	0.481	0.0	69.6	20.9	65.5	68.8	72		1.0	0.7	0.0			
88	73	73	1.0	0.716	0.0	80.8	1.7	75.5	75.5	88		1.0	0.49	0.0	70.0	20.1	65.9	68.9	73		1.0	0.717	0.0	1.0	0.494	0.0	70.2	19.7	66.1	68.9	73		1.0	0.717	0.0			
−269	74	74	1.0	0.733	0.0	81.8	−0.1	76.3	76.3	−269		1.0	0.503	0.0	70.6	19.0	66.4	69.1	74		1.0	0.733	0.0	1.0	0.512	0.0	70.9	18.5	66.7	69.3	74		1.0	0.733	0.0			
−268	75	75	1.0	0.75	0.0	82.9	−2.0	76.9	77.0	−268	R_d	1.0	0.521	0.0	71.3	18.0	67.1	69.5	75		1.0	0.75	0.0	1.0	0.532	0.0	71.6	17.3	67.5	69.7	75		1.0	0.75	0.0			

1−013930−L0 PE890−71 LAB*la0, YN=0%, XYZnw=3.9, 4.1, 4.1, 84.7, 89.6, 93.9, LAB*nw=23.9, 0.0, 0.0, 95.8, 0.0, 0.0 Output: Laser printer output; separation cmyn6*, D65, page 10/33

Data of Maximum color M in colorimetric system Laser printer output; separation cmyn6*, D65 for input or output; Six hue angles of the 60 degree standard colours *RYGCBM*$_s$: $h_{ab,ds}$ = 30.0, 90.0, 150.0, 210.0, 270.0, 330.0; Six hue angles of the device colours *RYGCBM*$_d$: $h_{ab,d}$ = 33.5, 100.6, 155.5, 235.2, 290.8, 348.9; Six hue angles of the elementary colours *RYGCBM*$_e$: $h_{ab,e}$ = 25.5, 92.3, 162.2, 217.0, 271.7, 328.6

$h_{ab,d}$	$h_{ab,s}$	$h_{ab,e}$	*rgb** dd361M			*LAB** ddx361Mi (x=LabCh)						*rgb** ds361Mi			*LAB** dsx361Mi (x=LabCh)						*rgb** dd361Mi			*rgb** de361Mi			*LAB** dex361Mi (x=LabCh)						*rgb** dd361Mi		
−268	75	75	1.0	0.75	0.0	82.9	−2.0	76.9	77.0	−268	R_d	1.0	0.521	0.0	71.3	18.0	67.1	69.5	75	1.0	0.75	0.0	1.0	0.532	0.0	71.6	17.3	67.5	69.7	75	1.0	0.75	0.0
92	76	76	1.0	0.766	0.0	83.5	−2.9	76.8	76.9	92		1.0	0.539	0.0	71.9	16.9	67.8	69.8	76	1.0	0.767	0.0	1.0	0.552	0.0	72.3	16.1	68.2	70.1	76	1.0	0.767	0.0
92	77	77	1.0	0.783	0.0	84.2	−3.9	76.7	76.8	92		1.0	0.557	0.0	72.5	15.8	68.4	70.2	77	1.0	0.783	0.0	1.0	0.572	0.0	73.0	14.9	69.0	70.5	77	1.0	0.783	0.0
93	78	78	1.0	0.8	0.0	84.8	−4.8	76.5	76.7	93		1.0	0.575	0.0	73.1	14.7	69.1	70.6	78	1.0	0.8	0.0	1.0	0.592	0.0	73.7	13.6	69.7	71.0	78	1.0	0.8	0.0
94	79	80	1.0	0.816	0.0	85.4	−5.8	76.4	76.6	94		1.0	0.593	0.0	73.8	13.5	69.7	71.0	79	1.0	0.817	0.0	1.0	0.612	0.0	74.4	12.3	70.3	71.4	80	1.0	0.817	0.0
95	80	81	1.0	0.833	0.0	86.0	−6.7	76.2	76.5	95		1.0	0.611	0.0	74.4	12.4	70.3	71.4	80	1.0	0.833	0.0	1.0	0.629	0.0	75.2	11.0	71.0	71.9	81	1.0	0.833	0.0
95	81	82	1.0	0.85	0.0	86.6	−7.6	76.0	76.4	95		1.0	0.627	0.0	75.1	11.2	70.9	71.8	81	1.0	0.85	0.0	1.0	0.642	0.0	76.0	9.7	71.8	72.4	82	1.0	0.85	0.0
96	82	83	1.0	0.866	0.0	87.3	−8.6	75.8	76.3	96		1.0	0.639	0.0	75.8	10.1	71.6	72.3	82	1.0	0.867	0.0	1.0	0.655	0.0	76.9	8.4	72.5	73.0	83	1.0	0.867	0.0
97	83	84	1.0	0.883	0.0	87.8	−9.4	76.3	76.9	97		1.0	0.651	0.0	76.6	8.9	72.2	72.8	83	1.0	0.883	0.0	1.0	0.668	0.0	77.7	7.0	73.2	73.5	84	1.0	0.883	0.0
97	84	85	1.0	0.9	0.0	88.4	−10.3	77.6	78.2	97		1.0	0.662	0.0	77.3	7.7	72.9	73.3	84	1.0	0.9	0.0	1.0	0.681	0.0	78.5	5.6	73.9	74.1	85	1.0	0.9	0.0
98	85	86	1.0	0.916	0.0	88.9	−11.2	78.8	79.6	98		1.0	0.674	0.0	78.1	6.4	73.5	73.8	85	1.0	0.917	0.0	1.0	0.694	0.0	79.4	4.2	74.5	74.6	86	1.0	0.917	0.0
98	86	87	1.0	0.933	0.0	89.4	−12.0	80.0	80.9	98		1.0	0.686	0.0	78.8	5.2	74.1	74.3	86	1.0	0.933	0.0	1.0	0.707	0.0	80.2	2.8	75.1	75.2	87	1.0	0.933	0.0
99	87	88	1.0	0.95	0.0	89.9	−12.9	81.1	82.2	99		1.0	0.697	0.0	79.6	3.9	74.7	74.8	87	1.0	0.95	0.0	1.0	0.72	0.0	81.1	1.4	75.7	75.7	88	1.0	0.95	0.0
99	88	90	1.0	0.966	0.0	90.5	−13.9	82.3	83.5	99		1.0	0.709	0.0	80.3	2.6	75.2	75.3	88	1.0	0.967	0.0	1.0	0.733	0.0	81.9	0.0	76.3	76.3	90	1.0	0.967	0.0
100	89	91	1.0	0.983	0.0	91.0	−14.8	83.5	84.8	100		1.0	0.721	0.0	81.1	1.3	75.8	75.8	89	1.0	0.983	0.0	1.0	0.746	0.0	82.7	−1.5	76.8	76.9	91	1.0	0.983	0.0
100	90	92	1.0	1.0	0.0	91.5	−15.8	84.6	86.1	100	Y_d	1.0	0.732	0.0	81.8	0.0	76.3	76.3	90	Y_s	1.0	1.0	0.0	1.0	0.769	0.0	83.7	−3.0	76.8	76.9	92	Y_e	1.0	1.0	0.0
100	91	93	0.983	1.0	0.0	91.7	−16.1	85.3	86.8	100		1.0	0.744	0.0	82.6	−1.2	76.7	76.8	91		0.983	1.0	0.0	1.0	0.796	0.0	84.7	−4.6	76.6	76.8	93		0.983	1.0	0.0
100	92	94	0.966	1.0	0.0	91.9	−16.4	85.9	87.5	100		1.0	0.761	0.0	83.4	−2.6	76.9	77.0	92		0.967	1.0	0.0	1.0	0.823	0.0	85.7	−6.1	76.4	76.6	94		0.967	1.0	0.0
100	93	95	0.95	1.0	0.0	92.0	−16.7	86.5	88.2	100		1.0	0.785	0.0	84.3	−3.9	76.7	76.8	93		0.95	1.0	0.0	1.0	0.851	0.0	86.7	−7.6	76.1	76.5	95		0.95	1.0	0.0
101	94	96	0.933	1.0	0.0	92.2	−17.0	87.2	88.8	101		1.0	0.808	0.0	85.1	−5.2	76.5	76.7	94		0.933	1.0	0.0	1.0	0.879	0.0	87.8	−9.2	76.1	76.7	96		0.933	1.0	0.0
101	95	98	0.916	1.0	0.0	92.4	−17.3	87.8	89.5	101		1.0	0.832	0.0	86.0	−6.6	76.3	76.6	95		0.917	1.0	0.0	1.0	0.918	0.0	89.0	−11.2	78.9	79.7	98		0.917	1.0	0.0
101	96	99	0.9	1.0	0.0	92.5	−17.6	88.4	90.2	101		1.0	0.855	0.0	86.9	−7.9	76.0	76.4	96		0.9	1.0	0.0	1.0	0.957	0.0	90.2	−13.3	81.7	82.8	99		0.9	1.0	0.0
101	97	100	0.883	1.0	0.0	92.7	−18.0	89.1	90.9	101		1.0	0.88	0.0	87.8	−9.3	76.2	76.7	97		0.883	1.0	0.0	1.0	0.996	0.0	91.5	−15.5	84.4	85.8	100		0.883	1.0	0.0
101	98	101	0.866	1.0	0.0	92.6	−18.3	89.2	91.0	101		1.0	0.914	0.0	88.8	−10.9	78.6	79.4	98		0.867	1.0	0.0	0.867	1.0	0.0	92.6	−18.3	89.2	91.1	101		0.867	1.0	0.0
101	99	102	0.85	1.0	0.0	92.2	−18.8	88.7	90.7	101		1.0	0.947	0.0	89.9	−12.7	81.0	82.0	99		0.85	1.0	0.0	0.808	1.0	0.0	91.4	−19.8	87.6	89.9	102		0.85	1.0	0.0
102	100	103	0.833	1.0	0.0	91.9	−19.2	88.3	90.3	102		1.0	0.98	0.0	91.0	−14.6	83.3	84.6	100		0.833	1.0	0.0	0.75	1.0	0.0	90.1	−21.3	86.0	88.6	103		0.833	1.0	0.0
102	101	105	0.816	1.0	0.0	91.5	−19.6	87.8	90.0	102		0.943	1.0	0.0	92.2	−16.8	86.9	88.5	101		0.817	1.0	0.0	0.737	1.0	0.0	89.0	−22.7	84.2	87.2	105		0.817	1.0	0.0
102	102	106	0.8	1.0	0.0	91.1	−20.1	87.4	89.7	102		0.849	1.0	0.0	92.2	−18.8	88.7	90.7	102		0.8	1.0	0.0	0.724	1.0	0.0	88.0	−24.0	82.3	85.8	106		0.8	1.0	0.0
103	103	107	0.783	1.0	0.0	90.8	−20.5	86.9	89.3	103		0.798	1.0	0.0	91.2	−20.1	87.4	89.7	103		0.783	1.0	0.0	0.71	1.0	0.0	86.9	−25.2	80.5	84.3	107		0.783	1.0	0.0
103	104	108	0.766	1.0	0.0	90.4	−20.9	86.5	89.0	103		0.749	1.0	0.0	90.1	−21.3	86.0	88.6	104		0.767	1.0	0.0	0.697	1.0	0.0	85.8	−26.4	78.6	82.9	108		0.767	1.0	0.0
103	105	109	0.75	1.0	0.0	90.1	−21.3	86.0	88.6	103		0.738	1.0	0.0	89.2	−22.5	84.4	87.4	105		0.75	1.0	0.0	0.684	1.0	0.0	84.7	−27.5	76.7	81.5	109		0.75	1.0	0.0
105	106	110	0.733	1.0	0.0	88.7	−23.1	83.7	86.8	105		0.727	1.0	0.0	88.2	−23.6	82.8	86.1	106		0.733	1.0	0.0	0.671	1.0	0.0	83.7	−28.5	74.8	80.0	110		0.733	1.0	0.0
106	107	112	0.716	1.0	0.0	87.3	−24.7	81.3	85.0	106		0.716	1.0	0.0	87.3	−24.7	81.2	84.9	107		0.717	1.0	0.0	0.658	1.0	0.0	82.6	−29.5	72.8	78.6	112		0.717	1.0	0.0
108	108	113	0.7	1.0	0.0	86.0	−26.2	78.9	83.2	108		0.704	1.0	0.0	86.4	−25.8	79.6	83.7	108		0.7	1.0	0.0	0.645	1.0	0.0	81.5	−30.4	70.9	77.2	113		0.7	1.0	0.0
109	109	114	0.683	1.0	0.0	84.6	−27.6	76.5	81.3	109		0.693	1.0	0.0	85.5	−26.7	78.0	82.5	109		0.683	1.0	0.0	0.632	1.0	0.0	80.4	−31.3	69.0	75.7	114		0.683	1.0	0.0
111	110	115	0.666	1.0	0.0	83.3	−28.9	74.1	79.5	111		0.682	1.0	0.0	84.5	−27.7	76.3	81.2	110		0.667	1.0	0.0	0.619	1.0	0.0	79.5	−32.2	67.4	74.7	115		0.667	1.0	0.0
112	111	116	0.65	1.0	0.0	81.9	−30.1	71.6	77.7	112		0.67	1.0	0.0	83.6	−28.6	74.7	80.0	111		0.65	1.0	0.0	0.607	1.0	0.0	78.6	−33.3	66.2	74.2	116		0.65	1.0	0.0
114	112	117	0.633	1.0	0.0	80.5	−31.2	69.2	75.9	114		0.659	1.0	0.0	82.7	−29.4	73.0	78.8	112		0.633	1.0	0.0	0.595	1.0	0.0	77.8	−34.4	65.0	73.6	117		0.633	1.0	0.0
115	113	119	0.616	1.0	0.0	79.3	−32.5	67.1	74.6	115		0.648	1.0	0.0	81.8	−30.2	71.4	77.5	113		0.617	1.0	0.0	0.584	1.0	0.0	77.0	−35.4	63.8	73.0	119		0.617	1.0	0.0
117	114	120	0.6	1.0	0.0	78.1	−34.0	65.4	73.8	117		0.637	1.0	0.0	80.9	−30.9	69.7	76.3	114		0.6	1.0	0.0	0.572	1.0	0.0	76.1	−36.4	62.5	72.4	120		0.6	1.0	0.0
119	115	121	0.583	1.0	0.0	76.9	−35.5	63.7	72.9	119		0.625	1.0	0.0	79.9	−31.6	68.0	75.1	115		0.583	1.0	0.0	0.56	1.0	0.0	75.3	−37.4	61.3	71.8	121		0.583	1.0	0.0
120	116	122	0.566	1.0	0.0	75.7	−36.9	62.0	72.1	120		0.615	1.0	0.0	79.2	−32.6	67.0	74.5	116		0.567	1.0	0.0	0.548	1.0	0.0	74.4	−38.3	60.0	71.3	122		0.567	1.0	0.0
122	117	123	0.55	1.0	0.0	74.5	−38.2	60.2	71.3	122		0.605	1.0	0.0	78.5	−33.5	66.0	74.1	117		0.55	1.0	0.0	0.536	1.0	0.0	73.6	−39.2	58.8	70.7	123		0.55	1.0	0.0
124	118	124	0.533	1.0	0.0	73.3	−39.4	58.4	70.5	124		0.595	1.0	0.0	77.8	−34.4	64.9	73.6	118		0.533	1.0	0.0	0.524	1.0	0.0	72.7	−40.0	57.5	70.1	124		0.533	1.0	0.0
125	119	126	0.516	1.0	0.0	72.1	−40.6	56.6	69.7	125		0.585	1.0	0.0	77.0	−35.3	63.9	73.1	119		0.517	1.0	0.0	0.512	1.0	0.0	71.9	−40.9	56.2	69.5	126		0.517	1.0	0.0
127	120	127	0.5	1.0	0.0	70.9	−41.7	54.8	68.9	127		0.574	1.0	0.0	76.3	−36.2	62.8	72.6	120		0.5	1.0	0.0	0.501	1.0	0.0	71.0	−41.6	54.9	68.9	127		0.5	1.0	0.0



1−0131030−L0 PE890−71 LAB*la0, YN=0%, XYZnw=3.9, 4.1, 4.1, 84.7, 89.6, 93.9, LAB*nw=23.9, 0.0, 0.0, 95.8, 0.0, 0.0 Output: Laser printer output; separation cmyn6*, D65, page 11/33

TUB-test chart PE89; 16 step hue circle
48 step hue circles; *rgb*−*LabCh**tables

input: *rgb/cmyk* −> *rgb*$_e$
output: transfer to *cmyk*$_e$

see similar files: http://130.149.60.45/~farbmetrik/PE89/PE89.HTM
technical information: http://www.ps.bam.de or http://130.149.60.45/~farbmetrik

TUB registration: 20150701-PE89/PE89L0NP.PDF /.PS TUB material: code=rha4ta
application for measurement of laser printer output, separation cmyn6 (CMYK)

Data of Maximum color M in colorimetric system Laser printer output; separation cmyn6*, D65 for input or output; Six hue angles of the 60 degree standard colours *RYGCBM*$_s$: $h_{ab,ds}$ = 30.0, 90.0, 150.0, 210.0, 270.0, 330.0; Six hue angles of the device colours *RYGCBM*$_d$: $h_{ab,d}$ = 33.5, 100.6, 155.5, 235.2, 290.8, 348.9; Six hue angles of the elementary colours *RYGCBM*$_e$: $h_{ab,e}$ = 25.5, 92.3, 162.2, 217.0, 271.7, 328.6

$h_{ab,d}$	$h_{ab,s}$	$h_{ab,e}$	*rgb**dd361M			*LAB**ddx361Mi (x=LabCh)					*rgb**ds361Mi			*LAB**dsx361Mi (x=LabCh)					*rgb**dd361Mi			*rgb**de361Mi			*LAB**dex361Mi (x=LabCh)					*rgb**dd361Mi		
127	120	127	0.5	1.0	0.0	70.9	−41.7	54.8	68.9	127	0.574	1.0	0.0	76.3	−36.2	62.8	72.6	120	0.5	1.0	0.0	0.501	1.0	0.0	71.0	−41.6	54.9	68.9	127	0.5	1.0	0.0
128	121	128	0.483	1.0	0.0	70.4	−42.6	53.9	68.7	128	0.564	1.0	0.0	75.6	−37.0	61.8	72.1	121	0.483	1.0	0.0	0.481	1.0	0.0	70.3	−42.6	53.8	68.7	128	0.483	1.0	0.0
129	122	129	0.466	1.0	0.0	69.8	−43.4	53.0	68.5	129	0.554	1.0	0.0	74.9	−37.8	60.7	71.6	122	0.467	1.0	0.0	0.462	1.0	0.0	69.6	−43.6	52.8	68.5	129	0.467	1.0	0.0
130	123	130	0.45	1.0	0.0	69.2	−44.2	52.1	68.3	130	0.544	1.0	0.0	74.1	−38.6	59.6	71.1	123	0.45	1.0	0.0	0.442	1.0	0.0	68.9	−44.5	51.7	68.3	130	0.45	1.0	0.0
131	124	131	0.433	1.0	0.0	68.6	−45.0	51.2	68.2	131	0.534	1.0	0.0	73.4	−39.4	58.5	70.6	124	0.433	1.0	0.0	0.422	1.0	0.0	68.3	−45.4	50.7	68.1	131	0.433	1.0	0.0
132	125	133	0.416	1.0	0.0	68.0	−45.7	50.3	68.0	132	0.524	1.0	0.0	72.7	−40.1	57.4	70.1	125	0.417	1.0	0.0	0.403	1.0	0.0	67.6	−46.3	49.6	67.9	133	0.417	1.0	0.0
133	126	134	0.4	1.0	0.0	67.4	−46.5	49.4	67.8	133	0.513	1.0	0.0	72.0	−40.8	56.3	69.6	126	0.4	1.0	0.0	0.383	1.0	0.0	66.9	−47.1	48.5	67.7	134	0.4	1.0	0.0
134	127	135	0.383	1.0	0.0	66.8	−47.2	48.5	67.7	134	0.503	1.0	0.0	71.2	−41.5	55.2	69.1	127	0.383	1.0	0.0	0.366	1.0	0.0	66.2	−48.2	47.6	67.8	135	0.383	1.0	0.0
135	128	136	0.366	1.0	0.0	66.1	−48.2	47.5	67.7	135	0.489	1.0	0.0	70.6	−42.3	54.2	68.8	128	0.367	1.0	0.0	0.352	1.0	0.0	65.5	−49.4	46.8	68.1	136	0.367	1.0	0.0
136	129	137	0.35	1.0	0.0	65.4	−49.5	46.6	68.1	136	0.472	1.0	0.0	70.0	−43.1	53.3	68.6	129	0.35	1.0	0.0	0.337	1.0	0.0	64.8	−50.5	46.0	68.4	137	0.35	1.0	0.0
138	130	138	0.333	1.0	0.0	64.6	−50.9	45.7	68.4	138	0.455	1.0	0.0	69.4	−43.9	52.4	68.4	130	0.333	1.0	0.0	0.323	1.0	0.0	64.1	−51.7	45.1	68.7	138	0.333	1.0	0.0
139	131	140	0.316	1.0	0.0	63.8	−52.2	44.7	68.7	139	0.438	1.0	0.0	68.8	−44.7	51.5	68.3	131	0.317	1.0	0.0	0.308	1.0	0.0	63.4	−52.8	44.2	68.9	140	0.317	1.0	0.0
140	132	141	0.3	1.0	0.0	63.0	−53.5	43.7	69.1	140	0.421	1.0	0.0	68.2	−45.5	50.6	68.1	132	0.3	1.0	0.0	0.294	1.0	0.0	62.7	−53.9	43.3	69.2	141	0.3	1.0	0.0
142	133	142	0.283	1.0	0.0	62.2	−54.7	42.6	69.4	142	0.404	1.0	0.0	67.6	−46.2	49.7	67.9	133	0.283	1.0	0.0	0.279	1.0	0.0	62.0	−55.0	42.4	69.5	142	0.283	1.0	0.0
143	134	143	0.266	1.0	0.0	61.4	−56.0	41.5	69.7	143	0.387	1.0	0.0	67.0	−47.0	48.7	67.7	134	0.267	1.0	0.0	0.265	1.0	0.0	61.3	−56.1	41.4	69.8	143	0.267	1.0	0.0
144	135	144	0.25	1.0	0.0	60.6	−57.2	40.4	70.1	144	0.372	1.0	0.0	66.4	−47.8	47.9	67.7	135	0.25	1.0	0.0	0.25	1.0	0.0	60.6	−57.1	40.5	70.1	144	0.25	1.0	0.0
145	136	145	0.233	1.0	0.0	60.1	−57.9	39.6	70.2	145	0.359	1.0	0.0	65.8	−48.8	47.2	67.9	136	0.233	1.0	0.0	0.227	1.0	0.0	60.0	−58.1	39.4	70.3	145	0.233	1.0	0.0
146	137	147	0.216	1.0	0.0	59.6	−58.6	38.9	70.3	146	0.347	1.0	0.0	65.2	−49.8	46.5	68.2	137	0.217	1.0	0.0	0.204	1.0	0.0	59.3	−59.1	38.3	70.5	147	0.217	1.0	0.0
147	138	148	0.2	1.0	0.0	59.1	−59.3	38.1	70.5	147	0.334	1.0	0.0	64.7	−50.8	45.8	68.4	138	0.2	1.0	0.0	0.181	1.0	0.0	58.6	−60.0	37.2	70.7	148	0.2	1.0	0.0
148	139	149	0.183	1.0	0.0	58.7	−59.9	37.3	70.6	148	0.322	1.0	0.0	64.1	−51.7	45.1	68.7	139	0.183	1.0	0.0	0.158	1.0	0.0	58.0	−60.9	36.1	70.8	149	0.183	1.0	0.0
148	140	150	0.166	1.0	0.0	58.2	−60.6	36.4	70.7	148	0.309	1.0	0.0	63.5	−52.7	44.3	68.9	140	0.167	1.0	0.0	0.135	1.0	0.0	57.3	−61.8	34.9	71.0	150	0.167	1.0	0.0
149	141	151	0.15	1.0	0.0	57.7	−61.2	35.6	70.9	149	0.297	1.0	0.0	62.9	−53.7	43.5	69.2	141	0.15	1.0	0.0	0.106	1.0	0.0	56.6	−63.0	33.9	71.6	151	0.15	1.0	0.0
150	142	152	0.133	1.0	0.0	57.2	−61.9	34.8	71.0	150	0.284	1.0	0.0	62.3	−54.6	42.7	69.4	142	0.133	1.0	0.0	0.073	1.0	0.0	55.9	−64.4	33.0	72.5	152	0.133	1.0	0.0
151	143	154	0.116	1.0	0.0	56.8	−62.5	34.1	71.3	151	0.272	1.0	0.0	61.7	−55.5	41.9	69.7	143	0.117	1.0	0.0	0.041	1.0	0.0	55.2	−65.8	32.1	73.3	154	0.117	1.0	0.0
151	144	155	0.1	1.0	0.0	56.4	−63.3	33.7	71.7	151	0.259	1.0	0.0	61.1	−56.5	41.1	69.9	144	0.1	1.0	0.0	0.008	1.0	0.0	54.5	−67.2	31.1	74.2	155	0.1	1.0	0.0
152	145	156	0.083	1.0	0.0	56.1	−64.0	33.2	72.1	152	0.245	1.0	0.0	60.5	−57.4	40.2	70.1	145	0.083	1.0	0.0	0.0	1.0	0.021	54.3	−67.4	29.5	73.7	156	0.083	1.0	0.0
153	146	157	0.066	1.0	0.0	55.7	−64.7	32.8	72.6	153	0.225	1.0	0.0	59.9	−58.2	39.3	70.3	146	0.067	1.0	0.0	0.0	1.0	0.048	54.1	−67.2	27.8	72.8	157	0.067	1.0	0.0
153	147	158	0.049	1.0	0.0	55.4	−65.5	32.3	73.0	153	0.205	1.0	0.0	59.3	−59.0	38.4	70.5	147	0.05	1.0	0.0	0.0	1.0	0.075	54.0	−66.9	26.1	71.9	158	0.05	1.0	0.0
154	148	159	0.033	1.0	0.0	55.0	−66.2	31.8	73.5	154	0.186	1.0	0.0	58.8	−59.8	37.4	70.6	148	0.033	1.0	0.0	0.0	1.0	0.102	53.9	−66.6	24.4	71.0	159	0.033	1.0	0.0
154	149	161	0.016	1.0	0.0	54.7	−66.9	31.3	73.9	154	0.166	1.0	0.0	58.2	−60.6	36.5	70.8	149	0.017	1.0	0.0	0.0	1.0	0.128	53.8	−66.3	22.8	70.2	161	0.017	1.0	0.0
155	150	162	0.0	1.0	0.0	54.3	−67.6	30.8	74.3	155	G_d 0.146	1.0	0.0	57.6	−61.3	35.5	70.9	150	G_s 0.0	1.0	0.0	0.0	1.0	0.147	53.8	−65.9	21.1	69.3	162	G_e 0.0	1.0	0.0
156	151	163	0.0	1.0	0.016	54.2	−67.5	29.7	73.8	156	0.126	1.0	0.0	57.0	−62.1	34.5	71.1	151	0.0	1.0	0.017	0.0	1.0	0.162	53.8	−65.5	19.9	68.6	163	0.0	1.0	0.017
156	152	164	0.0	1.0	0.033	54.2	−67.4	28.6	73.2	156	0.099	1.0	0.0	56.4	−63.3	33.7	71.8	152	0.0	1.0	0.033	0.0	1.0	0.177	53.8	−65.2	18.7	67.9	164	0.0	1.0	0.033
157	153	164	0.0	1.0	0.05	54.1	−67.2	27.6	72.7	157	0.071	1.0	0.0	55.9	−64.5	32.9	72.5	153	0.0	1.0	0.05	0.0	1.0	0.192	53.8	−64.8	17.4	67.2	164	0.0	1.0	0.05
158	154	165	0.0	1.0	0.066	54.0	−67.1	26.6	72.1	158	0.042	1.0	0.0	55.3	−65.7	32.1	73.3	154	0.0	1.0	0.067	0.0	1.0	0.207	53.8	−64.4	16.2	66.5	165	0.0	1.0	0.067
159	155	166	0.0	1.0	0.083	53.9	−66.9	25.5	71.6	159	0.014	1.0	0.0	54.7	−67.0	31.3	74.0	155	0.0	1.0	0.083	0.0	1.0	0.222	53.8	−63.9	15.0	65.8	166	0.0	1.0	0.083
159	156	167	0.0	1.0	0.1	53.9	−66.7	24.5	71.1	159	0.0	1.0	0.011	54.3	−67.5	30.1	74.0	156	0.0	1.0	0.1	0.0	1.0	0.237	53.8	−63.5	13.9	65.1	167	0.0	1.0	0.1
160	157	168	0.0	1.0	0.116	53.8	−66.5	23.5	70.5	160	0.0	1.0	0.035	54.2	−67.3	28.6	73.2	157	0.0	1.0	0.117	0.0	1.0	0.251	53.8	−63.0	12.7	64.4	168	0.0	1.0	0.117
161	158	169	0.0	1.0	0.133	53.8	−66.2	22.3	69.9	161	0.0	1.0	0.058	54.1	−67.1	27.2	72.5	158	0.0	1.0	0.133	0.0	1.0	0.261	53.9	−62.6	11.6	63.8	169	0.0	1.0	0.133
162	159	170	0.0	1.0	0.15	53.8	−65.8	20.8	69.1	162	0.0	1.0	0.081	54.0	−66.9	25.7	71.7	159	0.0	1.0	0.15	0.0	1.0	0.271	54.0	−62.2	10.5	63.2	170	0.0	1.0	0.15
163	160	171	0.0	1.0	0.166	53.8	−65.5	19.4	68.3	163	0.0	1.0	0.104	53.9	−66.6	24.3	71.0	160	0.0	1.0	0.167	0.0	1.0	0.281	54.0	−61.7	9.4	62.6	171	0.0	1.0	0.167
164	161	172	0.0	1.0	0.183	53.8	−65.0	18.1	67.5	164	0.0	1.0	0.127	53.8	−66.3	22.9	70.2	161	0.0	1.0	0.183	0.0	1.0	0.291	54.1	−61.3	8.3	61.9	172	0.0	1.0	0.183
165	162	173	0.0	1.0	0.2	53.8	−64.6	16.7	66.7	165	0.0	1.0	0.143	53.8	−65.9	21.5	69.4	162	0.0	1.0	0.2	0.0	1.0	0.301	54.2	−60.8	7.3	61.3	173	0.0	1.0	0.2
166	163	174	0.0	1.0	0.216	53.7	−64.1	15.4	66.0	166	0.0	1.0	0.16	53.8	−65.6	20.1	68.7	163	0.0	1.0	0.217	0.0	1.0	0.311	54.3	−60.3	6.3	60.7	174	0.0	1.0	0.217
167	164	175	0.0	1.0	0.233	53.7	−63.6	14.1	65.2	167	0.0	1.0	0.176	53.8	−65.2	18.7	67.9	164	0.0	1.0	0.233	0.0	1.0	0.321	54.3	−59.8	5.2	60.1	175	0.0	1.0	0.233
168	165	175	0.0	1.0	0.25	53.7	−63.1	12.8	64.4	168	0.0	1.0	0.192	53.8	−64.7	17.4	67.1	165	0.0	1.0	0.25	0.0	1.0	0.331	54.4	−59.3	4.2	59.5	175	0.0	1.0	0.25

*rgb**$_{dd}$ *rgb**$_{ds}$ *rgb**$_{de}$

1−0131130−L0 PE890−71 LAB*la0, YN=0%, XYZnw=3.9, 4.1, 4.1, 84.7, 89.6, 93.9, LAB*nw=23.9, 0.0, 0.0, 95.8, 0.0, 0.0 Output: Laser printer output; separation cmyn6*, D65, page 12/33

TUB-test chart PE89; 16 step hue circle
48 step hue circles; *rgb*−*LabCh**tables

input: *rgb/cmyk* −> *rgb*$_e$
output: transfer to *cmyk*$_e$

see similar files: http://130.149.60.45/~farbmetrik/PE89/PE89.HTM
technical information: http://www.ps.bam.de or http://130.149.60.45/~farbmetrik

TUB registration: 20150701-PE89/PE89L0NP.PDF /.PS
application for measurement of laser printer output, separation cmyn6 (CMYK)
TUB material: code=rha4ta

Data of Maximum color M in colorimetric system Laser printer output; separation cmyn6*, D65 for input or output; Six hue angles of the 60 degree standard colours *RYGCBM*$_s$: $h_{ab,ds}$ = 30.0, 90.0, 150.0, 210.0, 270.0, 330.0; Six hue angles of the device colours *RYGCBM*$_d$: $h_{ab,d}$ = 33.5, 100.6, 155.5, 235.2, 290.8, 348.9; Six hue angles of the elementary colours *RYGCBM*$_e$: $h_{ab,e}$ = 25.5, 92.3, 162.2, 217.0, 271.7, 328.6

$h_{ab,d}$	$h_{ab,s}$	$h_{ab,e}$	*rgb**			dd361M	*LAB**			ddx361Mi (x=LabCh)			*rgb**			ds361Mi	*LAB**			dsx361Mi (x=LabCh)			*rgb**			dd361Mi	*rgb**			de361Mi	*LAB**			dex361Mi (x=LabCh)			*rgb**			dd361Mi
168	165	175	0.0	1.0	0.25		53.7	−63.1	12.8	64.4	168	0.0	1.0	0.192	53.8	−64.7	17.4	67.1	165	0.0	1.0	0.25	0.0	1.0	0.331	54.4	−59.3	4.2	59.5	175	0.0	1.0	0.25
170	166	176	0.0	1.0	0.266		53.9	−62.4	10.9	63.4	170	0.0	1.0	0.209	53.8	−64.3	16.1	66.4	166	0.0	1.0	0.267	0.0	1.0	0.341	54.5	−58.7	3.3	58.9	176	0.0	1.0	0.267
171	167	177	0.0	1.0	0.283		54.0	−61.7	9.1	62.4	171	0.0	1.0	0.225	53.8	−63.8	14.8	65.6	167	0.0	1.0	0.283	0.0	1.0	0.351	54.6	−58.2	2.3	58.3	177	0.0	1.0	0.283
173	168	178	0.0	1.0	0.3		54.1	−60.9	7.3	61.3	173	0.0	1.0	0.242	53.8	−63.3	13.5	64.8	168	0.0	1.0	0.3	0.0	1.0	0.361	54.7	−57.6	1.4	57.7	178	0.0	1.0	0.3
174	169	179	0.0	1.0	0.316		54.3	−60.1	5.6	60.3	174	0.0	1.0	0.255	53.8	−62.8	12.2	64.1	169	0.0	1.0	0.317	0.0	1.0	0.371	54.7	−57.0	0.4	57.1	179	0.0	1.0	0.317
176	170	180	0.0	1.0	0.333		54.4	−59.2	3.9	59.3	176	0.0	1.0	0.266	53.9	−62.4	11.0	63.5	170	0.0	1.0	0.333	0.0	1.0	0.382	54.8	−56.5	−0.4	56.6	180	0.0	1.0	0.333
177	171	181	0.0	1.0	0.35		54.5	−58.2	2.3	58.3	177	0.0	1.0	0.277	54.0	−61.9	9.8	62.8	171	0.0	1.0	0.35	0.0	1.0	0.393	54.8	−56.0	−1.3	56.2	181	0.0	1.0	0.35
179	172	182	0.0	1.0	0.366		54.7	−57.3	0.8	57.3	179	0.0	1.0	0.288	54.1	−61.4	8.6	62.1	172	0.0	1.0	0.367	0.0	1.0	0.405	54.8	−55.6	−2.1	55.7	182	0.0	1.0	0.367
180	173	183	0.0	1.0	0.383		54.7	−56.5	−0.6	56.5	180	0.0	1.0	0.299	54.2	−60.9	7.5	61.5	173	0.0	1.0	0.383	0.0	1.0	0.416	54.9	−55.1	−3.0	55.3	183	0.0	1.0	0.383
181	174	184	0.0	1.0	0.4		54.8	−55.8	−1.8	55.9	181	0.0	1.0	0.31	54.3	−60.4	6.4	60.8	174	0.0	1.0	0.4	0.0	1.0	0.428	54.9	−54.6	−3.8	54.9	184	0.0	1.0	0.4
183	175	185	0.0	1.0	0.416		54.8	−55.2	−3.1	55.2	183	0.0	1.0	0.321	54.3	−59.8	5.2	60.1	175	0.0	1.0	0.417	0.0	1.0	0.439	54.9	−54.1	−4.7	54.5	185	0.0	1.0	0.417
184	176	185	0.0	1.0	0.433		54.8	−54.5	−4.3	54.6	184	0.0	1.0	0.332	54.4	−59.2	4.1	59.5	176	0.0	1.0	0.433	0.0	1.0	0.451	54.9	−53.6	−5.5	54.0	185	0.0	1.0	0.433
185	177	186	0.0	1.0	0.45		54.9	−53.7	−5.5	54.0	185	0.0	1.0	0.343	54.5	−58.6	3.1	58.8	177	0.0	1.0	0.45	0.0	1.0	0.463	55.0	−53.1	−6.3	53.6	186	0.0	1.0	0.45
187	178	187	0.0	1.0	0.466		54.9	−53.0	−6.6	53.4	187	0.0	1.0	0.354	54.6	−58.0	2.0	58.1	178	0.0	1.0	0.467	0.0	1.0	0.474	55.0	−52.6	−7.1	53.2	187	0.0	1.0	0.467
188	179	188	0.0	1.0	0.483		55.0	−52.2	−7.8	52.8	188	0.0	1.0	0.365	54.7	−57.3	1.0	57.5	179	0.0	1.0	0.483	0.0	1.0	0.486	55.0	−52.1	−7.9	52.8	188	0.0	1.0	0.483
189	180	189	0.0	1.0	0.5		55.0	−51.4	−8.9	52.2	189	0.0	1.0	0.375	54.8	−56.7	0.0	56.8	180	0.0	1.0	0.5	0.0	1.0	0.497	55.0	−51.5	−8.6	52.3	189	0.0	1.0	0.5
191	181	190	0.0	1.0	0.516		55.0	−50.6	−10.5	51.7	191	0.0	1.0	0.388	54.8	−56.2	−0.9	56.3	181	0.0	1.0	0.517	0.0	1.0	0.506	55.1	−51.1	−9.4	52.1	190	0.0	1.0	0.517
193	182	191	0.0	1.0	0.533		55.1	−49.7	−12.1	51.2	193	0.0	1.0	0.401	54.8	−55.7	−1.8	55.9	182	0.0	1.0	0.533	0.0	1.0	0.514	55.1	−50.7	−10.2	51.8	191	0.0	1.0	0.533
195	183	192	0.0	1.0	0.55		55.1	−48.8	−13.7	50.7	195	0.0	1.0	0.414	54.9	−55.2	−2.8	55.4	183	0.0	1.0	0.55	0.0	1.0	0.522	55.1	−50.3	−10.9	51.6	192	0.0	1.0	0.55
197	184	193	0.0	1.0	0.566		55.2	−47.8	−15.2	50.2	197	0.0	1.0	0.426	54.9	−54.7	−3.7	54.9	184	0.0	1.0	0.567	0.0	1.0	0.529	55.1	−49.9	−11.7	51.4	193	0.0	1.0	0.567
199	185	194	0.0	1.0	0.583		55.2	−46.8	−16.6	49.7	199	0.0	1.0	0.439	54.9	−54.2	−4.6	54.5	185	0.0	1.0	0.583	0.0	1.0	0.537	55.1	−49.5	−12.4	51.1	194	0.0	1.0	0.583
201	186	195	0.0	1.0	0.6		55.2	−45.8	−18.0	49.2	201	0.0	1.0	0.452	54.9	−53.6	−5.5	54.0	186	0.0	1.0	0.6	0.0	1.0	0.545	55.2	−49.0	−13.1	50.9	195	0.0	1.0	0.6
203	187	195	0.0	1.0	0.616		55.3	−44.7	−19.4	48.7	203	0.0	1.0	0.464	55.0	−53.0	−6.4	53.5	187	0.0	1.0	0.617	0.0	1.0	0.553	55.2	−48.6	−13.9	50.7	195	0.0	1.0	0.617
205	188	196	0.0	1.0	0.633		55.3	−43.8	−20.5	48.4	205	0.0	1.0	0.477	55.0	−52.5	−7.3	53.1	188	0.0	1.0	0.633	0.0	1.0	0.561	55.2	−48.2	−14.6	50.4	196	0.0	1.0	0.633
206	189	197	0.0	1.0	0.65		55.3	−43.3	−21.5	48.3	206	0.0	1.0	0.49	55.0	−51.9	−8.1	52.6	189	0.0	1.0	0.65	0.0	1.0	0.568	55.2	−47.7	−15.3	50.2	197	0.0	1.0	0.65
207	190	198	0.0	1.0	0.666		55.3	−42.7	−22.5	48.3	207	0.0	1.0	0.502	55.1	−51.3	−9.0	52.2	190	0.0	1.0	0.667	0.0	1.0	0.576	55.2	−47.2	−15.9	50.0	198	0.0	1.0	0.667
209	191	199	0.0	1.0	0.683		55.2	−42.1	−23.4	48.2	209	0.0	1.0	0.51	55.1	−50.9	−9.8	51.9	191	0.0	1.0	0.683	0.0	1.0	0.584	55.3	−46.7	−16.6	49.7	199	0.0	1.0	0.683
210	192	200	0.0	1.0	0.7		55.2	−41.5	−24.4	48.1	210	0.0	1.0	0.519	55.1	−50.5	−10.6	51.7	192	0.0	1.0	0.7	0.0	1.0	0.592	55.3	−46.3	−17.3	49.5	200	0.0	1.0	0.7
211	193	201	0.0	1.0	0.716		55.2	−40.8	−25.3	48.0	211	0.0	1.0	0.527	55.1	−50.0	−11.5	51.4	193	0.0	1.0	0.717	0.0	1.0	0.6	55.3	−45.8	−17.9	49.3	201	0.0	1.0	0.717
213	194	202	0.0	1.0	0.733		55.2	−40.2	−26.2	48.0	213	0.0	1.0	0.536	55.1	−49.6	−12.3	51.2	194	0.0	1.0	0.733	0.0	1.0	0.607	55.3	−45.2	−18.6	49.0	202	0.0	1.0	0.733
214	195	203	0.0	1.0	0.75		55.2	−39.5	−27.1	47.9	214	0.0	1.0	0.544	55.2	−49.1	−13.1	50.9	195	0.0	1.0	0.75	0.0	1.0	0.615	55.3	−44.7	−19.2	48.8	203	0.0	1.0	0.75
215	196	204	0.0	1.0	0.766		55.1	−39.2	−27.9	48.1	215	0.0	1.0	0.553	55.2	−48.6	−13.9	50.7	196	0.0	1.0	0.767	0.0	1.0	0.623	55.4	−44.2	−19.8	48.6	204	0.0	1.0	0.767
216	197	205	0.0	1.0	0.783		55.0	−38.8	−28.7	48.3	216	0.0	1.0	0.561	55.2	−48.1	−14.6	50.4	197	0.0	1.0	0.783	0.0	1.0	0.633	55.3	−43.8	−20.5	48.5	205	0.0	1.0	0.783
217	198	206	0.0	1.0	0.8		54.9	−38.5	−29.5	48.5	217	0.0	1.0	0.57	55.2	−47.6	−15.4	50.2	198	0.0	1.0	0.8	0.0	1.0	0.645	55.3	−43.4	−21.1	48.4	206	0.0	1.0	0.8
218	199	206	0.0	1.0	0.816		54.8	−38.1	−30.3	48.7	218	0.0	1.0	0.578	55.2	−47.1	−16.1	49.9	199	0.0	1.0	0.817	0.0	1.0	0.656	55.3	−43.0	−21.8	48.4	206	0.0	1.0	0.817
219	200	207	0.0	1.0	0.833		54.7	−37.7	−31.1	48.9	219	0.0	1.0	0.587	55.3	−46.6	−16.9	49.6	200	0.0	1.0	0.833	0.0	1.0	0.667	55.3	−42.6	−22.5	48.3	207	0.0	1.0	0.833
220	201	208	0.0	1.0	0.85		54.6	−37.3	−31.9	49.1	220	0.0	1.0	0.596	55.3	−46.0	−17.6	49.4	201	0.0	1.0	0.85	0.0	1.0	0.679	55.3	−42.2	−23.1	48.3	208	0.0	1.0	0.85
221	202	209	0.0	1.0	0.866		54.5	−36.9	−32.6	49.3	221	0.0	1.0	0.604	55.3	−45.5	−18.3	49.1	202	0.0	1.0	0.867	0.0	1.0	0.69	55.3	−41.8	−23.8	48.2	209	0.0	1.0	0.867
222	203	210	0.0	1.0	0.883		54.3	−36.4	−33.7	49.6	222	0.0	1.0	0.613	55.3	−44.9	−19.0	48.9	203	0.0	1.0	0.883	0.0	1.0	0.702	55.3	−41.4	−24.4	48.2	210	0.0	1.0	0.883
224	204	211	0.0	1.0	0.9		54.2	−35.6	−35.1	50.0	224	0.0	1.0	0.621	55.3	−44.3	−19.7	48.6	204	0.0	1.0	0.9	0.0	1.0	0.713	55.3	−40.9	−25.0	48.1	211	0.0	1.0	0.9
226	205	212	0.0	1.0	0.916		54.0	−34.8	−36.5	50.4	226	0.0	1.0	0.632	55.3	−43.8	−20.4	48.5	205	0.0	1.0	0.917	0.0	1.0	0.724	55.3	−40.5	−25.7	48.1	212	0.0	1.0	0.917
228	206	213	0.0	1.0	0.933		53.8	−33.9	−37.8	50.8	228	0.0	1.0	0.644	55.3	−43.4	−21.1	48.4	206	0.0	1.0	0.933	0.0	1.0	0.736	55.2	−40.0	−26.3	48.0	213	0.0	1.0	0.933
229	207	214	0.0	1.0	0.95		53.6	−33.0	−39.2	51.2	229	0.0	1.0	0.657	55.3	−43.0	−21.9	48.4	207	0.0	1.0	0.95	0.0	1.0	0.747	55.2	−39.5	−26.9	48.0	214	0.0	1.0	0.95
231	208	215	0.0	1.0	0.966		53.4	−32.0	−40.5	51.7	231	0.0	1.0	0.669	55.3	−42.6	−22.6	48.3	208	0.0	1.0	0.967	0.0	1.0	0.761	55.2	−39.2	−27.6	48.1	215	0.0	1.0	0.967
233	209	216	0.0	1.0	0.983		53.3	−31.0	−41.8	52.1	233	0.0	1.0	0.682	55.3	−42.1	−23.3	48.3	209	0.0	1.0	0.983	0.0	1.0	0.777	55.1	−38.9	−28.3	48.3	216	0.0	1.0	0.983
235	210	216	0.0	1.0	1.0		53.1	−30.0	−43.1	52.5	235	C_d	0.0	1.0	0.694	55.3	−41.6	−24.0	48.2	210	C_s	0.0	1.0	1.0	0.0	1.0	0.792	55.0	−38.6	−29.0	48.4	216	C_e	0.0	1.0	1.0

*rgb**$_{dd}$ *rgb**$_{ds}$ *rgb**$_{de}$

1−0131230−L0 PE890−71 LAB*la0, YN=0%, XYZnw=3.9, 4.1, 4.1, 84.7, 89.6, 93.9, LAB*nw=23.9, 0.0, 0.0, 95.8, 0.0, 0.0 Output: Laser printer output; separation cmyn6*, D65, page 13/33

TUB-test chart PE89; 16 step hue circle
48 step hue circles; *rgb*−*LabCh**tables

input: *rgb/cmyk* −> *rgb*$_e$
output: transfer to *cmyk*$_e$

see similar files: http://130.149.60.45/~farbmetrik/PE89/PE89.HTM
technical information: http://www.ps.bam.de or http://130.149.60.45/~farbmetrik

TUB registration: 20150701-PE89/PE89L0NP.PDF /.PS
application for measurement of laser printer output, separation cmyn6 (CMYK)

TUB material: code=rha4ta

Data of Maximum color M in colorimetric system Laser printer output; separation cmyn6*, D65 for input or output; Six hue angles of the 60 degree standard colours *RYGCBM*$_s$: $h_{ab,ds}$ = 30.0, 90.0, 150.0, 210.0, 270.0, 330.0; Six hue angles of the device colours *RYGCBM*$_d$: $h_{ab,d}$ = 33.5, 100.6, 155.5, 235.2, 290.8, 348.9; Six hue angles of the elementary colours *RYGCBM*$_e$: $h_{ab,e}$ = 25.5, 92.3, 162.2, 217.0, 271.7, 328.6

$h_{ab,d}$	$h_{ab,s}$	$h_{ab,e}$	*rgb**dd361M			*LAB**ddx361Mi (x=LabCh)						*rgb**ds361Mi			*LAB**dsx361Mi (x=LabCh)						*rgb**dd361Mi			*rgb**de361Mi			*LAB**dex361Mi (x=LabCh)						*rgb**dd361Mi			*rgb**dd *rgb**ds *rgb**de
235	210	216	0.0	1.0	1.0	53.1	−30.0	−43.1	52.5	235	C_d	0.0	1.0	0.694	55.3	−41.6	−24.0	48.2	210	C_s	0.0	1.0	1.0	0.0	1.0	0.792	55.0	−38.6	−29.0	48.4	216	C_e	0.0	1.0	1.0	
235	211	217	0.0	0.983	1.0	53.1	−29.7	−43.3	52.5	235		0.0	1.0	0.707	55.3	−41.2	−24.7	48.1	211		0.0	0.983	1.0	0.0	1.0	0.807	54.9	−38.3	−29.8	48.6	217		0.0	0.983	1.0	
235	212	218	0.0	0.966	1.0	53.1	−29.4	−43.5	52.5	235		0.0	1.0	0.719	55.3	−40.7	−25.4	48.1	212		0.0	0.967	1.0	0.0	1.0	0.822	54.8	−37.9	−30.5	48.8	218		0.0	0.967	1.0	
236	213	219	0.0	0.95	1.0	53.1	−29.2	−43.7	52.6	236		0.0	1.0	0.732	55.3	−40.2	−26.1	48.0	213		0.0	0.95	1.0	0.0	1.0	0.837	54.7	−37.6	−31.2	49.0	219		0.0	0.95	1.0	
236	214	220	0.0	0.933	1.0	53.1	−28.9	−43.9	52.6	236		0.0	1.0	0.744	55.2	−39.7	−26.7	48.0	214		0.0	0.933	1.0	0.0	1.0	0.853	54.6	−37.2	−31.9	49.2	220		0.0	0.933	1.0	
237	215	221	0.0	0.916	1.0	53.1	−28.6	−44.2	52.6	237		0.0	1.0	0.759	55.2	−39.3	−27.5	48.1	215		0.0	0.917	1.0	0.0	1.0	0.868	54.5	−36.9	−32.6	49.4	221		0.0	0.917	1.0	
237	216	222	0.0	0.9	1.0	53.1	−28.3	−44.4	52.7	237		0.0	1.0	0.775	55.1	−38.9	−28.3	48.3	216		0.0	0.9	1.0	0.0	1.0	0.88	54.4	−36.5	−33.4	49.6	222		0.0	0.9	1.0	
237	217	223	0.0	0.883	1.0	53.1	−28.1	−44.6	52.7	237		0.0	1.0	0.792	55.0	−38.6	−29.1	48.5	217		0.0	0.883	1.0	0.0	1.0	0.888	54.3	−36.1	−34.1	49.8	223		0.0	0.883	1.0	
238	218	224	0.0	0.866	1.0	53.0	−27.8	−44.9	52.8	238		0.0	1.0	0.809	54.9	−38.2	−29.9	48.7	218		0.0	0.867	1.0	0.0	1.0	0.897	54.2	−35.7	−34.8	50.0	224		0.0	0.867	1.0	
238	219	225	0.0	0.85	1.0	53.0	−27.5	−45.3	53.0	238		0.0	1.0	0.825	54.8	−37.9	−30.6	48.9	219		0.0	0.85	1.0	0.0	1.0	0.906	54.1	−35.3	−35.5	50.2	225		0.0	0.85	1.0	
239	220	226	0.0	0.833	1.0	53.0	−27.3	−45.6	53.2	239		0.0	1.0	0.842	54.7	−37.5	−31.4	49.1	220		0.0	0.833	1.0	0.0	1.0	0.914	54.1	−34.9	−36.2	50.4	226		0.0	0.833	1.0	
239	221	227	0.0	0.816	1.0	53.0	−27.0	−46.0	53.4	239		0.0	1.0	0.859	54.6	−37.1	−32.2	49.3	221		0.0	0.817	1.0	0.0	1.0	0.923	54.0	−34.4	−36.9	50.6	227		0.0	0.817	1.0	
240	222	227	0.0	0.8	1.0	52.9	−26.7	−46.4	53.6	240		0.0	1.0	0.875	54.5	−36.7	−33.0	49.5	222		0.0	0.8	1.0	0.0	1.0	0.932	53.9	−34.0	−37.6	50.8	227		0.0	0.8	1.0	
240	223	228	0.0	0.783	1.0	52.9	−26.5	−46.8	53.8	240		0.0	1.0	0.885	54.4	−36.2	−33.8	49.7	223		0.0	0.783	1.0	0.0	1.0	0.94	53.8	−33.5	−38.3	51.1	228		0.0	0.783	1.0	
240	224	229	0.0	0.766	1.0	52.9	−26.2	−47.2	53.9	240		0.0	1.0	0.894	54.3	−35.8	−34.6	49.9	224		0.0	0.767	1.0	0.0	1.0	0.949	53.7	−33.0	−39.0	51.3	229		0.0	0.767	1.0	
241	225	230	0.0	0.75	1.0	52.9	−25.9	−47.5	54.1	241		0.0	1.0	0.904	54.2	−35.4	−35.4	50.2	225		0.0	0.75	1.0	0.0	1.0	0.957	53.6	−32.5	−39.7	51.5	230		0.0	0.75	1.0	
242	226	231	0.0	0.733	1.0	52.6	−25.2	−47.8	54.1	242		0.0	1.0	0.913	54.1	−34.9	−36.2	50.4	226		0.0	0.733	1.0	0.0	1.0	0.966	53.5	−32.0	−40.4	51.7	231		0.0	0.733	1.0	
242	227	232	0.0	0.716	1.0	52.2	−24.5	−48.1	54.0	242		0.0	1.0	0.923	54.0	−34.4	−36.9	50.6	227		0.0	0.717	1.0	0.0	1.0	0.975	53.4	−31.5	−41.1	51.9	232		0.0	0.717	1.0	
243	228	233	0.0	0.7	1.0	51.9	−23.9	−48.4	54.0	243		0.0	1.0	0.932	53.9	−33.9	−37.7	50.9	228		0.0	0.7	1.0	0.0	1.0	0.983	53.3	−31.0	−41.7	52.1	233		0.0	0.7	1.0	
244	229	234	0.0	0.683	1.0	51.6	−23.2	−48.6	53.9	244		0.0	1.0	0.942	53.8	−33.4	−38.5	51.1	229		0.0	0.683	1.0	0.0	1.0	0.992	53.2	−30.4	−42.4	52.3	234		0.0	0.683	1.0	
245	230	235	0.0	0.666	1.0	51.3	−22.5	−48.9	53.8	245		0.0	1.0	0.951	53.7	−32.9	−39.2	51.3	230		0.0	0.667	1.0	0.0	0.997	1.0	53.1	−29.9	−43.1	52.5	235		0.0	0.667	1.0	
246	231	236	0.0	0.65	1.0	51.0	−21.8	−49.1	53.8	246		0.0	1.0	0.961	53.6	−32.3	−40.0	51.6	231		0.0	0.65	1.0	0.0	0.956	1.0	53.1	−29.2	−43.6	52.6	236		0.0	0.65	1.0	
246	232	237	0.0	0.633	1.0	50.7	−21.1	−49.4	53.7	246		0.0	1.0	0.97	53.5	−31.8	−40.7	51.8	232		0.0	0.633	1.0	0.0	0.916	1.0	53.1	−28.6	−44.1	52.7	237		0.0	0.633	1.0	
247	233	237	0.0	0.616	1.0	50.2	−20.2	−49.5	53.5	247		0.0	1.0	0.98	53.4	−31.2	−41.5	52.0	233		0.0	0.617	1.0	0.0	0.876	1.0	53.1	−27.9	−44.6	52.8	237		0.0	0.617	1.0	
248	234	238	0.0	0.6	1.0	49.7	−19.2	−49.6	53.2	248		0.0	1.0	0.989	53.2	−30.6	−42.2	52.3	234		0.0	0.6	1.0	0.0	0.842	1.0	53.1	−27.4	−45.4	53.1	238		0.0	0.6	1.0	
249	235	239	0.0	0.583	1.0	49.1	−18.2	−49.6	52.8	249		0.0	1.0	0.999	53.1	−30.0	−42.9	52.5	235		0.0	0.583	1.0	0.0	0.809	1.0	53.0	−26.8	−46.2	53.5	239		0.0	0.583	1.0	
250	236	240	0.0	0.566	1.0	48.5	−17.2	−49.6	52.5	250		0.0	0.963	1.0	53.1	−29.3	−43.5	52.6	236		0.0	0.567	1.0	0.0	0.775	1.0	53.0	−26.3	−46.9	53.9	240		0.0	0.567	1.0	
251	237	241	0.0	0.55	1.0	47.9	−16.2	−49.5	52.2	251		0.0	0.918	1.0	53.1	−28.6	−44.1	52.7	237		0.0	0.55	1.0	0.0	0.745	1.0	52.8	−25.6	−47.6	54.2	241		0.0	0.55	1.0	
252	238	242	0.0	0.533	1.0	47.3	−15.2	−49.5	51.8	252		0.0	0.874	1.0	53.1	−27.9	−44.7	52.8	238		0.0	0.533	1.0	0.0	0.726	1.0	52.5	−24.9	−47.9	54.1	242		0.0	0.533	1.0	
253	239	243	0.0	0.516	1.0	46.7	−14.3	−49.4	51.5	253		0.0	0.838	1.0	53.0	−27.3	−45.5	53.2	239		0.0	0.517	1.0	0.0	0.706	1.0	52.1	−24.1	−48.2	54.0	243		0.0	0.517	1.0	
254	240	244	0.0	0.5	1.0	46.1	−13.3	−49.4	51.1	254		0.0	0.801	1.0	53.0	−26.7	−46.3	53.6	240		0.0	0.5	1.0	0.0	0.686	1.0	51.7	−23.3	−48.5	54.0	244		0.0	0.5	1.0	
255	241	245	0.0	0.483	1.0	45.5	−12.3	−49.4	50.9	255		0.0	0.764	1.0	52.9	−26.1	−47.2	54.0	241		0.0	0.483	1.0	0.0	0.667	1.0	51.4	−22.4	−48.8	53.9	245		0.0	0.483	1.0	
256	242	246	0.0	0.466	1.0	44.8	−11.4	−49.4	50.7	256		0.0	0.737	1.0	52.7	−25.3	−47.7	54.1	242		0.0	0.467	1.0	0.0	0.647	1.0	51.0	−21.6	−49.1	53.8	246		0.0	0.467	1.0	
258	243	247	0.0	0.45	1.0	44.2	−10.5	−49.4	50.5	258		0.0	0.716	1.0	52.3	−24.4	−48.1	54.1	243		0.0	0.45	1.0	0.0	0.628	1.0	50.6	−20.8	−49.4	53.8	247		0.0	0.45	1.0	
259	244	248	0.0	0.433	1.0	43.6	−9.5	−49.4	50.3	259		0.0	0.694	1.0	51.9	−23.6	−48.4	54.0	244		0.0	0.433	1.0	0.0	0.612	1.0	50.1	−19.9	−49.5	53.5	248		0.0	0.433	1.0	
260	245	248	0.0	0.416	1.0	42.9	−8.6	−49.4	50.1	260		0.0	0.673	1.0	51.5	−22.7	−48.8	53.9	245		0.0	0.417	1.0	0.0	0.597	1.0	49.6	−19.0	−49.5	53.2	248		0.0	0.417	1.0	
261	246	249	0.0	0.4	1.0	42.3	−7.7	−49.3	49.9	261		0.0	0.651	1.0	51.1	−21.8	−49.1	53.8	246		0.0	0.4	1.0	0.0	0.582	1.0	49.1	−18.1	−49.5	52.9	249		0.0	0.4	1.0	
262	247	250	0.0	0.383	1.0	41.7	−6.8	−49.3	49.7	262		0.0	0.63	1.0	50.7	−20.9	−49.4	53.8	247		0.0	0.383	1.0	0.0	0.568	1.0	48.6	−17.2	−49.5	52.6	250		0.0	0.383	1.0	
263	248	251	0.0	0.366	1.0	41.1	−5.7	−49.2	49.6	263		0.0	0.612	1.0	50.1	−19.9	−49.5	53.5	248		0.0	0.367	1.0	0.0	0.553	1.0	48.0	−16.3	−49.5	52.3	251		0.0	0.367	1.0	
264	249	252	0.0	0.35	1.0	40.5	−4.6	−49.2	49.4	264		0.0	0.596	1.0	49.6	−18.9	−49.5	53.1	249		0.0	0.35	1.0	0.0	0.538	1.0	47.5	−15.5	−49.5	52.0	252		0.0	0.35	1.0	
265	250	253	0.0	0.333	1.0	39.9	−3.4	−49.2	49.3	265		0.0	0.58	1.0	49.0	−18.0	−49.5	52.8	250		0.0	0.333	1.0	0.0	0.523	1.0	47.0	−14.6	−49.4	51.6	253		0.0	0.333	1.0	
267	251	254	0.0	0.316	1.0	39.3	−2.3	−49.1	49.1	267		0.0	0.564	1.0	48.4	−17.0	−49.5	52.5	251		0.0	0.317	1.0	0.0	0.508	1.0	46.5	−13.7	−49.4	51.3	254		0.0	0.317	1.0	
268	252	255	0.0	0.3	1.0	38.7	−1.1	−49.0	49.0	268		0.0	0.547	1.0	47.8	−16.0	−49.5	52.1	252		0.0	0.3	1.0	0.0	0.494	1.0	45.9	−12.9	−49.3	51.1	255		0.0	0.3	1.0	
269	253	256	0.0	0.283	1.0	38.1	0.0	−48.9	48.9	269		0.0	0.531	1.0	47.3	−15.0	−49.4	51.8	253		0.0	0.283	1.0	0.0	0.479	1.0	45.4	−12.0	−49.4	50.9	256		0.0	0.283	1.0	
271	254	257	0.0	0.266	1.0	37.4	1.1	−48.7	48.7	271		0.0	0.515	1.0	46.7	−14.1	−49.4	51.5	254		0.0	0.267	1.0	0.0	0.464	1.0	44.8	−11.2	−49.4	50.7	257		0.0	0.267	1.0	
272	255	258	0.0	0.25	1.0	36.8	2.2	−48.5	48.6	272		0.0	0.499	1.0	46.1	−13.1	−49.3	51.2	255		0.0	0.25	1.0	0.0	0.449	1.0	44.2	−10.4	−49.4	50.6	258		0.0	0.25	1.0	

1−0131330−L0 PE890−71 LAB*la0, YN=0%, XYZnw=3.9, 4.1, 4.1, 84.7, 89.6, 93.9, LAB*nw=23.9, 0.0, 0.0, 95.8, 0.0, 0.0 Output: Laser printer output; separation cmyn6*, D65, page 14/33

TUB-test chart PE89; 16 step hue circle
48 step hue circles; *rgb−LabCh**tables

input: *rgb/cmyk* −> *rgb*$_e$
output: transfer to *cmyk*$_e$

see similar files: http://130.149.60.45/~farbmetrik/PE89/PE89.HTM
technical information: http://www.ps.bam.de or http://130.149.60.45/~farbmetrik

TUB registration: 20150701-PE89/PE89L0NP.PDF /.PS
application for measurement of laser printer output, separation cmyn6 (CMYK)
TUB material: code=rha4ta

Data of Maximum color M in colorimetric system Laser printer output; separation cmyn6*, D65 for input or output; Six hue angles of the 60 degree standard colours *RYGCBM*$_s$: $h_{ab,ds}$ = 30.0, 90.0, 150.0, 210.0, 270.0, 330.0; Six hue angles of the device colours *RYGCBM*$_d$: $h_{ab,d}$ = 33.5, 100.6, 155.5, 235.2, 290.8, 348.9; Six hue angles of the elementary colours *RYGCBM*$_e$: $h_{ab,e}$ = 25.5, 92.3, 162.2, 217.0, 271.7, 328.6

$h_{ab,d}$	$h_{ab,s}$	$h_{ab,e}$	*rgb**dd361M			*LAB**ddx361Mi (x=LabCh)					*rgb**ds361Mi			*LAB**dsx361Mi (x=LabCh)					*rgb**dd361Mi			*rgb**de361Mi			*LAB**dex361Mi (x=LabCh)					*rgb**dd361Mi			*rgb**dd *rgb**ds *rgb**de
272	255	258	0.0	0.25	1.0	36.8	2.2	−48.5	48.6	272	0.0	0.499	1.0	46.1	−13.1	−49.3	51.2	255	0.0	0.25	1.0	0.0	0.449	1.0	44.2	−10.4	−49.4	50.6	258	0.0	0.25	1.0	
273	256	258	0.0	0.233	1.0	36.6	3.2	−48.3	48.4	273	0.0	0.482	1.0	45.5	−12.2	−49.4	51.0	256	0.0	0.233	1.0	0.0	0.435	1.0	43.7	−9.5	−49.4	50.4	258	0.0	0.233	1.0	
274	257	259	0.0	0.216	1.0	36.4	4.1	−48.0	48.2	274	0.0	0.466	1.0	44.9	−11.3	−49.4	50.8	257	0.0	0.217	1.0	0.0	0.42	1.0	43.1	−8.7	−49.3	50.2	259	0.0	0.217	1.0	
276	258	260	0.0	0.2	1.0	36.1	5.1	−47.8	48.1	276	0.0	0.45	1.0	44.3	−10.4	−49.4	50.6	258	0.0	0.2	1.0	0.0	0.405	1.0	42.6	−7.9	−49.3	50.0	260	0.0	0.2	1.0	
277	259	261	0.0	0.183	1.0	35.9	6.1	−47.5	47.9	277	0.0	0.434	1.0	43.7	−9.5	−49.4	50.4	259	0.0	0.183	1.0	0.0	0.39	1.0	42.0	−7.1	−49.3	49.9	261	0.0	0.183	1.0	
278	260	262	0.0	0.166	1.0	35.6	7.0	−47.2	47.7	278	0.0	0.418	1.0	43.0	−8.6	−49.3	50.2	260	0.0	0.167	1.0	0.0	0.376	1.0	41.4	−6.3	−49.2	49.7	262	0.0	0.167	1.0	
279	261	263	0.0	0.15	1.0	35.4	8.0	−46.9	47.5	279	0.0	0.402	1.0	42.4	−7.7	−49.3	50.0	261	0.0	0.15	1.0	0.0	0.364	1.0	41.0	−5.5	−49.2	49.6	263	0.0	0.15	1.0	
280	262	264	0.0	0.133	1.0	35.2	8.9	−46.5	47.4	280	0.0	0.386	1.0	41.8	−6.8	−49.2	49.8	262	0.0	0.133	1.0	0.0	0.353	1.0	40.6	−4.7	−49.2	49.5	264	0.0	0.133	1.0	
282	263	265	0.0	0.116	1.0	34.9	9.9	−46.3	47.3	282	0.0	0.371	1.0	41.3	−6.0	−49.2	49.7	263	0.0	0.117	1.0	0.0	0.341	1.0	40.2	−3.9	−49.1	49.4	265	0.0	0.117	1.0	
283	264	266	0.0	0.1	1.0	34.5	10.9	−46.1	47.4	283	0.0	0.358	1.0	40.8	−5.1	−49.2	49.5	264	0.0	0.1	1.0	0.0	0.33	1.0	39.8	−3.1	−49.1	49.3	266	0.0	0.1	1.0	
284	265	267	0.0	0.083	1.0	34.2	11.9	−45.9	47.4	284	0.0	0.346	1.0	40.4	−4.2	−49.2	49.4	265	0.0	0.083	1.0	0.0	0.318	1.0	39.4	−2.3	−49.0	49.2	267	0.0	0.083	1.0	
285	266	268	0.0	0.066	1.0	33.9	12.9	−45.7	47.5	285	0.0	0.333	1.0	39.9	−3.3	−49.1	49.3	266	0.0	0.067	1.0	0.0	0.307	1.0	39.0	−1.5	−49.0	49.1	268	0.0	0.067	1.0	
287	267	269	0.0	0.049	1.0	33.5	13.9	−45.4	47.5	287	0.0	0.321	1.0	39.5	−2.5	−49.1	49.2	267	0.0	0.05	1.0	0.0	0.296	1.0	38.5	−0.8	−48.9	49.0	269	0.0	0.05	1.0	
288	268	269	0.0	0.033	1.0	33.2	14.9	−45.2	47.6	288	0.0	0.308	1.0	39.0	−1.6	−49.0	49.1	268	0.0	0.033	1.0	0.0	0.284	1.0	38.1	0.0	−48.8	48.9	269	0.0	0.033	1.0	
289	269	270	0.0	0.016	1.0	32.9	15.9	−44.9	47.6	289	0.0	0.296	1.0	38.5	−0.8	−48.9	49.0	269	0.0	0.017	1.0	0.0	0.273	1.0	37.7	0.7	−48.7	48.8	270	0.0	0.017	1.0	
290	270	271	0.0	0.0	1.0	32.5	16.9	−44.6	47.7	290 B_d	0.0	0.283	1.0	38.1	0.0	−48.8	48.9	270 B_s	0.0	0.0	1.0	0.0	0.261	1.0	37.3	1.5	−48.6	48.7	271 B_e	0.0	0.0	1.0	
291	271	272	0.016	0.0	1.0	32.4	17.8	−44.3	47.8	291	0.0	0.27	1.0	37.6	0.9	−48.7	48.8	271	0.017	0.0	1.0	0.0	0.249	1.0	36.9	2.3	−48.5	48.6	272	0.017	0.0	1.0	
293	272	273	0.033	0.0	1.0	32.3	18.7	−44.0	47.9	293	0.0	0.258	1.0	37.2	1.7	−48.6	48.7	272	0.033	0.0	1.0	0.0	0.236	1.0	36.7	3.1	−48.3	48.5	273	0.033	0.0	1.0	
294	273	274	0.05	0.0	1.0	32.1	19.6	−43.7	47.9	294	0.0	0.245	1.0	36.8	2.5	−48.4	48.6	273	0.05	0.0	1.0	0.0	0.222	1.0	36.5	3.9	−48.1	48.3	274	0.05	0.0	1.0	
295	274	275	0.066	0.0	1.0	32.0	20.5	−43.4	48.0	295	0.0	0.231	1.0	36.6	3.4	−48.2	48.4	274	0.067	0.0	1.0	0.0	0.209	1.0	36.3	4.6	−47.9	48.2	275	0.067	0.0	1.0	
296	275	276	0.083	0.0	1.0	31.9	21.4	−43.1	48.1	296	0.0	0.217	1.0	36.4	4.2	−48.0	48.3	275	0.083	0.0	1.0	0.0	0.196	1.0	36.1	5.4	−47.7	48.1	276	0.083	0.0	1.0	
297	276	277	0.1	0.0	1.0	31.8	22.3	−42.7	48.2	297	0.0	0.202	1.0	36.2	5.0	−47.8	48.1	276	0.1	0.0	1.0	0.0	0.182	1.0	35.9	6.2	−47.4	47.9	277	0.1	0.0	1.0	
298	277	278	0.116	0.0	1.0	31.6	23.1	−42.4	48.3	298	0.0	0.188	1.0	36.0	5.8	−47.5	48.0	277	0.117	0.0	1.0	0.0	0.169	1.0	35.7	7.0	−47.2	47.8	278	0.117	0.0	1.0	
299	278	279	0.133	0.0	1.0	31.5	24.1	−42.0	48.4	299	0.0	0.174	1.0	35.8	6.7	−47.3	47.8	278	0.133	0.0	1.0	0.0	0.155	1.0	35.5	7.7	−46.9	47.6	279	0.133	0.0	1.0	
300	279	280	0.15	0.0	1.0	31.4	25.0	−41.7	48.6	300	0.0	0.16	1.0	35.6	7.5	−47.0	47.7	279	0.15	0.0	1.0	0.0	0.142	1.0	35.3	8.5	−46.6	47.5	280	0.15	0.0	1.0	
302	280	281	0.166	0.0	1.0	31.4	25.9	−41.4	48.8	302	0.0	0.146	1.0	35.4	8.3	−46.7	47.5	280	0.167	0.0	1.0	0.0	0.129	1.0	35.1	9.2	−46.4	47.4	281	0.167	0.0	1.0	
303	281	282	0.183	0.0	1.0	31.3	26.8	−41.0	49.0	303	0.0	0.132	1.0	35.2	9.0	−46.4	47.4	281	0.183	0.0	1.0	0.0	0.116	1.0	34.9	10.0	−46.2	47.4	282	0.183	0.0	1.0	
304	282	283	0.2	0.0	1.0	31.2	27.8	−40.6	49.2	304	0.0	0.118	1.0	34.9	9.8	−46.2	47.4	282	0.2	0.0	1.0	0.0	0.103	1.0	34.6	10.8	−46.1	47.4	283	0.2	0.0	1.0	
305	283	284	0.216	0.0	1.0	31.1	28.7	−40.2	49.4	305	0.0	0.104	1.0	34.7	10.7	−46.1	47.4	283	0.217	0.0	1.0	0.0	0.09	1.0	34.4	11.5	−45.9	47.4	284	0.217	0.0	1.0	
306	284	285	0.233	0.0	1.0	31.1	29.6	−39.8	49.6	306	0.0	0.091	1.0	34.4	11.5	−45.9	47.4	284	0.233	0.0	1.0	0.0	0.078	1.0	34.1	12.3	−45.8	47.5	285	0.233	0.0	1.0	
307	285	285	0.25	0.0	1.0	31.0	30.5	−39.3	49.8	307	0.0	0.078	1.0	34.1	12.3	−45.8	47.5	285	0.25	0.0	1.0	0.0	0.065	1.0	33.9	13.1	−45.6	47.5	285	0.25	0.0	1.0	
309	286	286	0.266	0.0	1.0	31.4	31.6	−38.8	50.1	309	0.0	0.064	1.0	33.9	13.1	−45.6	47.5	286	0.267	0.0	1.0	0.0	0.052	1.0	33.6	13.8	−45.4	47.6	286	0.267	0.0	1.0	
310	287	287	0.283	0.0	1.0	31.8	32.6	−38.3	50.3	310	0.0	0.051	1.0	33.6	13.9	−45.4	47.6	287	0.283	0.0	1.0	0.0	0.04	1.0	33.4	14.6	−45.2	47.6	287	0.283	0.0	1.0	
311	288	288	0.3	0.0	1.0	32.3	33.6	−37.8	50.6	311	0.0	0.038	1.0	33.3	14.7	−45.2	47.6	288	0.3	0.0	1.0	0.0	0.027	1.0	33.1	15.4	−45.0	47.6	288	0.3	0.0	1.0	
312	289	289	0.316	0.0	1.0	32.7	34.7	−37.2	50.9	312	0.0	0.024	1.0	33.1	15.5	−44.9	47.6	289	0.317	0.0	1.0	0.0	0.014	1.0	32.9	16.1	−44.8	47.7	289	0.317	0.0	1.0	
314	290	290	0.333	0.0	1.0	33.1	35.7	−36.6	51.2	314	0.0	0.011	1.0	32.8	16.3	−44.7	47.7	290	0.333	0.0	1.0	0.0	0.001	1.0	32.6	16.9	−44.5	47.7	290	0.333	0.0	1.0	
315	291	291	0.35	0.0	1.0	33.6	36.7	−36.0	51.4	315	0.003	0.0	1.0	32.5	17.1	−44.5	47.7	291	0.35	0.0	1.0	0.012	0.0	1.0	32.5	17.6	−44.3	47.8	291	0.35	0.0	1.0	
316	292	292	0.366	0.0	1.0	34.0	37.7	−35.3	51.7	316	0.018	0.0	1.0	32.4	17.9	−44.2	47.8	292	0.367	0.0	1.0	0.026	0.0	1.0	32.4	18.4	−44.1	47.9	292	0.367	0.0	1.0	
317	293	293	0.383	0.0	1.0	34.4	38.5	−34.7	51.9	317	0.033	0.0	1.0	32.3	18.7	−44.0	47.9	293	0.383	0.0	1.0	0.041	0.0	1.0	32.3	19.1	−43.9	47.9	293	0.383	0.0	1.0	
318	294	294	0.4	0.0	1.0	34.8	39.2	−34.2	52.1	318	0.047	0.0	1.0	32.2	19.5	−43.7	48.0	294	0.4	0.0	1.0	0.055	0.0	1.0	32.1	19.9	−43.6	48.0	294	0.4	0.0	1.0	
319	295	295	0.416	0.0	1.0	35.2	39.9	−33.7	52.2	319	0.062	0.0	1.0	32.1	20.3	−43.5	48.1	295	0.417	0.0	1.0	0.069	0.0	1.0	32.0	20.7	−43.3	48.1	295	0.417	0.0	1.0	
320	296	296	0.433	0.0	1.0	35.6	40.5	−33.1	52.4	320	0.077	0.0	1.0	32.0	21.1	−43.2	48.1	296	0.433	0.0	1.0	0.083	0.0	1.0	31.9	21.4	−43.1	48.2	296	0.433	0.0	1.0	
321	297	297	0.45	0.0	1.0	36.0	41.2	−32.6	52.5	321	0.092	0.0	1.0	31.9	21.9	−42.9	48.2	297	0.45	0.0	1.0	0.097	0.0	1.0	31.8	22.2	−42.8	48.2	297	0.45	0.0	1.0	
322	298	298	0.466	0.0	1.0	36.4	41.8	−32.0	52.7	322	0.107	0.0	1.0	31.7	22.7	−42.5	48.3	298	0.467	0.0	1.0	0.111	0.0	1.0	31.7	22.9	−42.5	48.3	298	0.467	0.0	1.0	
323	299	299	0.483	0.0	1.0	36.8	42.5	−31.4	52.9	323	0.122	0.0	1.0	31.6	23.5	−42.2	48.4	299	0.483	0.0	1.0	0.125	0.0	1.0	31.6	23.6	−42.1	48.4	299	0.483	0.0	1.0	
324	300	300	0.5	0.0	1.0	37.2	43.1	−30.8	53.0	324	0.136	0.0	1.0	31.6	24.3	−41.9	48.5	300	0.5	0.0	1.0	0.139	0.0	1.0	31.5	24.4	−41.9	48.6	300	0.5	0.0	1.0	

1−0131430−L0 PE890−71 LAB*la0, YN=0%, XYZnw=3.9, 4.1, 4.1, 84.7, 89.6, 93.9, LAB*nw=23.9, 0.0, 0.0, 95.8, 0.0, 0.0 Output: Laser printer output; separation cmyn6*, D65, page 15/33

TUB-test chart PE89; 16 step hue circle
48 step hue circles; *rgb*−*LabCh**tables

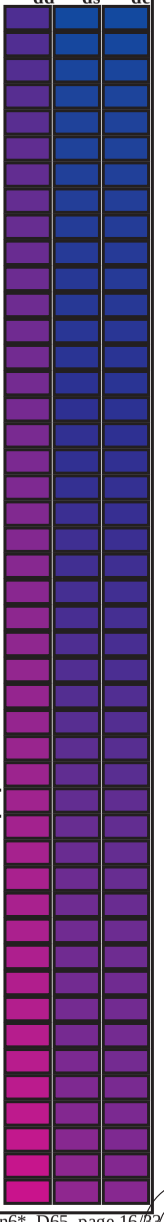
input: *rgb/cmyk* −> *rgb*$_e$
output: transfer to *cmyk*$_e$

see similar files: http://130.149.60.45/~farbmetrik/PE89/PE89.HTM
technical information: http://www.ps.bam.de or http://130.149.60.45/~farbmetrik

TUB registration: 20150701-PE89/PE89L0NP.PDF /.PS
application for measurement of laser printer output, separation cmyn6 (CMYK)
TUB material: code=rha4ta

Data of Maximum color M in colorimetric system Laser printer output; separation cmyn6*, D65 for input or output; Six hue angles of the 60 degree standard colours *RYGCBM*$_s$: $h_{ab,ds}$ = 30.0, 90.0, 150.0, 210.0, 270.0, 330.0; Six hue angles of the device colours *RYGCBM*$_d$: $h_{ab,d}$ = 33.5, 100.6, 155.5, 235.2, 290.8, 348.9; Six hue angles of the elementary colours *RYGCBM*$_e$: $h_{ab,e}$ = 25.5, 92.3, 162.2, 217.0, 271.7, 328.6

$h_{ab,d}$	$h_{ab,s}$	$h_{ab,e}$	*rgb**dd361M			*LAB**ddx361Mi (x=LabCh)					*rgb**ds361Mi			*LAB**dsx361Mi (x=LabCh)					*rgb**dd361Mi			*rgb**de361Mi			*LAB**dex361Mi (x=LabCh)					*rgb**dd361Mi		
324	300	300	0.5	0.0	1.0	37.2	43.1	−30.8	53.0	324	0.136	0.0	1.0	31.6	24.3	−41.9	48.5	300	0.5	0.0	1.0	0.139	0.0	1.0	31.5	24.4	−41.9	48.6	300	0.5	0.0	1.0
325	301	301	0.516	0.0	1.0	37.4	43.8	−30.4	53.4	325	0.151	0.0	1.0	31.5	25.1	−41.6	48.7	301	0.517	0.0	1.0	0.153	0.0	1.0	31.5	25.2	−41.6	48.7	301	0.517	0.0	1.0
326	302	302	0.533	0.0	1.0	37.7	44.5	−29.9	53.7	326	0.165	0.0	1.0	31.4	25.9	−41.3	48.9	302	0.533	0.0	1.0	0.166	0.0	1.0	31.4	26.0	−41.3	48.9	302	0.533	0.0	1.0
326	303	303	0.55	0.0	1.0	37.9	45.3	−29.5	54.0	326	0.18	0.0	1.0	31.4	26.7	−41.0	49.0	303	0.55	0.0	1.0	0.18	0.0	1.0	31.4	26.7	−41.0	49.0	303	0.55	0.0	1.0
327	304	303	0.566	0.0	1.0	38.2	46.0	−29.0	54.4	327	0.194	0.0	1.0	31.3	27.5	−40.7	49.2	304	0.567	0.0	1.0	0.194	0.0	1.0	31.3	27.5	−40.7	49.2	303	0.567	0.0	1.0
328	305	304	0.583	0.0	1.0	38.4	46.7	−28.5	54.7	328	0.209	0.0	1.0	31.2	28.3	−40.3	49.4	305	0.583	0.0	1.0	0.208	0.0	1.0	31.2	28.3	−40.4	49.4	304	0.583	0.0	1.0
329	306	305	0.6	0.0	1.0	38.7	47.4	−28.0	55.1	329	0.224	0.0	1.0	31.1	29.1	−40.0	49.5	306	0.6	0.0	1.0	0.222	0.0	1.0	31.2	29.0	−40.0	49.5	305	0.6	0.0	1.0
330	307	306	0.616	0.0	1.0	38.9	48.1	−27.5	55.4	330	0.238	0.0	1.0	31.1	29.9	−39.6	49.7	307	0.617	0.0	1.0	0.235	0.0	1.0	31.1	29.8	−39.7	49.7	306	0.617	0.0	1.0
331	308	307	0.633	0.0	1.0	39.2	48.9	−26.9	55.8	331	0.252	0.0	1.0	31.1	30.7	−39.2	49.9	308	0.633	0.0	1.0	0.249	0.0	1.0	31.0	30.5	−39.3	49.8	307	0.633	0.0	1.0
332	309	308	0.65	0.0	1.0	39.6	49.8	−26.2	56.3	332	0.265	0.0	1.0	31.4	31.5	−38.8	50.1	309	0.65	0.0	1.0	0.261	0.0	1.0	31.3	31.3	−39.0	50.0	308	0.65	0.0	1.0
333	310	309	0.666	0.0	1.0	40.0	50.7	−25.4	56.8	333	0.278	0.0	1.0	31.8	32.3	−38.4	50.3	310	0.667	0.0	1.0	0.274	0.0	1.0	31.6	32.1	−38.6	50.2	309	0.667	0.0	1.0
334	311	310	0.683	0.0	1.0	40.4	51.6	−24.7	57.2	334	0.291	0.0	1.0	32.1	33.1	−38.0	50.5	311	0.683	0.0	1.0	0.286	0.0	1.0	32.0	32.8	−38.2	50.4	310	0.683	0.0	1.0
335	312	311	0.7	0.0	1.0	40.7	52.5	−23.9	57.7	335	0.304	0.0	1.0	32.4	33.9	−37.6	50.7	312	0.7	0.0	1.0	0.298	0.0	1.0	32.3	33.6	−37.8	50.6	311	0.7	0.0	1.0
336	313	312	0.716	0.0	1.0	41.1	53.4	−23.1	58.2	336	0.317	0.0	1.0	32.8	34.7	−37.2	50.9	313	0.717	0.0	1.0	0.31	0.0	1.0	32.6	34.3	−37.4	50.8	312	0.717	0.0	1.0
337	314	313	0.733	0.0	1.0	41.5	54.3	−22.3	58.7	337	0.33	0.0	1.0	33.1	35.5	−36.7	51.1	314	0.733	0.0	1.0	0.323	0.0	1.0	32.9	35.1	−37.0	51.0	313	0.733	0.0	1.0
338	315	314	0.75	0.0	1.0	41.8	55.1	−21.4	59.1	338	0.343	0.0	1.0	33.4	36.3	−36.2	51.4	315	0.75	0.0	1.0	0.335	0.0	1.0	33.2	35.8	−36.5	51.2	314	0.75	0.0	1.0
339	316	315	0.766	0.0	1.0	42.4	55.8	−20.9	59.6	339	0.356	0.0	1.0	33.8	37.1	−35.7	51.6	316	0.767	0.0	1.0	0.347	0.0	1.0	33.5	36.6	−36.0	51.4	315	0.767	0.0	1.0
340	317	316	0.783	0.0	1.0	42.9	56.5	−20.4	60.1	340	0.368	0.0	1.0	34.1	37.9	−35.2	51.8	317	0.783	0.0	1.0	0.359	0.0	1.0	33.9	37.3	−35.6	51.6	316	0.783	0.0	1.0
340	318	317	0.8	0.0	1.0	43.4	57.2	−19.8	60.5	340	0.384	0.0	1.0	34.5	38.6	−34.7	52.0	318	0.8	0.0	1.0	0.371	0.0	1.0	34.2	38.0	−35.1	51.8	317	0.8	0.0	1.0
341	319	318	0.816	0.0	1.0	43.9	57.8	−19.3	61.0	341	0.402	0.0	1.0	34.9	39.3	−34.1	52.1	319	0.817	0.0	1.0	0.387	0.0	1.0	34.6	38.8	−34.6	52.0	318	0.817	0.0	1.0
342	320	319	0.833	0.0	1.0	44.4	58.5	−18.7	61.4	342	0.42	0.0	1.0	35.3	40.1	−33.5	52.3	320	0.833	0.0	1.0	0.404	0.0	1.0	35.0	39.4	−34.0	52.2	319	0.833	0.0	1.0
342	321	320	0.85	0.0	1.0	44.9	59.1	−18.2	61.9	342	0.438	0.0	1.0	35.8	40.8	−32.9	52.5	321	0.85	0.0	1.0	0.421	0.0	1.0	35.4	40.1	−33.5	52.3	320	0.85	0.0	1.0
343	322	321	0.866	0.0	1.0	45.4	59.8	−17.6	62.3	343	0.456	0.0	1.0	36.2	41.5	−32.3	52.7	322	0.867	0.0	1.0	0.439	0.0	1.0	35.8	40.8	−32.9	52.5	321	0.867	0.0	1.0
344	323	321	0.883	0.0	1.0	45.8	60.5	−17.0	62.8	344	0.474	0.0	1.0	36.6	42.2	−31.7	52.8	323	0.883	0.0	1.0	0.456	0.0	1.0	36.2	41.5	−32.3	52.6	321	0.883	0.0	1.0
344	324	322	0.9	0.0	1.0	46.1	61.2	−16.4	63.4	344	0.492	0.0	1.0	37.1	42.9	−31.1	53.0	324	0.9	0.0	1.0	0.473	0.0	1.0	36.6	42.1	−31.7	52.8	322	0.9	0.0	1.0
345	325	323	0.916	0.0	1.0	46.5	61.9	−15.9	63.9	345	0.512	0.0	1.0	37.4	43.7	−30.5	53.3	325	0.917	0.0	1.0	0.49	0.0	1.0	37.0	42.8	−31.1	53.0	323	0.917	0.0	1.0
346	326	324	0.933	0.0	1.0	46.8	62.6	−15.3	64.5	346	0.532	0.0	1.0	37.7	44.5	−29.9	53.7	326	0.933	0.0	1.0	0.508	0.0	1.0	37.4	43.5	−30.6	53.2	324	0.933	0.0	1.0
346	327	325	0.95	0.0	1.0	47.1	63.3	−14.6	65.0	346	0.552	0.0	1.0	38.0	45.4	−29.4	54.1	327	0.95	0.0	1.0	0.527	0.0	1.0	37.6	44.3	−30.1	53.6	325	0.95	0.0	1.0
347	328	326	0.966	0.0	1.0	47.5	64.0	−14.0	65.5	347	0.572	0.0	1.0	38.3	46.2	−28.8	54.5	328	0.967	0.0	1.0	0.546	0.0	1.0	37.9	45.1	−29.5	54.0	326	0.967	0.0	1.0
348	329	327	0.983	0.0	1.0	47.8	64.7	−13.4	66.1	348	0.592	0.0	1.0	38.6	47.1	−28.2	54.9	329	0.983	0.0	1.0	0.565	0.0	1.0	38.2	46.0	−29.0	54.4	327	0.983	0.0	1.0
348	330	328	1.0	0.0	1.0	48.1	65.4	−12.7	66.6	348	M_d 0.612	0.0	1.0	38.9	47.9	−27.6	55.4	330	M_s 1.0	0.0	1.0	0.584	0.0	1.0	38.5	46.8	−28.4	54.8	328	M_e 1.0	0.0	1.0
349	331	329	1.0	0.0	0.983	48.3	65.5	−12.5	66.7	349	0.631	0.0	1.0	39.2	48.8	−26.9	55.8	331	1.0	0.0	0.983	0.603	0.0	1.0	38.8	47.6	−27.9	55.2	329	1.0	0.0	0.983
349	332	330	1.0	0.0	0.966	48.5	65.6	−12.2	66.7	349	0.646	0.0	1.0	39.6	49.6	−26.3	56.2	332	1.0	0.0	0.967	0.623	0.0	1.0	39.1	48.4	−27.3	55.6	330	1.0	0.0	0.967
349	333	331	1.0	0.0	0.95	48.7	65.7	−11.9	66.8	349	0.662	0.0	1.0	39.9	50.5	−25.6	56.7	333	1.0	0.0	0.95	0.638	0.0	1.0	39.4	49.2	−26.7	56.0	331	1.0	0.0	0.95
349	334	332	1.0	0.0	0.933	48.9	65.8	−11.7	66.8	349	0.677	0.0	1.0	40.3	51.3	−24.9	57.1	334	1.0	0.0	0.933	0.652	0.0	1.0	39.7	50.0	−26.0	56.4	332	1.0	0.0	0.933
350	335	333	1.0	0.0	0.916	49.0	65.9	−11.4	66.9	350	0.692	0.0	1.0	40.6	52.1	−24.2	57.5	335	1.0	0.0	0.917	0.667	0.0	1.0	40.0	50.8	−25.4	56.8	333	1.0	0.0	0.917
350	336	334	1.0	0.0	0.9	49.2	66.0	−11.1	66.9	350	0.708	0.0	1.0	41.0	53.0	−23.5	58.0	336	1.0	0.0	0.9	0.681	0.0	1.0	40.4	51.6	−24.7	57.2	334	1.0	0.0	0.9
350	337	335	1.0	0.0	0.883	49.4	66.1	−10.9	67.0	350	0.723	0.0	1.0	41.3	53.8	−22.7	58.4	337	1.0	0.0	0.883	0.696	0.0	1.0	40.7	52.3	−24.0	57.6	335	1.0	0.0	0.883
350	338	336	1.0	0.0	0.866	49.5	66.0	−10.4	66.9	350	0.738	0.0	1.0	41.6	54.6	−22.0	58.9	338	1.0	0.0	0.867	0.711	0.0	1.0	41.0	53.1	−23.3	58.1	336	1.0	0.0	0.867
351	339	337	1.0	0.0	0.85	49.4	65.8	−9.9	66.6	351	0.756	0.0	1.0	42.1	55.4	−21.2	59.4	339	1.0	0.0	0.85	0.725	0.0	1.0	41.3	53.9	−22.6	58.5	337	1.0	0.0	0.85
351	340	338	1.0	0.0	0.833	49.4	65.6	−9.3	66.3	351	0.78	0.0	1.0	42.8	56.4	−20.4	60.0	340	1.0	0.0	0.833	0.74	0.0	1.0	41.7	54.6	−21.9	58.9	338	1.0	0.0	0.833
352	341	339	1.0	0.0	0.816	49.4	65.4	−8.7	66.0	352	0.804	0.0	1.0	43.5	57.4	−19.7	60.7	341	1.0	0.0	0.817	0.757	0.0	1.0	42.1	55.5	−21.1	59.4	339	1.0	0.0	0.817
352	342	339	1.0	0.0	0.8	49.4	65.2	−8.2	65.7	352	0.828	0.0	1.0	44.3	58.3	−18.9	61.3	342	1.0	0.0	0.8	0.78	0.0	1.0	42.8	56.4	−20.4	60.0	339	1.0	0.0	0.8
353	343	340	1.0	0.0	0.783	49.3	65.0	−7.6	65.4	353	0.852	0.0	1.0	45.0	59.3	−18.0	62.0	343	1.0	0.0	0.783	0.802	0.0	1.0	43.5	57.3	−19.7	60.6	340	1.0	0.0	0.783
353	344	341	1.0	0.0	0.766	49.3	64.7	−7.1	65.1	353	0.877	0.0	1.0	45.7	60.2	−17.2	62.7	344	1.0	0.0	0.767	0.825	0.0	1.0	44.2	58.2	−19.0	61.3	341	1.0	0.0	0.767
354	345	342	1.0	0.0	0.75	49.3	64.5	−6.5	64.8	354	0.902	0.0	1.0	46.2	61.3	−16.3	63.5	345	1.0	0.0	0.75	0.848	0.0	1.0	44.9	59.1	−18.2	61.9	342	1.0	0.0	0.75



1−0131530−L0 PE890−71 LAB*la0, YN=0%, XYZnw=3.9, 4.1, 4.1, 84.7, 89.6, 93.9, LAB*nw=23.9, 0.0, 0.0, 95.8, 0.0, 0.0 Output: Laser printer output; separation cmyn6*, D65, page 16/33

TUB-test chart PE89; 16 step hue circle
48 step hue circles; *rgb−LabCh**tables

input: *rgb/cmyk* −> *rgb*$_e$
output: transfer to *cmyk*$_e$

see similar files: http://130.149.60.45/~farbmetrik/PE89/PE89.HTM
technical information: http://www.ps.bam.de or http://130.149.60.45/~farbmetrik

TUB registration: 20150701-PE89/PE89L0NP.PDF /.PS
application for measurement of laser printer output, separation cmyn6 (CMYK)

TUB material: code=rha4ta

Data of Maximum color M in colorimetric system Laser printer output; separation cmyn6*, D65 for input or output; Six hue angles of the 60 degree standard colours *RYGCBM*$_s$: $h_{ab,ds}$ = 30.0, 90.0, 150.0, 210.0, 270.0, 330.0; Six hue angles of the device colours *RYGCBM*$_d$: $h_{ab,d}$ = 33.5, 100.6, 155.5, 235.2, 290.8, 348.9; Six hue angles of the elementary colours *RYGCBM*$_e$: $h_{ab,e}$ = 25.5, 92.3, 162.2, 217.0, 271.7, 328.6

$h_{ab,d}$	$h_{ab,s}$	$h_{ab,e}$	*rgb**			dd361M			*LAB**	ddx361Mi (x=LabCh)				*rgb**			ds361Mi			*LAB**	dsx361Mi (x=LabCh)				*rgb**			dd361Mi			*rgb**			de361Mi			*LAB**	dex361Mi (x=LabCh)				*rgb**			dd361Mi		
354	345	342	1.0	0.0	0.75		49.3	64.5	−6.5	64.8	354	0.902	0.0	1.0		46.2	61.3	−16.3	63.5	345	1.0	0.0	0.75	0.848	0.0	1.0		44.9	59.1	−18.2	61.9	342	1.0	0.0	0.75
355	346	343	1.0	0.0	0.733		49.1	64.2	−5.3	64.4	355	0.926	0.0	1.0		46.7	62.4	−15.5	64.3	346	1.0	0.0	0.733	0.871	0.0	1.0		45.6	60.0	−17.4	62.5	343	1.0	0.0	0.733
356	347	344	1.0	0.0	0.716		48.9	63.9	−4.1	64.0	356	0.951	0.0	1.0		47.2	63.4	−14.5	65.1	347	1.0	0.0	0.717	0.895	0.0	1.0		46.1	61.0	−16.6	63.2	344	1.0	0.0	0.717
357	348	345	1.0	0.0	0.7		48.7	63.5	−2.9	63.6	357	0.976	0.0	1.0		47.7	64.5	−13.6	65.9	348	1.0	0.0	0.7	0.918	0.0	1.0		46.5	62.0	−15.7	64.0	345	1.0	0.0	0.7
358	349	346	1.0	0.0	0.683		48.6	63.2	−1.8	63.2	358	1.0	0.0	0.996		48.2	65.4	−12.6	66.7	349	1.0	0.0	0.683	0.942	0.0	1.0		47.0	63.0	−14.9	64.8	346	1.0	0.0	0.683
359	350	347	1.0	0.0	0.666		48.4	62.8	−0.6	62.8	359	1.0	0.0	0.927		49.0	65.9	−11.5	66.9	350	1.0	0.0	0.667	0.966	0.0	1.0		47.5	64.0	−14.0	65.5	347	1.0	0.0	0.667
360	351	348	1.0	0.0	0.65		48.2	62.4	0.4	62.4	360	1.0	0.0	0.866		49.5	66.1	−10.4	66.9	351	1.0	0.0	0.65	0.989	0.0	1.0		48.0	65.0	−13.1	66.3	348	1.0	0.0	0.65
361	352	349	1.0	0.0	0.633		48.0	62.0	1.5	62.0	361	1.0	0.0	0.83		49.5	65.6	−9.1	66.3	352	1.0	0.0	0.633	1.0	0.0	0.964		48.6	65.6	−12.1	66.8	349	1.0	0.0	0.633
362	353	350	1.0	0.0	0.616		47.9	61.6	2.7	61.7	362	1.0	0.0	0.794		49.4	65.2	−7.9	65.6	353	1.0	0.0	0.617	1.0	0.0	0.899		49.3	66.0	−11.1	67.0	350	1.0	0.0	0.617
363	354	351	1.0	0.0	0.6		47.9	61.3	3.8	61.4	363	1.0	0.0	0.757		49.3	64.7	−6.7	65.0	354	1.0	0.0	0.6	1.0	0.0	0.853		49.5	65.9	−9.9	66.7	351	1.0	0.0	0.6
364	355	352	1.0	0.0	0.583		47.9	60.9	4.9	61.1	364	1.0	0.0	0.737		49.2	64.3	−5.5	64.6	355	1.0	0.0	0.583	1.0	0.0	0.819		49.4	65.5	−8.7	66.1	352	1.0	0.0	0.583
365	356	353	1.0	0.0	0.566		47.9	60.6	6.0	60.9	365	1.0	0.0	0.721		49.0	64.0	−4.4	64.2	356	1.0	0.0	0.567	1.0	0.0	0.785		49.4	65.0	−7.6	65.5	353	1.0	0.0	0.567
366	357	354	1.0	0.0	0.55		47.8	60.2	7.1	60.6	366	1.0	0.0	0.705		48.9	63.7	−3.2	63.8	357	1.0	0.0	0.55	1.0	0.0	0.75		49.3	64.6	−6.5	64.9	354	1.0	0.0	0.55
367	358	355	1.0	0.0	0.533		47.8	59.8	8.2	60.4	367	1.0	0.0	0.689		48.7	63.4	−2.1	63.4	358	1.0	0.0	0.533	1.0	0.0	0.735		49.2	64.3	−5.4	64.5	355	1.0	0.0	0.533
368	359	356	1.0	0.0	0.516		47.8	59.4	9.3	60.1	368	1.0	0.0	0.673		48.5	63.0	−1.0	63.0	359	1.0	0.0	0.517	1.0	0.0	0.72		49.0	64.0	−4.3	64.1	356	1.0	0.0	0.517
370	360	352	1.0	0.0	0.5		47.8	58.9	10.4	59.9	370	1.0	0.0	0.657		48.3	62.6	0.0	62.6	360	1.0	0.0	0.5	1.0	0.0	0.828		49.5	65.6	−9.0	66.2	352	1.0	0.0	0.5
371	361	353	1.0	0.0	0.483		47.7	58.7	11.6	59.9	371	1.0	0.0	0.641		48.2	62.2	1.1	62.2	361	1.0	0.0	0.483	1.0	0.0	0.787		49.4	65.1	−7.7	65.5	353	1.0	0.0	0.483
372	362	354	1.0	0.0	0.466		47.7	58.5	12.8	59.9	372	1.0	0.0	0.625		48.0	61.8	2.2	61.8	362	1.0	0.0	0.467	1.0	0.0	0.749		49.3	64.5	−6.4	64.8	354	1.0	0.0	0.467
373	363	355	1.0	0.0	0.45		47.6	58.3	14.0	59.9	373	1.0	0.0	0.609		48.0	61.5	3.2	61.6	363	1.0	0.0	0.45	1.0	0.0	0.731		49.1	64.2	−5.1	64.4	355	1.0	0.0	0.45
374	364	356	1.0	0.0	0.433		47.5	58.0	15.2	60.0	374	1.0	0.0	0.594		48.0	61.2	4.3	61.4	364	1.0	0.0	0.433	1.0	0.0	0.713		48.9	63.9	−3.8	64.0	356	1.0	0.0	0.433
375	365	357	1.0	0.0	0.416		47.5	57.7	16.5	60.0	375	1.0	0.0	0.578		47.9	60.9	5.3	61.1	365	1.0	0.0	0.417	1.0	0.0	0.695		48.7	63.5	−2.5	63.5	357	1.0	0.0	0.417
377	366	358	1.0	0.0	0.4		47.4	57.3	17.7	60.0	377	1.0	0.0	0.562		47.9	60.5	6.4	60.9	366	1.0	0.0	0.4	1.0	0.0	0.677		48.6	63.1	−1.3	63.1	358	1.0	0.0	0.4
378	367	359	1.0	0.0	0.383		47.4	57.0	18.9	60.0	378	1.0	0.0	0.547		47.9	60.2	7.4	60.6	367	1.0	0.0	0.383	1.0	0.0	0.659		48.4	62.7	−0.1	62.7	359	1.0	0.0	0.383
379	368	360	1.0	0.0	0.366		47.4	56.8	20.0	60.2	379	1.0	0.0	0.531		47.9	59.8	8.4	60.4	368	1.0	0.0	0.367	1.0	0.0	0.641		48.2	62.2	1.1	62.2	360	1.0	0.0	0.367
380	369	362	1.0	0.0	0.35		47.4	56.7	21.1	60.5	380	1.0	0.0	0.516		47.8	59.4	9.4	60.2	369	1.0	0.0	0.35	1.0	0.0	0.624		48.0	61.8	2.3	61.8	362	1.0	0.0	0.35
381	370	363	1.0	0.0	0.333		47.4	56.6	22.1	60.8	381	1.0	0.0	0.5		47.8	59.0	10.4	59.9	370	1.0	0.0	0.333	1.0	0.0	0.606		48.0	61.5	3.4	61.5	363	1.0	0.0	0.333
382	371	364	1.0	0.0	0.316		47.4	56.5	23.2	61.1	382	1.0	0.0	0.486		47.8	58.8	11.4	59.9	371	1.0	0.0	0.317	1.0	0.0	0.589		47.9	61.1	4.6	61.3	364	1.0	0.0	0.317
383	372	365	1.0	0.0	0.3		47.5	56.4	24.3	61.4	383	1.0	0.0	0.472		47.7	58.6	12.5	60.0	372	1.0	0.0	0.3	1.0	0.0	0.571		47.9	60.7	5.8	61.0	365	1.0	0.0	0.3
384	373	366	1.0	0.0	0.283		47.5	56.2	25.4	61.7	384	1.0	0.0	0.458		47.7	58.4	13.5	60.0	373	1.0	0.0	0.283	1.0	0.0	0.554		47.9	60.3	6.9	60.7	366	1.0	0.0	0.283
385	374	367	1.0	0.0	0.266		47.5	56.1	26.5	62.0	385	1.0	0.0	0.444		47.6	58.2	14.5	60.0	374	1.0	0.0	0.267	1.0	0.0	0.537		47.9	59.9	8.1	60.5	367	1.0	0.0	0.267
386	375	368	1.0	0.0	0.25		47.5	55.9	27.5	62.3	386	1.0	0.0	0.43		47.6	58.0	15.5	60.0	375	1.0	0.0	0.25	1.0	0.0	0.519		47.8	59.5	9.2	60.2	368	1.0	0.0	0.25
386	376	369	1.0	0.0	0.233		47.5	56.0	28.4	62.8	386	1.0	0.0	0.416		47.5	57.7	16.5	60.0	376	1.0	0.0	0.233	1.0	0.0	0.502		47.8	59.1	10.3	59.9	369	1.0	0.0	0.233
387	377	370	1.0	0.0	0.216		47.6	56.1	29.3	63.3	387	1.0	0.0	0.402		47.5	57.4	17.6	60.1	377	1.0	0.0	0.217	1.0	0.0	0.486		47.8	58.8	11.4	59.9	370	1.0	0.0	0.217
388	378	372	1.0	0.0	0.2		47.6	56.1	30.2	63.8	388	1.0	0.0	0.388		47.5	57.1	18.6	60.1	378	1.0	0.0	0.2	1.0	0.0	0.471		47.7	58.6	12.6	60.0	372	1.0	0.0	0.2
388	379	373	1.0	0.0	0.183		47.6	56.2	31.1	64.2	388	1.0	0.0	0.374		47.4	56.8	19.6	60.1	379	1.0	0.0	0.183	1.0	0.0	0.455		47.7	58.4	13.7	60.0	373	1.0	0.0	0.183
389	380	374	1.0	0.0	0.166		47.6	56.3	32.0	64.7	389	1.0	0.0	0.357		47.4	56.8	20.7	60.4	380	1.0	0.0	0.167	1.0	0.0	0.439		47.6	58.1	14.9	60.0	374	1.0	0.0	0.167
390	381	375	1.0	0.0	0.15		47.6	56.3	32.9	65.2	390	1.0	0.0	0.34		47.5	56.7	21.8	60.7	381	1.0	0.0	0.15	1.0	0.0	0.424		47.6	57.9	16.0	60.0	375	1.0	0.0	0.15
390	382	376	1.0	0.0	0.133		47.6	56.3	33.8	65.7	390	1.0	0.0	0.323		47.5	56.6	22.9	61.0	382	1.0	0.0	0.133	1.0	0.0	0.408		47.5	57.6	17.1	60.0	376	1.0	0.0	0.133
391	383	377	1.0	0.0	0.116		47.6	56.4	34.5	66.1	391	1.0	0.0	0.306		47.5	56.5	24.0	61.4	383	1.0	0.0	0.117	1.0	0.0	0.393		47.5	57.2	18.2	60.1	377	1.0	0.0	0.117
391	384	378	1.0	0.0	0.1		47.6	56.5	34.9	66.5	391	1.0	0.0	0.289		47.5	56.3	25.1	61.7	384	1.0	0.0	0.1	1.0	0.0	0.377		47.4	56.9	19.4	60.1	378	1.0	0.0	0.1
392	385	379	1.0	0.0	0.083		47.6	56.6	35.4	66.8	392	1.0	0.0	0.272		47.6	56.2	26.2	62.0	385	1.0	0.0	0.083	1.0	0.0	0.358		47.4	56.8	20.6	60.4	379	1.0	0.0	0.083
392	386	381	1.0	0.0	0.066		47.6	56.7	35.9	67.2	392	1.0	0.0	0.255		47.6	56.0	27.3	62.3	386	1.0	0.0	0.067	1.0	0.0	0.339		47.5	56.7	21.8	60.7	381	1.0	0.0	0.067
392	387	382	1.0	0.0	0.049		47.6	56.9	36.4	67.5	392	1.0	0.0	0.232		47.6	56.0	28.5	62.9	387	1.0	0.0	0.05	1.0	0.0	0.32		47.5	56.6	23.0	61.1	382	1.0	0.0	0.05
392	388	383	1.0	0.0	0.033		47.6	57.0	36.8	67.9	392	1.0	0.0	0.207		47.6	56.2	29.9	63.6	388	1.0	0.0	0.033	1.0	0.0	0.301		47.5	56.4	24.2	61.4	383	1.0	0.0	0.033
393	389	384	1.0	0.0	0.016		47.6	57.1	37.3	68.2	393	1.0	0.0	0.182		47.6	56.3	31.2	64.3	389	1.0	0.0	0.017	1.0	0.0	0.282		47.5	56.3	25.5	61.8	384	1.0	0.0	0.017
393	390	385	1.0	0.0	0.0		47.5	57.2	37.8	68.6	393	***R*$_d$**	1.0	0.0	0.158	47.7	56.3	32.5	65.0	390	***R*$_s$**	1.0	0.0	0.0	1.0	0.0	0.263	47.6	56.1	26.7	62.1	385	***R*$_e$**	1.0	0.0	0.0

*rgb**$_{dd}$ *rgb**$_{ds}$ *rgb**$_{de}$

1−0131630−L0 PE890−71 LAB*la0, YN=0%, XYZnw=3.9, 4.1, 4.1, 84.7, 89.6, 93.9, LAB*nw=23.9, 0.0, 0.0, 95.8, 0.0, 0.0 Output: Laser printer output; separation cmyn6*, D65, page 17/33

TUB-test chart PE89; 16 step hue circle
48 step hue circles; *rgb*−*LabCh**tables

input: *rgb/cmyk* −> *rgb*$_e$
output: transfer to *cmyk*$_e$

see similar files: http://130.149.60.45/~farbmetrik/PE89/PE89.HTM
technical information: http://www.ps.bam.de or http://130.149.60.45/~farbmetrik

TUB registration: 20150701-PE89/PE89L0NP.PDF /.PS TUB material: code=rha4ta
application for measurement of laser printer output, separation cmyn6 (CMYK)

1−0131630−F0

see similar files: http://130.149.60.45/~farbmetrik/PE89/PE89.HTM
technical information: http://www.ps.bam.de or http://130.149.60.45/~farbmetrik

TUB registration: 20150701-PE89/PE89L0NP.PDF /.PS
application for measurement of laser printer output, separation cmyn6 (CMYK)
TUB material: code=rha4ta

n/j	HIC*$_{Fe}$	*rgb*$_{Fe}$			*ict*$_{Fe}$			$h_{si\_F,e}$	*rgb**$_{Fe}$			*LabCh**$_{Fe}$					*rgb*'$_{Fe}$			*LabCh*'$_{Fe}$					*DE*'$_{Fe}$	$h_{siM,e}$	*rgb**$_{Me}$			*LabCh**$_{Me}$			
0/648	R00Y_100_100$_e$	1.0	0.0	0.0	1.0	1.0	0.5	390	1.0	0.0	0.263	47.5	56.0	26.7	62.1	25.4	1.0	0.0	0.0	47.5	57.2	37.8	68.6	33.4	11.1	375	1.0	0.0	0.263	47.5	56.0	26.7	62.1	25.4
1/657	R13Y_100_100$_e$	1.0	0.125	0.0	1.0	1.0	0.5	37	1.0	0.0	0.012	47.5	57.1	37.5	68.3	33.2	1.0	0.125	0.0	51.9	54.3	49.2	73.2	42.1	12.8	389	1.0	0.0	0.012	47.5	57.1	37.5	68.3	33.2
2/666	R25Y_100_100$_e$	1.0	0.25	0.0	1.0	1.0	0.5	44	1.0	0.108	0.0	51.4	54.8	47.7	72.6	41.0	1.0	0.25	0.0	58.2	41.8	55.1	69.2	52.8	16.4	35	1.0	0.108	0.0	51.4	54.8	47.7	72.6	41.0
3/675	R38Y_100_100$_e$	1.0	0.375	0.0	1.0	1.0	0.5	52	1.0	0.216	0.0	56.5	45.2	53.8	70.3	49.9	1.0	0.375	0.0	64.6	29.8	60.4	67.3	63.7	18.5	41	1.0	0.216	0.0	56.5	45.2	53.8	70.3	49.9
4/684	R50Y_100_100$_e$	1.0	0.5	0.0	1.0	1.0	0.5	60	1.0	0.319	0.0	61.8	35.2	58.4	68.2	58.8	1.0	0.5	0.0	70.5	19.2	66.2	69.0	73.8	19.8	48	1.0	0.319	0.0	61.8	35.2	58.4	68.2	58.8
5/693	R63Y_100_100$_e$	1.0	0.625	0.0	1.0	1.0	0.5	68	1.0	0.425	0.0	67.0	25.7	63.0	68.0	67.8	1.0	0.625	0.0	74.9	11.4	70.7	71.6	80.7	18.0	55	1.0	0.425	0.0	67.0	25.7	63.0	68.0	67.8
6/702	R75Y_100_100$_e$	1.0	0.75	0.0	1.0	1.0	0.5	76	1.0	0.551	0.0	72.3	16.1	68.2	70.1	76.7	1.0	0.75	0.0	82.9	−2.0	76.9	77.0	91.5	22.7	63	1.0	0.551	0.0	72.3	16.1	68.2	70.1	76.7
7/711	R88Y_100_100$_e$	1.0	0.875	0.0	1.0	1.0	0.5	83	1.0	0.668	0.0	77.7	7.0	73.1	73.5	84.5	1.0	0.875	0.0	87.6	−9.0	75.7	76.3	96.8	19.0	70	1.0	0.668	0.0	77.7	7.0	73.1	73.5	84.5
8/720	Y00G_100_100$_e$	1.0	1.0	0.0	1.0	1.0	0.5	90	1.0	0.768	0.0	83.6	−3.1	76.8	76.9	92.3	1.0	1.0	0.0	91.5	−15.8	84.6	86.1	100.5	16.9	77	1.0	0.768	0.0	83.6	−3.1	76.8	76.9	92.3
9/639	Y13G_100_100$_e$	0.875	1.0	0.0	1.0	1.0	0.5	97	1.0	0.995	0.0	91.4	−15.5	84.4	85.8	100.4	0.875	1.0	0.0	92.8	−18.1	89.4	91.2	101.4	5.8	89	1.0	0.995	0.0	91.4	−15.5	84.4	85.8	100.4
10/558	Y25G_100_100$_e$	0.75	1.0	0.0	1.0	1.0	0.5	104	0.697	1.0	0.0	85.8	−26.4	78.5	82.9	108.6	0.75	1.0	0.0	90.1	−21.3	86.0	88.6	103.9	10.0	107	0.697	1.0	0.0	85.8	−26.4	78.5	82.9	108.6
11/477	Y38G_100_100$_e$	0.625	1.0	0.0	1.0	1.0	0.5	112	0.595	1.0	0.0	77.7	−34.4	64.9	73.5	117.9	0.625	1.0	0.0	79.9	−31.7	67.9	75.0	115.0	4.5	113	0.595	1.0	0.0	77.7	−34.4	64.9	73.5	117.9
12/396	Y50G_100_100$_e$	0.5	1.0	0.0	1.0	1.0	0.5	120	0.5	1.0	0.0	71.0	−41.7	54.8	68.9	127.2	0.5	1.0	0.0	70.9	−41.7	54.8	68.9	127.3	0.0	119	0.5	1.0	0.0	71.0	−41.7	54.8	68.9	127.2
13/315	Y63G_100_100$_e$	0.375	1.0	0.0	1.0	1.0	0.5	128	0.351	1.0	0.0	65.4	−49.4	46.7	68.0	136.5	0.375	1.0	0.0	66.5	−47.5	48.0	67.6	134.7	2.5	129	0.351	1.0	0.0	65.4	−49.4	46.7	68.0	136.5
14/234	Y75G_100_100$_e$	0.25	1.0	0.0	1.0	1.0	0.5	136	0.227	1.0	0.0	59.9	−58.2	39.3	70.2	145.9	0.25	1.0	0.0	60.6	−57.2	40.4	70.1	144.7	1.5	137	0.227	1.0	0.0	59.9	−58.2	39.3	70.2	145.9
15/153	Y88G_100_100$_e$	0.125	1.0	0.0	1.0	1.0	0.5	143	0.04	1.0	0.0	55.2	−65.9	32.0	73.3	154.0	0.125	1.0	0.0	57.0	−62.2	34.4	71.1	151.0	4.7	147	0.04	1.0	0.0	55.2	−65.9	32.0	73.3	154.0
16/72	G00C_100_100$_e$	0.0	1.0	0.0	1.0	1.0	0.5	150	0.0	1.0	0.146	53.8	−65.9	21.1	69.2	162.2	0.0	1.0	0.0	54.3	−67.6	30.8	74.3	155.5	9.8	157	0.0	1.0	0.146	53.8	−65.9	21.1	69.2	162.2
17/73	G13C_100_100$_e$	0.0	1.0	0.125	1.0	1.0	0.5	157	0.0	1.0	0.251	53.7	−63.1	12.7	64.3	168.6	0.0	1.0	0.125	53.8	−66.4	23.0	70.2	160.8	10.8	163	0.0	1.0	0.251	53.7	−63.1	12.7	64.3	168.6
18/74	G25C_100_100$_e$	0.0	1.0	0.25	1.0	1.0	0.5	164	0.0	1.0	0.32	54.3	−59.8	5.2	60.1	175.0	0.0	1.0	0.25	53.7	−63.1	12.8	64.4	168.5	8.2	168	0.0	1.0	0.32	54.3	−59.8	5.2	60.1	175.0
19/75	G38C_100_100$_e$	0.0	1.0	0.375	1.0	1.0	0.5	172	0.0	1.0	0.404	54.8	−55.6	−2.2	55.7	182.3	0.0	1.0	0.375	54.7	−56.8	0.0	56.8	179.9	2.5	173	0.0	1.0	0.404	54.8	−55.6	−2.2	55.7	182.3
20/76	G50C_100_100$_e$	0.0	1.0	0.5	1.0	1.0	0.5	180	0.0	1.0	0.497	55.0	−51.6	−8.7	52.3	189.6	0.0	1.0	0.5	55.0	−51.4	−8.9	52.2	189.8	0.2	179	0.0	1.0	0.497	55.0	−51.6	−8.7	52.3	189.6
21/77	G63C_100_100$_e$	0.0	1.0	0.625	1.0	1.0	0.5	188	0.0	1.0	0.56	55.1	−48.2	−14.6	50.4	196.9	0.0	1.0	0.625	55.3	−44.1	−20.0	48.5	204.4	6.7	183	0.0	1.0	0.56	55.1	−48.2	−14.6	50.4	196.9
22/78	G75C_100_100$_e$	0.0	1.0	0.75	1.0	1.0	0.5	196	0.0	1.0	0.622	55.3	−44.3	−19.9	48.5	204.2	0.0	1.0	0.75	55.2	−39.5	−27.1	47.9	214.4	8.6	188	0.0	1.0	0.622	55.3	−44.3	−19.9	48.5	204.2
23/79	G88C_100_100$_e$	0.0	1.0	0.875	1.0	1.0	0.5	203	0.0	1.0	0.701	55.2	−41.4	−24.5	48.1	210.5	0.0	1.0	0.875	54.4	−36.7	−33.0	49.4	221.9	9.7	193	0.0	1.0	0.701	55.2	−41.4	−24.5	48.1	210.5
24/80	C00B_100_100$_e$	0.0	1.0	1.0	1.0	1.0	0.5	210	0.0	1.0	0.791	54.9	−38.7	−29.1	48.4	216.9	0.0	1.0	1.0	53.1	−30.0	−43.1	52.5	235.1	16.5	198	0.0	1.0	0.791	54.9	−38.7	−29.1	48.4	216.9
25/71	C13B_100_100$_e$	0.0	0.875	1.0	1.0	1.0	0.5	217	0.0	1.0	0.888	54.3	−36.1	−34.1	49.7	223.3	0.0	0.875	1.0	53.1	−27.9	−44.7	52.7	237.9	13.4	204	0.0	1.0	0.888	54.3	−36.1	−34.1	49.7	223.3
26/62	C25B_100_100$_e$	0.0	0.75	1.0	1.0	1.0	0.5	224	0.0	1.0	0.948	53.6	−33.1	−39.1	51.2	229.7	0.0	0.75	1.0	52.9	−25.9	−47.5	54.1	241.3	11.1	207	0.0	1.0	0.948	53.6	−33.1	−39.1	51.2	229.7
27/53	C38B_100_100$_e$	0.0	0.625	1.0	1.0	1.0	0.5	232	0.0	0.915	1.0	53.1	−28.6	−44.2	52.6	237.0	0.0	0.625	1.0	50.5	−20.8	−49.5	53.7	247.2	9.8	214	0.0	0.915	1.0	53.1	−28.6	−44.2	52.6	237.0
28/44	C50B_100_100$_e$	0.0	0.5	1.0	1.0	1.0	0.5	240	0.0	0.686	1.0	51.7	−23.3	−48.6	53.9	244.3	0.0	0.5	1.0	46.1	−13.3	−49.4	51.1	254.9	11.4	227	0.0	0.686	1.0	51.7	−23.3	−48.6	53.9	244.3
29/35	C63B_100_100$_e$	0.0	0.375	1.0	1.0	1.0	0.5	248	0.0	0.552	1.0	48.0	−16.4	−49.6	52.2	251.6	0.0	0.375	1.0	41.4	−6.3	−49.2	49.6	262.6	12.0	236	0.0	0.552	1.0	48.0	−16.4	−49.6	52.2	251.6
30/26	C75B_100_100$_e$	0.0	0.25	1.0	1.0	1.0	0.5	256	0.0	0.434	1.0	43.6	−9.6	−49.4	50.3	258.9	0.0	0.25	1.0	36.8	2.2	−48.5	48.6	272.6	13.7	244	0.0	0.434	1.0	43.6	−9.6	−49.4	50.3	258.9
31/17	C88B_100_100$_e$	0.0	0.125	1.0	1.0	1.0	0.5	263	0.0	0.341	1.0	40.1	−4.0	−49.2	49.4	265.3	0.0	0.125	1.0	35.0	9.4	−46.3	47.3	281.4	14.6	250	0.0	0.341	1.0	40.1	−4.0	−49.2	49.4	265.3
32/8	B00M_100_100$_e$	0.0	0.0	1.0	1.0	1.0	0.5	270	0.0	0.261	1.0	37.3	1.4	−48.6	48.7	271.7	0.0	0.0	1.0	32.5	16.9	−44.6	47.7	290.8	16.6	255	0.0	0.261	1.0	37.3	1.4	−48.6	48.7	271.7
33/89	B13M_100_100$_e$	0.125	0.0	1.0	1.0	1.0	0.5	277	0.0	0.168	1.0	35.7	6.9	−47.2	47.7	278.3	0.125	0.0	1.0	31.6	23.6	−42.2	48.4	299.2	17.8	260	0.0	0.168	1.0	35.7	6.9	−47.2	47.7	278.3
34/170	B25M_100_100$_e$	0.25	0.0	1.0	1.0	1.0	0.5	284	0.0	0.077	1.0	34.1	12.2	−45.8	47.4	285.0	0.25	0.0	1.0	31.0	30.5	−39.3	49.8	307.8	19.6	266	0.0	0.077	1.0	34.1	12.2	−45.8	47.4	285.0
35/251	B38M_100_100$_e$	0.375	0.0	1.0	1.0	1.0	0.5	292	0.026	0.0	1.0	32.3	18.3	−44.1	47.8	292.5	0.375	0.0	1.0	34.2	38.2	−35.0	51.8	317.5	21.9	271	0.026	0.0	1.0	32.3	18.3	−44.1	47.8	292.5
36/332	B50M_100_100$_e$	0.5	0.0	1.0	1.0	1.0	0.5	300	0.138	0.0	1.0	31.5	24.4	−41.9	48.5	300.1	0.5	0.0	1.0	37.2	43.1	−30.8	53.0	324.4	22.5	277	0.138	0.0	1.0	31.5	24.4	−41.9	48.5	300.1
37/413	B63M_100_100$_e$	0.625	0.0	1.0	1.0	1.0	0.5	308	0.249	0.0	1.0	31.0	30.5	−39.4	49.8	307.7	0.625	0.0	1.0	39.1	48.4	−27.2	55.6	330.6	23.1	283	0.249	0.0	1.0	31.0	30.5	−39.4	49.8	307.7
38/494	B75M_100_100$_e$	0.75	0.0	1.0	1.0	1.0	0.5	316	0.347	0.0	1.0	33.5	36.5	−36.1	51.4	315.3	0.75	0.0	1.0	41.8	55.1	−21.4	59.1	338.7	25.1	289	0.347	0.0	1.0	33.5	36.5	−36.1	51.4	315.3
39/575	B88M_100_100$_e$	0.875	0.0	1.0	1.0	1.0	0.5	323	0.455	0.0	1.0	36.1	41.4	−32.4	52.6	321.9	0.875	0.0	1.0	45.6	60.1	−17.3	62.6	343.9	25.8	297	0.455	0.0	1.0	36.1	41.4	−32.4	52.6	321.9
40/656	M00R_100_100$_e$	1.0	0.0	1.0	1.0	1.0	0.5	330	0.584	0.0	1.0	38.5	46.7	−28.5	54.7	328.6	1.0	0.0	1.0	48.1	65.4	−12.7	66.6	348.9	26.2	305	0.584	0.0	1.0	38.5	46.7	−28.5	54.7	328.6
41/655	M13R_100_100$_e$	1.0	0.0	0.875	1.0	1.0	0.5	337	0.696	0.0	1.0	40.6	52.3	−24.1	57.6	335.2	1.0	0.0	0.875	49.5	66.1	−10.7	67.0	350.7	21.1	312	0.696	0.0	1.0	40.6	52.3	−24.1	57.6	335.2
42/654	M25R_100_100$_e$	1.0	0.0	0.75	1.0	1.0	0.5	344	0.825	0.0	1.0	44.1	58.2	−19.0	61.2	341.8	1.0	0.0	0.75	49.3	64.5	−6.5	64.8	354.2	14.9	320	0.825	0.0	1.0	44.1	58.2	−19.0	61.2	341.8
43/653	M38R_100_100$_e$	1.0	0.0	0.625	1.0	1.0	0.5	352	1.0	0.0	0.964	48.5	65.6	−12.2	66.7	349.4	1.0	0.0	0.625	48.0	61.8	2.1	61.8	361.9	14.8	331	1.0	0.0	0.964	48.5	65.6	−12.2	66.7	349.4
44/652	M50R_100_100$_e$	1.0	0.0	0.5	1.0	1.0	0.5	360	1.0	0.0	0.827	49.4	65.5	−9.1	66.2	352.0	1.0	0.0	0.5	47.8	58.9	10.4	59.9	370.0	20.7	339	1.0	0.0	0.827	49.4	65.5	−9.1	66.2	352.0
45/651	M63R_100_100$_e$	1.0	0.0	0.375	1.0	1.0	0.5	368	1.0	0.0	0.641	48.1	62.2	1.0	62.2	0.9	1.0	0.0	0.375	47.4	56.8	19.5	60.0	378.9	19.2	350	1.0	0.0	0.641	48.1	62.2	1.0	62.2	0.9
46/650	M75R_100_100$_e$	1.0	0.0	0.25	1.0	1.0	0.5	376	1.0	0.0	0.501	47.8	59.0	10.2	59.9	9.8	1.0	0.0	0.25	47.5	55.9	27.5	62.3	386.2	17.5	359	1.0	0.0	0.501	47.8	59.0	10.2	59.9	9.8
47/649	M88R_100_100$_e$	1.0	0.0	0.125	1.0	1.0	0.5	383	1.0	0.0	0.392	47.4	57.2	18.2	60.0	17.6	1.0	0.0	0.125	47.6	56.3	34.2	65.9	391.3	16.0	367	1.0	0.0	0.392	47.4	57.2	18.2	60.0	17.6
48/648	R00Y_100_100$_e$	1.0	0.0	0.0	1.0	1.0	0.5	390	1.0	0.0	0.263	47.5	56.0	26.7	62.1	25.4	1.0	0.0	0.0	47.5	57.2	37.8	68.6	393.4	11.1	375	1.0	0.0	0.263	47.5	56.0	26.7	62.1	25.4
49/0	NW_000$_e$	0.0	0.0	0.0	0.0	0.0	0.0	360	0.0	0.0	0.0	23.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	51.9	54.3	49.2	73.2	402.1	78.5	360	1.0	1.0	1.0	95.8	0.0	0.0	0.0	0.0
50/91	NW_013$_e$	0.125	0.125	0.125	0.125	0.0	0.125	360	0.125	0.125	0.125	32.8	0.0	0.0	0.0	0.0	0.125	0.125	0.125	23.8	0.0	0.0	0.0	0.0	8.9	360	1.0	1.0	1.0	95.8	0.0	0.0	0.0	0.0
51/182	NW_025$_e$	0.25	0.25	0.25	0.25	0.0	0.25	360	0.25	0.25	0.25	41.8	0.0	0.0	0.0	0.0	0.25	0.25	0.25	27.8	0.0	−0.5	0.5	273.6	14.0	360	1.0	1.0	1.0	95.8	0.0	0.0	0.0	0.0
52/273	NW_038$_e$	0.375	0.375	0.375	0.375	0.0	0.375	360	0.375	0.375	0.375	50.8	0.0	0.0	0.0	0.0	0.375	0.375	0.375	39.8	−0.1	−1.2	1.2	265.1	11.0	360	1.0	1.0	1.0	95.8	0.0	0.0	0.0	0.0
53/364	NW_050$_e$	0.5	0.5	0.5	0.5	0.0	0.5	360	0.5	0.5	0.5	59.8	0.0	0.0	0.0	0.0	0.5	0.5	0.5	51.9	0.0	−1.3	1.3	267.6	7.9	360	1.0	1.0	1.0	95.8	0.0	0.0	0.0	0.0
54/455	NW_063$_e$	0.625	0.625	0.625	0.625	0.0	0.625	360	0.625	0.625	0.625	68.8	0.0	0.0	0.0	0.0	0.625	0.625	0.625	61.2	0.0	−1.2	1.2	268.4	7.6	360	1.0	1.0	1.0	95.8	0.0	0.0	0.0	0.0
55/546	NW_075$_e$	0.75	0.75	0.75	0.75	0.0	0.75	360	0.75	0.75	0.75	77.8	0.0	0.0	0.0	0.0	0.75	0.75	0.75	72.6	0.0	−1.0	1.0	269.8	5.3	360	1.0	1.0	1.0	95.8	0.0	0.0	0.0	0.0
56/637	NW_088$_e$	0.875	0.875	0.875	0.875	0.0	0.875	360	0.875	0.875	0.875	86.8	0.0	0.0	0.0	0.0	0.875	0.875	0.875	80.4	0.0	−0.3	0.3	272.2	6.3	360	1.0	1.0	1.0	95.8	0.0	0.0	0.0	0.0
57/728	NW_100$_e$	1.0	1.0	1.0	1.0	0.0	1.0	360	1.0	1.0	1.0	95.8	0.0	0.0	0.0	0.0	1.0	1.0	1.0	90.8	0.0	−0.1	0.1	266.5	4.9	360	1.0	1.0	1.0	95.8	0.0	0.0	0.0	0.0

Mean color difference of this page: delta *E' = *14.2***

TUB-test chart PE89; 16 step hue circle colors and differences, $\Delta E^{*\prime}$

input: *rgb/cmyk* −> *rgb*$_e$
output: transfer to *cmyk*$_e$

see similar files: http://130.149.60.45/~farbmetrik/PE89/PE89.HTM
technical information: http://www.ps.bam.de or http://130.149.60.45/~farbmetrik

TUB registration: 20150701-PE89/PE89L0NP.PDF /.PS
application for measurement of laser printer output, separation cmyn6 (CMYK)
TUB material: code=rha4ta

n/j	HIC*$_{Fe}$	*rgb*$_{Fe}$			*ict*$_{Fe}$			$h_{si\_F,e}$	*rgb**$_{Fe}$			*LabCh**$_{Fe}$					*rgb*'$_{Fe}$			*LabCh*'$_{Fe}$					*DE*'$_{Fe}$	$h_{siM,e}$	*rgb**$_{Me}$			*LabCh**$_{Me}$			
0/648	R00Y_100_100$_e$	1.0	0.0	0.0	1.0	1.0	0.5	390	1.0	0.0	0.263	47.5	56.0	26.7	62.1	25.4	1.0	0.0	0.0	47.5	57.2	37.8	68.6	33.4	11.1	375	1.0	0.0	0.263	47.5	56.0	26.7	62.1	25.4
1/666	R25Y_100_100$_e$	1.0	0.25	0.0	1.0	1.0	0.5	44	1.0	0.108	0.0	51.4	54.8	47.7	72.6	41.0	1.0	0.25	0.0	58.2	41.8	55.1	69.2	52.8	16.4	35	1.0	0.108	0.0	51.4	54.8	47.7	72.6	41.0
2/684	R50Y_100_100$_e$	1.0	0.5	0.0	1.0	1.0	0.5	60	1.0	0.319	0.0	61.8	35.2	58.4	68.2	58.8	1.0	0.5	0.0	70.5	19.2	66.2	69.0	73.8	19.8	48	1.0	0.319	0.0	61.8	35.2	58.4	68.2	58.8
3/702	R75Y_100_100$_e$	1.0	0.75	0.0	1.0	1.0	0.5	76	1.0	0.551	0.0	72.3	16.1	68.2	70.1	76.7	1.0	0.75	0.0	82.9	−2.0	76.9	77.0	91.5	22.7	63	1.0	0.551	0.0	72.3	16.1	68.2	70.1	76.7
4/720	Y00G_100_100$_e$	1.0	1.0	0.0	1.0	1.0	0.5	90	1.0	0.768	0.0	83.6	−3.1	76.8	76.9	92.3	1.0	1.0	0.0	91.5	−15.8	84.6	86.1	100.5	16.9	77	1.0	0.768	0.0	83.6	−3.1	76.8	76.9	92.3
5/558	Y25G_100_100$_e$	0.75	1.0	0.0	1.0	1.0	0.5	104	0.697	1.0	0.0	85.8	−26.4	78.5	82.9	108.6	0.75	1.0	0.0	90.1	−21.3	86.0	88.6	103.9	10.0	107	0.697	1.0	0.0	85.8	−26.4	78.5	82.9	108.6
6/396	Y50G_100_100$_e$	0.5	1.0	0.0	1.0	1.0	0.5	120	0.5	1.0	0.0	71.0	−41.7	54.8	68.9	127.2	0.5	1.0	0.0	70.9	−41.7	54.8	68.9	127.3	0.0	119	0.5	1.0	0.0	71.0	−41.7	54.8	68.9	127.2
7/234	Y75G_100_100$_e$	0.25	1.0	0.0	1.0	1.0	0.5	136	0.227	1.0	0.0	59.9	−58.2	39.3	70.2	145.9	0.25	1.0	0.0	60.6	−57.2	40.4	70.1	144.7	1.5	137	0.227	1.0	0.0	59.9	−58.2	39.3	70.2	145.9
8/72	G00B_100_100$_e$	0.0	1.0	0.0	1.0	1.0	0.5	150	0.0	1.0	0.146	53.8	−65.9	21.1	69.2	162.2	0.0	1.0	0.0	54.3	−67.6	30.8	74.3	155.5	9.8	157	0.0	1.0	0.146	53.8	−65.9	21.1	69.2	162.2
9/72	G00B_100_100$_e$	0.0	1.0	0.0	1.0	1.0	0.5	150	0.0	1.0	0.146	53.8	−65.9	21.1	69.2	162.2	0.0	1.0	0.0	54.3	−67.6	30.8	74.3	155.5	9.8	157	0.0	1.0	0.146	53.8	−65.9	21.1	69.2	162.2
10/76	G25B_100_100$_e$	0.0	1.0	0.5	1.0	1.0	0.5	180	0.0	1.0	0.497	55.0	−51.6	−8.7	52.3	189.6	0.0	1.0	0.5	55.0	−51.4	−8.9	52.2	189.8	0.2	179	0.0	1.0	0.497	55.0	−51.6	−8.7	52.3	189.6
11/80	G50B_100_100$_e$	0.0	1.0	1.0	1.0	1.0	0.5	210	0.0	1.0	0.791	54.9	−38.7	−29.1	48.4	216.9	0.0	1.0	1.0	53.1	−30.0	−43.1	52.5	235.1	16.5	198	0.0	1.0	0.791	54.9	−38.7	−29.1	48.4	216.9
12/44	G75B_100_100$_e$	0.0	0.5	1.0	1.0	1.0	0.5	240	0.0	0.686	1.0	51.7	−23.3	−48.6	53.9	244.3	0.0	0.5	1.0	46.1	−13.3	−49.4	51.1	254.9	11.4	227	0.0	0.686	1.0	51.7	−23.3	−48.6	53.9	244.3
13/8	B00M_100_100$_e$	0.0	0.0	1.0	1.0	1.0	0.5	270	0.0	0.261	1.0	37.3	1.4	−48.6	48.7	271.7	0.0	0.0	1.0	32.5	16.9	−44.6	47.7	290.8	16.6	255	0.0	0.261	1.0	37.3	1.4	−48.6	48.7	271.7
14/332	B25R_100_100$_e$	0.5	0.0	1.0	1.0	1.0	0.5	300	0.138	0.0	1.0	31.5	24.4	−41.9	48.5	300.1	0.5	0.0	1.0	37.2	43.1	−30.8	53.0	324.4	22.5	277	0.138	0.0	1.0	31.5	24.4	−41.9	48.5	300.1
15/656	B50R_100_100$_e$	1.0	0.0	1.0	1.0	1.0	0.5	330	0.584	0.0	1.0	38.5	46.7	−28.5	54.7	328.6	1.0	0.0	1.0	48.1	65.4	−12.7	66.6	348.9	26.2	305	0.584	0.0	1.0	38.5	46.7	−28.5	54.7	328.6
16/652	B75R_100_100$_e$	1.0	0.0	0.5	1.0	1.0	0.5	360	1.0	0.0	0.827	49.4	65.5	−9.1	66.2	352.0	1.0	0.0	0.5	47.8	58.9	10.4	59.9	10.0	20.7	339	1.0	0.0	0.827	49.4	65.5	−9.1	66.2	352.0
17/648	R00Y_100_100$_e$	1.0	0.0	0.0	1.0	1.0	0.5	390	1.0	0.0	0.263	47.5	56.0	26.7	62.1	25.4	1.0	0.0	0.0	47.5	57.2	37.8	68.6	33.4	11.1	375	1.0	0.0	0.263	47.5	56.0	26.7	62.1	25.4
18/688	R00Y_100_050$_e$	1.0	0.5	0.5	1.0	0.5	0.75	390	1.0	0.5	0.631	71.6	28.0	13.3	31.0	25.4	1.0	0.5	0.5	71.4	24.0	27.4	36.4	48.8	14.6	375	1.0	0.0	0.263	47.5	56.0	26.7	62.1	25.4
19/706	R50Y_100_050$_e$	1.0	0.75	0.5	1.0	0.5	0.75	60	1.0	0.659	0.5	78.8	17.6	29.2	34.1	58.8	1.0	0.75	0.5	83.6	2.8	39.3	39.4	85.7	18.5	48	1.0	0.319	0.0	61.8	35.2	58.4	68.2	58.8
20/724	Y00G_100_050$_e$	1.0	1.0	0.5	1.0	0.5	0.75	90	1.0	0.884	0.5	89.7	−1.5	38.4	38.4	92.3	1.0	1.0	0.5	93.1	−11.8	45.5	47.0	104.6	12.9	77	1.0	0.768	0.0	83.6	−3.1	76.8	76.9	92.3
21/562	Y50G_100_050$_e$	0.75	1.0	0.5	1.0	0.5	0.75	120	0.75	1.0	0.5	83.4	−20.8	27.4	34.4	127.2	0.75	1.0	0.5	86.2	−21.9	37.8	43.7	120.1	10.8	119	0.5	1.0	0.0	71.0	−41.7	54.8	68.9	127.2
22/400	G00B_100_050$_e$	0.5	1.0	0.5	1.0	0.5	0.75	150	0.5	1.0	0.573	74.8	−32.9	10.5	34.6	162.2	0.5	1.0	0.5	74.1	−30.5	11.7	32.6	158.9	2.8	157	0.0	1.0	0.146	53.8	−65.9	21.1	69.2	162.2
23/404	G50B_100_050$_e$	0.5	1.0	1.0	1.0	0.5	0.75	210	0.5	1.0	0.895	75.4	−19.3	−14.5	24.2	216.9	0.5	1.0	1.0	73.7	−17.1	−27.4	32.3	238.0	13.2	198	0.0	1.0	0.791	54.9	−38.7	−29.1	48.4	216.9
24/368	B00R_100_050$_e$	0.5	0.5	1.0	1.0	0.5	0.75	270	0.5	0.63	1.0	66.5	0.7	−24.3	24.3	271.7	0.5	0.5	1.0	54.8	11.5	−32.2	34.2	289.7	17.8	255	0.0	0.261	1.0	37.3	1.4	−48.6	48.7	271.7
25/692	B50R_100_050$_e$	1.0	0.5	1.0	1.0	0.5	0.75	330	0.792	0.5	1.0	67.1	23.3	−14.2	27.3	328.6	1.0	0.5	1.0	71.6	36.1	−8.9	37.2	346.1	14.5	305	0.584	0.0	1.0	38.5	46.7	−28.5	54.7	328.6
26/688	R00Y_100_050$_e$	1.0	0.5	0.5	1.0	0.5	0.75	390	1.0	0.5	0.631	71.6	28.0	13.3	31.0	25.4	1.0	0.5	0.5	71.4	24.0	27.4	36.4	48.8	14.6	375	1.0	0.0	0.263	47.5	56.0	26.7	62.1	25.4
27/506	R00Y_075_050$_e$	0.75	0.25	0.25	0.75	0.5	0.5	390	0.75	0.25	0.381	53.7	28.0	13.3	31.0	25.4	0.75	0.25	0.25	52.4	27.1	25.3	37.1	43.0	12.1	375	1.0	0.0	0.263	47.5	56.0	26.7	62.1	25.4
28/524	R50Y_075_050$_e$	0.75	0.5	0.25	0.75	0.5	0.5	60	0.75	0.409	0.25	60.8	17.6	29.2	34.1	58.8	0.75	0.5	0.25	66.1	6.5	36.1	36.6	79.7	14.0	48	1.0	0.319	0.0	61.8	35.2	58.4	68.2	58.8
29/542	Y00G_075_050$_e$	0.75	0.75	0.25	0.75	0.5	0.5	90	0.75	0.634	0.25	71.7	−1.5	38.4	38.4	92.3	0.75	0.75	0.25	81.7	−11.5	50.7	52.0	102.8	18.7	77	1.0	0.768	0.0	83.6	−3.1	76.8	76.9	92.3
30/380	Y50G_075_050$_e$	0.5	0.75	0.25	0.75	0.5	0.5	120	0.5	0.75	0.25	65.4	−20.8	27.4	34.4	127.2	0.5	0.75	0.25	70.5	−23.0	31.5	39.0	126.1	6.8	119	0.5	1.0	0.0	71.0	−41.7	54.8	68.9	127.2
31/218	G00B_075_050$_e$	0.25	0.75	0.25	0.75	0.5	0.5	150	0.25	0.75	0.323	56.8	−32.9	10.5	34.6	162.2	0.25	0.75	0.25	57.2	−36.4	13.9	39.0	159.0	4.8	157	0.0	1.0	0.146	53.8	−65.9	21.1	69.2	162.2
32/222	G50B_075_050$_e$	0.25	0.75	0.75	0.75	0.5	0.5	210	0.25	0.75	0.645	57.4	−19.3	−14.5	24.2	216.9	0.25	0.75	0.75	60.1	−19.6	−29.7	35.6	236.5	15.4	198	0.0	1.0	0.791	54.9	−38.7	−29.1	48.4	216.9
33/186	B00R_075_050$_e$	0.25	0.25	0.75	0.75	0.5	0.5	270	0.25	0.38	0.75	48.5	0.7	−24.3	24.3	271.7	0.25	0.25	0.75	43.1	11.1	−34.5	36.3	287.8	15.5	255	0.0	0.261	1.0	37.3	1.4	−48.6	48.7	271.7
34/510	B50R_075_050$_e$	0.75	0.25	0.75	0.75	0.5	0.5	330	0.542	0.25	0.75	49.1	23.3	−14.2	27.3	328.6	0.75	0.25	0.75	53.9	38.1	−12.4	40.1	341.9	15.6	305	0.584	0.0	1.0	38.5	46.7	−28.5	54.7	328.6
35/506	R00Y_075_050$_e$	0.75	0.25	0.25	0.75	0.5	0.5	390	0.75	0.25	0.381	53.7	28.0	13.3	31.0	25.4	0.75	0.25	0.25	52.4	27.1	25.3	37.1	43.0	12.1	375	1.0	0.0	0.263	47.5	56.0	26.7	62.1	25.4
36/324	R00Y_050_050$_e$	0.5	0.0	0.0	0.5	0.5	0.25	390	0.5	0.0	0.131	35.7	28.0	13.3	31.0	25.4	0.5	0.0	0.0	33.0	34.7	23.4	41.8	34.0	12.3	375	1.0	0.0	0.263	47.5	56.0	26.7	62.1	25.4
37/342	R50Y_050_050$_e$	0.5	0.25	0.0	0.5	0.5	0.25	60	0.5	0.159	0.0	42.8	17.6	29.2	34.1	58.8	0.5	0.25	0.0	42.9	9.5	37.9	39.1	75.8	11.8	48	1.0	0.319	0.0	61.8	35.2	58.4	68.2	58.8
38/360	Y00G_050_050$_e$	0.5	0.5	0.0	0.5	0.5	0.25	90	0.5	0.384	0.0	53.7	−1.5	38.4	38.4	92.3	0.5	0.5	0.0	58.4	−9.8	54.3	55.2	100.3	18.5	77	1.0	0.768	0.0	83.6	−3.1	76.8	76.9	92.3
39/198	Y50G_050_050$_e$	0.25	0.5	0.0	0.5	0.5	0.25	120	0.25	0.5	0.0	47.4	−20.8	27.4	34.4	127.2	0.25	0.5	0.0	43.9	−28.1	32.6	43.1	130.7	9.6	119	0.5	1.0	0.0	71.0	−41.7	54.8	68.9	127.2
40/36	G00B_050_050$_e$	0.0	0.5	0.0	0.5	0.5	0.25	150	0.0	0.5	0.073	38.8	−32.9	10.5	34.6	162.2	0.0	0.5	0.0	42.9	−59.6	21.5	63.4	160.1	29.1	157	0.0	1.0	0.146	53.8	−65.9	21.1	69.2	162.2
41/40	G50B_050_050$_e$	0.0	0.5	0.5	0.5	0.5	0.25	210	0.0	0.5	0.395	39.4	−19.3	−14.5	24.2	216.9	0.0	0.5	0.5	44.1	−23.4	−34.5	41.7	235.7	20.9	198	0.0	1.0	0.791	54.9	−38.7	−29.1	48.4	216.9
42/4	B00R_050_050$_e$	0.0	0.0	0.5	0.5	0.5	0.25	270	0.0	0.13	0.5	30.5	0.7	−24.3	24.3	271.7	0.0	0.0	0.5	30.3	13.1	−38.9	41.0	288.6	19.1	255	0.0	0.261	1.0	37.3	1.4	−48.6	48.7	271.7
43/328	B50R_050_050$_e$	0.5	0.0	0.5	0.5	0.5	0.25	330	0.292	0.0	0.5	31.1	23.3	−14.2	27.3	328.6	0.5	0.0	0.5	35.4	43.7	−12.1	45.3	344.4	20.8	305	0.584	0.0	1.0	38.5	46.7	−28.5	54.7	328.6
44/324	R00Y_050_050$_e$	0.5	0.0	0.0	0.5	0.5	0.25	390	0.5	0.0	0.131	35.7	28.0	13.3	31.0	25.4	0.5	0.0	0.0	33.0	34.7	23.4	41.8	34.0	12.3	375	1.0	0.0	0.263	47.5	56.0	26.7	62.1	25.4
45/0	NW_000$_e$	0.0	0.0	0.0	0.0	0.0	0.0	360	0.0	0.0	0.0	23.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	23.8	0.0	0.0	0.0	0.0	0.0	360	1.0	1.0	1.0	95.8	0.0	0.0	0.0	0.0
46/91	NW_013$_e$	0.125	0.125	0.125	0.125	0.0	0.125	360	0.125	0.125	0.125	32.8	0.0	0.0	0.0	0.0	0.125	0.125	0.125	27.8	0.0	−0.5	0.5	273.6	5.0	360	1.0	1.0	1.0	95.8	0.0	0.0	0.0	0.0
47/182	NW_025$_e$	0.25	0.25	0.25	0.25	0.0	0.25	360	0.25	0.25	0.25	41.8	0.0	0.0	0.0	0.0	0.25	0.25	0.25	39.8	−0.1	−1.2	1.2	265.1	2.3	360	1.0	1.0	1.0	95.8	0.0	0.0	0.0	0.0
48/273	NW_038$_e$	0.375	0.375	0.375	0.375	0.0	0.375	360	0.375	0.375	0.375	50.8	0.0	0.0	0.0	0.0	0.375	0.375	0.375	51.9	0.0	−1.3	1.3	267.6	1.7	360	1.0	1.0	1.0	95.8	0.0	0.0	0.0	0.0
49/364	NW_050$_e$	0.5	0.5	0.5	0.5	0.0	0.5	360	0.5	0.5	0.5	59.8	0.0	0.0	0.0	0.0	0.5	0.5	0.5	61.2	0.0	−1.2	1.2	268.4	1.9	360	1.0	1.0	1.0	95.8	0.0	0.0	0.0	0.0
50/455	NW_063$_e$	0.625	0.625	0.625	0.625	0.0	0.625	360	0.625	0.625	0.625	68.8	0.0	0.0	0.0	0.0	0.625	0.625	0.625	72.6	0.0	−1.0	1.0	269.8	3.9	360	1.0	1.0	1.0	95.8	0.0	0.0	0.0	0.0
51/546	NW_075$_e$	0.75	0.75	0.75	0.75	0.0	0.75	360	0.75	0.75	0.75	77.8	0.0	0.0	0.0	0.0	0.75	0.75	0.75	80.4	0.0	−0.3	0.3	272.2	2.6	360	1.0	1.0	1.0	95.8	0.0	0.0	0.0	0.0
52/637	NW_088$_e$	0.875	0.875	0.875	0.875	0.0	0.875	360	0.875	0.875	0.875	86.8	0.0	0.0	0.0	0.0	0.875	0.875	0.875	90.8	0.0	−0.1	0.1	266.5	4.0	360	1.0	1.0	1.0	95.8	0.0	0.0	0.0	0.0
53/728	NW_100$_e$	1.0	1.0	1.0	1.0	0.0	1.0	360	1.0	1.0	1.0	95.8	0.0	0.0	0.0	0.0	1.0	1.0	1.0	95.8	0.0	0.0	0.0	0.0	0.0	360	1.0	1.0	1.0	95.8	0.0	0.0	0.0	0.0

Mean color difference of this page: delta *E' = *12.1***

TUB-test chart PE89; 16 step hue circle colors and differences, $\Delta E^{*\prime}$

input: *rgb/cmyk* −> *rgb*$_e$
output: transfer to *cmyk*$_e$

1−0131830−F0

TUB registration: 20150701-PE89/PE89L0NP.PDF /.PS
application for measurement of laser printer output, separation cmyn6 (CMYK)

TUB material: code=rha4ta

n=j	HIC*Fe	rgb_Fe			ict_Fe			$h_{si_F,e}$	rgb*Fe			LabCh*Fe					rgb*'Fe			LabCh*'Fe					DE*'Fe	$h_{siM,e}$	rgb*Me			LabCh*Me				
0	NW_000e	0.0	0.0	0.0	0.0	0.0	0.0	360	0.0	0.0	0.0	23.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	23.8	0.0	0.0	0.0	0.0	0.0	360	1.0	1.0	1.0	95.8	0.0	0.0	0.0	0.0
1	B00R_012_012e	0.0	0.0	0.125	0.125	0.125	0.062	270	0.0	0.032	0.125	25.5	0.1	−6.0	6.0	271.7	0.0	0.0	0.125	24.3	4.0	−14.1	14.7	285.9	9.0	255	0.0	0.261	1.0	37.3	1.4	−48.6	48.7	271.7
2	B00R_025_025e	0.0	0.0	0.25	0.25	0.25	0.125	270	0.0	0.065	0.25	27.2	0.3	−12.1	12.1	271.7	0.0	0.0	0.25	22.7	3.9	−22.0	22.4	280.2	11.4	255	0.0	0.261	1.0	37.3	1.4	−48.6	48.7	271.7
3	B00R_037_037e	0.0	0.0	0.375	0.375	0.375	0.187	270	0.0	0.097	0.375	28.8	0.5	−18.2	18.2	271.7	0.0	0.0	0.375	28.0	6.9	−29.3	30.1	283.3	12.8	255	0.0	0.261	1.0	37.3	1.4	−48.6	48.7	271.7
4	B00R_050_050e	0.0	0.0	0.5	0.5	0.5	0.25	270	0.0	0.13	0.5	30.5	0.7	−24.3	24.3	271.7	0.0	0.0	0.5	30.3	13.1	−38.9	41.0	288.6	19.1	255	0.0	0.261	1.0	37.3	1.4	−48.6	48.7	271.7
5	B00R_062_062e	0.0	0.0	0.625	0.625	0.625	0.312	270	0.0	0.163	0.625	32.2	0.9	−30.4	30.4	271.7	0.0	0.0	0.625	29.5	18.8	−44.4	48.2	292.9	22.9	255	0.0	0.261	1.0	37.3	1.4	−48.6	48.7	271.7
6	B00R_075_075e	0.0	0.0	0.75	0.75	0.75	0.375	270	0.0	0.195	0.75	33.9	1.1	−36.5	36.5	271.7	0.0	0.0	0.75	30.6	18.1	−43.9	47.5	292.4	18.8	255	0.0	0.261	1.0	37.3	1.4	−48.6	48.7	271.7
7	B00R_087_087e	0.0	0.0	0.875	0.875	0.875	0.437	270	0.0	0.228	0.875	35.6	1.2	−42.6	42.6	271.7	0.0	0.0	0.875	31.4	18.7	−44.2	48.0	292.9	18.0	255	0.0	0.261	1.0	37.3	1.4	−48.6	48.7	271.7
8	B00R_100_100e	0.0	0.0	1.0	1.0	1.0	0.5	270	0.0	0.261	1.0	37.3	1.4	−48.6	48.7	271.7	0.0	0.0	1.0	32.5	16.9	−44.6	47.7	290.8	16.6	255	0.0	0.261	1.0	37.3	1.4	−48.6	48.7	271.7
9	G00B_012_012e	0.0	0.125	0.0	0.125	0.125	0.062	150	0.0	0.125	0.018	27.5	−8.2	2.6	8.6	162.2	0.0	0.125	0.0	32.1	−10.6	2.4	10.9	167.0	5.1	157	0.0	1.0	0.146	53.8	−65.9	21.1	69.2	162.2
10	G50B_012_012e	0.0	0.125	0.125	0.125	0.125	0.062	210	0.0	0.125	0.098	27.7	−4.8	−3.6	6.0	216.9	0.0	0.125	0.125	29.2	−10.0	−14.4	17.6	235.3	12.1	198	0.0	1.0	0.791	54.9	−38.7	−29.1	48.4	216.9
11	G75B_025_025e	0.0	0.125	0.25	0.25	0.25	0.125	240	0.0	0.171	0.25	30.8	−5.8	−12.1	13.4	244.3	0.0	0.125	0.25	28.0	−6.3	−22.2	23.1	254.1	10.4	227	0.0	0.686	1.0	51.7	−23.3	−48.6	53.9	244.3
12	G84B_037_037e	0.0	0.125	0.375	0.375	0.375	0.187	251	0.0	0.19	0.375	32.3	−5.1	−18.5	19.2	254.3	0.0	0.125	0.375	29.7	−4.1	−29.3	29.6	261.9	11.1	239	0.0	0.508	1.0	46.4	−13.8	−49.4	51.3	254.3
13	G88B_050_050e	0.0	0.125	0.5	0.5	0.5	0.25	256	0.0	0.217	0.5	33.7	−4.8	−24.7	25.1	258.9	0.0	0.125	0.5	32.7	1.3	−38.5	38.5	272.0	15.1	244	0.0	0.434	1.0	43.6	−9.6	−49.4	50.3	258.9
14	G90B_062_062e	0.0	0.125	0.625	0.625	0.625	0.312	259	0.0	0.244	0.625	35.1	−4.5	−30.8	31.1	261.6	0.0	0.125	0.625	34.6	6.4	−44.4	44.9	278.2	17.5	247	0.0	0.39	1.0	42.0	−7.2	−49.3	49.8	261.6
15	G92B_075_075e	0.0	0.125	0.75	0.75	0.75	0.375	261	0.0	0.273	0.75	36.7	−4.1	−36.9	37.1	263.5	0.0	0.125	0.75	33.3	11.2	−45.8	47.2	283.7	18.1	248	0.0	0.364	1.0	41.0	−5.5	−49.2	49.5	263.5
16	G93B_087_087e	0.0	0.125	0.875	0.875	0.875	0.437	262	0.0	0.308	0.875	38.5	−4.1	−43.1	43.3	264.4	0.0	0.125	0.875	34.2	11.2	−45.9	47.2	283.7	16.2	249	0.0	0.352	1.0	40.6	−4.7	−49.2	49.4	264.4
17	G94B_100_100e	0.0	0.125	1.0	1.0	1.0	0.5	263	0.0	0.341	1.0	40.1	−4.0	−49.2	49.4	265.3	0.0	0.125	1.0	35.0	9.4	−46.3	47.3	281.4	14.6	250	0.0	0.341	1.0	40.1	−4.0	−49.2	49.4	265.3
18	G00B_025_025e	0.0	0.25	0.0	0.25	0.25	0.125	150	0.0	0.25	0.036	31.3	−16.4	5.2	17.3	162.2	0.0	0.25	0.0	35.0	−23.6	3.8	23.9	170.7	8.1	157	0.0	1.0	0.146	53.8	−65.9	21.1	69.2	162.2
19	G25B_025_025e	0.0	0.25	0.125	0.25	0.25	0.125	180	0.0	0.25	0.124	31.6	−12.9	−2.1	13.0	189.6	0.0	0.25	0.125	31.9	−20.0	−8.5	21.8	203.1	9.6	179	0.0	1.0	0.497	55.0	−51.6	−8.7	52.3	189.6
20	G50B_025_025e	0.0	0.25	0.25	0.25	0.25	0.125	210	0.0	0.25	0.197	31.6	−9.6	−7.2	12.1	216.9	0.0	0.25	0.25	34.5	−15.1	−21.3	26.2	234.6	15.4	198	0.0	1.0	0.791	54.9	−38.7	−29.1	48.4	216.9
21	G65B_037_037e	0.0	0.25	0.375	0.375	0.375	0.187	229	0.0	0.375	0.372	34.8	−11.4	−15.9	19.6	234.3	0.0	0.25	0.375	35.2	−12.0	−28.6	31.1	247.2	12.7	209	0.0	1.0	0.992	53.2	−30.5	−42.5	52.3	234.3
22	G75B_050_050e	0.0	0.25	0.5	0.5	0.5	0.25	240	0.0	0.343	0.5	37.7	−11.6	−24.3	26.9	244.3	0.0	0.25	0.5	35.9	−8.9	−35.7	36.8	255.8	11.8	227	0.0	0.686	1.0	51.7	−23.3	−48.6	53.9	244.3
23	G80B_062_062e	0.0	0.25	0.625	0.625	0.625	0.312	247	0.0	0.354	0.625	39.2	−10.8	−31.0	32.8	250.7	0.0	0.25	0.625	36.9	−5.0	−42.8	43.1	263.3	13.4	235	0.0	0.567	1.0	48.5	−17.3	−49.6	52.5	250.7
24	G84B_075_075e	0.0	0.25	0.75	0.75	0.75	0.375	251	0.0	0.381	0.75	40.8	−10.3	−37.0	38.5	254.3	0.0	0.25	0.75	36.9	−0.1	−47.3	47.3	269.8	14.9	239	0.0	0.508	1.0	46.4	−13.8	−49.4	51.3	254.3
25	G86B_087_087e	0.0	0.25	0.875	0.875	0.875	0.437	254	0.0	0.406	0.875	42.1	−9.8	−43.2	44.4	257.1	0.0	0.25	0.875	36.4	3.0	−48.2	48.3	273.6	15.0	242	0.0	0.464	1.0	44.7	−11.2	−49.4	50.7	257.1
26	G88B_100_100e	0.0	0.25	1.0	1.0	1.0	0.5	256	0.0	0.434	1.0	43.6	−9.6	−49.4	50.3	258.9	0.0	0.25	1.0	36.8	2.2	−48.5	48.6	272.6	13.7	244	0.0	0.434	1.0	43.6	−9.6	−49.4	50.3	258.9
27	G00B_037_037e	0.0	0.375	0.0	0.375	0.375	0.187	150	0.0	0.375	0.055	35.0	−24.7	7.9	25.9	162.2	0.0	0.375	0.0	38.3	−37.3	12.4	39.3	161.6	13.7	157	0.0	1.0	0.146	53.8	−65.9	21.1	69.2	162.2
28	G15B_037_037e	0.0	0.375	0.125	0.375	0.375	0.187	169	0.0	0.375	0.138	35.4	−21.4	0.1	21.4	179.5	0.0	0.375	0.125	36.9	−33.5	−0.5	33.5	180.9	12.2	171	0.0	1.0	0.37	54.7	−57.0	0.4	57.0	179.5
29	G34B_037_037e	0.0	0.375	0.25	0.375	0.375	0.187	191	0.0	0.375	0.218	35.6	−17.5	−6.2	18.6	199.6	0.0	0.375	0.25	37.0	−24.9	−17.0	30.1	214.3	13.1	185	0.0	1.0	0.583	55.2	−46.8	−16.7	49.7	199.6
30	G50B_037_037e	0.0	0.375	0.375	0.375	0.375	0.187	210	0.0	0.375	0.296	35.5	−14.5	−10.9	18.1	216.9	0.0	0.375	0.375	39.2	−20.3	−28.2	34.8	234.3	18.6	198	0.0	1.0	0.791	54.9	−38.7	−29.1	48.4	216.9
31	G61B_050_050e	0.0	0.375	0.5	0.5	0.5	0.25	224	0.0	0.5	0.474	38.7	−16.5	−19.5	25.6	229.7	0.0	0.375	0.5	39.8	−16.8	−35.0	38.8	244.3	15.4	207	0.0	1.0	0.948	53.6	−33.1	−39.1	51.2	229.7
32	G69B_062_062e	0.0	0.375	0.625	0.625	0.625	0.312	233	0.0	0.547	0.625	42.1	−17.4	−27.9	32.9	237.9	0.0	0.375	0.625	40.9	−13.4	−40.7	42.9	251.7	13.4	216	0.0	0.875	1.0	53.1	−27.9	−44.7	52.7	237.9
33	G75B_075_075e	0.0	0.375	0.75	0.75	0.75	0.375	240	0.0	0.514	0.75	44.7	−17.5	−36.4	40.4	244.3	0.0	0.375	0.75	42.8	−9.7	−47.0	48.0	258.2	13.2	227	0.0	0.686	1.0	51.7	−23.3	−48.6	53.9	244.3
34	G79B_087_087e	0.0	0.375	0.875	0.875	0.875	0.437	245	0.0	0.522	0.875	46.3	−16.7	−43.4	46.5	248.9	0.0	0.375	0.875	42.0	−7.5	−48.5	49.0	261.1	11.3	233	0.0	0.597	1.0	49.6	−19.1	−49.6	53.1	248.9
35	G81B_100_100e	0.0	0.375	1.0	1.0	1.0	0.5	248	0.0	0.552	1.0	48.0	−16.4	−49.6	52.2	251.6	0.0	0.375	1.0	41.4	−6.3	−49.2	49.6	262.6	12.0	236	0.0	0.552	1.0	48.0	−16.4	−49.6	52.2	251.6
36	G00B_050_050e	0.0	0.5	0.0	0.5	0.5	0.25	150	0.0	0.5	0.073	38.8	−32.9	10.5	34.6	162.2	0.0	0.5	0.0	42.9	−59.6	21.5	63.4	160.1	29.1	157	0.0	1.0	0.146	53.8	−65.9	21.1	69.2	162.2
37	G11B_050_050e	0.0	0.5	0.125	0.5	0.5	0.25	164	0.0	0.5	0.16	39.0	−29.9	2.6	30.0	175.0	0.0	0.5	0.125	43.3	−58.0	11.6	59.2	168.6	29.8	168	0.0	1.0	0.32	54.3	−59.8	5.2	60.1	175.0
38	G25B_050_050e	0.0	0.5	0.25	0.5	0.5	0.25	180	0.0	0.5	0.248	39.4	−25.8	−4.3	26.1	189.6	0.0	0.5	0.25	41.6	−43.2	−7.9	43.9	190.3	17.9	179	0.0	1.0	0.497	55.0	−51.6	−8.7	52.3	189.6
39	G38B_050_050e	0.0	0.5	0.375	0.5	0.5	0.25	196	0.0	0.5	0.311	39.6	−22.1	−9.9	24.2	204.2	0.0	0.5	0.375	43.4	−33.1	−24.1	41.0	216.0	18.3	188	0.0	1.0	0.622	55.3	−44.3	−19.9	48.5	204.2
40	G50B_050_050e	0.0	0.5	0.5	0.5	0.5	0.25	210	0.0	0.5	0.395	39.4	−19.3	−14.5	24.2	216.9	0.0	0.5	0.5	44.1	−23.4	−34.5	41.7	235.7	20.9	198	0.0	1.0	0.791	54.9	−38.7	−29.1	48.4	216.9
41	G59B_062_062e	0.0	0.5	0.625	0.625	0.625	0.312	221	0.0	0.625	0.576	42.6	−21.5	−23.1	31.6	227.0	0.0	0.5	0.625	45.2	−22.0	−38.7	44.6	240.3	15.8	206	0.0	1.0	0.922	53.9	−34.5	−37.0	50.6	227.0
42	G65B_075_075e	0.0	0.5	0.75	0.75	0.75	0.375	229	0.0	0.75	0.744	45.8	−22.8	−31.8	39.2	234.3	0.0	0.5	0.75	48.0	−20.7	−45.0	49.6	245.3	13.5	209	0.0	1.0	0.992	53.2	−30.5	−42.5	52.3	234.3
43	G70B_087_087e	0.0	0.5	0.875	0.875	0.875	0.437	235	0.0	0.707	0.875	49.3	−23.5	−40.4	46.8	239.7	0.0	0.5	0.875	48.8	−17.7	−48.5	51.6	249.9	9.9	220	0.0	0.808	1.0	53.0	−26.9	−46.2	53.5	239.7
44	G75B_100_100e	0.0	0.5	1.0	1.0	1.0	0.5	240	0.0	0.686	1.0	51.7	−23.3	−48.6	53.9	244.3	0.0	0.5	1.0	46.1	−13.3	−49.4	51.1	254.9	11.4	227	0.0	0.686	1.0	51.7	−23.3	−48.6	53.9	244.3
45	G00B_062_062e	0.0	0.625	0.0	0.625	0.625	0.312	150	0.0	0.625	0.091	42.5	−41.2	13.2	43.2	162.2	0.0	0.625	0.0	47.5	−66.8	25.1	71.4	159.4	28.6	157	0.0	1.0	0.146	53.8	−65.9	21.1	69.2	162.2
46	G09B_062_062e	0.0	0.625	0.125	0.625	0.625	0.312	161	0.0	0.625	0.181	42.7	−38.3	5.2	38.7	172.2	0.0	0.625	0.125	48.3	−71.5	21.8	74.7	163.0	37.5	166	0.0	1.0	0.29	54.1	−61.3	8.3	61.9	172.2
47	G19B_062_062e	0.0	0.625	0.25	0.625	0.625	0.312	173	0.0	0.625	0.26	43.2	−34.5	−1.9	34.5	183.2	0.0	0.625	0.25	49.2	−68.2	6.7	68.5	174.3	35.3	174	0.0	1.0	0.416	54.8	−55.2	−3.1	55.3	183.2
48	G30B_062_062e	0.0	0.625	0.375	0.625	0.625	0.312	187	0.0	0.625	0.345	43.4	−30.4	−8.7	31.6	195.9	0.0	0.625	0.375	50.2	−50.9	−15.0	53.1	196.5	22.5	183	0.0	1.0	0.552	55.1	−48.7	−13.9	50.6	195.9
49	G40B_062_062e	0.0	0.625	0.5	0.625	0.625	0.312	199	0.0	0.625	0.41	43.5	−26.9	−13.6	30.2	206.9	0.0	0.625	0.5	51.5	−41.6	−28.4	50.4	214.3	22.3	190	0.0	1.0	0.656	55.3	−43.1	−21.9	48.3	206.9
50	G50B_062_062e	0.0	0.625	0.625	0.625	0.625	0.312	210	0.0	0.625	0.494	43.3	−24.1	−18.2	30.2	216.9	0.0	0.625	0.625	50.5	−29.5	−38.7	48.7	232.6	22.4	198	0.0	1.0	0.791	54.9	−38.7	−29.1	48.4	216.9
51	G57B_075_075e	0.0	0.625	0.75	0.75	0.75	0.375	219	0.0	0.75	0.679	46.5	−26.5	−26.7	37.6	225.1	0.0	0.625	0.75	51.2	−27.9	−42.6	50.9	236.7	16.6	205	0.0	1.0	0.905	54.1	−35.3	−35.6	50.2	225.1
52	G63B_087_087e	0.0	0.625	0.875	0.875	0.875	0.437	226	0.0	0.875	0.845	49.7	−28.1	−35.4	45.2	231.5	0.0	0.625	0.875	52.2	−25.9	−46.0	52.8	240.6	11.1	208	0.0	1.0	0.966	53.4	−32.1	−40.5	51.6	231.5
53	G68B_100_100e	0.0	0.625	1.0	1.0	1.0	0.5	232	0.0	0.915	1.0	53.1	−28.6	−44.2	52.6	237.0	0.0	0.625	1.0	50.5	−20.8	−49.5	53.7	247.2	9.8	214	0.0	0.915	1.0	53.1	−28.6	−44.2	52.6	237.0
54	G00B_075_075e	0.0	0.75	0.0	0.75	0.75	0.375	150	0.0	0.75	0.11	46.3	−49.4	15.8	51.9	162.2	0.0	0.75	0.0	51.0	−71.0	27.5	76.2	158.7	25.0	157	0.0	1.0	0.146	53.8	−65.9	21.1	69.2	162.2
55	G07B_075_075e	0.0	0.75	0.125	0.75	0.75	0.375	159	0.0	0.75	0.203	46.4	−46.7	7.8	47.3	170.4	0.0	0.75	0.125	50.5	−72.8	23.2	76.4	162.3	30.6	165	0.0	1.0	0.271	53.9	−62.2	10.4	63.1	170.4
56	G15B_075_075e	0.0	0.75	0.25	0.75	0.75	0.375	169	0.0	0.75	0.277	47.0	−42.8	0.3	42.8	179.5	0.0	0.75	0.25	50.4	−68.4	10.3	69.1	171.3	27.7	171	0.0	1.0	0.37	54.7	−57.0	0.4	57.0	179.5
57	G25B_075_075e	0.0	0.75	0.375	0.75	0.75	0.375	180	0.0	0.75	0.373	47.2	−38.7	−6.5	39.2	189.6	0.0	0.75	0.375	51.9	−57.1	−8.2	57.7	188.2	19.0	179	0.0	1.0	0.497	55.0	−51.6	−8.7	52.3	189.6
58	G34B_075_075e	0.0	0.75	0.5	0.75	0.75	0.375	191	0.0	0.75	0.437	47.4	−35.1	−12.5	37.3	199.6	0.0	0.75	0.5	52.7	−46.9	−21.7	51.7	204.8	15.9	185	0.0	1.0	0.583	55.2	−46.8	−16.7	49.7	199.6
59	G42B_075_075e	0.0	0.75	0.625	0.75	0.75	0.375	201	0.0	0.75	0.509	47.4	−31.7	−17.4	36.2	208.7	0.0	0.75	0.625	52.9	−39.5	−31.2	50.3	218.2	16.7	191	0.0	1.0	0.678	55.3	−42.3	−23.2	48.2	208.7
60	G50B_075_075e	0.0	0.75	0.75	0.75	0.75	0.375	210	0.0	0.75	0.593	47.1	−29.0	−21.8	36.3	216.9	0.0	0.75	0.75	52.6	−33.6	−38.2	50.9	228.7	17.8	198	0.0	1.0	0.791	54.9	−38.7	−29.1	48.4	216.9
61	G56B_087_087e	0.0	0.75	0.875	0.875	0.875	0.437	218	0.0	0.875	0.784	50.4	−31.3	−30.5	43.7	224.2	0.0	0.75	0.875	53.0	−29.9	−43.0	52.4	235.1	12.8	204	0.0	1.0	0.896	54.2	−35.7	−34.9	49.9	224.2
62	G61B_100_100e	0.0	0.75	1.0	1.0	1.0	0.5	224	0.0	1.0	0.948	53.6	−33.1	−39.1	51.2	229.7	0.0	0.75	1.0	52.9	−25.9	−47.5	54.1	241.3	11.1	207	0.0	1.0	0.948	53.6	−33.1	−39.1	51.2	229.7
63	G00B_087_087e	0.0	0.875	0.0	0.875	0.875	0.437	150	0.0	0.875	0.128	50.0	−57.7	18.5	60.6	162.2	0.0	0.875	0.0	52.7	−69.8	28.5	75.4	157.7	16.0	157	0.0	1.0	0.146	53.8	−65.9	21.1	69.2	162.2
64	G06B_087_087e	0.0	0.875	0.125	0.875	0.875	0.437	158	0.0	0.875	0.228	50.1	−54.8	10.1	55.7	169.5	0.0	0.875	0.125	51.8	−69.7	22.8	73.3	161.8	19.6	164	0.0	1.0	0.261	53.8	−62.7	11.5	63.7	169.5
65	G13B_087_087e	0.0	0.875	0.25	0.875	0.875	0.437	166	0.0	0.875	0.298	50.6	−51.4	2.8	51.5	176.8	0.0	0.875	0.25	52.2	−65.0	11.1	65.9	170.2	15.9	169	0.0	1.0	0.34	54.5	−58.8	3.2	58.9	176.8
66	G20B_087_087e	0.0	0.875	0.375	0.875	0.875	0.437	175	0.0	0.875	0.384	51.0	−47.4	−4.1	47.6	185.0	0.0	0.875	0.375	53.2	−57.4	−2.5	57.5	182.5	10.3	176	0.0	1.0	0.439	54.9	−54.2	−4.7	54.4	185.0
67	G29B_087_087e	0.0	0.875	0.5	0.875	0.875	0.437	185	0.0	0.875	0.47	51.2	−43.3	−10.9	44.7	194.1	0.0	0.875	0.5	53.9	−49.3	−15.1	51.6	197.0	7.8	182	0.0	1.0	0.537	55.1	−49.5	−12.5	51.1	194.1
68	G36B_087_087e	0.0	0.875	0.625	0.875	0.875	0.437	194	0.0	0.875	0.531	51.3	−39.6	−16.3	42.9	202.3	0.0	0.875	0.625	53.9	−42.2	−24.7	49.0	210.3	9.2	187	0.0	1.0	0.607	55.3	−45.3	−18.6	49.0	202.3
69	G43B_087_087e	0.0	0.875	0.75	0.875	0.875	0.437	202	0.0	0.875	0.603	51.3	−36.6	−20.8	42.1	209.6	0.0	0.875	0.75	53.6	−37.4	−32.1	49.3	220.6	11.5	192	0.0	1.0	0.69	55.2	−41.8	−23.8	48.2	209.6
70	G50B_087_087e	0.0	0.875	0.875	0.875	0.875	0.437	210	0.0	0.875	0.692	51.0	−33.8	−25.5	42.3	216.9	0.0	0.875	0.875	53.1	−30.9	−41.2	51.6	233.1	16.1	198	0.0	1.0	0.791	54.9	−38.7	−29.1	48.4	216.9
71	G55B_100_100e	0.0	0.875	1.0	1.0	1.0	0.5	217	0.0	1.0	0.888	54.3	−36.1	−34.1	49.7	223.3	0.0	0.875	1.0	53.1	−27.9	−44.7	52.7	237.9	13.4	204	0.0	1.0	0.888	54.3	−36.1	−34.1	49.7	223.3
72	G00B_100_100e	0.0	1.0	0.0	1.0	1.0	0.5	150	0.0	1.0	0.146	53.8	−65.9	21.1	69.2	162.2	0.0	1.0	0.0	54.3	−67.6	30.8	74.3	155.5	9.8	157	0.0	1.0	0.146	53.8	−65.9	21.1	69.2	162.2
73	G05B_100_100e	0.0	1.0	0.125	1.0	1.0	0.5	157	0.0	1.0	0.251	53.7	−63.1	12.7	64.3	168.6	0.0	1.0	0.125	53.8	−66.4	23.0	70.2	160.8	10.8	163	0.0	1.0	0.251	53.7	−63.1	12.7	64.3	168.6
74	G11B_100_100e	0.0	1.0	0.25	1.0	1.0	0.5	164	0.0	1.0	0.32	54.3	−59.8	5.2	60.1	175.0	0.0	1.0	0.25	53.7	−63.1	12.8	64.4	168.5	8.2	168	0.0	1.0	0.32	54.3	−59.8	5.2	60.1	175.0
75	G18B_100_100e	0.0	1.0	0.375	1.0	1.0	0.5	172	0.0	1.0	0.404	54.8	−55.6	−2.2	55.7	182.3	0.0	1.0	0.375	54.7	−56.8	0.0	56.8	179.9	2.5	173	0.0	1.0	0.404	54.8	−55.6	−2.2	55.7	182.3
76	G25B_100_100e	0.0	1.0	0.5	1.0	1.0	0.5	180	0.0	1.0	0.497	55.0	−51.6	−8.7	52.3	189.6	0.0	1.0	0.5	55.0	−51.4	−8.9	52.2	189.8	0.2	179	0.0	1.0	0.497	55.0	−51.6	−8.7	52.3	189.6
77	G31B_100_100e	0.0	1.0	0.625	1.0	1.0	0.5	188	0.0	1.0	0.56	55.1	−48.2	−14.6	50.4	196.9	0.0	1.0	0.625	55.3	−44.1	−20.0	48.5	204.4	6.7	183	0.0	1.0	0.56	55.1	−48.2	−14.6	50.4	196.9
78	G38B_100_100e	0.0	1.0	0.75	1.0	1.0	0.5	196	0.0	1.0	0.622	55.3	−44.3	−19.9	48.5	204.2	0.0	1.0	0.75	55.2	−39.5	−27.1	47.9	214.4	8.6	188	0.0	1.0	0.622	55.3	−44.3	−19.9	48.5	204.2
79	G44B_100_100e	0.0	1.0	0.875	1.0	1.0	0.5	203	0.0	1.0	0.701	55.2	−41.4	−24.5	48.1	210.5	0.0	1.0	0.875	54.4	−36.7	−33.0	49.4	221.9	9.7	193	0.0	1.0	0.701	55.2	−41.4	−24.5	48.1	210.5
80	G50B_100_100e	0.0	1.0	1.0	1.0	1.0	0.5	210	0.0	1.0	0.791	54.9	−38.7	−29.1	48.4	216.9	0.0	1.0	1.0	53.1	−30.0	−43.1	52.5	235.1	16.5	198	0.0	1.0	0.791	54.9	−38.7	−29.1	48.4	216.9

Mean color difference of this page: delta $E^{*\prime}$ = ***15.2***

1−0131930−F0

PE890−7N, Page 20/33−F

TUB-test chart PE89; 16 step hue circle
colors and differences, $\Delta E^{*\prime}$

input: *rgb/cmyk* −> *rgb*$_e$
output: transfer to *cmyk*$_e$

1−0131930−F0

http://130.149.60.45/~farbmetrik/PE89/PE89L0NP.PDF /.PS; transfer output
N: no 3D-linearization (OL) in file (F) or PS-startup (S), page 21/33

n	HIC^*_{Fe}	rgb_{Fe}			ict_{Fe}			$h_{si_F,e}$	rgb^*_{Fe}			$LabCh^*_{Fe}$				
81	R00Y_012_012e	0.125	0.0	0.0	0.125	0.125	0.062	390	0.125	0.0	0.032	26.8	7.0	3.3	7.7	25.4
82	B50R_012_012e	0.125	0.0	0.125	0.125	0.125	0.062	330	0.073	0.0	0.125	25.6	5.8	−3.5	6.8	328.6
83	B25R_025_025e	0.125	0.0	0.25	0.25	0.25	0.125	300	0.034	0.0	0.25	25.7	6.1	−10.4	12.1	300.1
84	B15R_037_037e	0.125	0.0	0.375	0.375	0.375	0.187	289	0.0	0.005	0.375	27.2	6.0	−16.8	17.8	289.7
85	B11R_050_050e	0.125	0.0	0.5	0.5	0.5	0.25	284	0.0	0.038	0.5	28.9	6.1	−22.9	23.7	285.0
86	B09R_062_062e	0.125	0.0	0.625	0.625	0.625	0.312	281	0.0	0.072	0.625	30.7	6.2	−28.9	29.5	282.1
87	B07R_075_075e	0.125	0.0	0.75	0.75	0.75	0.375	279	0.0	0.106	0.75	32.4	6.3	−35.0	35.6	280.2
88	B06R_087_087e	0.125	0.0	0.875	0.875	0.875	0.437	278	0.0	0.135	0.875	34.0	6.7	−41.1	41.6	279.3
89	B05R_100_100e	0.125	0.0	1.0	1.0	1.0	0.5	277	0.0	0.168	1.0	35.7	6.9	−47.2	47.7	278.3
90	Y00G_012_012e	0.125	0.125	0.0	0.125	0.125	0.062	90	0.125	0.096	0.0	31.3	−0.3	9.6	9.6	92.3
91	NW_012e	0.125	0.125	0.125	0.125	0.0	0.125	360	0.125	0.125	0.125	32.8	0.0	0.0	0.0	0.0
92	B00R_025_012e	0.125	0.125	0.25	0.25	0.125	0.187	270	0.124	0.157	0.25	34.5	0.1	−6.0	6.0	271.7
93	B00R_037_025e	0.125	0.125	0.375	0.375	0.25	0.25	270	0.124	0.19	0.375	36.2	0.3	−12.1	12.1	271.7
94	B00R_050_037e	0.125	0.125	0.5	0.5	0.375	0.312	270	0.124	0.222	0.5	37.8	0.5	−18.2	18.2	271.7
95	B00R_062_050e	0.125	0.125	0.625	0.625	0.5	0.375	270	0.125	0.255	0.625	39.5	0.7	−24.3	24.3	271.7
96	B00R_075_062e	0.125	0.125	0.75	0.75	0.625	0.437	270	0.125	0.288	0.75	41.2	0.9	−30.4	30.4	271.7
97	B00R_087_075e	0.125	0.125	0.875	0.875	0.75	0.5	270	0.125	0.32	0.875	42.9	1.1	−36.5	36.5	271.7
98	B00R_100_087e	0.125	0.125	1.0	1.0	0.875	0.562	270	0.125	0.353	1.0	44.6	1.2	−42.6	42.6	271.7
99	Y50G_025_025e	0.125	0.25	0.0	0.25	0.25	0.125	120	0.125	0.25	0.0	35.6	−10.4	13.7	17.2	127.2
100	G00B_025_012e	0.125	0.25	0.125	0.25	0.125	0.187	150	0.124	0.25	0.143	36.5	−8.2	2.6	8.6	162.2
101	G50B_025_012e	0.125	0.25	0.25	0.25	0.125	0.187	210	0.124	0.25	0.223	36.7	−4.8	−3.6	6.0	216.9
102	G75B_037_025e	0.125	0.25	0.375	0.375	0.25	0.25	240	0.124	0.296	0.375	39.8	−5.8	−12.1	13.4	244.3
103	G84B_050_037e	0.125	0.25	0.5	0.5	0.375	0.312	251	0.124	0.315	0.5	41.3	−5.1	−18.5	19.2	254.3
104	G88B_062_050e	0.125	0.25	0.625	0.625	0.5	0.375	256	0.125	0.342	0.625	42.7	−4.8	−24.7	25.1	258.9
105	G90B_075_062e	0.125	0.25	0.75	0.75	0.625	0.437	259	0.125	0.369	0.75	44.1	−4.5	−30.8	31.1	261.6
106	G92B_087_075e	0.125	0.25	0.875	0.875	0.75	0.5	261	0.125	0.398	0.875	45.7	−4.1	−36.9	37.1	263.5
107	G93B_100_087e	0.125	0.25	1.0	1.0	0.875	0.562	262	0.125	0.433	1.0	47.5	−4.1	−43.1	43.3	264.4
108	Y68G_037_037e	0.125	0.375	0.0	0.375	0.375	0.187	131	0.115	0.375	0.0	38.6	−19.8	16.5	25.8	140.0
109	G00B_037_025e	0.125	0.375	0.125	0.375	0.25	0.25	150	0.124	0.375	0.161	40.3	−16.4	5.2	17.3	162.2
110	G25B_037_025e	0.125	0.375	0.25	0.375	0.25	0.25	180	0.124	0.375	0.249	40.6	−12.9	−2.1	13.0	189.6
111	G50B_037_025e	0.125	0.375	0.375	0.375	0.25	0.25	210	0.124	0.375	0.322	40.6	−9.6	−7.2	12.1	216.9
112	G65B_050_037e	0.125	0.375	0.5	0.5	0.375	0.312	229	0.124	0.5	0.497	43.8	−11.4	−15.9	19.6	234.3
113	G75B_062_050e	0.125	0.375	0.625	0.625	0.5	0.375	240	0.125	0.468	0.625	46.7	−11.6	−24.3	26.9	244.3
114	G80B_075_062e	0.125	0.375	0.75	0.75	0.625	0.437	247	0.125	0.479	0.75	48.2	−10.8	−31.0	32.8	250.7
115	G84B_087_075e	0.125	0.375	0.875	0.875	0.75	0.5	251	0.125	0.506	0.875	49.7	−10.3	−37.0	38.5	254.3
116	G86B_100_087e	0.125	0.375	1.0	1.0	0.875	0.562	254	0.125	0.531	1.0	51.1	−9.8	−43.2	44.4	257.1
117	Y76G_050_050e	0.125	0.5	0.0	0.5	0.5	0.25	136	0.113	0.5	0.0	41.9	−29.1	19.6	35.1	145.9
118	G00B_050_037e	0.125	0.5	0.125	0.5	0.375	0.312	150	0.124	0.5	0.18	44.0	−24.7	7.9	25.9	162.2
119	G15B_050_037e	0.125	0.5	0.25	0.5	0.375	0.312	169	0.124	0.5	0.263	44.4	−21.4	0.1	21.4	179.5
120	G34B_050_037e	0.125	0.5	0.375	0.5	0.375	0.312	191	0.124	0.5	0.343	44.6	−17.5	−6.2	18.6	199.6
121	G50B_050_037e	0.125	0.5	0.5	0.5	0.375	0.312	210	0.124	0.5	0.421	44.5	−14.5	−10.9	18.1	216.9
122	G61B_062_050e	0.125	0.5	0.625	0.625	0.5	0.375	224	0.125	0.625	0.599	47.7	−16.5	−19.5	25.6	229.7
123	G69B_075_062e	0.125	0.5	0.75	0.75	0.625	0.437	233	0.125	0.672	0.75	51.1	−17.4	−27.9	32.9	237.9
124	G75B_087_075e	0.125	0.5	0.875	0.875	0.75	0.5	240	0.125	0.639	0.875	53.7	−17.5	−36.4	40.4	244.3
125	G79B_100_087e	0.125	0.5	1.0	1.0	0.875	0.562	245	0.125	0.647	1.0	55.3	−16.7	−43.4	46.5	248.9
126	Y81G_062_062e	0.125	0.625	0.0	0.625	0.625	0.312	139	0.098	0.625	0.0	45.1	−38.1	22.5	44.2	149.4
127	G00B_062_050e	0.125	0.625	0.125	0.625	0.5	0.375	150	0.125	0.625	0.198	47.8	−32.9	10.5	34.6	162.2
128	G11B_062_050e	0.125	0.625	0.25	0.625	0.5	0.375	164	0.125	0.625	0.285	48.0	−29.9	2.6	30.0	175.0
129	G25B_062_050e	0.125	0.625	0.375	0.625	0.5	0.375	180	0.125	0.625	0.373	48.4	−25.8	−4.3	26.1	189.6
130	G38B_062_050e	0.125	0.625	0.5	0.625	0.5	0.375	196	0.125	0.625	0.436	48.5	−22.1	−9.9	24.2	204.2
131	G50B_062_050e	0.125	0.625	0.625	0.625	0.5	0.375	210	0.125	0.625	0.52	48.4	−19.3	−14.5	24.2	216.9
132	G59B_075_062e	0.125	0.625	0.75	0.75	0.625	0.437	221	0.125	0.75	0.701	51.6	−21.5	−23.1	31.6	227.0
133	G65B_087_075e	0.125	0.625	0.875	0.875	0.75	0.5	229	0.125	0.875	0.869	54.8	−22.8	−31.8	39.2	234.3
134	G70B_100_087e	0.125	0.625	1.0	1.0	0.875	0.562	235	0.125	0.832	1.0	58.3	−23.5	−40.4	46.8	239.7
135	Y85G_075_075e	0.125	0.75	0.0	0.75	0.75	0.375	141	0.079	0.75	0.0	48.4	−47.3	25.4	53.7	151.7
136	G00B_075_062e	0.125	0.75	0.125	0.75	0.625	0.437	150	0.125	0.75	0.216	51.5	−41.2	13.2	43.2	162.2
137	G09B_075_062e	0.125	0.75	0.25	0.75	0.625	0.437	161	0.125	0.75	0.306	51.7	−38.3	5.2	38.7	172.2
138	G19B_075_062e	0.125	0.75	0.375	0.75	0.625	0.437	173	0.125	0.75	0.385	52.2	−34.5	−1.9	34.5	183.2
139	G30B_075_062e	0.125	0.75	0.5	0.75	0.625	0.437	187	0.125	0.75	0.47	52.4	−30.4	−8.7	31.6	195.9
140	G40B_075_062e	0.125	0.75	0.625	0.75	0.625	0.437	199	0.125	0.75	0.535	52.5	−26.9	−13.6	30.2	206.9
141	G50B_075_062e	0.125	0.75	0.75	0.75	0.625	0.437	210	0.125	0.75	0.619	52.3	−24.1	−18.2	30.2	216.9
142	G57B_087_075e	0.125	0.75	0.875	0.875	0.75	0.5	219	0.125	0.875	0.804	55.5	−26.5	−26.7	37.6	225.1
143	G63B_100_087e	0.125	0.75	1.0	1.0	0.875	0.562	226	0.125	1.0	0.97	58.7	−28.1	−35.4	45.2	231.5
144	Y86G_087_087e	0.125	0.875	0.0	0.875	0.875	0.437	142	0.064	0.875	0.0	51.9	−56.4	28.8	63.4	152.9
145	G00B_087_075e	0.125	0.875	0.125	0.875	0.75	0.5	150	0.125	0.875	0.235	55.3	−49.4	15.8	51.9	162.2
146	G07B_087_075e	0.125	0.875	0.25	0.875	0.75	0.5	159	0.125	0.875	0.328	55.4	−46.7	7.8	47.3	170.4
147	G15B_087_075e	0.125	0.875	0.375	0.875	0.75	0.5	169	0.125	0.875	0.402	56.0	−42.8	0.3	42.8	179.5
148	G25B_087_075e	0.125	0.875	0.5	0.875	0.75	0.5	180	0.125	0.875	0.498	56.2	−38.7	−6.5	39.2	189.6
149	G34B_087_075e	0.125	0.875	0.625	0.875	0.75	0.5	191	0.125	0.875	0.562	56.4	−35.1	−12.5	37.3	199.6
150	G42B_087_075e	0.125	0.875	0.75	0.875	0.75	0.5	201	0.125	0.875	0.634	56.4	−31.7	−17.4	36.2	208.7
151	G50B_087_075e	0.125	0.875	0.875	0.875	0.75	0.5	210	0.125	0.875	0.718	56.1	−29.0	−21.8	36.3	216.9
152	G56B_100_087e	0.125	0.875	1.0	1.0	0.875	0.562	218	0.125	1.0	0.909	59.4	−31.3	−30.5	43.7	224.2
153	Y88G_100_100e	0.125	1.0	0.0	1.0	1.0	0.5	143	0.04	1.0	0.0	55.2	−65.9	32.0	73.3	154.0
154	G00B_100_087e	0.125	1.0	0.125	1.0	0.875	0.562	150	0.125	1.0	0.253	59.0	−57.7	18.5	60.6	162.2
155	G06B_100_087e	0.125	1.0	0.25	1.0	0.875	0.562	158	0.125	1.0	0.353	59.1	−54.8	10.1	55.7	169.5
156	G13B_100_087e	0.125	1.0	0.375	1.0	0.875	0.562	166	0.125	1.0	0.423	59.6	−51.4	2.8	51.5	176.8
157	G20B_100_087e	0.125	1.0	0.5	1.0	0.875	0.562	175	0.125	1.0	0.509	60.0	−47.4	−4.1	47.6	185.0
158	G29B_100_087e	0.125	1.0	0.625	1.0	0.875	0.562	185	0.125	1.0	0.595	60.2	−43.3	−10.9	44.7	194.1
159	G36B_100_087e	0.125	1.0	0.75	1.0	0.875	0.562	194	0.125	1.0	0.656	60.3	−39.6	−16.3	42.9	202.3
160	G43B_100_087e	0.125	1.0	0.875	1.0	0.875	0.562	202	0.125	1.0	0.728	60.3	−36.6	−20.8	42.1	209.6
161	G50B_100_087e	0.125	1.0	1.0	1.0	0.875	0.562	210	0.125	1.0	0.817	60.0	−33.8	−25.5	42.3	216.9

n	$rgb^{*\prime}_{Fe}$			$LabCh^{*\prime}_{Fe}$					$DE^{*\prime}_{Fe}$	$h_{siM,e}$	rgb^*_{Me}			$LabCh^*_{Me}$				
81	0.125	0.0	0.0	24.7	7.7	8.0	11.1	45.9	5.1	375	1.0	0.0	0.263	47.5	56.0	26.7	62.1	25.4
82	0.125	0.0	0.125	26.6	12.3	−6.3	13.8	332.7	7.1	305	0.584	0.0	1.0	38.5	46.7	−28.5	54.7	328.6
83	0.125	0.0	0.25	25.7	13.6	−17.5	22.2	307.9	10.3	277	0.138	0.0	1.0	31.5	24.4	−41.9	48.5	300.1
84	0.125	0.0	0.375	27.6	14.3	−24.2	28.1	300.5	11.0	269	0.0	0.014	1.0	32.8	16.1	−44.8	47.6	289.7
85	0.125	0.0	0.5	29.0	21.5	−32.8	39.2	303.2	18.3	266	0.0	0.077	1.0	34.1	12.2	−45.8	47.4	285.0
86	0.125	0.0	0.625	29.5	25.2	−36.3	44.2	304.7	20.4	263	0.0	0.115	1.0	34.8	9.9	−46.2	47.3	282.1
87	0.125	0.0	0.75	30.6	25.4	−39.9	47.4	302.5	19.8	262	0.0	0.141	1.0	35.3	8.4	−46.7	47.5	280.2
88	0.125	0.0	0.875	30.8	25.7	−41.3	48.7	301.9	19.3	261	0.0	0.155	1.0	35.5	7.7	−47.0	47.6	279.3
89	0.125	0.0	1.0	31.6	23.6	−42.2	48.4	299.2	17.8	260	0.0	0.168	1.0	35.7	6.9	−47.2	47.7	278.3
90	0.125	0.125	0.0	32.9	−5.2	16.0	16.9	108.2	8.2	77	1.0	0.768	0.0	83.6	−3.1	76.8	76.9	92.3
91	0.125	0.125	0.125	27.8	0.0	−0.5	0.5	273.6	5.0	360	1.0	1.0	1.0	95.8	0.0	0.0	0.0	0.0
92	0.125	0.125	0.25	27.8	2.1	−17.8	17.9	276.9	13.6	255	0.0	0.261	1.0	37.3	1.4	−48.6	48.7	271.7
93	0.125	0.125	0.375	30.4	4.1	−25.6	25.9	279.1	15.0	255	0.0	0.261	1.0	37.3	1.4	−48.6	48.7	271.7
94	0.125	0.125	0.5	33.6	7.2	−30.1	31.0	283.5	14.2	255	0.0	0.261	1.0	37.3	1.4	−48.6	48.7	271.7
95	0.125	0.125	0.625	36.0	11.5	−35.5	37.4	287.9	15.9	255	0.0	0.261	1.0	37.3	1.4	−48.6	48.7	271.7
96	0.125	0.125	0.75	37.8	12.8	−40.0	42.0	287.7	15.7	255	0.0	0.261	1.0	37.3	1.4	−48.6	48.7	271.7
97	0.125	0.125	0.875	35.7	15.8	−43.8	46.5	289.8	17.9	255	0.0	0.261	1.0	37.3	1.4	−48.6	48.7	271.7
98	0.125	0.125	1.0	34.1	17.5	−43.8	47.2	291.8	19.3	255	0.0	0.261	1.0	37.3	1.4	−48.6	48.7	271.7
99	0.125	0.25	0.0	36.4	−13.3	17.0	21.6	127.9	4.4	119	0.5	1.0	0.0	71.0	−41.7	54.8	68.9	127.2
100	0.125	0.25	0.125	37.3	−12.7	1.8	12.8	171.8	4.6	157	0.0	1.0	0.146	53.8	−65.9	21.1	69.2	162.2
101	0.125	0.25	0.25	34.1	−10.5	−16.7	19.7	237.8	14.5	198	0.0	1.0	0.791	54.9	−38.7	−29.1	48.4	216.9
102	0.125	0.25	0.375	36.2	−6.8	−24.4	25.4	254.3	12.8	227	0.0	0.686	1.0	51.7	−23.3	−48.6	53.9	244.3
103	0.125	0.25	0.5	37.9	−3.1	−29.4	29.6	263.8	11.5	239	0.0	0.508	1.0	46.4	−13.8	−49.4	51.3	254.3
104	0.125	0.25	0.625	40.5	−0.2	−32.8	32.8	269.6	9.5	244	0.0	0.434	1.0	43.6	−9.6	−49.4	50.3	258.9
105	0.125	0.25	0.75	41.5	2.5	−38.3	38.4	273.7	10.6	247	0.0	0.39	1.0	42.0	−7.2	−49.3	49.8	261.6
106	0.125	0.25	0.875	37.9	7.9	−45.5	46.2	279.9	16.8	248	0.0	0.364	1.0	41.0	−5.5	−49.2	49.5	263.5
107	0.125	0.25	1.0	36.4	10.6	−45.2	46.4	283.2	18.6	249	0.0	0.352	1.0	40.6	−4.7	−49.2	49.4	264.4
108	0.125	0.375	0.0	39.5	−30.9	19.8	36.7	147.2	11.5	132	0.308	1.0	0.0	63.4	−52.8	44.2	68.9	140.0
109	0.125	0.375	0.125	39.1	−24.1	4.4	24.5	169.4	7.8	157	0.0	1.0	0.146	53.8	−65.9	21.1	69.2	162.2
110	0.125	0.375	0.25	37.7	−18.6	−9.6	20.9	207.3	9.8	179	0.0	1.0	0.497	55.0	−51.6	−8.7	52.3	189.6
111	0.125	0.375	0.375	41.9	−14.5	−23.1	27.3	237.7	16.6	198	0.0	1.0	0.791	54.9	−38.7	−29.1	48.4	216.9
112	0.125	0.375	0.5	42.5	−11.5	−28.8	31.0	248.1	12.9	209	0.0	1.0	0.992	53.2	−30.5	−42.5	52.3	234.3
113	0.125	0.375	0.625	43.5	−8.6	−31.7	32.8	254.7	8.6	227	0.0	0.686	1.0	51.7	−23.3	−48.6	53.9	244.3
114	0.125	0.375	0.75	44.9	−6.0	−36.4	36.9	260.5	7.9	235	0.0	0.567	1.0	48.5	−17.3	−49.6	52.5	250.7
115	0.125	0.375	0.875	43.8	−4.2	−45.9	46.1	264.7	12.3	239	0.0	0.508	1.0	46.4	−13.8	−49.4	51.3	254.3
116	0.125	0.375	1.0	39.2	1.2	−47.2	47.3	271.4	16.7	242	0.0	0.464	1.0	44.7	−11.2	−49.4	50.7	257.1
117	0.125	0.5	0.0	41.4	−44.7	24.0	50.7	151.6	16.2	137	0.227	1.0	0.0	59.9	−58.2	39.3	70.2	145.9
118	0.125	0.5	0.125	42.7	−31.6	8.9	32.8	164.2	7.0	157	0.0	1.0	0.146	53.8	−65.9	21.1	69.2	162.2
119	0.125	0.5	0.25	43.1	−29.5	−2.1	29.5	184.0	8.5	171	0.0	1.0	0.37	54.7	−57.0	0.4	57.0	179.5
120	0.125	0.5	0.375	44.4	−22.2	−17.9	28.6	218.8	12.6	185	0.0	1.0	0.583	55.2	−46.8	−16.7	49.7	199.6
121	0.125	0.5	0.5	45.7	−17.6	−27.9	33.0	237.6	17.3	198	0.0	1.0	0.791	54.9	−38.7	−29.1	48.4	216.9
122	0.125	0.5	0.625	47.3	−14.4	−32.2	35.2	245.8	12.8	207	0.0	1.0	0.948	53.6	−33.1	−39.1	51.2	229.7
123	0.125	0.5	0.75	47.8	−13.4	−35.8	38.3	249.4	9.4	216	0.0	0.875	1.0	53.1	−27.9	−44.7	52.7	237.9
124	0.125	0.5	0.875	48.0	−12.0	−43.4	45.0	254.4	10.5	227	0.0	0.686	1.0	51.7	−23.3	−48.6	53.9	244.3
125	0.125	0.5	1.0	44.3	−8.4	−48.1	48.9	260.0	14.5	233	0.0	0.597	1.0	49.6	−19.1	−49.6	53.1	248.9
126	0.125	0.625	0.0	47.0	−55.6	28.1	62.3	153.1	18.4	141	0.157	1.0	0.0	57.9	−60.9	36.0	70.8	149.4
127	0.125	0.625	0.125	47.4	−40.2	14.8	42.9	159.7	8.4	157	0.0	1.0	0.146	53.8	−65.9	21.1	69.2	162.2
128	0.125	0.625	0.25	47.8	−37.6	3.8	37.8	174.1	7.7	168	0.0	1.0	0.32	54.3	−59.8	5.2	60.1	175.0
129	0.125	0.625	0.375	49.3	−31.0	−11.2	33.0	199.9	8.6	179	0.0	1.0	0.497	55.0	−51.6	−8.7	52.3	189.6
130	0.125	0.625	0.5	50.1	−24.7	−22.9	33.7	222.8	13.2	188	0.0	1.0	0.622	55.3	−44.3	−19.9	48.5	204.2
131	0.125	0.625	0.625	50.9	−21.6	−30.9	37.7	234.9	16.7	198	0.0	1.0	0.791	54.9	−38.7	−29.1	48.4	216.9
132	0.125	0.625	0.75	51.4	−18.6	−35.6	40.2	242.4	12.8	206	0.0	1.0	0.922	53.9	−34.5	−37.0	50.6	227.0
133	0.125	0.625	0.875	51.5	−17.0	−40.6	44.0	247.2	11.0	209	0.0	1.0	0.992	53.2	−30.5	−42.5	52.3	234.3
134	0.125	0.625	1.0	49.7	−15.8	−47.6	50.1	251.6	13.6	220	0.0	0.808	1.0	53.0	−26.9	−46.2	53.5	239.7
135	0.125	0.75	0.0	52.8	−59.5	31.8	67.5	151.8	14.5	144	0.105	1.0	0.0	56.6	−63.0	33.9	71.6	151.7
136	0.125	0.75	0.125	52.5	−46.5	19.1	50.3	157.6	8.0	157	0.0	1.0	0.146	53.8	−65.9	21.1	69.2	162.2
137	0.125	0.75	0.25	53.2	−43.8	9.1	44.7	168.2	6.8	166	0.0	1.0	0.29	54.1	−61.3	8.3	61.9	172.2
138	0.125	0.75	0.375	54.5	−42.1	−2.9	42.2	184.0	8.0	174	0.0	1.0	0.416	54.8	−55.2	−3.1	55.3	183.2
139	0.125	0.75	0.5	56.3	−33.9	−17.4	38.1	207.1	10.1	183	0.0	1.0	0.552	55.1	−48.7	−13.9	50.6	195.9
140	0.125	0.75	0.625	56.4	−29.5	−26.1	39.4	221.4	13.2	190	0.0	1.0	0.656	55.3	−43.1	−21.9	48.3	206.9
141	0.125	0.75	0.75	55.6	−25.0	−35.2	43.2	234.6	17.3	198	0.0	1.0	0.791	54.9	−38.7	−29.1	48.4	216.9
142	0.125	0.75	0.875	55.3	−22.8	−39.2	45.4	239.7	13.0	205	0.0	1.0	0.905	54.1	−35.3	−35.6	50.2	225.1
143	0.125	0.75	1.0	54.2	−21.2	−45.5	50.2	244.9	13.0	208	0.0	1.0	0.966	53.4	−32.1	−40.5	51.6	231.5
144	0.125	0.875	0.0	57.3	−62.3	36.0	72.0	149.9	10.7	146	0.073	1.0	0.0	55.9	−64.5	33.0	72.4	152.9
145	0.125	0.875	0.125	58.1	−59.2	28.1	65.5	154.5	15.9	157	0.0	1.0	0.146	53.8	−65.9	21.1	69.2	162.2
146	0.125	0.875	0.25	57.8	−56.9	17.5	59.5	162.8	14.2	165	0.0	1.0	0.271	53.9	−62.2	10.4	63.1	170.4
147	0.125	0.875	0.375	58.4	−51.0	2.6	51.1	177.0	8.9	171	0.0	1.0	0.37	54.7	−57.0	0.4	57.0	179.5
148	0.125	0.875	0.5	58.7	−44.7	−9.1	45.6	191.5	7.0	179	0.0	1.0	0.497	55.0	−51.6	−8.7	52.3	189.6
149	0.125	0.875	0.625	58.9	−38.3	−20.3	43.4	208.0	8.8	185	0.0	1.0	0.583	55.2	−46.8	−16.7	49.7	199.6
150	0.125	0.875	0.75	58.2	−33.3	−29.3	44.4	221.3	12.1	191	0.0	1.0	0.678	55.3	−42.3	−23.2	48.2	208.7
151	0.125	0.875	0.875	57.5	−28.7	−38.2	47.8	233.0	16.4	198	0.0	1.0	0.791	54.9	−38.7	−29.1	48.4	216.9
152	0.125	0.875	1.0	56.0	−26.3	−43.4	50.8	238.7	14.2	204	0.0	1.0	0.896	54.2	−35.7	−34.9	49.9	224.2
153	0.125	1.0	0.0	57.0	−62.2	34.4	71.1	151.0	4.7	147	0.04	1.0	0.0	55.2	−65.9	32.0	73.3	154.0
154	0.125	1.0	0.125	55.9	−63.0	28.6	69.2	155.5	11.8	157	0.0	1.0	0.146	53.8	−65.9	21.1	69.2	162.2
155	0.125	1.0	0.25	55.6	−60.9	18.4	63.7	163.1	10.8	164	0.0	1.0	0.261	53.8	−62.7	11.5	63.7	169.5
156	0.125	1.0	0.375	56.4	−55.3	6.3	55.7	173.4	6.1	169	0.0	1.0	0.34	54.5	−58.8	3.2	58.9	176.8
157	0.125	1.0	0.5	57.3	−49.3	−4.7	49.5	185.4	3.3	176	0.0	1.0	0.439	54.9	−54.2	−4.7	54.4	185.0
158	0.125	1.0	0.625	57.3	−41.3	−18.6	45.3	204.2	8.4	182	0.0	1.0	0.537	55.1	−49.5	−12.5	51.1	194.1
159	0.125	1.0	0.75	57.1	−37.2	−25.8	45.2	214.7	10.3	187	0.0	1.0	0.607	55.3	−45.3	−18.6	49.0	202.3
160	0.125	1.0	0.875	57.0	−33.2	−32.3	46.4	224.2	12.4	192	0.0	1.0	0.69	55.2	−41.8	−23.8	48.2	209.6
161	0.125	1.0	1.0	54.6	−29.4	−41.5	50.9	234.6	17.5	198	0.0	1.0	0.791	54.9	−38.7	−29.1	48.4	216.9

Mean color difference of this page: delta $E^{*\prime}$ = ***12.1***

1−0132030−F0

PE890−7N, Page 21/33−F

TUB-test chart PE89; 16 step hue circle
colors and differences, $\Delta E^{*\prime}$

input: *rgb/cmyk* −> rgb_e
output: transfer to $cmyk_e$

TUB registration: 20150701-PE89/PE89L0NP.PDF /.PS
application for measurement of laser printer output, separation cmyn6 (CMYK)
TUB material: code=rha4ta

see similar files: http://130.149.60.45/~farbmetrik/PE89/PE89.HTM
technical information: http://www.ps.bam.de or http://130.149.60.45/~farbmetrik

1−0132030−F0

TUB registration: 20150701-PE89/PE89L0NP.PDF /.PS
application for measurement of laser printer output, separation cmyn6 (CMYK)

TUB material: code=rha4ta

n	HIC^*_{Fe}	rgb_{Fe}			ict_{Fe}			$h_{si_F,e}$	rgb^*_{Fe}			$LabCh^*_{Fe}$					$rgb^{*\prime}_{Fe}$			$LabCh^{*\prime}_{Fe}$					$DE^{*\prime}_{Fe}$	$h_{siM,e}$	rgb^*_{Me}			$LabCh^*_{Me}$				
162	R00Y_025_025e	0.25	0.0	0.0	0.25	0.25	0.125	390	0.25	0.0	0.065	29.7	14.0	6.6	15.5	25.4	0.25	0.0	0.0	26.6	14.4	12.1	18.9	40.1	6.3	375	1.0	0.0	0.263	47.5	56.0	26.7	62.1	25.4
163	R00Y_025_025e	0.25	0.0	0.125	0.25	0.25	0.125	360	0.25	0.0	0.206	30.2	16.3	−2.2	16.5	352.0	0.25	0.0	0.125	26.4	17.6	2.2	17.7	7.1	6.0	339	1.0	0.0	0.827	49.4	65.5	−9.1	66.2	352.0
164	B50R_025_025e	0.25	0.0	0.25	0.25	0.25	0.125	330	0.146	0.0	0.25	27.5	11.6	−7.1	13.6	328.6	0.25	0.0	0.25	27.9	22.7	−10.0	24.8	336.0	11.4	305	0.584	0.0	1.0	38.5	46.7	−28.5	54.7	328.6
165	B34R_037_037e	0.25	0.0	0.375	0.375	0.375	0.187	311	0.107	0.0	0.375	26.8	12.3	−14.3	18.9	310.5	0.25	0.0	0.375	28.8	24.9	−17.6	30.5	324.6	13.1	286	0.285	0.0	1.0	31.9	32.8	−38.2	50.4	310.5
166	B25R_050_050e	0.25	0.0	0.5	0.5	0.5	0.25	300	0.069	0.0	0.5	27.6	12.2	−20.9	24.2	300.1	0.25	0.0	0.5	28.9	25.7	−25.1	35.9	315.6	14.2	277	0.138	0.0	1.0	31.5	24.4	−41.9	48.5	300.1
167	B19R_062_062e	0.25	0.0	0.625	0.625	0.625	0.312	293	0.025	0.0	0.625	29.1	11.9	−27.4	29.9	293.5	0.25	0.0	0.625	29.8	28.8	−31.0	42.3	312.9	17.2	272	0.04	0.0	1.0	32.2	19.1	−43.9	47.9	293.5
168	B15R_075_075e	0.25	0.0	0.75	0.75	0.75	0.375	289	0.0	0.01	0.75	30.6	12.0	−33.6	35.7	289.7	0.25	0.0	0.75	31.0	30.1	−35.2	46.3	310.5	18.0	269	0.0	0.014	1.0	32.8	16.1	−44.8	47.6	289.7
169	B13R_087_087e	0.25	0.0	0.875	0.875	0.875	0.437	286	0.0	0.045	0.875	32.3	12.0	−39.8	41.6	286.9	0.25	0.0	0.875	31.5	30.7	−38.1	48.9	308.8	18.7	267	0.0	0.052	1.0	33.6	13.8	−45.5	47.5	286.9
170	B11R_100_100e	0.25	0.0	1.0	1.0	1.0	0.5	284	0.0	0.077	1.0	34.1	12.2	−45.8	47.4	285.0	0.25	0.0	1.0	31.0	30.5	−39.3	49.8	307.8	19.6	266	0.0	0.077	1.0	34.1	12.2	−45.8	47.4	285.0
171	R50Y_025_025e	0.25	0.125	0.0	0.25	0.25	0.125	60	0.25	0.079	0.0	33.3	8.8	14.6	17.0	58.8	0.25	0.125	0.0	32.1	3.1	19.8	20.0	81.0	7.8	48	1.0	0.319	0.0	61.8	35.2	58.4	68.2	58.8
172	R00Y_025_012e	0.25	0.125	0.125	0.25	0.125	0.187	390	0.25	0.124	0.157	35.8	7.0	3.3	7.7	25.4	0.25	0.125	0.125	30.7	8.8	7.3	11.5	39.8	6.7	375	1.0	0.0	0.263	47.5	56.0	26.7	62.1	25.4
173	B50R_025_012e	0.25	0.125	0.25	0.25	0.125	0.187	330	0.198	0.124	0.25	34.6	5.8	−3.5	6.8	328.6	0.25	0.125	0.25	32.9	13.4	−8.4	15.9	327.8	9.2	305	0.584	0.0	1.0	38.5	46.7	−28.5	54.7	328.6
174	B25R_037_025e	0.25	0.125	0.375	0.375	0.25	0.25	300	0.159	0.124	0.375	34.7	6.1	−10.4	12.1	300.1	0.25	0.125	0.375	33.3	13.6	−17.6	22.3	307.5	10.5	277	0.138	0.0	1.0	31.5	24.4	−41.9	48.5	300.1
175	B15R_050_037e	0.25	0.125	0.5	0.5	0.375	0.312	289	0.124	0.13	0.5	36.2	6.0	−16.8	17.8	289.7	0.25	0.125	0.5	34.1	15.5	−25.6	30.0	301.2	13.1	269	0.0	0.014	1.0	32.8	16.1	−44.8	47.6	289.7
176	B11R_062_050e	0.25	0.125	0.625	0.625	0.5	0.375	284	0.125	0.163	0.625	37.9	6.1	−22.9	23.7	285.0	0.25	0.125	0.625	37.0	18.0	−31.1	36.0	300.1	14.5	266	0.0	0.077	1.0	34.1	12.2	−45.8	47.4	285.0
177	B09R_075_062e	0.25	0.125	0.75	0.75	0.625	0.437	281	0.125	0.197	0.75	39.7	6.2	−28.9	29.5	282.1	0.25	0.125	0.75	38.2	19.8	−36.3	41.4	298.5	15.5	263	0.0	0.115	1.0	34.8	9.9	−46.2	47.3	282.1
178	B07R_087_075e	0.25	0.125	0.875	0.875	0.75	0.5	279	0.125	0.231	0.875	41.4	6.3	−35.0	35.6	280.2	0.25	0.125	0.875	35.5	24.3	−40.4	47.1	301.0	19.7	262	0.0	0.141	1.0	35.3	8.4	−46.7	47.5	280.2
179	B06R_100_087e	0.25	0.125	1.0	1.0	0.875	0.562	278	0.125	0.26	1.0	43.0	6.7	−41.1	41.6	279.3	0.25	0.125	1.0	34.9	24.2	−40.6	47.3	300.7	19.2	261	0.0	0.155	1.0	35.5	7.7	−47.0	47.6	279.3
180	Y00G_025_025e	0.25	0.25	0.0	0.25	0.25	0.125	90	0.25	0.192	0.0	38.8	−0.7	19.2	19.2	92.3	0.25	0.25	0.0	39.4	−7.8	29.7	30.8	104.8	12.7	77	1.0	0.768	0.0	83.6	−3.1	76.8	76.9	92.3
181	Y00G_025_012e	0.25	0.25	0.125	0.25	0.125	0.187	90	0.25	0.221	0.124	40.3	−0.3	9.6	9.6	92.3	0.25	0.25	0.125	39.8	−5.3	15.2	16.1	109.2	7.4	77	1.0	0.768	0.0	83.6	−3.1	76.8	76.9	92.3
182	NW_025e	0.25	0.25	0.25	0.25	0.0	0.25	360	0.25	0.25	0.25	41.8	0.0	0.0	0.0	0.0	0.25	0.25	0.25	39.8	−0.1	−1.2	1.2	265.1	2.3	360	1.0	1.0	1.0	95.8	0.0	0.0	0.0	0.0
183	B00R_037_012e	0.25	0.25	0.375	0.375	0.125	0.312	270	0.249	0.282	0.375	43.5	0.1	−6.0	6.0	271.7	0.25	0.25	0.375	37.2	2.3	−18.7	18.9	276.9	14.3	255	0.0	0.261	1.0	37.3	1.4	−48.6	48.7	271.7
184	B00R_050_025e	0.25	0.25	0.5	0.5	0.25	0.375	270	0.249	0.315	0.5	45.2	0.3	−12.1	12.1	271.7	0.25	0.25	0.5	39.7	5.0	−25.0	25.4	281.3	14.6	255	0.0	0.261	1.0	37.3	1.4	−48.6	48.7	271.7
185	B00R_062_037e	0.25	0.25	0.625	0.625	0.375	0.437	270	0.25	0.347	0.625	46.8	0.5	−18.2	18.2	271.7	0.25	0.25	0.625	41.8	8.2	−29.3	30.4	285.7	14.4	255	0.0	0.261	1.0	37.3	1.4	−48.6	48.7	271.7
186	B00R_075_050e	0.25	0.25	0.75	0.75	0.5	0.5	270	0.25	0.38	0.75	48.5	0.7	−24.3	24.3	271.7	0.25	0.25	0.75	43.1	11.1	−34.5	36.3	287.8	15.5	255	0.0	0.261	1.0	37.3	1.4	−48.6	48.7	271.7
187	B00R_087_062e	0.25	0.25	0.875	0.875	0.625	0.562	270	0.25	0.413	0.875	50.2	0.9	−30.4	30.4	271.7	0.25	0.25	0.875	40.2	15.3	−41.4	44.1	290.2	20.6	255	0.0	0.261	1.0	37.3	1.4	−48.6	48.7	271.7
188	B00R_100_075e	0.25	0.25	1.0	1.0	0.75	0.625	270	0.25	0.445	1.0	51.9	1.1	−36.5	36.5	271.7	0.25	0.25	1.0	38.0	16.5	−42.0	45.1	291.5	21.5	255	0.0	0.261	1.0	37.3	1.4	−48.6	48.7	271.7
189	Y31G_037_037e	0.25	0.375	0.0	0.375	0.375	0.187	109	0.236	0.375	0.0	45.0	−11.7	25.8	28.4	114.4	0.25	0.375	0.0	41.6	−14.3	30.8	34.0	114.9	6.5	111	0.631	1.0	0.0	80.4	−31.3	68.9	75.7	114.4
190	Y50G_037_025e	0.25	0.375	0.125	0.375	0.25	0.25	120	0.25	0.375	0.124	44.6	−10.4	13.7	17.2	127.2	0.25	0.375	0.125	44.8	−13.9	15.6	20.9	131.6	4.0	119	0.5	1.0	0.0	71.0	−41.7	54.8	68.9	127.2
191	G00B_037_012e	0.25	0.375	0.25	0.375	0.125	0.312	150	0.249	0.375	0.268	45.5	−8.2	2.6	8.6	162.2	0.25	0.375	0.25	43.9	−11.7	−0.1	11.7	180.5	4.7	157	0.0	1.0	0.146	53.8	−65.9	21.1	69.2	162.2
192	G50B_037_012e	0.25	0.375	0.375	0.375	0.125	0.312	210	0.249	0.375	0.348	45.7	−4.8	−3.6	6.0	216.9	0.25	0.375	0.375	44.7	−10.3	−17.0	19.9	238.7	14.5	198	0.0	1.0	0.791	54.9	−38.7	−29.1	48.4	216.9
193	G75B_050_025e	0.25	0.375	0.5	0.5	0.25	0.375	240	0.249	0.421	0.5	48.8	−5.8	−12.1	13.4	244.3	0.25	0.375	0.5	46.4	−5.5	−23.0	23.6	256.5	11.1	227	0.0	0.686	1.0	51.7	−23.3	−48.6	53.9	244.3
194	G84B_062_037e	0.25	0.375	0.625	0.625	0.375	0.437	251	0.25	0.44	0.625	50.3	−5.1	−18.5	19.2	254.3	0.25	0.375	0.625	46.8	−2.5	−27.6	27.7	264.7	10.1	239	0.0	0.508	1.0	46.4	−13.8	−49.4	51.3	254.3
195	G88B_075_050e	0.25	0.375	0.75	0.75	0.5	0.5	256	0.25	0.467	0.75	51.7	−4.8	−24.7	25.1	258.9	0.25	0.375	0.75	46.6	0.6	−33.1	33.1	271.0	11.2	244	0.0	0.434	1.0	43.6	−9.6	−49.4	50.3	258.9
196	G90B_087_062e	0.25	0.375	0.875	0.875	0.625	0.562	259	0.25	0.494	0.875	53.1	−4.5	−30.8	31.1	261.6	0.25	0.375	0.875	45.7	4.1	−41.8	42.1	275.7	15.8	247	0.0	0.39	1.0	42.0	−7.2	−49.3	49.8	261.6
197	G92B_100_075e	0.25	0.375	1.0	1.0	0.75	0.625	261	0.25	0.523	1.0	54.7	−4.1	−36.9	37.1	263.5	0.25	0.375	1.0	42.5	7.0	−42.9	43.5	279.3	17.6	248	0.0	0.364	1.0	41.0	−5.5	−49.2	49.5	263.5
198	Y50G_050_050e	0.25	0.5	0.0	0.5	0.5	0.25	120	0.25	0.5	0.0	47.4	−20.8	27.4	34.4	127.2	0.25	0.5	0.0	43.9	−28.1	32.6	43.1	130.7	9.6	119	0.5	1.0	0.0	71.0	−41.7	54.8	68.9	127.2
199	Y68G_050_037e	0.25	0.5	0.125	0.5	0.375	0.312	131	0.24	0.5	0.124	47.6	−19.8	16.5	25.8	140.0	0.25	0.5	0.125	47.6	−24.8	16.6	29.9	146.1	5.0	132	0.308	1.0	0.0	63.4	−52.8	44.2	68.9	140.0
200	G00B_050_025e	0.25	0.5	0.25	0.5	0.25	0.375	150	0.249	0.5	0.286	49.3	−16.4	5.2	17.3	162.2	0.25	0.5	0.25	46.4	−22.2	3.8	22.6	170.1	6.6	157	0.0	1.0	0.146	53.8	−65.9	21.1	69.2	162.2
201	G25B_050_025e	0.25	0.5	0.375	0.5	0.25	0.375	180	0.249	0.5	0.374	49.6	−12.9	−2.1	13.0	189.6	0.25	0.5	0.375	48.2	−16.8	−9.9	19.5	210.3	8.8	179	0.0	1.0	0.497	55.0	−51.6	−8.7	52.3	189.6
202	G50B_050_025e	0.25	0.5	0.5	0.5	0.25	0.375	210	0.249	0.5	0.447	49.6	−9.6	−7.2	12.1	216.9	0.25	0.5	0.5	50.5	−14.1	−21.4	25.7	236.7	14.9	198	0.0	1.0	0.791	54.9	−38.7	−29.1	48.4	216.9
203	G65B_062_037e	0.25	0.5	0.625	0.625	0.375	0.437	229	0.25	0.625	0.622	52.8	−11.4	−15.9	19.6	234.3	0.25	0.5	0.625	51.2	−10.1	−27.6	29.4	249.8	11.8	209	0.0	1.0	0.992	53.2	−30.5	−42.5	52.3	234.3
204	G75B_075_050e	0.25	0.5	0.75	0.75	0.5	0.5	240	0.25	0.593	0.75	55.7	−11.6	−24.3	26.9	244.3	0.25	0.5	0.75	51.3	−8.5	−31.4	32.6	254.7	8.9	227	0.0	0.686	1.0	51.7	−23.3	−48.6	53.9	244.3
205	G80B_087_062e	0.25	0.5	0.875	0.875	0.625	0.562	247	0.25	0.604	0.875	57.2	−10.8	−31.0	32.8	250.7	0.25	0.5	0.875	51.1	−6.6	−39.5	40.0	260.4	11.2	235	0.0	0.567	1.0	48.5	−17.3	−49.6	52.5	250.7
206	G84B_100_075e	0.25	0.5	1.0	1.0	0.75	0.625	251	0.25	0.631	1.0	58.7	−10.3	−37.0	38.5	254.3	0.25	0.5	1.0	45.0	−0.5	−44.4	44.4	269.3	18.4	239	0.0	0.508	1.0	46.4	−13.8	−49.4	51.3	254.3
207	Y61G_062_062e	0.25	0.625	0.0	0.625	0.625	0.312	127	0.228	0.625	0.0	50.3	−30.1	29.7	42.3	135.4	0.25	0.625	0.0	49.0	−39.1	34.5	52.1	138.5	10.2	128	0.366	1.0	0.0	66.1	−48.2	47.5	67.7	135.4
208	Y76G_062_050e	0.25	0.625	0.125	0.625	0.5	0.375	136	0.238	0.625	0.125	50.9	−29.1	19.6	35.1	145.9	0.25	0.625	0.125	51.3	−33.6	22.4	40.4	146.3	5.3	137	0.227	1.0	0.0	59.9	−58.2	39.3	70.2	145.9
209	G00B_062_037e	0.25	0.625	0.25	0.625	0.375	0.437	150	0.25	0.625	0.305	53.0	−24.7	7.9	25.9	162.2	0.25	0.625	0.25	51.5	−29.9	9.9	31.5	161.5	5.7	157	0.0	1.0	0.146	53.8	−65.9	21.1	69.2	162.2
210	G15B_062_037e	0.25	0.625	0.375	0.625	0.375	0.437	169	0.25	0.625	0.388	53.4	−21.4	0.1	21.4	179.5	0.25	0.625	0.375	53.7	−24.9	−3.1	25.1	187.0	4.8	171	0.0	1.0	0.37	54.7	−57.0	0.4	57.0	179.5
211	G34B_062_037e	0.25	0.625	0.5	0.625	0.375	0.437	191	0.25	0.625	0.468	53.6	−17.5	−6.2	18.6	199.6	0.25	0.625	0.5	54.8	−20.1	−15.5	25.4	217.5	9.6	185	0.0	1.0	0.583	55.2	−46.8	−16.7	49.7	199.6
212	G50B_062_037e	0.25	0.625	0.625	0.625	0.375	0.437	210	0.25	0.625	0.546	53.5	−14.5	−10.9	18.1	216.9	0.25	0.625	0.625	54.2	−16.5	−26.0	30.8	237.5	15.2	198	0.0	1.0	0.791	54.9	−38.7	−29.1	48.4	216.9
213	G61B_075_050e	0.25	0.625	0.75	0.75	0.5	0.5	224	0.25	0.75	0.724	56.7	−16.5	−19.5	25.6	229.7	0.25	0.625	0.75	55.1	−13.9	−31.3	34.2	245.9	12.1	207	0.0	1.0	0.948	53.6	−33.1	−39.1	51.2	229.7
214	G69B_087_062e	0.25	0.625	0.875	0.875	0.625	0.562	233	0.25	0.797	0.875	60.1	−17.4	−27.9	32.9	237.9	0.25	0.625	0.875	55.5	−12.8	−36.5	38.7	250.6	10.8	216	0.0	0.875	1.0	53.1	−27.9	−44.7	52.7	237.9
215	G75B_100_075e	0.25	0.625	1.0	1.0	0.75	0.625	240	0.25	0.764	1.0	62.7	−17.5	−36.4	40.4	244.3	0.25	0.625	1.0	52.2	−11.8	−43.9	45.5	254.8	14.0	227	0.0	0.686	1.0	51.7	−23.3	−48.6	53.9	244.3
216	Y68G_075_075e	0.25	0.75	0.0	0.75	0.75	0.375	131	0.231	0.75	0.0	53.5	−39.6	33.1	51.7	140.0	0.25	0.75	0.0	57.1	−46.6	39.6	61.1	139.6	10.1	132	0.308	1.0	0.0	63.4	−52.8	44.2	68.9	140.0
217	Y81G_075_062e	0.25	0.75	0.125	0.75	0.625	0.437	139	0.223	0.75	0.125	54.1	−38.1	22.5	44.2	149.4	0.25	0.75	0.125	56.1	−40.3	24.6	47.2	148.6	3.6	141	0.157	1.0	0.0	57.9	−60.9	36.0	70.8	149.4
218	G00B_075_050e	0.25	0.75	0.25	0.75	0.5	0.5	150	0.25	0.75	0.323	56.8	−32.9	10.5	34.6	162.2	0.25	0.75	0.25	57.2	−36.4	13.9	39.0	159.0	4.8	157	0.0	1.0	0.146	53.8	−65.9	21.1	69.2	162.2
219	G11B_075_050e	0.25	0.75	0.375	0.75	0.5	0.5	164	0.25	0.75	0.41	57.0	−29.9	2.6	30.0	175.0	0.25	0.75	0.375	58.6	−33.1	4.1	33.4	172.9	3.8	168	0.0	1.0	0.32	54.3	−59.8	5.2	60.1	175.0
220	G25B_075_050e	0.25	0.75	0.5	0.75	0.5	0.5	180	0.25	0.75	0.498	57.4	−25.8	−4.3	26.1	189.6	0.25	0.75	0.5	59.9	−28.0	−8.3	29.2	196.5	5.2	179	0.0	1.0	0.497	55.0	−51.6	−8.7	52.3	189.6
221	G38B_075_050e	0.25	0.75	0.625	0.75	0.5	0.5	196	0.25	0.75	0.561	57.5	−22.1	−9.9	24.2	204.2	0.25	0.75	0.625	60.4	−22.8	−20.5	30.7	221.9	10.9	188	0.0	1.0	0.622	55.3	−44.3	−19.9	48.5	204.2
222	G50B_075_050e	0.25	0.75	0.75	0.75	0.5	0.5	210	0.25	0.75	0.645	57.4	−19.3	−14.5	24.2	216.9	0.25	0.75	0.75	60.1	−19.6	−29.7	35.6	236.5	15.4	198	0.0	1.0	0.791	54.9	−38.7	−29.1	48.4	216.9
223	G59B_087_062e	0.25	0.75	0.875	0.875	0.625	0.562	221	0.25	0.875	0.826	60.6	−21.5	−23.1	31.6	227.0	0.25	0.75	0.875	60.2	−18.2	−35.1	39.5	242.5	12.4	206	0.0	1.0	0.922	53.9	−34.5	−37.0	50.6	227.0
224	G65B_100_075e	0.25	0.75	1.0	1.0	0.75	0.625	229	0.25	1.0	0.994	63.8	−22.8	−31.8	39.2	234.3	0.25	0.75	1.0	58.4	−17.7	−41.7	45.3	246.9	12.3	209	0.0	1.0	0.992	53.2	−30.5	−42.5	52.3	234.3
225	Y73G_087_087e	0.25	0.875	0.0	0.875	0.875	0.437	134	0.231	0.875	0.0	56.6	−49.1	36.2	61.0	143.5	0.25	0.875	0.0	61.6	−55.2	42.0	69.3	142.7	9.7	135	0.264	1.0	0.0	61.3	−56.1	41.4	69.8	143.5
226	Y85G_087_075e	0.25	0.875	0.125	0.875	0.75	0.5	141	0.204	0.875	0.125	57.4	−47.3	25.4	53.7	151.7	0.25	0.875	0.125	62.1	−53.8	33.1	63.2	148.4	11.2	144	0.105	1.0	0.0	56.6	−63.0	33.9	71.6	151.7
227	G00B_087_062e	0.25	0.875	0.25	0.875	0.625	0.562	150	0.25	0.875	0.341	60.5	−41.2	13.2	43.2	162.2	0.25	0.875	0.25	63.3	−48.9	21.1	53.3	156.5	11.4	157	0.0	1.0	0.146	53.8	−65.9	21.1	69.2	162.2
228	G09B_087_062e	0.25	0.875	0.375	0.875	0.625	0.562	161	0.25	0.875	0.431	60.7	−38.3	5.2	38.7	172.2	0.25	0.875	0.375	64.3	−43.8	9.2	44.7	168.0	7.6	166	0.0	1.0	0.29	54.1	−61.3	8.3	61.9	172.2
229	G19B_087_062e	0.25	0.875	0.5	0.875	0.625	0.562	173	0.25	0.875	0.51	61.2	−34.5	−1.9	34.5	183.2	0.25	0.875	0.5	64.5	−38.8	−3.1	38.9	184.6	5.5	174	0.0	1.0	0.416	54.8	−55.2	−3.1	55.3	183.2
230	G30B_087_062e	0.25	0.875	0.625	0.875	0.625	0.562	187	0.25	0.875	0.595	61.4	−30.4	−8.7	31.6	195.9	0.25	0.875	0.625	65.0	−31.9	−14.1	34.9	203.9	6.7	183	0.0	1.0	0.552	55.1	−48.7	−13.9	50.6	195.9
231	G40B_087_062e	0.25	0.875	0.75	0.875	0.625	0.562	199	0.25	0.875	0.66	61.5	−26.9	−13.6	30.2	206.9	0.25	0.875	0.75	63.2	−26.7	−25.9	37.2	224.1	12.4	190	0.0	1.0	0.656	55.3	−43.1	−21.9	48.3	206.9
232	G50B_087_062e	0.25	0.875	0.875	0.875	0.625	0.562	210	0.25	0.875	0.744	61.3	−24.1	−18.2	30.2	216.9	0.25	0.875	0.875	63.6	−23.3	−33.5	40.9	235.1	15.5	198	0.0	1.0	0.791	54.9	−38.7	−29.1	48.4	216.9
233	G57B_100_075e	0.25	0.875	1.0	1.0	0.75	0.625	219	0.25	1.0	0.929	64.5	−26.5	−26.7	37.6	225.1	0.25	0.875	1.0	62.8	−20.3	−38.6	43.6	242.1	13.4	205	0.0	1.0	0.905	54.1	−35.3	−35.6	50.2	225.1
234	Y76G_100_100e	0.25	1.0	0.0	1.0	1.0	0.5	136	0.227	1.0	0.0	59.9	−58.2	39.3	70.2	145.9	0.25	1.0	0.0	60.6	−57.2	40.4	70.1	144.7	1.5	137	0.227	1.0	0.0	59.9	−58.2	39.3	70.2	145.9
235	Y86G_100_087e	0.25	1.0	0.125	1.0	0.875	0.562	142	0.189	1.0	0.125	60.8	−56.4	28.8	63.4	152.9	0.25	1.0	0.125	62.6	−52.4	32.5	61.7	148.2	5.6	146	0.073	1.0	0.0	55.9	−64.5	33.0	72.4	152.9
236	G00B_100_075e	0.25	1.0	0.25	1.0	0.75	0.625	150	0.25	1.0	0.36	64.3	−49.4	15.8	51.9	162.2	0.25	1.0	0.25	61.1	−52.9	23.4	57.9	156.0	8.9	157	0.0	1.0	0.146	53.8	−65.9	21.1	69.2	162.2
237	G07B_100_075e	0.25	1.0	0.375	1.0	0.75	0.625	159	0.25	1.0	0.453	64.4	−46.7	7.8	47.3	170.4	0.25	1.0	0.375	61.0	−49.8	12.0	51.2	166.4	6.2	165	0.0	1.0	0.271	53.9	−62.2	10.4	63.1	170.4
238	G15B_100_075e	0.25	1.0	0.5	1.0	0.75	0.625	169	0.25	1.0	0.527	65.0	−42.8	0.3	42.8	179.5	0.25	1.0	0.5	61.5	−44.6	1.0	44.6	178.7	3.9	171	0.0	1.0	0.37	54.7	−57.0	0.4	57.0	179.5
239	G25B_100_075e	0.25	1.0	0.625	1.0	0.75	0.625	180	0.25	1.0	0.623	65.2	−38.7	−6.5	39.2	189.6	0.25	1.0	0.625	62.3	−36.8	−13.9	39.3	200.7	8.2	179	0.0	1.0	0.497	55.0	−51.6	−8.7	52.3	189.6
240	G34B_100_075e	0.25	1.0	0.75	1.0	0.75	0.625	191	0.25	1.0	0.687	65.3	−35.1	−12.5	37.3	199.6	0.25	1.0	0.75	62.6	−31.9	−21.4	38.4	213.8	9.8	185	0.0	1.0	0.583	55.2	−46.8	−16.7	49.7	199.6
241	G42B_100_075e	0.25	1.0	0.875	1.0	0.75	0.625	201	0.25	1.0	0.759	65.4	−31.7	−17.4	36.2	208.7	0.25	1.0	0.875	62.7	−28.1	−29.2	40.5	226.1	12.6	191	0.0	1.0	0.678	55.3	−42.3	−23.2	48.2	208.7
242	G50B_100_075e	0.25	1.0	1.0	1.0	0.75	0.625	210	0.25	1.0	0.843	65.1	−29.0	−21.8	36.3	216.9	0.25	1.0	1.0	59.3	−26.4	−37.8	46.1	235.0	17.2	198	0.0	1.0	0.791	54.9	−38.7	−29.1	48.4	216.9

Mean color difference of this page: delta $E^{*\prime}$ = *11.0*

1−0132130−F0

PE890−7N, Page 22/33−F

TUB-test chart PE89; 16 step hue circle
colors and differences, $\Delta E^{*\prime}$

input: *rgb/cmyk* −> rgb_e
output: transfer to $cmyk_e$

1−0132130−F0

http://130.149.60.45/~farbmetrik/PE89/PE89L0NP.PDF /.PS; transfer output
N: no 3D-linearization (OL) in file (F) or PS-startup (S), page 23/33

n	HIC*Fe	rgb_Fe			ict_Fe			hsi_F,e	rgb*Fe			LabCh*Fe				
243	R00Y_037_037$_e$	0.375	0.0	0.0	0.375	0.375	0.187	390	0.375	0.0	0.098	32.7	21.0	10.0	23.2	25.4
244	R18Y_037_037$_e$	0.375	0.0	0.125	0.375	0.375	0.187	371	0.375	0.0	0.22	32.8	22.9	1.7	22.9	4.3
245	B65R_037_037$_e$	0.375	0.0	0.25	0.375	0.375	0.187	349	0.353	0.0	0.375	32.5	23.6	-5.6	24.2	346.6
246	B50R_037_037$_e$	0.375	0.0	0.375	0.375	0.375	0.187	330	0.219	0.0	0.375	29.3	17.5	-10.7	20.5	328.6
247	B38R_050_050$_e$	0.375	0.0	0.5	0.5	0.5	0.25	316	0.173	0.0	0.5	28.6	18.2	-18.0	25.7	315.3
248	B30R_062_062$_e$	0.375	0.0	0.625	0.625	0.625	0.312	307	0.147	0.0	0.625	28.3	18.6	-24.8	31.0	306.8
249	B25R_075_075$_e$	0.375	0.0	0.75	0.75	0.75	0.375	300	0.104	0.0	0.75	29.6	18.3	-31.4	36.4	300.1
250	B20R_087_087$_e$	0.375	0.0	0.875	0.875	0.875	0.437	295	0.06	0.0	0.875	31.0	18.0	-38.0	42.0	295.4
251	B18R_100_100$_e$	0.375	0.0	1.0	1.0	1.0	0.5	292	0.026	0.0	1.0	32.3	18.3	-44.1	47.8	292.5
252	R31Y_037_037$_e$	0.375	0.125	0.0	0.375	0.375	0.187	49	0.375	0.066	0.0	35.3	18.4	19.5	26.8	46.6
253	R00Y_037_025$_e$	0.375	0.125	0.125	0.375	0.25	0.25	390	0.375	0.124	0.19	38.7	14.0	6.6	15.5	25.4
254	R00Y_037_025$_e$	0.375	0.125	0.25	0.375	0.25	0.25	360	0.375	0.124	0.331	39.2	16.3	-2.2	16.5	352.0
255	B50R_037_025$_e$	0.375	0.125	0.375	0.375	0.25	0.25	330	0.271	0.124	0.375	36.5	11.6	-7.1	13.6	328.6
256	B34R_050_037$_e$	0.375	0.125	0.5	0.5	0.375	0.312	311	0.232	0.124	0.5	35.8	12.3	-14.3	18.9	310.5
257	B25R_062_050$_e$	0.375	0.125	0.625	0.625	0.5	0.375	300	0.194	0.125	0.625	36.6	12.2	-20.9	24.2	300.1
258	B19R_075_062$_e$	0.375	0.125	0.75	0.75	0.625	0.437	293	0.15	0.125	0.75	38.1	11.9	-27.4	29.9	293.5
259	B15R_087_075$_e$	0.375	0.125	0.875	0.875	0.75	0.5	289	0.125	0.135	0.875	39.6	12.0	-33.6	35.7	289.7
260	B13R_100_087$_e$	0.375	0.125	1.0	1.0	0.875	0.562	286	0.125	0.17	1.0	41.3	12.0	-39.8	41.6	286.9
261	R68Y_037_037$_e$	0.375	0.25	0.0	0.375	0.375	0.187	71	0.375	0.175	0.0	40.7	8.3	24.3	25.7	71.1
262	R50Y_037_025$_e$	0.375	0.25	0.125	0.375	0.25	0.25	60	0.375	0.204	0.124	42.3	8.8	14.6	17.0	58.8
263	R00Y_037_012$_e$	0.375	0.25	0.25	0.375	0.125	0.312	390	0.375	0.249	0.282	44.8	7.0	3.3	7.7	25.4
264	B50R_037_012$_e$	0.375	0.25	0.375	0.375	0.125	0.312	330	0.323	0.249	0.375	43.6	5.8	-3.5	6.8	328.6
265	B25R_050_025$_e$	0.375	0.25	0.5	0.5	0.25	0.375	300	0.284	0.249	0.5	43.7	6.1	-10.4	12.1	300.1
266	B15R_062_037$_e$	0.375	0.25	0.625	0.625	0.375	0.437	289	0.25	0.255	0.625	45.2	6.0	-16.8	17.8	289.7
267	B11R_075_050$_e$	0.375	0.25	0.75	0.75	0.5	0.5	284	0.25	0.288	0.75	46.9	6.1	-22.9	23.7	285.0
268	B09R_087_062$_e$	0.375	0.25	0.875	0.875	0.625	0.562	281	0.25	0.322	0.875	48.7	6.2	-28.9	29.5	282.1
269	B07R_100_075$_e$	0.375	0.25	1.0	1.0	0.75	0.625	279	0.25	0.356	1.0	50.4	6.3	-35.0	35.6	280.2
270	Y00G_037_037$_e$	0.375	0.375	0.0	0.375	0.375	0.187	90	0.375	0.288	0.0	46.2	-1.1	28.8	28.8	92.3
271	Y00G_037_025$_e$	0.375	0.375	0.125	0.375	0.25	0.25	90	0.375	0.317	0.124	47.8	-0.7	19.2	19.2	92.3
272	Y00G_037_012$_e$	0.375	0.375	0.25	0.375	0.125	0.312	90	0.375	0.346	0.249	49.3	-0.3	9.6	9.6	92.3
273	NW_037$_e$	0.375	0.375	0.375	0.375	0.0	0.375	360	0.375	0.375	0.375	50.8	0.0	0.0	0.0	0.0
274	B00R_050_012$_e$	0.375	0.375	0.5	0.5	0.125	0.437	270	0.375	0.407	0.5	52.5	0.1	-6.0	6.0	271.7
275	B00R_062_025$_e$	0.375	0.375	0.625	0.625	0.25	0.5	270	0.375	0.44	0.625	54.2	0.3	-12.1	12.1	271.7
276	B00R_075_037$_e$	0.375	0.375	0.75	0.75	0.375	0.562	270	0.375	0.472	0.75	55.8	0.5	-18.2	18.2	271.7
277	B00R_087_050$_e$	0.375	0.375	0.875	0.875	0.5	0.625	270	0.375	0.505	0.875	57.5	0.7	-24.3	24.3	271.7
278	B00R_100_062$_e$	0.375	0.375	1.0	1.0	0.625	0.687	270	0.375	0.538	1.0	59.2	0.9	-30.4	30.4	271.7
279	Y23G_050_050$_e$	0.375	0.5	0.0	0.5	0.5	0.25	104	0.348	0.5	0.0	54.8	-13.2	39.2	41.4	108.6
280	Y31G_050_037$_e$	0.375	0.5	0.125	0.5	0.375	0.312	109	0.361	0.5	0.124	54.0	-11.7	25.8	28.4	114.4
281	Y50G_050_025$_e$	0.375	0.5	0.25	0.5	0.25	0.375	120	0.375	0.5	0.249	53.6	-10.4	13.7	17.2	127.2
282	G00B_050_012$_e$	0.375	0.5	0.375	0.5	0.125	0.437	150	0.375	0.5	0.393	54.5	-8.2	2.6	8.6	162.2
283	G50B_050_012$_e$	0.375	0.5	0.5	0.5	0.125	0.437	210	0.375	0.5	0.473	54.7	-4.8	-3.6	6.0	216.9
284	G75B_062_025$_e$	0.375	0.5	0.625	0.625	0.25	0.5	240	0.375	0.546	0.625	57.8	-5.8	-12.1	13.4	244.3
285	G84B_075_037$_e$	0.375	0.5	0.75	0.75	0.375	0.562	251	0.375	0.565	0.75	59.3	-5.1	-18.5	19.2	254.3
286	G88B_087_050$_e$	0.375	0.5	0.875	0.875	0.5	0.625	256	0.375	0.592	0.875	60.7	-4.8	-24.7	25.1	258.9
287	G90B_100_062$_e$	0.375	0.5	1.0	1.0	0.625	0.687	259	0.375	0.619	1.0	62.1	-4.5	-30.8	31.1	261.6
288	Y38G_062_062$_e$	0.375	0.625	0.0	0.625	0.625	0.312	113	0.364	0.625	0.0	57.0	-22.1	39.8	45.6	119.1
289	Y50G_062_050$_e$	0.375	0.625	0.125	0.625	0.5	0.375	120	0.375	0.625	0.125	56.4	-20.8	27.4	34.4	127.2
290	Y68G_062_037$_e$	0.375	0.625	0.25	0.625	0.375	0.437	131	0.365	0.625	0.25	56.6	-19.8	16.5	25.8	140.0
291	G00B_062_025$_e$	0.375	0.625	0.375	0.625	0.25	0.5	150	0.375	0.625	0.411	58.3	-16.4	5.2	17.3	162.2
292	G25B_062_025$_e$	0.375	0.625	0.5	0.625	0.25	0.5	180	0.375	0.625	0.499	58.6	-12.9	-2.1	13.0	189.6
293	G50B_062_025$_e$	0.375	0.625	0.625	0.625	0.25	0.5	210	0.375	0.625	0.572	58.6	-9.6	-7.2	12.1	216.9
294	G65B_075_037$_e$	0.375	0.625	0.75	0.75	0.375	0.562	229	0.375	0.75	0.747	61.8	-11.4	-15.9	19.6	234.3
295	G75B_087_050$_e$	0.375	0.625	0.875	0.875	0.5	0.625	240	0.375	0.718	0.875	64.7	-11.6	-24.3	26.9	244.3
296	G80B_100_062$_e$	0.375	0.625	1.0	1.0	0.625	0.687	247	0.375	0.729	1.0	66.2	-10.8	-31.0	32.8	250.7
297	Y50G_075_075$_e$	0.375	0.75	0.0	0.75	0.75	0.375	120	0.375	0.75	0.0	59.2	-31.3	41.1	51.7	127.2
298	Y61G_075_062$_e$	0.375	0.75	0.125	0.75	0.625	0.437	127	0.353	0.75	0.125	59.3	-30.1	29.7	42.3	135.4
299	Y76G_075_050$_e$	0.375	0.75	0.25	0.75	0.5	0.5	136	0.363	0.75	0.25	59.9	-29.1	19.6	35.1	145.9
300	G00B_075_037$_e$	0.375	0.75	0.375	0.75	0.375	0.562	150	0.375	0.75	0.43	62.0	-24.7	7.9	25.9	162.2
301	G15B_075_037$_e$	0.375	0.75	0.5	0.75	0.375	0.562	169	0.375	0.75	0.513	62.4	-21.4	0.1	21.4	179.5
302	G34B_075_037$_e$	0.375	0.75	0.625	0.75	0.375	0.562	191	0.375	0.75	0.593	62.6	-17.5	-6.2	18.6	199.6
303	G50B_075_037$_e$	0.375	0.75	0.75	0.75	0.375	0.562	210	0.375	0.75	0.671	62.5	-14.5	-10.9	18.1	216.9
304	G61B_087_050$_e$	0.375	0.75	0.875	0.875	0.5	0.625	224	0.375	0.875	0.849	65.7	-16.5	-19.5	25.6	229.7
305	G69B_100_062$_e$	0.375	0.75	1.0	1.0	0.625	0.687	233	0.375	0.922	1.0	69.1	-17.4	-27.9	32.9	237.9
306	Y58G_087_087$_e$	0.375	0.875	0.0	0.875	0.875	0.437	125	0.352	0.875	0.0	62.1	-40.5	43.3	59.4	133.0
307	Y68G_087_075$_e$	0.375	0.875	0.125	0.875	0.75	0.5	131	0.356	0.875	0.125	62.5	-39.6	33.1	51.7	140.0
308	Y81G_087_062$_e$	0.375	0.875	0.25	0.875	0.625	0.562	139	0.348	0.875	0.25	63.1	-38.1	22.5	44.2	149.4
309	G00B_087_050$_e$	0.375	0.875	0.375	0.875	0.5	0.625	150	0.375	0.875	0.448	65.8	-32.9	10.5	34.6	162.2
310	G11B_087_050$_e$	0.375	0.875	0.5	0.875	0.5	0.625	164	0.375	0.875	0.535	66.0	-29.9	2.6	30.0	175.0
311	G25B_087_050$_e$	0.375	0.875	0.625	0.875	0.5	0.625	180	0.375	0.875	0.623	66.4	-25.8	-4.3	26.1	189.6
312	G38B_087_050$_e$	0.375	0.875	0.75	0.875	0.5	0.625	196	0.375	0.875	0.686	66.5	-22.1	-9.9	24.2	204.2
313	G50B_087_050$_e$	0.375	0.875	0.875	0.875	0.5	0.625	210	0.375	0.875	0.77	66.4	-19.3	-14.5	24.2	216.9
314	G59B_100_062$_e$	0.375	0.875	1.0	1.0	0.625	0.687	221	0.375	1.0	0.951	69.6	-21.5	-23.1	31.6	227.0
315	Y63G_100_100$_e$	0.375	1.0	0.0	1.0	1.0	0.5	128	0.351	1.0	0.0	65.4	-49.4	46.7	68.0	136.5
316	Y73G_100_087$_e$	0.375	1.0	0.125	1.0	0.875	0.562	134	0.356	1.0	0.125	65.6	-49.1	36.2	61.0	143.5
317	Y85G_100_075$_e$	0.375	1.0	0.25	1.0	0.75	0.625	141	0.329	1.0	0.25	66.4	-47.3	25.4	53.7	151.7
318	G00B_100_062$_e$	0.375	1.0	0.375	1.0	0.625	0.687	150	0.375	1.0	0.466	69.5	-41.2	13.2	43.2	162.2
319	G09B_100_062$_e$	0.375	1.0	0.5	1.0	0.625	0.687	161	0.375	1.0	0.556	69.7	-38.3	5.2	38.7	172.2
320	G19B_100_062$_e$	0.375	1.0	0.625	1.0	0.625	0.687	173	0.375	1.0	0.635	70.2	-34.5	-1.9	34.5	183.2
321	G30B_100_062$_e$	0.375	1.0	0.75	1.0	0.625	0.687	187	0.375	1.0	0.72	70.4	-30.4	-8.7	31.6	195.9
322	G40B_100_062$_e$	0.375	1.0	0.875	1.0	0.625	0.687	199	0.375	1.0	0.785	70.5	-26.9	-13.6	30.2	206.9
323	G50B_100_062$_e$	0.375	1.0	1.0	1.0	0.625	0.687	210	0.375	1.0	0.869	70.3	-24.1	-18.2	30.2	216.9

n	rgb*Fe			LabCh*'Fe					DE*'Fe	hsiM,e	rgb*Me			LabCh*Me				
243	0.375	0.0	0.0	31.0	26.1	19.8	32.8	37.1	11.2	375	1.0	0.0	0.263	47.5	56.0	26.7	62.1	25.4
244	0.375	0.0	0.125	33.0	25.3	9.6	27.1	20.9	8.3	354	1.0	0.0	0.588	47.9	61.1	4.6	61.2	4.3
245	0.375	0.0	0.25	32.8	30.2	-2.5	30.3	355.1	7.3	327	0.941	0.0	1.0	47.0	63.0	-14.9	64.7	346.6
246	0.375	0.0	0.375	33.5	35.7	-11.0	37.4	342.8	18.7	305	0.584	0.0	1.0	38.5	46.7	-28.5	54.7	328.6
247	0.375	0.0	0.5	32.8	37.7	-16.7	41.2	336.0	19.9	289	0.347	0.0	1.0	33.5	36.5	-36.1	51.4	315.3
248	0.375	0.0	0.625	32.2	37.2	-24.4	44.5	326.7	19.0	283	0.235	0.0	1.0	31.0	29.7	-39.7	49.6	306.8
249	0.375	0.0	0.75	33.6	38.5	-29.6	48.6	322.4	20.7	277	0.138	0.0	1.0	31.5	24.4	-41.9	48.5	300.1
250	0.375	0.0	0.875	34.5	38.8	-33.1	51.0	319.5	21.6	273	0.068	0.0	1.0	32.0	20.6	-43.4	48.0	295.4
251	0.375	0.0	1.0	34.2	38.2	-35.0	51.8	317.5	21.9	271	0.026	0.0	1.0	32.3	18.3	-44.1	47.8	292.5
252	0.375	0.125	0.0	36.3	11.9	25.7	28.3	65.0	9.0	39	1.0	0.177	0.0	54.6	49.1	52.0	71.6	46.6
253	0.375	0.125	0.125	38.6	13.7	16.1	21.2	49.5	9.4	375	1.0	0.0	0.263	47.5	56.0	26.7	62.1	25.4
254	0.375	0.125	0.25	37.5	19.2	1.8	19.3	5.6	5.3	339	1.0	0.0	0.827	49.4	65.5	-9.1	66.2	352.0
255	0.375	0.125	0.375	38.9	24.5	-10.7	26.7	336.2	13.5	305	0.584	0.0	1.0	38.5	46.7	-28.5	54.7	328.6
256	0.375	0.125	0.5	38.4	26.0	-16.9	31.0	326.8	14.2	286	0.285	0.0	1.0	31.9	32.8	-38.2	50.4	310.5
257	0.375	0.125	0.625	38.1	26.4	-24.3	35.9	317.3	14.7	277	0.138	0.0	1.0	31.5	24.4	-41.9	48.5	300.1
258	0.375	0.125	0.75	39.9	26.8	-29.2	39.7	312.5	15.1	272	0.04	0.0	1.0	32.2	19.1	-43.9	47.9	293.5
259	0.375	0.125	0.875	36.6	33.1	-35.8	48.7	312.7	21.3	269	0.0	0.014	1.0	32.8	16.1	-44.8	47.6	289.7
260	0.375	0.125	1.0	36.6	31.2	-36.5	48.1	310.4	19.9	267	0.0	0.052	1.0	33.6	13.8	-45.5	47.5	286.9
261	0.375	0.25	0.0	41.9	0.3	36.3	36.3	89.4	14.4	57	1.0	0.466	0.0	68.9	22.1	64.9	68.5	71.1
262	0.375	0.25	0.125	46.0	1.9	22.4	22.4	84.9	10.9	48	1.0	0.319	0.0	61.8	35.2	58.4	68.2	58.8
263	0.375	0.25	0.25	44.2	8.2	6.2	10.3	37.2	3.2	375	1.0	0.0	0.263	47.5	56.0	26.7	62.1	25.4
264	0.375	0.25	0.375	44.6	12.6	-8.8	15.4	324.8	8.6	305	0.584	0.0	1.0	38.5	46.7	-28.5	54.7	328.6
265	0.375	0.25	0.5	43.9	14.9	-17.7	23.1	310.0	11.4	277	0.138	0.0	1.0	31.5	24.4	-41.9	48.5	300.1
266	0.375	0.25	0.625	43.8	16.7	-24.9	30.0	303.9	13.5	269	0.0	0.014	1.0	32.8	16.1	-44.8	47.6	289.7
267	0.375	0.25	0.75	45.3	17.2	-29.4	34.1	300.3	12.9	266	0.0	0.077	1.0	34.1	12.2	-45.8	47.4	285.0
268	0.375	0.25	0.875	41.4	23.7	-37.0	43.9	302.7	20.6	263	0.0	0.115	1.0	34.8	9.9	-46.2	47.3	282.1
269	0.375	0.25	1.0	40.0	23.6	-38.0	44.7	301.8	20.3	262	0.0	0.141	1.0	35.3	8.4	-46.7	47.5	280.2
270	0.375	0.375	0.0	51.3	-10.5	44.1	45.3	103.3	18.6	77	1.0	0.768	0.0	83.6	-3.1	76.8	76.9	92.3
271	0.375	0.375	0.125	54.5	-9.1	32.2	33.5	105.8	16.9	77	1.0	0.768	0.0	83.6	-3.1	76.8	76.9	92.3
272	0.375	0.375	0.25	52.7	-5.7	13.0	14.2	113.7	7.1	77	1.0	0.768	0.0	83.6	-3.1	76.8	76.9	92.3
273	0.375	0.375	0.375	51.9	0.0	-1.3	1.3	267.6	1.7	360	1.0	1.0	1.0	95.8	0.0	0.0	0.0	0.0
274	0.375	0.375	0.5	49.1	2.6	-17.1	17.3	278.8	11.7	255	0.0	0.261	1.0	37.3	1.4	-48.6	48.7	271.7
275	0.375	0.375	0.625	49.0	5.4	-23.7	24.3	282.9	13.6	255	0.0	0.261	1.0	37.3	1.4	-48.6	48.7	271.7
276	0.375	0.375	0.75	50.1	8.2	-28.1	29.3	286.2	13.8	255	0.0	0.261	1.0	37.3	1.4	-48.6	48.7	271.7
277	0.375	0.375	0.875	48.1	13.7	-36.3	38.8	290.6	20.0	255	0.0	0.261	1.0	37.3	1.4	-48.6	48.7	271.7
278	0.375	0.375	1.0	45.6	15.1	-37.4	40.3	291.9	20.8	255	0.0	0.261	1.0	37.3	1.4	-48.6	48.7	271.7
279	0.375	0.5	0.0	52.5	-14.9	46.5	48.9	107.8	7.8	107	0.697	1.0	0.0	85.8	-26.4	78.5	82.9	108.6
280	0.375	0.5	0.125	58.4	-15.5	32.6	36.1	115.5	8.8	111	0.631	1.0	0.0	80.4	-31.3	68.9	75.7	114.4
281	0.375	0.5	0.25	57.6	-13.8	15.4	20.6	131.8	5.5	119	0.5	1.0	0.0	71.0	-41.7	54.8	68.9	127.2
282	0.375	0.5	0.375	57.3	-10.5	1.3	10.6	172.6	3.8	157	0.0	1.0	0.146	53.8	-65.9	21.1	69.2	162.2
283	0.375	0.5	0.5	57.8	-8.1	-14.6	16.7	240.7	11.8	198	0.0	1.0	0.791	54.9	-38.7	-29.1	48.4	216.9
284	0.375	0.5	0.625	55.5	-5.3	-22.4	23.0	256.4	10.4	227	0.0	0.686	1.0	51.7	-23.3	-48.6	53.9	244.3
285	0.375	0.5	0.75	55.8	-1.9	-26.2	26.2	265.7	8.9	239	0.0	0.508	1.0	46.4	-13.8	-49.4	51.3	254.3
286	0.375	0.5	0.875	55.6	1.9	-34.3	34.3	273.1	12.7	244	0.0	0.434	1.0	43.6	-9.6	-49.4	50.3	258.9
287	0.375	0.5	1.0	50.5	7.1	-37.2	37.9	280.8	17.6	247	0.0	0.39	1.0	42.0	-7.2	-49.3	49.8	261.6
288	0.375	0.625	0.0	54.6	-24.7	44.4	50.8	119.1	5.7	114	0.583	1.0	0.0	76.9	-35.5	63.7	73.0	119.1
289	0.375	0.625	0.125	60.5	-24.0	33.1	40.9	125.9	7.7	119	0.5	1.0	0.0	71.0	-41.7	54.8	68.9	127.2
290	0.375	0.625	0.25	59.6	-23.4	16.6	28.7	144.4	4.6	132	0.308	1.0	0.0	63.4	-52.8	44.2	68.9	140.0
291	0.375	0.625	0.375	59.8	-21.2	2.2	21.3	174.0	5.9	157	0.0	1.0	0.146	53.8	-65.9	21.1	69.2	162.2
292	0.375	0.625	0.5	61.0	-16.0	-9.8	18.8	211.6	8.6	179	0.0	1.0	0.497	55.0	-51.6	-8.7	52.3	189.6
293	0.375	0.625	0.625	61.7	-13.9	-20.3	24.6	235.5	14.0	198	0.0	1.0	0.791	54.9	-38.7	-29.1	48.4	216.9
294	0.375	0.625	0.75	62.0	-10.7	-25.9	28.0	247.4	10.0	209	0.0	1.0	0.992	53.2	-30.5	-42.5	52.3	234.3
295	0.375	0.625	0.875	60.9	-8.3	-30.8	32.0	254.8	8.2	227	0.0	0.686	1.0	51.7	-23.3	-48.6	53.9	244.3
296	0.375	0.625	1.0	55.0	-3.9	-38.4	38.6	264.0	15.1	235	0.0	0.567	1.0	48.5	-17.3	-49.6	52.5	250.7
297	0.375	0.75	0.0	59.8	-35.2	45.5	57.5	127.7	5.8	119	0.5	1.0	0.0	71.0	-41.7	54.8	68.9	127.2
298	0.375	0.75	0.125	63.2	-34.1	33.8	48.0	135.2	6.9	128	0.366	1.0	0.0	66.1	-48.2	47.5	67.7	135.4
299	0.375	0.75	0.25	63.2	-31.5	18.9	36.8	148.9	4.1	137	0.227	1.0	0.0	59.9	-58.2	39.3	70.2	145.9
300	0.375	0.75	0.375	64.0	-28.1	7.2	29.0	165.5	3.9	157	0.0	1.0	0.146	53.8	-65.9	21.1	69.2	162.2
301	0.375	0.75	0.5	65.6	-24.0	-3.0	24.2	187.1	5.2	171	0.0	1.0	0.37	54.7	-57.0	0.4	57.0	179.5
302	0.375	0.75	0.625	65.5	-19.9	-16.4	25.8	219.4	10.8	185	0.0	1.0	0.583	55.2	-46.8	-16.7	49.7	199.6
303	0.375	0.75	0.75	66.7	-17.2	-24.6	30.1	234.9	14.6	198	0.0	1.0	0.791	54.9	-38.7	-29.1	48.4	216.9
304	0.375	0.75	0.875	66.6	-15.4	-30.4	34.1	243.0	10.9	207	0.0	1.0	0.948	53.6	-33.1	-39.1	51.2	229.7
305	0.375	0.75	1.0	65.2	-14.4	-34.4	37.3	247.2	8.1	216	0.0	0.875	1.0	53.1	-27.9	-44.7	52.7	237.9
306	0.375	0.875	0.0	65.1	-42.1	48.4	64.2	131.0	6.1	126	0.402	1.0	0.0	67.5	-46.3	49.5	67.9	133.0
307	0.375	0.875	0.125	68.5	-42.0	41.3	58.9	135.4	10.3	132	0.308	1.0	0.0	63.4	-52.8	44.2	68.9	140.0
308	0.375	0.875	0.25	69.1	-38.0	25.3	45.7	146.3	6.6	141	0.157	1.0	0.0	57.9	-60.9	36.0	70.8	149.4
309	0.375	0.875	0.375	70.2	-35.8	15.5	39.0	156.5	7.2	157	0.0	1.0	0.146	53.8	-65.9	21.1	69.2	162.2
310	0.375	0.875	0.5	70.5	-32.5	4.6	32.8	171.8	5.5	168	0.0	1.0	0.32	54.3	-59.8	5.2	60.1	175.0
311	0.375	0.875	0.625	70.2	-27.4	-7.1	28.4	194.5	5.0	179	0.0	1.0	0.497	55.0	-51.6	-8.7	52.3	189.6
312	0.375	0.875	0.75	69.8	-23.6	-19.2	30.4	219.2	10.0	188	0.0	1.0	0.622	55.3	-44.3	-19.9	48.5	204.2
313	0.375	0.875	0.875	69.6	-19.7	-29.8	35.8	236.5	15.6	198	0.0	1.0	0.791	54.9	-38.7	-29.1	48.4	216.9
314	0.375	0.875	1.0	69.0	-18.0	-32.5	37.1	240.9	10.0	206	0.0	1.0	0.922	53.9	-34.5	-37.0	50.6	227.0
315	0.375	1.0	0.0	66.5	-47.5	48.0	67.6	134.7	2.5	129	0.351	1.0	0.0	65.4	-49.4	46.7	68.0	136.5
316	0.375	1.0	0.125	65.8	-48.1	40.9	63.2	139.6	4.8	135	0.264	1.0	0.0	61.3	-56.1	41.4	69.8	143.5
317	0.375	1.0	0.25	68.6	-41.6	26.2	49.1	147.8	6.1	144	0.105	1.0	0.0	56.6	-63.0	33.9	71.6	151.7
318	0.375	1.0	0.375	67.7	-40.5	17.5	44.1	156.6	4.7	157	0.0	1.0	0.146	53.8	-65.9	21.1	69.2	162.2
319	0.375	1.0	0.5	68.0	-37.8	9.0	38.9	166.4	4.2	166	0.0	1.0	0.29	54.1	-61.3	8.3	61.9	172.2
320	0.375	1.0	0.625	69.0	-32.3	-4.1	32.5	187.3	3.3	174	0.0	1.0	0.416	54.8	-55.2	-3.1	55.3	183.2
321	0.375	1.0	0.75	69.0	-27.4	-16.8	32.2	211.4	8.7	183	0.0	1.0	0.552	55.1	-48.7	-13.9	50.6	195.9
322	0.375	1.0	0.875	69.3	-23.5	-24.1	33.7	225.7	11.0	190	0.0	1.0	0.656	55.3	-43.1	-21.9	48.3	206.9
323	0.375	1.0	1.0	67.9	-20.6	-32.1	38.2	237.3	14.6	198	0.0	1.0	0.791	54.9	-38.7	-29.1	48.4	216.9

Mean color difference of this page: delta $E^{*'}$ = **10.9**

1−0132230−F0

PE890−7N, Page 23/33−F

TUB-test chart PE89; 16 step hue circle
colors and differences, $\Delta E^{*'}$

input: $rgb/cmyk \rightarrow rgb_e$
output: transfer to $cmyk_e$

1−0132230−F0

n	HIC*Fe	*rgb*_Fe			*ict*_Fe			$h_{si_F,e}$	*rgb**Fe			*LabCh**Fe				
324	R00Y_050_050e	0.5	0.0	0.0	0.5	0.5	0.25	390	0.5	0.0	0.131	35.7	28.0	13.3	31.0	25.4
325	R26Y_050_050e	0.5	0.0	0.125	0.5	0.5	0.25	376	0.5	0.0	0.25	35.8	29.5	5.1	29.9	9.8
326	R00Y_050_050e	0.5	0.0	0.25	0.5	0.5	0.25	360	0.5	0.0	0.413	36.6	32.7	−4.5	33.1	352.0
327	B61R_050_050e	0.5	0.0	0.375	0.5	0.5	0.25	344	0.412	0.0	0.5	34.0	29.1	−9.5	30.6	341.8
328	B50R_050_050e	0.5	0.0	0.5	0.5	0.5	0.25	330	0.292	0.0	0.5	31.1	23.3	−14.2	27.3	328.6
329	B40R_062_062e	0.5	0.0	0.625	0.625	0.625	0.312	319	0.242	0.0	0.625	30.5	24.2	−21.6	32.4	318.1
330	B34R_075_075e	0.5	0.0	0.75	0.75	0.75	0.375	311	0.214	0.0	0.75	29.9	24.6	−28.7	37.8	310.5
331	B29R_087_087e	0.5	0.0	0.875	0.875	0.875	0.437	305	0.181	0.0	0.875	30.2	24.7	−35.4	43.1	304.9
332	B25R_100_100e	0.5	0.0	1.0	1.0	1.0	0.5	300	0.138	0.0	1.0	31.5	24.4	−41.9	48.5	300.1
333	R23Y_050_050e	0.5	0.125	0.0	0.5	0.5	0.25	44	0.5	0.054	0.0	37.6	27.4	23.8	36.3	41.0
334	R00Y_050_037e	0.5	0.125	0.125	0.5	0.375	0.312	390	0.5	0.124	0.223	41.7	21.0	10.0	23.2	25.4
335	R18Y_050_037e	0.5	0.125	0.25	0.5	0.375	0.312	371	0.5	0.124	0.345	41.8	22.9	1.7	22.9	4.3
336	B65R_050_037e	0.5	0.125	0.375	0.5	0.375	0.312	349	0.478	0.124	0.5	41.5	23.6	−5.6	24.2	346.6
337	B50R_050_037e	0.5	0.125	0.5	0.5	0.375	0.312	330	0.344	0.124	0.5	38.3	17.5	−10.7	20.5	328.6
338	B38R_062_050e	0.5	0.125	0.625	0.625	0.5	0.375	316	0.298	0.125	0.625	37.6	18.2	−18.0	25.7	315.3
339	B30R_075_062e	0.5	0.125	0.75	0.75	0.625	0.437	307	0.272	0.125	0.75	37.3	18.6	−24.8	31.0	306.8
340	B25R_087_075e	0.5	0.125	0.875	0.875	0.75	0.5	300	0.229	0.125	0.875	38.6	18.3	−31.4	36.4	300.1
341	B20R_100_087e	0.5	0.125	1.0	1.0	0.875	0.562	295	0.185	0.125	1.0	40.0	18.0	−38.0	42.0	295.4
342	R50Y_050_050e	0.5	0.25	0.0	0.5	0.5	0.25	60	0.5	0.159	0.0	42.8	17.6	29.2	34.1	58.8
343	R31Y_050_037e	0.5	0.25	0.125	0.5	0.375	0.312	49	0.5	0.191	0.124	44.3	18.4	19.5	26.8	46.6
344	R00Y_050_025e	0.5	0.25	0.25	0.5	0.25	0.375	390	0.5	0.249	0.315	47.7	14.0	6.6	15.5	25.4
345	R00Y_050_025e	0.5	0.25	0.375	0.5	0.25	0.375	360	0.5	0.249	0.456	48.2	16.3	−2.2	16.5	352.0
346	B50R_050_025e	0.5	0.25	0.5	0.5	0.25	0.375	330	0.396	0.249	0.5	45.5	11.6	−7.1	13.6	328.6
347	B34R_062_037e	0.5	0.25	0.625	0.625	0.375	0.437	311	0.357	0.25	0.625	44.8	12.3	−14.3	18.9	310.5
348	B25R_075_050e	0.5	0.25	0.75	0.75	0.5	0.5	300	0.319	0.25	0.75	45.6	12.2	−20.9	24.2	300.1
349	B19R_087_062e	0.5	0.25	0.875	0.875	0.625	0.562	293	0.275	0.25	0.875	47.1	11.9	−27.4	29.9	293.5
350	B15R_100_075e	0.5	0.25	1.0	1.0	0.75	0.625	289	0.25	0.26	1.0	48.5	12.0	−33.6	35.7	289.7
351	R76Y_050_050e	0.5	0.375	0.0	0.5	0.5	0.25	76	0.5	0.275	0.0	48.0	8.0	34.1	35.0	76.7
352	R68Y_050_037e	0.5	0.375	0.125	0.5	0.375	0.312	71	0.5	0.3	0.124	49.7	8.3	24.3	25.7	71.1
353	R50Y_050_025e	0.5	0.375	0.25	0.5	0.25	0.375	60	0.5	0.329	0.249	51.3	8.8	14.6	17.0	58.8
354	R00Y_050_012e	0.5	0.375	0.375	0.5	0.125	0.437	390	0.5	0.375	0.407	53.8	7.0	3.3	7.7	25.4
355	B50R_050_012e	0.5	0.375	0.5	0.5	0.125	0.437	330	0.448	0.375	0.5	52.6	5.8	−3.5	6.8	328.6
356	B25R_062_025e	0.5	0.375	0.625	0.625	0.25	0.5	300	0.409	0.375	0.625	52.7	6.1	−10.4	12.1	300.1
357	B15R_075_037e	0.5	0.375	0.75	0.75	0.375	0.562	289	0.375	0.38	0.75	54.2	6.0	−16.8	17.8	289.7
358	B11R_087_050e	0.5	0.375	0.875	0.875	0.5	0.625	284	0.375	0.413	0.875	55.9	6.1	−22.9	23.7	285.0
359	B09R_100_062e	0.5	0.375	1.0	1.0	0.625	0.687	281	0.375	0.447	1.0	57.7	6.2	−28.9	29.5	282.1
360	Y00G_050_050e	0.5	0.5	0.0	0.5	0.5	0.25	90	0.5	0.384	0.0	53.7	−1.5	38.4	38.4	92.3
361	Y00G_050_037e	0.5	0.5	0.125	0.5	0.375	0.312	90	0.5	0.413	0.124	55.2	−1.1	28.8	28.8	92.3
362	Y00G_050_025e	0.5	0.5	0.25	0.5	0.25	0.375	90	0.5	0.442	0.249	56.8	−0.7	19.2	19.2	92.3
363	Y00G_050_012e	0.5	0.5	0.375	0.5	0.125	0.437	90	0.5	0.471	0.375	58.3	−0.3	9.6	9.6	92.3
364	NW_050e	0.5	0.5	0.5	0.5	0.0	0.5	360	0.5	0.5	0.5	59.8	0.0	0.0	0.0	0.0
365	B00R_062_012e	0.5	0.5	0.625	0.625	0.125	0.562	270	0.5	0.532	0.625	61.5	0.1	−6.0	6.0	271.7
366	B00R_075_025e	0.5	0.5	0.75	0.75	0.25	0.625	270	0.5	0.565	0.75	63.2	0.3	−12.1	12.1	271.7
367	B00R_087_037e	0.5	0.5	0.875	0.875	0.375	0.687	270	0.5	0.597	0.875	64.8	0.5	−18.2	18.2	271.7
368	B00R_100_050e	0.5	0.5	1.0	1.0	0.5	0.75	270	0.5	0.63	1.0	66.5	0.7	−24.3	24.3	271.7
369	Y18G_062_062e	0.5	0.625	0.0	0.625	0.625	0.312	101	0.46	0.625	0.0	64.5	−14.2	52.6	54.5	105.1
370	Y23G_062_050e	0.5	0.625	0.125	0.625	0.5	0.375	104	0.473	0.625	0.125	63.8	−13.2	39.2	41.4	108.6
371	Y31G_062_037e	0.5	0.625	0.25	0.625	0.375	0.437	109	0.486	0.625	0.25	63.0	−11.7	25.8	28.4	114.4
372	Y50G_062_025e	0.5	0.625	0.375	0.625	0.25	0.5	120	0.5	0.625	0.375	62.6	−10.4	13.7	17.2	127.2
373	G00B_062_012e	0.5	0.625	0.5	0.625	0.125	0.562	150	0.5	0.625	0.518	63.5	−8.2	2.6	8.6	162.2
374	G50B_062_012e	0.5	0.625	0.625	0.625	0.125	0.562	210	0.5	0.625	0.598	63.7	−4.8	−3.6	6.0	216.9
375	G75B_075_025e	0.5	0.625	0.75	0.75	0.25	0.625	240	0.5	0.671	0.75	66.8	−5.8	−12.1	13.4	244.3
376	G84B_087_037e	0.5	0.625	0.875	0.875	0.375	0.687	251	0.5	0.69	0.875	68.3	−5.1	−18.5	19.2	254.3
377	G88B_100_050e	0.5	0.625	1.0	1.0	0.5	0.75	256	0.5	0.717	1.0	69.7	−4.8	−24.7	25.1	258.9
378	Y31G_075_075e	0.5	0.75	0.0	0.75	0.75	0.375	109	0.473	0.75	0.0	66.2	−23.5	51.7	56.8	114.4
379	Y38G_075_062e	0.5	0.75	0.125	0.75	0.625	0.437	113	0.489	0.75	0.125	66.0	−22.1	39.8	45.6	119.1
380	Y50G_075_050e	0.5	0.75	0.25	0.75	0.5	0.5	120	0.5	0.75	0.25	65.4	−20.8	27.4	34.4	127.2
381	Y68G_075_037e	0.5	0.75	0.375	0.75	0.375	0.562	131	0.49	0.75	0.375	65.6	−19.8	16.5	25.8	140.0
382	G00B_075_025e	0.5	0.75	0.5	0.75	0.25	0.625	150	0.5	0.75	0.536	67.3	−16.4	5.2	17.3	162.2
383	G25B_075_025e	0.5	0.75	0.625	0.75	0.25	0.625	180	0.5	0.75	0.624	67.6	−12.9	−2.1	13.0	189.6
384	G50B_075_025e	0.5	0.75	0.75	0.75	0.25	0.625	210	0.5	0.75	0.697	67.6	−9.6	−7.2	12.1	216.9
385	G65B_087_037e	0.5	0.75	0.875	0.875	0.375	0.687	229	0.5	0.875	0.872	70.8	−11.4	−15.9	19.6	234.3
386	G75B_100_050e	0.5	0.75	1.0	1.0	0.5	0.75	240	0.5	0.843	1.0	73.7	−11.6	−24.3	26.9	244.3
387	Y41G_087_087e	0.5	0.875	0.0	0.875	0.875	0.437	115	0.489	0.875	0.0	68.8	−32.7	53.6	62.8	121.4
388	Y50G_087_075e	0.5	0.875	0.125	0.875	0.75	0.5	120	0.5	0.875	0.125	68.2	−31.3	41.1	51.7	127.2
389	Y61G_087_062e	0.5	0.875	0.25	0.875	0.625	0.562	127	0.478	0.875	0.25	68.3	−30.1	29.7	42.3	135.4
390	Y76G_087_050e	0.5	0.875	0.375	0.875	0.5	0.625	136	0.488	0.875	0.375	68.9	−29.1	19.6	35.1	145.9
391	G00B_087_037e	0.5	0.875	0.5	0.875	0.375	0.687	150	0.5	0.875	0.555	71.0	−24.7	7.9	25.9	162.2
392	G15B_087_037e	0.5	0.875	0.625	0.875	0.375	0.687	169	0.5	0.875	0.638	71.4	−21.4	0.1	21.4	179.5
393	G34B_087_037e	0.5	0.875	0.75	0.875	0.375	0.687	191	0.5	0.875	0.718	71.6	−17.5	−6.2	18.6	199.6
394	G50B_087_037e	0.5	0.875	0.875	0.875	0.375	0.687	210	0.5	0.875	0.796	71.5	−14.5	−10.9	18.1	216.9
395	G61B_100_050e	0.5	0.875	1.0	1.0	0.5	0.75	224	0.5	1.0	0.974	74.7	−16.5	−19.5	25.6	229.7
396	Y50G_100_100e	0.5	1.0	0.0	1.0	1.0	0.5	120	0.5	1.0	0.0	71.0	−41.7	54.8	68.9	127.2
397	Y58G_100_087e	0.5	1.0	0.125	1.0	0.875	0.562	125	0.477	1.0	0.125	71.0	−40.5	43.3	59.4	133.0
398	Y68G_100_075e	0.5	1.0	0.25	1.0	0.75	0.625	131	0.481	1.0	0.25	71.5	−39.6	33.1	51.7	140.0
399	Y81G_100_062e	0.5	1.0	0.375	1.0	0.625	0.687	139	0.473	1.0	0.375	72.1	−38.1	22.5	44.2	149.4
400	G00B_100_050e	0.5	1.0	0.5	1.0	0.5	0.75	150	0.5	1.0	0.573	74.8	−32.9	10.5	34.6	162.2
401	G11B_100_050e	0.5	1.0	0.625	1.0	0.5	0.75	164	0.5	1.0	0.66	75.0	−29.9	2.6	30.0	175.0
402	G25B_100_050e	0.5	1.0	0.75	1.0	0.5	0.75	180	0.5	1.0	0.748	75.4	−25.8	−4.3	26.1	189.6
403	G38B_100_050e	0.5	1.0	0.875	1.0	0.5	0.75	196	0.5	1.0	0.811	75.5	−22.1	−9.9	24.2	204.2
404	G50B_100_050e	0.5	1.0	1.0	1.0	0.5	0.75	210	0.5	1.0	0.895	75.4	−19.3	−14.5	24.2	216.9

n	*rgb**'Fe			*LabCh**'Fe					*DE**'Fe	$h_{siM,e}$	*rgb**Me			*LabCh**Me				
324	0.5	0.0	0.0	33.0	34.7	23.4	41.8	34.0	12.3	375	1.0	0.0	0.263	47.5	56.0	26.7	62.1	25.4
325	0.5	0.0	0.125	35.0	33.1	15.9	36.8	25.6	11.4	359	1.0	0.0	0.501	47.8	59.0	10.2	59.9	9.8
326	0.5	0.0	0.25	34.5	35.7	4.5	36.0	7.2	9.8	339	1.0	0.0	0.827	49.4	65.5	−9.1	66.2	352.0
327	0.5	0.0	0.375	34.5	40.0	−4.9	40.3	352.9	11.8	320	0.825	0.0	1.0	44.1	58.2	−19.0	61.2	341.8
328	0.5	0.0	0.5	35.4	43.7	−12.1	45.3	344.4	20.8	305	0.584	0.0	1.0	38.5	46.7	−28.5	54.7	328.6
329	0.5	0.0	0.625	36.0	44.3	−17.4	47.6	338.4	21.2	292	0.387	0.0	1.0	34.5	38.7	−34.6	51.9	318.1
330	0.5	0.0	0.75	36.1	42.9	−25.1	49.7	329.7	19.7	286	0.285	0.0	1.0	31.9	32.8	−38.2	50.4	310.5
331	0.5	0.0	0.875	36.8	43.9	−29.1	52.7	326.4	21.2	281	0.207	0.0	1.0	31.2	28.2	−40.4	49.3	304.9
332	0.5	0.0	1.0	37.2	43.1	−30.8	53.0	324.4	22.5	277	0.138	0.0	1.0	31.5	24.4	−41.9	48.5	300.1
333	0.5	0.125	0.0	37.8	21.9	30.7	37.7	54.4	8.7	35	1.0	0.108	0.0	51.4	54.8	47.7	72.6	41.0
334	0.5	0.125	0.125	40.9	20.9	22.3	30.6	46.9	12.3	375	1.0	0.0	0.263	47.5	56.0	26.7	62.1	25.4
335	0.5	0.125	0.25	40.4	24.2	10.5	26.4	23.4	8.9	354	1.0	0.0	0.588	47.9	61.1	4.6	61.2	4.3
336	0.5	0.125	0.375	40.9	29.5	−2.3	29.6	355.4	6.7	327	0.941	0.0	1.0	47.0	63.0	−14.9	64.7	346.6
337	0.5	0.125	0.5	41.4	34.0	−11.7	35.9	340.9	16.8	305	0.584	0.0	1.0	38.5	46.7	−28.5	54.7	328.6
338	0.5	0.125	0.625	41.7	36.1	−16.8	39.8	334.9	18.3	289	0.347	0.0	1.0	33.5	36.5	−36.1	51.4	315.3
339	0.5	0.125	0.75	42.1	36.6	−22.8	43.1	328.0	18.7	283	0.235	0.0	1.0	31.0	29.7	−39.7	49.6	306.8
340	0.5	0.125	0.875	39.4	40.7	−31.1	51.2	322.5	22.4	277	0.138	0.0	1.0	31.5	24.4	−41.9	48.5	300.1
341	0.5	0.125	1.0	38.1	38.1	−33.2	50.5	318.9	20.7	273	0.068	0.0	1.0	32.0	20.6	−43.4	48.0	295.4
342	0.5	0.25	0.0	42.9	9.5	37.9	39.1	75.8	11.8	48	1.0	0.319	0.0	61.8	35.2	58.4	68.2	58.8
343	0.5	0.25	0.125	47.7	9.2	27.3	28.8	71.3	12.5	39	1.0	0.177	0.0	54.6	49.1	52.0	71.6	46.6
344	0.5	0.25	0.25	47.3	12.4	14.0	18.8	48.4	7.5	375	1.0	0.0	0.263	47.5	56.0	26.7	62.1	25.4
345	0.5	0.25	0.375	47.4	17.7	0.5	17.7	1.7	3.2	339	1.0	0.0	0.827	49.4	65.5	−9.1	66.2	352.0
346	0.5	0.25	0.5	48.2	22.5	−10.7	24.9	334.5	11.7	305	0.584	0.0	1.0	38.5	46.7	−28.5	54.7	328.6
347	0.5	0.25	0.625	47.0	26.3	−16.8	31.2	327.4	14.4	286	0.285	0.0	1.0	31.9	32.8	−38.2	50.4	310.5
348	0.5	0.25	0.75	47.2	25.4	−23.0	34.2	317.8	13.4	277	0.138	0.0	1.0	31.5	24.4	−41.9	48.5	300.1
349	0.5	0.25	0.875	44.2	30.7	−32.3	44.6	313.5	19.6	272	0.04	0.0	1.0	32.2	19.1	−43.9	47.9	293.5
350	0.5	0.25	1.0	41.5	30.8	−33.9	45.9	312.2	20.0	269	0.0	0.014	1.0	32.8	16.1	−44.8	47.6	289.7
351	0.5	0.375	0.0	49.5	−1.5	44.7	44.8	92.0	14.4	63	1.0	0.551	0.0	72.3	16.1	68.2	70.1	76.7
352	0.5	0.375	0.125	55.2	−1.8	35.0	35.0	93.0	15.7	57	1.0	0.466	0.0	68.9	22.1	64.9	68.5	71.1
353	0.5	0.375	0.25	55.5	1.1	20.0	20.0	86.5	10.2	48	1.0	0.319	0.0	61.8	35.2	58.4	68.2	58.8
354	0.5	0.375	0.375	55.3	6.0	4.5	7.5	37.0	2.1	375	1.0	0.0	0.263	47.5	56.0	26.7	62.1	25.4
355	0.5	0.375	0.5	55.1	10.6	−8.5	13.6	321.0	7.3	305	0.584	0.0	1.0	38.5	46.7	−28.5	54.7	328.6
356	0.5	0.375	0.625	53.7	15.0	−15.6	21.7	313.8	10.3	277	0.138	0.0	1.0	31.5	24.4	−41.9	48.5	300.1
357	0.5	0.375	0.75	52.8	15.2	−22.5	27.2	304.0	10.9	269	0.0	0.014	1.0	32.8	16.1	−44.8	47.6	289.7
358	0.5	0.375	0.875	51.3	19.7	−31.2	36.9	302.2	16.6	266	0.0	0.077	1.0	34.1	12.2	−45.8	47.4	285.0
359	0.5	0.375	1.0	48.9	19.7	−33.2	38.6	300.6	16.6	263	0.0	0.115	1.0	34.8	9.9	−46.2	47.3	282.1
360	0.5	0.5	0.0	58.4	−9.8	54.3	55.2	100.3	18.5	77	1.0	0.768	0.0	83.6	−3.1	76.8	76.9	92.3
361	0.5	0.5	0.125	63.3	−10.2	43.2	44.4	103.3	18.8	77	1.0	0.768	0.0	83.6	−3.1	76.8	76.9	92.3
362	0.5	0.5	0.25	63.4	−8.3	26.8	28.1	107.2	12.6	77	1.0	0.768	0.0	83.6	−3.1	76.8	76.9	92.3
363	0.5	0.5	0.375	62.4	−4.5	10.1	11.1	114.2	5.9	77	1.0	0.768	0.0	83.6	−3.1	76.8	76.9	92.3
364	0.5	0.5	0.5	61.2	0.0	−1.2	1.2	268.4	1.9	360	1.0	1.0	1.0	95.8	0.0	0.0	0.0	0.0
365	0.5	0.5	0.625	60.7	2.8	−14.6	14.9	280.9	9.0	255	0.0	0.261	1.0	37.3	1.4	−48.6	48.7	271.7
366	0.5	0.5	0.75	59.3	5.1	−20.9	21.5	283.9	10.6	255	0.0	0.261	1.0	37.3	1.4	−48.6	48.7	271.7
367	0.5	0.5	0.875	58.7	9.0	−29.2	30.6	287.1	15.2	255	0.0	0.261	1.0	37.3	1.4	−48.6	48.7	271.7
368	0.5	0.5	1.0	54.8	11.5	−32.2	34.2	289.7	17.8	255	0.0	0.261	1.0	37.3	1.4	−48.6	48.7	271.7
369	0.5	0.625	0.0	62.4	−14.6	58.2	60.1	104.1	6.0	104	0.736	1.0	0.0	89.0	−22.7	84.1	87.2	105.1
370	0.5	0.625	0.125	66.6	−15.4	47.2	49.7	108.1	8.8	107	0.697	1.0	0.0	85.8	−26.4	78.5	82.9	108.6
371	0.5	0.625	0.25	66.7	−14.9	30.6	34.1	116.0	6.8	111	0.631	1.0	0.0	80.4	−31.3	68.9	75.7	114.4
372	0.5	0.625	0.375	67.2	−12.6	14.5	19.3	131.0	5.1	119	0.5	1.0	0.0	71.0	−41.7	54.8	68.9	127.2
373	0.5	0.625	0.5	68.1	−10.3	1.1	10.3	173.6	5.2	157	0.0	1.0	0.146	53.8	−65.9	21.1	69.2	162.2
374	0.5	0.625	0.625	67.6	−7.6	−13.2	15.3	240.0	10.7	198	0.0	1.0	0.791	54.9	−38.7	−29.1	48.4	216.9
375	0.5	0.625	0.75	66.4	−4.0	−18.8	19.2	257.9	6.9	227	0.0	0.686	1.0	51.7	−23.3	−48.6	53.9	244.3
376	0.5	0.625	0.875	65.0	−2.1	−26.5	26.6	265.4	9.2	239	0.0	0.508	1.0	46.4	−13.8	−49.4	51.3	254.3
377	0.5	0.625	1.0	61.1	1.9	−31.0	31.1	273.5	12.6	244	0.0	0.434	1.0	43.6	−9.6	−49.4	50.3	258.9
378	0.5	0.75	0.0	68.3	−23.0	59.6	63.9	111.1	8.2	111	0.631	1.0	0.0	80.4	−31.3	68.9	75.7	114.4
379	0.5	0.75	0.125	71.0	−23.7	51.2	56.4	114.8	12.5	114	0.583	1.0	0.0	76.9	−35.5	63.7	73.0	119.1
380	0.5	0.75	0.25	70.5	−23.0	31.5	39.0	126.1	6.8	119	0.5	1.0	0.0	71.0	−41.7	54.8	68.9	127.2
381	0.5	0.75	0.375	70.5	−21.9	16.7	27.5	142.6	5.3	132	0.308	1.0	0.0	63.4	−52.8	44.2	68.9	140.0
382	0.5	0.75	0.5	71.5	−17.7	5.1	18.4	163.7	4.3	157	0.0	1.0	0.146	53.8	−65.9	21.1	69.2	162.2
383	0.5	0.75	0.625	71.7	−14.2	−8.4	16.5	210.8	7.6	179	0.0	1.0	0.497	55.0	−51.6	−8.7	52.3	189.6
384	0.5	0.75	0.75	71.8	−13.8	−19.5	23.9	234.6	13.6	198	0.0	1.0	0.791	54.9	−38.7	−29.1	48.4	216.9
385	0.5	0.75	0.875	71.1	−12.0	−24.9	27.6	244.2	9.0	209	0.0	1.0	0.992	53.2	−30.5	−42.5	52.3	234.3
386	0.5	0.75	1.0	67.8	−8.8	−30.1	31.4	253.6	8.8	227	0.0	0.686	1.0	51.7	−23.3	−48.6	53.9	244.3
387	0.5	0.875	0.0	72.6	−31.6	60.6	68.4	117.5	8.0	116	0.559	1.0	0.0	75.2	−37.4	61.2	71.8	121.4
388	0.5	0.875	0.125	73.5	−32.7	52.2	61.7	122.0	12.4	119	0.5	1.0	0.0	71.0	−41.7	54.8	68.9	127.2
389	0.5	0.875	0.25	72.6	−31.8	30.2	43.8	136.4	4.6	128	0.366	1.0	0.0	66.1	−48.2	47.5	67.7	135.4
390	0.5	0.875	0.375	72.3	−31.3	18.4	36.3	149.5	4.3	137	0.227	1.0	0.0	59.9	−58.2	39.3	70.2	145.9
391	0.5	0.875	0.5	73.6	−28.3	8.6	29.5	163.0	4.4	157	0.0	1.0	0.146	53.8	−65.9	21.1	69.2	162.2
392	0.5	0.875	0.625	74.8	−24.7	−0.8	24.7	181.9	4.8	171	0.0	1.0	0.37	54.7	−57.0	0.4	57.0	179.5
393	0.5	0.875	0.75	74.3	−20.6	−15.5	25.8	217.0	10.1	185	0.0	1.0	0.583	55.2	−46.8	−16.7	49.7	199.6
394	0.5	0.875	0.875	74.6	−17.1	−25.0	30.3	235.6	14.7	198	0.0	1.0	0.791	54.9	−38.7	−29.1	48.4	216.9
395	0.5	0.875	1.0	72.3	−14.9	−28.6	32.3	242.4	9.5	207	0.0	1.0	0.948	53.6	−33.1	−39.1	51.2	229.7
396	0.5	1.0	0.0	70.9	−41.7	54.8	68.9	127.3	0.0	119	0.5	1.0	0.0	71.0	−41.7	54.8	68.9	127.2
397	0.5	1.0	0.125	71.6	−40.9	49.7	64.4	129.4	6.3	126	0.402	1.0	0.0	67.5	−46.3	49.5	67.9	133.0
398	0.5	1.0	0.25	71.0	−39.5	34.9	52.7	138.5	1.8	132	0.308	1.0	0.0	63.4	−52.8	44.2	68.9	140.0
399	0.5	1.0	0.375	72.8	−34.1	19.5	39.4	150.1	4.9	141	0.157	1.0	0.0	57.9	−60.9	36.0	70.8	149.4
400	0.5	1.0	0.5	74.1	−30.5	11.7	32.6	158.9	2.8	157	0.0	1.0	0.146	53.8	−65.9	21.1	69.2	162.2
401	0.5	1.0	0.625	74.3	−28.1	3.1	28.3	173.6	2.0	168	0.0	1.0	0.32	54.3	−59.8	5.2	60.1	175.0
402	0.5	1.0	0.75	74.5	−23.4	−10.6	25.7	204.5	6.8	179	0.0	1.0	0.497	55.0	−51.6	−8.7	52.3	189.6
403	0.5	1.0	0.875	73.9	−20.3	−19.9	28.5	224.5	10.3	188	0.0	1.0	0.622	55.3	−44.3	−19.9	48.5	204.2
404	0.5	1.0	1.0	73.7	−17.1	−27.4	32.3	238.0	13.2	198	0.0	1.0	0.791	54.9	−38.7	−29.1	48.4	216.9

Mean color difference of this page: **delta *E**' = *10.9***

1−0132330−F0

PE890−7N, Page 24/33−F

TUB-test chart PE89; 16 step hue circle
colors and differences, Δ*E**'

input: *rgb/cmyk* −> *rgb*e
output: transfer to *cmyk*e

1−0132330−F0

http://130.149.60.45/~farbmetrik/PE89/PE89L0NP.PDF /.PS; transfer output
N: no 3D-linearization (OL) in file (F) or PS-startup (S), page 25/33

n	HIC*$_{Fe}$	rgb_$_{Fe}$			ict_$_{Fe}$			$h_{si_F,e}$	rgb*$_{Fe}$			LabCh*$_{Fe}$					rgb*'$_{Fe}$			LabCh*'$_{Fe}$					DE*'$_{Fe}$	$h_{siM,e}$	rgb*$_{Me}$			LabCh*$_{Me}$				
405	R00Y_062_062$_e$	0.625	0.0	0.0	0.625	0.625	0.312	390	0.625	0.0	0.164	38.6	35.0	16.7	38.8	25.4	0.625	0.0	0.0	36.3	40.2	26.2	48.0	33.1	11.0	375	1.0	0.0	0.263	47.5	56.0	26.7	62.1	25.4
406	R31Y_062_062$_e$	0.625	0.0	0.125	0.625	0.625	0.312	379	0.625	0.0	0.284	38.7	36.4	8.5	37.4	13.2	0.625	0.0	0.125	37.1	40.1	21.9	45.7	28.6	13.9	362	1.0	0.0	0.454	47.6	58.3	13.7	59.9	13.2
407	R11Y_062_062$_e$	0.625	0.0	0.25	0.625	0.625	0.312	367	0.625	0.0	0.412	39.1	39.1	0.0	39.1	359.8	0.625	0.0	0.25	36.4	41.6	12.6	43.4	16.8	13.2	349	1.0	0.0	0.659	48.3	62.6	−0.1	62.6	359.8
408	B69R_062_062$_e$	0.625	0.0	0.375	0.625	0.625	0.312	353	0.625	0.0	0.562	39.7	41.2	−6.9	41.8	350.4	0.625	0.0	0.375	36.9	45.2	0.9	45.2	1.1	9.2	335	1.0	0.0	0.899	49.2	66.0	−11.1	66.9	350.4
409	B59R_062_062$_e$	0.625	0.0	0.5	0.625	0.625	0.312	341	0.473	0.0	0.625	35.2	34.6	−13.2	37.1	339.0	0.625	0.0	0.5	37.2	49.0	−7.9	49.6	350.7	15.4	316	0.756	0.0	1.0	42.1	55.4	−21.2	59.3	339.0
410	B50R_062_062$_e$	0.625	0.0	0.625	0.625	0.625	0.312	330	0.365	0.0	0.625	33.0	29.2	−17.8	34.2	328.6	0.625	0.0	0.625	37.9	49.8	−14.9	52.0	343.3	21.4	305	0.584	0.0	1.0	38.5	46.7	−28.5	54.7	328.6
411	B42R_075_075$_e$	0.625	0.0	0.75	0.75	0.75	0.375	321	0.316	0.0	0.75	32.4	30.0	−25.1	39.2	320.0	0.625	0.0	0.75	38.9	50.3	−20.0	54.1	338.3	21.8	294	0.421	0.0	1.0	35.3	40.1	−33.5	52.3	320.0
412	B36R_087_087$_e$	0.625	0.0	0.875	0.875	0.875	0.437	314	0.282	0.0	0.875	31.7	30.7	−32.4	44.6	313.4	0.625	0.0	0.875	39.3	49.4	−24.6	55.2	333.4	21.6	288	0.322	0.0	1.0	32.9	35.0	−37.0	51.0	313.4
413	B31R_100_100$_e$	0.625	0.0	1.0	1.0	1.0	0.5	308	0.249	0.0	1.0	31.0	30.5	−39.4	49.8	307.7	0.625	0.0	1.0	39.1	48.4	−27.2	55.6	330.6	23.1	283	0.249	0.0	1.0	31.0	30.5	−39.4	49.8	307.7
414	R18Y_062_062$_e$	0.625	0.125	0.0	0.625	0.625	0.312	41	0.625	0.038	0.0	40.0	35.0	27.1	44.3	37.7	0.625	0.125	0.0	40.3	31.8	34.0	46.6	46.8	7.5	33	1.0	0.06	0.0	49.7	56.0	43.3	70.8	37.7
415	R00Y_062_050$_e$	0.625	0.125	0.125	0.625	0.5	0.375	390	0.625	0.125	0.256	44.7	28.0	13.3	31.0	25.4	0.625	0.125	0.125	44.2	28.5	28.7	40.5	45.1	15.3	375	1.0	0.0	0.263	47.5	56.0	26.7	62.1	25.4
416	R26Y_062_050$_e$	0.625	0.125	0.25	0.625	0.5	0.375	376	0.625	0.125	0.375	44.8	29.5	5.1	29.9	9.8	0.625	0.125	0.25	43.5	29.7	15.8	33.7	28.0	10.8	359	1.0	0.0	0.501	47.8	59.0	10.2	59.9	9.8
417	R00Y_062_050$_e$	0.625	0.125	0.375	0.625	0.5	0.375	360	0.625	0.125	0.538	45.6	32.7	−4.5	33.1	352.0	0.625	0.125	0.375	43.7	33.1	4.7	33.5	8.0	9.4	339	1.0	0.0	0.827	49.4	65.5	−9.1	66.2	352.0
418	B61R_062_050$_e$	0.625	0.125	0.5	0.625	0.5	0.375	344	0.537	0.125	0.625	43.0	29.1	−9.5	30.6	341.8	0.625	0.125	0.5	43.8	38.9	−5.6	39.3	351.7	10.6	320	0.825	0.0	1.0	44.1	58.2	−19.0	61.2	341.8
419	B50R_062_050$_e$	0.625	0.125	0.625	0.625	0.5	0.375	330	0.417	0.125	0.625	40.1	23.3	−14.2	27.3	328.6	0.625	0.125	0.625	44.4	41.4	−12.9	43.4	342.7	18.6	305	0.584	0.0	1.0	38.5	46.7	−28.5	54.7	328.6
420	B40R_075_062$_e$	0.625	0.125	0.75	0.75	0.625	0.437	319	0.367	0.125	0.75	39.5	24.2	−21.6	32.4	318.1	0.625	0.125	0.75	44.8	43.5	−17.8	47.0	337.7	20.4	292	0.387	0.0	1.0	34.5	38.7	−34.6	51.9	318.1
421	B34R_087_075$_e$	0.625	0.125	0.875	0.875	0.75	0.5	311	0.339	0.125	0.875	38.9	24.6	−28.7	37.8	310.5	0.625	0.125	0.875	44.1	46.8	−24.2	52.7	332.6	23.2	286	0.285	0.0	1.0	31.9	32.8	−38.2	50.4	310.5
422	B29R_100_087$_e$	0.625	0.125	1.0	1.0	0.875	0.562	305	0.306	0.125	1.0	39.2	24.7	−35.4	43.1	304.9	0.625	0.125	1.0	41.0	43.2	−29.0	52.0	326.1	19.6	281	0.207	0.0	1.0	31.2	28.2	−40.4	49.3	304.9
423	R38Y_062_062$_e$	0.625	0.25	0.0	0.625	0.625	0.312	53	0.625	0.143	0.0	44.7	27.4	34.0	43.6	51.0	0.625	0.25	0.0	45.9	19.0	40.0	44.3	64.5	10.4	42	1.0	0.229	0.0	57.2	43.9	54.4	69.9	51.0
424	R23Y_062_050$_e$	0.625	0.25	0.125	0.625	0.5	0.375	44	0.625	0.179	0.125	46.6	27.4	23.8	36.3	41.0	0.625	0.25	0.125	50.5	16.9	33.1	37.2	62.8	14.4	35	1.0	0.108	0.0	51.4	54.8	47.7	72.6	41.0
425	R00Y_062_037$_e$	0.625	0.25	0.25	0.625	0.375	0.437	390	0.625	0.25	0.348	50.7	21.0	10.0	23.2	25.4	0.625	0.25	0.25	50.5	18.8	20.3	27.7	47.2	10.5	375	1.0	0.0	0.263	47.5	56.0	26.7	62.1	25.4
426	R18Y_062_037$_e$	0.625	0.25	0.375	0.625	0.375	0.437	371	0.625	0.25	0.47	50.8	22.9	1.7	22.9	4.3	0.625	0.25	0.375	50.6	22.5	8.2	24.0	19.9	6.4	354	1.0	0.0	0.588	47.9	61.1	4.6	61.2	4.3
427	B65R_062_037$_e$	0.625	0.25	0.5	0.625	0.375	0.437	349	0.603	0.25	0.625	50.5	23.6	−5.6	24.2	346.6	0.625	0.25	0.5	51.8	27.5	−4.1	27.8	351.4	4.4	327	0.941	0.0	1.0	47.0	63.0	−14.9	64.7	346.6
428	B50R_062_037$_e$	0.625	0.25	0.625	0.625	0.375	0.437	330	0.469	0.25	0.625	47.3	17.5	−10.7	20.5	328.6	0.625	0.25	0.625	52.0	30.3	−11.7	32.5	338.7	13.6	305	0.584	0.0	1.0	38.5	46.7	−28.5	54.7	328.6
429	B38R_075_050$_e$	0.625	0.25	0.75	0.75	0.5	0.5	316	0.423	0.25	0.75	46.6	18.2	−18.0	25.7	315.3	0.625	0.25	0.75	52.3	31.0	−15.4	34.7	333.4	14.2	289	0.347	0.0	1.0	33.5	36.5	−36.1	51.4	315.3
430	B30R_087_062$_e$	0.625	0.25	0.875	0.875	0.625	0.562	307	0.397	0.25	0.875	46.3	18.6	−24.8	31.0	306.8	0.625	0.25	0.875	50.3	37.1	−24.3	44.3	326.7	18.9	283	0.235	0.0	1.0	31.0	29.7	−39.7	49.6	306.8
431	B25R_100_075$_e$	0.625	0.25	1.0	1.0	0.75	0.625	300	0.354	0.25	1.0	47.6	18.3	−31.4	36.4	300.1	0.625	0.25	1.0	45.0	36.4	−29.0	46.6	321.4	18.5	277	0.138	0.0	1.0	31.5	24.4	−41.9	48.5	300.1
432	R61Y_062_062$_e$	0.625	0.375	0.0	0.625	0.625	0.312	67	0.625	0.257	0.0	50.4	16.7	38.9	42.4	66.6	0.625	0.375	0.0	51.0	6.3	45.7	46.2	82.0	12.4	54	1.0	0.411	0.0	66.3	26.8	62.3	67.8	66.6
433	R50Y_062_050$_e$	0.625	0.375	0.125	0.625	0.5	0.375	60	0.625	0.284	0.125	51.8	17.6	29.2	34.1	58.8	0.625	0.375	0.125	57.4	6.1	39.1	39.6	81.0	16.1	48	1.0	0.319	0.0	61.8	35.2	58.4	68.2	58.8
434	R31Y_062_037$_e$	0.625	0.375	0.25	0.625	0.375	0.437	49	0.625	0.316	0.25	53.3	18.4	19.5	26.8	46.6	0.625	0.375	0.25	57.6	8.9	25.0	26.5	70.2	11.7	39	1.0	0.177	0.0	54.6	49.1	52.0	71.6	46.6
435	R00Y_062_025$_e$	0.625	0.375	0.375	0.625	0.25	0.5	390	0.625	0.375	0.44	56.7	14.0	6.6	15.5	25.4	0.625	0.375	0.375	58.1	11.8	11.2	16.3	43.4	5.2	375	1.0	0.0	0.263	47.5	56.0	26.7	62.1	25.4
436	R00Y_062_025$_e$	0.625	0.375	0.5	0.625	0.25	0.5	360	0.625	0.375	0.581	57.2	16.3	−2.2	16.5	352.0	0.625	0.375	0.5	59.0	15.5	−0.3	15.5	358.8	2.7	339	1.0	0.0	0.827	49.4	65.5	−9.1	66.2	352.0
437	B50R_062_025$_e$	0.625	0.375	0.625	0.625	0.25	0.5	330	0.521	0.375	0.625	54.5	11.6	−7.1	13.6	328.6	0.625	0.375	0.625	59.5	19.7	−8.9	21.7	335.6	9.7	305	0.584	0.0	1.0	38.5	46.7	−28.5	54.7	328.6
438	B34R_075_037$_e$	0.625	0.375	0.75	0.75	0.375	0.562	311	0.482	0.375	0.75	53.8	12.3	−14.3	18.9	310.5	0.625	0.375	0.75	58.0	21.5	−14.7	26.1	325.7	10.1	286	0.285	0.0	1.0	31.9	32.8	−38.2	50.4	310.5
439	B25R_087_050$_e$	0.625	0.375	0.875	0.875	0.5	0.625	300	0.444	0.375	0.875	54.6	12.2	−20.9	24.2	300.1	0.625	0.375	0.875	56.8	27.0	−23.8	36.0	318.5	15.2	277	0.138	0.0	1.0	31.5	24.4	−41.9	48.5	300.1
440	B19R_100_062$_e$	0.625	0.375	1.0	1.0	0.625	0.687	293	0.4	0.375	1.0	56.0	11.9	−27.4	29.9	293.5	0.625	0.375	1.0	51.8	26.1	−28.3	38.6	312.6	14.8	272	0.04	0.0	1.0	32.2	19.1	−43.9	47.9	293.5
441	R81Y_062_062$_e$	0.625	0.5	0.0	0.625	0.625	0.312	79	0.625	0.382	0.0	55.4	7.7	43.9	44.6	80.0	0.625	0.5	0.0	60.5	−3.4	56.6	56.7	93.4	17.6	67	1.0	0.611	0.0	74.4	12.3	70.3	71.3	80.0
442	R76Y_062_050$_e$	0.625	0.5	0.125	0.625	0.5	0.375	76	0.625	0.4	0.125	57.0	8.0	34.1	35.0	76.7	0.625	0.5	0.125	64.8	−4.4	49.8	50.0	95.0	21.5	63	1.0	0.551	0.0	72.3	16.1	68.2	70.1	76.7
443	R68Y_062_037$_e$	0.625	0.5	0.25	0.625	0.375	0.437	71	0.625	0.425	0.25	58.7	8.3	24.3	25.7	71.1	0.625	0.5	0.25	66.0	−2.3	33.6	33.7	94.0	15.9	57	1.0	0.466	0.0	68.9	22.1	64.9	68.5	71.1
444	R50Y_062_025$_e$	0.625	0.5	0.375	0.625	0.25	0.5	60	0.625	0.454	0.375	60.3	8.8	14.6	17.0	58.8	0.625	0.5	0.375	65.6	1.4	17.9	17.9	85.5	9.7	48	1.0	0.319	0.0	61.8	35.2	58.4	68.2	58.8
445	R00Y_062_012$_e$	0.625	0.5	0.5	0.625	0.125	0.562	390	0.625	0.5	0.532	62.8	7.0	3.3	7.7	25.4	0.625	0.5	0.5	65.7	5.9	3.3	6.8	29.2	3.0	375	1.0	0.0	0.263	47.5	56.0	26.7	62.1	25.4
446	B50R_062_012$_e$	0.625	0.5	0.625	0.625	0.125	0.562	330	0.573	0.5	0.625	61.6	5.8	−3.5	6.8	328.6	0.625	0.5	0.625	66.0	10.0	−6.8	12.1	325.7	6.9	305	0.584	0.0	1.0	38.5	46.7	−28.5	54.7	328.6
447	B25R_075_025$_e$	0.625	0.5	0.75	0.75	0.25	0.625	300	0.534	0.5	0.75	61.7	6.1	−10.4	12.1	300.1	0.625	0.5	0.75	64.0	12.6	−14.1	18.9	311.9	7.8	277	0.138	0.0	1.0	31.5	24.4	−41.9	48.5	300.1
448	B15R_087_037$_e$	0.625	0.5	0.875	0.875	0.375	0.687	289	0.5	0.505	0.875	63.2	6.0	−16.8	17.8	289.7	0.625	0.5	0.875	63.7	17.1	−22.5	28.3	307.1	12.4	269	0.0	0.014	1.0	32.8	16.1	−44.8	47.6	289.7
449	B11R_100_050$_e$	0.625	0.5	1.0	1.0	0.5	0.75	284	0.5	0.538	1.0	64.9	6.1	−22.9	23.7	285.0	0.625	0.5	1.0	58.6	17.0	−26.9	31.9	302.3	13.2	266	0.0	0.077	1.0	34.1	12.2	−45.8	47.4	285.0
450	Y00G_062_062$_e$	0.625	0.625	0.0	0.625	0.625	0.312	90	0.625	0.48	0.0	61.2	−1.9	48.0	48.0	92.3	0.625	0.625	0.0	69.0	−11.6	64.7	65.7	100.2	20.8	77	1.0	0.768	0.0	83.6	−3.1	76.8	76.9	92.3
451	Y00G_062_050$_e$	0.625	0.625	0.125	0.625	0.5	0.375	90	0.625	0.509	0.125	62.7	−1.5	38.4	38.4	92.3	0.625	0.625	0.125	72.2	−11.5	57.1	58.2	101.4	23.2	77	1.0	0.768	0.0	83.6	−3.1	76.8	76.9	92.3
452	Y00G_062_037$_e$	0.625	0.625	0.25	0.625	0.375	0.437	90	0.625	0.538	0.25	64.2	−1.1	28.8	28.8	92.3	0.625	0.625	0.25	73.6	−10.3	39.6	40.9	104.5	16.9	77	1.0	0.768	0.0	83.6	−3.1	76.8	76.9	92.3
453	Y00G_062_025$_e$	0.625	0.625	0.375	0.625	0.25	0.5	90	0.625	0.567	0.375	65.7	−0.7	19.2	19.2	92.3	0.625	0.625	0.375	73.4	−7.2	24.6	25.7	106.2	11.4	77	1.0	0.768	0.0	83.6	−3.1	76.8	76.9	92.3
454	Y00G_062_012$_e$	0.625	0.625	0.5	0.625	0.125	0.562	90	0.625	0.596	0.5	67.3	−0.3	9.6	9.6	92.3	0.625	0.625	0.5	73.6	−3.7	7.8	8.7	115.5	7.3	77	1.0	0.768	0.0	83.6	−3.1	76.8	76.9	92.3
455	NW_062$_e$	0.625	0.625	0.625	0.625	0.0	0.625	360	0.625	0.625	0.625	68.8	0.0	0.0	0.0	0.0	0.625	0.625	0.625	72.6	0.0	−1.0	1.0	269.8	3.9	360	1.0	1.0	1.0	95.8	0.0	0.0	0.0	0.0
456	B00R_075_012$_e$	0.625	0.625	0.75	0.75	0.125	0.687	270	0.625	0.657	0.75	70.5	0.1	−6.0	6.0	271.7	0.625	0.625	0.75	71.3	2.6	−12.5	12.8	281.7	6.9	255	0.0	0.261	1.0	37.3	1.4	−48.6	48.7	271.7
457	B00R_087_025$_e$	0.625	0.625	0.875	0.875	0.25	0.75	270	0.625	0.69	0.875	72.2	0.3	−12.1	12.1	271.7	0.625	0.625	0.875	70.0	4.8	−20.0	20.6	283.6	9.3	255	0.0	0.261	1.0	37.3	1.4	−48.6	48.7	271.7
458	B00R_100_037$_e$	0.625	0.625	1.0	1.0	0.375	0.812	270	0.625	0.722	1.0	73.8	0.5	−18.2	18.2	271.7	0.625	0.625	1.0	65.8	6.5	−25.3	26.1	284.4	12.2	255	0.0	0.261	1.0	37.3	1.4	−48.6	48.7	271.7
459	Y15G_075_075$_e$	0.625	0.75	0.0	0.75	0.75	0.375	99	0.606	0.75	0.0	74.4	−14.9	65.7	67.4	102.7	0.625	0.75	0.0	76.9	−16.4	72.1	74.0	102.8	7.0	100	0.808	1.0	0.0	91.3	−19.9	87.6	89.8	102.7
460	Y18G_075_062$_e$	0.625	0.75	0.125	0.75	0.625	0.437	101	0.585	0.75	0.125	73.5	−14.2	52.6	54.5	105.1	0.625	0.75	0.125	77.9	−16.7	61.6	63.9	105.1	10.3	104	0.736	1.0	0.0	89.0	−22.7	84.1	87.2	105.1
461	Y23G_075_050$_e$	0.625	0.75	0.25	0.75	0.5	0.5	104	0.598	0.75	0.25	72.8	−13.2	39.2	41.4	108.6	0.625	0.75	0.25	78.2	−15.5	44.3	46.9	109.2	7.7	107	0.697	1.0	0.0	85.8	−26.4	78.5	82.9	108.6
462	Y31G_075_037$_e$	0.625	0.75	0.375	0.75	0.375	0.562	109	0.611	0.75	0.375	72.0	−11.7	25.8	28.4	114.4	0.625	0.75	0.375	77.8	−14.2	29.5	32.8	115.8	7.2	111	0.631	1.0	0.0	80.4	−31.3	68.9	75.7	114.4
463	Y50G_075_025$_e$	0.625	0.75	0.5	0.75	0.25	0.625	120	0.625	0.75	0.5	71.6	−10.4	13.7	17.2	127.2	0.625	0.75	0.5	77.7	−12.0	15.9	19.9	126.9	6.6	119	0.5	1.0	0.0	71.0	−41.7	54.8	68.9	127.2
464	G00B_075_012$_e$	0.625	0.75	0.625	0.75	0.125	0.687	150	0.625	0.75	0.643	72.5	−8.2	2.6	8.6	162.2	0.625	0.75	0.625	77.9	−9.9	1.7	10.0	169.7	5.6	157	0.0	1.0	0.146	53.8	−65.9	21.1	69.2	162.2
465	G50B_075_012$_e$	0.625	0.75	0.75	0.75	0.125	0.687	210	0.625	0.75	0.723	72.7	−4.8	−3.6	6.0	216.9	0.625	0.75	0.75	78.0	−6.9	−10.4	12.5	236.2	8.9	198	0.0	1.0	0.791	54.9	−38.7	−29.1	48.4	216.9
466	G75B_087_025$_e$	0.625	0.75	0.875	0.875	0.25	0.75	240	0.625	0.796	0.875	75.8	−5.8	−12.1	13.4	244.3	0.625	0.75	0.875	75.9	−4.2	−17.9	18.4	256.7	5.9	227	0.0	0.686	1.0	51.7	−23.3	−48.6	53.9	244.3
467	G84B_100_037$_e$	0.625	0.75	1.0	1.0	0.375	0.812	251	0.625	0.815	1.0	77.3	−5.1	−18.5	19.2	254.3	0.625	0.75	1.0	71.6	−4.4	−25.0	25.4	259.8	8.6	239	0.0	0.508	1.0	46.4	−13.8	−49.4	51.3	254.3
468	Y26G_087_087$_e$	0.625	0.875	0.0	0.875	0.875	0.437	106	0.587	0.875	0.0	76.1	−25.0	65.4	70.0	110.9	0.625	0.875	0.0	81.1	−22.3	74.3	77.5	106.7	10.5	108	0.67	1.0	0.0	83.6	−28.6	74.7	80.0	110.9
469	Y31G_087_075$_e$	0.625	0.875	0.125	0.875	0.75	0.5	109	0.598	0.875	0.125	75.2	−23.5	51.7	56.8	114.4	0.625	0.875	0.125	80.8	−22.7	66.0	69.9	109.0	15.4	111	0.631	1.0	0.0	80.4	−31.3	68.9	75.7	114.4
470	Y38G_087_062$_e$	0.625	0.875	0.25	0.875	0.625	0.562	113	0.614	0.875	0.25	75.0	−22.1	39.8	45.6	119.1	0.625	0.875	0.25	80.4	−21.1	43.8	48.6	115.7	6.7	114	0.583	1.0	0.0	76.9	−35.5	63.7	73.0	119.1
471	Y50G_087_050$_e$	0.625	0.875	0.375	0.875	0.5	0.625	120	0.625	0.875	0.375	74.4	−20.8	27.4	34.4	127.2	0.625	0.875	0.375	80.0	−21.4	31.6	38.1	124.1	7.0	119	0.5	1.0	0.0	71.0	−41.7	54.8	68.9	127.2
472	Y68G_087_037$_e$	0.625	0.875	0.5	0.875	0.375	0.687	131	0.615	0.875	0.5	74.6	−19.8	16.5	25.8	140.0	0.625	0.875	0.5	80.2	−20.3	18.6	27.6	137.6	5.9	132	0.308	1.0	0.0	63.4	−52.8	44.2	68.9	140.0
473	G00B_087_025$_e$	0.625	0.875	0.625	0.875	0.25	0.75	150	0.625	0.875	0.661	76.3	−16.4	5.2	17.3	162.2	0.625	0.875	0.625	82.0	−16.8	8.8	19.0	152.2	6.7	157	0.0	1.0	0.146	53.8	−65.9	21.1	69.2	162.2
474	G25B_087_025$_e$	0.625	0.875	0.75	0.875	0.25	0.75	180	0.625	0.875	0.749	76.6	−12.9	−2.1	13.0	189.6	0.625	0.875	0.75	81.6	−14.3	−5.4	15.3	200.6	6.1	179	0.0	1.0	0.497	55.0	−51.6	−8.7	52.3	189.6
475	G50B_087_025$_e$	0.625	0.875	0.875	0.875	0.25	0.75	210	0.625	0.875	0.822	76.6	−9.6	−7.2	12.1	216.9	0.625	0.875	0.875	81.5	−12.0	−17.9	21.6	236.0	11.9	198	0.0	1.0	0.791	54.9	−38.7	−29.1	48.4	216.9
476	G65B_100_037$_e$	0.625	0.875	1.0	1.0	0.375	0.812	229	0.625	1.0	0.997	79.8	−11.4	−15.9	19.6	234.3	0.625	0.875	1.0	78.2	−11.8	−22.1	25.0	241.8	6.3	209	0.0	1.0	0.992	53.2	−30.5	−42.5	52.3	234.3
477	Y36G_100_100$_e$	0.625	1.0	0.0	1.0	1.0	0.5	112	0.595	1.0	0.0	77.7	−34.4	64.9	73.5	117.9	0.625	1.0	0.0	79.9	−31.7	67.9	75.0	115.0	4.5	113	0.595	1.0	0.0	77.7	−34.4	64.9	73.5	117.9
478	Y41G_100_087$_e$	0.625	1.0	0.125	1.0	0.875	0.562	115	0.614	1.0	0.125	77.8	−32.7	53.6	62.8	121.4	0.625	1.0	0.125	82.0	−29.5	65.0	71.4	114.4	12.5	116	0.559	1.0	0.0	75.2	−37.4	61.2	71.8	121.4
479	Y50G_100_075$_e$	0.625	1.0	0.25	1.0	0.75	0.625	120	0.625	1.0	0.25	77.2	−31.3	41.1	51.7	127.2	0.625	1.0	0.25	79.5	−31.2	50.7	59.6	121.6	9.9	119	0.5	1.0	0.0	71.0	−41.7	54.8	68.9	127.2
480	Y61G_100_062$_e$	0.625	1.0	0.375	1.0	0.625	0.687	127	0.603	1.0	0.375	77.3	−30.1	29.7	42.3	135.4	0.625	1.0	0.375	77.8	−30.6	32.6	44.7	133.1	3.0	128	0.366	1.0	0.0	66.1	−48.2	47.5	67.7	135.4
481	Y76G_100_050$_e$	0.625	1.0	0.5	1.0	0.5	0.75	136	0.613	1.0	0.5	77.9	−29.1	19.6	35.1	145.9	0.625	1.0	0.5	79.6	−26.0	19.7	32.6	142.9	3.5	137	0.227	1.0	0.0	59.9	−58.2	39.3	70.2	145.9
482	G00B_100_037$_e$	0.625	1.0	0.625	1.0	0.375	0.812	150	0.625	1.0	0.68	80.0	−24.7	7.9	25.9	162.2	0.625	1.0	0.625	81.7	−21.5	10.6	24.0	153.7	4.5	157	0.0	1.0	0.146	53.8	−65.9	21.1	69.2	162.2
483	G15B_100_037$_e$	0.625	1.0	0.75	1.0	0.375	0.812	169	0.625	1.0	0.763	80.4	−21.4	0.1	21.4	179.5	0.625	1.0	0.75	82.0	−18.1	0.0	18.1	179.9	3.6	171	0.0	1.0	0.37	54.7	−57.0	0.4	57.0	179.5
484	G34B_100_037$_e$	0.625	1.0	0.875	1.0	0.375	0.812	191	0.625	1.0	0.843	80.6	−17.5	−6.2	18.6	199.6	0.625	1.0	0.875	80.6	−15.2	−13.3	20.3	221.2	7.4	185	0.0	1.0	0.583	55.2	−46.8	−16.7	49.7	199.6
485	G50B_100_037$_e$	0.625	1.0	1.0	1.0	0.375	0.812	210	0.625	1.0	0.921	80.5	−14.5	−10.9	18.1	216.9	0.625	1.0	1.0	79.2	−13.6	−21.2	25.2	237.2	10.4	198	0.0	1.0	0.791	54.9	−38.7	−29.1	48.4	216.9

Mean color difference of this page: **delta $E^{*\prime}$ = 11.3**

1−0132430−F0

PE890−7N, Page 25/33−F

TUB-test chart PE89; 16 step hue circle
colors and differences, $\Delta E^{*\prime}$

input: *rgb/cmyk* −> *rgb*$_e$
output: transfer to *cmyk*$_e$

TUB registration: 20150701-PE89/PE89L0NP.PDF /.PS
application for measurement of laser printer output, separation cmyn6 (CMYK)

TUB material: code=rha4ta

1−0132430−F0

http://130.149.60.45/~farbmetrik/PE89/PE89L0NP.PDF /.PS; transfer output
N: no 3D-linearization (OL) in file (F) or PS-startup (S), page 26/33

n	HIC*Fe	rgb_Fe			ict_Fe			$h_{si_F,e}$	rgb*Fe			LabCh*Fe				
486	R00Y_075_075e	0.75	0.0	0.0	0.75	0.75	0.375	390	0.75	0.0	0.197	41.6	42.0	20.0	46.5	25.4
487	R35Y_075_075e	0.75	0.0	0.125	0.75	0.75	0.375	381	0.75	0.0	0.317	41.6	43.3	11.9	45.0	15.4
488	R18Y_075_075e	0.75	0.0	0.25	0.75	0.75	0.375	371	0.75	0.0	0.441	41.9	45.8	3.4	45.9	4.3
489	R00Y_075_075e	0.75	0.0	0.375	0.75	0.75	0.375	360	0.75	0.0	0.62	43.0	49.1	−6.8	49.6	352.0
490	B65R_075_075e	0.75	0.0	0.5	0.75	0.75	0.375	349	0.706	0.0	0.75	41.2	47.2	−11.2	48.5	346.6
491	B57R_075_075e	0.75	0.0	0.625	0.75	0.75	0.375	339	0.543	0.0	0.75	36.9	40.4	−17.0	43.8	337.1
492	B50R_075_075e	0.75	0.0	0.75	0.75	0.75	0.375	330	0.438	0.0	0.75	34.8	35.0	−21.4	41.0	328.6
493	B43R_087_087e	0.75	0.0	0.875	0.875	0.875	0.437	322	0.383	0.0	0.875	34.2	35.7	−28.8	45.9	321.0
494	B38R_100_100e	0.75	0.0	1.0	1.0	1.0	0.5	316	0.347	0.0	1.0	33.5	36.5	−36.1	51.4	315.3
495	R15Y_075_075e	0.75	0.125	0.0	0.75	0.75	0.375	39	0.75	0.021	0.0	42.4	42.5	30.3	52.2	35.5
496	R00Y_075_062e	0.75	0.125	0.125	0.75	0.625	0.437	390	0.75	0.125	0.289	47.6	35.0	16.7	38.8	25.4
497	R31Y_075_062e	0.75	0.125	0.25	0.75	0.625	0.437	379	0.75	0.125	0.409	47.7	36.4	8.5	37.4	13.2
498	R11Y_075_062e	0.75	0.125	0.375	0.75	0.625	0.437	367	0.75	0.125	0.537	48.1	39.1	0.0	39.1	359.8
499	B69R_075_062e	0.75	0.125	0.5	0.75	0.625	0.437	353	0.75	0.125	0.687	48.7	41.2	−6.9	41.8	350.4
500	B59R_075_062e	0.75	0.125	0.625	0.75	0.625	0.437	341	0.598	0.125	0.75	44.2	34.6	−13.2	37.1	339.0
501	B50R_075_062e	0.75	0.125	0.75	0.75	0.625	0.437	330	0.49	0.125	0.75	42.0	29.2	−17.8	34.2	328.6
502	B42R_087_075e	0.75	0.125	0.875	0.875	0.75	0.5	321	0.441	0.125	0.875	41.4	30.0	−25.1	39.2	320.0
503	B36R_100_087e	0.75	0.125	1.0	1.0	0.875	0.562	314	0.407	0.125	1.0	40.7	30.7	−32.4	44.6	313.4
504	R31Y_075_075e	0.75	0.25	0.0	0.75	0.75	0.375	49	0.75	0.132	0.0	46.9	36.8	39.0	53.7	46.6
505	R18Y_075_062e	0.75	0.25	0.125	0.75	0.625	0.437	41	0.75	0.163	0.125	49.0	35.0	27.1	44.3	37.7
506	R00Y_075_050e	0.75	0.25	0.25	0.75	0.5	0.5	390	0.75	0.25	0.381	53.7	28.0	13.3	31.0	25.4
507	R26Y_075_050e	0.75	0.25	0.375	0.75	0.5	0.5	376	0.75	0.25	0.5	53.8	29.5	5.1	29.9	9.8
508	R00Y_075_050e	0.75	0.25	0.5	0.75	0.5	0.5	360	0.75	0.25	0.663	54.6	32.7	−4.5	33.1	352.0
509	B61R_075_050e	0.75	0.25	0.625	0.75	0.5	0.5	344	0.662	0.25	0.75	52.0	29.1	−9.5	30.6	341.8
510	B50R_075_050e	0.75	0.25	0.75	0.75	0.5	0.5	330	0.542	0.25	0.75	49.1	23.3	−14.2	27.3	328.6
511	B40R_087_062e	0.75	0.25	0.875	0.875	0.625	0.562	319	0.492	0.25	0.875	48.5	24.2	−21.6	32.4	318.1
512	B34R_100_075e	0.75	0.25	1.0	1.0	0.75	0.625	311	0.464	0.25	1.0	47.9	24.6	−28.7	37.8	310.5
513	R50Y_075_075e	0.75	0.375	0.0	0.75	0.75	0.375	60	0.75	0.239	0.0	52.3	26.4	43.8	51.1	58.8
514	R38Y_075_062e	0.75	0.375	0.125	0.75	0.625	0.437	53	0.75	0.268	0.125	53.7	27.4	34.0	43.6	51.0
515	R23Y_075_050e	0.75	0.375	0.25	0.75	0.5	0.5	44	0.75	0.304	0.25	55.6	27.4	23.8	36.3	41.0
516	R00Y_075_037e	0.75	0.375	0.375	0.75	0.375	0.562	390	0.75	0.375	0.473	59.7	21.0	10.0	23.2	25.4
517	R18Y_075_037e	0.75	0.375	0.5	0.75	0.375	0.562	371	0.75	0.375	0.595	59.8	22.9	1.7	22.9	4.3
518	B65R_075_037e	0.75	0.375	0.625	0.75	0.375	0.562	349	0.728	0.375	0.75	59.5	23.6	−5.6	24.2	346.6
519	B50R_075_037e	0.75	0.375	0.75	0.75	0.375	0.562	330	0.594	0.375	0.75	56.3	17.5	−10.7	20.5	328.6
520	B38R_087_050e	0.75	0.375	0.875	0.875	0.5	0.625	316	0.548	0.375	0.875	55.6	18.2	−18.0	25.7	315.3
521	B30R_100_062e	0.75	0.375	1.0	1.0	0.625	0.687	307	0.522	0.375	1.0	55.3	18.6	−24.8	31.0	306.8
522	R68Y_075_075e	0.75	0.5	0.0	0.75	0.75	0.375	71	0.75	0.35	0.0	57.6	16.6	48.6	51.4	71.1
523	R61Y_075_062e	0.75	0.5	0.125	0.75	0.625	0.437	67	0.75	0.382	0.125	59.4	16.7	38.9	42.4	66.6
524	R50Y_075_050e	0.75	0.5	0.25	0.75	0.5	0.5	60	0.75	0.409	0.25	60.8	17.6	29.2	34.1	58.8
525	R31Y_075_037e	0.75	0.5	0.375	0.75	0.375	0.562	49	0.75	0.441	0.375	62.3	18.4	19.5	26.8	46.6
526	R00Y_075_025e	0.75	0.5	0.5	0.75	0.25	0.625	390	0.75	0.5	0.565	65.7	14.0	6.6	15.5	25.4
527	R00Y_075_025e	0.75	0.5	0.625	0.75	0.25	0.625	360	0.75	0.5	0.706	66.2	16.3	−2.2	16.5	352.0
528	B50R_075_025e	0.75	0.5	0.75	0.75	0.25	0.625	330	0.646	0.5	0.75	63.5	11.6	−7.1	13.6	328.6
529	B34R_087_037e	0.75	0.5	0.875	0.875	0.375	0.687	311	0.607	0.5	0.875	62.8	12.3	−14.3	18.9	310.5
530	B25R_100_050e	0.75	0.5	1.0	1.0	0.5	0.75	300	0.569	0.5	1.0	63.6	12.2	−20.9	24.2	300.1
531	R85Y_075_075e	0.75	0.625	0.0	0.75	0.75	0.375	81	0.75	0.481	0.0	62.9	7.2	53.8	54.3	82.2
532	R81Y_075_062e	0.75	0.625	0.125	0.75	0.625	0.437	79	0.75	0.507	0.125	64.4	7.7	43.9	44.6	80.0
533	R76Y_075_050e	0.75	0.625	0.25	0.75	0.5	0.5	76	0.75	0.525	0.25	66.0	8.0	34.1	35.0	76.7
534	R68Y_075_037e	0.75	0.625	0.375	0.75	0.375	0.562	71	0.75	0.55	0.375	67.7	8.3	24.3	25.7	71.1
535	R50Y_075_025e	0.75	0.625	0.5	0.75	0.25	0.625	60	0.75	0.579	0.5	69.3	8.8	14.6	17.0	58.8
536	R00Y_075_012e	0.75	0.625	0.625	0.75	0.125	0.687	390	0.75	0.625	0.657	71.8	7.0	3.3	7.7	25.4
537	B50R_075_012e	0.75	0.625	0.75	0.75	0.125	0.687	330	0.698	0.625	0.75	70.6	5.8	−3.5	6.8	328.6
538	B25R_087_025e	0.75	0.625	0.875	0.875	0.25	0.75	300	0.659	0.625	0.875	70.7	6.1	−10.4	12.1	300.1
539	B15R_100_037e	0.75	0.625	1.0	1.0	0.375	0.812	289	0.625	0.63	1.0	72.2	6.0	−16.8	17.8	289.7
540	Y00G_075_075e	0.75	0.75	0.0	0.75	0.75	0.375	90	0.75	0.576	0.0	68.7	−2.3	57.6	57.6	92.3
541	Y00G_075_062e	0.75	0.75	0.125	0.75	0.625	0.437	90	0.75	0.605	0.125	70.2	−1.9	48.0	48.0	92.3
542	Y00G_075_050e	0.75	0.75	0.25	0.75	0.5	0.5	90	0.75	0.634	0.25	71.7	−1.5	38.4	38.4	92.3
543	Y00G_075_037e	0.75	0.75	0.375	0.75	0.375	0.562	90	0.75	0.663	0.375	73.2	−1.1	28.8	28.8	92.3
544	Y00G_075_025e	0.75	0.75	0.5	0.75	0.25	0.625	90	0.75	0.692	0.5	74.7	−0.7	19.2	19.2	92.3
545	Y00G_075_012e	0.75	0.75	0.625	0.75	0.125	0.687	90	0.75	0.721	0.625	76.3	−0.3	9.6	9.6	92.3
546	NW_075e	0.75	0.75	0.75	0.75	0.0	0.75	360	0.75	0.75	0.75	77.8	0.0	0.0	0.0	0.0
547	B00R_087_012e	0.75	0.75	0.875	0.875	0.125	0.812	270	0.75	0.782	0.875	79.5	0.1	−6.0	6.0	271.7
548	B00R_100_025e	0.75	0.75	1.0	1.0	0.25	0.875	270	0.75	0.815	1.0	81.2	0.3	−12.1	12.1	271.7
549	Y13G_087_087e	0.75	0.875	0.0	0.875	0.875	0.437	98	0.758	0.875	0.0	84.0	−16.0	78.0	79.7	101.6
550	Y15G_087_075e	0.75	0.875	0.125	0.875	0.75	0.5	99	0.731	0.875	0.125	83.4	−14.9	65.7	67.4	102.7
551	Y18G_087_062e	0.75	0.875	0.25	0.875	0.625	0.562	101	0.71	0.875	0.25	82.5	−14.2	52.6	54.5	105.1
552	Y23G_087_050e	0.75	0.875	0.375	0.875	0.5	0.625	104	0.723	0.875	0.375	81.8	−13.2	39.2	41.4	108.6
553	Y31G_087_037e	0.75	0.875	0.5	0.875	0.375	0.687	109	0.736	0.875	0.5	81.0	−11.7	25.8	28.4	114.4
554	Y50G_087_025e	0.75	0.875	0.625	0.875	0.25	0.75	120	0.75	0.875	0.625	80.6	−10.4	13.7	17.2	127.2
555	G00B_087_012e	0.75	0.875	0.75	0.875	0.125	0.812	150	0.75	0.875	0.768	81.5	−8.2	2.6	8.6	162.2
556	G50B_087_012e	0.75	0.875	0.875	0.875	0.125	0.812	210	0.75	0.875	0.848	81.7	−4.8	−3.6	6.0	216.9
557	G75B_100_025e	0.75	0.875	1.0	1.0	0.25	0.875	240	0.75	0.921	1.0	84.8	−5.8	−12.1	13.4	244.3
558	Y23G_100_100e	0.75	1.0	0.0	1.0	1.0	0.5	104	0.697	1.0	0.0	85.8	−26.4	78.5	82.9	108.6
559	Y26G_100_087e	0.75	1.0	0.125	1.0	0.875	0.562	106	0.712	1.0	0.125	85.1	−25.0	65.4	70.0	110.9
560	Y31G_100_075e	0.75	1.0	0.25	1.0	0.75	0.625	109	0.723	1.0	0.25	84.2	−23.5	51.7	56.8	114.4
561	Y38G_100_062e	0.75	1.0	0.375	1.0	0.625	0.687	113	0.739	1.0	0.375	84.0	−22.1	39.8	45.6	119.1
562	Y50G_100_050e	0.75	1.0	0.5	1.0	0.5	0.75	120	0.75	1.0	0.5	83.4	−20.8	27.4	34.4	127.2
563	Y68G_100_037e	0.75	1.0	0.625	1.0	0.375	0.812	131	0.74	1.0	0.625	83.6	−19.8	16.5	25.8	140.0
564	G00B_100_025e	0.75	1.0	0.75	1.0	0.25	0.875	150	0.75	1.0	0.786	85.3	−16.4	5.2	17.3	162.2
565	G25B_100_025e	0.75	1.0	0.875	1.0	0.25	0.875	180	0.75	1.0	0.874	85.6	−12.9	−2.1	13.0	189.6
566	G50B_100_025e	0.75	1.0	1.0	1.0	0.25	0.875	210	0.75	1.0	0.947	85.6	−9.6	−7.2	12.1	216.9

n	rgb*'Fe			LabCh*'Fe					DE*'Fe	$h_{siM,e}$	rgb*Me			LabCh*Me				
486	0.75	0.0	0.0	39.7	47.0	29.4	55.5	32.0	10.8	375	1.0	0.0	0.263	47.5	56.0	26.7	62.1	25.4
487	0.75	0.0	0.125	39.0	46.5	23.4	52.0	26.7	12.1	365	1.0	0.0	0.423	47.5	57.8	15.9	60.0	15.4
488	0.75	0.0	0.25	39.4	47.0	16.3	49.8	19.1	13.1	354	1.0	0.0	0.588	47.9	61.1	4.6	61.2	4.3
489	0.75	0.0	0.375	39.3	48.8	6.0	49.2	7.1	13.4	339	1.0	0.0	0.827	49.4	65.5	−9.1	66.2	352.0
490	0.75	0.0	0.5	39.5	52.9	−4.1	53.1	355.4	9.2	327	0.941	0.0	1.0	47.0	63.0	−14.9	64.7	346.6
491	0.75	0.0	0.625	39.9	55.3	−11.1	56.4	348.6	16.3	314	0.725	0.0	1.0	41.3	53.8	−22.7	58.4	337.1
492	0.75	0.0	0.75	41.1	54.2	−16.4	56.6	343.1	20.7	305	0.584	0.0	1.0	38.5	46.7	−28.5	54.7	328.6
493	0.75	0.0	0.875	42.0	54.2	−21.0	58.1	338.8	21.5	295	0.438	0.0	1.0	35.7	40.8	−33.0	52.4	321.0
494	0.75	0.0	1.0	41.8	55.1	−21.4	59.1	338.7	25.1	289	0.347	0.0	1.0	33.5	36.5	−36.1	51.4	315.3
495	0.75	0.125	0.0	44.9	42.3	40.8	58.8	43.9	10.8	31	1.0	0.028	0.0	48.6	56.7	40.4	69.6	35.5
496	0.75	0.125	0.125	45.5	36.3	31.1	47.8	40.6	14.6	375	1.0	0.0	0.263	47.5	56.0	26.7	62.1	25.4
497	0.75	0.125	0.25	45.6	37.0	22.6	43.3	31.4	14.2	362	1.0	0.0	0.454	47.6	58.3	13.7	59.9	13.2
498	0.75	0.125	0.375	45.0	38.4	14.5	41.1	20.7	15.0	349	1.0	0.0	0.659	48.3	62.6	−0.1	62.6	359.8
499	0.75	0.125	0.5	45.2	42.6	3.5	42.7	4.7	11.1	335	1.0	0.0	0.899	49.2	66.0	−11.1	66.9	350.4
500	0.75	0.125	0.625	45.8	46.9	−5.5	47.2	353.2	14.6	316	0.756	0.0	1.0	42.1	55.4	−21.2	59.3	339.0
501	0.75	0.125	0.75	46.6	48.7	−13.3	50.5	344.6	20.5	305	0.584	0.0	1.0	38.5	46.7	−28.5	54.7	328.6
502	0.75	0.125	0.875	47.1	50.2	−17.9	53.3	340.2	22.1	294	0.421	0.0	1.0	35.3	40.1	−33.5	52.3	320.0
503	0.75	0.125	1.0	45.0	50.7	−22.1	55.3	336.3	22.8	288	0.322	0.0	1.0	32.9	35.0	−37.0	51.0	313.4
504	0.75	0.25	0.0	52.2	26.4	47.8	54.6	61.1	14.6	39	1.0	0.177	0.0	54.6	49.1	52.0	71.6	46.6
505	0.75	0.25	0.125	52.1	26.6	36.8	45.4	54.0	13.1	33	1.0	0.06	0.0	49.7	56.0	43.3	70.8	37.7
506	0.75	0.25	0.25	52.4	27.1	25.3	37.1	43.0	12.1	375	1.0	0.0	0.263	47.5	56.0	26.7	62.1	25.4
507	0.75	0.25	0.375	52.3	29.3	16.1	33.5	28.8	11.1	359	1.0	0.0	0.501	47.8	59.0	10.2	59.9	9.8
508	0.75	0.25	0.5	53.2	30.6	5.9	31.2	10.9	10.8	339	1.0	0.0	0.827	49.4	65.5	−9.1	66.2	352.0
509	0.75	0.25	0.625	53.9	34.9	−4.4	35.2	352.6	7.9	320	0.825	0.0	1.0	44.1	58.2	−19.0	61.2	341.8
510	0.75	0.25	0.75	53.9	38.1	−12.4	40.1	341.9	15.6	305	0.584	0.0	1.0	38.5	46.7	−28.5	54.7	328.6
511	0.75	0.25	0.875	54.3	40.1	−17.3	43.7	336.6	17.4	292	0.387	0.0	1.0	34.5	38.7	−34.6	51.9	318.1
512	0.75	0.25	1.0	50.3	42.9	−22.8	48.6	332.0	19.4	286	0.285	0.0	1.0	31.9	32.8	−38.2	50.4	310.5
513	0.75	0.375	0.0	57.7	15.3	53.6	55.7	74.0	15.7	48	1.0	0.319	0.0	61.8	35.2	58.4	68.2	58.8
514	0.75	0.375	0.125	57.9	16.7	44.5	47.5	69.3	15.5	42	1.0	0.229	0.0	57.2	43.9	54.4	69.9	51.0
515	0.75	0.375	0.25	58.5	17.2	29.7	34.3	59.9	12.1	35	1.0	0.108	0.0	51.4	54.8	47.7	72.6	41.0
516	0.75	0.375	0.375	59.1	18.5	19.5	26.9	46.3	9.8	375	1.0	0.0	0.263	47.5	56.0	26.7	62.1	25.4
517	0.75	0.375	0.5	60.1	19.9	9.2	21.9	24.9	8.1	354	1.0	0.0	0.588	47.9	61.1	4.6	61.2	4.3
518	0.75	0.375	0.625	60.2	24.2	−2.3	24.3	354.5	3.4	327	0.941	0.0	1.0	47.0	63.0	−14.9	64.7	346.6
519	0.75	0.375	0.75	60.1	28.2	−10.2	30.0	339.9	11.3	305	0.584	0.0	1.0	38.5	46.7	−28.5	54.7	328.6
520	0.75	0.375	0.875	60.4	31.7	−15.9	35.5	333.4	14.4	289	0.347	0.0	1.0	33.5	36.5	−36.1	51.4	315.3
521	0.75	0.375	1.0	55.2	36.2	−21.7	42.2	329.0	17.9	283	0.235	0.0	1.0	31.0	29.7	−39.7	49.6	306.8
522	0.75	0.5	0.0	64.3	4.5	59.9	60.1	85.6	17.8	57	1.0	0.466	0.0	68.9	22.1	64.9	68.5	71.1
523	0.75	0.5	0.125	65.5	5.4	54.3	54.6	84.2	20.0	54	1.0	0.411	0.0	66.3	26.8	62.3	67.8	66.6
524	0.75	0.5	0.25	66.1	6.5	36.1	36.6	79.7	14.0	48	1.0	0.319	0.0	61.8	35.2	58.4	68.2	58.8
525	0.75	0.5	0.375	65.9	8.9	24.5	26.0	70.0	11.3	39	1.0	0.177	0.0	54.6	49.1	52.0	71.6	46.6
526	0.75	0.5	0.5	67.2	10.6	12.7	16.5	50.1	7.0	375	1.0	0.0	0.263	47.5	56.0	26.7	62.1	25.4
527	0.75	0.5	0.625	66.8	15.1	1.2	15.1	4.5	3.7	339	1.0	0.0	0.827	49.4	65.5	−9.1	66.2	352.0
528	0.75	0.5	0.75	67.6	18.9	−8.5	20.7	335.7	8.4	305	0.584	0.0	1.0	38.5	46.7	−28.5	54.7	328.6
529	0.75	0.5	0.875	67.3	22.2	−14.9	26.7	326.1	10.9	286	0.285	0.0	1.0	31.9	32.8	−38.2	50.4	310.5
530	0.75	0.5	1.0	63.6	27.1	−18.8	33.0	325.2	15.0	277	0.138	0.0	1.0	31.5	24.4	−41.9	48.5	300.1
531	0.75	0.625	0.0	74.6	−5.8	70.9	71.1	94.7	24.5	69	1.0	0.642	0.0	76.0	9.7	71.7	72.4	82.2
532	0.75	0.625	0.125	74.4	−5.5	62.8	63.0	95.0	25.1	67	1.0	0.611	0.0	74.4	12.3	70.3	71.3	80.0
533	0.75	0.625	0.25	74.9	−4.2	44.3	44.5	95.4	18.2	63	1.0	0.551	0.0	72.3	16.1	68.2	70.1	76.7
534	0.75	0.625	0.375	74.3	−1.7	32.4	32.5	93.0	14.5	57	1.0	0.466	0.0	68.9	22.1	64.9	68.5	71.1
535	0.75	0.625	0.5	74.4	1.9	18.6	18.7	83.9	9.4	48	1.0	0.319	0.0	61.8	35.2	58.4	68.2	58.8
536	0.75	0.625	0.625	74.3	5.7	4.5	7.2	38.4	3.0	375	1.0	0.0	0.263	47.5	56.0	26.7	62.1	25.4
537	0.75	0.625	0.75	74.6	9.1	−6.0	11.0	326.5	5.7	305	0.584	0.0	1.0	38.5	46.7	−28.5	54.7	328.6
538	0.75	0.625	0.875	74.2	11.9	−13.4	17.9	311.5	7.4	277	0.138	0.0	1.0	31.5	24.4	−41.9	48.5	300.1
539	0.75	0.625	1.0	70.8	15.8	−17.3	23.4	312.2	9.8	269	0.0	0.014	1.0	32.8	16.1	−44.8	47.6	289.7
540	0.75	0.75	0.0	82.5	−14.5	79.4	80.7	100.3	28.5	77	1.0	0.768	0.0	83.6	−3.1	76.8	76.9	92.3
541	0.75	0.75	0.125	80.8	−12.8	69.9	71.1	100.3	26.6	77	1.0	0.768	0.0	83.6	−3.1	76.8	76.9	92.3
542	0.75	0.75	0.25	81.7	−11.5	50.7	52.0	102.8	18.7	77	1.0	0.768	0.0	83.6	−3.1	76.8	76.9	92.3
543	0.75	0.75	0.375	81.5	−9.8	39.7	40.9	103.9	16.2	77	1.0	0.768	0.0	83.6	−3.1	76.8	76.9	92.3
544	0.75	0.75	0.5	82.0	−7.4	26.0	27.0	106.0	11.9	77	1.0	0.768	0.0	83.6	−3.1	76.8	76.9	92.3
545	0.75	0.75	0.625	81.7	−3.4	10.1	10.7	108.5	6.2	77	1.0	0.768	0.0	83.6	−3.1	76.8	76.9	92.3
546	0.75	0.75	0.75	80.4	0.0	−0.3	0.3	272.2	2.6	360	1.0	1.0	1.0	95.8	0.0	0.0	0.0	0.0
547	0.75	0.75	0.875	80.3	0.6	−10.9	10.9	273.3	4.9	255	0.0	0.261	1.0	37.3	1.4	−48.6	48.7	271.7
548	0.75	0.75	1.0	79.6	1.5	−15.6	15.7	275.5	3.9	255	0.0	0.261	1.0	37.3	1.4	−48.6	48.7	271.7
549	0.75	0.875	0.0	88.3	−17.0	85.8	87.5	101.2	8.9	97	0.867	1.0	0.0	92.6	−18.3	89.2	91.0	101.6
550	0.75	0.875	0.125	86.1	−17.4	77.8	79.8	102.6	12.6	100	0.808	1.0	0.0	91.3	−19.9	87.6	89.8	102.7
551	0.75	0.875	0.25	85.5	−15.8	55.1	57.3	106.0	4.2	104	0.736	1.0	0.0	89.0	−22.7	84.1	87.2	105.1
552	0.75	0.875	0.375	85.0	−15.6	44.9	47.5	109.1	6.9	107	0.697	1.0	0.0	85.8	−26.4	78.5	82.9	108.6
553	0.75	0.875	0.5	85.3	−14.5	32.0	35.2	114.4	8.0	111	0.631	1.0	0.0	80.4	−31.3	68.9	75.7	114.4
554	0.75	0.875	0.625	85.2	−11.9	19.1	22.5	122.0	7.2	119	0.5	1.0	0.0	71.0	−41.7	54.8	68.9	127.2
555	0.75	0.875	0.75	86.6	−10.0	4.2	10.8	156.9	5.6	157	0.0	1.0	0.146	53.8	−65.9	21.1	69.2	162.2
556	0.75	0.875	0.875	86.1	−7.0	−10.1	12.3	235.0	8.1	198	0.0	1.0	0.791	54.9	−38.7	−29.1	48.4	216.9
557	0.75	0.875	1.0	85.2	−7.4	−13.5	15.4	241.1	2.1	227	0.0	0.686	1.0	51.7	−23.3	−48.6	53.9	244.3
558	0.75	1.0	0.0	90.1	−21.3	86.0	88.6	103.9	10.0	107	0.697	1.0	0.0	85.8	−26.4	78.5	82.9	108.6
559	0.75	1.0	0.125	88.1	−22.6	76.4	79.7	106.4	11.6	108	0.67	1.0	0.0	83.6	−28.6	74.7	80.0	110.9
560	0.75	1.0	0.25	87.9	−22.5	61.0	65.0	110.2	10.0	111	0.631	1.0	0.0	80.4	−31.3	68.9	75.7	114.4
561	0.75	1.0	0.375	86.7	−23.1	50.9	55.9	114.4	11.4	114	0.583	1.0	0.0	76.9	−35.5	63.7	73.0	119.1
562	0.75	1.0	0.5	86.2	−21.9	37.8	43.7	120.1	10.8	119	0.5	1.0	0.0	71.0	−41.7	54.8	68.9	127.2
563	0.75	1.0	0.625	86.4	−18.8	22.4	29.3	130.0	6.5	132	0.308	1.0	0.0	63.4	−52.8	44.2	68.9	140.0
564	0.75	1.0	0.75	87.8	−14.8	11.5	18.8	142.1	6.9	157	0.0	1.0	0.146	53.8	−65.9	21.1	69.2	162.2
565	0.75	1.0	0.875	86.9	−11.7	−3.1	12.1	194.8	1.9	179	0.0	1.0	0.497	55.0	−51.6	−8.7	52.3	189.6
566	0.75	1.0	1.0	85.2	−9.7	−14.0	17.1	235.4	6.8	198	0.0	1.0	0.791	54.9	−38.7	−29.1	48.4	216.9

Mean color difference of this page: **delta $E^{*\prime}$ = 12.4**

1−0132530−F0

PE890−7N, Page 26/33−F

TUB-test chart PE89; 16 step hue circle
colors and differences, $\Delta E^{*\prime}$

input: $rgb/cmyk \rightarrow rgb_e$
output: transfer to $cmyk_e$

1−0132530−F0

TUB registration: 20150701-PE89/PE89L0NP.PDF /.PS TUB material: code=rha4ta
application for measurement of laser printer output, separation cmyn6 (CMYK)

n	HIC^*_{Fe}	rgb_{Fe}			ict_{Fe}			$h_{si_F,e}$	rgb^*_{Fe}			$LabCh^*_{Fe}$				
567	R00Y_087_087$_{e}$	0.875	0.0	0.0	0.875	0.875	0.437	390	0.875	0.0	0.23	44.5	49.0	23.3	54.3	25.4
568	R36Y_087_087$_{e}$	0.875	0.0	0.125	0.875	0.875	0.437	382	0.875	0.0	0.357	44.5	50.3	14.9	52.5	16.5
569	R23Y_087_087$_{e}$	0.875	0.0	0.25	0.875	0.875	0.437	374	0.875	0.0	0.469	44.8	52.4	7.0	52.9	7.6
570	R08Y_087_087$_{e}$	0.875	0.0	0.375	0.875	0.875	0.437	365	0.875	0.0	0.608	45.6	55.5	−2.2	55.6	357.6
571	B70R_087_087$_{e}$	0.875	0.0	0.5	0.875	0.875	0.437	355	0.875	0.0	0.716	46.2	57.2	−7.7	57.8	352.3
572	B63R_087_087$_{e}$	0.875	0.0	0.625	0.875	0.875	0.437	346	0.762	0.0	0.875	42.8	52.5	−15.2	54.6	343.7
573	B56R_087_087$_{e}$	0.875	0.0	0.75	0.875	0.875	0.437	338	0.621	0.0	0.875	38.8	46.4	−20.5	50.8	336.1
574	B50R_087_087$_{e}$	0.875	0.0	0.875	0.875	0.875	0.437	330	0.511	0.0	0.875	36.6	40.9	−24.9	47.9	328.6
575	B44R_100_100$_{e}$	0.875	0.0	1.0	1.0	1.0	0.5	323	0.455	0.0	1.0	36.1	41.4	−32.4	52.6	321.9
576	R13Y_087_087$_{e}$	0.875	0.125	0.0	0.875	0.875	0.437	38	0.875	0.011	0.0	45.0	49.8	34.1	60.4	34.3
577	R00Y_087_075$_{e}$	0.875	0.125	0.125	0.875	0.75	0.5	390	0.875	0.125	0.322	50.6	42.0	20.0	46.5	25.4
578	R35Y_087_075$_{e}$	0.875	0.125	0.25	0.875	0.75	0.5	381	0.875	0.125	0.442	50.6	43.3	11.9	45.0	15.4
579	R18Y_087_075$_{e}$	0.875	0.125	0.375	0.875	0.75	0.5	371	0.875	0.125	0.566	50.9	45.8	3.4	45.9	4.3
580	R00Y_087_075$_{e}$	0.875	0.125	0.5	0.875	0.75	0.5	360	0.875	0.125	0.745	52.0	49.1	−6.8	49.6	352.0
581	B65R_087_075$_{e}$	0.875	0.125	0.625	0.875	0.75	0.5	349	0.831	0.125	0.875	50.2	47.2	−11.2	48.5	346.6
582	B57R_087_075$_{e}$	0.875	0.125	0.75	0.875	0.75	0.5	339	0.668	0.125	0.875	45.9	40.4	−17.0	43.8	337.1
583	B50R_087_075$_{e}$	0.875	0.125	0.875	0.875	0.75	0.5	330	0.563	0.125	0.875	43.8	35.0	−21.4	41.0	328.6
584	B43R_100_087$_{e}$	0.875	0.125	1.0	1.0	0.875	0.562	322	0.508	0.125	1.0	43.2	35.7	−28.8	45.9	321.0
585	R26Y_087_087$_{e}$	0.875	0.25	0.0	0.875	0.875	0.437	46	0.875	0.12	0.0	49.0	46.4	43.7	63.7	43.3
586	R15Y_087_075$_{e}$	0.875	0.25	0.125	0.875	0.75	0.5	39	0.875	0.146	0.125	51.4	42.5	30.3	52.2	35.5
587	R00Y_087_062$_{e}$	0.875	0.25	0.25	0.875	0.625	0.562	390	0.875	0.25	0.414	56.6	35.0	16.7	38.8	25.4
588	R31Y_087_062$_{e}$	0.875	0.25	0.375	0.875	0.625	0.562	379	0.875	0.25	0.534	56.7	36.4	8.5	37.4	13.2
589	R11Y_087_062$_{e}$	0.875	0.25	0.5	0.875	0.625	0.562	367	0.875	0.25	0.662	57.1	39.1	0.0	39.1	359.8
590	B69R_087_062$_{e}$	0.875	0.25	0.625	0.875	0.625	0.562	353	0.875	0.25	0.812	57.7	41.2	−6.9	41.8	350.4
591	B59R_087_062$_{e}$	0.875	0.25	0.75	0.875	0.625	0.562	341	0.723	0.25	0.875	53.2	34.6	−13.2	37.1	339.0
592	B50R_087_062$_{e}$	0.875	0.25	0.875	0.875	0.625	0.562	330	0.615	0.25	0.875	51.0	29.2	−17.8	34.2	328.6
593	B42R_100_075$_{e}$	0.875	0.25	1.0	1.0	0.75	0.625	321	0.566	0.25	1.0	50.4	30.0	−25.1	39.2	320.0
594	R41Y_087_087$_{e}$	0.875	0.375	0.0	0.875	0.875	0.437	55	0.875	0.223	0.0	54.2	36.1	48.5	60.5	53.3
595	R31Y_087_075$_{e}$	0.875	0.375	0.125	0.875	0.75	0.5	49	0.875	0.257	0.125	55.9	36.8	39.0	53.7	46.6
596	R18Y_087_062$_{e}$	0.875	0.375	0.25	0.875	0.625	0.562	41	0.875	0.288	0.25	58.0	35.0	27.1	44.3	37.7
597	R00Y_087_050$_{e}$	0.875	0.375	0.375	0.875	0.5	0.625	390	0.875	0.375	0.506	62.7	28.0	13.3	31.0	25.4
598	R26Y_087_050$_{e}$	0.875	0.375	0.5	0.875	0.5	0.625	376	0.875	0.375	0.625	62.8	29.5	5.1	29.9	9.8
599	R00Y_087_050$_{e}$	0.875	0.375	0.625	0.875	0.5	0.625	360	0.875	0.375	0.788	63.6	32.7	−4.5	33.1	352.0
600	B61R_087_050$_{e}$	0.875	0.375	0.75	0.875	0.5	0.625	344	0.787	0.375	0.875	61.0	29.1	−9.5	30.6	341.8
601	B50R_087_050$_{e}$	0.875	0.375	0.875	0.875	0.5	0.625	330	0.667	0.375	0.875	58.1	23.3	−14.2	27.3	328.6
602	B40R_100_062$_{e}$	0.875	0.375	1.0	1.0	0.625	0.687	319	0.617	0.375	1.0	57.5	24.2	−21.6	32.4	318.1
603	R58Y_087_087$_{e}$	0.875	0.5	0.0	0.875	0.875	0.437	65	0.875	0.336	0.0	59.9	25.4	53.2	59.0	64.4
604	R50Y_087_075$_{e}$	0.875	0.5	0.125	0.875	0.75	0.5	60	0.875	0.364	0.125	61.3	26.4	43.8	51.1	58.8
605	R38Y_087_062$_{e}$	0.875	0.5	0.25	0.875	0.625	0.562	53	0.875	0.393	0.25	62.7	27.4	34.0	43.6	51.0
606	R23Y_087_050$_{e}$	0.875	0.5	0.375	0.875	0.5	0.625	44	0.875	0.429	0.375	64.6	27.4	23.8	36.3	41.0
607	R00Y_087_037$_{e}$	0.875	0.5	0.5	0.875	0.375	0.687	390	0.875	0.5	0.598	68.7	21.0	10.0	23.2	25.4
608	R18Y_087_037$_{e}$	0.875	0.5	0.625	0.875	0.375	0.687	371	0.875	0.5	0.72	68.8	22.9	1.7	22.9	4.3
609	B65R_087_037$_{e}$	0.875	0.5	0.75	0.875	0.375	0.687	349	0.853	0.5	0.875	68.5	23.6	−5.6	24.2	346.6
610	B50R_087_037$_{e}$	0.875	0.5	0.875	0.875	0.375	0.687	330	0.719	0.5	0.875	65.3	17.5	−10.7	20.5	328.6
611	B38R_100_050$_{e}$	0.875	0.5	1.0	1.0	0.5	0.75	316	0.673	0.5	1.0	64.6	18.2	−18.0	25.7	315.3
612	R73Y_087_087$_{e}$	0.875	0.625	0.0	0.875	0.875	0.437	74	0.875	0.447	0.0	65.0	16.2	58.4	60.6	74.4
613	R68Y_087_075$_{e}$	0.875	0.625	0.125	0.875	0.75	0.5	71	0.875	0.475	0.125	66.6	16.6	48.6	51.4	71.1
614	R61Y_087_062$_{e}$	0.875	0.625	0.25	0.875	0.625	0.562	67	0.875	0.507	0.25	68.4	16.7	38.9	42.4	66.6
615	R50Y_087_050$_{e}$	0.875	0.625	0.375	0.875	0.5	0.625	60	0.875	0.534	0.375	69.8	17.6	29.2	34.1	58.8
616	R31Y_087_037$_{e}$	0.875	0.625	0.5	0.875	0.375	0.687	49	0.875	0.566	0.5	71.3	18.4	19.5	26.8	46.6
617	R00Y_087_025$_{e}$	0.875	0.625	0.625	0.875	0.25	0.75	390	0.875	0.625	0.69	74.7	14.0	6.6	15.5	25.4
618	R00Y_087_025$_{e}$	0.875	0.625	0.75	0.875	0.25	0.75	360	0.875	0.625	0.831	75.2	16.3	−2.2	16.5	352.0
619	B50R_087_025$_{e}$	0.875	0.625	0.875	0.875	0.25	0.75	330	0.771	0.625	0.875	72.5	11.6	−7.1	13.6	328.6
620	B34R_100_037$_{e}$	0.875	0.625	1.0	1.0	0.375	0.812	311	0.732	0.625	1.0	71.8	12.3	−14.3	18.9	310.5
621	R86Y_087_087$_{e}$	0.875	0.75	0.0	0.875	0.875	0.437	82	0.875	0.573	0.0	70.2	7.3	63.4	63.8	83.4
622	R85Y_087_075$_{e}$	0.875	0.75	0.125	0.875	0.75	0.5	81	0.875	0.606	0.125	71.9	7.2	53.8	54.3	82.2
623	R81Y_087_062$_{e}$	0.875	0.75	0.25	0.875	0.625	0.562	79	0.875	0.632	0.25	73.4	7.7	43.9	44.6	80.0
624	R76Y_087_050$_{e}$	0.875	0.75	0.375	0.875	0.5	0.625	76	0.875	0.65	0.375	75.0	8.0	34.1	35.0	76.7
625	R68Y_087_037$_{e}$	0.875	0.75	0.5	0.875	0.375	0.687	71	0.875	0.675	0.5	76.7	8.3	24.3	25.7	71.1
626	R50Y_087_025$_{e}$	0.875	0.75	0.625	0.875	0.25	0.75	60	0.875	0.704	0.625	78.3	8.8	14.6	17.0	58.8
627	R00Y_087_012$_{e}$	0.875	0.75	0.75	0.875	0.125	0.812	390	0.875	0.75	0.782	80.8	7.0	3.3	7.7	25.4
628	B50R_087_012$_{e}$	0.875	0.75	0.875	0.875	0.125	0.812	330	0.823	0.75	0.875	79.6	5.8	−3.5	6.8	328.6
629	B25R_100_025$_{e}$	0.875	0.75	1.0	1.0	0.25	0.875	300	0.784	0.75	1.0	79.7	6.1	−10.4	12.1	300.1
630	Y00G_087_087$_{e}$	0.875	0.875	0.0	0.875	0.875	0.437	90	0.875	0.672	0.0	76.1	−2.7	67.2	67.2	92.3
631	Y00G_087_075$_{e}$	0.875	0.875	0.125	0.875	0.75	0.5	90	0.875	0.701	0.125	77.7	−2.3	57.6	57.6	92.3
632	Y00G_087_062$_{e}$	0.875	0.875	0.25	0.875	0.625	0.562	90	0.875	0.73	0.25	79.2	−1.9	48.0	48.0	92.3
633	Y00G_087_050$_{e}$	0.875	0.875	0.375	0.875	0.5	0.625	90	0.875	0.759	0.375	80.7	−1.5	38.4	38.4	92.3
634	Y00G_087_037$_{e}$	0.875	0.875	0.5	0.875	0.375	0.687	90	0.875	0.788	0.5	82.2	−1.1	28.8	28.8	92.3
635	Y00G_087_025$_{e}$	0.875	0.875	0.625	0.875	0.25	0.75	90	0.875	0.817	0.625	83.7	−0.7	19.2	19.2	92.3
636	Y00G_087_012$_{e}$	0.875	0.875	0.75	0.875	0.125	0.812	90	0.875	0.846	0.75	85.3	−0.3	9.6	9.6	92.3
637	NW_087$_{e}$	0.875	0.875	0.875	0.875	0.0	0.875	360	0.875	0.875	0.875	86.8	0.0	0.0	0.0	0.0
638	B00R_100_012$_{e}$	0.875	0.875	1.0	1.0	0.125	0.937	270	0.875	0.907	1.0	88.5	0.1	−6.0	6.0	271.7
639	Y11G_100_100$_{e}$	0.875	1.0	0.0	1.0	1.0	0.5	97	1.0	0.995	0.0	91.4	−15.5	84.4	85.8	100.4
640	Y13G_100_087$_{e}$	0.875	1.0	0.125	1.0	0.875	0.562	98	0.883	1.0	0.125	93.0	−16.0	78.0	79.7	101.6
641	Y15G_100_075$_{e}$	0.875	1.0	0.25	1.0	0.75	0.625	99	0.856	1.0	0.25	92.4	−14.9	65.7	67.4	102.7
642	Y18G_100_062$_{e}$	0.875	1.0	0.375	1.0	0.625	0.687	101	0.835	1.0	0.375	91.5	−14.2	52.6	54.5	105.1
643	Y23G_100_050$_{e}$	0.875	1.0	0.5	1.0	0.5	0.75	104	0.848	1.0	0.5	90.8	−13.2	39.2	41.4	108.6
644	Y31G_100_037$_{e}$	0.875	1.0	0.625	1.0	0.375	0.812	109	0.861	1.0	0.625	90.0	−11.7	25.8	28.4	114.4
645	Y50G_100_025$_{e}$	0.875	1.0	0.75	1.0	0.25	0.875	120	0.875	1.0	0.75	89.6	−10.4	13.7	17.2	127.2
646	G00B_100_012$_{e}$	0.875	1.0	0.875	1.0	0.125	0.937	150	0.875	1.0	0.893	90.5	−8.2	2.6	8.6	162.2
647	G50B_100_012$_{e}$	0.875	1.0	1.0	1.0	0.125	0.937	210	0.875	1.0	0.973	90.7	−4.8	−3.6	6.0	216.9

n	$rgb^{*\prime}_{Fe}$			$LabCh^{*\prime}_{Fe}$					$DE^{*\prime}_{Fe}$	$h_{siM,e}$	rgb^*_{Me}			$LabCh^*_{Me}$				
567	0.875	0.0	0.0	43.6	51.3	31.6	60.2	31.6	8.6	375	1.0	0.0	0.263	47.5	56.0	26.7	62.1	25.4
568	0.875	0.0	0.125	43.2	51.0	26.3	57.5	27.3	11.5	366	1.0	0.0	0.408	47.5	57.5	17.1	60.0	16.5
569	0.875	0.0	0.25	43.0	51.3	20.1	55.1	21.4	13.2	357	1.0	0.0	0.536	47.8	59.9	8.0	60.4	7.6
570	0.875	0.0	0.375	43.3	53.1	10.6	54.2	11.3	13.4	347	1.0	0.0	0.695	48.7	63.4	−2.6	63.5	357.6
571	0.875	0.0	0.5	43.4	55.6	1.4	55.6	1.4	9.6	339	1.0	0.0	0.818	49.4	65.4	−8.8	66.0	352.3
572	0.875	0.0	0.625	43.8	59.4	−6.7	59.8	353.5	11.0	323	0.87	0.0	1.0	45.5	60.0	−17.4	62.5	343.7
573	0.875	0.0	0.75	45.4	60.7	−12.7	62.1	348.1	17.5	313	0.71	0.0	1.0	41.0	53.1	−23.4	58.0	336.1
574	0.875	0.0	0.875	45.5	59.0	−16.8	61.4	344.0	21.8	305	0.584	0.0	1.0	38.5	46.7	−28.5	54.7	328.6
575	0.875	0.0	1.0	45.6	60.1	−17.3	62.6	343.9	25.8	297	0.455	0.0	1.0	36.1	41.4	−32.4	52.6	321.9
576	0.875	0.125	0.0	49.7	50.4	46.7	68.7	42.8	13.4	30	1.0	0.012	0.0	48.0	57.0	39.0	69.1	34.3
577	0.875	0.125	0.125	49.6	47.7	41.6	63.3	41.1	22.3	375	1.0	0.0	0.263	47.5	56.0	26.7	62.1	25.4
578	0.875	0.125	0.25	49.6	47.9	30.7	56.9	32.6	19.3	365	1.0	0.0	0.423	47.5	57.8	15.9	60.0	15.4
579	0.875	0.125	0.375	49.3	49.0	22.0	53.8	24.1	18.9	354	1.0	0.0	0.588	47.9	61.1	4.6	61.2	4.3
580	0.875	0.125	0.5	49.5	51.8	11.4	53.0	12.4	18.6	339	1.0	0.0	0.827	49.4	65.5	−9.1	66.2	352.0
581	0.875	0.125	0.625	49.1	55.8	0.5	55.8	0.6	14.6	327	0.941	0.0	1.0	47.0	63.0	−14.9	64.7	346.6
582	0.875	0.125	0.75	50.0	58.8	−10.1	59.7	350.2	20.1	314	0.725	0.0	1.0	41.3	53.8	−22.7	58.4	337.1
583	0.875	0.125	0.875	49.2	57.7	−16.2	60.0	344.2	23.8	305	0.584	0.0	1.0	38.5	46.7	−28.5	54.7	328.6
584	0.875	0.125	1.0	48.0	56.9	−17.9	59.6	342.4	24.3	295	0.438	0.0	1.0	35.7	40.8	−33.0	52.4	321.0
585	0.875	0.25	0.0	56.8	35.4	52.6	63.5	56.0	16.1	37	1.0	0.138	0.0	52.6	53.0	49.9	72.8	43.3
586	0.875	0.25	0.125	55.4	36.3	46.0	58.6	51.6	17.3	31	1.0	0.028	0.0	48.6	56.7	40.4	69.6	35.5
587	0.875	0.25	0.25	56.9	34.5	32.7	47.5	43.4	16.0	375	1.0	0.0	0.263	47.5	56.0	26.7	62.1	25.4
588	0.875	0.25	0.375	56.3	36.2	24.8	43.9	34.4	16.3	362	1.0	0.0	0.454	47.6	58.3	13.7	59.9	13.2
589	0.875	0.25	0.5	56.0	38.3	15.0	41.1	21.4	15.2	349	1.0	0.0	0.659	48.3	62.6	−0.1	62.6	359.8
590	0.875	0.25	0.625	56.4	42.0	3.3	42.1	4.6	10.4	335	1.0	0.0	0.899	49.2	66.0	−11.1	66.9	350.4
591	0.875	0.25	0.75	57.2	45.5	−6.6	46.0	351.7	13.3	316	0.756	0.0	1.0	42.1	55.4	−21.2	59.3	339.0
592	0.875	0.25	0.875	56.8	46.5	−14.0	48.6	343.1	18.6	305	0.584	0.0	1.0	38.5	46.7	−28.5	54.7	328.6
593	0.875	0.25	1.0	54.7	48.9	−16.3	51.6	341.5	21.2	294	0.421	0.0	1.0	35.3	40.1	−33.5	52.3	320.0
594	0.875	0.375	0.0	63.1	24.3	58.4	63.2	67.4	17.8	44	1.0	0.255	0.0	58.5	41.3	55.4	69.1	53.3
595	0.875	0.375	0.125	61.5	24.8	49.6	55.5	63.3	16.9	39	1.0	0.177	0.0	54.6	49.1	52.0	71.6	46.6
596	0.875	0.375	0.25	62.3	24.9	36.0	43.8	55.3	14.1	33	1.0	0.06	0.0	49.7	56.0	43.3	70.8	37.7
597	0.875	0.375	0.375	62.9	25.1	26.0	36.2	45.9	12.9	375	1.0	0.0	0.263	47.5	56.0	26.7	62.1	25.4
598	0.875	0.375	0.5	63.1	27.5	16.1	31.9	30.3	11.1	359	1.0	0.0	0.501	47.8	59.0	10.2	59.9	9.8
599	0.875	0.375	0.625	63.0	30.1	6.9	30.9	12.9	11.8	339	1.0	0.0	0.827	49.4	65.5	−9.1	66.2	352.0
600	0.875	0.375	0.75	63.3	35.2	−4.9	35.6	352.0	8.0	320	0.825	0.0	1.0	44.1	58.2	−19.0	61.2	341.8
601	0.875	0.375	0.875	63.7	36.7	−11.8	38.6	342.1	14.6	305	0.584	0.0	1.0	38.5	46.7	−28.5	54.7	328.6
602	0.875	0.375	1.0	61.4	37.8	−15.8	41.0	337.2	15.3	292	0.387	0.0	1.0	34.5	38.7	−34.6	51.9	318.1
603	0.875	0.5	0.0	69.2	12.9	63.8	65.1	78.5	18.8	52	1.0	0.384	0.0	65.0	29.0	60.9	67.5	64.4
604	0.875	0.5	0.125	68.1	14.1	57.3	59.0	76.1	19.5	48	1.0	0.319	0.0	61.8	35.2	58.4	68.2	58.8
605	0.875	0.5	0.25	68.9	13.2	41.0	43.0	72.1	17.0	42	1.0	0.229	0.0	57.2	43.9	54.4	69.9	51.0
606	0.875	0.5	0.375	68.6	15.1	30.6	34.1	63.7	14.6	35	1.0	0.108	0.0	51.4	54.8	47.7	72.6	41.0
607	0.875	0.5	0.5	69.6	16.7	20.0	26.1	50.1	10.9	375	1.0	0.0	0.263	47.5	56.0	26.7	62.1	25.4
608	0.875	0.5	0.625	69.4	20.1	10.8	22.8	28.2	9.5	354	1.0	0.0	0.588	47.9	61.1	4.6	61.2	4.3
609	0.875	0.5	0.75	69.6	25.1	−1.8	25.1	355.7	4.2	327	0.941	0.0	1.0	47.0	63.0	−14.9	64.7	346.6
610	0.875	0.5	0.875	70.1	27.6	−10.7	29.6	338.7	11.1	305	0.584	0.0	1.0	38.5	46.7	−28.5	54.7	328.6
611	0.875	0.5	1.0	68.5	30.3	−13.8	33.3	335.5	13.3	289	0.347	0.0	1.0	33.5	36.5	−36.1	51.4	315.3
612	0.875	0.625	0.0	77.1	2.9	72.8	72.8	87.7	23.0	60	1.0	0.511	0.0	70.9	18.5	66.7	69.2	74.4
613	0.875	0.625	0.125	75.1	3.8	67.0	67.1	86.6	23.8	57	1.0	0.466	0.0	68.9	22.1	64.9	68.5	71.1
614	0.875	0.625	0.25	76.2	3.2	47.4	47.5	86.1	17.8	54	1.0	0.411	0.0	66.3	26.8	62.3	67.8	66.6
615	0.875	0.625	0.375	75.2	5.6	36.6	37.1	81.2	15.1	48	1.0	0.319	0.0	61.8	35.2	58.4	68.2	58.8
616	0.875	0.625	0.5	75.3	8.1	24.0	25.3	71.3	11.9	39	1.0	0.177	0.0	54.6	49.1	52.0	71.6	46.6
617	0.875	0.625	0.625	75.6	9.9	14.6	17.7	55.7	8.9	375	1.0	0.0	0.263	47.5	56.0	26.7	62.1	25.4
618	0.875	0.625	0.75	75.6	14.7	1.8	14.8	6.9	4.4	339	1.0	0.0	0.827	49.4	65.5	−9.1	66.2	352.0
619	0.875	0.625	0.875	76.2	18.4	−8.1	20.1	336.1	7.7	305	0.584	0.0	1.0	38.5	46.7	−28.5	54.7	328.6
620	0.875	0.625	1.0	75.8	22.9	−10.8	25.4	334.7	11.9	286	0.285	0.0	1.0	31.9	32.8	−38.2	50.4	310.5
621	0.875	0.75	0.0	85.1	−6.3	81.4	81.6	94.4	27.0	70	1.0	0.655	0.0	76.8	8.3	72.4	72.9	83.4
622	0.875	0.75	0.125	82.9	−5.9	74.6	74.8	94.5	26.9	69	1.0	0.642	0.0	76.0	9.7	71.7	72.4	82.2
623	0.875	0.75	0.25	83.0	−5.2	54.0	54.2	95.5	19.0	67	1.0	0.611	0.0	74.4	12.3	70.3	71.3	80.0
624	0.875	0.75	0.375	82.7	−3.2	43.0	43.2	94.3	16.3	63	1.0	0.551	0.0	72.3	16.1	68.2	70.1	76.7
625	0.875	0.75	0.5	82.9	−1.4	31.5	31.5	92.5	13.5	57	1.0	0.466	0.0	68.9	22.1	64.9	68.5	71.1
626	0.875	0.75	0.625	82.4	2.3	19.4	19.6	83.2	9.1	48	1.0	0.319	0.0	61.8	35.2	58.4	68.2	58.8
627	0.875	0.75	0.75	82.5	5.3	5.3	7.5	45.2	3.1	375	1.0	0.0	0.263	47.5	56.0	26.7	62.1	25.4
628	0.875	0.75	0.875	83.5	8.3	−5.9	10.2	324.7	5.1	305	0.584	0.0	1.0	38.5	46.7	−28.5	54.7	328.6
629	0.875	0.75	1.0	83.1	9.3	−9.9	13.6	313.2	4.6	277	0.138	0.0	1.0	31.5	24.4	−41.9	48.5	300.1
630	0.875	0.875	0.0	90.6	−14.9	87.7	89.0	99.6	27.9	77	1.0	0.768	0.0	83.6	−3.1	76.8	76.9	92.3
631	0.875	0.875	0.125	88.8	−13.7	80.1	81.3	99.7	27.6	77	1.0	0.768	0.0	83.6	−3.1	76.8	76.9	92.3
632	0.875	0.875	0.25	88.5	−11.8	61.7	62.9	100.8	19.3	77	1.0	0.768	0.0	83.6	−3.1	76.8	76.9	92.3
633	0.875	0.875	0.375	88.3	−10.9	49.4	50.6	102.4	16.3	77	1.0	0.768	0.0	83.6	−3.1	76.8	76.9	92.3
634	0.875	0.875	0.5	89.3	−9.0	38.2	39.3	103.3	14.2	77	1.0	0.768	0.0	83.6	−3.1	76.8	76.9	92.3
635	0.875	0.875	0.625	89.2	−6.5	26.1	27.0	104.1	10.6	77	1.0	0.768	0.0	83.6	−3.1	76.8	76.9	92.3
636	0.875	0.875	0.75	90.3	−3.9	10.6	11.3	110.2	6.2	77	1.0	0.768	0.0	83.6	−3.1	76.8	76.9	92.3
637	0.875	0.875	0.875	90.8	0.0	−0.1	0.1	266.5	4.0	360	1.0	1.0	1.0	95.8	0.0	0.0	0.0	0.0
638	0.875	0.875	1.0	89.8	−0.7	−7.0	7.0	263.6	1.8	255	0.0	0.261	1.0	37.3	1.4	−48.6	48.7	271.7
639	0.875	1.0	0.0	92.8	−18.1	89.4	91.2	101.4	5.8	89	1.0	0.995	0.0	91.4	−15.5	84.4	85.8	100.4
640	0.875	1.0	0.125	91.8	−17.4	83.6	85.4	101.7	5.8	97	0.867	1.0	0.0	92.6	−18.3	89.2	91.0	101.6
641	0.875	1.0	0.25	91.2	−16.1	65.6	67.6	103.7	1.6	100	0.808	1.0	0.0	91.3	−19.9	87.6	89.8	102.7
642	0.875	1.0	0.375	91.1	−15.5	54.5	56.7	105.9	2.4	104	0.736	1.0	0.0	89.0	−22.7	84.1	87.2	105.1
643	0.875	1.0	0.5	91.5	−15.4	44.3	46.9	109.1	5.6	107	0.697	1.0	0.0	85.8	−26.4	78.5	82.9	108.6
644	0.875	1.0	0.625	92.3	−14.1	33.3	36.2	113.0	8.1	111	0.631	1.0	0.0	80.4	−31.3	68.9	75.7	114.4
645	0.875	1.0	0.75	92.1	−11.7	19.6	22.8	120.8	6.5	119	0.5	1.0	0.0	71.0	−41.7	54.8	68.9	127.2
646	0.875	1.0	0.875	91.7	−7.8	3.2	8.5	157.4	1.3	157	0.0	1.0	0.146	53.8	−65.9	21.1	69.2	162.2
647	0.875	1.0	1.0	90.5	−5.6	−7.3	9.3	232.4	3.8	198	0.0	1.0	0.791	54.9	−38.7	−29.1	48.4	216.9

Mean color difference of this page: **delta $E^{*\prime}$ = *13.7***

1−0132630−F0

PE890−7N, Page 27/33−F

TUB-test chart PE89; 16 step hue circle
colors and differences, $\Delta E^{*\prime}$

input: $rgb/cmyk \rightarrow rgb_e$
output: transfer to $cmyk_e$

1−0132630−F0

TUB registration: 20150701-PE89/PE89L0NP.PDF /.PS TUB material: code=rha4ta
application for measurement of laser printer output, separation cmyn6 (CMYK)

http://130.149.60.45/~farbmetrik/PE89/PE89L0NP.PDF /.PS; transfer output
N: no 3D-linearization (OL) in file (F) or PS-startup (S), page 28/33

n	HIC*Fe	rgb_Fe			ict_Fe			hsi_F,e
648	R00Y_100_100e	1.0	0.0	0.0	1.0	1.0	0.5	390
649	R38Y_100_100e	1.0	0.0	0.125	1.0	1.0	0.5	383
650	R26Y_100_100e	1.0	0.0	0.25	1.0	1.0	0.5	376
651	R13Y_100_100e	1.0	0.0	0.375	1.0	1.0	0.5	368
652	R00Y_100_100e	1.0	0.0	0.5	1.0	1.0	0.5	360
653	B68R_100_100e	1.0	0.0	0.625	1.0	1.0	0.5	352
654	B61R_100_100e	1.0	0.0	0.75	1.0	1.0	0.5	344
655	B55R_100_100e	1.0	0.0	0.875	1.0	1.0	0.5	337
656	B50R_100_100e	1.0	0.0	1.0	1.0	1.0	0.5	330
657	R11Y_100_100e	1.0	0.125	0.0	1.0	1.0	0.5	37
658	R00Y_100_087e	1.0	0.125	0.125	1.0	0.875	0.562	390
659	R36Y_100_087e	1.0	0.125	0.25	1.0	0.875	0.562	382
660	R23Y_100_087e	1.0	0.125	0.375	1.0	0.875	0.562	374
661	R08Y_100_087e	1.0	0.125	0.5	1.0	0.875	0.562	365
662	B70R_100_087e	1.0	0.125	0.625	1.0	0.875	0.562	355
663	B63R_100_087e	1.0	0.125	0.75	1.0	0.875	0.562	346
664	B56R_100_087e	1.0	0.125	0.875	1.0	0.875	0.562	338
665	B50R_100_087e	1.0	0.125	1.0	1.0	0.875	0.562	330
666	R23Y_100_100e	1.0	0.25	0.0	1.0	1.0	0.5	44
667	R13Y_100_087e	1.0	0.25	0.125	1.0	0.875	0.562	38
668	R00Y_100_075e	1.0	0.25	0.25	1.0	0.75	0.625	390
669	R35Y_100_075e	1.0	0.25	0.375	1.0	0.75	0.625	381
670	R18Y_100_075e	1.0	0.25	0.5	1.0	0.75	0.625	371
671	R00Y_100_075e	1.0	0.25	0.625	1.0	0.75	0.625	360
672	B65R_100_075e	1.0	0.25	0.75	1.0	0.75	0.625	349
673	B57R_100_075e	1.0	0.25	0.875	1.0	0.75	0.625	339
674	B50R_100_075e	1.0	0.25	1.0	1.0	0.75	0.625	330
675	R36Y_100_100e	1.0	0.375	0.0	1.0	1.0	0.5	52
676	R26Y_100_087e	1.0	0.375	0.125	1.0	0.875	0.562	46
677	R15Y_100_075e	1.0	0.375	0.25	1.0	0.75	0.625	39
678	R00Y_100_062e	1.0	0.375	0.375	1.0	0.625	0.687	390
679	R31Y_100_062e	1.0	0.375	0.5	1.0	0.625	0.687	379
680	R11Y_100_062e	1.0	0.375	0.625	1.0	0.625	0.687	367
681	B69R_100_062e	1.0	0.375	0.75	1.0	0.625	0.687	353
682	B59R_100_062e	1.0	0.375	0.875	1.0	0.625	0.687	341
683	B50R_100_062e	1.0	0.375	1.0	1.0	0.625	0.687	330
684	R50Y_100_100e	1.0	0.5	0.0	1.0	1.0	0.5	60
685	R41Y_100_087e	1.0	0.5	0.125	1.0	0.875	0.562	55
686	R31Y_100_075e	1.0	0.5	0.25	1.0	0.75	0.625	49
687	R18Y_100_062e	1.0	0.5	0.375	1.0	0.625	0.687	41
688	R00Y_100_050e	1.0	0.5	0.5	1.0	0.5	0.75	390
689	R26Y_100_050e	1.0	0.5	0.625	1.0	0.5	0.75	376
690	R00Y_100_050e	1.0	0.5	0.75	1.0	0.5	0.75	360
691	B61R_100_050e	1.0	0.5	0.875	1.0	0.5	0.75	344
692	B50R_100_050e	1.0	0.5	1.0	1.0	0.5	0.75	330
693	R63Y_100_100e	1.0	0.625	0.0	1.0	1.0	0.5	68
694	R58Y_100_087e	1.0	0.625	0.125	1.0	0.875	0.562	65
695	R50Y_100_075e	1.0	0.625	0.25	1.0	0.75	0.625	60
696	R38Y_100_062e	1.0	0.625	0.375	1.0	0.625	0.687	53
697	R23Y_100_050e	1.0	0.625	0.5	1.0	0.5	0.75	44
698	R00Y_100_037e	1.0	0.625	0.625	1.0	0.375	0.812	390
699	R18Y_100_037e	1.0	0.625	0.75	1.0	0.375	0.812	371
700	B65R_100_037e	1.0	0.625	0.875	1.0	0.375	0.812	349
701	B50R_100_037e	1.0	0.625	1.0	1.0	0.375	0.812	330
702	R76Y_100_100e	1.0	0.75	0.0	1.0	1.0	0.5	76
703	R73Y_100_087e	1.0	0.75	0.125	1.0	0.875	0.562	74
704	R68Y_100_075e	1.0	0.75	0.25	1.0	0.75	0.625	71
705	R61Y_100_062e	1.0	0.75	0.375	1.0	0.625	0.687	67
706	R50Y_100_050e	1.0	0.75	0.5	1.0	0.5	0.75	60
707	R31Y_100_037e	1.0	0.75	0.625	1.0	0.375	0.812	49
708	R00Y_100_025e	1.0	0.75	0.75	1.0	0.25	0.875	390
709	R00Y_100_025e	1.0	0.75	0.875	1.0	0.25	0.875	360
710	B50R_100_025e	1.0	0.75	1.0	1.0	0.25	0.875	330
711	R88Y_100_100e	1.0	0.875	0.0	1.0	1.0	0.5	83
712	R86Y_100_087e	1.0	0.875	0.125	1.0	0.875	0.562	82
713	R85Y_100_075e	1.0	0.875	0.25	1.0	0.75	0.625	81
714	R81Y_100_062e	1.0	0.875	0.375	1.0	0.625	0.687	79
715	R76Y_100_050e	1.0	0.875	0.5	1.0	0.5	0.75	76
716	R68Y_100_037e	1.0	0.875	0.625	1.0	0.375	0.812	71
717	R50Y_100_025e	1.0	0.875	0.75	1.0	0.25	0.875	60
718	R00Y_100_012e	1.0	0.875	0.875	1.0	0.125	0.937	390
719	B50R_100_012e	1.0	0.875	1.0	1.0	0.125	0.937	330
720	Y00G_100_100e	1.0	1.0	0.0	1.0	1.0	0.5	90
721	Y00G_100_087e	1.0	1.0	0.125	1.0	0.875	0.562	90
722	Y00G_100_075e	1.0	1.0	0.25	1.0	0.75	0.625	90
723	Y00G_100_062e	1.0	1.0	0.375	1.0	0.625	0.687	90
724	Y00G_100_050e	1.0	1.0	0.5	1.0	0.5	0.75	90
725	Y00G_100_037e	1.0	1.0	0.625	1.0	0.375	0.812	90
726	Y00G_100_025e	1.0	1.0	0.75	1.0	0.25	0.875	90
727	Y00G_100_012e	1.0	1.0	0.875	1.0	0.125	0.937	90
728	NW_100e	1.0	1.0	1.0	1.0	0.0	1.0	360

n	rgb*Fe			LabCh*Fe				
648	1.0	0.0	0.263	47.5	56.0	26.7	62.1	25.4
649	1.0	0.0	0.392	47.4	57.2	18.2	60.0	17.6
650	1.0	0.0	0.501	47.8	59.0	10.2	59.9	9.8
651	1.0	0.0	0.641	48.1	62.2	1.0	62.2	0.9
652	1.0	0.0	0.827	49.4	65.5	−9.1	66.2	352.0
653	1.0	0.0	0.964	48.5	65.6	−12.2	66.7	349.4
654	0.825	0.0	1.0	44.1	58.2	−19.0	61.2	341.8
655	0.696	0.0	1.0	40.6	52.3	−24.1	57.6	335.2
656	0.584	0.0	1.0	38.5	46.7	−28.5	54.7	328.6
657	1.0	0.0	0.012	47.5	57.1	37.5	68.3	33.2
658	1.0	0.125	0.355	53.5	49.0	23.3	54.3	25.4
659	1.0	0.125	0.482	53.5	50.3	14.9	52.5	16.5
660	1.0	0.125	0.594	53.8	52.4	7.0	52.9	7.6
661	1.0	0.125	0.733	54.6	55.5	−2.2	55.6	357.6
662	1.0	0.125	0.841	55.2	57.2	−7.7	57.8	352.3
663	0.887	0.125	1.0	51.8	52.5	−15.2	54.6	343.7
664	0.746	0.125	1.0	47.8	46.4	−20.5	50.8	336.1
665	0.636	0.125	1.0	45.6	40.9	−24.9	47.9	328.6
666	1.0	0.108	0.0	51.4	54.8	47.7	72.6	41.0
667	1.0	0.136	0.125	54.0	49.8	34.1	60.4	34.3
668	1.0	0.25	0.447	59.6	42.0	20.0	46.5	25.4
669	1.0	0.25	0.567	59.6	43.3	11.9	45.0	15.4
670	1.0	0.25	0.691	59.9	45.8	3.4	45.9	4.3
671	1.0	0.25	0.87	61.0	49.1	−6.8	49.6	352.0
672	0.956	0.25	1.0	59.2	47.2	−11.2	48.5	346.6
673	0.793	0.25	1.0	54.9	40.4	−17.0	43.8	337.1
674	0.688	0.25	1.0	52.8	35.0	−21.4	41.0	328.6
675	1.0	0.216	0.0	56.5	45.2	53.8	70.3	49.9
676	1.0	0.245	0.125	58.0	46.4	43.7	63.7	43.3
677	1.0	0.271	0.25	60.4	42.5	30.3	52.2	35.5
678	1.0	0.375	0.539	65.6	35.0	16.7	38.8	25.4
679	1.0	0.375	0.659	65.7	36.4	8.5	37.4	13.2
680	1.0	0.375	0.787	66.1	39.1	0.0	39.1	359.8
681	1.0	0.375	0.937	66.7	41.2	−6.9	41.8	350.4
682	0.848	0.375	1.0	62.2	34.6	−13.2	37.1	339.0
683	0.74	0.375	1.0	60.0	29.2	−17.8	34.2	328.6
684	1.0	0.319	0.0	61.8	35.2	58.4	68.2	58.8
685	1.0	0.348	0.125	63.2	36.1	48.5	60.5	53.3
686	1.0	0.382	0.25	64.9	36.8	39.0	53.7	46.6
687	1.0	0.413	0.375	67.0	35.0	27.1	44.3	37.7
688	1.0	0.5	0.631	71.6	28.0	13.3	31.0	25.4
689	1.0	0.5	0.75	71.8	29.5	5.1	29.9	9.8
690	1.0	0.5	0.913	72.6	32.7	−4.5	33.1	352.0
691	0.912	0.5	1.0	70.0	29.1	−9.5	30.6	341.8
692	0.792	0.5	1.0	67.1	23.3	−14.2	27.3	328.6
693	1.0	0.425	0.0	67.0	25.7	63.0	68.0	67.8
694	1.0	0.461	0.125	68.9	25.4	53.2	59.0	64.4
695	1.0	0.489	0.25	70.3	26.4	43.8	51.1	58.8
696	1.0	0.518	0.375	71.7	27.4	34.0	43.6	51.0
697	1.0	0.554	0.5	73.6	27.4	23.8	36.3	41.0
698	1.0	0.625	0.723	77.7	21.0	10.0	23.2	25.4
699	1.0	0.625	0.845	77.8	22.9	1.7	22.9	4.3
700	0.978	0.625	1.0	77.5	23.6	−5.6	24.2	346.6
701	0.844	0.625	1.0	74.3	17.5	−10.7	20.5	328.6
702	1.0	0.551	0.0	72.3	16.1	68.2	70.1	76.7
703	1.0	0.572	0.125	74.0	16.2	58.4	60.6	74.4
704	1.0	0.6	0.25	75.6	16.6	48.6	51.4	71.1
705	1.0	0.632	0.375	77.4	16.7	38.9	42.4	66.6
706	1.0	0.659	0.5	78.8	17.6	29.2	34.1	58.8
707	1.0	0.691	0.625	80.3	18.4	19.5	26.8	46.6
708	1.0	0.75	0.815	83.7	14.0	6.6	15.5	25.4
709	1.0	0.75	0.956	84.2	16.3	−2.2	16.5	352.0
710	0.896	0.75	1.0	81.5	11.6	−7.1	13.6	328.6
711	1.0	0.668	0.0	77.7	7.0	73.1	73.5	84.5
712	1.0	0.698	0.125	79.2	7.3	63.4	63.8	83.4
713	1.0	0.731	0.25	80.9	7.2	53.8	54.3	82.2
714	1.0	0.757	0.375	82.4	7.7	43.9	44.6	80.0
715	1.0	0.775	0.5	84.0	8.0	34.1	35.0	76.7
716	1.0	0.8	0.625	85.7	8.3	24.3	25.7	71.1
717	1.0	0.829	0.75	87.3	8.8	14.6	17.0	58.8
718	1.0	0.875	0.907	89.8	7.0	3.3	7.7	25.4
719	0.948	0.875	1.0	88.6	5.8	−3.5	6.8	328.6
720	1.0	0.768	0.0	83.6	−3.1	76.8	76.9	92.3
721	1.0	0.797	0.125	85.1	−2.7	67.2	67.2	92.3
722	1.0	0.826	0.25	86.7	−2.3	57.6	57.6	92.3
723	1.0	0.855	0.375	88.2	−1.9	48.0	48.0	92.3
724	1.0	0.884	0.5	89.7	−1.5	38.4	38.4	92.3
725	1.0	0.913	0.625	91.2	−1.1	28.8	28.8	92.3
726	1.0	0.942	0.75	92.7	−0.7	19.2	19.2	92.3
727	1.0	0.971	0.875	94.3	−0.3	9.6	9.6	92.3
728	1.0	1.0	1.0	95.8	0.0	0.0	0.0	0.0

n	rgb*'Fe			LabCh*'Fe					DE*'Fe	hsiM,e
648	1.0	0.0	0.0	47.5	57.2	37.8	68.6	33.4	11.1	375
649	1.0	0.0	0.125	47.6	56.3	34.2	65.9	31.3	16.0	367
650	1.0	0.0	0.25	47.5	55.9	27.5	62.3	26.2	17.5	359
651	1.0	0.0	0.375	47.4	56.8	19.5	60.0	18.9	19.2	350
652	1.0	0.0	0.5	47.8	58.9	10.4	59.9	10.0	20.7	339
653	1.0	0.0	0.625	48.0	61.8	2.1	61.8	1.9	14.8	331
654	1.0	0.0	0.75	49.3	64.5	−6.5	64.8	354.2	14.9	320
655	1.0	0.0	0.875	49.5	66.1	−10.7	67.0	350.7	21.1	312
656	1.0	0.0	1.0	48.1	65.4	−12.7	66.6	348.9	26.2	305
657	1.0	0.125	0.0	51.9	54.3	49.2	73.2	42.1	12.8	389
658	1.0	0.125	0.125	50.9	56.4	46.0	72.8	39.1	23.9	375
659	1.0	0.125	0.25	51.1	57.3	36.9	68.2	32.7	23.1	366
660	1.0	0.125	0.375	50.9	59.2	26.9	65.0	24.4	21.1	357
661	1.0	0.125	0.5	51.5	60.5	17.6	63.0	16.2	20.7	347
662	1.0	0.125	0.625	51.1	64.7	5.0	64.9	4.4	15.3	339
663	1.0	0.125	0.75	51.5	67.6	−5.3	67.8	355.4	18.1	323
664	1.0	0.125	0.875	52.1	68.4	−9.9	69.1	351.7	24.7	313
665	1.0	0.125	1.0	51.6	65.2	−11.3	66.1	350.0	28.4	305
666	1.0	0.25	0.0	58.2	41.8	55.1	69.2	52.8	16.4	35
667	1.0	0.25	0.125	57.8	42.8	53.7	68.7	51.4	21.2	30
668	1.0	0.25	0.25	58.2	43.1	44.9	62.3	46.1	24.9	375
669	1.0	0.25	0.375	57.6	45.9	33.2	56.7	35.9	21.5	365
670	1.0	0.25	0.5	56.8	49.3	23.4	54.6	25.4	20.5	354
671	1.0	0.25	0.625	57.2	52.2	10.3	53.2	11.2	17.9	339
672	1.0	0.25	0.75	58.2	54.5	−1.8	54.5	358.0	11.8	327
673	1.0	0.25	0.875	58.8	56.4	−9.7	57.2	350.2	18.0	314
674	1.0	0.25	1.0	59.2	53.0	−11.1	54.2	348.1	21.6	305
675	1.0	0.375	0.0	64.6	29.8	60.4	67.3	63.7	18.5	41
676	1.0	0.375	0.125	63.2	32.5	57.2	65.9	60.3	20.0	37
677	1.0	0.375	0.25	63.3	33.3	49.0	59.3	55.8	21.0	31
678	1.0	0.375	0.375	64.5	33.3	35.8	48.9	47.0	19.2	375
679	1.0	0.375	0.5	64.4	35.7	25.6	44.0	35.7	17.1	362
680	1.0	0.375	0.625	64.1	39.5	13.1	41.6	18.3	13.3	349
681	1.0	0.375	0.75	64.9	42.1	1.3	42.1	1.8	8.5	335
682	1.0	0.375	0.875	65.6	44.6	−7.7	45.2	350.1	11.8	316
683	1.0	0.375	1.0	66.3	43.9	−9.3	44.9	348.0	18.1	305
684	1.0	0.5	0.0	70.5	19.2	66.2	69.0	73.8	19.8	48
685	1.0	0.5	0.125	68.8	22.5	62.1	66.1	70.0	20.0	44
686	1.0	0.5	0.25	69.3	22.8	50.9	55.8	65.8	18.8	39
687	1.0	0.5	0.375	69.7	24.5	38.1	45.3	57.2	15.5	33
688	1.0	0.5	0.5	71.4	24.0	27.4	36.4	48.8	14.6	375
689	1.0	0.5	0.625	71.6	27.0	15.7	31.2	30.2	10.8	359
690	1.0	0.5	0.75	71.9	30.4	4.7	30.7	8.8	9.6	339
691	1.0	0.5	0.875	71.8	34.7	−5.9	35.2	350.3	6.9	320
692	1.0	0.5	1.0	71.6	36.1	−8.9	37.2	346.1	14.5	305
693	1.0	0.625	0.0	74.9	11.4	70.7	71.6	80.7	18.0	55
694	1.0	0.625	0.125	75.7	10.3	67.8	68.6	81.3	22.0	52
695	1.0	0.625	0.25	75.9	11.1	56.5	57.6	78.8	20.6	48
696	1.0	0.625	0.375	76.0	13.2	42.5	44.6	72.7	17.1	42
697	1.0	0.625	0.5	77.1	14.1	31.2	34.3	65.5	15.5	35
698	1.0	0.625	0.625	78.4	15.6	19.6	25.1	51.4	11.0	375
699	1.0	0.625	0.75	78.6	19.2	8.4	21.0	23.7	7.7	354
700	1.0	0.625	0.875	79.4	23.4	−4.3	23.8	349.5	2.2	327
701	1.0	0.625	1.0	78.5	25.6	−7.2	26.6	344.3	9.8	305
702	1.0	0.75	0.0	82.9	−2.0	76.9	77.0	91.5	22.7	63
703	1.0	0.75	0.125	82.6	−0.5	66.7	66.7	90.5	20.6	60
704	1.0	0.75	0.25	82.8	0.4	57.8	57.8	89.5	19.9	57
705	1.0	0.75	0.375	83.4	1.1	48.4	48.4	88.6	19.2	54
706	1.0	0.75	0.5	83.6	2.8	39.3	39.4	85.7	18.5	48
707	1.0	0.75	0.625	84.0	5.8	25.8	26.5	77.2	14.5	39
708	1.0	0.75	0.75	86.4	7.3	12.4	14.4	59.6	9.2	375
709	1.0	0.75	0.875	85.5	13.2	0.6	13.2	2.8	4.5	339
710	1.0	0.75	1.0	86.0	15.3	−5.2	16.2	341.0	6.1	305
711	1.0	0.875	0.0	87.6	−9.0	75.7	76.3	96.8	19.0	70
712	1.0	0.875	0.125	87.3	−8.0	69.2	69.7	96.6	18.3	70
713	1.0	0.875	0.25	88.1	−7.3	58.0	58.5	97.2	16.8	69
714	1.0	0.875	0.375	88.4	−6.1	49.5	49.9	97.1	16.1	67
715	1.0	0.875	0.5	88.8	−4.4	40.1	40.4	96.3	14.6	63
716	1.0	0.875	0.625	89.1	−2.1	30.3	30.3	93.9	12.4	57
717	1.0	0.875	0.75	91.6	−1.9	18.5	18.6	95.8	12.2	48
718	1.0	0.875	0.875	92.0	3.1	4.8	5.7	56.9	4.7	375
719	1.0	0.875	1.0	93.0	5.1	−2.4	5.6	334.7	4.5	305
720	1.0	1.0	0.0	91.5	−15.8	84.6	86.1	100.5	16.9	77
721	1.0	1.0	0.125	91.7	−15.4	78.3	79.8	101.1	18.0	77
722	1.0	1.0	0.25	91.8	−13.6	64.0	65.5	102.0	13.9	77
723	1.0	1.0	0.375	92.6	−12.9	53.9	55.5	103.4	13.2	77
724	1.0	1.0	0.5	93.1	−11.8	45.5	47.0	104.6	12.9	77
725	1.0	1.0	0.625	93.6	−9.6	34.9	36.2	105.3	10.6	77
726	1.0	1.0	0.75	95.1	−8.9	25.6	27.1	109.2	10.6	77
727	1.0	1.0	0.875	95.7	−4.6	11.5	12.4	111.7	4.8	77
728	1.0	1.0	1.0	95.8	0.0	0.0	0.0	0.0	0.0	360

Mean color difference of this page: **delta $E^{*\prime}$ = *15.8***

n	rgb*Me			LabCh*Me				
648	1.0	0.0	0.263	47.5	56.0	26.7	62.1	25.4
649	1.0	0.0	0.392	47.4	57.2	18.2	60.0	17.6
650	1.0	0.0	0.501	47.8	59.0	10.2	59.9	9.8
651	1.0	0.0	0.641	48.1	62.2	1.0	62.2	0.9
652	1.0	0.0	0.827	49.4	65.5	−9.1	66.2	352.0
653	1.0	0.0	0.964	48.5	65.6	−12.2	66.7	349.4
654	0.825	0.0	1.0	44.1	58.2	−19.0	61.2	341.8
655	0.696	0.0	1.0	40.6	52.3	−24.1	57.6	335.2
656	0.584	0.0	1.0	38.5	46.7	−28.5	54.7	328.6
657	1.0	0.0	0.012	47.5	57.1	37.5	68.3	33.2
658	1.0	0.0	0.263	47.5	56.0	26.7	62.1	25.4
659	1.0	0.0	0.408	47.5	57.5	17.1	60.0	16.5
660	1.0	0.0	0.536	47.8	59.9	8.0	60.4	7.6
661	1.0	0.0	0.695	48.7	63.4	−2.6	63.5	357.6
662	1.0	0.0	0.818	49.4	65.4	−8.8	66.0	352.3
663	0.87	0.0	1.0	45.5	60.0	−17.4	62.5	343.7
664	0.71	0.0	1.0	41.0	53.1	−23.4	58.0	336.1
665	0.584	0.0	1.0	38.5	46.7	−28.5	54.7	328.6
666	1.0	0.108	0.0	51.4	54.8	47.7	72.6	41.0
667	1.0	0.012	0.0	48.0	57.0	39.0	69.1	34.3
668	1.0	0.0	0.263	47.5	56.0	26.7	62.1	25.4
669	1.0	0.0	0.423	47.5	57.8	15.9	60.0	15.4
670	1.0	0.0	0.588	47.9	61.1	4.6	61.2	4.3
671	1.0	0.0	0.827	49.4	65.5	−9.1	66.2	352.0
672	0.941	0.0	1.0	47.0	63.0	−14.9	64.7	346.6
673	0.725	0.0	1.0	41.3	53.8	−22.7	58.4	337.1
674	0.584	0.0	1.0	38.5	46.7	−28.5	54.7	328.6
675	1.0	0.216	0.0	56.5	45.2	53.8	70.3	49.9
676	1.0	0.138	0.0	52.6	53.0	49.9	72.8	43.3
677	1.0	0.028	0.0	48.6	56.7	40.4	69.6	35.5
678	1.0	0.0	0.263	47.5	56.0	26.7	62.1	25.4
679	1.0	0.0	0.454	47.6	58.3	13.7	59.9	13.2
680	1.0	0.0	0.659	48.3	62.6	−0.1	62.6	359.8
681	1.0	0.0	0.899	49.2	66.0	−11.1	66.9	350.4
682	0.756	0.0	1.0	42.1	55.4	−21.2	59.3	339.0
683	0.584	0.0	1.0	38.5	46.7	−28.5	54.7	328.6
684	1.0	0.319	0.0	61.8	35.2	58.4	68.2	58.8
685	1.0	0.255	0.0	58.5	41.3	55.4	69.1	53.3
686	1.0	0.177	0.0	54.6	49.1	52.0	71.6	46.6
687	1.0	0.06	0.0	49.7	56.0	43.3	70.8	37.7
688	1.0	0.0	0.263	47.5	56.0	26.7	62.1	25.4
689	1.0	0.0	0.501	47.8	59.0	10.2	59.9	9.8
690	1.0	0.0	0.827	49.4	65.5	−9.1	66.2	352.0
691	0.825	0.0	1.0	44.1	58.2	−19.0	61.2	341.8
692	0.584	0.0	1.0	38.5	46.7	−28.5	54.7	328.6
693	1.0	0.425	0.0	67.0	25.7	63.0	68.0	67.8
694	1.0	0.384	0.0	65.0	29.0	60.9	67.5	64.4
695	1.0	0.319	0.0	61.8	35.2	58.4	68.2	58.8
696	1.0	0.229	0.0	57.2	43.9	54.4	69.9	51.0
697	1.0	0.108	0.0	51.4	54.8	47.7	72.6	41.0
698	1.0	0.0	0.263	47.5	56.0	26.7	62.1	25.4
699	1.0	0.0	0.588	47.9	61.1	4.6	61.2	4.3
700	0.941	0.0	1.0	47.0	63.0	−14.9	64.7	346.6
701	0.584	0.0	1.0	38.5	46.7	−28.5	54.7	328.6
702	1.0	0.551	0.0	72.3	16.1	68.2	70.1	76.7
703	1.0	0.511	0.0	70.9	18.5	66.7	69.2	74.4
704	1.0	0.466	0.0	68.9	22.1	64.9	68.5	71.1
705	1.0	0.411	0.0	66.3	26.8	62.3	67.8	66.6
706	1.0	0.319	0.0	61.8	35.2	58.4	68.2	58.8
707	1.0	0.177	0.0	54.6	49.1	52.0	71.6	46.6
708	1.0	0.0	0.263	47.5	56.0	26.7	62.1	25.4
709	1.0	0.0	0.827	49.4	65.5	−9.1	66.2	352.0
710	0.584	0.0	1.0	38.5	46.7	−28.5	54.7	328.6
711	1.0	0.668	0.0	77.7	7.0	73.1	73.5	84.5
712	1.0	0.655	0.0	76.8	8.3	72.4	72.9	83.4
713	1.0	0.642	0.0	76.0	9.7	71.7	72.4	82.2
714	1.0	0.611	0.0	74.4	12.3	70.3	71.3	80.0
715	1.0	0.551	0.0	72.3	16.1	68.2	70.1	76.7
716	1.0	0.466	0.0	68.9	22.1	64.9	68.5	71.1
717	1.0	0.319	0.0	61.8	35.2	58.4	68.2	58.8
718	1.0	0.0	0.263	47.5	56.0	26.7	62.1	25.4
719	0.584	0.0	1.0	38.5	46.7	−28.5	54.7	328.6
720	1.0	0.768	0.0	83.6	−3.1	76.8	76.9	92.3
721	1.0	0.768	0.0	83.6	−3.1	76.8	76.9	92.3
722	1.0	0.768	0.0	83.6	−3.1	76.8	76.9	92.3
723	1.0	0.768	0.0	83.6	−3.1	76.8	76.9	92.3
724	1.0	0.768	0.0	83.6	−3.1	76.8	76.9	92.3
725	1.0	0.768	0.0	83.6	−3.1	76.8	76.9	92.3
726	1.0	0.768	0.0	83.6	−3.1	76.8	76.9	92.3
727	1.0	0.768	0.0	83.6	−3.1	76.8	76.9	92.3
728	1.0	1.0	1.0	95.8	0.0	0.0	0.0	0.0

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TUB-test chart PE89; 16 step hue circle
colors and differences, $\Delta E^{*\prime}$

input: *rgb/cmyk* −> *rgb*e
output: transfer to *cmyk*e

1−0132730−F0

n	HIC^*_{Fe}	$rgb_{_Fe}$			$ict_{_Fe}$			$h_{si_F,e}$	rgb^*_{Fe}			$LabCh^*_{Fe}$					$rgb^{*\prime}_{Fe}$			$LabCh^{*\prime}_{Fe}$					$DE^{*\prime}_{Fe}$	$h_{siM,e}$	rgb^*_{Me}			$LabCh^*_{Me}$				
729	NW_100$_e$	1.0	1.0	1.0	1.0	0.0	1.0	360	1.0	1.0	1.0	95.8	0.0	0.0	0.0	0.0	1.0	1.0	1.0	96.1	0.0	0.0	0.0	178.6	0.2	360	1.0	1.0	1.0	95.8	0.0	0.0	0.0	0.0
730	G50B_100_012$_e$	0.875	1.0	1.0	1.0	0.125	0.937	210	0.875	1.0	0.973	90.7	−4.8	−3.6	6.0	216.9	0.875	1.0	1.0	90.5	−5.7	−7.6	9.6	232.8	4.1	198	0.0	1.0	0.791	54.9	−38.7	−29.1	48.4	216.9
731	G50B_100_025$_e$	0.75	1.0	1.0	1.0	0.25	0.875	210	0.75	1.0	0.947	85.6	−9.6	−7.2	12.1	216.9	0.75	1.0	1.0	84.8	−9.9	−14.7	17.7	236.0	7.4	198	0.0	1.0	0.791	54.9	−38.7	−29.1	48.4	216.9
732	G50B_100_037$_e$	0.625	1.0	1.0	1.0	0.375	0.812	210	0.625	1.0	0.921	80.5	−14.5	−10.9	18.1	216.9	0.625	1.0	1.0	78.6	−14.0	−21.7	25.8	237.2	11.0	198	0.0	1.0	0.791	54.9	−38.7	−29.1	48.4	216.9
733	G50B_100_050$_e$	0.5	1.0	1.0	1.0	0.5	0.75	210	0.5	1.0	0.895	75.4	−19.3	−14.5	24.2	216.9	0.5	1.0	1.0	73.1	−16.9	−27.8	32.5	238.7	13.6	198	0.0	1.0	0.791	54.9	−38.7	−29.1	48.4	216.9
734	G50B_100_062$_e$	0.375	1.0	1.0	1.0	0.625	0.687	210	0.375	1.0	0.869	70.3	−24.1	−18.2	30.2	216.9	0.375	1.0	1.0	67.3	−20.0	−32.8	38.5	238.6	15.5	198	0.0	1.0	0.791	54.9	−38.7	−29.1	48.4	216.9
735	G50B_100_075$_e$	0.25	1.0	1.0	1.0	0.75	0.625	210	0.25	1.0	0.843	65.1	−29.0	−21.8	36.3	216.9	0.25	1.0	1.0	59.2	−26.0	−38.7	46.6	236.0	18.1	198	0.0	1.0	0.791	54.9	−38.7	−29.1	48.4	216.9
736	G50B_100_087$_e$	0.125	1.0	1.0	1.0	0.875	0.562	210	0.125	1.0	0.817	60.0	−33.8	−25.5	42.3	216.9	0.125	1.0	1.0	54.7	−28.9	−42.5	51.4	235.7	18.5	198	0.0	1.0	0.791	54.9	−38.7	−29.1	48.4	216.9
737	G50B_100_100$_e$	0.0	1.0	1.0	1.0	1.0	0.5	210	0.0	1.0	0.791	54.9	−38.7	−29.1	48.4	216.9	0.0	1.0	1.0	52.2	−29.2	−44.1	52.9	236.4	17.9	198	0.0	1.0	0.791	54.9	−38.7	−29.1	48.4	216.9
738	R00Y_100_012$_e$	1.0	0.875	0.875	1.0	0.125	0.937	390	1.0	0.875	0.907	89.8	7.0	3.3	7.7	25.4	1.0	0.875	0.875	91.5	4.1	3.9	5.7	43.0	3.3	375	1.0	0.0	0.263	47.5	56.0	26.7	62.1	25.4
739	NW_087$_e$	0.875	0.875	0.875	0.875	0.0	0.875	360	0.875	0.875	0.875	86.8	0.0	0.0	0.0	0.0	0.875	0.875	0.875	90.3	0.0	−0.2	0.2	277.5	3.5	360	1.0	1.0	1.0	95.8	0.0	0.0	0.0	0.0
740	G50B_087_012$_e$	0.75	0.875	0.875	0.875	0.125	0.812	210	0.75	0.875	0.848	81.7	−4.8	−3.6	6.0	216.9	0.75	0.875	0.875	85.5	−7.5	−10.5	12.9	234.5	8.3	198	0.0	1.0	0.791	54.9	−38.7	−29.1	48.4	216.9
741	G50B_087_025$_e$	0.625	0.875	0.875	0.875	0.25	0.75	210	0.625	0.875	0.822	76.6	−9.6	−7.2	12.1	216.9	0.625	0.875	0.875	80.6	−12.5	−18.7	22.5	236.2	12.5	198	0.0	1.0	0.791	54.9	−38.7	−29.1	48.4	216.9
742	G50B_087_037$_e$	0.5	0.875	0.875	0.875	0.375	0.687	210	0.5	0.875	0.796	71.5	−14.5	−10.9	18.1	216.9	0.5	0.875	0.875	73.7	−17.3	−25.2	30.7	235.4	14.8	198	0.0	1.0	0.791	54.9	−38.7	−29.1	48.4	216.9
743	G50B_087_050$_e$	0.375	0.875	0.875	0.875	0.5	0.625	210	0.375	0.875	0.77	66.4	−19.3	−14.5	24.2	216.9	0.375	0.875	0.875	68.3	−20.0	−31.6	37.4	237.7	17.2	198	0.0	1.0	0.791	54.9	−38.7	−29.1	48.4	216.9
744	G50B_087_062$_e$	0.25	0.875	0.875	0.875	0.625	0.562	210	0.25	0.875	0.744	61.3	−24.1	−18.2	30.2	216.9	0.25	0.875	0.875	63.0	−23.7	−34.2	41.7	235.2	16.1	198	0.0	1.0	0.791	54.9	−38.7	−29.1	48.4	216.9
745	G50B_087_075$_e$	0.125	0.875	0.875	0.875	0.75	0.5	210	0.125	0.875	0.718	56.1	−29.0	−21.8	36.3	216.9	0.125	0.875	0.875	57.0	−28.4	−39.3	48.5	234.1	17.5	198	0.0	1.0	0.791	54.9	−38.7	−29.1	48.4	216.9
746	G50B_087_087$_e$	0.0	0.875	0.875	0.875	0.875	0.437	210	0.0	0.875	0.692	51.0	−33.8	−25.5	42.3	216.9	0.0	0.875	0.875	52.0	−31.5	−42.1	52.6	233.1	16.8	198	0.0	1.0	0.791	54.9	−38.7	−29.1	48.4	216.9
747	R00Y_100_025$_e$	1.0	0.75	0.75	1.0	0.25	0.875	390	1.0	0.75	0.815	83.7	14.0	6.6	15.5	25.4	1.0	0.75	0.75	86.6	8.0	10.0	12.8	51.3	7.4	375	1.0	0.0	0.263	47.5	56.0	26.7	62.1	25.4
748	R00Y_087_012$_e$	0.875	0.75	0.75	0.875	0.125	0.812	390	0.875	0.75	0.782	80.8	7.0	3.3	7.7	25.4	0.875	0.75	0.75	83.1	5.7	3.9	7.0	34.1	2.7	375	1.0	0.0	0.263	47.5	56.0	26.7	62.1	25.4
749	NW_075$_e$	0.75	0.75	0.75	0.75	0.0	0.75	360	0.75	0.75	0.75	77.8	0.0	0.0	0.0	0.0	0.75	0.75	0.75	80.9	0.0	−0.5	0.5	269.9	3.1	360	1.0	1.0	1.0	95.8	0.0	0.0	0.0	0.0
750	G50B_075_012$_e$	0.625	0.75	0.75	0.75	0.125	0.687	210	0.625	0.75	0.723	72.7	−4.8	−3.6	6.0	216.9	0.625	0.75	0.75	77.5	−6.9	−10.7	12.8	237.0	8.8	198	0.0	1.0	0.791	54.9	−38.7	−29.1	48.4	216.9
751	G50B_075_025$_e$	0.5	0.75	0.75	0.75	0.25	0.625	210	0.5	0.75	0.697	67.6	−9.6	−7.2	12.1	216.9	0.5	0.75	0.75	71.5	−14.0	−19.5	24.0	234.3	13.5	198	0.0	1.0	0.791	54.9	−38.7	−29.1	48.4	216.9
752	G50B_075_037$_e$	0.375	0.75	0.75	0.75	0.375	0.562	210	0.375	0.75	0.671	62.5	−14.5	−10.9	18.1	216.9	0.375	0.75	0.75	66.6	−17.0	−24.9	30.2	235.6	14.8	198	0.0	1.0	0.791	54.9	−38.7	−29.1	48.4	216.9
753	G50B_075_050$_e$	0.25	0.75	0.75	0.75	0.5	0.5	210	0.25	0.75	0.645	57.4	−19.3	−14.5	24.2	216.9	0.25	0.75	0.75	60.0	−20.0	−30.4	36.4	236.6	16.1	198	0.0	1.0	0.791	54.9	−38.7	−29.1	48.4	216.9
754	G50B_075_062$_e$	0.125	0.75	0.75	0.75	0.625	0.437	210	0.125	0.75	0.619	52.3	−24.1	−18.2	30.2	216.9	0.125	0.75	0.75	55.7	−25.2	−35.3	43.4	234.5	17.5	198	0.0	1.0	0.791	54.9	−38.7	−29.1	48.4	216.9
755	G50B_075_075$_e$	0.0	0.75	0.75	0.75	0.75	0.375	210	0.0	0.75	0.593	47.1	−29.0	−21.8	36.3	216.9	0.0	0.75	0.75	52.0	−33.9	−38.5	51.3	228.5	18.0	198	0.0	1.0	0.791	54.9	−38.7	−29.1	48.4	216.9
756	R00Y_100_037$_e$	1.0	0.625	0.625	1.0	0.375	0.812	390	1.0	0.625	0.723	77.7	21.0	10.0	23.2	25.4	1.0	0.625	0.625	79.0	15.4	17.7	23.4	48.9	9.6	375	1.0	0.0	0.263	47.5	56.0	26.7	62.1	25.4
757	R00Y_087_025$_e$	0.875	0.625	0.625	0.875	0.25	0.75	390	0.875	0.625	0.69	74.7	14.0	6.6	15.5	25.4	0.875	0.625	0.625	76.0	9.9	12.8	16.2	52.1	7.4	375	1.0	0.0	0.263	47.5	56.0	26.7	62.1	25.4
758	R00Y_075_012$_e$	0.75	0.625	0.625	0.75	0.125	0.687	390	0.75	0.625	0.657	71.8	7.0	3.3	7.7	25.4	0.75	0.625	0.625	74.8	5.4	4.1	6.8	37.0	3.4	375	1.0	0.0	0.263	47.5	56.0	26.7	62.1	25.4
759	NW_062$_e$	0.625	0.625	0.625	0.625	0.0	0.625	360	0.625	0.625	0.625	68.8	0.0	0.0	0.0	0.0	0.625	0.625	0.625	71.8	0.0	−1.0	1.0	270.7	3.1	360	1.0	1.0	1.0	95.8	0.0	0.0	0.0	0.0
760	G50B_062_012$_e$	0.5	0.625	0.625	0.625	0.125	0.562	210	0.5	0.625	0.598	63.7	−4.8	−3.6	6.0	216.9	0.5	0.625	0.625	67.1	−7.7	−13.2	15.3	239.7	10.5	198	0.0	1.0	0.791	54.9	−38.7	−29.1	48.4	216.9
761	G50B_062_025$_e$	0.375	0.625	0.625	0.625	0.25	0.5	210	0.375	0.625	0.572	58.6	−9.6	−7.2	12.1	216.9	0.375	0.625	0.625	61.5	−13.9	−20.3	24.7	235.6	14.0	198	0.0	1.0	0.791	54.9	−38.7	−29.1	48.4	216.9
762	G50B_062_037$_e$	0.25	0.625	0.625	0.625	0.375	0.437	210	0.25	0.625	0.546	53.5	−14.5	−10.9	18.1	216.9	0.25	0.625	0.625	55.0	−17.0	−27.0	31.9	237.6	16.3	198	0.0	1.0	0.791	54.9	−38.7	−29.1	48.4	216.9
763	G50B_062_050$_e$	0.125	0.625	0.625	0.625	0.5	0.375	210	0.125	0.625	0.52	48.4	−19.3	−14.5	24.2	216.9	0.125	0.625	0.625	51.6	−22.0	−31.5	38.5	234.9	17.4	198	0.0	1.0	0.791	54.9	−38.7	−29.1	48.4	216.9
764	G50B_062_062$_e$	0.0	0.625	0.625	0.625	0.625	0.312	210	0.0	0.625	0.494	43.3	−24.1	−18.2	30.2	216.9	0.0	0.625	0.625	49.9	−30.2	−39.0	49.4	232.3	22.7	198	0.0	1.0	0.791	54.9	−38.7	−29.1	48.4	216.9
765	R00Y_100_050$_e$	1.0	0.5	0.5	1.0	0.5	0.75	390	1.0	0.5	0.631	71.6	28.0	13.3	31.0	25.4	1.0	0.5	0.5	72.0	23.9	24.2	34.0	45.3	11.6	375	1.0	0.0	0.263	47.5	56.0	26.7	62.1	25.4
766	R00Y_087_037$_e$	0.875	0.5	0.5	0.875	0.375	0.687	390	0.875	0.5	0.598	68.7	21.0	10.0	23.2	25.4	0.875	0.5	0.5	70.4	16.5	16.7	23.5	45.4	8.2	375	1.0	0.0	0.263	47.5	56.0	26.7	62.1	25.4
767	R00Y_075_025$_e$	0.75	0.5	0.5	0.75	0.25	0.625	390	0.75	0.5	0.565	65.7	14.0	6.6	15.5	25.4	0.75	0.5	0.5	66.8	10.9	11.1	15.6	45.6	5.5	375	1.0	0.0	0.263	47.5	56.0	26.7	62.1	25.4
768	R00Y_062_012$_e$	0.625	0.5	0.5	0.625	0.125	0.562	390	0.625	0.5	0.532	62.8	7.0	3.3	7.7	25.4	0.625	0.5	0.5	64.1	6.0	2.5	6.5	22.6	1.8	375	1.0	0.0	0.263	47.5	56.0	26.7	62.1	25.4
769	NW_050$_e$	0.5	0.5	0.5	0.5	0.0	0.5	360	0.5	0.5	0.5	59.8	0.0	0.0	0.0	0.0	0.5	0.5	0.5	61.1	0.0	−1.1	1.1	268.7	1.7	360	1.0	1.0	1.0	95.8	0.0	0.0	0.0	0.0
770	G50B_050_012$_e$	0.375	0.5	0.5	0.5	0.125	0.437	210	0.375	0.5	0.473	54.7	−4.8	−3.6	6.0	216.9	0.375	0.5	0.5	56.7	−8.0	−14.5	16.5	240.9	11.4	198	0.0	1.0	0.791	54.9	−38.7	−29.1	48.4	216.9
771	G50B_050_025$_e$	0.25	0.5	0.5	0.5	0.25	0.375	210	0.249	0.5	0.447	49.6	−9.6	−7.2	12.1	216.9	0.25	0.5	0.5	51.3	−13.9	−22.4	26.4	238.1	15.8	198	0.0	1.0	0.791	54.9	−38.7	−29.1	48.4	216.9
772	G50B_050_037$_e$	0.125	0.5	0.5	0.5	0.375	0.312	210	0.124	0.5	0.421	44.5	−14.5	−10.9	18.1	216.9	0.125	0.5	0.5	47.6	−17.3	−28.5	33.3	238.7	18.1	198	0.0	1.0	0.791	54.9	−38.7	−29.1	48.4	216.9
773	G50B_050_050$_e$	0.0	0.5	0.5	0.5	0.5	0.25	210	0.0	0.5	0.395	39.4	−19.3	−14.5	24.2	216.9	0.0	0.5	0.5	43.7	−23.2	−34.9	41.9	236.3	21.2	198	0.0	1.0	0.791	54.9	−38.7	−29.1	48.4	216.9
774	R00Y_100_062$_e$	1.0	0.375	0.375	1.0	0.625	0.687	390	1.0	0.375	0.539	65.6	35.0	16.7	38.8	25.4	1.0	0.375	0.375	65.7	31.7	34.9	47.2	47.7	18.5	375	1.0	0.0	0.263	47.5	56.0	26.7	62.1	25.4
775	R00Y_087_050$_e$	0.875	0.375	0.375	0.875	0.5	0.625	390	0.875	0.375	0.506	62.7	28.0	13.3	31.0	25.4	0.875	0.375	0.375	63.8	24.2	23.9	34.0	44.6	11.2	375	1.0	0.0	0.263	47.5	56.0	26.7	62.1	25.4
776	R00Y_075_037$_e$	0.75	0.375	0.375	0.75	0.375	0.562	390	0.75	0.375	0.473	59.7	21.0	10.0	23.2	25.4	0.75	0.375	0.375	59.3	17.8	17.4	24.9	44.3	8.0	375	1.0	0.0	0.263	47.5	56.0	26.7	62.1	25.4
777	R00Y_062_025$_e$	0.625	0.375	0.375	0.625	0.25	0.5	390	0.625	0.375	0.44	56.7	14.0	6.6	15.5	25.4	0.625	0.375	0.375	55.8	12.5	10.7	16.4	40.7	4.4	375	1.0	0.0	0.263	47.5	56.0	26.7	62.1	25.4
778	R00Y_050_012$_e$	0.5	0.375	0.375	0.5	0.125	0.437	390	0.5	0.375	0.407	53.8	7.0	3.3	7.7	25.4	0.5	0.375	0.375	54.4	6.2	3.6	7.2	30.3	1.0	375	1.0	0.0	0.263	47.5	56.0	26.7	62.1	25.4
779	NW_037$_e$	0.375	0.375	0.375	0.375	0.0	0.375	360	0.375	0.375	0.375	50.8	0.0	0.0	0.0	0.0	0.375	0.375	0.375	52.2	0.0	−1.4	1.4	267.3	2.0	360	1.0	1.0	1.0	95.8	0.0	0.0	0.0	0.0
780	G50B_037_012$_e$	0.25	0.375	0.375	0.375	0.125	0.312	210	0.249	0.375	0.348	45.7	−4.8	−3.6	6.0	216.9	0.25	0.375	0.375	46.6	−10.3	−18.0	20.8	240.1	15.4	198	0.0	1.0	0.791	54.9	−38.7	−29.1	48.4	216.9
781	G50B_037_025$_e$	0.125	0.375	0.375	0.375	0.25	0.25	210	0.124	0.375	0.322	40.6	−9.6	−7.2	12.1	216.9	0.125	0.375	0.375	43.9	−14.0	−24.0	27.8	239.6	17.6	198	0.0	1.0	0.791	54.9	−38.7	−29.1	48.4	216.9
782	G50B_037_037$_e$	0.0	0.375	0.375	0.375	0.375	0.187	210	0.0	0.375	0.296	35.5	−14.5	−10.9	18.1	216.9	0.0	0.375	0.375	40.7	−19.5	−29.2	35.1	236.2	19.7	198	0.0	1.0	0.791	54.9	−38.7	−29.1	48.4	216.9
783	R00Y_100_075$_e$	1.0	0.25	0.25	1.0	0.75	0.625	390	1.0	0.25	0.447	59.6	42.0	20.0	46.5	25.4	1.0	0.25	0.25	59.4	40.9	44.3	60.3	47.2	24.3	375	1.0	0.0	0.263	47.5	56.0	26.7	62.1	25.4
784	R00Y_087_062$_e$	0.875	0.25	0.25	0.875	0.625	0.562	390	0.875	0.25	0.414	56.6	35.0	16.7	38.8	25.4	0.875	0.25	0.25	58.0	32.4	32.2	45.7	44.8	15.8	375	1.0	0.0	0.263	47.5	56.0	26.7	62.1	25.4
785	R00Y_075_050$_e$	0.75	0.25	0.25	0.75	0.5	0.5	390	0.75	0.25	0.381	53.7	28.0	13.3	31.0	25.4	0.75	0.25	0.25	51.9	25.4	24.5	35.3	43.9	11.6	375	1.0	0.0	0.263	47.5	56.0	26.7	62.1	25.4
786	R00Y_062_037$_e$	0.625	0.25	0.25	0.625	0.375	0.437	390	0.625	0.25	0.348	50.7	21.0	10.0	23.2	25.4	0.625	0.25	0.25	47.6	19.8	19.2	27.6	44.1	9.8	375	1.0	0.0	0.263	47.5	56.0	26.7	62.1	25.4
787	R00Y_050_025$_e$	0.5	0.25	0.25	0.5	0.25	0.375	390	0.5	0.249	0.315	47.7	14.0	6.6	15.5	25.4	0.5	0.25	0.25	45.3	12.7	13.5	18.6	46.5	7.3	375	1.0	0.0	0.263	47.5	56.0	26.7	62.1	25.4
788	R00Y_037_012$_e$	0.375	0.25	0.25	0.375	0.125	0.312	390	0.375	0.249	0.282	44.8	7.0	3.3	7.7	25.4	0.375	0.25	0.25	42.8	8.4	5.7	10.2	34.0	3.4	375	1.0	0.0	0.263	47.5	56.0	26.7	62.1	25.4
789	NW_025$_e$	0.25	0.25	0.25	0.25	0.0	0.25	360	0.25	0.25	0.25	41.8	0.0	0.0	0.0	0.0	0.25	0.25	0.25	42.4	0.0	−1.2	1.2	267.2	1.3	360	1.0	1.0	1.0	95.8	0.0	0.0	0.0	0.0
790	G50B_025_012$_e$	0.125	0.25	0.25	0.25	0.125	0.187	210	0.124	0.25	0.223	36.7	−4.8	−3.6	6.0	216.9	0.125	0.25	0.25	37.7	−10.4	−17.9	20.7	239.6	15.3	198	0.0	1.0	0.791	54.9	−38.7	−29.1	48.4	216.9
791	G50B_025_025$_e$	0.0	0.25	0.25	0.25	0.25	0.125	210	0.0	0.25	0.197	31.6	−9.6	−7.2	12.1	216.9	0.0	0.25	0.25	37.1	−15.7	−22.3	27.3	234.7	17.1	198	0.0	1.0	0.791	54.9	−38.7	−29.1	48.4	216.9
792	R00Y_100_087$_e$	1.0	0.125	0.125	1.0	0.875	0.562	390	1.0	0.125	0.355	53.5	49.0	23.3	54.3	25.4	1.0	0.125	0.125	52.1	54.1	46.6	71.5	40.7	23.9	375	1.0	0.0	0.263	47.5	56.0	26.7	62.1	25.4
793	R00Y_087_075$_e$	0.875	0.125	0.125	0.875	0.75	0.5	390	0.875	0.125	0.322	50.6	42.0	20.0	46.5	25.4	0.875	0.125	0.125	50.7	44.3	39.9	59.6	42.0	20.0	375	1.0	0.0	0.263	47.5	56.0	26.7	62.1	25.4
794	R00Y_075_062$_e$	0.75	0.125	0.125	0.75	0.625	0.437	390	0.75	0.125	0.289	47.6	35.0	16.7	38.8	25.4	0.75	0.125	0.125	45.6	33.5	29.4	44.6	41.2	12.9	375	1.0	0.0	0.263	47.5	56.0	26.7	62.1	25.4
795	R00Y_062_050$_e$	0.625	0.125	0.125	0.625	0.5	0.375	390	0.625	0.125	0.256	44.7	28.0	13.3	31.0	25.4	0.625	0.125	0.125	41.4	28.6	26.8	39.2	43.1	13.8	375	1.0	0.0	0.263	47.5	56.0	26.7	62.1	25.4
796	R00Y_050_037$_e$	0.5	0.125	0.125	0.5	0.375	0.312	390	0.5	0.124	0.223	41.7	21.0	10.0	23.2	25.4	0.5	0.125	0.125	38.5	20.6	20.3	28.9	44.5	10.7	375	1.0	0.0	0.263	47.5	56.0	26.7	62.1	25.4
797	R00Y_037_025$_e$	0.375	0.125	0.125	0.375	0.25	0.25	390	0.375	0.124	0.19	38.7	14.0	6.6	15.5	25.4	0.375	0.125	0.125	36.5	14.2	14.1	20.0	44.8	7.7	375	1.0	0.0	0.263	47.5	56.0	26.7	62.1	25.4
798	R00Y_025_012$_e$	0.25	0.125	0.125	0.25	0.125	0.187	390	0.25	0.124	0.157	35.8	7.0	3.3	7.7	25.4	0.25	0.125	0.125	34.1	8.5	7.1	11.1	40.0	4.4	375	1.0	0.0	0.263	47.5	56.0	26.7	62.1	25.4
799	NW_012$_e$	0.125	0.125	0.125	0.125	0.0	0.125	360	0.125	0.125	0.125	32.8	0.0	0.0	0.0	0.0	0.125	0.125	0.125	29.1	0.0	−0.5	0.5	270.7	3.7	360	1.0	1.0	1.0	95.8	0.0	0.0	0.0	0.0
800	G50B_012_012$_e$	0.0	0.125	0.125	0.125	0.125	0.062	210	0.0	0.125	0.098	27.7	−4.8	−3.6	6.0	216.9	0.0	0.125	0.125	32.2	−10.8	−16.3	19.5	236.4	14.7	198	0.0	1.0	0.791	54.9	−38.7	−29.1	48.4	216.9
801	R00Y_100_100$_e$	1.0	0.0	0.0	1.0	1.0	0.5	390	1.0	0.0	0.263	47.5	56.0	26.7	62.1	25.4	1.0	0.0	0.0	47.8	55.2	38.8	67.5	35.1	12.2	375	1.0	0.0	0.263	47.5	56.0	26.7	62.1	25.4
802	R00Y_087_087$_e$	0.875	0.0	0.0	0.875	0.875	0.437	390	0.875	0.0	0.23	44.5	49.0	23.3	54.3	25.4	0.875	0.0	0.0	42.2	48.7	31.7	58.2	33.0	8.7	375	1.0	0.0	0.263	47.5	56.0	26.7	62.1	25.4
803	R00Y_075_075$_e$	0.75	0.0	0.0	0.75	0.75	0.375	390	0.75	0.0	0.197	41.6	42.0	20.0	46.5	25.4	0.75	0.0	0.0	38.2	44.1	29.8	53.3	34.0	10.6	375	1.0	0.0	0.263	47.5	56.0	26.7	62.1	25.4
804	R00Y_062_062$_e$	0.625	0.0	0.0	0.625	0.625	0.312	390	0.625	0.0	0.164	38.6	35.0	16.7	38.8	25.4	0.625	0.0	0.0	34.2	39.5	27.2	47.9	34.5	12.2	375	1.0	0.0	0.263	47.5	56.0	26.7	62.1	25.4
805	R00Y_050_050$_e$	0.5	0.0	0.0	0.5	0.5	0.25	390	0.5	0.0	0.131	35.7	28.0	13.3	31.0	25.4	0.5	0.0	0.0	31.1	34.3	24.2	42.0	35.2	13.4	375	1.0	0.0	0.263	47.5	56.0	26.7	62.1	25.4
806	R00Y_037_037$_e$	0.375	0.0	0.0	0.375	0.375	0.187	390	0.375	0.0	0.098	32.7	21.0	10.0	23.2	25.4	0.375	0.0	0.0	29.1	26.1	19.5	32.6	36.8	11.3	375	1.0	0.0	0.263	47.5	56.0	26.7	62.1	25.4
807	R00Y_025_025$_e$	0.25	0.0	0.0	0.25	0.25	0.125	390	0.25	0.0	0.065	29.7	14.0	6.6	15.5	25.4	0.25	0.0	0.0	28.6	16.1	13.5	21.0	39.9	7.2	375	1.0	0.0	0.263	47.5	56.0	26.7	62.1	25.4
808	R00Y_012_012$_e$	0.125	0.0	0.0	0.125	0.125	0.062	390	0.125	0.0	0.032	26.8	7.0	3.3	7.7	25.4	0.125	0.0	0.0	27.0	8.5	8.2	11.8	43.6	5.1	375	1.0	0.0	0.263	47.5	56.0	26.7	62.1	25.4
809	NW_000$_e$	0.0	0.0	0.0	0.0	0.0	0.0	360	0.0	0.0	0.0	23.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	20.3	0.1	0.4	0.4	67.8	3.4	360	1.0	1.0	1.0	95.8	0.0	0.0	0.0	0.0

Mean color difference of this page: **delta $E^{*\prime}$ = 11.3**

1−0132830−F0

PE890−7N, Page 29/33−F

TUB-test chart PE89; 16 step hue circle
colors and differences, $\Delta E^{*\prime}$

input: $rgb/cmyk \rightarrow rgb_e$
output: transfer to $cmyk_e$

TUB registration: 20150701-PE89/PE89L0NP.PDF /.PS
application for measurement of laser printer output, separation cmyn6 (CMYK)

TUB material: code=rha4ta

1−0132830−F0

http://130.149.60.45/~farbmetrik/PE89/PE89L0NP.PDF /.PS; transfer output
N: no 3D-linearization (OL) in file (F) or PS-startup (S), page 30/33

n	HIC*Fe	rgb_Fe			ict_Fe			hsi_F,e	rgb*Fe			LabCh*Fe				
810	NW_100$_e$	1.0	1.0	1.0	1.0	0.0	1.0	360	1.0	1.0	1.0	95.8	0.0	0.0	0.0	0.0
811	B00R_100_012$_e$	0.875	0.875	1.0	1.0	0.125	0.937	270	0.875	0.907	1.0	88.5	0.1	-6.0	6.0	271.7
812	B00R_100_025$_e$	0.75	0.75	1.0	1.0	0.25	0.875	270	0.75	0.815	1.0	81.2	0.3	-12.1	12.1	271.7
813	B00R_100_037$_e$	0.625	0.625	1.0	1.0	0.375	0.812	270	0.625	0.722	1.0	73.8	0.5	-18.2	18.2	271.7
814	B00R_100_050$_e$	0.5	0.5	1.0	1.0	0.5	0.75	270	0.5	0.63	1.0	66.5	0.7	-24.3	24.3	271.7
815	B00R_100_062$_e$	0.375	0.375	1.0	1.0	0.625	0.687	270	0.375	0.538	1.0	59.2	0.9	-30.4	30.4	271.7
816	B00R_100_075$_e$	0.25	0.25	1.0	1.0	0.75	0.625	270	0.25	0.445	1.0	51.9	1.1	-36.5	36.5	271.7
817	B00R_100_087$_e$	0.125	0.125	1.0	1.0	0.875	0.562	270	0.125	0.353	1.0	44.6	1.2	-42.6	42.6	271.7
818	B00R_100_100$_e$	0.0	0.0	1.0	1.0	1.0	0.5	270	0.0	0.261	1.0	37.3	1.4	-48.6	48.7	271.7
819	Y00G_100_012$_e$	1.0	1.0	0.875	1.0	0.125	0.937	90	1.0	0.971	0.875	94.3	-0.3	9.6	9.6	92.3
820	NW_087$_e$	0.875	0.875	0.875	0.875	0.0	0.875	360	0.875	0.875	0.875	86.8	0.0	0.0	0.0	0.0
821	B00R_087_012$_e$	0.75	0.75	0.875	0.875	0.125	0.812	270	0.75	0.782	0.875	79.5	0.1	-6.0	6.0	271.7
822	B00R_087_025$_e$	0.625	0.625	0.875	0.875	0.25	0.75	270	0.625	0.69	0.875	72.2	0.3	-12.1	12.1	271.7
823	B00R_087_037$_e$	0.5	0.5	0.875	0.875	0.375	0.687	270	0.5	0.597	0.875	64.8	0.5	-18.2	18.2	271.7
824	B00R_087_050$_e$	0.375	0.375	0.875	0.875	0.5	0.625	270	0.375	0.505	0.875	57.5	0.7	-24.3	24.3	271.7
825	B00R_087_062$_e$	0.25	0.25	0.875	0.875	0.625	0.562	270	0.25	0.413	0.875	50.2	0.9	-30.4	30.4	271.7
826	B00R_087_075$_e$	0.125	0.125	0.875	0.875	0.75	0.5	270	0.125	0.32	0.875	42.9	1.1	-36.5	36.5	271.7
827	B00R_087_087$_e$	0.0	0.0	0.875	0.875	0.875	0.437	270	0.0	0.228	0.875	35.6	1.2	-42.6	42.6	271.7
828	Y00G_100_025$_e$	1.0	1.0	0.75	1.0	0.25	0.875	90	1.0	0.942	0.75	92.7	-0.7	19.2	19.2	92.3
829	Y00G_087_012$_e$	0.875	0.875	0.75	0.875	0.125	0.812	90	0.875	0.846	0.75	85.3	-0.3	9.6	9.6	92.3
830	NW_075$_e$	0.75	0.75	0.75	0.75	0.0	0.75	360	0.75	0.75	0.75	77.8	0.0	0.0	0.0	0.0
831	B00R_075_012$_e$	0.625	0.625	0.75	0.75	0.125	0.687	270	0.625	0.657	0.75	70.5	0.1	-6.0	6.0	271.7
832	B00R_075_025$_e$	0.5	0.5	0.75	0.75	0.25	0.625	270	0.5	0.565	0.75	63.2	0.3	-12.1	12.1	271.7
833	B00R_075_037$_e$	0.375	0.375	0.75	0.75	0.375	0.562	270	0.375	0.472	0.75	55.8	0.5	-18.2	18.2	271.7
834	B00R_075_050$_e$	0.25	0.25	0.75	0.75	0.5	0.5	270	0.25	0.38	0.75	48.5	0.7	-24.3	24.3	271.7
835	B00R_075_062$_e$	0.125	0.125	0.75	0.75	0.625	0.437	270	0.125	0.288	0.75	41.2	0.9	-30.4	30.4	271.7
836	B00R_075_075$_e$	0.0	0.0	0.75	0.75	0.75	0.375	270	0.0	0.195	0.75	33.9	1.1	-36.5	36.5	271.7
837	Y00G_100_037$_e$	1.0	1.0	0.625	1.0	0.375	0.812	90	1.0	0.913	0.625	91.2	-1.1	28.8	28.8	92.3
838	Y00G_087_025$_e$	0.875	0.875	0.625	0.875	0.25	0.75	90	0.875	0.817	0.625	83.7	-0.7	19.2	19.2	92.3
839	Y00G_075_012$_e$	0.75	0.75	0.625	0.75	0.125	0.687	90	0.75	0.721	0.625	76.3	-0.3	9.6	9.6	92.3
840	NW_062$_e$	0.625	0.625	0.625	0.625	0.0	0.625	360	0.625	0.625	0.625	68.8	0.0	0.0	0.0	0.0
841	B00R_062_012$_e$	0.5	0.5	0.625	0.625	0.125	0.562	270	0.5	0.532	0.625	61.5	0.1	-6.0	6.0	271.7
842	B00R_062_025$_e$	0.375	0.375	0.625	0.625	0.25	0.5	270	0.375	0.44	0.625	54.2	0.3	-12.1	12.1	271.7
843	B00R_062_037$_e$	0.25	0.25	0.625	0.625	0.375	0.437	270	0.25	0.347	0.625	46.8	0.5	-18.2	18.2	271.7
844	B00R_062_050$_e$	0.125	0.125	0.625	0.625	0.5	0.375	270	0.125	0.255	0.625	39.5	0.7	-24.3	24.3	271.7
845	B00R_062_062$_e$	0.0	0.0	0.625	0.625	0.625	0.312	270	0.0	0.163	0.625	32.2	0.9	-30.4	30.4	271.7
846	Y00G_100_050$_e$	1.0	1.0	0.5	1.0	0.5	0.75	90	1.0	0.884	0.5	89.7	-1.5	38.4	38.4	92.3
847	Y00G_087_037$_e$	0.875	0.875	0.5	0.875	0.375	0.687	90	0.875	0.788	0.5	82.2	-1.1	28.8	28.8	92.3
848	Y00G_075_025$_e$	0.75	0.75	0.5	0.75	0.25	0.625	90	0.75	0.692	0.5	74.7	-0.7	19.2	19.2	92.3
849	Y00G_062_012$_e$	0.625	0.625	0.5	0.625	0.125	0.562	90	0.625	0.596	0.5	67.3	-0.3	9.6	9.6	92.3
850	NW_050$_e$	0.5	0.5	0.5	0.5	0.0	0.5	360	0.5	0.5	0.5	59.8	0.0	0.0	0.0	0.0
851	B00R_050_012$_e$	0.375	0.375	0.5	0.5	0.125	0.437	270	0.375	0.407	0.5	52.5	0.1	-6.0	6.0	271.7
852	B00R_050_025$_e$	0.25	0.25	0.5	0.5	0.25	0.375	270	0.249	0.315	0.5	45.2	0.3	-12.1	12.1	271.7
853	B00R_050_037$_e$	0.125	0.125	0.5	0.5	0.375	0.312	270	0.124	0.222	0.5	37.8	0.5	-18.2	18.2	271.7
854	B00R_050_050$_e$	0.0	0.0	0.5	0.5	0.5	0.25	270	0.0	0.13	0.5	30.5	0.7	-24.3	24.3	271.7
855	Y00G_100_062$_e$	1.0	1.0	0.375	1.0	0.625	0.687	90	1.0	0.855	0.375	88.2	-1.9	48.0	48.0	92.3
856	Y00G_087_050$_e$	0.875	0.875	0.375	0.875	0.5	0.625	90	0.875	0.759	0.375	80.7	-1.5	38.4	38.4	92.3
857	Y00G_075_037$_e$	0.75	0.75	0.375	0.75	0.375	0.562	90	0.75	0.663	0.375	73.2	-1.1	28.8	28.8	92.3
858	Y00G_062_025$_e$	0.625	0.625	0.375	0.625	0.25	0.5	90	0.625	0.567	0.375	65.7	-0.7	19.2	19.2	92.3
859	Y00G_050_012$_e$	0.5	0.5	0.375	0.5	0.125	0.437	90	0.5	0.471	0.375	58.3	-0.3	9.6	9.6	92.3
860	NW_037$_e$	0.375	0.375	0.375	0.375	0.0	0.375	360	0.375	0.375	0.375	50.8	0.0	0.0	0.0	0.0
861	B00R_037_012$_e$	0.25	0.25	0.375	0.375	0.125	0.312	270	0.249	0.282	0.375	43.5	0.1	-6.0	6.0	271.7
862	B00R_037_025$_e$	0.125	0.125	0.375	0.375	0.25	0.25	270	0.124	0.19	0.375	36.2	0.3	-12.1	12.1	271.7
863	B00R_037_037$_e$	0.0	0.0	0.375	0.375	0.375	0.187	270	0.0	0.097	0.375	28.8	0.5	-18.2	18.2	271.7
864	Y00G_100_075$_e$	1.0	1.0	0.25	1.0	0.75	0.625	90	1.0	0.826	0.25	86.7	-2.3	57.6	57.6	92.3
865	Y00G_087_062$_e$	0.875	0.875	0.25	0.875	0.625	0.562	90	0.875	0.73	0.25	79.2	-1.9	48.0	48.0	92.3
866	Y00G_075_050$_e$	0.75	0.75	0.25	0.75	0.5	0.5	90	0.75	0.634	0.25	71.7	-1.5	38.4	38.4	92.3
867	Y00G_062_037$_e$	0.625	0.625	0.25	0.625	0.375	0.437	90	0.625	0.538	0.25	64.2	-1.1	28.8	28.8	92.3
868	Y00G_050_025$_e$	0.5	0.5	0.25	0.5	0.25	0.375	90	0.5	0.442	0.249	56.8	-0.7	19.2	19.2	92.3
869	Y00G_037_012$_e$	0.375	0.375	0.25	0.375	0.125	0.312	90	0.375	0.346	0.249	49.3	-0.3	9.6	9.6	92.3
870	NW_025$_e$	0.25	0.25	0.25	0.25	0.0	0.25	360	0.25	0.25	0.25	41.8	0.0	0.0	0.0	0.0
871	B00R_025_012$_e$	0.125	0.125	0.25	0.25	0.125	0.187	270	0.124	0.157	0.25	34.5	0.1	-6.0	6.0	271.7
872	B00R_025_025$_e$	0.0	0.0	0.25	0.25	0.25	0.125	270	0.0	0.065	0.25	27.2	0.3	-12.1	12.1	271.7
873	Y00G_100_087$_e$	1.0	1.0	0.125	1.0	0.875	0.562	90	1.0	0.797	0.125	85.1	-2.7	67.2	67.2	92.3
874	Y00G_087_075$_e$	0.875	0.875	0.125	0.875	0.75	0.5	90	0.875	0.701	0.125	77.7	-2.3	57.6	57.6	92.3
875	Y00G_075_062$_e$	0.75	0.75	0.125	0.75	0.625	0.437	90	0.75	0.605	0.125	70.2	-1.9	48.0	48.0	92.3
876	Y00G_062_050$_e$	0.625	0.625	0.125	0.625	0.5	0.375	90	0.625	0.509	0.125	62.7	-1.5	38.4	38.4	92.3
877	Y00G_050_037$_e$	0.5	0.5	0.125	0.5	0.375	0.312	90	0.5	0.413	0.124	55.2	-1.1	28.8	28.8	92.3
878	Y00G_037_025$_e$	0.375	0.375	0.125	0.375	0.25	0.25	90	0.375	0.317	0.124	47.8	-0.7	19.2	19.2	92.3
879	Y00G_025_012$_e$	0.25	0.25	0.125	0.25	0.125	0.187	90	0.25	0.221	0.124	40.3	-0.3	9.6	9.6	92.3
880	NW_012$_e$	0.125	0.125	0.125	0.125	0.0	0.125	360	0.125	0.125	0.125	32.8	0.0	0.0	0.0	0.0
881	B00R_012_012$_e$	0.0	0.0	0.125	0.125	0.125	0.062	270	0.0	0.032	0.125	25.5	0.1	-6.0	6.0	271.7
882	Y00G_100_100$_e$	1.0	1.0	0.0	1.0	1.0	0.5	90	1.0	0.768	0.0	83.6	-3.1	76.8	76.9	92.3
883	Y00G_087_087$_e$	0.875	0.875	0.0	0.875	0.875	0.437	90	0.875	0.672	0.0	76.1	-2.7	67.2	67.2	92.3
884	Y00G_075_075$_e$	0.75	0.75	0.0	0.75	0.75	0.375	90	0.75	0.576	0.0	68.7	-2.3	57.6	57.6	92.3
885	Y00G_062_062$_e$	0.625	0.625	0.0	0.625	0.625	0.312	90	0.625	0.48	0.0	61.2	-1.9	48.0	48.0	92.3
886	Y00G_050_050$_e$	0.5	0.5	0.0	0.5	0.5	0.25	90	0.5	0.384	0.0	53.7	-1.5	38.4	38.4	92.3
887	Y00G_037_037$_e$	0.375	0.375	0.0	0.375	0.375	0.187	90	0.375	0.288	0.0	46.2	-1.1	28.8	28.8	92.3
888	Y00G_025_025$_e$	0.25	0.25	0.0	0.25	0.25	0.125	90	0.25	0.192	0.0	38.8	-0.7	19.2	19.2	92.3
889	Y00G_012_012$_e$	0.125	0.125	0.0	0.125	0.125	0.062	90	0.125	0.096	0.0	31.3	-0.3	9.6	9.6	92.3
890	NW_000$_e$	0.0	0.0	0.0	0.0	0.0	0.0	360	0.0	0.0	0.0	23.8	0.0	0.0	0.0	0.0

n	rgb*'Fe			LabCh*'Fe					DE*'Fe	hsiM,e	rgb*Me			LabCh*Me				
810	1.0	1.0	1.0	96.1	-0.1	0.0	0.1	188.0	0.3	360	1.0	1.0	1.0	95.8	0.0	0.0	0.0	0.0
811	0.875	0.875	1.0	88.8	0.5	-7.8	7.8	273.8	1.8	255	0.0	0.261	1.0	37.3	1.4	-48.6	48.7	271.7
812	0.75	0.75	1.0	79.2	2.5	-15.9	16.1	278.9	4.8	255	0.0	0.261	1.0	37.3	1.4	-48.6	48.7	271.7
813	0.625	0.625	1.0	65.8	5.5	-25.7	26.3	282.2	12.0	255	0.0	0.261	1.0	37.3	1.4	-48.6	48.7	271.7
814	0.5	0.5	1.0	54.6	10.9	-32.6	34.4	288.5	17.8	255	0.0	0.261	1.0	37.3	1.4	-48.6	48.7	271.7
815	0.375	0.375	1.0	45.7	14.0	-37.9	40.4	290.3	20.2	255	0.0	0.261	1.0	37.3	1.4	-48.6	48.7	271.7
816	0.25	0.25	1.0	38.1	18.6	-41.2	45.2	294.2	22.7	255	0.0	0.261	1.0	37.3	1.4	-48.6	48.7	271.7
817	0.125	0.125	1.0	34.5	19.2	-42.9	47.0	294.1	20.6	255	0.0	0.261	1.0	37.3	1.4	-48.6	48.7	271.7
818	0.0	0.0	1.0	30.8	20.2	-44.2	48.6	294.6	20.3	255	0.0	0.261	1.0	37.3	1.4	-48.6	48.7	271.7
819	1.0	1.0	0.875	95.9	-3.8	9.4	10.2	111.9	3.8	77	1.0	0.768	0.0	83.6	-3.1	76.8	76.9	92.3
820	0.875	0.875	0.875	91.1	0.0	-0.1	0.1	242.5	4.3	360	1.0	1.0	1.0	95.8	0.0	0.0	0.0	0.0
821	0.75	0.75	0.875	80.2	1.7	-11.6	11.7	278.4	5.8	255	0.0	0.261	1.0	37.3	1.4	-48.6	48.7	271.7
822	0.625	0.625	0.875	69.8	4.2	-20.4	20.8	281.7	9.3	255	0.0	0.261	1.0	37.3	1.4	-48.6	48.7	271.7
823	0.5	0.5	0.875	58.7	8.3	-29.7	30.9	285.6	15.2	255	0.0	0.261	1.0	37.3	1.4	-48.6	48.7	271.7
824	0.375	0.375	0.875	47.8	12.6	-36.7	38.8	288.9	19.7	255	0.0	0.261	1.0	37.3	1.4	-48.6	48.7	271.7
825	0.25	0.25	0.875	39.6	16.7	-41.1	44.4	292.2	21.9	255	0.0	0.261	1.0	37.3	1.4	-48.6	48.7	271.7
826	0.125	0.125	0.875	35.1	17.5	-43.1	46.5	292.1	19.3	255	0.0	0.261	1.0	37.3	1.4	-48.6	48.7	271.7
827	0.0	0.0	0.875	29.1	21.9	-44.4	49.5	296.2	21.7	255	0.0	0.261	1.0	37.3	1.4	-48.6	48.7	271.7
828	1.0	1.0	0.75	95.2	-8.7	24.8	26.3	109.2	10.0	77	1.0	0.768	0.0	83.6	-3.1	76.8	76.9	92.3
829	0.875	0.875	0.75	91.4	-3.2	9.1	9.6	109.3	6.7	77	1.0	0.768	0.0	83.6	-3.1	76.8	76.9	92.3
830	0.75	0.75	0.75	82.2	0.0	-0.5	0.5	270.3	4.4	360	1.0	1.0	1.0	95.8	0.0	0.0	0.0	0.0
831	0.625	0.625	0.75	71.5	2.2	-12.7	12.9	280.2	7.0	255	0.0	0.261	1.0	37.3	1.4	-48.6	48.7	271.7
832	0.5	0.5	0.75	60.6	4.4	-20.2	20.7	282.3	9.4	255	0.0	0.261	1.0	37.3	1.4	-48.6	48.7	271.7
833	0.375	0.375	0.75	50.8	6.5	-27.4	28.2	283.3	12.0	255	0.0	0.261	1.0	37.3	1.4	-48.6	48.7	271.7
834	0.25	0.25	0.75	44.3	10.9	-33.2	35.0	288.2	14.2	255	0.0	0.261	1.0	37.3	1.4	-48.6	48.7	271.7
835	0.125	0.125	0.75	38.2	13.3	-39.1	41.3	288.7	15.4	255	0.0	0.261	1.0	37.3	1.4	-48.6	48.7	271.7
836	0.0	0.0	0.75	29.0	20.6	-44.7	49.2	294.7	21.7	255	0.0	0.261	1.0	37.3	1.4	-48.6	48.7	271.7
837	1.0	1.0	0.625	93.4	-9.0	33.9	35.0	104.9	9.6	77	1.0	0.768	0.0	83.6	-3.1	76.8	76.9	92.3
838	0.875	0.875	0.625	90.1	-6.3	24.9	25.7	104.2	10.2	77	1.0	0.768	0.0	83.6	-3.1	76.8	76.9	92.3
839	0.75	0.75	0.625	83.0	-2.2	7.7	8.1	106.0	7.2	77	1.0	0.768	0.0	83.6	-3.1	76.8	76.9	92.3
840	0.625	0.625	0.625	72.5	0.0	-1.0	1.0	270.5	3.8	360	1.0	1.0	1.0	95.8	0.0	0.0	0.0	0.0
841	0.5	0.5	0.625	61.7	2.6	-14.3	14.5	280.2	8.6	255	0.0	0.261	1.0	37.3	1.4	-48.6	48.7	271.7
842	0.375	0.375	0.625	50.5	4.0	-22.7	23.0	280.0	11.7	255	0.0	0.261	1.0	37.3	1.4	-48.6	48.7	271.7
843	0.25	0.25	0.625	44.0	8.2	-27.8	29.0	286.5	12.6	255	0.0	0.261	1.0	37.3	1.4	-48.6	48.7	271.7
844	0.125	0.125	0.625	37.5	11.3	-34.2	36.1	288.3	14.7	255	0.0	0.261	1.0	37.3	1.4	-48.6	48.7	271.7
845	0.0	0.0	0.625	28.0	21.5	-45.0	49.9	295.5	25.6	255	0.0	0.261	1.0	37.3	1.4	-48.6	48.7	271.7
846	1.0	1.0	0.5	92.9	-11.3	44.8	46.2	104.1	12.1	77	1.0	0.768	0.0	83.6	-3.1	76.8	76.9	92.3
847	0.875	0.875	0.5	90.0	-8.5	36.5	37.5	103.2	13.2	77	1.0	0.768	0.0	83.6	-3.1	76.8	76.9	92.3
848	0.75	0.75	0.5	82.9	-6.7	24.9	25.8	105.2	11.6	77	1.0	0.768	0.0	83.6	-3.1	76.8	76.9	92.3
849	0.625	0.625	0.5	73.9	-3.5	7.3	8.1	115.9	7.6	77	1.0	0.768	0.0	83.6	-3.1	76.8	76.9	92.3
850	0.5	0.5	0.5	61.9	0.0	-1.2	1.2	270.4	2.4	360	1.0	1.0	1.0	95.8	0.0	0.0	0.0	0.0
851	0.375	0.375	0.5	50.4	2.1	-16.8	17.0	277.2	11.1	255	0.0	0.261	1.0	37.3	1.4	-48.6	48.7	271.7
852	0.25	0.25	0.5	42.6	4.6	-23.9	24.4	280.9	12.8	255	0.0	0.261	1.0	37.3	1.4	-48.6	48.7	271.7
853	0.125	0.125	0.5	35.8	7.9	-29.0	30.1	285.2	13.2	255	0.0	0.261	1.0	37.3	1.4	-48.6	48.7	271.7
854	0.0	0.0	0.5	29.9	15.0	-39.3	42.0	290.9	20.7	255	0.0	0.261	1.0	37.3	1.4	-48.6	48.7	271.7
855	1.0	1.0	0.375	92.5	-12.7	53.3	54.8	103.4	12.7	77	1.0	0.768	0.0	83.6	-3.1	76.8	76.9	92.3
856	0.875	0.875	0.375	89.1	-10.8	48.0	49.2	102.7	15.7	77	1.0	0.768	0.0	83.6	-3.1	76.8	76.9	92.3
857	0.75	0.75	0.375	82.6	-9.1	37.6	38.7	103.7	15.1	77	1.0	0.768	0.0	83.6	-3.1	76.8	76.9	92.3
858	0.625	0.625	0.375	73.7	-7.0	24.2	25.2	106.1	11.2	77	1.0	0.768	0.0	83.6	-3.1	76.8	76.9	92.3
859	0.5	0.5	0.375	63.0	-4.3	9.6	10.5	114.4	6.1	77	1.0	0.768	0.0	83.6	-3.1	76.8	76.9	92.3
860	0.375	0.375	0.375	53.1	0.0	-1.1	1.1	270.9	2.5	360	1.0	1.0	1.0	95.8	0.0	0.0	0.0	0.0
861	0.25	0.25	0.375	40.7	2.0	-18.7	18.8	276.3	13.1	255	0.0	0.261	1.0	37.3	1.4	-48.6	48.7	271.7
862	0.125	0.125	0.375	33.3	4.4	-25.1	25.5	280.0	13.9	255	0.0	0.261	1.0	37.3	1.4	-48.6	48.7	271.7
863	0.0	0.0	0.375	29.5	7.3	-30.0	30.9	283.7	13.6	255	0.0	0.261	1.0	37.3	1.4	-48.6	48.7	271.7
864	1.0	1.0	0.25	91.7	-13.4	63.5	64.9	101.9	13.5	77	1.0	0.768	0.0	83.6	-3.1	76.8	76.9	92.3
865	0.875	0.875	0.25	88.8	-11.8	60.5	61.7	101.0	18.6	77	1.0	0.768	0.0	83.6	-3.1	76.8	76.9	92.3
866	0.75	0.75	0.25	82.4	-11.6	50.3	51.7	102.9	18.9	77	1.0	0.768	0.0	83.6	-3.1	76.8	76.9	92.3
867	0.625	0.625	0.25	73.1	-10.2	39.0	40.3	104.7	16.3	77	1.0	0.768	0.0	83.6	-3.1	76.8	76.9	92.3
868	0.5	0.5	0.25	63.0	-8.2	26.7	27.9	107.2	12.3	77	1.0	0.768	0.0	83.6	-3.1	76.8	76.9	92.3
869	0.375	0.375	0.25	53.1	-5.6	13.2	14.4	113.0	7.4	77	1.0	0.768	0.0	83.6	-3.1	76.8	76.9	92.3
870	0.25	0.25	0.25	42.8	0.0	-1.0	1.0	272.0	1.4	360	1.0	1.0	1.0	95.8	0.0	0.0	0.0	0.0
871	0.125	0.125	0.25	31.9	1.9	-18.0	18.1	276.1	12.3	255	0.0	0.261	1.0	37.3	1.4	-48.6	48.7	271.7
872	0.0	0.0	0.25	25.3	4.2	-24.7	25.1	279.6	13.2	255	0.0	0.261	1.0	37.3	1.4	-48.6	48.7	271.7
873	1.0	1.0	0.125	91.5	-15.0	76.9	78.3	101.0	16.8	77	1.0	0.768	0.0	83.6	-3.1	76.8	76.9	92.3
874	0.875	0.875	0.125	88.9	-13.6	78.1	79.3	99.9	25.9	77	1.0	0.768	0.0	83.6	-3.1	76.8	76.9	92.3
875	0.75	0.75	0.125	81.4	-12.5	67.8	68.9	100.4	25.1	77	1.0	0.768	0.0	83.6	-3.1	76.8	76.9	92.3
876	0.625	0.625	0.125	71.5	-11.5	55.8	57.0	101.6	21.9	77	1.0	0.768	0.0	83.6	-3.1	76.8	76.9	92.3
877	0.5	0.5	0.125	62.9	-10.0	41.1	42.3	103.7	16.9	77	1.0	0.768	0.0	83.6	-3.1	76.8	76.9	92.3
878	0.375	0.375	0.125	54.9	-8.9	30.7	32.0	106.2	15.8	77	1.0	0.768	0.0	83.6	-3.1	76.8	76.9	92.3
879	0.25	0.25	0.125	44.1	-5.4	15.5	16.4	109.3	8.6	77	1.0	0.768	0.0	83.6	-3.1	76.8	76.9	92.3
880	0.125	0.125	0.125	27.6	0.0	-0.2	0.3	283.5	5.1	360	1.0	1.0	1.0	95.8	0.0	0.0	0.0	0.0
881	0.0	0.0	0.125	28.2	4.0	-15.3	15.8	284.8	10.4	255	0.0	0.261	1.0	37.3	1.4	-48.6	48.7	271.7
882	1.0	1.0	0.0	91.4	-15.6	84.1	85.5	100.5	16.4	77	1.0	0.768	0.0	83.6	-3.1	76.8	76.9	92.3
883	0.875	0.875	0.0	90.6	-14.8	86.7	87.9	99.7	27.1	77	1.0	0.768	0.0	83.6	-3.1	76.8	76.9	92.3
884	0.75	0.75	0.0	82.4	-14.2	78.8	80.1	100.2	28.0	77	1.0	0.768	0.0	83.6	-3.1	76.8	76.9	92.3
885	0.625	0.625	0.0	69.1	-12.2	64.9	66.0	100.6	21.3	77	1.0	0.768	0.0	83.6	-3.1	76.8	76.9	92.3
886	0.5	0.5	0.0	58.4	-10.2	53.9	54.8	100.7	18.3	77	1.0	0.768	0.0	83.6	-3.1	76.8	76.9	92.3
887	0.375	0.375	0.0	52.1	-10.7	44.3	45.6	103.6	19.1	77	1.0	0.768	0.0	83.6	-3.1	76.8	76.9	92.3
888	0.25	0.25	0.0	44.5	-8.6	32.1	33.3	105.1	16.2	77	1.0	0.768	0.0	83.6	-3.1	76.8	76.9	92.3
889	0.125	0.125	0.0	36.5	-5.3	16.3	17.1	108.0	9.8	77	1.0	0.768	0.0	83.6	-3.1	76.8	76.9	92.3
890	0.0	0.0	0.0	21.6	0.2	0.8	0.8	70.4	2.3	360	1.0	1.0	1.0	95.8	0.0	0.0	0.0	0.0

Mean color difference of this page: delta $E^{*\prime}$ = 13.2

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TUB-test chart PE89; 16 step hue circle
colors and differences, $\Delta E^{*\prime}$

input: $rgb/cmyk \rightarrow rgb_e$
output: transfer to $cmyk_e$

TUB registration: 20150701-PE89/PE89L0NP.PDF /.PS TUB material: code=rha4ta
application for measurement of laser printer output, separation cmyn6 (CMYK)

n	HIC*$_{Fe}$	*rgb*_$_{Fe}$			*ict*_$_{Fe}$			$h_{si_F,e}$	*rgb**$_{Fe}$			*LabCh**$_{Fe}$					*rgb**'$_{Fe}$			*LabCh**'$_{Fe}$					*DE**'$_{Fe}$	$h_{siM,e}$	*rgb**$_{Me}$			*LabCh**$_{Me}$				
891	NW_100$_e$	1.0	1.0	1.0	1.0	0.0	1.0	360	1.0	1.0	1.0	95.8	0.0	0.0	0.0	0.0	1.0	1.0	1.0	96.1	−0.1	0.0	0.1	168.6	0.3	360	1.0	1.0	1.0	95.8	0.0	0.0	0.0	0.0
892	B50R_100_012$_e$	1.0	0.875	1.0	1.0	0.125	0.937	330	0.948	0.875	1.0	88.6	5.8	−3.5	6.8	328.6	1.0	0.875	1.0	91.4	7.6	−3.0	8.1	338.4	3.3	305	0.584	0.0	1.0	38.5	46.7	−28.5	54.7	328.6
893	B50R_100_025$_e$	1.0	0.75	1.0	1.0	0.25	0.875	330	0.896	0.75	1.0	81.5	11.6	−7.1	13.6	328.6	1.0	0.75	1.0	85.5	16.1	−5.2	16.9	341.9	6.2	305	0.584	0.0	1.0	38.5	46.7	−28.5	54.7	328.6
894	B50R_100_037$_e$	1.0	0.625	1.0	1.0	0.375	0.812	330	0.844	0.625	1.0	74.3	17.5	−10.7	20.5	328.6	1.0	0.625	1.0	78.4	26.0	−7.1	26.9	344.6	10.0	305	0.584	0.0	1.0	38.5	46.7	−28.5	54.7	328.6
895	B50R_100_050$_e$	1.0	0.5	1.0	1.0	0.5	0.75	330	0.792	0.5	1.0	67.1	23.3	−14.2	27.3	328.6	1.0	0.5	1.0	71.7	36.3	−8.9	37.4	346.1	14.7	305	0.584	0.0	1.0	38.5	46.7	−28.5	54.7	328.6
896	B50R_100_062$_e$	1.0	0.375	1.0	1.0	0.625	0.687	330	0.74	0.375	1.0	60.0	29.2	−17.8	34.2	328.6	1.0	0.375	1.0	66.1	44.6	−9.4	45.6	348.0	18.6	305	0.584	0.0	1.0	38.5	46.7	−28.5	54.7	328.6
897	B50R_100_075$_e$	1.0	0.25	1.0	1.0	0.75	0.625	330	0.688	0.25	1.0	52.8	35.0	−21.4	41.0	328.6	1.0	0.25	1.0	59.2	53.6	−11.4	54.8	347.9	22.0	305	0.584	0.0	1.0	38.5	46.7	−28.5	54.7	328.6
898	B50R_100_087$_e$	1.0	0.125	1.0	1.0	0.875	0.562	330	0.636	0.125	1.0	45.6	40.9	−24.9	47.9	328.6	1.0	0.125	1.0	52.3	65.2	−11.5	66.2	349.9	28.5	305	0.584	0.0	1.0	38.5	46.7	−28.5	54.7	328.6
899	B50R_100_100$_e$	1.0	0.0	1.0	1.0	1.0	0.5	330	0.584	0.0	1.0	38.5	46.7	−28.5	54.7	328.6	1.0	0.0	1.0	48.3	65.1	−12.7	66.3	348.9	26.1	305	0.584	0.0	1.0	38.5	46.7	−28.5	54.7	328.6
900	G00B_100_012$_e$	0.875	1.0	0.875	1.0	0.125	0.937	150	0.875	1.0	0.893	90.5	−8.2	2.6	8.6	162.2	0.875	1.0	0.875	92.1	−6.9	1.8	7.1	165.1	2.1	157	0.0	1.0	0.146	53.8	−65.9	21.1	69.2	162.2
901	NW_087$_e$	0.875	0.875	0.875	0.875	0.0	0.875	360	0.875	0.875	0.875	86.8	0.0	0.0	0.0	0.0	0.875	0.875	0.875	91.6	0.0	−0.2	0.2	263.1	4.8	360	1.0	1.0	1.0	95.8	0.0	0.0	0.0	0.0
902	B50R_087_012$_e$	0.875	0.75	0.875	0.875	0.125	0.812	330	0.823	0.75	0.875	79.6	5.8	−3.5	6.8	328.6	0.875	0.75	0.875	84.3	8.6	−5.6	10.2	326.9	5.8	305	0.584	0.0	1.0	38.5	46.7	−28.5	54.7	328.6
903	B50R_087_025$_e$	0.875	0.625	0.875	0.875	0.25	0.75	330	0.771	0.625	0.875	72.5	11.6	−7.1	13.6	328.6	0.875	0.625	0.875	77.2	18.7	−8.0	20.4	336.6	8.5	305	0.584	0.0	1.0	38.5	46.7	−28.5	54.7	328.6
904	B50R_087_037$_e$	0.875	0.5	0.875	0.875	0.375	0.687	330	0.719	0.5	0.875	65.3	17.5	−10.7	20.5	328.6	0.875	0.5	0.875	70.8	27.7	−10.0	29.5	340.0	11.6	305	0.584	0.0	1.0	38.5	46.7	−28.5	54.7	328.6
905	B50R_087_050$_e$	0.875	0.375	0.875	0.875	0.5	0.625	330	0.667	0.375	0.875	58.1	23.3	−14.2	27.3	328.6	0.875	0.375	0.875	64.0	37.0	−11.8	38.8	342.2	15.0	305	0.584	0.0	1.0	38.5	46.7	−28.5	54.7	328.6
906	B50R_087_062$_e$	0.875	0.25	0.875	0.875	0.625	0.562	330	0.615	0.25	0.875	51.0	29.2	−17.8	34.2	328.6	0.875	0.25	0.875	57.7	45.0	−13.6	47.1	343.1	17.7	305	0.584	0.0	1.0	38.5	46.7	−28.5	54.7	328.6
907	B50R_087_075$_e$	0.875	0.125	0.875	0.875	0.75	0.5	330	0.563	0.125	0.875	43.8	35.0	−21.4	41.0	328.6	0.875	0.125	0.875	49.8	55.9	−16.4	58.3	343.6	22.2	305	0.584	0.0	1.0	38.5	46.7	−28.5	54.7	328.6
908	B50R_087_087$_e$	0.875	0.0	0.875	0.875	0.875	0.437	330	0.511	0.0	0.875	36.6	40.9	−24.9	47.9	328.6	0.875	0.0	0.875	44.7	59.0	−15.8	61.1	344.9	21.8	305	0.584	0.0	1.0	38.5	46.7	−28.5	54.7	328.6
909	G00B_100_025$_e$	0.75	1.0	0.75	1.0	0.25	0.875	150	0.75	1.0	0.786	85.3	−16.4	5.2	17.3	162.2	0.75	1.0	0.75	87.7	−14.1	8.3	16.4	149.3	4.6	157	0.0	1.0	0.146	53.8	−65.9	21.1	69.2	162.2
910	G00B_087_012$_e$	0.75	0.875	0.75	0.875	0.125	0.812	150	0.75	0.875	0.768	81.5	−8.2	2.6	8.6	162.2	0.75	0.875	0.75	87.2	−9.9	2.7	10.3	164.7	5.9	157	0.0	1.0	0.146	53.8	−65.9	21.1	69.2	162.2
911	NW_075$_e$	0.75	0.75	0.75	0.75	0.0	0.75	360	0.75	0.75	0.75	77.8	0.0	0.0	0.0	0.0	0.75	0.75	0.75	82.6	0.0	−0.4	0.4	270.1	4.8	360	1.0	1.0	1.0	95.8	0.0	0.0	0.0	0.0
912	B50R_075_012$_e$	0.75	0.625	0.75	0.75	0.125	0.687	330	0.698	0.625	0.75	70.6	5.8	−3.5	6.8	328.6	0.75	0.625	0.75	75.8	9.0	−5.9	10.8	326.6	6.5	305	0.584	0.0	1.0	38.5	46.7	−28.5	54.7	328.6
913	B50R_075_025$_e$	0.75	0.5	0.75	0.75	0.25	0.625	330	0.646	0.5	0.75	63.5	11.6	−7.1	13.6	328.6	0.75	0.5	0.75	68.2	19.3	−8.4	21.0	336.3	9.0	305	0.584	0.0	1.0	38.5	46.7	−28.5	54.7	328.6
914	B50R_075_037$_e$	0.75	0.375	0.75	0.75	0.375	0.562	330	0.594	0.375	0.75	56.3	17.5	−10.7	20.5	328.6	0.75	0.375	0.75	60.9	27.8	−9.9	29.5	340.2	11.3	305	0.584	0.0	1.0	38.5	46.7	−28.5	54.7	328.6
915	B50R_075_050$_e$	0.75	0.25	0.75	0.75	0.5	0.5	330	0.542	0.25	0.75	49.1	23.3	−14.2	27.3	328.6	0.75	0.25	0.75	54.4	37.2	−12.4	39.2	341.5	14.9	305	0.584	0.0	1.0	38.5	46.7	−28.5	54.7	328.6
916	B50R_075_062$_e$	0.75	0.125	0.75	0.75	0.625	0.437	330	0.49	0.125	0.75	42.0	29.2	−17.8	34.2	328.6	0.75	0.125	0.75	47.9	47.7	−13.2	49.5	344.5	19.9	305	0.584	0.0	1.0	38.5	46.7	−28.5	54.7	328.6
917	B50R_075_075$_e$	0.75	0.0	0.75	0.75	0.75	0.375	330	0.438	0.0	0.75	34.8	35.0	−21.4	41.0	328.6	0.75	0.0	0.75	41.5	53.5	−15.6	55.7	343.6	20.4	305	0.584	0.0	1.0	38.5	46.7	−28.5	54.7	328.6
918	G00B_100_037$_e$	0.625	1.0	0.625	1.0	0.375	0.812	150	0.625	1.0	0.68	80.0	−24.7	7.9	25.9	162.2	0.625	1.0	0.625	81.7	−21.9	10.5	24.3	154.3	4.1	157	0.0	1.0	0.146	53.8	−65.9	21.1	69.2	162.2
919	G00B_087_025$_e$	0.625	0.875	0.625	0.875	0.25	0.75	150	0.625	0.875	0.661	76.3	−16.4	5.2	17.3	162.2	0.625	0.875	0.625	82.1	−17.2	9.2	19.6	151.7	7.0	157	0.0	1.0	0.146	53.8	−65.9	21.1	69.2	162.2
920	G00B_075_012$_e$	0.625	0.75	0.625	0.75	0.125	0.687	150	0.625	0.75	0.643	72.5	−8.2	2.6	8.6	162.2	0.625	0.75	0.625	77.8	−10.0	1.7	10.1	169.8	5.6	157	0.0	1.0	0.146	53.8	−65.9	21.1	69.2	162.2
921	NW_062$_e$	0.625	0.625	0.625	0.625	0.0	0.625	360	0.625	0.625	0.625	68.8	0.0	0.0	0.0	0.0	0.625	0.625	0.625	72.1	0.0	−0.9	0.9	268.7	3.4	360	1.0	1.0	1.0	95.8	0.0	0.0	0.0	0.0
922	B50R_062_012$_e$	0.625	0.5	0.625	0.625	0.125	0.562	330	0.573	0.5	0.625	61.6	5.8	−3.5	6.8	328.6	0.625	0.5	0.625	65.6	9.6	−6.6	11.7	325.4	6.2	305	0.584	0.0	1.0	38.5	46.7	−28.5	54.7	328.6
923	B50R_062_025$_e$	0.625	0.375	0.625	0.625	0.25	0.5	330	0.521	0.375	0.625	54.5	11.6	−7.1	13.6	328.6	0.625	0.375	0.625	57.2	19.8	−8.9	21.7	335.8	8.8	305	0.584	0.0	1.0	38.5	46.7	−28.5	54.7	328.6
924	B50R_062_037$_e$	0.625	0.25	0.625	0.625	0.375	0.437	330	0.469	0.25	0.625	47.3	17.5	−10.7	20.5	328.6	0.625	0.25	0.625	50.0	29.9	−11.7	32.1	338.6	12.7	305	0.584	0.0	1.0	38.5	46.7	−28.5	54.7	328.6
925	B50R_062_050$_e$	0.625	0.125	0.625	0.625	0.5	0.375	330	0.417	0.125	0.625	40.1	23.3	−14.2	27.3	328.6	0.625	0.125	0.625	43.2	39.6	−12.4	41.5	342.5	16.6	305	0.584	0.0	1.0	38.5	46.7	−28.5	54.7	328.6
926	B50R_062_062$_e$	0.625	0.0	0.625	0.625	0.625	0.312	330	0.365	0.0	0.625	33.0	29.2	−17.8	34.2	328.6	0.625	0.0	0.625	37.3	48.6	−13.9	50.5	343.9	20.2	305	0.584	0.0	1.0	38.5	46.7	−28.5	54.7	328.6
927	G00B_100_050$_e$	0.5	1.0	0.5	1.0	0.5	0.75	150	0.5	1.0	0.573	74.8	−32.9	10.5	34.6	162.2	0.5	1.0	0.5	75.2	−29.8	11.7	32.0	158.4	3.3	157	0.0	1.0	0.146	53.8	−65.9	21.1	69.2	162.2
928	G00B_087_037$_e$	0.5	0.875	0.5	0.875	0.375	0.687	150	0.5	0.875	0.555	71.0	−24.7	7.9	25.9	162.2	0.5	0.875	0.5	74.3	−28.1	10.0	29.8	160.3	5.2	157	0.0	1.0	0.146	53.8	−65.9	21.1	69.2	162.2
929	G00B_075_025$_e$	0.5	0.75	0.5	0.75	0.25	0.625	150	0.5	0.75	0.536	67.3	−16.4	5.2	17.3	162.2	0.5	0.75	0.5	71.8	−17.6	5.6	18.5	162.3	4.6	157	0.0	1.0	0.146	53.8	−65.9	21.1	69.2	162.2
930	G00B_062_012$_e$	0.5	0.625	0.5	0.625	0.125	0.562	150	0.5	0.625	0.518	63.5	−8.2	2.6	8.6	162.2	0.5	0.625	0.5	68.1	−10.1	1.4	10.2	171.5	5.0	157	0.0	1.0	0.146	53.8	−65.9	21.1	69.2	162.2
931	NW_050$_e$	0.5	0.5	0.5	0.5	0.0	0.5	360	0.5	0.5	0.5	59.8	0.0	0.0	0.0	0.0	0.5	0.5	0.5	61.3	0.0	−1.1	1.1	271.0	1.9	360	1.0	1.0	1.0	95.8	0.0	0.0	0.0	0.0
932	B50R_050_012$_e$	0.5	0.375	0.5	0.5	0.125	0.437	330	0.448	0.375	0.5	52.6	5.8	−3.5	6.8	328.6	0.5	0.375	0.5	53.3	10.5	−8.2	13.4	321.9	6.6	305	0.584	0.0	1.0	38.5	46.7	−28.5	54.7	328.6
933	B50R_050_025$_e$	0.5	0.25	0.5	0.5	0.25	0.375	330	0.396	0.249	0.5	45.5	11.6	−7.1	13.6	328.6	0.5	0.25	0.5	47.1	21.9	−10.7	24.4	333.8	10.9	305	0.584	0.0	1.0	38.5	46.7	−28.5	54.7	328.6
934	B50R_050_037$_e$	0.5	0.125	0.5	0.5	0.375	0.312	330	0.344	0.124	0.5	38.3	17.5	−10.7	20.5	328.6	0.5	0.125	0.5	40.5	32.1	−11.6	34.1	340.0	14.7	305	0.584	0.0	1.0	38.5	46.7	−28.5	54.7	328.6
935	B50R_050_050$_e$	0.5	0.0	0.5	0.5	0.5	0.25	330	0.292	0.0	0.5	31.1	23.3	−14.2	27.3	328.6	0.5	0.0	0.5	34.7	41.4	−11.9	43.1	343.9	18.5	305	0.584	0.0	1.0	38.5	46.7	−28.5	54.7	328.6
936	G00B_100_062$_e$	0.375	1.0	0.375	1.0	0.625	0.687	150	0.375	1.0	0.466	69.5	−41.2	13.2	43.2	162.2	0.375	1.0	0.375	68.6	−39.6	17.6	43.4	156.0	4.7	157	0.0	1.0	0.146	53.8	−65.9	21.1	69.2	162.2
937	G00B_087_050$_e$	0.375	0.875	0.375	0.875	0.5	0.625	150	0.375	0.875	0.448	65.8	−32.9	10.5	34.6	162.2	0.375	0.875	0.375	70.2	−36.7	16.1	40.2	156.2	8.1	157	0.0	1.0	0.146	53.8	−65.9	21.1	69.2	162.2
938	G00B_075_037$_e$	0.375	0.75	0.375	0.75	0.375	0.562	150	0.375	0.75	0.43	62.0	−24.7	7.9	25.9	162.2	0.375	0.75	0.375	64.6	−28.0	9.1	29.5	162.0	4.3	157	0.0	1.0	0.146	53.8	−65.9	21.1	69.2	162.2
939	G00B_062_025$_e$	0.375	0.625	0.375	0.625	0.25	0.5	150	0.375	0.625	0.411	58.3	−16.4	5.2	17.3	162.2	0.375	0.625	0.375	59.6	−21.1	3.4	21.4	170.7	5.1	157	0.0	1.0	0.146	53.8	−65.9	21.1	69.2	162.2
940	G00B_050_012$_e$	0.375	0.5	0.375	0.5	0.125	0.437	150	0.375	0.5	0.393	54.5	−8.2	2.6	8.6	162.2	0.375	0.5	0.375	56.1	−10.2	1.5	10.3	171.6	2.7	157	0.0	1.0	0.146	53.8	−65.9	21.1	69.2	162.2
941	NW_037$_e$	0.375	0.375	0.375	0.375	0.0	0.375	360	0.375	0.375	0.375	50.8	0.0	0.0	0.0	0.0	0.375	0.375	0.375	51.6	0.0	−1.1	1.1	268.8	1.3	360	1.0	1.0	1.0	95.8	0.0	0.0	0.0	0.0
942	B50R_037_012$_e$	0.375	0.25	0.375	0.375	0.125	0.312	330	0.323	0.249	0.375	43.6	5.8	−3.5	6.8	328.6	0.375	0.25	0.375	42.0	12.3	−8.8	15.1	324.4	8.5	305	0.584	0.0	1.0	38.5	46.7	−28.5	54.7	328.6
943	B50R_037_025$_e$	0.375	0.125	0.375	0.375	0.25	0.25	330	0.271	0.124	0.375	36.5	11.6	−7.1	13.6	328.6	0.375	0.125	0.375	37.3	23.8	−10.6	26.1	336.0	12.7	305	0.584	0.0	1.0	38.5	46.7	−28.5	54.7	328.6
944	B50R_037_037$_e$	0.375	0.0	0.375	0.375	0.375	0.187	330	0.219	0.0	0.375	29.3	17.5	−10.7	20.5	328.6	0.375	0.0	0.375	32.2	34.5	−10.8	36.2	342.5	17.2	305	0.584	0.0	1.0	38.5	46.7	−28.5	54.7	328.6
945	G00B_100_075$_e$	0.25	1.0	0.25	1.0	0.75	0.625	150	0.25	1.0	0.36	64.3	−49.4	15.8	51.9	162.2	0.25	1.0	0.25	63.0	−50.8	23.7	56.1	154.9	8.1	157	0.0	1.0	0.146	53.8	−65.9	21.1	69.2	162.2
946	G00B_087_062$_e$	0.25	0.875	0.25	0.875	0.625	0.562	150	0.25	0.875	0.341	60.5	−41.2	13.2	43.2	162.2	0.25	0.875	0.25	65.0	−47.4	22.1	52.3	155.0	11.7	157	0.0	1.0	0.146	53.8	−65.9	21.1	69.2	162.2
947	G00B_075_050$_e$	0.25	0.75	0.25	0.75	0.5	0.5	150	0.25	0.75	0.323	56.8	−32.9	10.5	34.6	162.2	0.25	0.75	0.25	59.1	−37.1	15.4	40.1	157.4	6.7	157	0.0	1.0	0.146	53.8	−65.9	21.1	69.2	162.2
948	G00B_062_037$_e$	0.25	0.625	0.25	0.625	0.375	0.437	150	0.25	0.625	0.305	53.0	−24.7	7.9	25.9	162.2	0.25	0.625	0.25	54.0	−30.7	11.4	32.8	159.5	7.0	157	0.0	1.0	0.146	53.8	−65.9	21.1	69.2	162.2
949	G00B_050_025$_e$	0.25	0.5	0.25	0.5	0.25	0.375	150	0.249	0.5	0.286	49.3	−16.4	5.2	17.3	162.2	0.25	0.5	0.25	47.5	−23.1	5.6	23.8	166.3	6.9	157	0.0	1.0	0.146	53.8	−65.9	21.1	69.2	162.2
950	G00B_037_012$_e$	0.25	0.375	0.25	0.375	0.125	0.312	150	0.249	0.375	0.268	45.5	−8.2	2.6	8.6	162.2	0.25	0.375	0.25	45.0	−12.7	1.6	12.8	172.6	4.6	157	0.0	1.0	0.146	53.8	−65.9	21.1	69.2	162.2
951	NW_025$_e$	0.25	0.25	0.25	0.25	0.0	0.25	360	0.25	0.25	0.25	41.8	0.0	0.0	0.0	0.0	0.25	0.25	0.25	41.4	0.0	−0.8	0.8	273.1	0.9	360	1.0	1.0	1.0	95.8	0.0	0.0	0.0	0.0
952	B50R_025_012$_e$	0.25	0.125	0.25	0.25	0.125	0.187	330	0.198	0.124	0.25	34.6	5.8	−3.5	6.8	328.6	0.25	0.125	0.25	34.2	13.2	−8.5	15.7	327.1	8.9	305	0.584	0.0	1.0	38.5	46.7	−28.5	54.7	328.6
953	B50R_025_025$_e$	0.25	0.0	0.25	0.25	0.25	0.125	330	0.146	0.0	0.25	27.5	11.6	−7.1	13.6	328.6	0.25	0.0	0.25	30.1	24.2	−10.5	26.4	336.4	13.3	305	0.584	0.0	1.0	38.5	46.7	−28.5	54.7	328.6
954	G00B_100_087$_e$	0.125	1.0	0.125	1.0	0.875	0.562	150	0.125	1.0	0.253	59.0	−57.7	18.5	60.6	162.2	0.125	1.0	0.125	57.4	−61.7	27.5	67.5	155.9	10.0	157	0.0	1.0	0.146	53.8	−65.9	21.1	69.2	162.2
955	G00B_087_075$_e$	0.125	0.875	0.125	0.875	0.75	0.5	150	0.125	0.875	0.235	55.3	−49.4	15.8	51.9	162.2	0.125	0.875	0.125	59.3	−58.5	27.5	64.6	154.8	15.3	157	0.0	1.0	0.146	53.8	−65.9	21.1	69.2	162.2
956	G00B_075_062$_e$	0.125	0.75	0.125	0.75	0.625	0.437	150	0.125	0.75	0.216	51.5	−41.2	13.2	43.2	162.2	0.125	0.75	0.125	55.2	−46.1	20.6	50.5	155.9	9.6	157	0.0	1.0	0.146	53.8	−65.9	21.1	69.2	162.2
957	G00B_062_050$_e$	0.125	0.625	0.125	0.625	0.5	0.375	150	0.125	0.625	0.198	47.8	−32.9	10.5	34.6	162.2	0.125	0.625	0.125	50.2	−39.7	15.9	42.8	158.0	9.0	157	0.0	1.0	0.146	53.8	−65.9	21.1	69.2	162.2
958	G00B_050_037$_e$	0.125	0.5	0.125	0.5	0.375	0.312	150	0.124	0.5	0.18	44.0	−24.7	7.9	25.9	162.2	0.125	0.5	0.125	45.0	−31.7	10.2	33.3	162.0	7.4	157	0.0	1.0	0.146	53.8	−65.9	21.1	69.2	162.2
959	G00B_037_025$_e$	0.125	0.375	0.125	0.375	0.25	0.25	150	0.124	0.375	0.161	40.3	−16.4	5.2	17.3	162.2	0.125	0.375	0.125	41.1	−24.7	7.0	25.6	164.0	8.4	157	0.0	1.0	0.146	53.8	−65.9	21.1	69.2	162.2
960	G00B_025_012$_e$	0.125	0.25	0.125	0.25	0.125	0.187	150	0.124	0.25	0.143	36.5	−8.2	2.6	8.6	162.2	0.125	0.25	0.125	39.8	−12.8	3.1	13.2	166.1	5.6	157	0.0	1.0	0.146	53.8	−65.9	21.1	69.2	162.2
961	NW_012$_e$	0.125	0.125	0.125	0.125	0.0	0.125	360	0.125	0.125	0.125	32.8	0.0	0.0	0.0	0.0	0.125	0.125	0.125	29.4	0.1	0.0	0.1	353.4	3.3	360	1.0	1.0	1.0	95.8	0.0	0.0	0.0	0.0
962	B50R_012_012$_e$	0.125	0.0	0.125	0.125	0.125	0.062	330	0.073	0.0	0.125	25.6	5.8	−3.5	6.8	328.6	0.125	0.0	0.125	28.8	12.7	−6.6	14.3	332.5	8.1	305	0.584	0.0	1.0	38.5	46.7	−28.5	54.7	328.6
963	G00B_100_100$_e$	0.0	1.0	0.0	1.0	1.0	0.5	150	0.0	1.0	0.146	53.8	−65.9	21.1	69.2	162.2	0.0	1.0	0.0	55.1	−67.3	29.7	73.6	156.1	8.8	157	0.0	1.0	0.146	53.8	−65.9	21.1	69.2	162.2
964	G00B_087_087$_e$	0.0	0.875	0.0	0.875	0.875	0.437	150	0.0	0.875	0.128	50.0	−57.7	18.5	60.6	162.2	0.0	0.875	0.0	53.2	−71.7	28.9	77.4	158.0	17.8	157	0.0	1.0	0.146	53.8	−65.9	21.1	69.2	162.2
965	G00B_075_075$_e$	0.0	0.75	0.0	0.75	0.75	0.375	150	0.0	0.75	0.11	46.3	−49.4	15.8	51.9	162.2	0.0	0.75	0.0	51.2	−73.4	27.7	78.5	159.3	27.2	157	0.0	1.0	0.146	53.8	−65.9	21.1	69.2	162.2
966	G00B_062_062$_e$	0.0	0.625	0.0	0.625	0.625	0.312	150	0.0	0.625	0.091	42.5	−41.2	13.2	43.2	162.2	0.0	0.625	0.0	48.2	−69.5	26.5	74.4	159.1	31.8	157	0.0	1.0	0.146	53.8	−65.9	21.1	69.2	162.2
967	G00B_050_050$_e$	0.0	0.5	0.0	0.5	0.5	0.25	150	0.0	0.5	0.073	38.8	−32.9	10.5	34.6	162.2	0.0	0.5	0.0	43.5	−61.7	23.1	65.9	159.4	31.7	157	0.0	1.0	0.146	53.8	−65.9	21.1	69.2	162.2
968	G00B_037_037$_e$	0.0	0.375	0.0	0.375	0.375	0.187	150	0.0	0.375	0.055	35.0	−24.7	7.9	25.9	162.2	0.0	0.375	0.0	39.2	−37.6	14.0	40.2	159.6	14.8	157	0.0	1.0	0.146	53.8	−65.9	21.1	69.2	162.2
969	G00B_025_025$_e$	0.0	0.25	0.0	0.25	0.25	0.125	150	0.0	0.25	0.036	31.3	−16.4	5.2	17.3	162.2	0.0	0.25	0.0	36.4	−24.0	5.6	24.6	166.7	9.1	157	0.0	1.0	0.146	53.8	−65.9	21.1	69.2	162.2
970	G00B_012_012$_e$	0.0	0.125	0.0	0.125	0.125	0.062	150	0.0	0.125	0.018	27.5	−8.2	2.6	8.6	162.2	0.0	0.125	0.0	34.9	−10.6	3.3	11.1	162.7	7.7	157	0.0	1.0	0.146	53.8	−65.9	21.1	69.2	162.2
971	NW_000$_e$	0.0	0.0	0.0	0.0	0.0	0.0	360	0.0	0.0	0.0	23.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	24.4	0.2	0.3	0.4	54.5	0.7	360	1.0	1.0	1.0	95.8	0.0	0.0	0.0	0.0

Mean color difference of this page: **delta** ***E******' =** ***10.5***

1−0133030−F0

PE890−7N, Page 31/33−F

TUB-test chart PE89; 16 step hue circle
colors and differences, $\Delta E^{*\prime}$

input: *rgb/cmyk* −> *rgb*$_e$
output: transfer to *cmyk*$_e$

1−0133030−F0

http://130.149.60.45/~farbmetrik/PE89/PE89L0NP.PDF /.PS; transfer output
N: no 3D-linearization (OL) in file (F) or PS-startup (S), page 32/33

n	HIC^*_{Fe}	rgb_Fe			ict_Fe			$h_{si_F,e}$	rgb^*_{Fe}			$LabCh^*_{Fe}$					$rgb^{*\prime}_{Fe}$			$LabCh^{*\prime}_{Fe}$					$DE^{*\prime}_{Fe}$	$h_{siM,e}$	rgb^*_{Me}			$LabCh^*_{Me}$				
972	NW_000e	0.0	0.0	0.0	0.0	0.0	0.0	360	0.0	0.0	0.0	23.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	22.5	0.0	0.0	0.0	49.6	1.3	360	1.0	1.0	1.0	95.8	0.0	0.0	0.0	0.0
973	NW_012e	0.125	0.125	0.125	0.125	0.0	0.125	360	0.125	0.125	0.125	32.8	0.0	0.0	0.0	0.0	0.125	0.125	0.125	26.8	0.0	−0.3	0.3	272.9	5.9	360	1.0	1.0	1.0	95.8	0.0	0.0	0.0	0.0
974	NW_025e	0.25	0.25	0.25	0.25	0.0	0.25	360	0.25	0.25	0.25	41.8	0.0	0.0	0.0	0.0	0.25	0.25	0.25	39.6	0.0	−1.0	1.0	266.3	2.4	360	1.0	1.0	1.0	95.8	0.0	0.0	0.0	0.0
975	NW_037e	0.375	0.375	0.375	0.375	0.0	0.375	360	0.375	0.375	0.375	50.8	0.0	0.0	0.0	0.0	0.375	0.375	0.375	50.3	0.0	−1.1	1.1	265.7	1.2	360	1.0	1.0	1.0	95.8	0.0	0.0	0.0	0.0
976	NW_050e	0.5	0.5	0.5	0.5	0.0	0.5	360	0.5	0.5	0.5	59.8	0.0	0.0	0.0	0.0	0.5	0.5	0.5	60.6	0.0	−1.1	1.1	268.6	1.4	360	1.0	1.0	1.0	95.8	0.0	0.0	0.0	0.0
977	NW_062e	0.625	0.625	0.625	0.625	0.0	0.625	360	0.625	0.625	0.625	68.8	0.0	0.0	0.0	0.0	0.625	0.625	0.625	72.2	0.0	−1.0	1.0	266.5	3.5	360	1.0	1.0	1.0	95.8	0.0	0.0	0.0	0.0
978	NW_075e	0.75	0.75	0.75	0.75	0.0	0.75	360	0.75	0.75	0.75	77.8	0.0	0.0	0.0	0.0	0.75	0.75	0.75	82.1	0.0	−0.6	0.6	266.9	4.3	360	1.0	1.0	1.0	95.8	0.0	0.0	0.0	0.0
979	NW_087e	0.875	0.875	0.875	0.875	0.0	0.875	360	0.875	0.875	0.875	86.8	0.0	0.0	0.0	0.0	0.875	0.875	0.875	91.4	0.0	−0.2	0.2	248.8	4.6	360	1.0	1.0	1.0	95.8	0.0	0.0	0.0	0.0
980	NW_100e	1.0	1.0	1.0	1.0	0.0	1.0	360	1.0	1.0	1.0	95.8	0.0	0.0	0.0	0.0	1.0	1.0	1.0	95.9	−0.1	−0.1	0.2	233.6	0.2	360	1.0	1.0	1.0	95.8	0.0	0.0	0.0	0.0
981	NW_000e	0.0	0.0	0.0	0.0	0.0	0.0	360	0.0	0.0	0.0	23.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	26.9	0.1	−0.1	0.1	320.1	3.1	360	1.0	1.0	1.0	95.8	0.0	0.0	0.0	0.0
982	NW_012e	0.125	0.125	0.125	0.125	0.0	0.125	360	0.125	0.125	0.125	32.8	0.0	0.0	0.0	0.0	0.125	0.125	0.125	28.4	0.0	−0.3	0.3	273.4	4.4	360	1.0	1.0	1.0	95.8	0.0	0.0	0.0	0.0
983	NW_025e	0.25	0.25	0.25	0.25	0.0	0.25	360	0.25	0.25	0.25	41.8	0.0	0.0	0.0	0.0	0.25	0.25	0.25	40.5	0.0	−1.1	1.1	267.1	1.7	360	1.0	1.0	1.0	95.8	0.0	0.0	0.0	0.0
984	NW_037e	0.375	0.375	0.375	0.375	0.0	0.375	360	0.375	0.375	0.375	50.8	0.0	0.0	0.0	0.0	0.375	0.375	0.375	50.9	0.0	−1.2	1.2	268.0	1.2	360	1.0	1.0	1.0	95.8	0.0	0.0	0.0	0.0
985	NW_050e	0.5	0.5	0.5	0.5	0.0	0.5	360	0.5	0.5	0.5	59.8	0.0	0.0	0.0	0.0	0.5	0.5	0.5	61.3	0.0	−1.2	1.2	269.0	1.9	360	1.0	1.0	1.0	95.8	0.0	0.0	0.0	0.0
986	NW_062e	0.625	0.625	0.625	0.625	0.0	0.625	360	0.625	0.625	0.625	68.8	0.0	0.0	0.0	0.0	0.625	0.625	0.625	72.8	0.0	−1.1	1.1	268.3	4.1	360	1.0	1.0	1.0	95.8	0.0	0.0	0.0	0.0
987	NW_075e	0.75	0.75	0.75	0.75	0.0	0.75	360	0.75	0.75	0.75	77.8	0.0	0.0	0.0	0.0	0.75	0.75	0.75	82.1	0.0	−0.6	0.6	269.6	4.3	360	1.0	1.0	1.0	95.8	0.0	0.0	0.0	0.0
988	NW_087e	0.875	0.875	0.875	0.875	0.0	0.875	360	0.875	0.875	0.875	86.8	0.0	0.0	0.0	0.0	0.875	0.875	0.875	91.9	0.0	−0.2	0.3	264.1	5.1	360	1.0	1.0	1.0	95.8	0.0	0.0	0.0	0.0
989	NW_100e	1.0	1.0	1.0	1.0	0.0	1.0	360	1.0	1.0	1.0	95.8	0.0	0.0	0.0	0.0	1.0	1.0	1.0	95.9	−0.1	0.0	0.1	206.3	0.2	360	1.0	1.0	1.0	95.8	0.0	0.0	0.0	0.0
990	NW_000e	0.0	0.0	0.0	0.0	0.0	0.0	360	0.0	0.0	0.0	23.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	23.2	0.0	0.1	0.1	60.9	0.5	360	1.0	1.0	1.0	95.8	0.0	0.0	0.0	0.0
991	NW_012e	0.125	0.125	0.125	0.125	0.0	0.125	360	0.125	0.125	0.125	32.8	0.0	0.0	0.0	0.0	0.125	0.125	0.125	28.8	0.0	−0.3	0.3	283.8	3.9	360	1.0	1.0	1.0	95.8	0.0	0.0	0.0	0.0
992	NW_025e	0.25	0.25	0.25	0.25	0.0	0.25	360	0.25	0.25	0.25	41.8	0.0	0.0	0.0	0.0	0.25	0.25	0.25	39.9	0.0	−1.0	1.0	268.4	2.1	360	1.0	1.0	1.0	95.8	0.0	0.0	0.0	0.0
993	NW_037e	0.375	0.375	0.375	0.375	0.0	0.375	360	0.375	0.375	0.375	50.8	0.0	0.0	0.0	0.0	0.375	0.375	0.375	51.0	0.0	−1.1	1.1	270.7	1.1	360	1.0	1.0	1.0	95.8	0.0	0.0	0.0	0.0
994	NW_050e	0.5	0.5	0.5	0.5	0.0	0.5	360	0.5	0.5	0.5	59.8	0.0	0.0	0.0	0.0	0.5	0.5	0.5	60.9	0.0	−1.0	1.0	270.4	1.5	360	1.0	1.0	1.0	95.8	0.0	0.0	0.0	0.0
995	NW_062e	0.625	0.625	0.625	0.625	0.0	0.625	360	0.625	0.625	0.625	68.8	0.0	0.0	0.0	0.0	0.625	0.625	0.625	72.5	0.0	−1.1	1.1	271.0	3.8	360	1.0	1.0	1.0	95.8	0.0	0.0	0.0	0.0
996	NW_075e	0.75	0.75	0.75	0.75	0.0	0.75	360	0.75	0.75	0.75	77.8	0.0	0.0	0.0	0.0	0.75	0.75	0.75	82.1	0.0	−0.5	0.6	273.6	4.3	360	1.0	1.0	1.0	95.8	0.0	0.0	0.0	0.0
997	NW_087e	0.875	0.875	0.875	0.875	0.0	0.875	360	0.875	0.875	0.875	86.8	0.0	0.0	0.0	0.0	0.875	0.875	0.875	91.9	0.0	−0.3	0.3	275.0	5.0	360	1.0	1.0	1.0	95.8	0.0	0.0	0.0	0.0
998	NW_100e	1.0	1.0	1.0	1.0	0.0	1.0	360	1.0	1.0	1.0	95.8	0.0	0.0	0.0	0.0	1.0	1.0	1.0	96.1	−0.1	−0.1	0.1	228.6	0.3	360	1.0	1.0	1.0	95.8	0.0	0.0	0.0	0.0
999	NW_000e	0.0	0.0	0.0	0.0	0.0	0.0	360	0.0	0.0	0.0	23.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	21.1	0.0	0.1	0.1	67.1	2.7	360	1.0	1.0	1.0	95.8	0.0	0.0	0.0	0.0
1000	NW_012e	0.125	0.125	0.125	0.125	0.0	0.125	360	0.125	0.125	0.125	32.8	0.0	0.0	0.0	0.0	0.125	0.125	0.125	26.0	0.0	−0.2	0.2	280.7	6.8	360	1.0	1.0	1.0	95.8	0.0	0.0	0.0	0.0
1001	NW_025e	0.25	0.25	0.25	0.25	0.0	0.25	360	0.25	0.25	0.25	41.8	0.0	0.0	0.0	0.0	0.25	0.25	0.25	39.5	0.0	−0.8	0.8	266.7	2.4	360	1.0	1.0	1.0	95.8	0.0	0.0	0.0	0.0
1002	NW_037e	0.375	0.375	0.375	0.375	0.0	0.375	360	0.375	0.375	0.375	50.8	0.0	0.0	0.0	0.0	0.375	0.375	0.375	50.1	0.0	−1.0	1.0	267.9	1.2	360	1.0	1.0	1.0	95.8	0.0	0.0	0.0	0.0
1003	NW_050e	0.5	0.5	0.5	0.5	0.0	0.5	360	0.5	0.5	0.5	59.8	0.0	0.0	0.0	0.0	0.5	0.5	0.5	60.3	0.0	−0.9	0.9	268.1	1.0	360	1.0	1.0	1.0	95.8	0.0	0.0	0.0	0.0
1004	NW_062e	0.625	0.625	0.625	0.625	0.0	0.625	360	0.625	0.625	0.625	68.8	0.0	0.0	0.0	0.0	0.625	0.625	0.625	72.2	0.0	−1.0	1.0	268.5	3.5	360	1.0	1.0	1.0	95.8	0.0	0.0	0.0	0.0
1005	NW_075e	0.75	0.75	0.75	0.75	0.0	0.75	360	0.75	0.75	0.75	77.8	0.0	0.0	0.0	0.0	0.75	0.75	0.75	81.9	0.0	−0.5	0.5	268.1	4.1	360	1.0	1.0	1.0	95.8	0.0	0.0	0.0	0.0
1006	NW_087e	0.875	0.875	0.875	0.875	0.0	0.875	360	0.875	0.875	0.875	86.8	0.0	0.0	0.0	0.0	0.875	0.875	0.875	91.7	0.0	−0.1	0.1	258.6	4.9	360	1.0	1.0	1.0	95.8	0.0	0.0	0.0	0.0
1007	NW_100e	1.0	1.0	1.0	1.0	0.0	1.0	360	1.0	1.0	1.0	95.8	0.0	0.0	0.0	0.0	1.0	1.0	1.0	96.1	−0.2	0.0	0.2	162.0	0.3	360	1.0	1.0	1.0	95.8	0.0	0.0	0.0	0.0
1008	NW_000e	0.0	0.0	0.0	0.0	0.0	0.0	360	0.0	0.0	0.0	23.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	16.9	0.0	0.3	0.3	84.0	6.9	360	1.0	1.0	1.0	95.8	0.0	0.0	0.0	0.0
1009	NW_006e	0.066	0.066	0.066	0.066	0.0	0.066	360	0.066	0.066	0.066	28.6	0.0	0.0	0.0	0.0	0.066	0.066	0.066	19.7	0.1	0.2	0.2	63.9	8.8	360	1.0	1.0	1.0	95.8	0.0	0.0	0.0	0.0
1010	NW_013e	0.133	0.133	0.133	0.133	0.0	0.133	360	0.133	0.133	0.133	33.4	0.0	0.0	0.0	0.0	0.133	0.133	0.133	28.3	0.0	−0.8	0.8	265.4	5.1	360	1.0	1.0	1.0	95.8	0.0	0.0	0.0	0.0
1011	NW_020e	0.2	0.2	0.2	0.2	0.0	0.2	360	0.2	0.2	0.2	38.2	0.0	0.0	0.0	0.0	0.2	0.2	0.2	36.6	−0.1	−1.3	1.3	264.5	2.0	360	1.0	1.0	1.0	95.8	0.0	0.0	0.0	0.0
1012	NW_026e	0.266	0.266	0.266	0.266	0.0	0.266	360	0.266	0.266	0.266	42.9	0.0	0.0	0.0	0.0	0.266	0.266	0.266	43.7	0.0	−1.2	1.2	265.5	1.4	360	1.0	1.0	1.0	95.8	0.0	0.0	0.0	0.0
1013	NW_033e	0.333	0.333	0.333	0.333	0.0	0.333	360	0.333	0.333	0.333	47.8	0.0	0.0	0.0	0.0	0.333	0.333	0.333	50.0	0.0	−1.0	1.0	270.1	2.4	360	1.0	1.0	1.0	95.8	0.0	0.0	0.0	0.0
1014	NW_040e	0.4	0.4	0.4	0.4	0.0	0.4	360	0.4	0.4	0.4	52.6	0.0	0.0	0.0	0.0	0.4	0.4	0.4	53.7	0.0	−1.0	1.0	268.9	1.5	360	1.0	1.0	1.0	95.8	0.0	0.0	0.0	0.0
1015	NW_046e	0.466	0.466	0.466	0.466	0.0	0.466	360	0.466	0.466	0.466	57.3	0.0	0.0	0.0	0.0	0.466	0.466	0.466	59.7	0.0	−1.2	1.2	267.1	2.6	360	1.0	1.0	1.0	95.8	0.0	0.0	0.0	0.0
1016	NW_053e	0.533	0.533	0.533	0.533	0.0	0.533	360	0.533	0.533	0.533	62.2	0.0	0.0	0.0	0.0	0.533	0.533	0.533	65.4	0.0	−1.1	1.1	268.4	3.4	360	1.0	1.0	1.0	95.8	0.0	0.0	0.0	0.0
1017	NW_060e	0.6	0.6	0.6	0.6	0.0	0.6	360	0.6	0.6	0.6	67.0	0.0	0.0	0.0	0.0	0.6	0.6	0.6	70.4	0.0	−1.0	1.0	269.4	3.5	360	1.0	1.0	1.0	95.8	0.0	0.0	0.0	0.0
1018	NW_066e	0.666	0.666	0.666	0.666	0.0	0.666	360	0.666	0.666	0.666	71.7	0.0	0.0	0.0	0.0	0.666	0.666	0.666	75.6	0.0	−0.8	0.8	267.4	3.9	360	1.0	1.0	1.0	95.8	0.0	0.0	0.0	0.0
1019	NW_073e	0.734	0.734	0.734	0.734	0.0	0.734	360	0.734	0.734	0.734	76.6	0.0	0.0	0.0	0.0	0.734	0.734	0.734	81.0	0.0	−0.4	0.4	263.3	4.3	360	1.0	1.0	1.0	95.8	0.0	0.0	0.0	0.0
1020	NW_080e	0.8	0.8	0.8	0.8	0.0	0.8	360	0.8	0.8	0.8	81.4	0.0	0.0	0.0	0.0	0.8	0.8	0.8	85.5	0.0	−0.1	0.1	258.0	4.0	360	1.0	1.0	1.0	95.8	0.0	0.0	0.0	0.0
1021	NW_086e	0.866	0.866	0.866	0.866	0.0	0.866	360	0.866	0.866	0.866	86.1	0.0	0.0	0.0	0.0	0.866	0.866	0.866	90.1	0.0	0.0	0.0	216.7	3.9	360	1.0	1.0	1.0	95.8	0.0	0.0	0.0	0.0
1022	NW_093e	0.933	0.933	0.933	0.933	0.0	0.933	360	0.933	0.933	0.933	91.0	0.0	0.0	0.0	0.0	0.933	0.933	0.933	94.2	0.0	0.0	0.0	173.3	3.1	360	1.0	1.0	1.0	95.8	0.0	0.0	0.0	0.0
1023	NW_100e	1.0	1.0	1.0	1.0	0.0	1.0	360	1.0	1.0	1.0	95.8	0.0	0.0	0.0	0.0	1.0	1.0	1.0	95.7	0.0	0.0	0.0	305.0	0.1	360	1.0	1.0	1.0	95.8	0.0	0.0	0.0	0.0
1024	NW_000e	0.0	0.0	0.0	0.0	0.0	0.0	360	0.0	0.0	0.0	23.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	18.5	0.0	0.2	0.2	69.9	5.2	360	1.0	1.0	1.0	95.8	0.0	0.0	0.0	0.0
1025	NW_006e	0.066	0.066	0.066	0.066	0.0	0.066	360	0.066	0.066	0.066	28.6	0.0	0.0	0.0	0.0	0.066	0.066	0.066	21.7	0.1	0.0	0.1	12.0	6.8	360	1.0	1.0	1.0	95.8	0.0	0.0	0.0	0.0
1026	NW_013e	0.133	0.133	0.133	0.133	0.0	0.133	360	0.133	0.133	0.133	33.4	0.0	0.0	0.0	0.0	0.133	0.133	0.133	29.3	0.0	−0.9	0.9	267.1	4.2	360	1.0	1.0	1.0	95.8	0.0	0.0	0.0	0.0
1027	NW_020e	0.2	0.2	0.2	0.2	0.0	0.2	360	0.2	0.2	0.2	38.2	0.0	0.0	0.0	0.0	0.2	0.2	0.2	37.8	0.0	−1.2	1.2	266.4	1.3	360	1.0	1.0	1.0	95.8	0.0	0.0	0.0	0.0
1028	NW_026e	0.266	0.266	0.266	0.266	0.0	0.266	360	0.266	0.266	0.266	42.9	0.0	0.0	0.0	0.0	0.266	0.266	0.266	44.9	0.0	−1.3	1.3	267.8	2.3	360	1.0	1.0	1.0	95.8	0.0	0.0	0.0	0.0
1029	NW_033e	0.333	0.333	0.333	0.333	0.0	0.333	360	0.333	0.333	0.333	47.8	0.0	0.0	0.0	0.0	0.333	0.333	0.333	50.3	0.0	−1.1	1.1	270.1	2.7	360	1.0	1.0	1.0	95.8	0.0	0.0	0.0	0.0
1030	NW_040e	0.4	0.4	0.4	0.4	0.0	0.4	360	0.4	0.4	0.4	52.6	0.0	0.0	0.0	0.0	0.4	0.4	0.4	54.5	0.0	−1.1	1.1	269.6	2.2	360	1.0	1.0	1.0	95.8	0.0	0.0	0.0	0.0
1031	NW_046e	0.466	0.466	0.466	0.466	0.0	0.466	360	0.466	0.466	0.466	57.3	0.0	0.0	0.0	0.0	0.466	0.466	0.466	60.5	0.0	−1.3	1.3	268.9	3.4	360	1.0	1.0	1.0	95.8	0.0	0.0	0.0	0.0
1032	NW_053e	0.533	0.533	0.533	0.533	0.0	0.533	360	0.533	0.533	0.533	62.2	0.0	0.0	0.0	0.0	0.533	0.533	0.533	66.1	0.0	−1.1	1.1	268.9	4.1	360	1.0	1.0	1.0	95.8	0.0	0.0	0.0	0.0
1033	NW_060e	0.6	0.6	0.6	0.6	0.0	0.6	360	0.6	0.6	0.6	67.0	0.0	0.0	0.0	0.0	0.6	0.6	0.6	70.6	0.0	−1.1	1.1	270.8	3.8	360	1.0	1.0	1.0	95.8	0.0	0.0	0.0	0.0
1034	NW_066e	0.666	0.666	0.666	0.666	0.0	0.666	360	0.666	0.666	0.666	71.7	0.0	0.0	0.0	0.0	0.666	0.666	0.666	76.0	0.0	−0.9	0.9	269.6	4.3	360	1.0	1.0	1.0	95.8	0.0	0.0	0.0	0.0
1035	NW_073e	0.734	0.734	0.734	0.734	0.0	0.734	360	0.734	0.734	0.734	76.6	0.0	0.0	0.0	0.0	0.734	0.734	0.734	81.1	0.0	−0.5	0.5	269.9	4.5	360	1.0	1.0	1.0	95.8	0.0	0.0	0.0	0.0
1036	NW_080e	0.8	0.8	0.8	0.8	0.0	0.8	360	0.8	0.8	0.8	81.4	0.0	0.0	0.0	0.0	0.8	0.8	0.8	85.8	0.0	−0.2	0.2	269.3	4.4	360	1.0	1.0	1.0	95.8	0.0	0.0	0.0	0.0
1037	NW_086e	0.866	0.866	0.866	0.866	0.0	0.866	360	0.866	0.866	0.866	86.1	0.0	0.0	0.0	0.0	0.866	0.866	0.866	90.6	0.0	−0.1	0.1	248.4	4.4	360	1.0	1.0	1.0	95.8	0.0	0.0	0.0	0.0
1038	NW_093e	0.933	0.933	0.933	0.933	0.0	0.933	360	0.933	0.933	0.933	91.0	0.0	0.0	0.0	0.0	0.933	0.933	0.933	94.2	−0.1	0.0	0.1	208.1	3.2	360	1.0	1.0	1.0	95.8	0.0	0.0	0.0	0.0
1039	NW_100e	1.0	1.0	1.0	1.0	0.0	1.0	360	1.0	1.0	1.0	95.8	0.0	0.0	0.0	0.0	1.0	1.0	1.0	95.7	−0.2	0.0	0.2	166.5	0.2	360	1.0	1.0	1.0	95.8	0.0	0.0	0.0	0.0
1040	NW_000e	0.0	0.0	0.0	0.0	0.0	0.0	360	0.0	0.0	0.0	23.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	18.9	0.1	0.2	0.2	63.5	4.9	360	1.0	1.0	1.0	95.8	0.0	0.0	0.0	0.0
1041	NW_006e	0.066	0.066	0.066	0.066	0.0	0.066	360	0.066	0.066	0.066	28.6	0.0	0.0	0.0	0.0	0.066	0.066	0.066	22.2	0.1	0.1	0.2	54.5	6.4	360	1.0	1.0	1.0	95.8	0.0	0.0	0.0	0.0
1042	NW_013e	0.133	0.133	0.133	0.133	0.0	0.133	360	0.133	0.133	0.133	33.4	0.0	0.0	0.0	0.0	0.133	0.133	0.133	29.5	0.0	−0.7	0.7	271.7	3.9	360	1.0	1.0	1.0	95.8	0.0	0.0	0.0	0.0
1043	NW_020e	0.2	0.2	0.2	0.2	0.0	0.2	360	0.2	0.2	0.2	38.2	0.0	0.0	0.0	0.0	0.2	0.2	0.2	37.3	0.0	−1.1	1.1	266.3	1.4	360	1.0	1.0	1.0	95.8	0.0	0.0	0.0	0.0
1044	NW_026e	0.266	0.266	0.266	0.266	0.0	0.266	360	0.266	0.266	0.266	42.9	0.0	0.0	0.0	0.0	0.266	0.266	0.266	44.7	0.0	−1.1	1.1	269.8	2.0	360	1.0	1.0	1.0	95.8	0.0	0.0	0.0	0.0
1045	NW_033e	0.333	0.333	0.333	0.333	0.0	0.333	360	0.333	0.333	0.333	47.8	0.0	0.0	0.0	0.0	0.333	0.333	0.333	50.3	0.0	−0.8	0.8	273.6	2.6	360	1.0	1.0	1.0	95.8	0.0	0.0	0.0	0.0
1046	NW_040e	0.4	0.4	0.4	0.4	0.0	0.4	360	0.4	0.4	0.4	52.6	0.0	0.0	0.0	0.0	0.4	0.4	0.4	54.2	0.0	−1.0	1.0	275.3	1.9	360	1.0	1.0	1.0	95.8	0.0	0.0	0.0	0.0
1047	NW_046e	0.466	0.466	0.466	0.466	0.0	0.466	360	0.466	0.466	0.466	57.3	0.0	0.0	0.0	0.0	0.466	0.466	0.466	59.3	0.0	−1.1	1.1	270.4	2.2	360	1.0	1.0	1.0	95.8	0.0	0.0	0.0	0.0
1048	NW_053e	0.533	0.533	0.533	0.533	0.0	0.533	360	0.533	0.533	0.533	62.2	0.0	0.0	0.0	0.0	0.533	0.533	0.533	65.8	0.0	−1.0	1.0	274.3	3.7	360	1.0	1.0	1.0	95.8	0.0	0.0	0.0	0.0
1049	NW_060e	0.6	0.6	0.6	0.6	0.0	0.6	360	0.6	0.6	0.6	67.0	0.0	0.0	0.0	0.0	0.6	0.6	0.6	70.3	0.0	−0.9	0.9	272.4	3.4	360	1.0	1.0	1.0	95.8	0.0	0.0	0.0	0.0
1050	NW_066e	0.666	0.666	0.666	0.666	0.0	0.666	360	0.666	0.666	0.666	71.7	0.0	0.0	0.0	0.0	0.666	0.666	0.666	75.7	0.0	−0.8	0.8	273.0	4.0	360	1.0	1.0	1.0	95.8	0.0	0.0	0.0	0.0
1051	NW_073e	0.734	0.734	0.734	0.734	0.0	0.734	360	0.734	0.734	0.734	76.6	0.0	0.0	0.0	0.0	0.734	0.734	0.734	81.1	0.0	−0.4	0.4	271.3	4.5	360	1.0	1.0	1.0	95.8	0.0	0.0	0.0	0.0
1052	NW_080e	0.8	0.8	0.8	0.8	0.0	0.8	360	0.8	0.8	0.8	81.4	0.0	0.0	0.0	0.0	0.8	0.8	0.8	85.7	0.0	−0.3	0.3	279.0	4.3	360	1.0	1.0	1.0	95.8	0.0	0.0	0.0	0.0

Mean color difference of this page: delta $E^{*\prime}$ = 3.2

1−0133130−F0

PE890−7N, Page 32/33−F

TUB-test chart PE89; 16 step hue circle
colors and differences, $\Delta E^{*\prime}$

input: *rgb/cmyk* −> *rgb*$_e$
output: transfer to *cmyk*$_e$

1−0133130−F0

n	HIC*$_{Fe}$	*rgb*$_{Fe}$			*ict*$_{Fe}$			$h_{si\_F,e}$	*rgb**$_{Fe}$			*LabCh**$_{Fe}$					*rgb*'$_{Fe}$			*LabCh*'$_{Fe}$					*DE*'$_{Fe}$	$h_{siM,e}$	*rgb**$_{Me}$			*LabCh**$_{Me}$				
1053	NW_086$_e$	0.866	0.866	0.866	0.866	0.0	0.866	360	0.866	0.866	0.866	86.1	0.0	0.0	0.0	0.0	0.866	0.866	0.866	90.6	0.0	−0.1	0.1	266.5	4.4	360	1.0	1.0	1.0	95.8	0.0	0.0	0.0	0.0
1054	NW_093$_e$	0.933	0.933	0.933	0.933	0.0	0.933	360	0.933	0.933	0.933	91.0	0.0	0.0	0.0	0.0	0.933	0.933	0.933	94.4	0.0	−0.2	0.2	278.1	3.4	360	1.0	1.0	1.0	95.8	0.0	0.0	0.0	0.0
1055	NW_100$_e$	1.0	1.0	1.0	1.0	0.0	1.0	360	1.0	1.0	1.0	95.8	0.0	0.0	0.0	0.0	1.0	1.0	1.0	95.8	0.0	0.0	0.0	152.8	0.0	360	1.0	1.0	1.0	95.8	0.0	0.0	0.0	0.0
1056	NW_000$_e$	0.0	0.0	0.0	0.0	0.0	0.0	360	0.0	0.0	0.0	23.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	18.1	0.0	0.2	0.2	83.2	5.6	360	1.0	1.0	1.0	95.8	0.0	0.0	0.0	0.0
1057	NW_006$_e$	0.066	0.066	0.066	0.066	0.0	0.066	360	0.066	0.066	0.066	28.6	0.0	0.0	0.0	0.0	0.066	0.066	0.066	21.5	0.1	0.1	0.2	48.9	7.0	360	1.0	1.0	1.0	95.8	0.0	0.0	0.0	0.0
1058	NW_013$_e$	0.133	0.133	0.133	0.133	0.0	0.133	360	0.133	0.133	0.133	33.4	0.0	0.0	0.0	0.0	0.133	0.133	0.133	28.9	0.0	−0.7	0.7	268.2	4.4	360	1.0	1.0	1.0	95.8	0.0	0.0	0.0	0.0
1059	NW_020$_e$	0.2	0.2	0.2	0.2	0.0	0.2	360	0.2	0.2	0.2	38.2	0.0	0.0	0.0	0.0	0.2	0.2	0.2	37.3	0.0	−1.1	1.1	267.2	1.4	360	1.0	1.0	1.0	95.8	0.0	0.0	0.0	0.0
1060	NW_026$_e$	0.266	0.266	0.266	0.266	0.0	0.266	360	0.266	0.266	0.266	42.9	0.0	0.0	0.0	0.0	0.266	0.266	0.266	44.2	0.0	−1.1	1.1	269.1	1.7	360	1.0	1.0	1.0	95.8	0.0	0.0	0.0	0.0
1061	NW_033$_e$	0.333	0.333	0.333	0.333	0.0	0.333	360	0.333	0.333	0.333	47.8	0.0	0.0	0.0	0.0	0.333	0.333	0.333	49.9	0.0	−0.8	0.8	274.5	2.3	360	1.0	1.0	1.0	95.8	0.0	0.0	0.0	0.0
1062	NW_040$_e$	0.4	0.4	0.4	0.4	0.0	0.4	360	0.4	0.4	0.4	52.6	0.0	0.0	0.0	0.0	0.4	0.4	0.4	53.8	0.0	−0.9	0.9	273.2	1.4	360	1.0	1.0	1.0	95.8	0.0	0.0	0.0	0.0
1063	NW_046$_e$	0.466	0.466	0.466	0.466	0.0	0.466	360	0.466	0.466	0.466	57.3	0.0	0.0	0.0	0.0	0.466	0.466	0.466	59.7	0.0	−1.1	1.1	268.9	2.6	360	1.0	1.0	1.0	95.8	0.0	0.0	0.0	0.0
1064	NW_053$_e$	0.533	0.533	0.533	0.533	0.0	0.533	360	0.533	0.533	0.533	62.2	0.0	0.0	0.0	0.0	0.533	0.533	0.533	65.4	0.0	−0.9	0.9	273.1	3.3	360	1.0	1.0	1.0	95.8	0.0	0.0	0.0	0.0
1065	NW_060$_e$	0.6	0.6	0.6	0.6	0.0	0.6	360	0.6	0.6	0.6	67.0	0.0	0.0	0.0	0.0	0.6	0.6	0.6	70.2	0.0	−0.8	0.8	268.8	3.2	360	1.0	1.0	1.0	95.8	0.0	0.0	0.0	0.0
1066	NW_066$_e$	0.666	0.666	0.666	0.666	0.0	0.666	360	0.666	0.666	0.666	71.7	0.0	0.0	0.0	0.0	0.666	0.666	0.666	75.5	0.0	−0.7	0.7	271.9	3.8	360	1.0	1.0	1.0	95.8	0.0	0.0	0.0	0.0
1067	NW_073$_e$	0.734	0.734	0.734	0.734	0.0	0.734	360	0.734	0.734	0.734	76.6	0.0	0.0	0.0	0.0	0.734	0.734	0.734	80.8	0.0	−0.4	0.4	265.0	4.1	360	1.0	1.0	1.0	95.8	0.0	0.0	0.0	0.0
1068	NW_080$_e$	0.8	0.8	0.8	0.8	0.0	0.8	360	0.8	0.8	0.8	81.4	0.0	0.0	0.0	0.0	0.8	0.8	0.8	85.3	0.0	−0.3	0.3	279.5	3.9	360	1.0	1.0	1.0	95.8	0.0	0.0	0.0	0.0
1069	NW_086$_e$	0.866	0.866	0.866	0.866	0.0	0.866	360	0.866	0.866	0.866	86.1	0.0	0.0	0.0	0.0	0.866	0.866	0.866	90.2	0.0	0.0	0.0	252.2	4.0	360	1.0	1.0	1.0	95.8	0.0	0.0	0.0	0.0
1070	NW_093$_e$	0.933	0.933	0.933	0.933	0.0	0.933	360	0.933	0.933	0.933	91.0	0.0	0.0	0.0	0.0	0.933	0.933	0.933	94.2	0.0	−0.2	0.2	289.2	3.2	360	1.0	1.0	1.0	95.8	0.0	0.0	0.0	0.0
1071	NW_100$_e$	1.0	1.0	1.0	1.0	0.0	1.0	360	1.0	1.0	1.0	95.8	0.0	0.0	0.0	0.0	1.0	1.0	1.0	95.8	0.0	0.0	0.1	331.9	0.1	360	1.0	1.0	1.0	95.8	0.0	0.0	0.0	0.0
1072	NW_000$_e$	0.0	0.0	0.0	0.0	0.0	0.0	360	0.0	0.0	0.0	23.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	19.2	0.1	0.2	0.2	58.1	4.6	360	1.0	1.0	1.0	95.8	0.0	0.0	0.0	0.0
1073	NW_100$_e$	1.0	1.0	1.0	1.0	0.0	1.0	360	1.0	1.0	1.0	95.8	0.0	0.0	0.0	0.0	1.0	1.0	1.0	95.7	0.0	−0.2	0.2	284.6	0.2	360	1.0	1.0	1.0	95.8	0.0	0.0	0.0	0.0
1074	R00Y_100_100$_e$	1.0	0.0	0.0	1.0	1.0	0.5	390	1.0	0.0	0.263	47.5	56.0	26.7	62.1	25.4	1.0	0.0	0.0	47.0	56.3	40.2	69.2	35.5	13.5	375	1.0	0.0	0.263	47.5	56.0	26.7	62.1	25.4
1075	G50B_100_100$_e$	0.0	1.0	1.0	1.0	1.0	0.5	210	0.0	1.0	0.791	54.9	−38.7	−29.1	48.4	216.9	0.0	1.0	1.0	54.9	−30.4	−42.0	51.8	234.0	15.2	198	0.0	1.0	0.791	54.9	−38.7	−29.1	48.4	216.9
1076	Y00G_100_100$_e$	1.0	1.0	0.0	1.0	1.0	0.5	90	1.0	0.768	0.0	83.6	−3.1	76.8	76.9	92.3	1.0	1.0	0.0	91.5	−16.0	86.1	87.6	100.5	17.8	77	1.0	0.768	0.0	83.6	−3.1	76.8	76.9	92.3
1077	B00R_100_100$_e$	0.0	0.0	1.0	1.0	1.0	0.5	270	0.0	0.261	1.0	37.3	1.4	−48.6	48.7	271.7	0.0	0.0	1.0	30.7	21.3	−44.1	49.0	295.7	21.3	255	0.0	0.261	1.0	37.3	1.4	−48.6	48.7	271.7
1078	G00B_100_100$_e$	0.0	1.0	0.0	1.0	1.0	0.5	150	0.0	1.0	0.146	53.8	−65.9	21.1	69.2	162.2	0.0	1.0	0.0	54.6	−69.2	33.1	76.7	154.3	12.4	157	0.0	1.0	0.146	53.8	−65.9	21.1	69.2	162.2
1079	B50R_100_100$_e$	1.0	0.0	1.0	1.0	1.0	0.5	330	0.584	0.0	1.0	38.5	46.7	−28.5	54.7	328.6	1.0	0.0	1.0	48.3	66.3	−13.8	67.7	348.1	26.3	305	0.584	0.0	1.0	38.5	46.7	−28.5	54.7	328.6

Mean color difference of this page: **delta *E**' = *6.3***

1−0133230−F0

PE890−7N, Page 33/33−F

TUB-test chart PE89; 16 step hue circle
colors and differences, $\Delta E^{*\prime}$

input: *rgb/cmyk* −> *rgb*$_e$
output: transfer to *cmyk*$_e$

see similar files: http://130.149.60.45/~farbmetrik/PE89/PE89.HTM
technical information: http://www.ps.bam.de or http://130.149.60.45/~farbmetrik

TUB registration: 20150701-PE89/PE89L0NP.PDF /.PS
application for measurement of laser printer output, separation cmyn6 (CMYK)

TUB material: code=rha4ta