

Input: Colorimetric Television Luminous System TLS00a

for hue $h^* = lab^*h = 40/360 = 0.111$

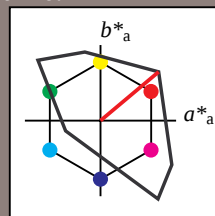
lab^*tch and lab^*nch

D65: hue O

LCH*Ma: 51 100 40

olv*Ma: 1.0 0.0 0.0

triangle lightness t^*



%Gamut

$u^*_{rel} = 158$

%Regularity

$g^*_{H,rel} = 20$

$g^*_{C,rel} = 37$

TLS00a; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O _{Ma}	50.5	76.92	64.55	100.42	40
Y _{Ma}	92.66	-20.69	90.75	93.08	103
L _{Ma}	83.63	-82.75	79.9	115.04	136
C _{Ma}	86.88	-46.16	-13.55	48.12	196
V _{Ma}	30.39	76.06	-103.59	128.52	306
M _{Ma}	57.3	94.35	-58.41	110.97	328
N _{Ma}	0.01	0.0	0.0	0.0	0
W _{Ma}	95.41	0.0	0.0	0.0	0
R _{CIE}	39.92	58.74	27.99	65.07	25
J _{CIE}	81.26	-2.88	71.56	71.62	92
G _{CIE}	52.23	-42.41	13.6	44.55	162
B _{CIE}	30.57	1.41	-46.46	46.49	272

Output: Colorimetric Television Luminous System TLS00a

for hue $h^* = lab^*h = 40/360 = 0.111$

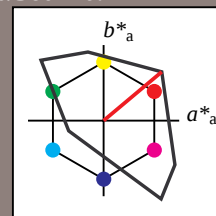
lab^*tch and lab^*nch

D65: hue O

LCH*Ma: 51 100 40

olv*Ma: 1.0 0.0 0.0

triangle lightness t^*



%Gamut

$u^*_{rel} = 158$

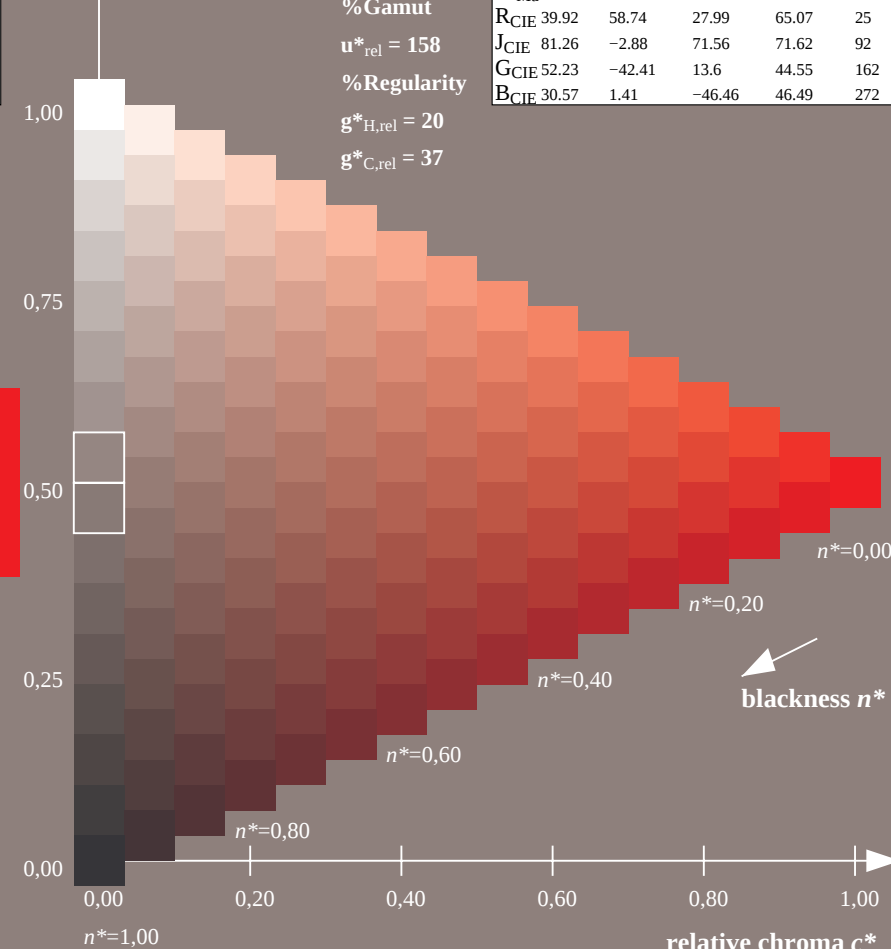
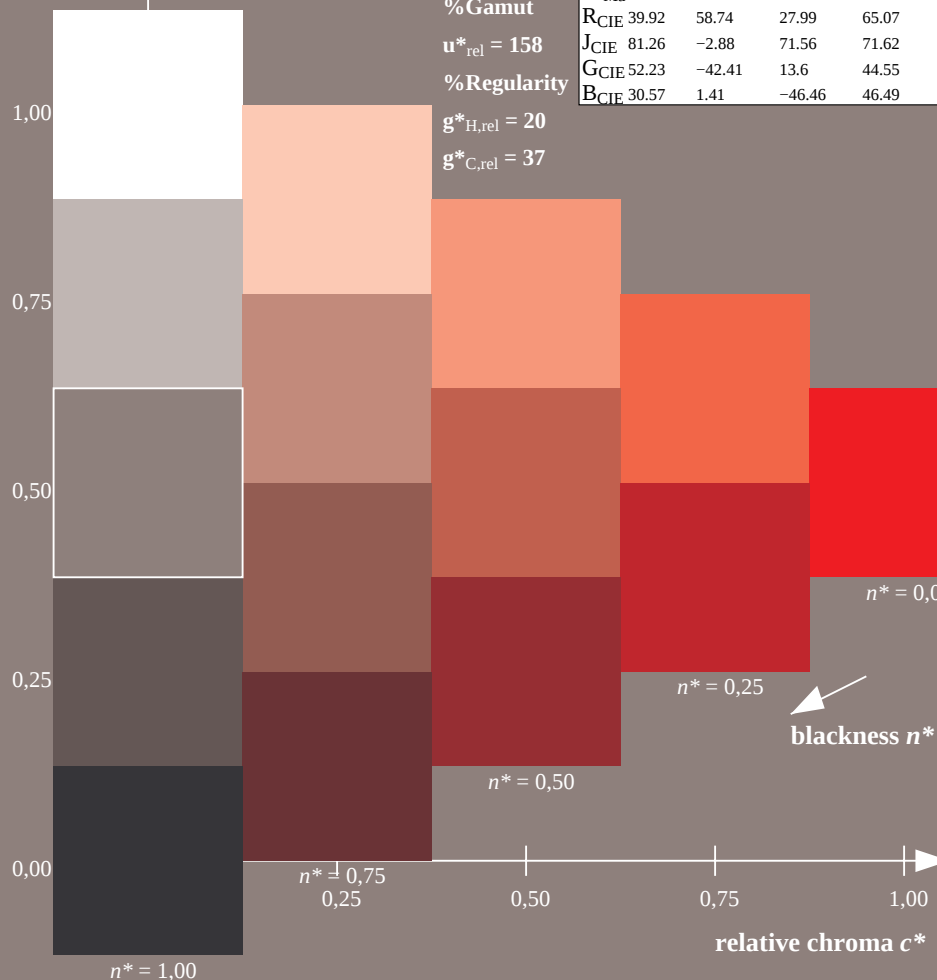
%Regularity

$g^*_{H,rel} = 20$

$g^*_{C,rel} = 37$

TLS00a; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O _{Ma}	50.5	76.92	64.55	100.42	40
Y _{Ma}	92.66	-20.69	90.75	93.08	103
L _{Ma}	83.63	-82.75	79.9	115.04	136
C _{Ma}	86.88	-46.16	-13.55	48.12	196
V _{Ma}	30.39	76.06	-103.59	128.52	306
M _{Ma}	57.3	94.35	-58.41	110.97	328
N _{Ma}	0.01	0.0	0.0	0.0	0
W _{Ma}	95.41	0.0	0.0	0.0	0
R _{CIE}	39.92	58.74	27.99	65.07	25
J _{CIE}	81.26	-2.88	71.56	71.62	92
G _{CIE}	52.23	-42.41	13.6	44.55	162
B _{CIE}	30.57	1.41	-46.46	46.49	272



OE830-7N-020-0: 5 step scales for constant CIELAB hue 40/360 = 0.111 (left)

16 step scales for constant CIELAB hue 40/360 = 0.111 (right)

OE83: Test chart 2 according to DIN 33872-2, Hue O; DH
Discrimination of 5 and 16 step colour scales

input: $cmY0$ ($\rightarrow cmY0^*_d$) $setcmYk$
output 020-0: no change

TUB registration: 20110801-OE83/OE83L0NA.TXT /PS
application for output of displays: monitor systems or data projector systems

TUB material: code=rha4ta

Input: Colorimetric Television Luminous System TLS00a

for hue $h^* = lab^*h = 103/360 = 0.286$

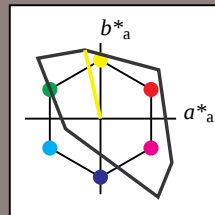
lab^*tch and lab^*nch

D65: hue Y

LCH*Ma: 93 93 103

olv*Ma: 1.0 1.0 0.0

triangle lightness t^*



%Gamut

$u^*_{rel} = 158$

%Regularity

$g^*_{H,rel} = 20$

$g^*_{C,rel} = 37$

TLS00a; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O _{Ma}	50.5	76.92	64.55	100.42	40
Y _{Ma}	92.66	-20.69	90.75	93.08	103
L _{Ma}	83.63	-82.75	79.9	115.04	136
C _{Ma}	86.88	-46.16	-13.55	48.12	196
V _{Ma}	30.39	76.06	-103.59	128.52	306
M _{Ma}	57.3	94.35	-58.41	110.97	328
N _{Ma}	0.01	0.0	0.0	0.0	0
W _{Ma}	95.41	0.0	0.0	0.0	0
R _{CIE}	39.92	58.74	27.99	65.07	25
J _{CIE}	81.26	-2.88	71.56	71.62	92
G _{CIE}	52.23	-42.41	13.6	44.55	162
B _{CIE}	30.57	1.41	-46.46	46.49	272

Output: Colorimetric Television Luminous System TLS00a

for hue $h^* = lab^*h = 103/360 = 0.286$

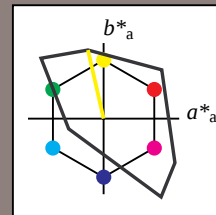
lab^*tch and lab^*nch

D65: hue Y

LCH*Ma: 93 93 103

olv*Ma: 1.0 1.0 0.0

triangle lightness t^*



%Gamut

$u^*_{rel} = 158$

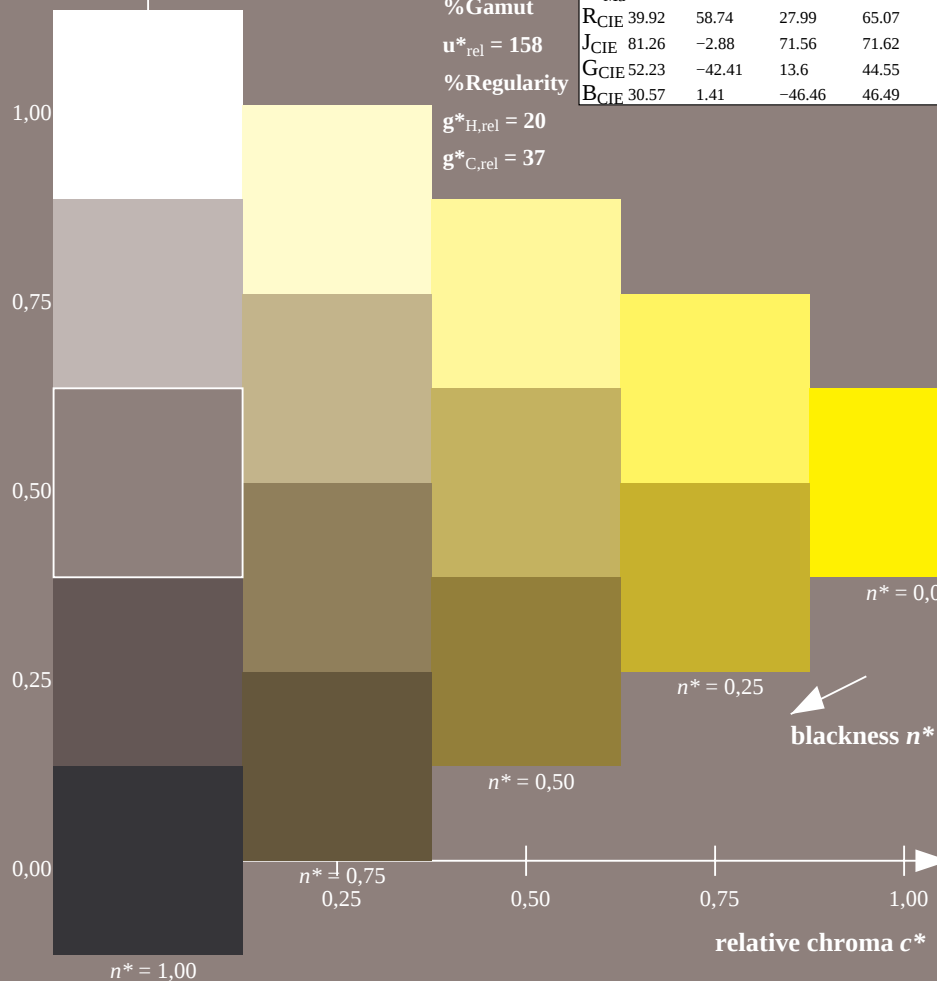
%Regularity

$g^*_{H,rel} = 20$

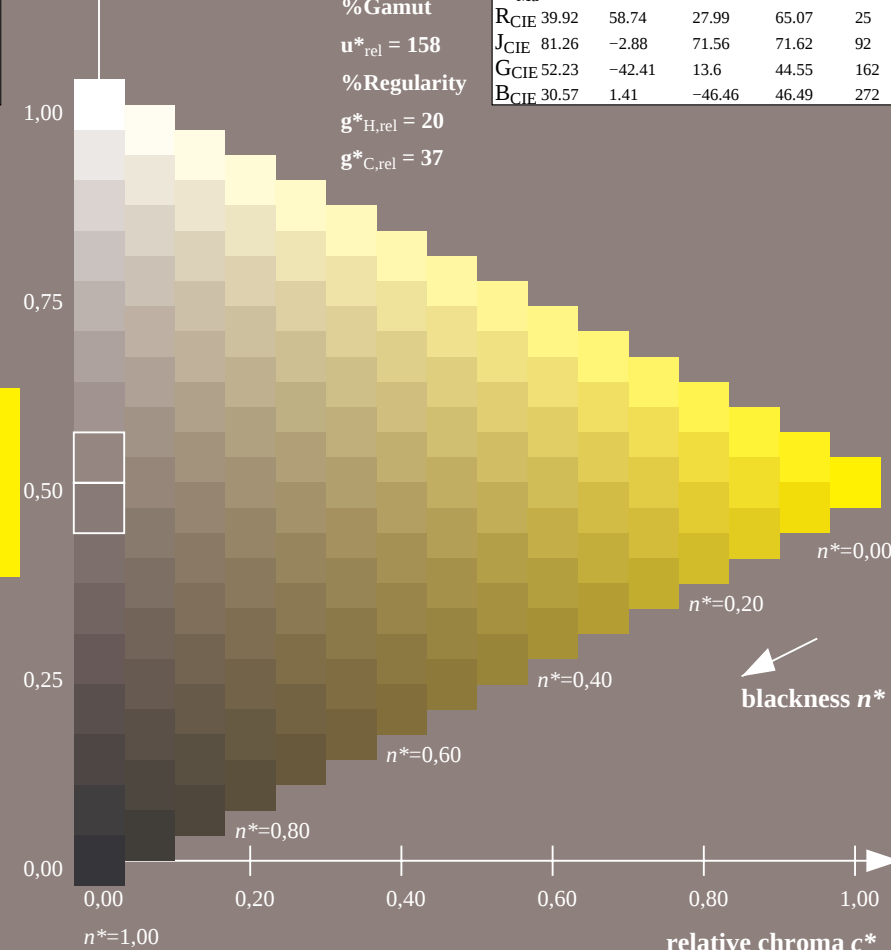
$g^*_{C,rel} = 37$

TLS00a; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O _{Ma}	50.5	76.92	64.55	100.42	40
Y _{Ma}	92.66	-20.69	90.75	93.08	103
L _{Ma}	83.63	-82.75	79.9	115.04	136
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M _{Ma}	57.3	94.35	-58.41	110.97	328
N _{Ma}	0.01	0.0	0.0	0.0	0
W _{Ma}	95.41	0.0	0.0	0.0	0
R _{CIE}	39.92	58.74	27.99	65.07	25
J _{CIE}	81.26	-2.88	71.56	71.62	92
G _{CIE}	52.23	-42.41	13.6	44.55	162
B _{CIE}	30.57	1.41	-46.46	46.49	272



OE830-7N-020-1: 5 step scales for constant CIELAB hue 103/360 = 0.286 (left)



16 step scales for constant CIELAB hue 103/360 = 0.286 (right)

OE83: Test chart 2 according to DIN 33872-2, Hue Y; DH
Discrimination of 5 and 16 step colour scales

input: $cmY0$ ($\rightarrow cmY0^*_d$) $setcmYk$
output 020-1: no change

TUB registration: 20110801-OE83/OE83L0NA.TXT /PS
application for output of displays: monitor systems or data projector systems

TUB material: code=rha4ta

See similar ISO test charts: <http://www.ps.bam.de/24705TE>, <http://www.ps.bam.de/9241E>
Technical information: <http://www.ps.bam.de/33872E> Version 2.1, io=1,1

Input: Colorimetric Television Luminous System TLS00a

for hue $h^* = lab^*h = 136/360 = 0.378$

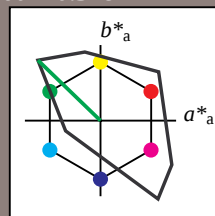
lab^*tch and lab^*nch

D65: hue L

LCH*Ma: 84 115 136

olv*Ma: 0.0 1.0 0.0

triangle lightness t^*



%Gamut

$u^*_{rel} = 158$

%Regularity

$g^*_{H,rel} = 20$

$g^*_{C,rel} = 37$

TLS00a; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O _{Ma}	50.5	76.92	64.55	100.42	40
Y _{Ma}	92.66	-20.69	90.75	93.08	103
L _{Ma}	83.63	-82.75	79.9	115.04	136
C _{Ma}	86.88	-46.16	-13.55	48.12	196
V _{Ma}	30.39	76.06	-103.59	128.52	306
M _{Ma}	57.3	94.35	-58.41	110.97	328
N _{Ma}	0.01	0.0	0.0	0.0	0
W _{Ma}	95.41	0.0	0.0	0.0	0
R _{CIE}	39.92	58.74	27.99	65.07	25
J _{CIE}	81.26	-2.88	71.56	71.62	92
G _{CIE}	52.23	-42.41	13.6	44.55	162
B _{CIE}	30.57	1.41	-46.46	46.49	272

Output: Colorimetric Television Luminous System TLS00a

for hue $h^* = lab^*h = 136/360 = 0.378$

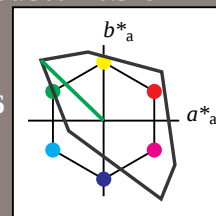
lab^*tch and lab^*nch

D65: hue L

LCH*Ma: 84 115 136

olv*Ma: 0.0 1.0 0.0

triangle lightness t^*



%Gamut

$u^*_{rel} = 158$

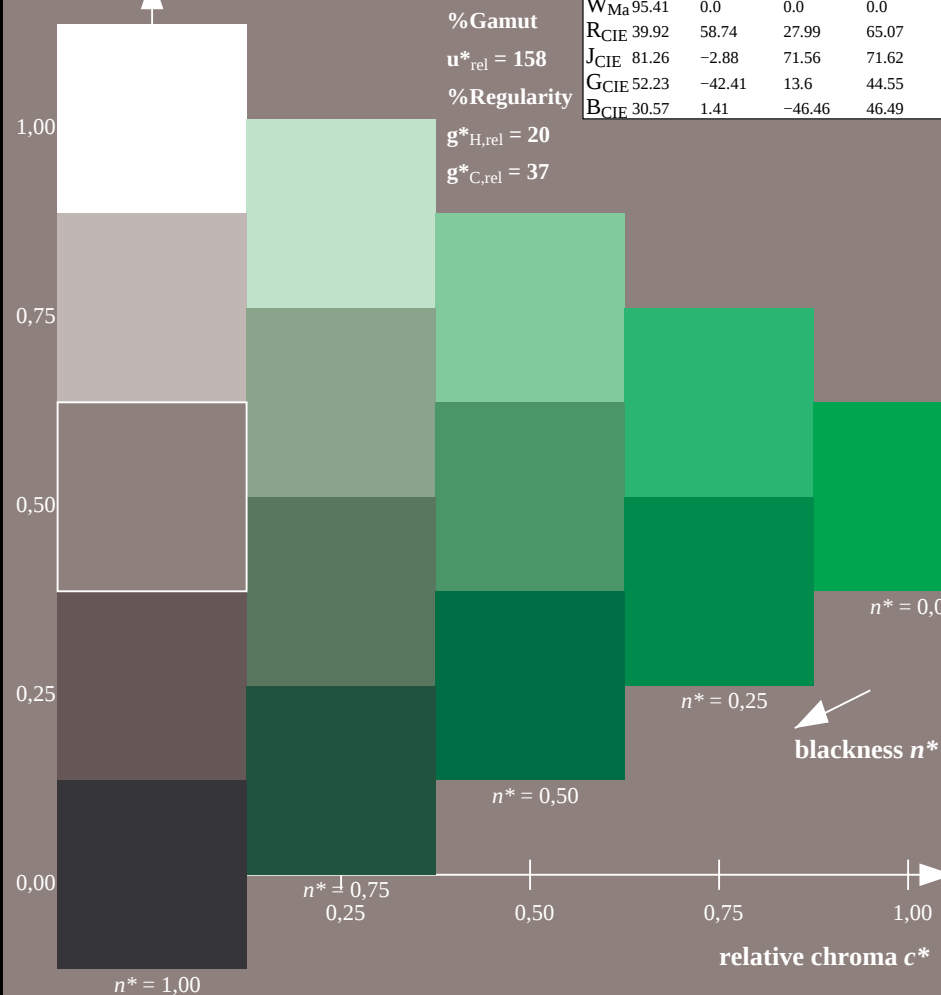
%Regularity

$g^*_{H,rel} = 20$

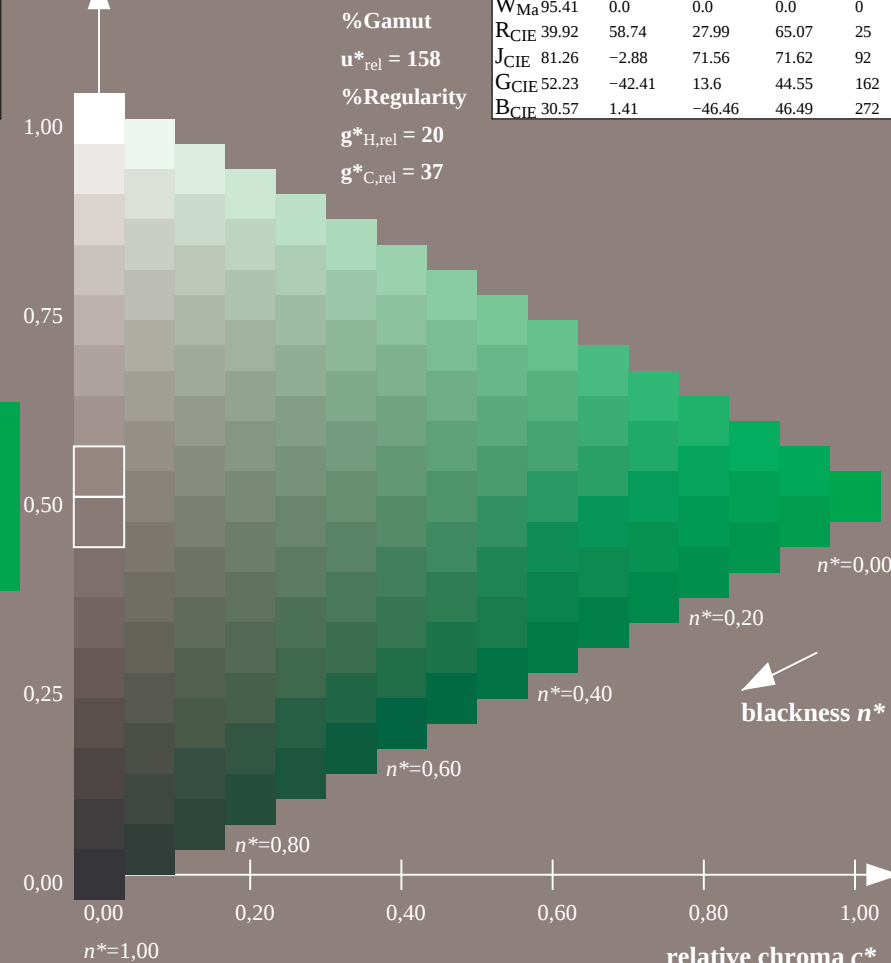
$g^*_{C,rel} = 37$

TLS00a; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O _{Ma}	50.5	76.92	64.55	100.42	40
Y _{Ma}	92.66	-20.69	90.75	93.08	103
L _{Ma}	83.63	-82.75	79.9	115.04	136
C _{Ma}	86.88	-46.16	-13.55	48.12	196
V _{Ma}	30.39	76.06	-103.59	128.52	306
M _{Ma}	57.3	94.35	-58.41	110.97	328
N _{Ma}	0.01	0.0	0.0	0.0	0
W _{Ma}	95.41	0.0	0.0	0.0	0
R _{CIE}	39.92	58.74	27.99	65.07	25
J _{CIE}	81.26	-2.88	71.56	71.62	92
G _{CIE}	52.23	-42.41	13.6	44.55	162
B _{CIE}	30.57	1.41	-46.46	46.49	272



OE830-7N-020-2: 5 step scales for constant CIELAB hue 136/360 = 0.378 (left)



16 step scales for constant CIELAB hue 136/360 = 0.378 (right)

OE83: Test chart 2 according to DIN 33872-2, Hue L; DH
Discrimination of 5 and 16 step colour scales

input: $cmy0$ ($\rightarrow cmy0^*_d$) $setcmyk$
output 020-2: no change

TUB registration: 20110801-OE83/OE83L0NA.TXT /PS
application for output of displays: monitor systems or data projector systems

TUB material: code=rha4ta

Input: Colorimetric Television Luminous System TLS00a

for hue $h^* = lab^*h = 196/360 = 0.545$

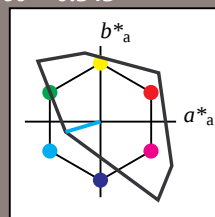
lab^*tch and lab^*nch

D65: hue C

LCH*Ma: 87 48 196

olv*Ma: 0.0 1.0 1.0

triangle lightness t^*



%Gamut

$u^*_{rel} = 158$

%Regularity

$g^*_{H,rel} = 20$

$g^*_{C,rel} = 37$

TLS00a; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O _{Ma}	50.5	76.92	64.55	100.42	40
Y _{Ma}	92.66	-20.69	90.75	93.08	103
L _{Ma}	83.63	-82.75	79.9	115.04	136
C _{Ma}	86.88	-46.16	-13.55	48.12	196
V _{Ma}	30.39	76.06	-103.59	128.52	306
M _{Ma}	57.3	94.35	-58.41	110.97	328
N _{Ma}	0.01	0.0	0.0	0.0	0
W _{Ma}	95.41	0.0	0.0	0.0	0
R _{CIE}	39.92	58.74	27.99	65.07	25
J _{CIE}	81.26	-2.88	71.56	71.62	92
G _{CIE}	52.23	-42.41	13.6	44.55	162
B _{CIE}	30.57	1.41	-46.46	46.49	272

Output: Colorimetric Television Luminous System TLS00a

for hue $h^* = lab^*h = 196/360 = 0.545$

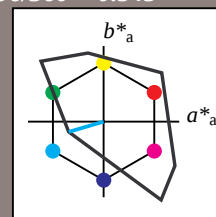
lab^*tch and lab^*nch

D65: hue C

LCH*Ma: 87 48 196

olv*Ma: 0.0 1.0 1.0

triangle lightness t^*



%Gamut

$u^*_{rel} = 158$

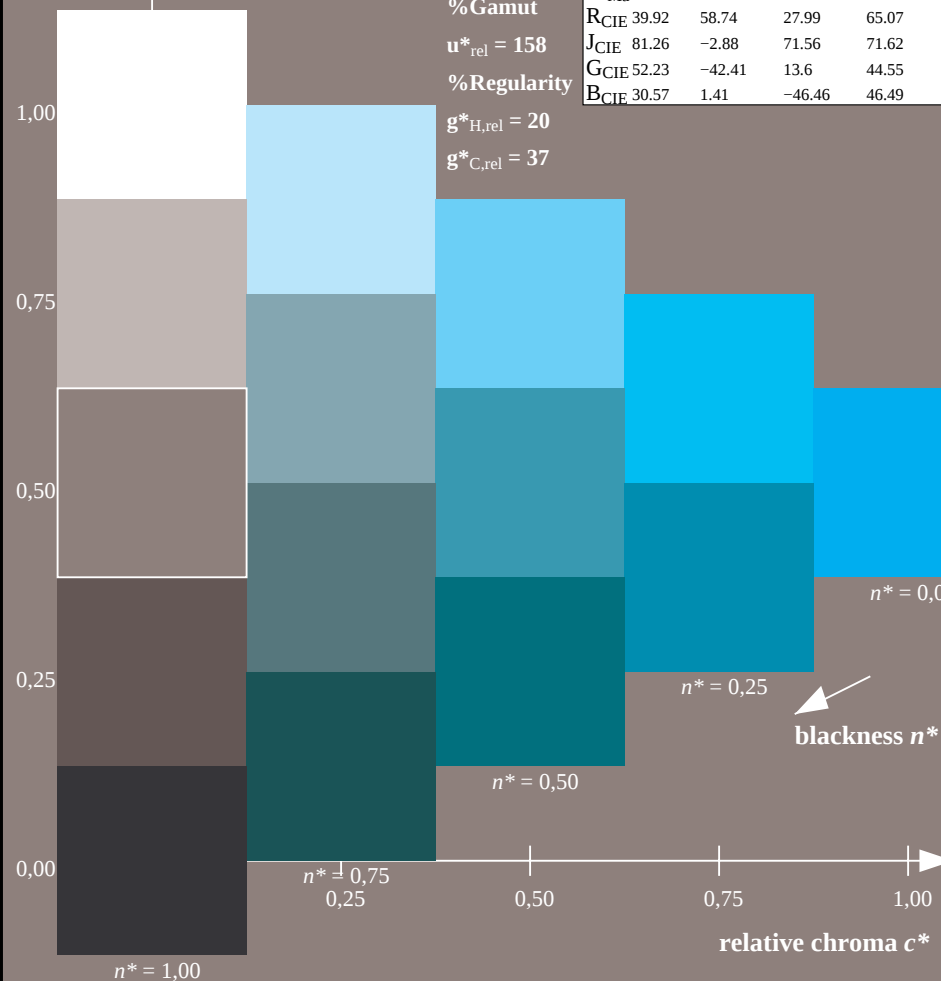
%Regularity

$g^*_{H,rel} = 20$

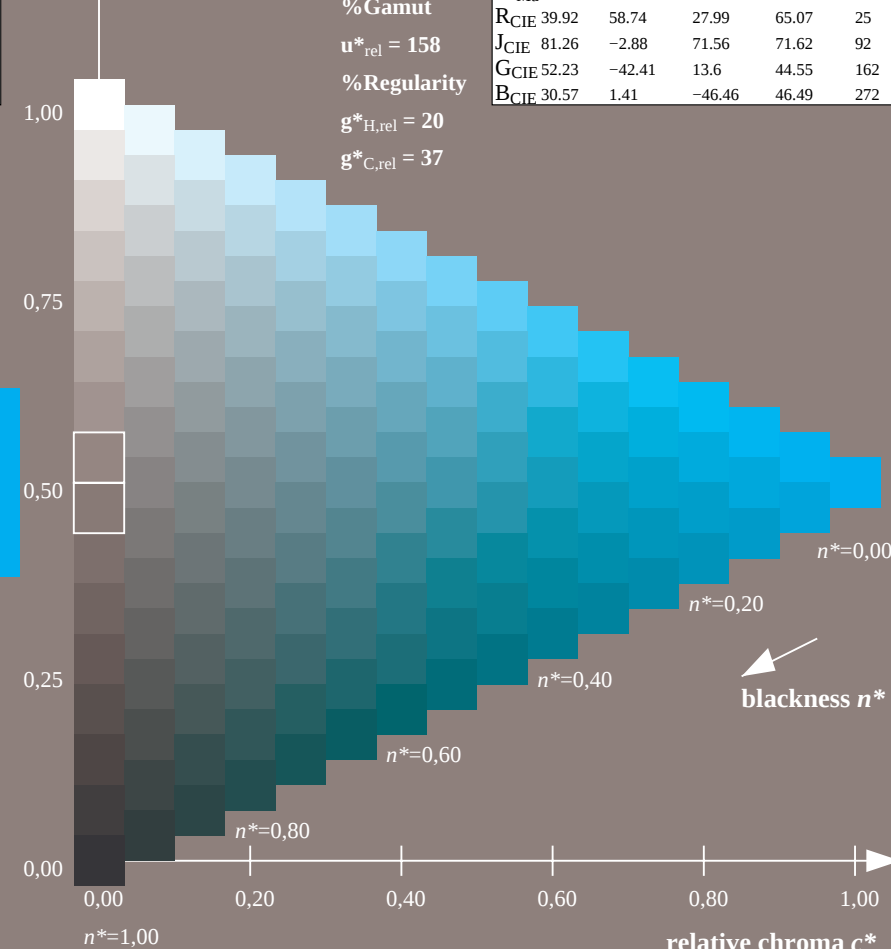
$g^*_{C,rel} = 37$

TLS00a; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O _{Ma}	50.5	76.92	64.55	100.42	40
Y _{Ma}	92.66	-20.69	90.75	93.08	103
L _{Ma}	83.63	-82.75	79.9	115.04	136
C _{Ma}	86.88	-46.16	-13.55	48.12	196
V _{Ma}	30.39	76.06	-103.59	128.52	306
M _{Ma}	57.3	94.35	-58.41	110.97	328
N _{Ma}	0.01	0.0	0.0	0.0	0
W _{Ma}	95.41	0.0	0.0	0.0	0
R _{CIE}	39.92	58.74	27.99	65.07	25
J _{CIE}	81.26	-2.88	71.56	71.62	92
G _{CIE}	52.23	-42.41	13.6	44.55	162
B _{CIE}	30.57	1.41	-46.46	46.49	272



OE830-7N-020-3: 5 step scales for constant CIELAB hue 196/360 = 0.545 (left)



16 step scales for constant CIELAB hue 196/360 = 0.545 (right)

OE83: Test chart 2 according to DIN 33872-2, Hue C; DH
Discrimination of 5 and 16 step colour scales

input: $cm\dot{y}0$ ($\rightarrow cm\dot{y}0^*_d$) $setcm\dot{y}k$
output 020-3: no change

TUB registration: 20110801-OE83/OE83L0NA.TXT /PS
application for output of displays: monitor systems or data projector systems

TUB material: code=rha4ta

See similar ISO test charts: <http://www.ps.bam.de/24705TE>, <http://www.ps.bam.de/9241E>
Technical information: <http://www.ps.bam.de/33872E> Version 2.1, io=1,1

Input: Colorimetric Television Luminous System TLS00a

for hue $h^* = lab^*h = 306/360 = 0.851$

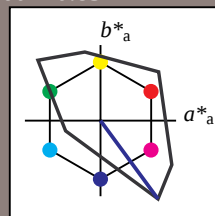
lab^*tch and lab^*nch

D65: hue V

LCH*Ma: 30 129 306

olv*Ma: 0.0 0.0 1.0

triangle lightness t^*



%Gamut

$u^*_{rel} = 158$

%Regularity

$g^*_{H,rel} = 20$

$g^*_{C,rel} = 37$

TLS00a; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O _{Ma}	50.5	76.92	64.55	100.42	40
Y _{Ma}	92.66	-20.69	90.75	93.08	103
L _{Ma}	83.63	-82.75	79.9	115.04	136
C _{Ma}	86.88	-46.16	-13.55	48.12	196
V _{Ma}	30.39	76.06	-103.59	128.52	306
M _{Ma}	57.3	94.35	-58.41	110.97	328
N _{Ma}	0.01	0.0	0.0	0.0	0
W _{Ma}	95.41	0.0	0.0	0.0	0
R _{CIE}	39.92	58.74	27.99	65.07	25
J _{CIE}	81.26	-2.88	71.56	71.62	92
G _{CIE}	52.23	-42.41	13.6	44.55	162
B _{CIE}	30.57	1.41	-46.46	46.49	272

Output: Colorimetric Television Luminous System TLS00a

for hue $h^* = lab^*h = 306/360 = 0.851$

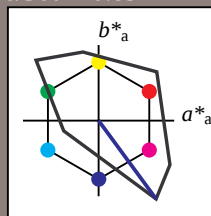
lab^*tch and lab^*nch

D65: hue V

LCH*Ma: 30 129 306

olv*Ma: 0.0 0.0 1.0

triangle lightness t^*



%Gamut

$u^*_{rel} = 158$

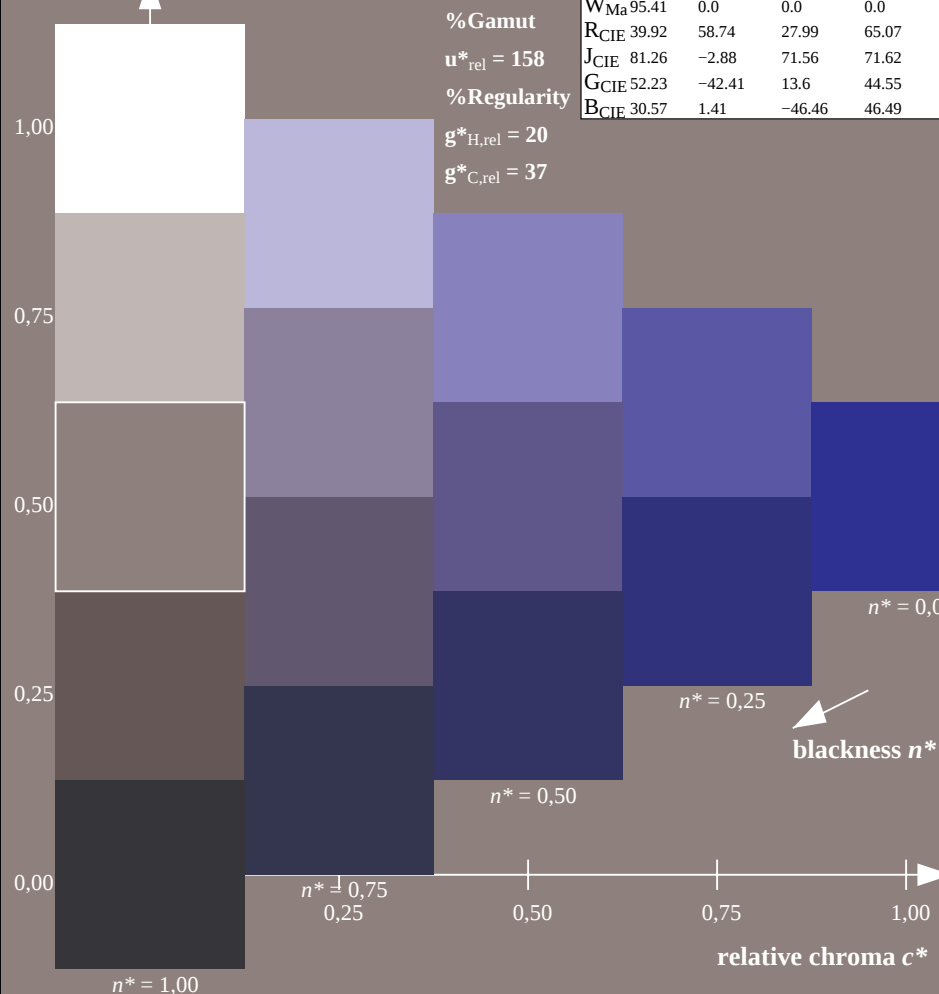
%Regularity

$g^*_{H,rel} = 20$

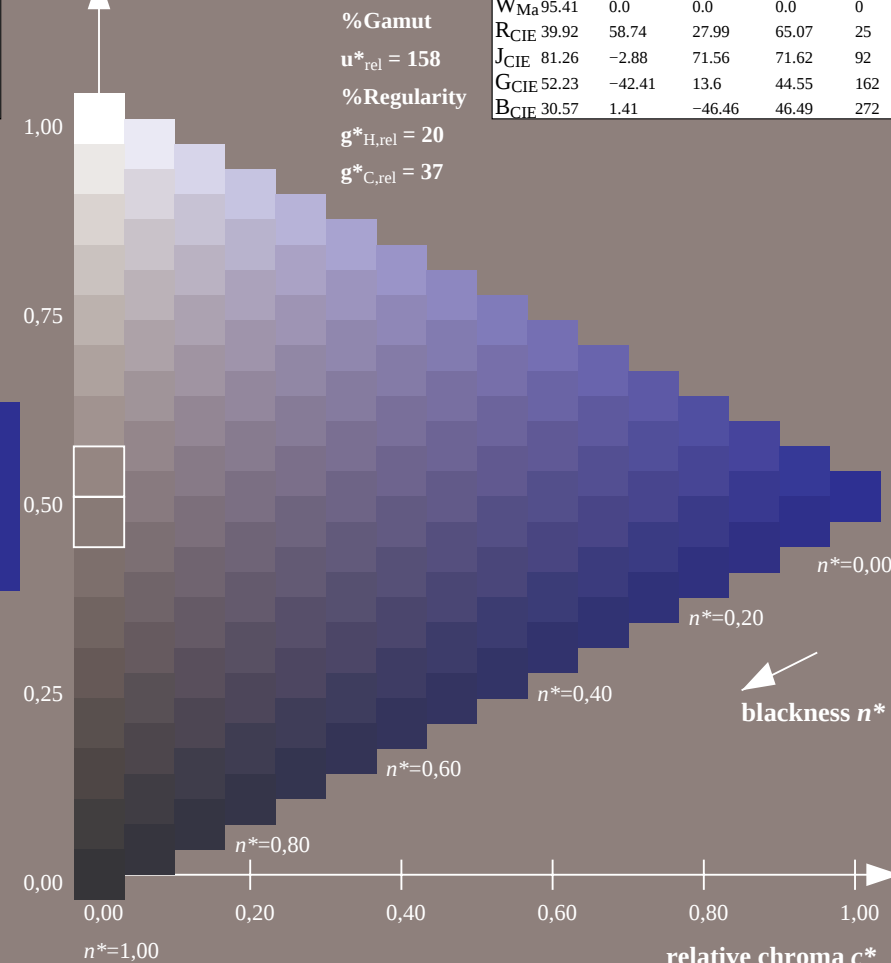
$g^*_{C,rel} = 37$

TLS00a; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O _{Ma}	50.5	76.92	64.55	100.42	40
Y _{Ma}	92.66	-20.69	90.75	93.08	103
L _{Ma}	83.63	-82.75	79.9	115.04	136
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M _{Ma}	57.3	94.35	-58.41	110.97	328
N _{Ma}	0.01	0.0	0.0	0.0	0
W _{Ma}	95.41	0.0	0.0	0.0	0
R _{CIE}	39.92	58.74	27.99	65.07	25
J _{CIE}	81.26	-2.88	71.56	71.62	92
G _{CIE}	52.23	-42.41	13.6	44.55	162
B _{CIE}	30.57	1.41	-46.46	46.49	272



OE830-7N-020-4: 5 step scales for constant CIELAB hue 306/360 = 0.851 (left)



16 step scales for constant CIELAB hue 306/360 = 0.851 (right)

OE83: Test chart 2 according to DIN 33872-2, Hue V; DH
Discrimination of 5 and 16 step colour scales

input: $cm\dot{y}0$ ($\rightarrow cm\dot{y}0^*_d$) $setcm\dot{y}k$
output 020-4: no change

TUB registration: 20110801-OE83/OE83L0NA.TXT /PS
application for output of displays: monitor systems or data projector systems

TUB material: code=rha4ta

Input: Colorimetric Television Luminous System TLS00a

for hue $h^* = lab^*h = 328/360 = 0.912$

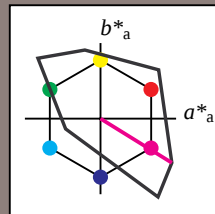
lab^*tch and lab^*nch

D65: hue M

LCH*Ma: 57 111 328

olv*Ma: 1.0 0.0 1.0

triangle lightness t^*



%Gamut

$u^*_{rel} = 158$

%Regularity

$g^*_{H,rel} = 20$

$g^*_{C,rel} = 37$

TLS00a; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O _{Ma}	50.5	76.92	64.55	100.42	40
Y _{Ma}	92.66	-20.69	90.75	93.08	103
L _{Ma}	83.63	-82.75	79.9	115.04	136
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M _{Ma}	57.3	94.35	-58.41	110.97	328
N _{Ma}	0.01	0.0	0.0	0.0	0
W _{Ma}	95.41	0.0	0.0	0.0	0
R _{CIE}	39.92	58.74	27.99	65.07	25
J _{CIE}	81.26	-2.88	71.56	71.62	92
G _{CIE}	52.23	-42.41	13.6	44.55	162
B _{CIE}	30.57	1.41	-46.46	46.49	272

Output: Colorimetric Television Luminous System TLS00a

for hue $h^* = lab^*h = 328/360 = 0.912$

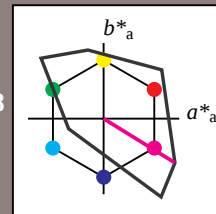
lab^*tch and lab^*nch

D65: hue M

LCH*Ma: 57 111 328

olv*Ma: 1.0 0.0 1.0

triangle lightness t^*



%Gamut

$u^*_{rel} = 158$

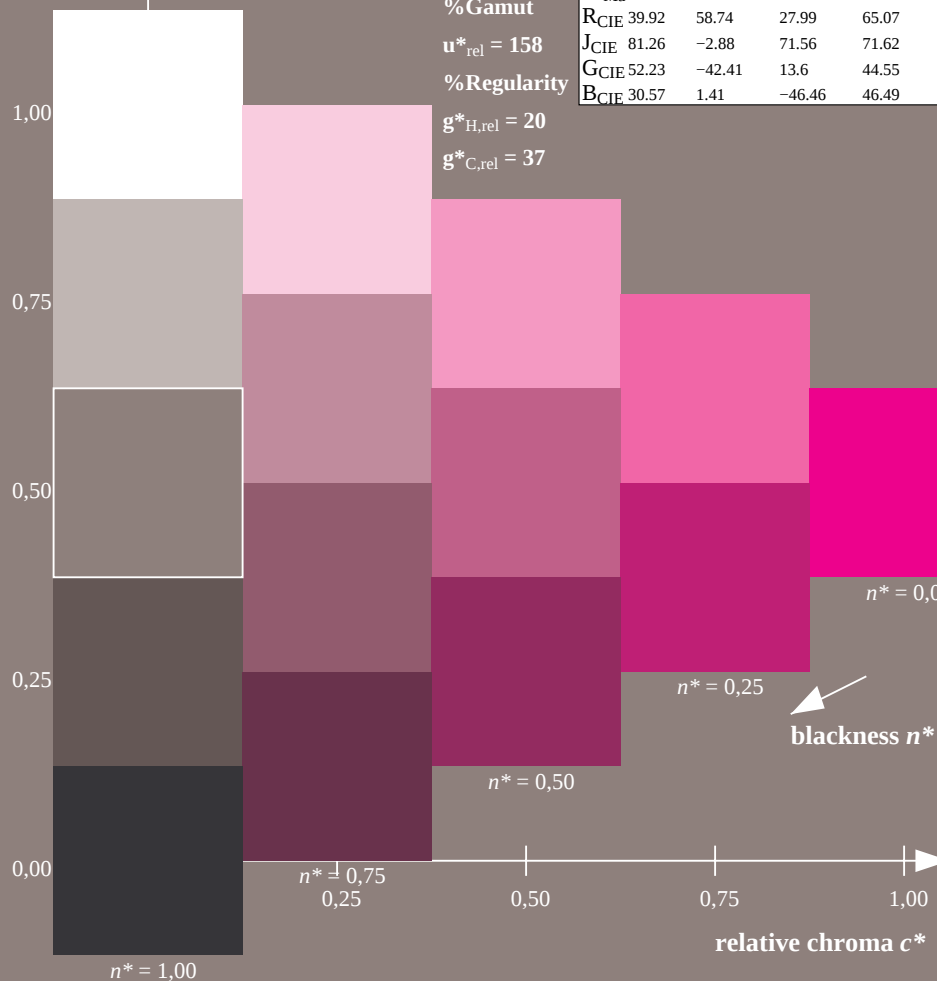
%Regularity

$g^*_{H,rel} = 20$

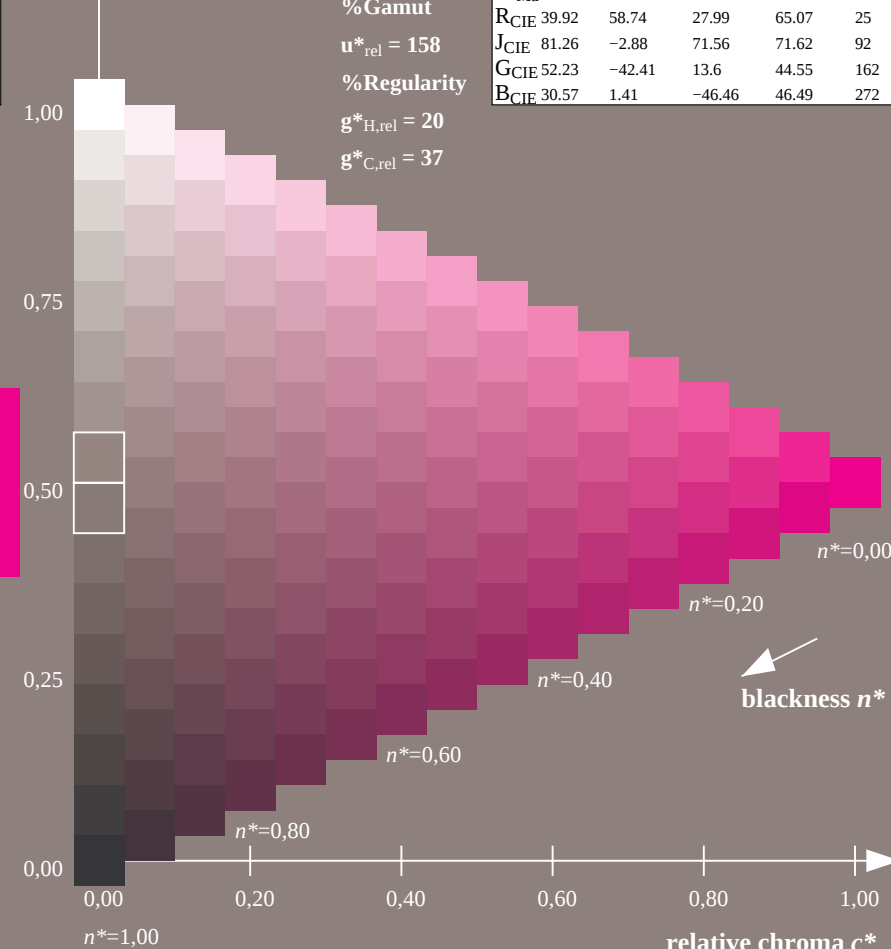
$g^*_{C,rel} = 37$

TLS00a; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O _{Ma}	50.5	76.92	64.55	100.42	40
Y _{Ma}	92.66	-20.69	90.75	93.08	103
L _{Ma}	83.63	-82.75	79.9	115.04	136
C _{Ma}	86.88	-46.16	-13.55	48.12	196
V _{Ma}	30.39	76.06	-103.59	128.52	306
M _{Ma}	57.3	94.35	-58.41	110.97	328
N _{Ma}	0.01	0.0	0.0	0.0	0
W _{Ma}	95.41	0.0	0.0	0.0	0
R _{CIE}	39.92	58.74	27.99	65.07	25
J _{CIE}	81.26	-2.88	71.56	71.62	92
G _{CIE}	52.23	-42.41	13.6	44.55	162
B _{CIE}	30.57	1.41	-46.46	46.49	272



OE830-7N-020-5: 5 step scales for constant CIELAB hue 328/360 = 0.912 (left)



16 step scales for constant CIELAB hue 328/360 = 0.912 (right)

OE83: Test chart 2 according to DIN 33872-2, Hue M; DH
Discrimination of 5 and 16 step colour scales

input: $cmy0$ ($\rightarrow cmy0^*_d$) $setcmyk$
output 020-5: no change

TUB registration: 20110801-OE83/OE83L0NA.TXT /PS
application for output of displays: monitor systems or data projector systems

TUB material: code=rha4ta

See similar ISO test charts: <http://www.ps.bam.de/24705TE>, <http://www.ps.bam.de/9241E>
Technical information: <http://www.ps.bam.de/33872E> Version 2.1, io=1,1

Input: Colorimetric Television Luminous System TLS00a

for hue $h^* = lab^*h = 25/360 = 0.071$

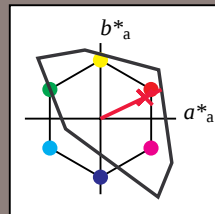
lab^*tch and lab^*nch

D65: hue R

LCH*Ma: 52 89 25

olv*Ma: 1.0 0.0 0.21

triangle lightness t^*



%Gamut

$u^*_{rel} = 158$

%Regularity

$g^*_{H,rel} = 20$

$g^*_{C,rel} = 37$

TLS00a; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O _{Ma}	50.5	76.92	64.55	100.42	40
Y _{Ma}	92.66	-20.69	90.75	93.08	103
L _{Ma}	83.63	-82.75	79.9	115.04	136
C _{Ma}	86.88	-46.16	-13.55	48.12	196
V _{Ma}	30.39	76.06	-103.59	128.52	306
M _{Ma}	57.3	94.35	-58.41	110.97	328
N _{Ma}	0.01	0.0	0.0	0.0	0
W _{Ma}	95.41	0.0	0.0	0.0	0
R _{CIE}	39.92	58.74	27.99	65.07	25
J _{CIE}	81.26	-2.88	71.56	71.62	92
G _{CIE}	52.23	-42.41	13.6	44.55	162
B _{CIE}	30.57	1.41	-46.46	46.49	272

Output: Colorimetric Television Luminous System TLS00a

for hue $h^* = lab^*h = 25/360 = 0.071$

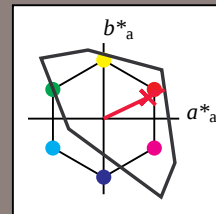
lab^*tch and lab^*nch

D65: hue R

LCH*Ma: 52 89 25

olv*Ma: 1.0 0.0 0.21

triangle lightness t^*



%Gamut

$u^*_{rel} = 158$

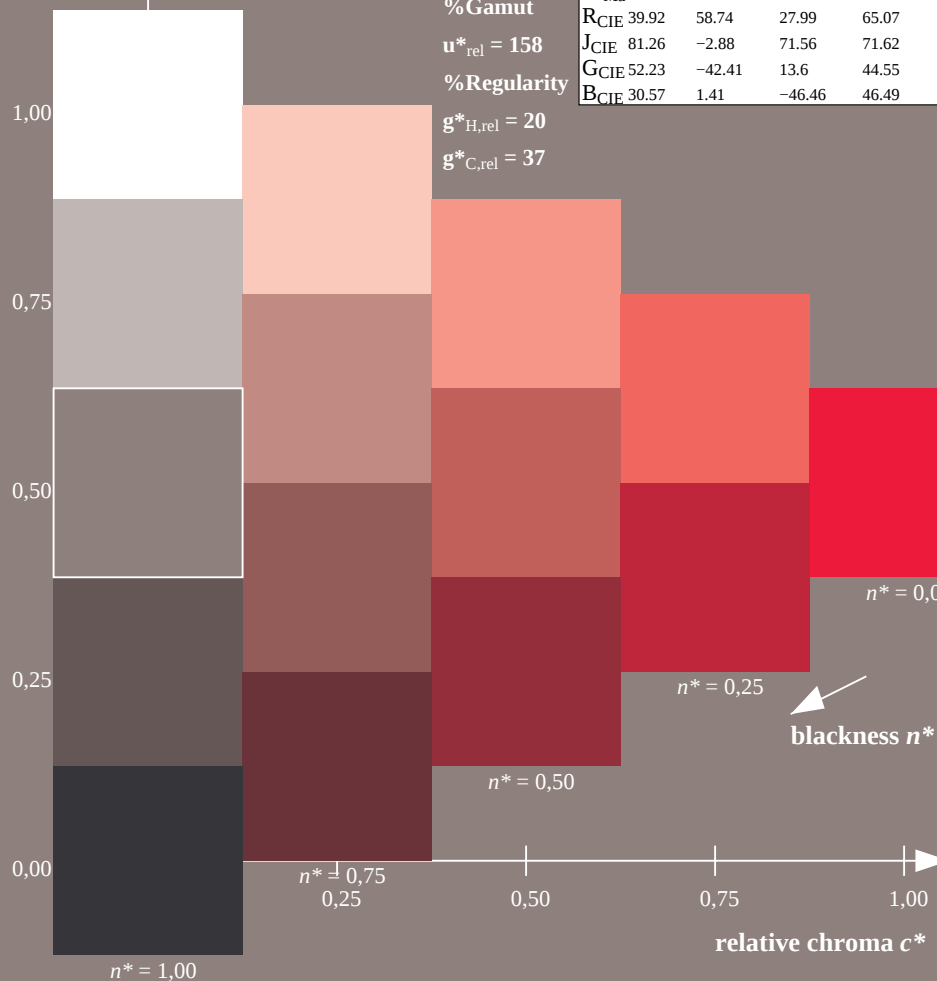
%Regularity

$g^*_{H,rel} = 20$

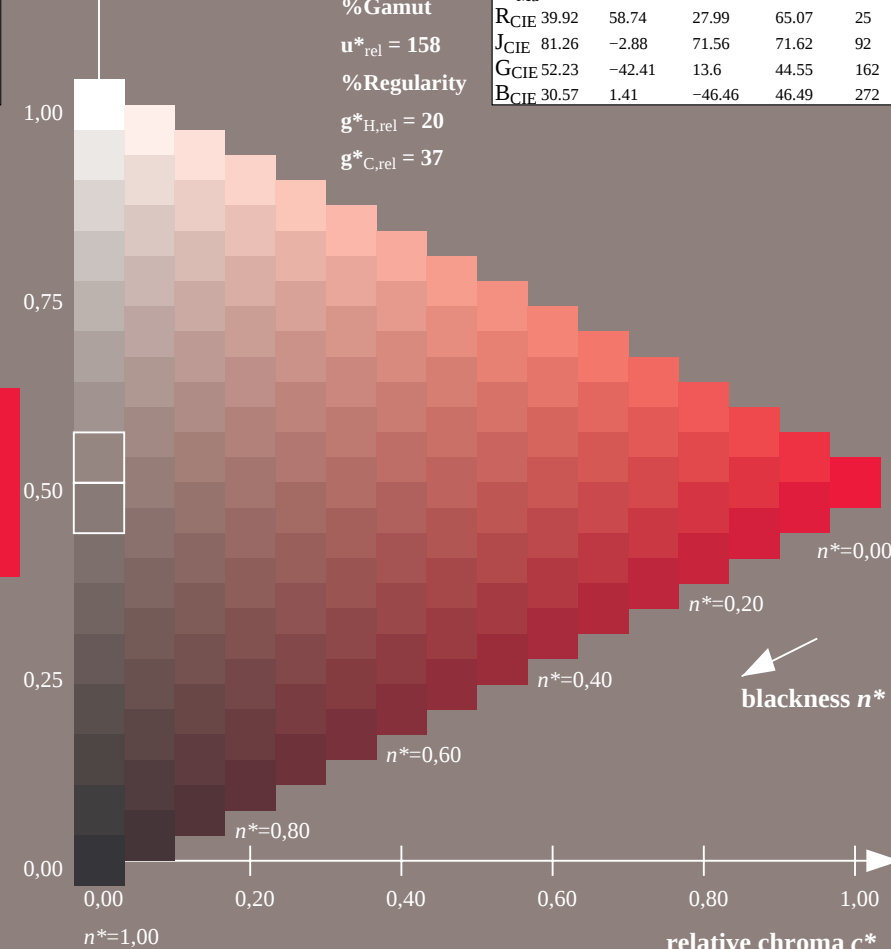
$g^*_{C,rel} = 37$

TLS00a; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O _{Ma}	50.5	76.92	64.55	100.42	40
Y _{Ma}	92.66	-20.69	90.75	93.08	103
L _{Ma}	83.63	-82.75	79.9	115.04	136
C _{Ma}	86.88	-46.16	-13.55	48.12	196
V _{Ma}	30.39	76.06	-103.59	128.52	306
M _{Ma}	57.3	94.35	-58.41	110.97	328
N _{Ma}	0.01	0.0	0.0	0.0	0
W _{Ma}	95.41	0.0	0.0	0.0	0
R _{CIE}	39.92	58.74	27.99	65.07	25
J _{CIE}	81.26	-2.88	71.56	71.62	92
G _{CIE}	52.23	-42.41	13.6	44.55	162
B _{CIE}	30.57	1.41	-46.46	46.49	272



OE830-7N-020-6: 5 step scales for constant CIELAB hue 25/360 = 0.071 (left)



16 step scales for constant CIELAB hue 25/360 = 0.071 (right)

OE83: Test chart 2 according to DIN 33872-2, Hue R; DEH
Discrimination of 5 and 16 step colour scales

input: $cmy0$ ($\rightarrow cmy0^*_{de}$) setcmyk
output 020-6: no change

TUB registration: 20110801-OE83/OE83L0NA.TXT /PS
application for output of displays: monitor systems or data projector systems

TUB material: code=rha4ta

Input: Colorimetric Television Luminous System TLS00a

for hue $h^* = lab^*h = 92/360 = 0.256$

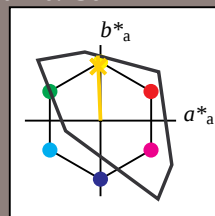
lab^*tch and lab^*nch

D65: hue J

LCH*Ma: 85 86 92

olv*Ma: 1.0 0.82 0.0

triangle lightness t^*



%Gamut

$u^*_{rel} = 158$

%Regularity

$g^*_{H,rel} = 20$

$g^*_{C,rel} = 37$

TLS00a; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O _{Ma}	50.5	76.92	64.55	100.42	40
Y _{Ma}	92.66	-20.69	90.75	93.08	103
L _{Ma}	83.63	-82.75	79.9	115.04	136
C _{Ma}	86.88	-46.16	-13.55	48.12	196
V _{Ma}	30.39	76.06	-103.59	128.52	306
M _{Ma}	57.3	94.35	-58.41	110.97	328
N _{Ma}	0.01	0.0	0.0	0.0	0
W _{Ma}	95.41	0.0	0.0	0.0	0
R _{CIE}	39.92	58.74	27.99	65.07	25
J _{CIE}	81.26	-2.88	71.56	71.62	92
G _{CIE}	52.23	-42.41	13.6	44.55	162
B _{CIE}	30.57	1.41	-46.46	46.49	272

Output: Colorimetric Television Luminous System TLS00a

for hue $h^* = lab^*h = 92/360 = 0.256$

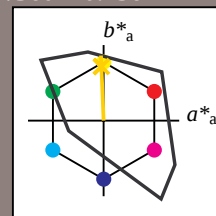
lab^*tch and lab^*nch

D65: hue J

LCH*Ma: 85 86 92

olv*Ma: 1.0 0.82 0.0

triangle lightness t^*



%Gamut

$u^*_{rel} = 158$

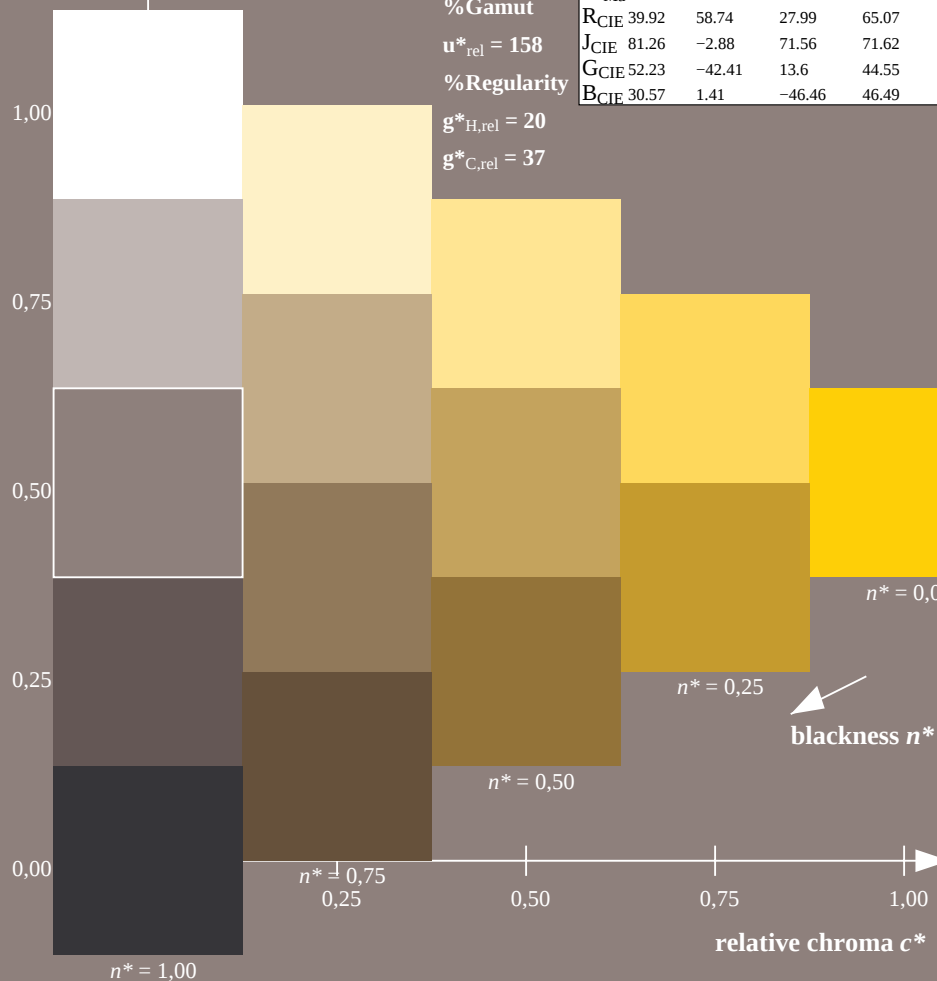
%Regularity

$g^*_{H,rel} = 20$

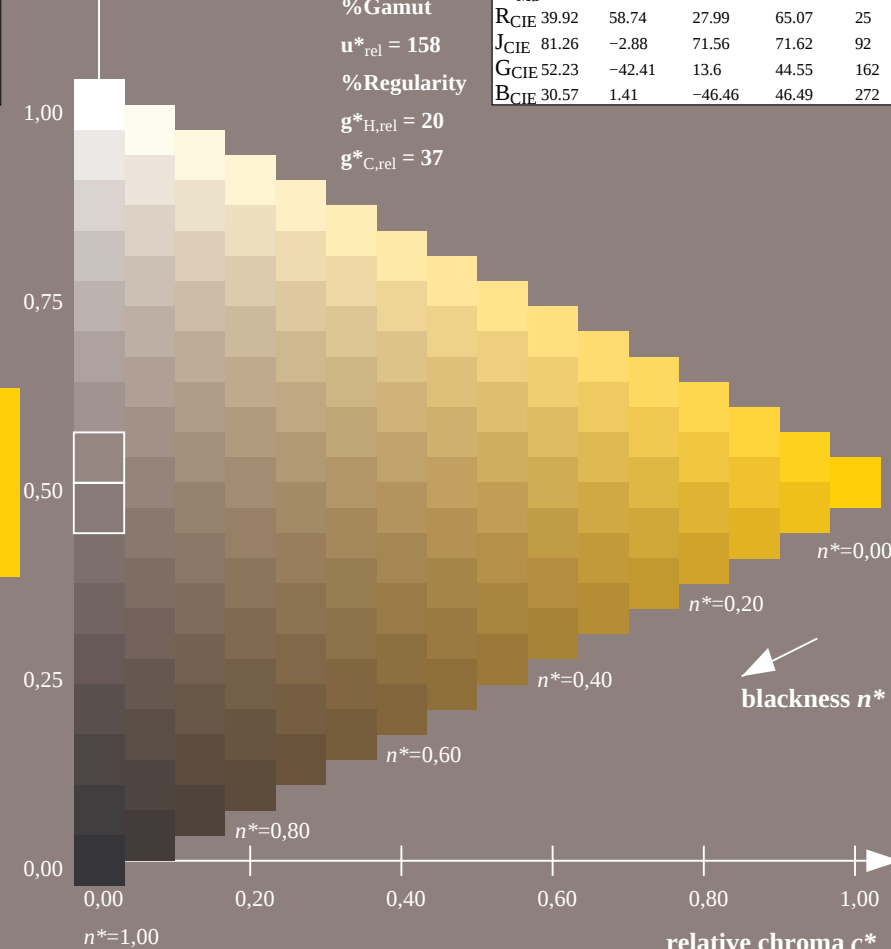
$g^*_{C,rel} = 37$

TLS00a; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O _{Ma}	50.5	76.92	64.55	100.42	40
Y _{Ma}	92.66	-20.69	90.75	93.08	103
L _{Ma}	83.63	-82.75	79.9	115.04	136
C _{Ma}	86.88	-46.16	-13.55	48.12	196
V _{Ma}	30.39	76.06	-103.59	128.52	306
M _{Ma}	57.3	94.35	-58.41	110.97	328
N _{Ma}	0.01	0.0	0.0	0.0	0
W _{Ma}	95.41	0.0	0.0	0.0	0
R _{CIE}	39.92	58.74	27.99	65.07	25
J _{CIE}	81.26	-2.88	71.56	71.62	92
G _{CIE}	52.23	-42.41	13.6	44.55	162
B _{CIE}	30.57	1.41	-46.46	46.49	272



OE830-7N-020-7: 5 step scales for constant CIELAB hue 92/360 = 0.256 (left)



16 step scales for constant CIELAB hue 92/360 = 0.256 (right)

OE83: Test chart 2 according to DIN 33872-2, Hue J; DEH
Discrimination of 5 and 16 step colour scales

input: $cmY0$ ($\rightarrow cmY0^*_{de}$) $setcmYk$
output 020-7: no change

TUB registration: 20110801-OE83/OE83L0NA.TXT /PS
application for output of displays: monitor systems or data projector systems

TUB material: code=rha4ta

Input: Colorimetric Television Luminous System TLS00a

for hue $h^* = lab^*h = 162/360 = 0.451$

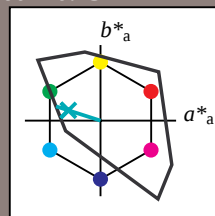
lab^*tch and lab^*nch

D65: hue G

LCH*Ma: 86 62 162

olv*Ma: 0.0 1.0 0.65

triangle lightness t^*



%Gamut

$u^*_{rel} = 158$

%Regularity

$g^*_{H,rel} = 20$

$g^*_{C,rel} = 37$

TLS00a; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O _{Ma}	50.5	76.92	64.55	100.42	40
Y _{Ma}	92.66	-20.69	90.75	93.08	103
L _{Ma}	83.63	-82.75	79.9	115.04	136
C _{Ma}	86.88	-46.16	-13.55	48.12	196
V _{Ma}	30.39	76.06	-103.59	128.52	306
M _{Ma}	57.3	94.35	-58.41	110.97	328
N _{Ma}	0.01	0.0	0.0	0.0	0
W _{Ma}	95.41	0.0	0.0	0.0	0
R _{CIE}	39.92	58.74	27.99	65.07	25
J _{CIE}	81.26	-2.88	71.56	71.62	92
G _{CIE}	52.23	-42.41	13.6	44.55	162
B _{CIE}	30.57	1.41	-46.46	46.49	272

Output: Colorimetric Television Luminous System TLS00a

for hue $h^* = lab^*h = 162/360 = 0.451$

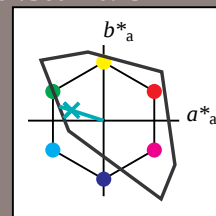
lab^*tch and lab^*nch

D65: hue G

LCH*Ma: 86 62 162

olv*Ma: 0.0 1.0 0.65

triangle lightness t^*



%Gamut

$u^*_{rel} = 158$

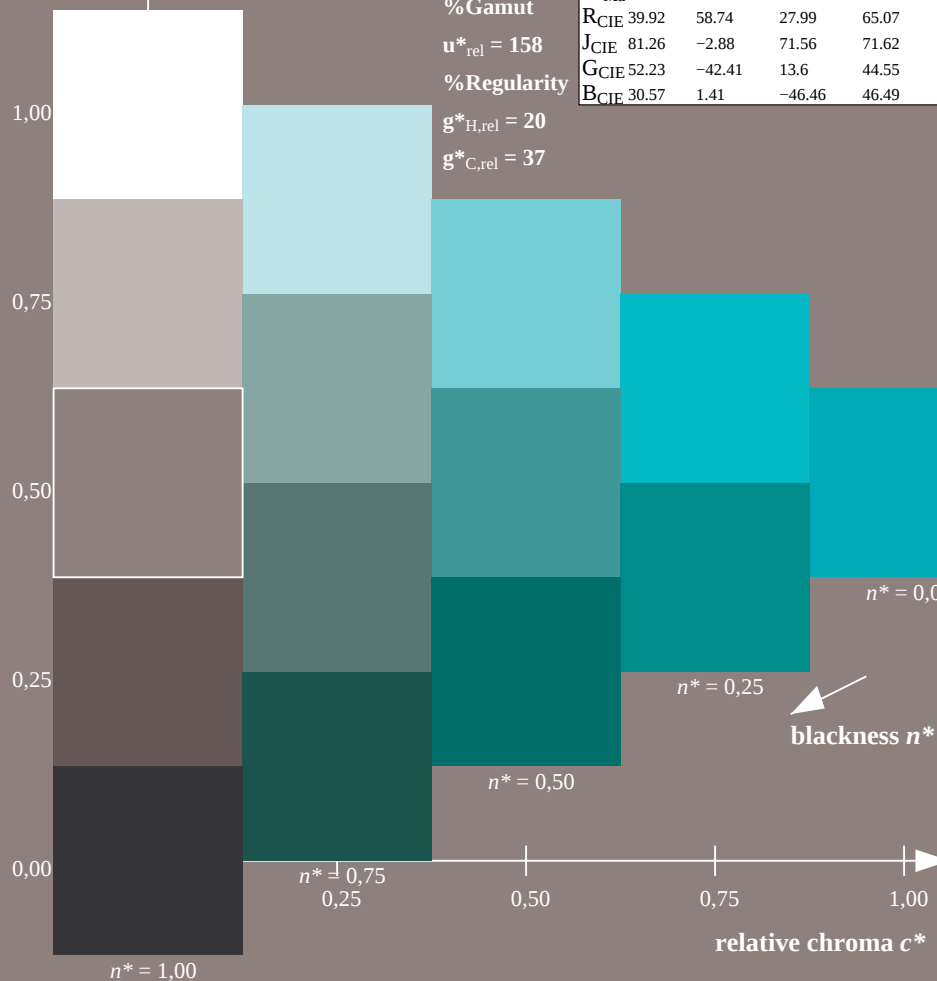
%Regularity

$g^*_{H,rel} = 20$

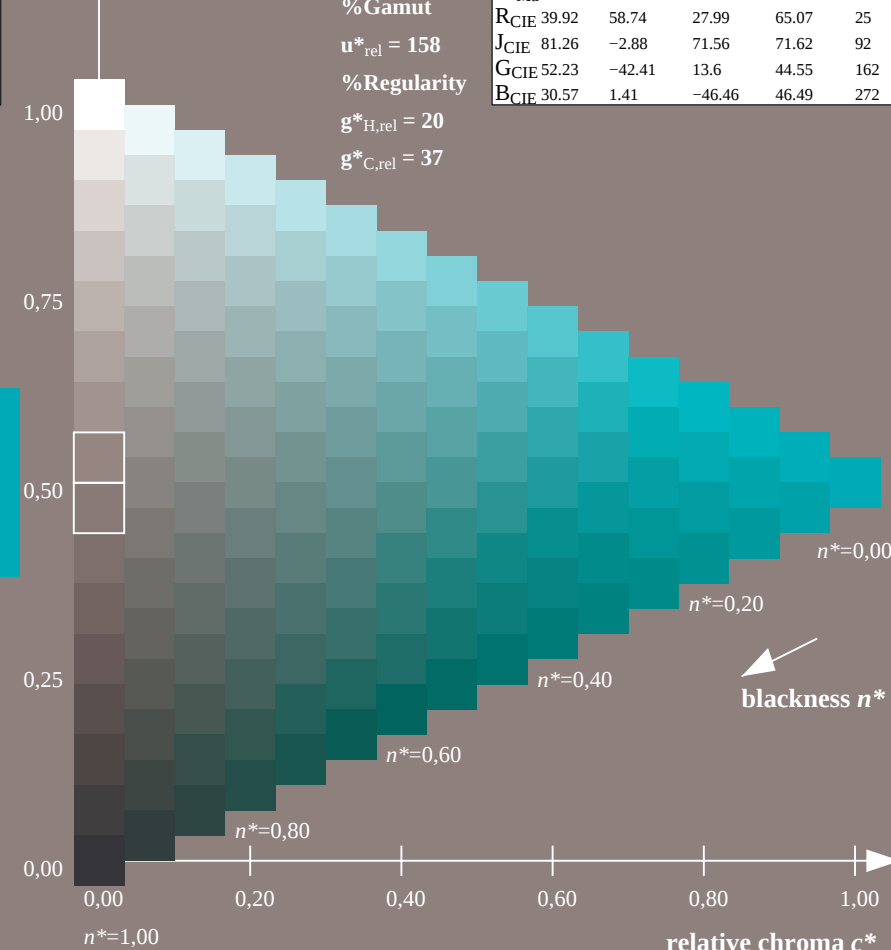
$g^*_{C,rel} = 37$

TLS00a; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O _{Ma}	50.5	76.92	64.55	100.42	40
Y _{Ma}	92.66	-20.69	90.75	93.08	103
L _{Ma}	83.63	-82.75	79.9	115.04	136
C _{Ma}	86.88	-46.16	-13.55	48.12	196
V _{Ma}	30.39	76.06	-103.59	128.52	306
M _{Ma}	57.3	94.35	-58.41	110.97	328
N _{Ma}	0.01	0.0	0.0	0.0	0
W _{Ma}	95.41	0.0	0.0	0.0	0
R _{CIE}	39.92	58.74	27.99	65.07	25
J _{CIE}	81.26	-2.88	71.56	71.62	92
G _{CIE}	52.23	-42.41	13.6	44.55	162
B _{CIE}	30.57	1.41	-46.46	46.49	272



OE830-7N-020-8: 5 step scales for constant CIELAB hue 162/360 = 0.451 (left)



16 step scales for constant CIELAB hue 162/360 = 0.451 (right)

OE83: Test chart 2 according to DIN 33872-2, Hue G; DEH
Discrimination of 5 and 16 step colour scales

input: $cmY0$ ($\rightarrow cmY0^*_{de}$) $setcmYk$
output 020-8: no change

TUB registration: 20110801-OE83/OE83L0NA.TXT /PS
application for output of displays: monitor systems or data projector systems

TUB material: code=rha4ta

Input: Colorimetric Television Luminous System TLS00a

for hue $h^* = lab^*h = 272/360 = 0.755$

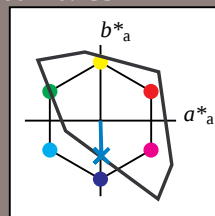
lab^*tch and lab^*nch

D65: hue B

LCH*Ma: 65 49 272

olv*Ma: 0.0 0.61 1.0

triangle lightness t^*



%Gamut

$u^*_{rel} = 158$

%Regularity

$g^*_{H,rel} = 20$

$g^*_{C,rel} = 37$

TLS00a; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O _{Ma}	50.5	76.92	64.55	100.42	40
Y _{Ma}	92.66	-20.69	90.75	93.08	103
L _{Ma}	83.63	-82.75	79.9	115.04	136
C _{Ma}	86.88	-46.16	-13.55	48.12	196
V _{Ma}	30.39	76.06	-103.59	128.52	306
M _{Ma}	57.3	94.35	-58.41	110.97	328
N _{Ma}	0.01	0.0	0.0	0.0	0
W _{Ma}	95.41	0.0	0.0	0.0	0
R _{CIE}	39.92	58.74	27.99	65.07	25
J _{CIE}	81.26	-2.88	71.56	71.62	92
G _{CIE}	52.23	-42.41	13.6	44.55	162
B _{CIE}	30.57	1.41	-46.46	46.49	272

Output: Colorimetric Television Luminous System TLS00a

for hue $h^* = lab^*h = 272/360 = 0.755$

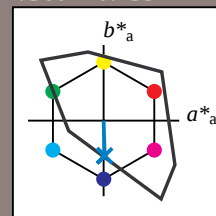
lab^*tch and lab^*nch

D65: hue B

LCH*Ma: 65 49 272

olv*Ma: 0.0 0.61 1.0

triangle lightness t^*



%Gamut

$u^*_{rel} = 158$

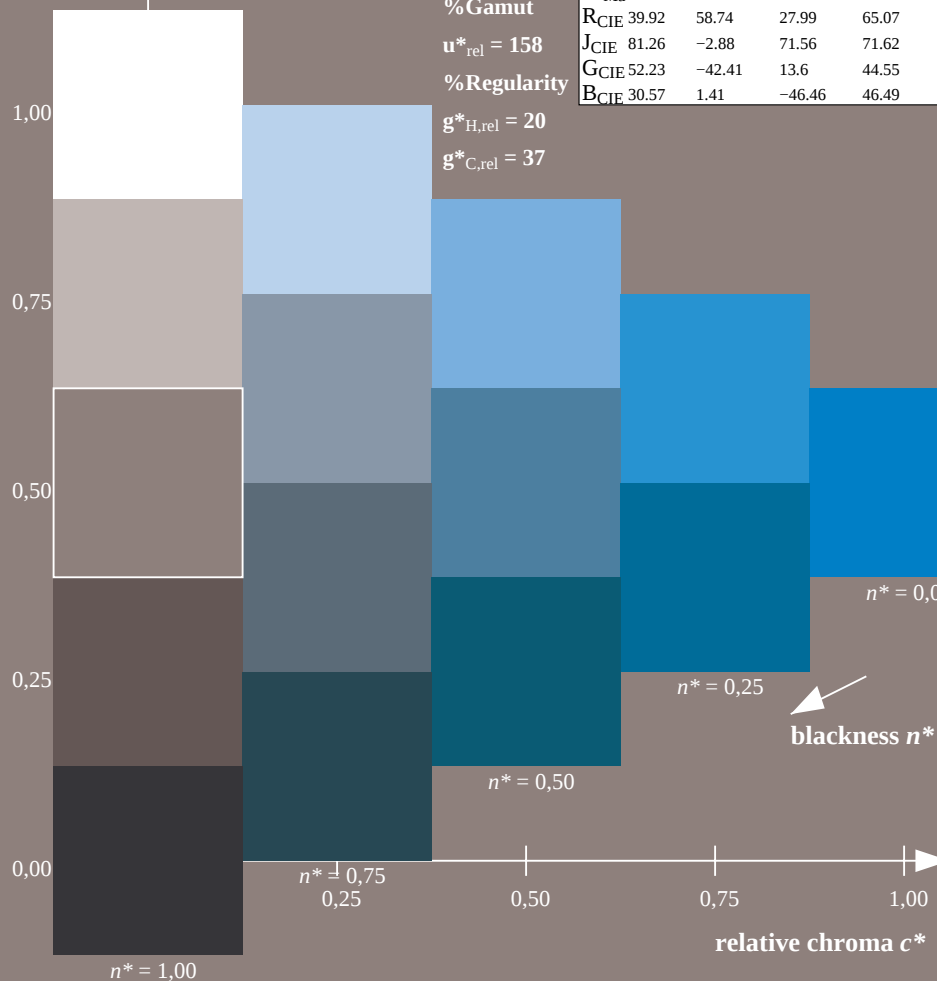
%Regularity

$g^*_{H,rel} = 20$

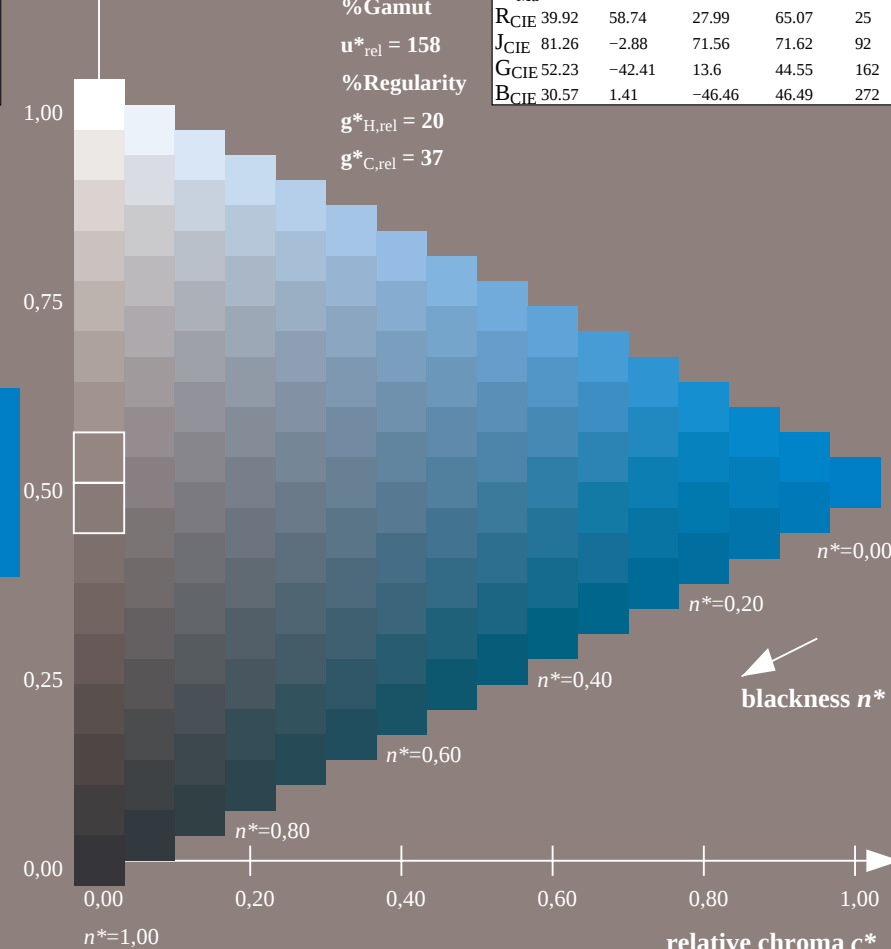
$g^*_{C,rel} = 37$

TLS00a; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O _{Ma}	50.5	76.92	64.55	100.42	40
Y _{Ma}	92.66	-20.69	90.75	93.08	103
L _{Ma}	83.63	-82.75	79.9	115.04	136
C _{Ma}	86.88	-46.16	-13.55	48.12	196
V _{Ma}	30.39	76.06	-103.59	128.52	306
M _{Ma}	57.3	94.35	-58.41	110.97	328
N _{Ma}	0.01	0.0	0.0	0.0	0
W _{Ma}	95.41	0.0	0.0	0.0	0
R _{CIE}	39.92	58.74	27.99	65.07	25
J _{CIE}	81.26	-2.88	71.56	71.62	92
G _{CIE}	52.23	-42.41	13.6	44.55	162
B _{CIE}	30.57	1.41	-46.46	46.49	272



OE830-7N-020-9: 5 step scales for constant CIELAB hue 272/360 = 0.755 (left)



16 step scales for constant CIELAB hue 272/360 = 0.755 (right)

OE83: Test chart 2 according to DIN 33872-2, Hue B; DEH
Discrimination of 5 and 16 step colour scales

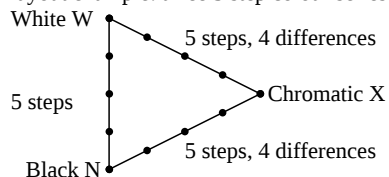
input: $cmy0$ ($\rightarrow cmy0^*_{de}$) setcmyk
output 020-9: no change

TUB registration: 20110801-OE83/OE83L0NA.TXT /PS
application for output of displays: monitor systems or data projector systems

TUB material: code=rha4ta

Discriminability of 5 step colour series (Yes/No decision)

Layout example: three 5 step colour series



There are three basic colours on each page:
Black N, White W and Chromatic X.
Ten pages include 10 hue planes
X = OYLCVM and RJGB.
There are at maximum 12 distinguishable steps.

All steps of the three series N-W, W-X and X-N should be distinguishable on all pages.

Are the three 5step series distinguishable on all pages? underline: Yes/No

only in case of No: Are the three 5 step series on Page x of 10 pages distinguishable?

Underline Yes/No and give in case of No the number of distinguishable steps?

- Page 1: Yes/No, if No ../12 step differences are distinguishable of O = Orange Red
Page 2: Yes/No, if No ../12 step differences are distinguishable of Y = Yellow
Page 3: Yes/No, if No ../12 step differences are distinguishable of L = Leaf green
Page 4: Yes/No, if No ../12 step differences are distinguishable of C = Cyan blue
Page 5: Yes/No, if No ../12 step differences are distinguishable of V = Violett blue
Page 6: Yes/No, if No ../12 step differences are distinguishable of M = Magenta Red
Page 7: Yes/No, if No ../12 step differences are distinguishable of R = Elementary Red
Page 8: Yes/No, if No ../12 step differences are distinguishable of J = Elementary yellow
Page 9: Yes/No, if No ../12 step differences are distinguishable of G = Elementary Green
Page 10: Yes/No, if No ../12 step differences are distinguishable of B = Elementary blue

Sum: ../10 Yes-Pages and ../120 step differences are distinguishable

Part 1

OE830-3N-020-10

Documentation of file format, hardware and software for this test:

PDF-File: <http://130.149.60.45/farbmetrik/OE83/OE83L0NP.PDF> underline Yes/No

PS-File: <http://130.149.60.45/farbmetrik/OE83/OE83L0NA.PS> or underline Yes/No

Used computer operating system:

either one of Windows/Mac/Unix/other and version:.....

This evaluation is for the device output: underline monitor/data projector/printer

Device model, driver and version:.....

Device output with PDF/PS-file: underline PDF/PS-file

For device output with PDF-file OE83L0NP.PDF:

- either PDF-file transfer "download, copy" to PDF device.....
or with computer system interpretation by "Display-PDF":.....
or with software. e. g. Adobe-Reader-/Acrobat and version:.....
or with software e. g. Ghostscript and version:.....

For device output with PS-file OE83L0NA.PS:

- either PS-file transfer "download, copy" to PS device.....
or with computer system interpretation by "Display-PS":.....
or with software e. g. Ghostscript and version:.....
or with software e. g. Mac-Yap and version:.....

Special remarks:Special remarks, e. g. output of Landscape (L)

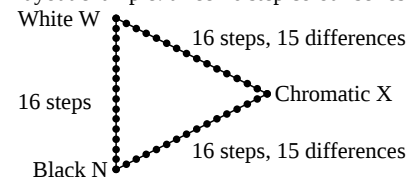
Part 3

OE830-7N-020-10

OE83: Form A for test chart 2 according to DIN 33872-2; DH
Discrimination of colour scales (Yes/No decision)

Discriminability of 16 step colour series (Yes/No decision)

Layout example: three 16 step colour series



There are three basic colours on each page:
Black N, White W and Chromatic X.
Ten pages include 10 hue planes
X = OYLCVM and RJGB.
There are at maximum 45 distinguishable steps.

All steps of the three series N-W, W-X and X-N should be distinguishable on all pages.

Are the three 16step series distinguishable on all pages? underline: Yes/No

only in case of No: Are the three 16 step series on Page x of 10 pages distinguishable?

Underline Yes/No and give in case of No the number of distinguishable steps?

- Page 1: Yes/No, if No ../45 step differences are distinguishable of O = Orange Red
Page 2: Yes/No, if No ../45 step differences are distinguishable of Y = Yellow
Page 3: Yes/No, if No ../45 step differences are distinguishable of L = Leaf green
Page 4: Yes/No, if No ../45 step differences are distinguishable of C = Cyan blue
Page 5: Yes/No, if No ../45 step differences are distinguishable of V = Violett blue
Page 6: Yes/No, if No ../45 step differences are distinguishable of M = Magenta Red
Page 7: Yes/No, if No ../45 step differences are distinguishable of R = Elementary Red
Page 8: Yes/No, if No ../45 step differences are distinguishable of J = Elementary yellow
Page 9: Yes/No, if No ../45 step differences are distinguishable of G = Elementary Green
Page 10: Yes/No, if No ../45 step differences are distinguishable of B = Elementary blue

Sum: ../10 Yes-Pages and ../450 step differences are distinguishable

Part 2

OE831-3N-020-10

Documentation of assessor colour vision properties for visual assessment

The assessor has **normal** colour vision according to one test:
either according to DIN 6160:1996 with Anomaloskop of Nagel
or with test charts using colour points according to Ishihara
or tested with, please specify:

underline Yes/No
underline Yes/unknown
underline Yes/unknown
underline Yes/unknown

For visual evaluation of the display (monitor, data projector) output

Office workplace illumination is daylight (clouded/north sky)

underline Yes/No

PDF file: <http://130.149.60.45/farbmetrik/OE83/OE83F1P2.PDF>

underline Yes/No

PS file: <http://130.149.60.45/farbmetrik/OE83/OE83F1P2.PS>

underline Yes/No

Picture A7-020-2: contrast range: (>F:0) (F:0) (E:0) (D:0) (C:0) (A:0) (9:0) (7:0) (5:0) (3:0) (<3:0)

compare standard print output according to ISO/IEC 15775 with range F:0 underline range

Remark: In daylighted offices the contrast range is in many cases:

on display between: >F:0 and E:0 (monitor), D:0 and 3:0 (data projector)

Only for optional colorimetric specification with PDF/PS file output

PDF-File: <http://130.149.60.45/farbmetrik/OE83/OE83F1P2.PDF>

underline Yes/No

picture A7-020-2

underline Yes/No

PS-File: <http://130.149.60.45/farbmetrik/OE83/OE83F1P2.PS>

or underline Yes/No

picture A7-020-2

colour measurement and specification for:

CIE standard illuminant D65, 2 degree observer, CIE 45/0 geometry:

underline Yes/No

If No, please give other parameters:

Colorimetric specification with PS file for colours in the columns A to T

Exchange of CIELAB data in file www.ps.bam.de/De17/10L/L17e00NP.PS and transfer
of the PS-file L17e00NP.PS in PDF-file L17e00NP.PDF

underline Yes/No

If No, please describe other method:

Part 4

OE831-7N-020-10

input: *cmy0* (->*cmy0**_d) *setcmyk*
output 020-10: no change

i	LAB*ref	L*out	LAB*out	LAB*out/c-ref	ΔE*
1	0.0	0.0	0.0	0.0	0.01
2	6.36	0.0	0.07	6.36	0.01
3	12.72	0.0	0.13	12.72	0.01
4	19.08	0.0	0.2	19.08	0.01
5	25.44	0.0	0.27	25.44	0.01
6	31.8	0.0	0.33	31.8	0.01
7	38.16	0.0	0.4	38.16	0.01
8	44.52	0.0	0.47	44.52	0.01
9	50.89	0.0	0.53	50.89	0.01
10	57.25	0.0	0.6	57.25	0.01
11	63.61	0.0	0.67	63.61	0.01
12	69.97	0.0	0.73	69.97	0.01
13	76.33	0.0	0.8	76.33	0.01
14	82.69	0.0	0.87	82.69	0.01
15	89.05	0.0	0.93	89.05	0.01
16	95.41	0.0	1.0	95.41	0.01
17	0.0	0.0	0.0	0.0	0.01
18	23.85	0.0	0.25	23.85	0.01
19	47.71	0.0	0.5	47.71	0.01
20	71.56	0.0	0.75	71.56	0.01
21	95.41	0.0	1.0	95.41	0.01

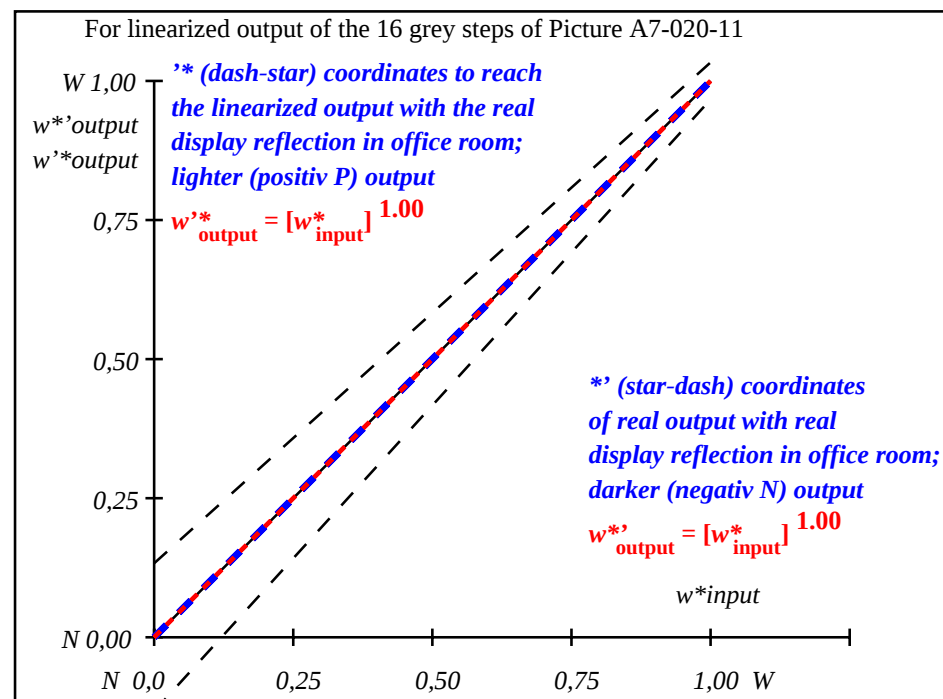
Start output S1
Specification according to
ISO/IEC 15775 Annex G
and DIN 33866-1 Annex G

Mean lightness difference (16 steps)
 $\Delta E^*_{\text{CIELAB}} = 0.0$

Mean lightness difference (5 steps)
 $\Delta L^*_{\text{CIELAB}} = 0.0$

Mean colour reproduction index:
 $R^*_{\text{ab,m}} = 100$

OE830-3N-020-11: File: Measure unknown; Device: Device unknown; Date: Date unknown



OE831-3N-020-11: File: Measure unknown; Device: Device unknown; Date: Date unknown

L^*/Y_{intended} (absolute)	0.0/0.0	6.4/0.7	12.7/1.5	19.1/2.8	25.4/4.6	31.8/7.0	38.2/10.2	44.5/14.2	50.9/19.2	57.2/25.2	63.6/32.3	70.0/40.7	76.3/50.4	82.7/61.6	89.0/74.3	95.4/88.6
$n^* n^* n^* 0$ setcmyk $g_p=1.00$ No. and Hex code	00;F	01;E	02;D	03;C	04;B	05;A	06;9	07;8	08;7	09;6	10;5	11;4	12;3	13;2	14;1	15;0
$w^*=l^*/$ $\text{CIELAB, } r$ (relative)																
w^*_{intended}	0,000	0,067	0,133	0,200	0,267	0,333	0,400	0,467	0,533	0,600	0,667	0,733	0,800	0,867	0,933	1,000
w^*_{out}	0,0	0,067	0,133	0,2	0,267	0,333	0,4	0,467	0,533	0,6	0,667	0,733	0,8	0,867	0,933	1,0

OE830-7N, Picture A7-020-11: 16 visual equidistant L^* -grey steps; PS operator: $n^* n^* n^* 0$ setcmykcolor

OE83: In-output relation according to ISO 9241-306; DH
Viewing Y contrast $Y_W:Y_N=88,9:0,31$; Y_N range 0,0 to <0,46

input: cmy0 (->cmy0_d) setcmyk
output 020-11: no change