

Input: Colorimetric Television Luminous System TLS00a

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

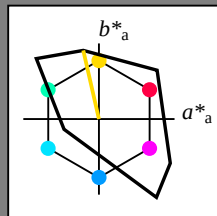
lab^*tch and lab^*nch

D65: hue Y

LCH*Ma: 93 93 103

ol*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 $h^* = lab^*h = 103/360 = 0.286$

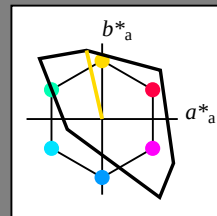
lab^*tch and lab^*nch

D65: hue Y

LCH*Ma: 93 93 103

ol*Ma: 1.0 1.0 0.0

triangle lightness t^*



%Gamut

$u^*_{rel} = 158$

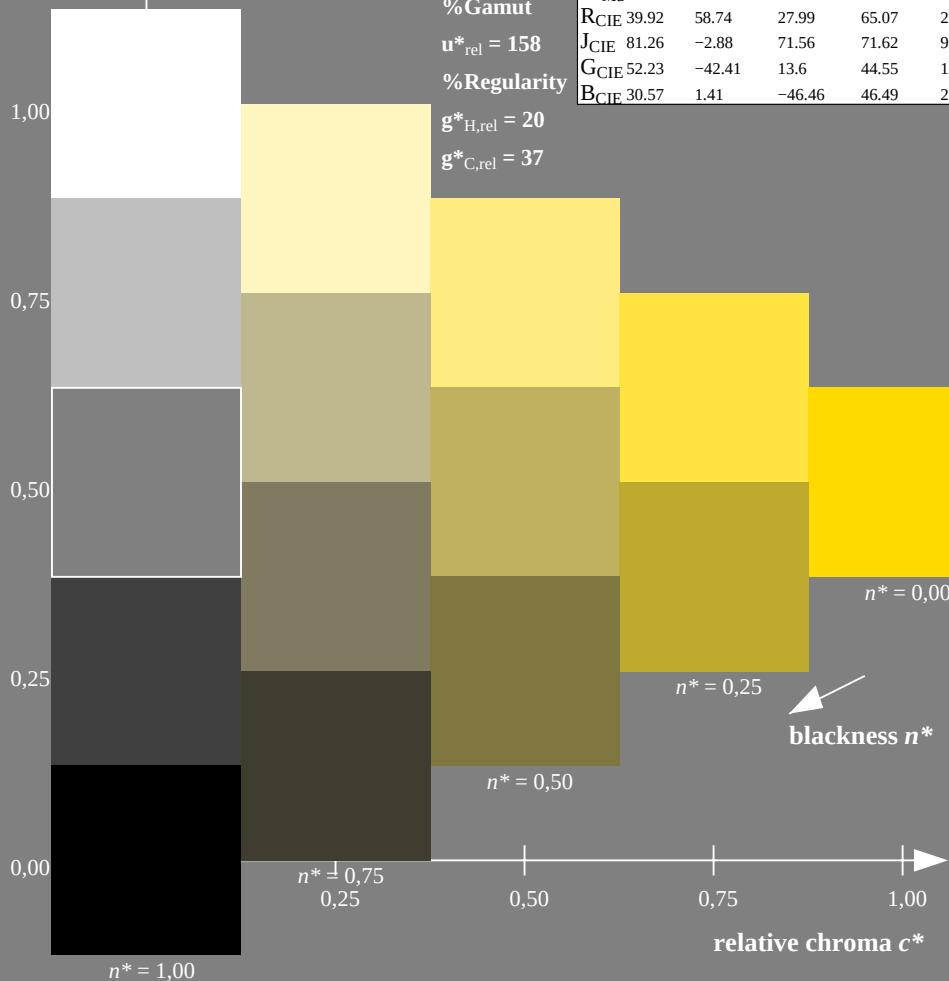
%Regularity

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

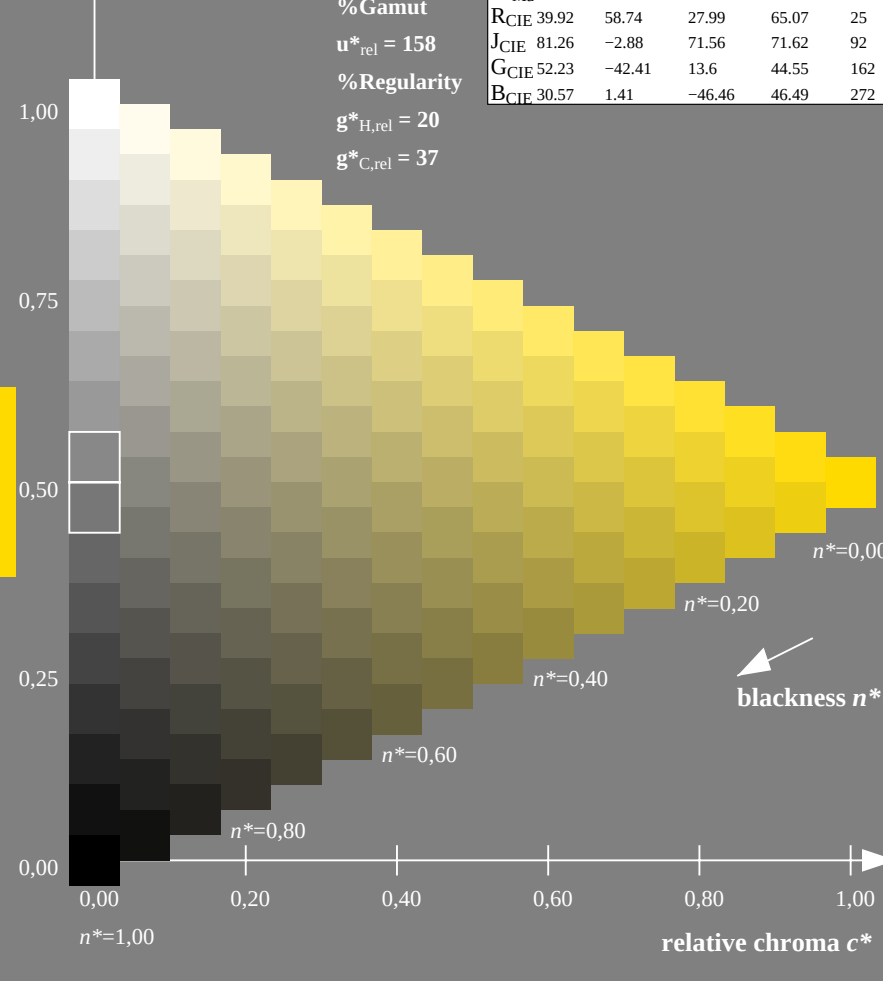
$g^*_{C,rel} = 37$

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



OE820-7N-130-1: 5 step scales for constant CIELAB hue 103/360 = 0.286 (left)



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

OE82: Test chart 1 according to DIN 33872-2, Hue Y; 1MR, DEH
Discrimination of 5 and 16 step colour scales

input: $rgb \rightarrow rgb^*_{de}$ setrgbcolor
output 130-1: $g_P=1.0$; $g_N=1.0$

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, CIELAB

TUB registration: 20110801-OE82/OE82L0NA.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 $h^* = lab^*h = 136/360 = 0.378$

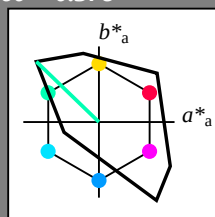
lab^*tch and lab^*nch

D65: hue L

LCH*Ma: 84 115 136

ol v^* 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 $h^* = lab^*h = 136/360 = 0.378$

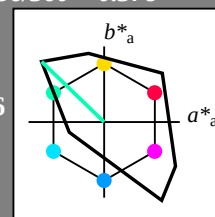
lab^*tch and lab^*nch

D65: hue L

LCH*Ma: 84 115 136

ol v^* Ma: 0.0 1.0 0.0

triangle lightness t^*



%Gamut

$u^*_{rel} = 158$

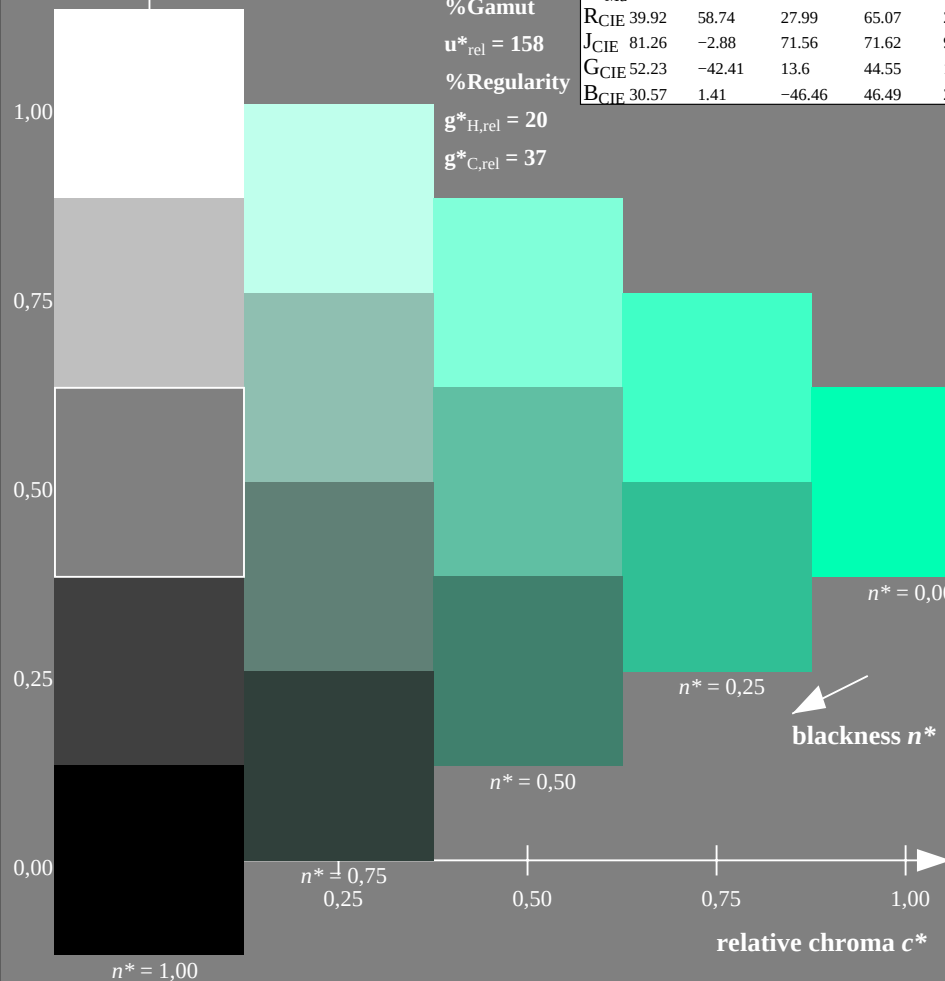
%Regularity

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

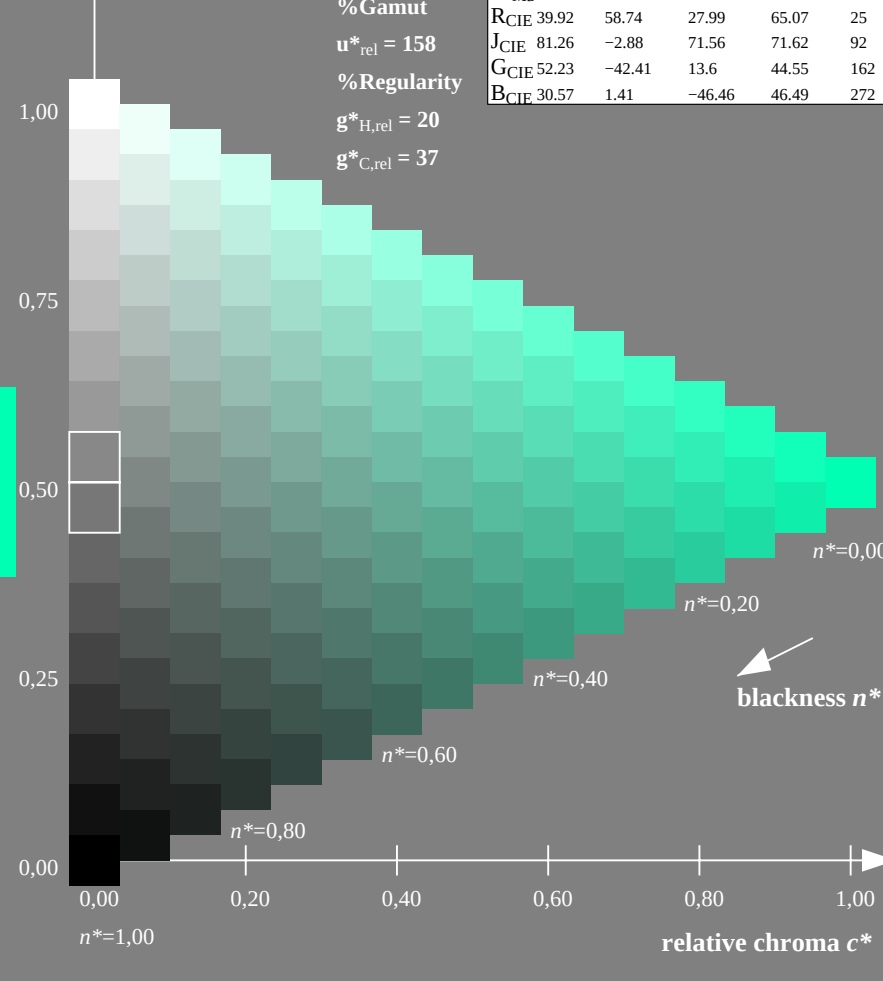
$g^*_{C,rel} = 37$

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



OE820-7N-130-2: 5 step scales for constant CIELAB hue 136/360 = 0.378 (left)



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

OE82: Test chart 1 according to DIN 33872-2, Hue L; 1MR, DEH
Discrimination of 5 and 16 step colour scales

input: rgb ($\rightarrow rgb^*_{de}$) $setrgbcolor$
output 130-2: $g_P=1.0$; $g_N=1.0$

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, CIELAB

TUB registration: 20110801-OE82/OE82L0NA.TXT /.PS
application for output of displays: monitor systems or data projector systems
TUB material: code=rh4ta

Input: Colorimetric Television Luminous System TLS00a

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

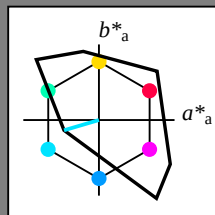
lab^*tch and lab^*nch

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

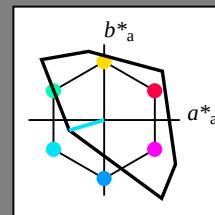
lab^*tch and lab^*nch

D65: hue C

LCH*Ma: 87 48 196

olv*Ma: 0.0 1.0 1.0

triangle lightness t^*



%Gamut

$u^*_{rel} = 158$

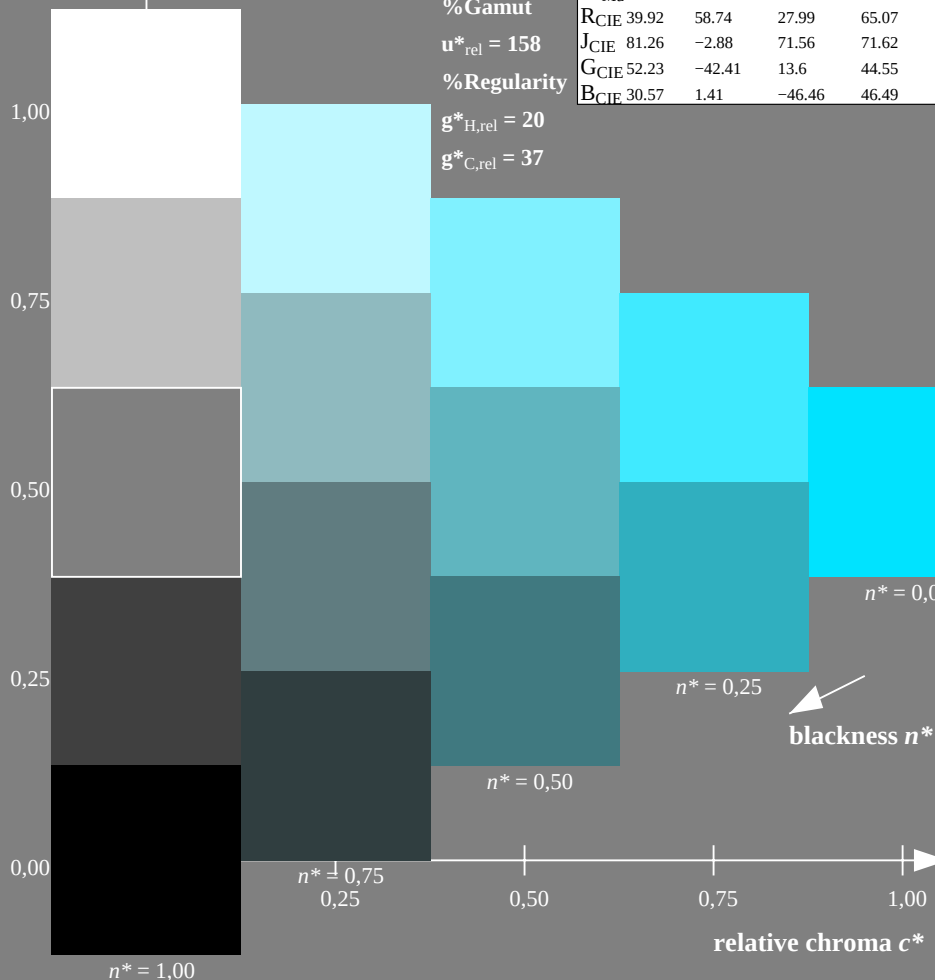
%Regularity

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

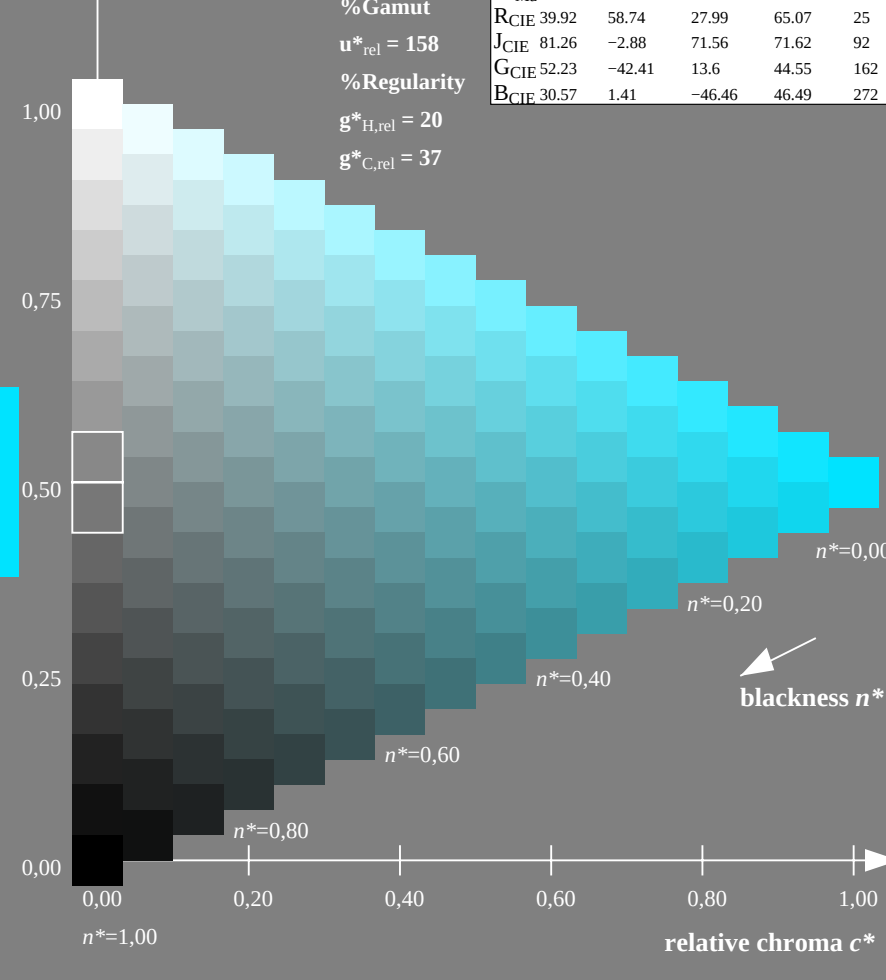
$g^*_{C,rel} = 37$

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



OE820-7N-130-3: 5 step scales for constant CIELAB hue 196/360 = 0.545 (left)



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

OE82: Test chart 1 according to DIN 33872-2, Hue C; 1MR, DEH
Discrimination of 5 and 16 step colour scales

input: $rgb \rightarrow rgb^*_{de}$ setrgbcolor
output 130-3: $g_P=1.0$; $g_N=1.0$

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, CIELAB

TUB registration: 20110801-OE82/OE82L0NA.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 $h^* = lab^*h = 306/360 = 0.851$

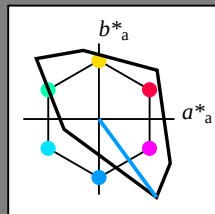
lab^*tch and lab^*nch

D65: hue V

LCH*Ma: 30 129 306

ol v^* 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 $h^* = lab^*h = 306/360 = 0.851$

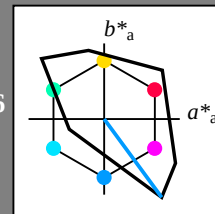
lab^*tch and lab^*nch

D65: hue V

LCH*Ma: 30 129 306

ol v^* Ma: 0.0 0.0 1.0

triangle lightness t^*



%Gamut

$u^*_{rel} = 158$

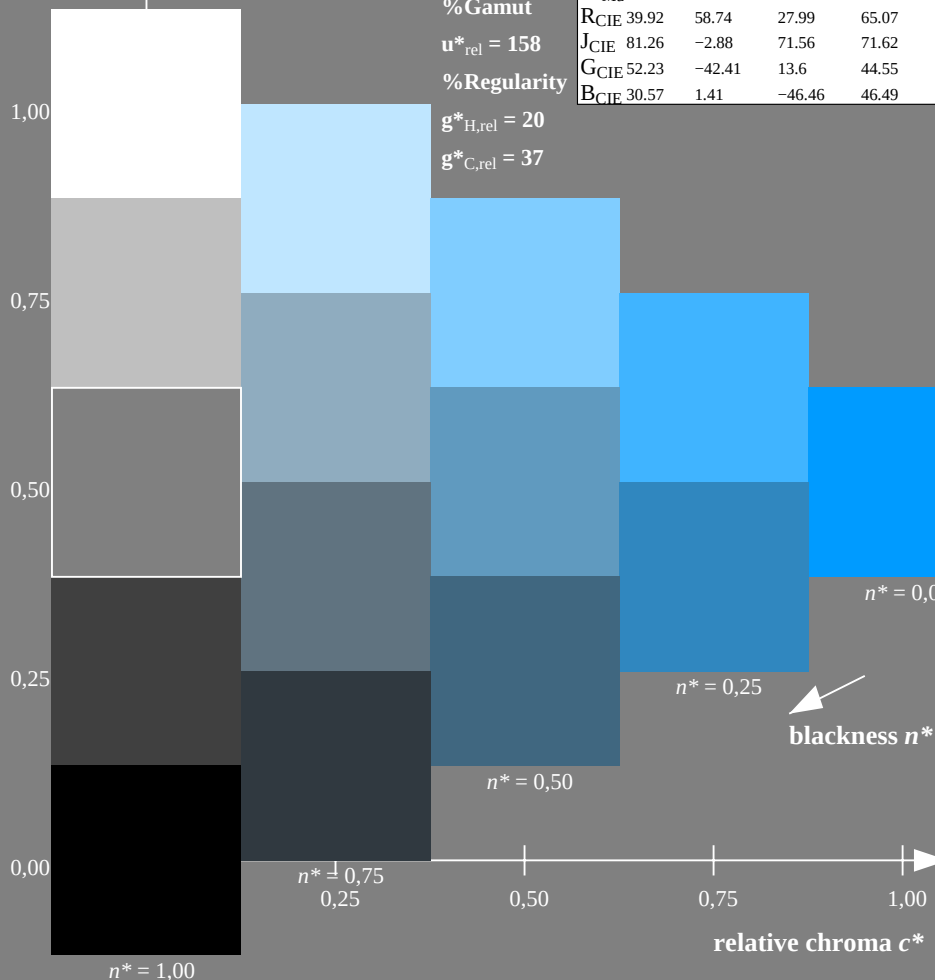
%Regularity

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

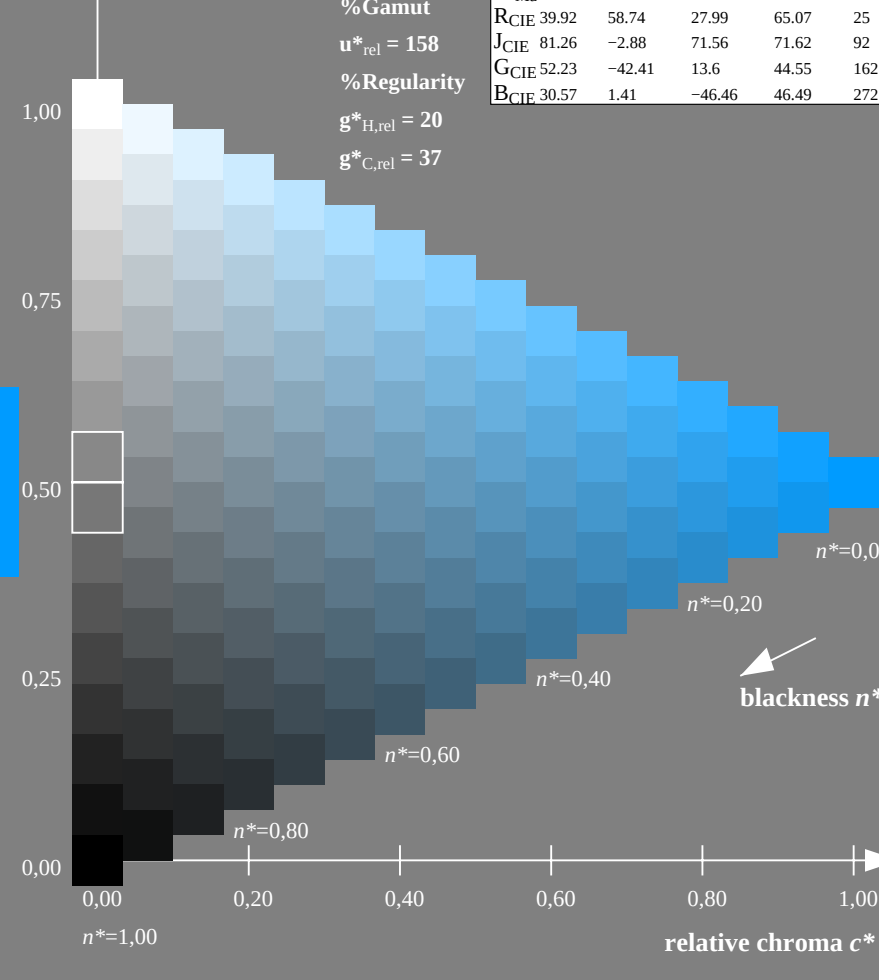
$g^*_{C,rel} = 37$

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



OE820-7N-130-4: 5 step scales for constant CIELAB hue 306/360 = 0.851 (left)



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

OE82: Test chart 1 according to DIN 33872-2, Hue V; 1MR, DEH
Discrimination of 5 and 16 step colour scales

input: rgb ($\rightarrow rgb^*_{de}$) $setrgbcolor$
output 130-4: $g_P=1.0$; $g_N=1.0$

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, CIELAB

TUB registration: 20110801-OE82/OE82L0NA.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 $h^* = lab^*h = 328/360 = 0.912$

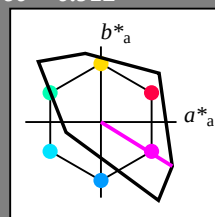
lab^*tch and lab^*nch

D65: hue M

LCH*Ma: 57 111 328

ol*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

Output: Colorimetric Television Luminous System TLS00a

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

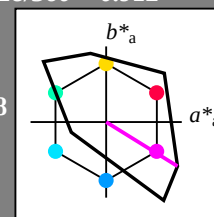
lab^*tch and lab^*nch

D65: hue M

LCH*Ma: 57 111 328

ol*Ma: 1.0 0.0 1.0

triangle lightness t^*



%Gamut

$u^*_{rel} = 158$

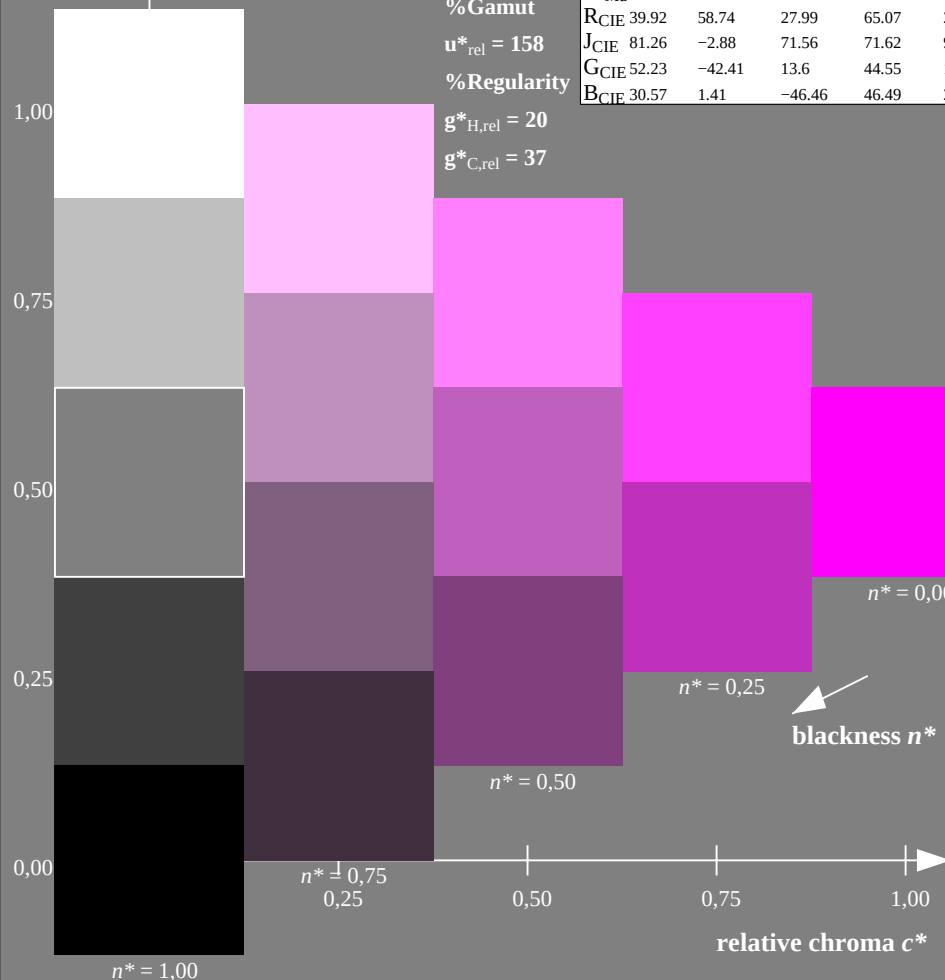
%Regularity

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

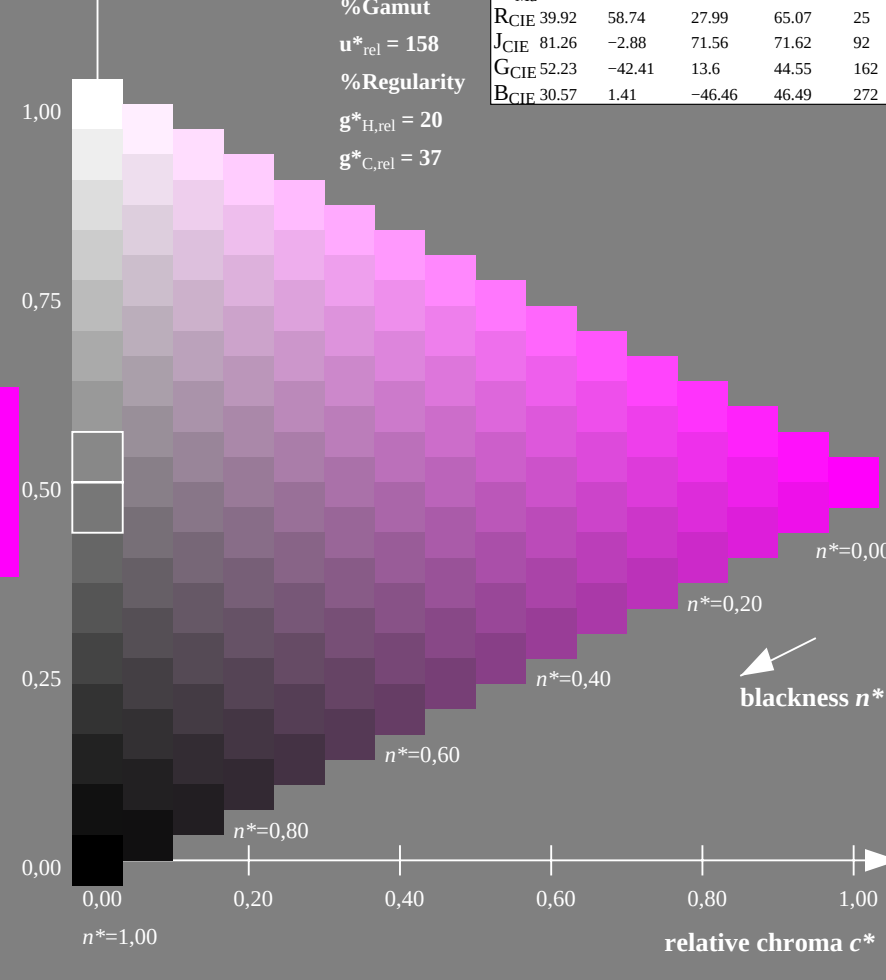
$g^*_{C,rel} = 37$

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
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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



OE820-7N-130-5: 5 step scales for constant CIELAB hue 328/360 = 0.912 (left)



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

OE82: Test chart 1 according to DIN 33872-2, Hue M; 1MR, DEH input: $rgb \rightarrow rgb^*_{de}$ setrgbcolor
Discrimination of 5 and 16 step colour scales output 130-5: $g_P=1.0$; $g_N=1.0$

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, CIELAB

TUB registration: 20110801-OE82/OE82L0NA.TXT /.PS
application for output of displays: monitor systems or data projector systems
TUB material: code=rhta4ta

Input: Colorimetric Television Luminous System TLS00a

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

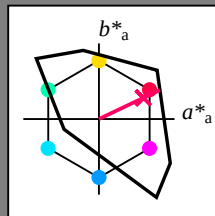
lab^*tch and lab^*nch

D65: hue R

LCH*Ma: 52 89 25

ol*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 $h^* = lab^*h = 25/360 = 0.071$

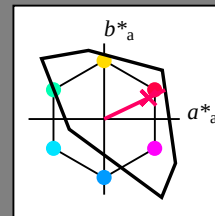
lab^*tch and lab^*nch

D65: hue R

LCH*Ma: 52 89 25

ol*Ma: 1.0 0.0 0.21

triangle lightness t^*



%Gamut

$u^*_{rel} = 158$

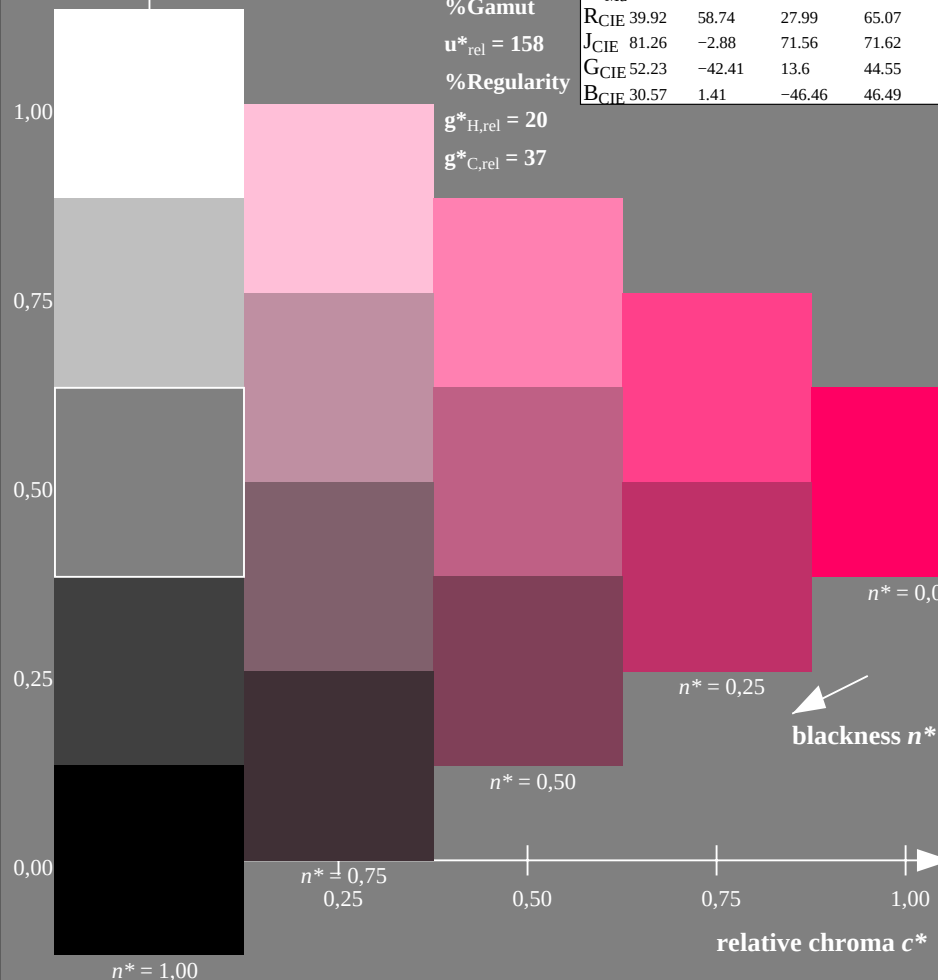
%Regularity

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

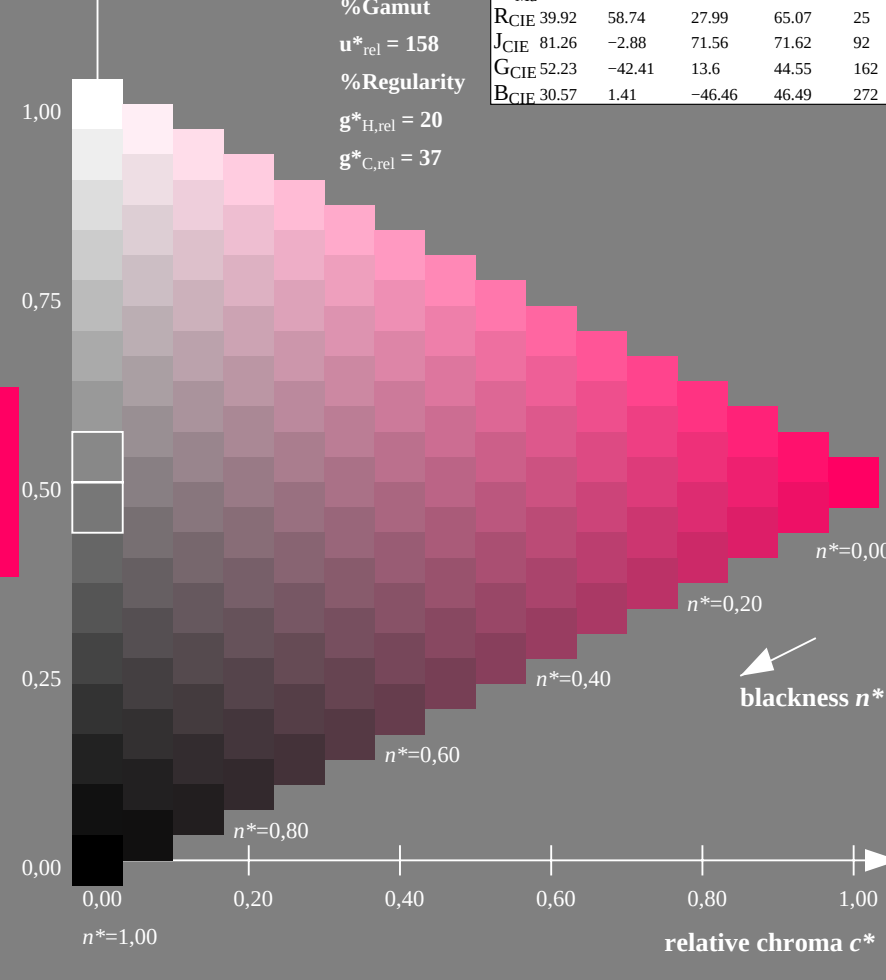
$g^*_{C,rel} = 37$

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



OE820-7N-130-6: 5 step scales for constant CIELAB hue 25/360 = 0.071 (left)



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

OE82: Test chart 1 according to DIN 33872-2, Hue R; 1MR, DEEH input: $rgb \rightarrow rgb^*_{dee}$ setrgbcolo
Discrimination of 5 and 16 step colour scales
output 130-6: $g_P=1.0$; $g_N=1.0$

TUB registration: 20110801-OE82/OE82L0NA.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 $h^* = lab^*h = 92/360 = 0.256$

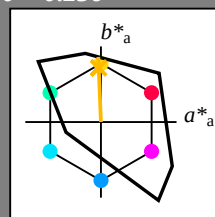
lab^*tch and lab^*nch

D65: hue J

LCH*Ma: 85 86 92

ol*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 $h^* = lab^*h = 92/360 = 0.256$

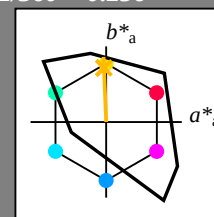
lab^*tch and lab^*nch

D65: hue J

LCH*Ma: 85 86 92

ol*Ma: 1.0 0.82 0.0

triangle lightness t^*



%Gamut

$u^*_{rel} = 158$

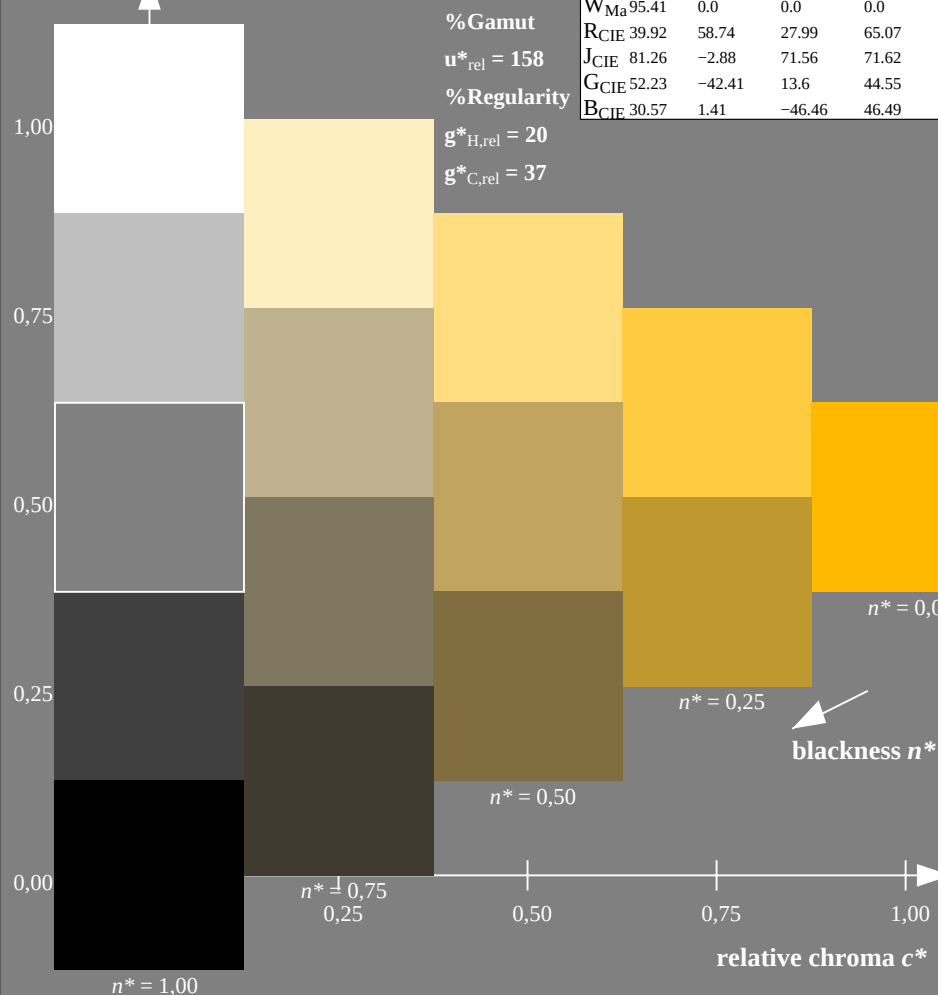
%Regularity

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

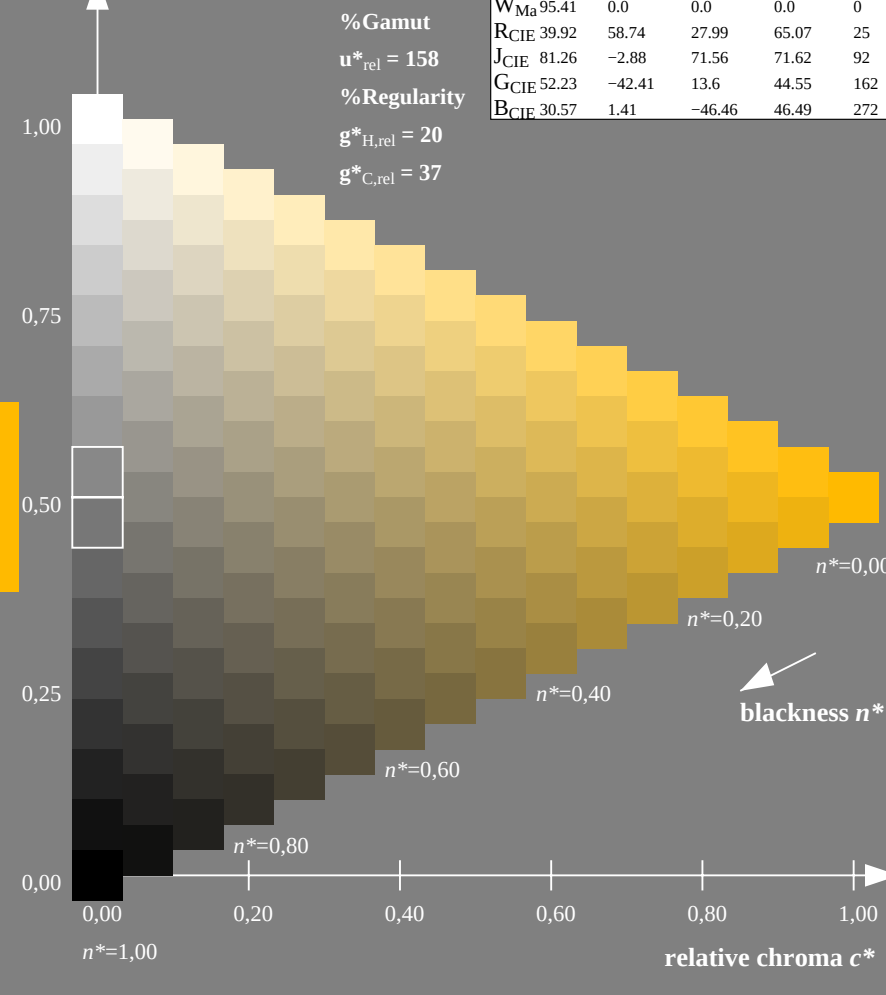
$g^*_{C,rel} = 37$

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



OE820-7N-130-7: 5 step scales for constant CIELAB hue 92/360 = 0.256 (left)



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

OE82: Test chart 1 according to DIN 33872-2, Hue J; 1MR, DEEH input: $rgb \rightarrow rgb^*_{dee}$ setrgbcolo
Discrimination of 5 and 16 step colour scales output 130-7: $g_P=1.0$; $g_N=1.0$

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, CIELAB

TUB registration: 20110801-OE82/OE82L0NA.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 $h^* = lab^*h = 162/360 = 0.451$

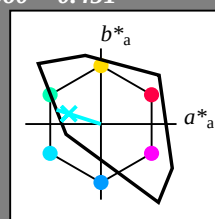
lab^*tch and lab^*nch

D65: hue G

LCH*Ma: 86 62 162

ol v^* 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 $h^* = lab^*h = 162/360 = 0.451$

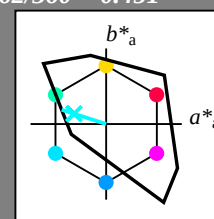
lab^*tch and lab^*nch

D65: hue G

LCH*Ma: 86 62 162

ol v^* Ma: 0.0 1.0 0.65

triangle lightness t^*



%Gamut

$u^*_{rel} = 158$

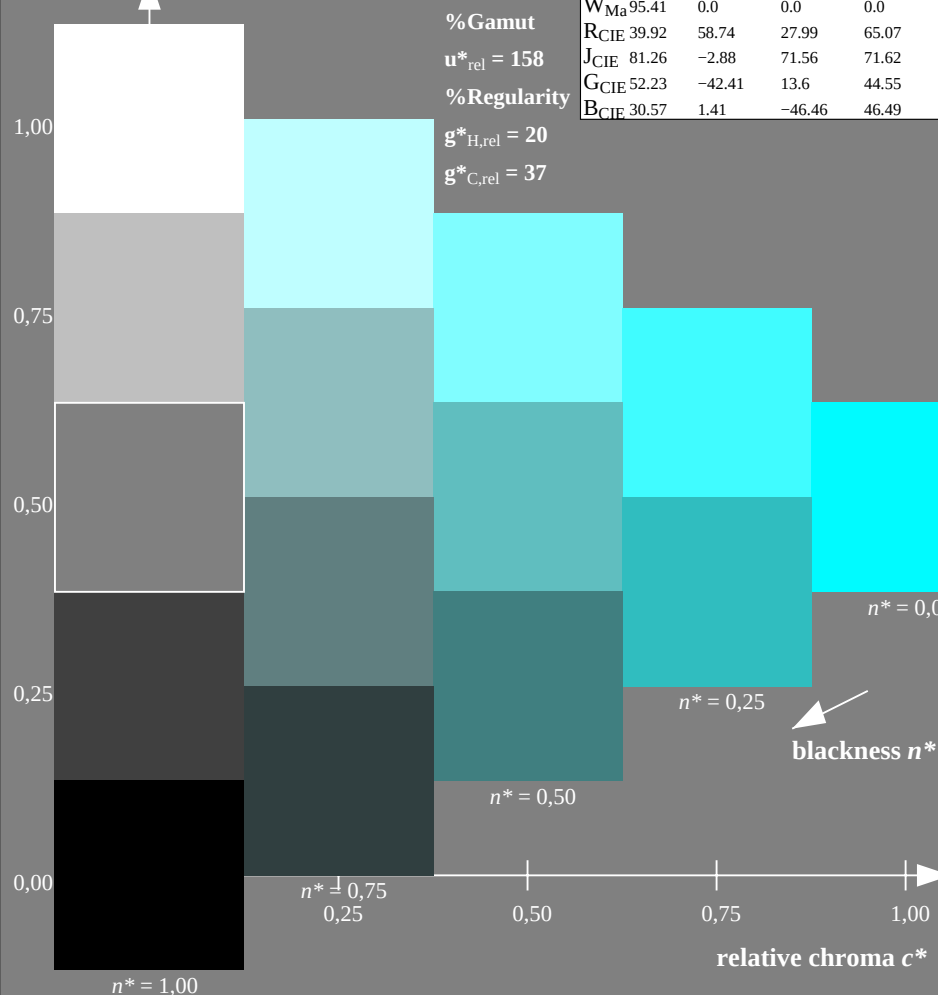
%Regularity

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

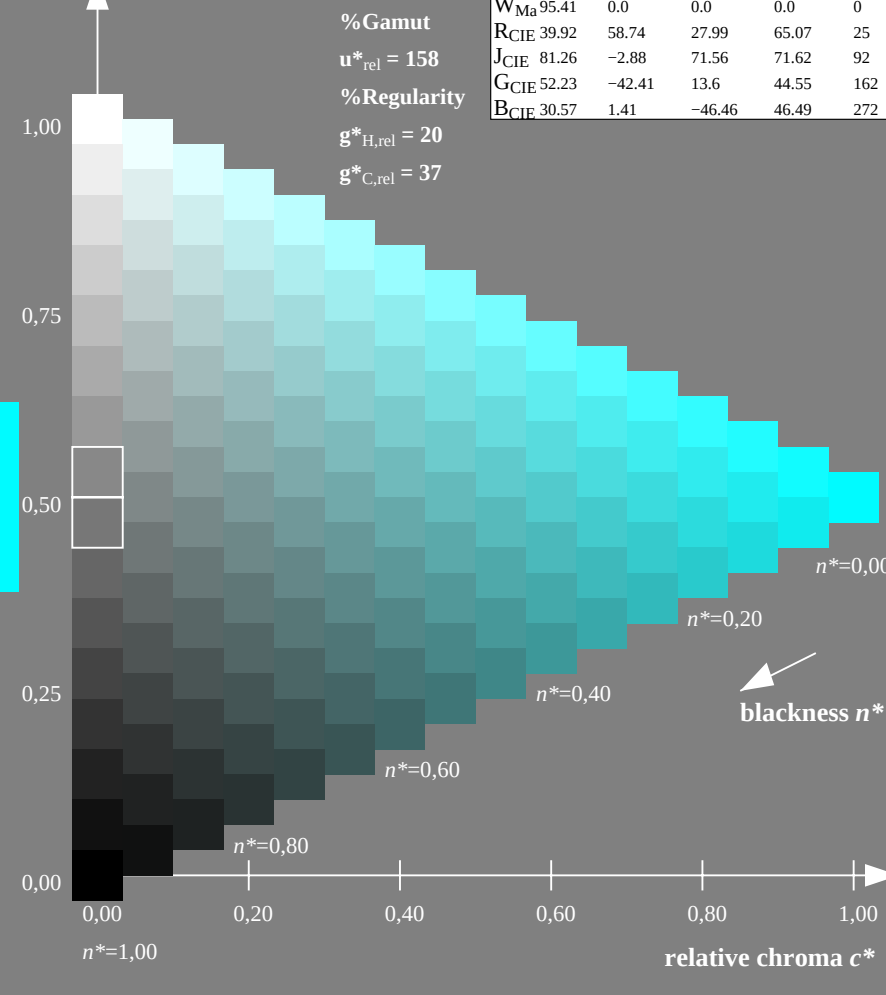
$g^*_{C,rel} = 37$

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



OE820-7N-130-8: 5 step scales for constant CIELAB hue 162/360 = 0.451 (left)



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

OE82: Test chart 1 according to DIN 33872-2, Hue G; 1MR, DEEH input: $rgb \rightarrow rgb^*_{dee}$ set $rgbcolo$
Discrimination of 5 and 16 step colour scales
output 130-8: $g_P=1.0$; $g_N=1.0$

TUB registration: 20110801-OE82/OE82L0NA.TXT /.PS
application for output of displays: monitor systems or data projector systems

TUB material: code=rhta4ta

Input: Colorimetric Television Luminous System TLS00a

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

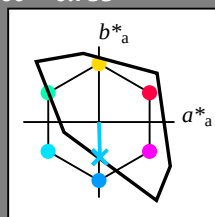
lab^*tch and lab^*nch

D65: hue B

LCH*Ma: 65 49 272

ol v^* 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 $h^* = lab^*h = 272/360 = 0.755$

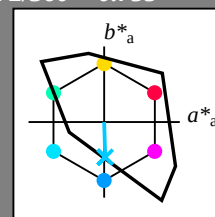
lab^*tch and lab^*nch

D65: hue B

LCH*Ma: 65 49 272

ol v^* Ma: 0.0 0.61 1.0

triangle lightness t^*



%Gamut

$u^*_{rel} = 158$

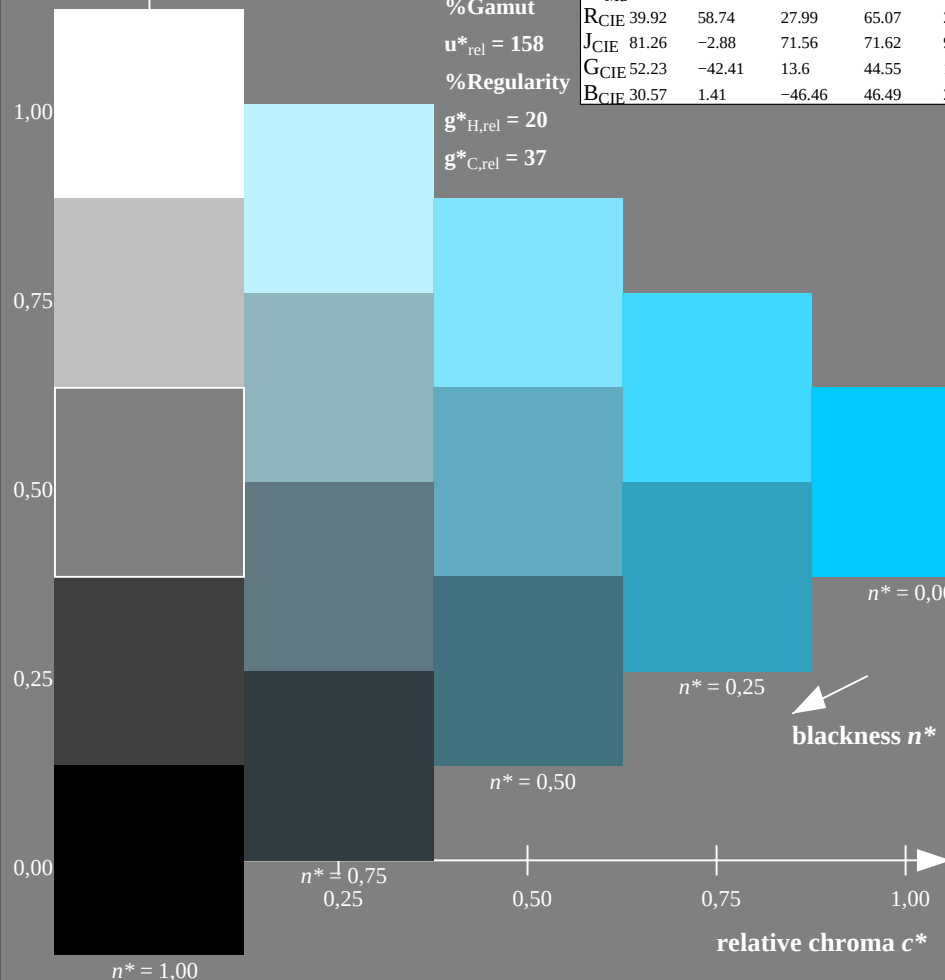
%Regularity

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

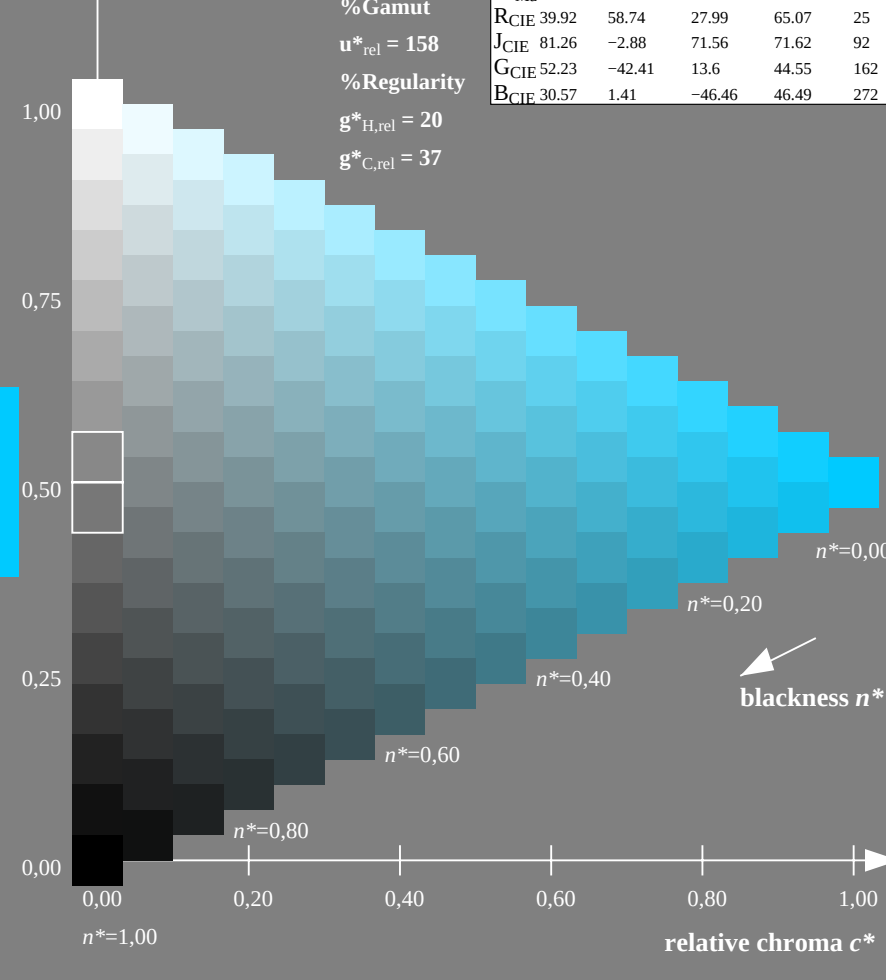
$g^*_{C,rel} = 37$

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



OE820-7N-130-9: 5 step scales for constant CIELAB hue 272/360 = 0.755 (left)

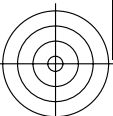


16 step scales for constant CIELAB hue 272/360 = 0.755 (right)

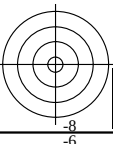
OE82: Test chart 1 according to DIN 33872-2, Hue B; 1MR, DEEH input: $rgb \rightarrow rgb^*_{dee}$ set $rgbcolo$
Discrimination of 5 and 16 step colour scales
output 130-9: $g_P=1.0$; $g_N=1.0$

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, CIELAB

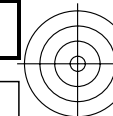
TUB registration: 20110801-OE82/OE82L0NA.TXT /.PS
application for output of displays: monitor systems or data projector systems
TUB material: code=rha4ta



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, CIELAB

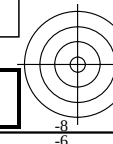


<http://130.149.60.45/~farbmetrik/OE82/OE82L0NA.TXT> /PS; linearized output, Page 11/12
 F: Output Linearization (OL) data OE82/OE82L0NA.TXT /PS in File (F)



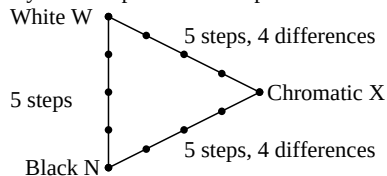
TUB registration: 20110801-OE82/OE82L0NA.TXT /PS
 application for output of displays: monitor systems or data projector systems

TUB material: code=rhta4ta



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

OE820-3N-130-10

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

PDF-File: <http://130.149.60.45/farbmetrik/OE82/OE82L0NP.PDF> underline Yes/No

PS-File: <http://130.149.60.45/farbmetrik/OE82/OE82L0NA.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 OE82L0NP.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 OE82L0NA.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

OE820-7N-130-10

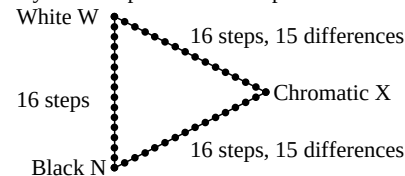


OE82: Form A for test chart 1 according to DIN 33872-2; 1MR, DEH
 Discrimination of colour scales (Yes/No decision)
 Input: $rgb \rightarrow rgb_{de}$ setrgbcolor
 output 130-10: $g_P=1.0$; $g_N=1.0$



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

OE821-3N-130-10

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/OE82/OE82F1P2.PDF>

underline Yes/No

PS file: <http://130.149.60.45/farbmetrik/OE82/OE82F1P2.PS>

underline Yes/No

Picture A7-130-2: 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/OE82/OE82F1P2.PDF>

picture A7-130-2

underline Yes/No

PS-File: <http://130.149.60.45/farbmetrik/OE82/OE82F1P2.PS>

picture A7-130-2

or underline Yes/No

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

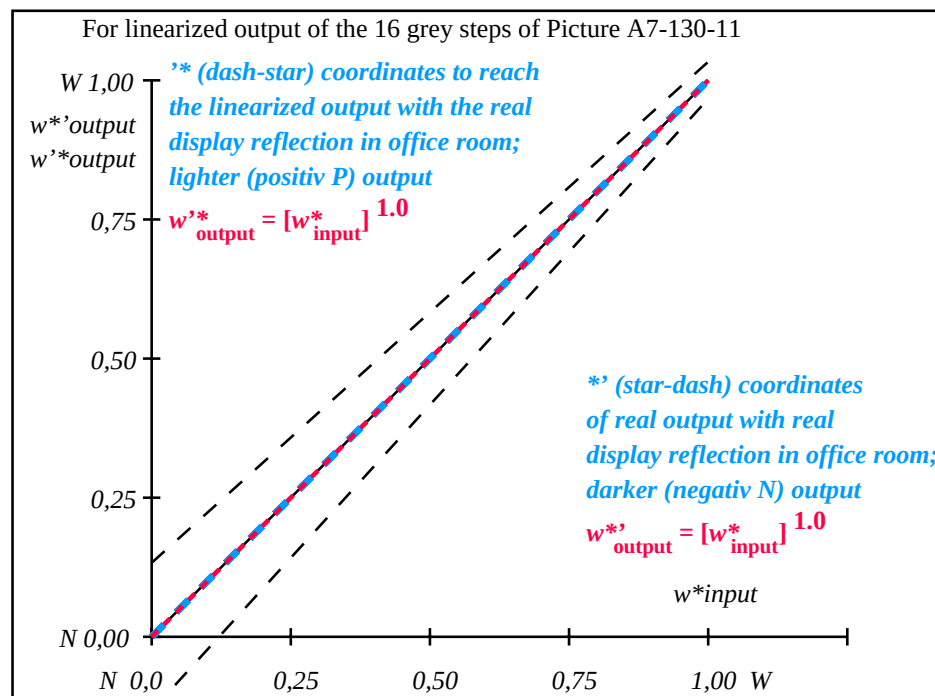
OE821-7N-130-10



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, CIELAB

i	LAB*ref			l*out			LAB*out			LAB*out/c-ref			ΔE^*	Start output S1 Specification according to ISO/IEC 15775 Annex G and DIN 33866-1 Annex G
1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.01		
2	6.36	0.0	0.0	0.07	6.36	0.0	0.0	0.0	0.0	0.0	0.0	0.01		
3	12.72	0.0	0.0	0.13	12.72	0.0	0.0	0.0	0.0	0.0	0.0	0.01		
4	19.08	0.0	0.0	0.2	19.08	0.0	0.0	0.0	0.0	0.0	0.0	0.01		
5	25.44	0.0	0.0	0.27	25.44	0.0	0.0	0.0	0.0	0.0	0.0	0.01		
6	31.8	0.0	0.0	0.33	31.8	0.0	0.0	0.0	0.0	0.0	0.0	0.01		
7	38.16	0.0	0.0	0.4	38.16	0.0	0.0	0.0	0.0	0.0	0.0	0.01		
8	44.52	0.0	0.0	0.47	44.52	0.0	0.0	0.0	0.0	0.0	0.0	0.01		
9	50.89	0.0	0.0	0.53	50.89	0.0	0.0	0.0	0.0	0.0	0.0	0.01		
10	57.25	0.0	0.0	0.6	57.25	0.0	0.0	0.0	0.0	0.0	0.0	0.01		
11	63.61	0.0	0.0	0.67	63.61	0.0	0.0	0.0	0.0	0.0	0.0	0.01		
12	69.97	0.0	0.0	0.73	69.97	0.0	0.0	0.0	0.0	0.0	0.0	0.01		
13	76.33	0.0	0.0	0.8	76.33	0.0	0.0	0.0	0.0	0.0	0.0	0.01		
14	82.69	0.0	0.0	0.87	82.69	0.0	0.0	0.0	0.0	0.0	0.0	0.01		
15	89.05	0.0	0.0	0.93	89.05	0.0	0.0	0.0	0.0	0.0	0.0	0.01		
16	95.41	0.0	0.0	1.0	95.41	0.0	0.0	0.0	0.0	0.0	0.0	0.01		
17	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.01		
18	23.85	0.0	0.0	0.25	23.85	0.0	0.0	0.0	0.0	0.0	0.0	0.01		
19	47.71	0.0	0.0	0.5	47.71	0.0	0.0	0.0	0.0	0.0	0.0	0.01		
20	71.56	0.0	0.0	0.75	71.56	0.0	0.0	0.0	0.0	0.0	0.0	0.01		
21	95.41	0.0	0.0	1.0	95.41	0.0	0.0	0.0	0.0	0.0	0.0	0.01		
Mean colour reproduction index:													$R^*_{ab,m} = 100$	

OE820-3N-130-11: File: Measure unknown; Device: Device unknown; Date: Date unknown



OE821-3N-130-11: 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
$w^* w^* w^*$ setrgb $g_P=1.0$																
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

OE820-7N, Picture A7-130-11: 16 visual equidistant L^* -grey steps; PS operator: $w^* w^* w^*$ setrgbcolor

OE82: In-output relation according to ISO 9241-306; 1MR, DEH
Viewing Y contrast $Y_W:Y_N=88,9:0,31$; Y_N range 0,0 to <0,46

input: $rgb \rightarrow rgb^*_{de}$ setrgbcolor
output 130-11: $g_P=1.0$; $g_N=1.0$

TUB registration: 20110801-OE82/OE82L0NA.TXT /.PS
application for output of displays: monitor systems or data projector systems
TUB material: code=rh4ta

Input: Colorimetric Television Luminous System TLS00a

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

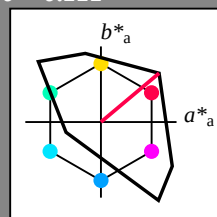
lab^*tch and lab^*nch

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

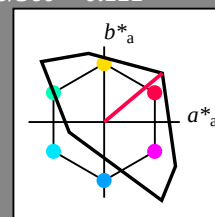
lab^*tch and lab^*nch

D65: hue O

LCH*Ma: 51 100 40

olv*Ma: 1.0 0.0 0.0

triangle lightness t^*



%Gamut

$u^*_{rel} = 158$

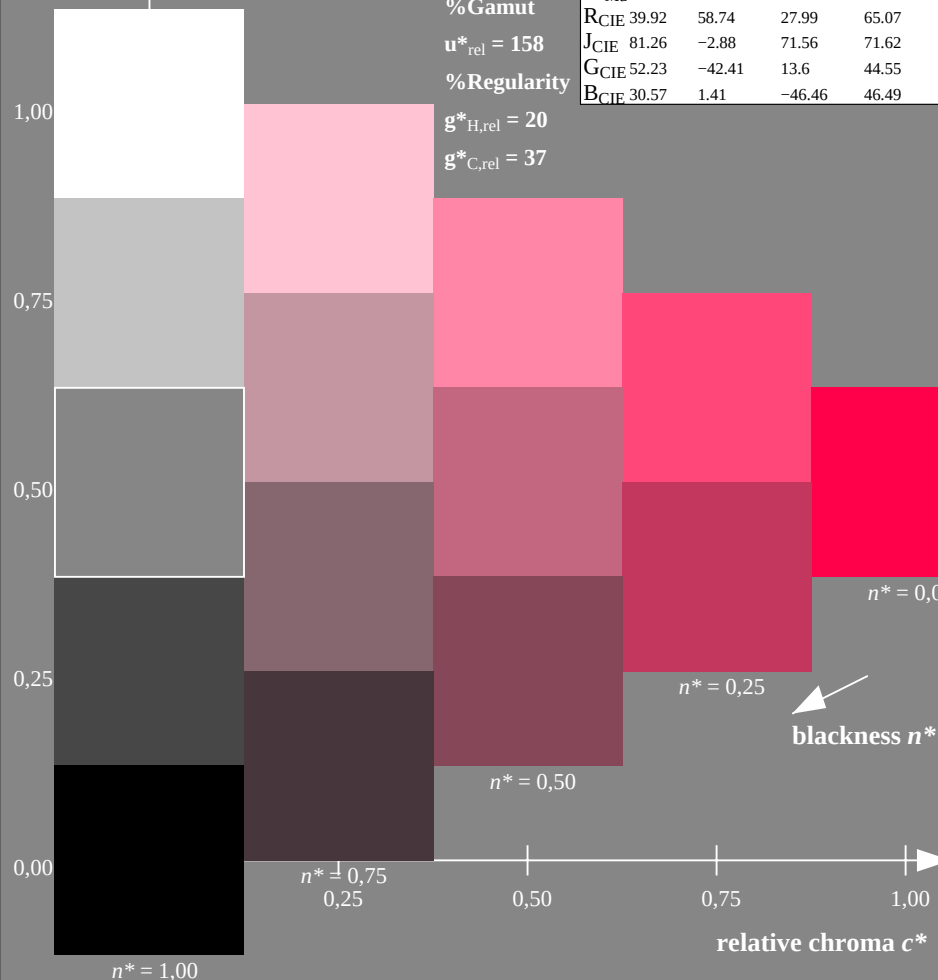
%Regularity

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

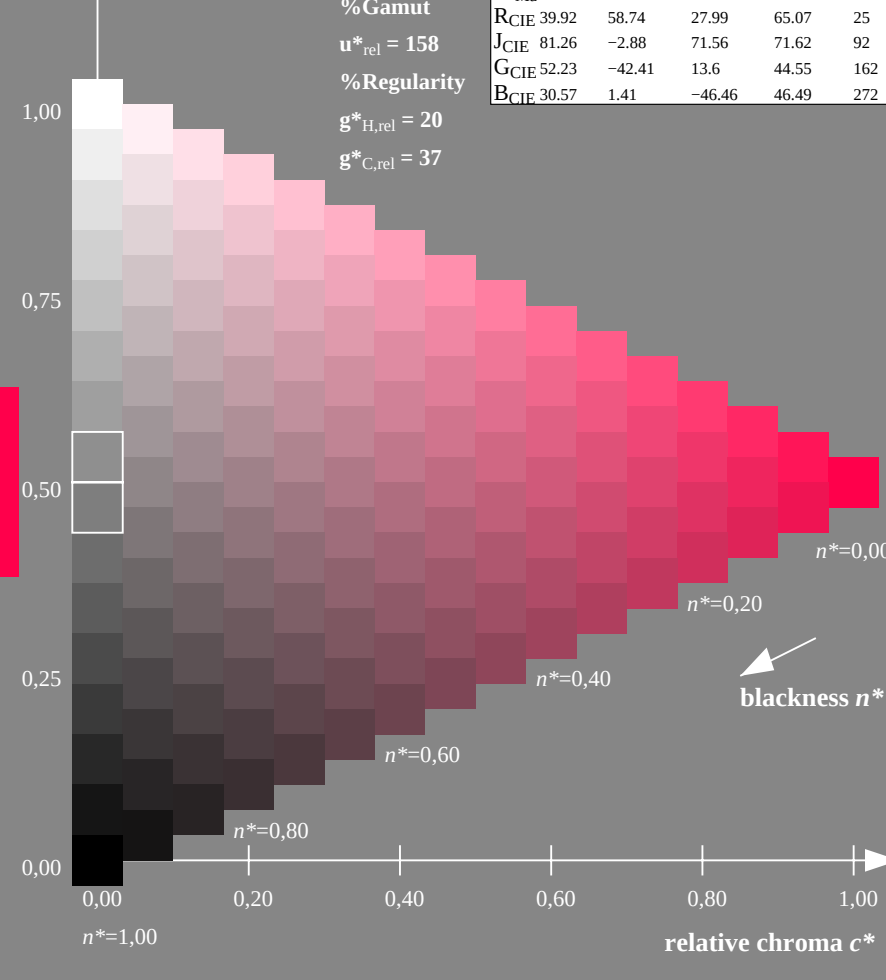
$g^*_{C,rel} = 37$

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



OE820-7N-131-0: 5 step scales for constant CIELAB hue 40/360 = 0.111 (left)



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

OE82: Test chart 1 according to DIN 33872-2, Hue O; 1MR, DEH
Discrimination of 5 and 16 step colour scales

input: $rgb \rightarrow rgb^*_{de}$ setrgbcolor
output 131-0: $g_P=0.92; g_N=1.0$

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, CIELAB

TUB registration: 20110801-OE82/OE82L0NA.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 $h^* = lab^*h = 103/360 = 0.286$

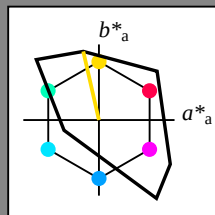
lab^*tch and lab^*nch

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

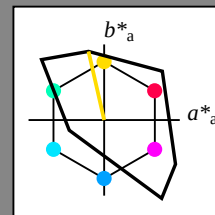
lab^*tch and lab^*nch

D65: hue Y

LCH*Ma: 93 93 103

olv*Ma: 1.0 1.0 0.0

triangle lightness t^*



%Gamut

$u^*_{rel} = 158$

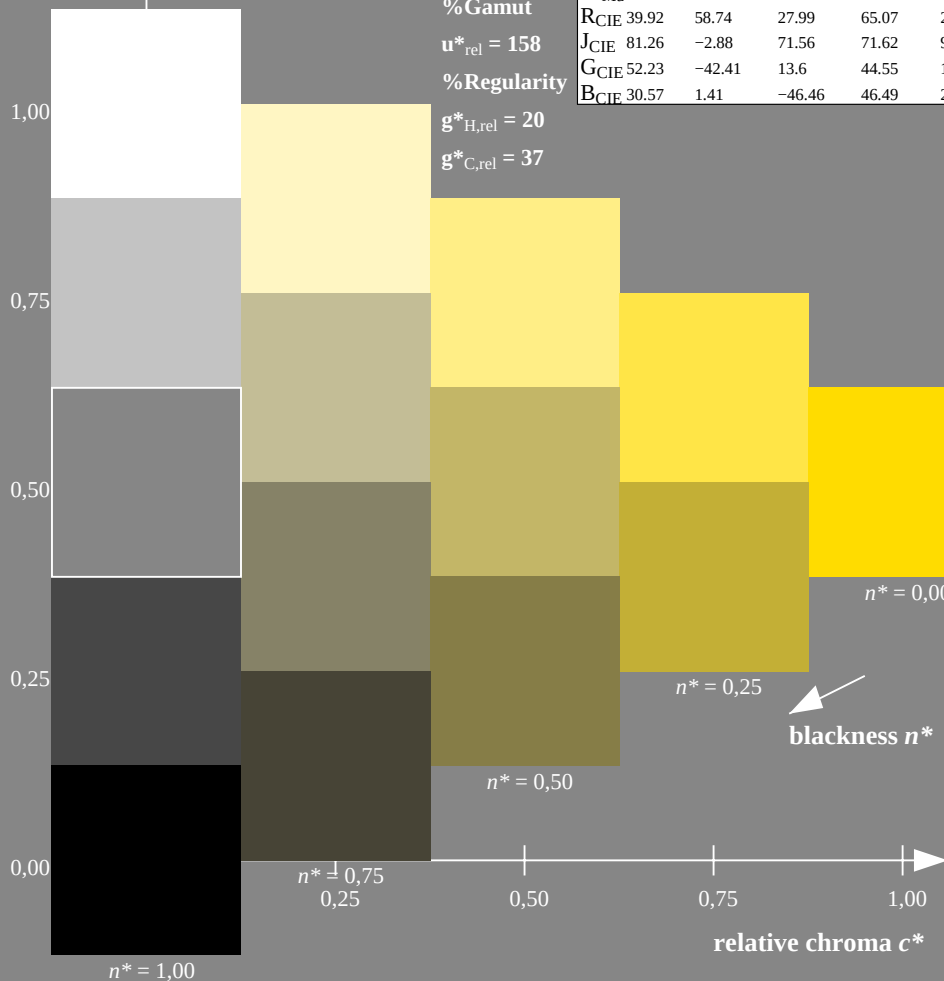
%Regularity

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

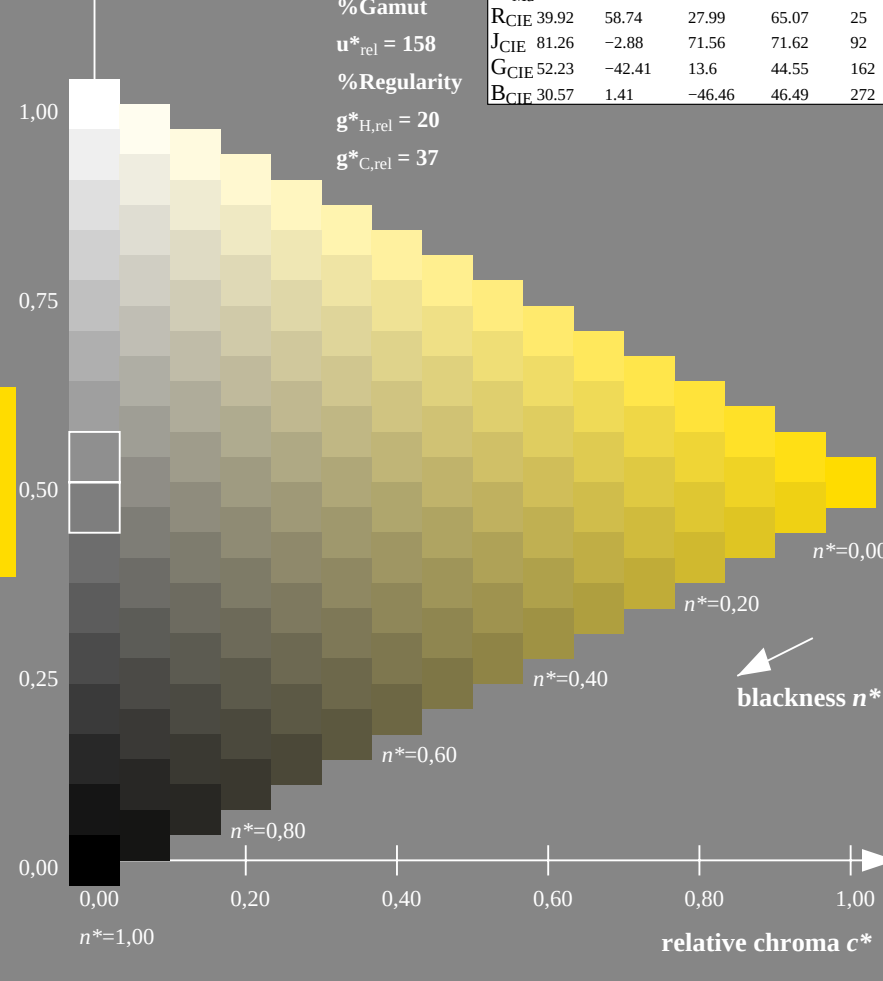
$g^*_{C,rel} = 37$

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
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



OE820-7N-131-1: 5 step scales for constant CIELAB hue 103/360 = 0.286 (left)



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

OE82: Test chart 1 according to DIN 33872-2, Hue Y; 1MR, DEH
Discrimination of 5 and 16 step colour scales

input: $rgb \rightarrow rgb^*_{de}$ setrgbcolor
output 131-1: $g_P=0.92$; $g_N=1.0$

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, CIELAB

TUB registration: 20110801-OE82/OE82L0NA.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 $h^* = lab^*h = 136/360 = 0.378$

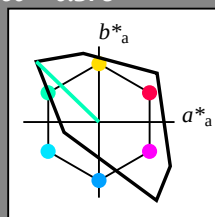
lab^*tch and lab^*nch

D65: hue L

LCH*Ma: 84 115 136

ol v^* 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 $h^* = lab^*h = 136/360 = 0.378$

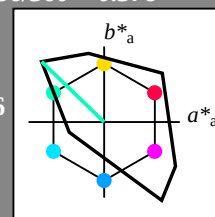
lab^*tch and lab^*nch

D65: hue L

LCH*Ma: 84 115 136

ol v^* Ma: 0.0 1.0 0.0

triangle lightness t^*



%Gamut

$u^*_{rel} = 158$

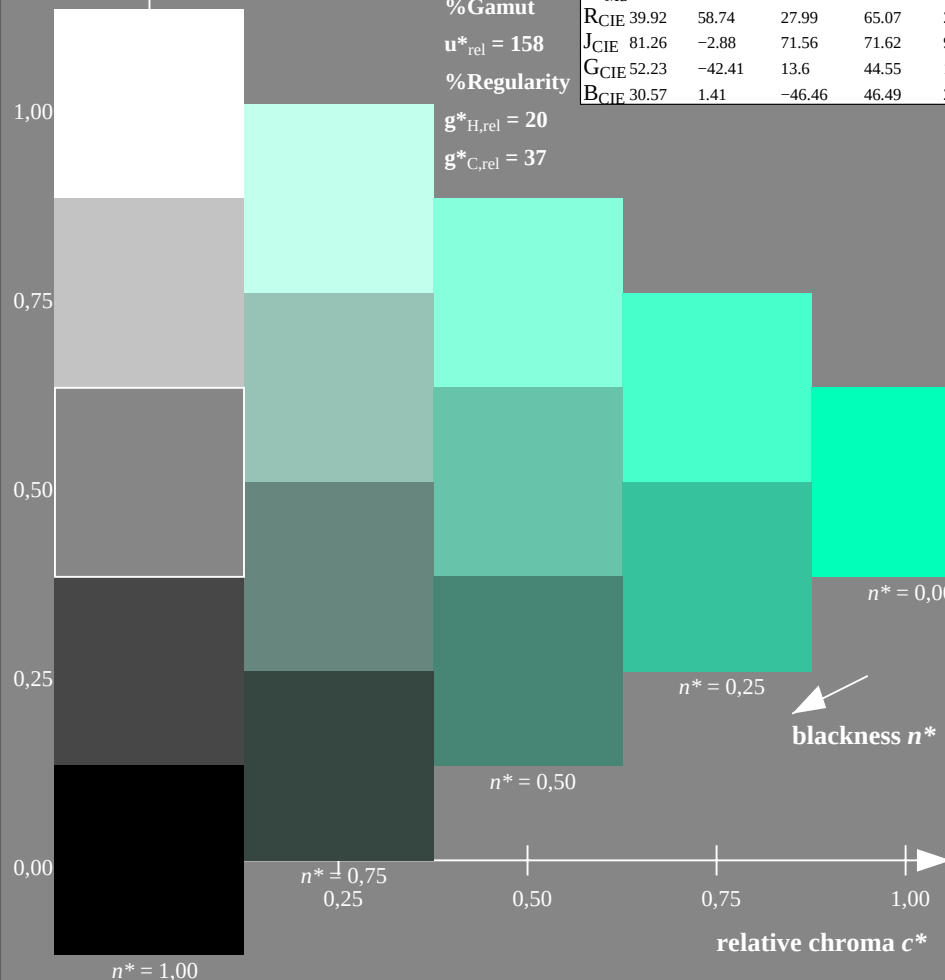
%Regularity

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

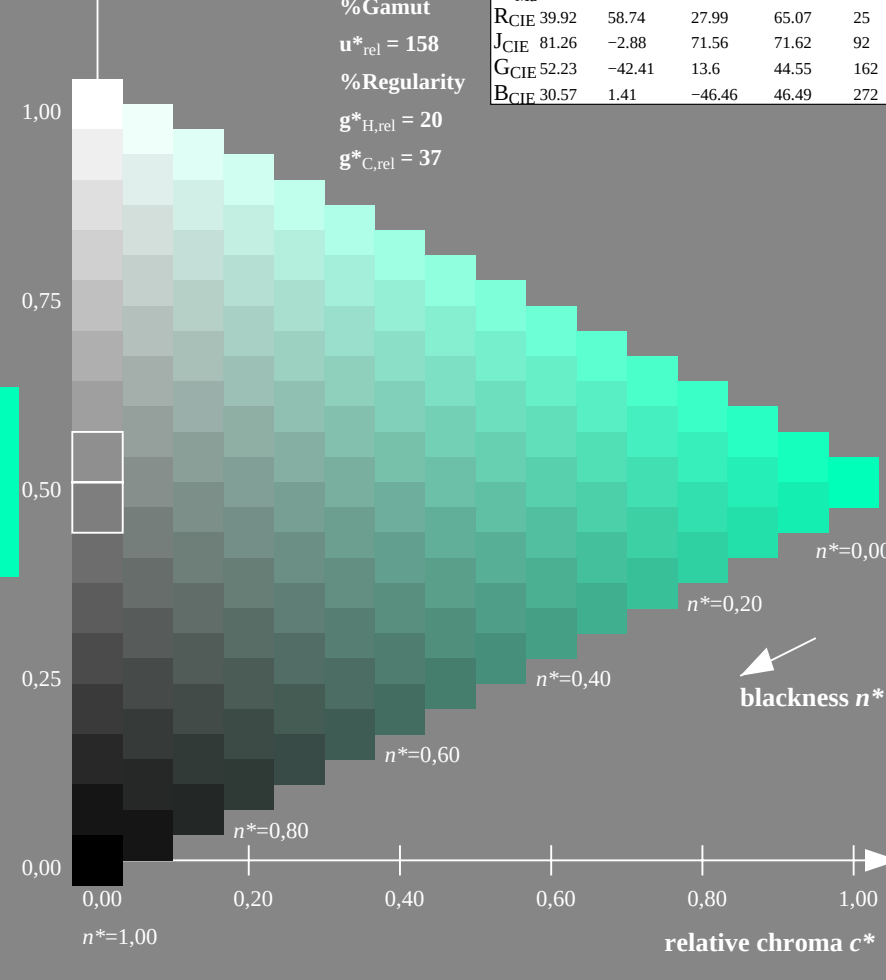
$g^*_{C,rel} = 37$

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



OE820-7N-131-2: 5 step scales for constant CIELAB hue 136/360 = 0.378 (left)



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

OE82: Test chart 1 according to DIN 33872-2, Hue L; 1MR, DEH
Discrimination of 5 and 16 step colour scales

input: $rgb \rightarrow rgb^*_{de}$ setrgbcolor
output 131-2: $g_P=0.92$; $g_N=1.0$

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, CIELAB

TUB registration: 20110801-OE82/OE82L0NA.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 $h^* = lab^*h = 196/360 = 0.545$

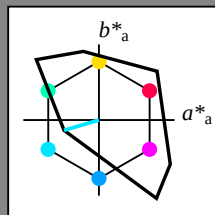
lab^*tch and lab^*nch

D65: hue C

LCH*Ma: 87 48 196

ol*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 $h^* = lab^*h = 196/360 = 0.545$

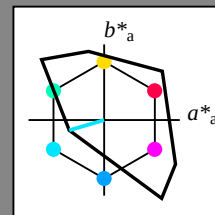
lab^*tch and lab^*nch

D65: hue C

LCH*Ma: 87 48 196

ol*Ma: 0.0 1.0 1.0

triangle lightness t^*



%Gamut

$u^*_{rel} = 158$

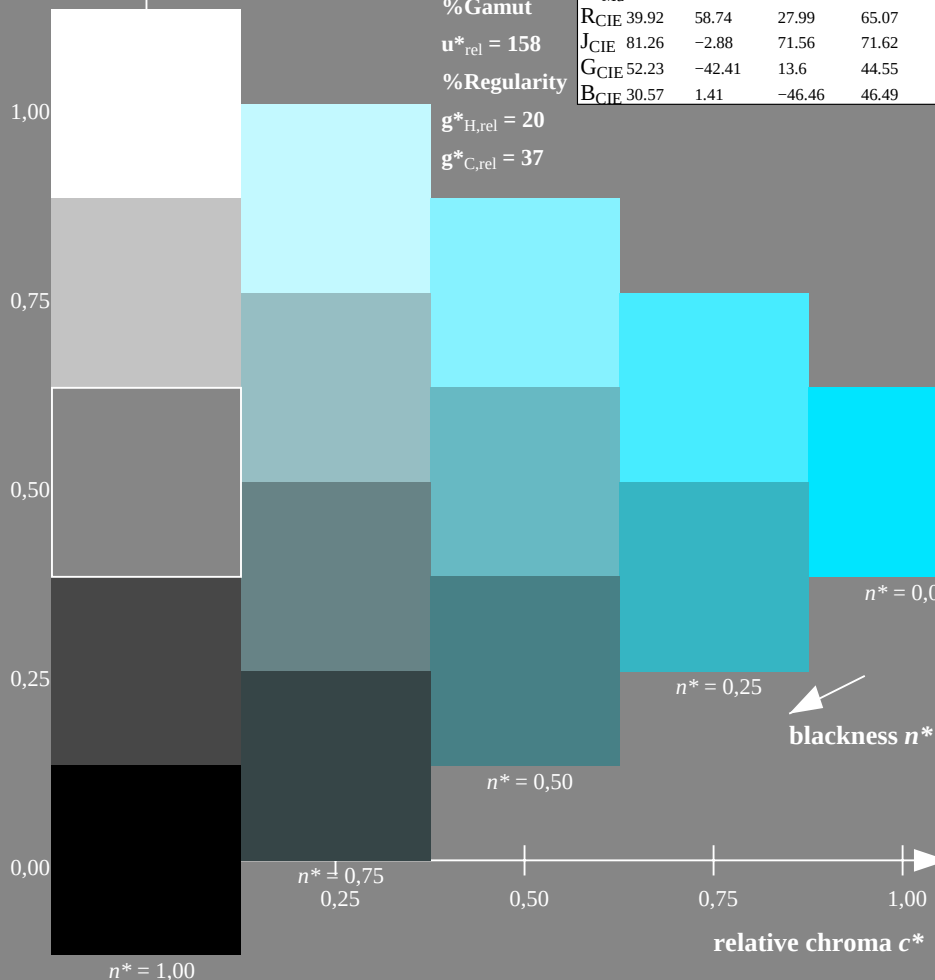
%Regularity

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

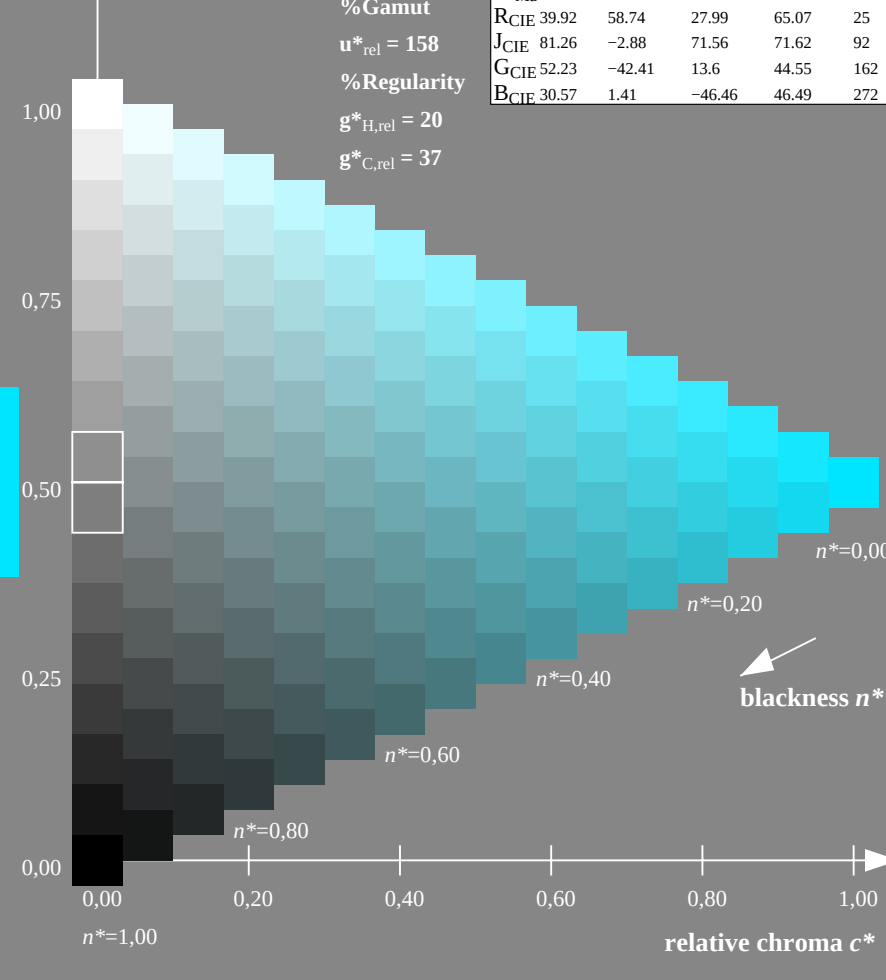
$g^*_{C,rel} = 37$

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



OE820-7N-131-3: 5 step scales for constant CIELAB hue 196/360 = 0.545 (left)



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

OE82: Test chart 1 according to DIN 33872-2, Hue C; 1MR, DEH
Discrimination of 5 and 16 step colour scales

input: $rgb \rightarrow rgb^*_{de}$ setrgbcolor
output 131-3: $g_P=0.92; g_N=1.0$

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, CIELAB

TUB registration: 20110801-OE82/OE82L0NA.TXT /.PS
application for output of displays: monitor systems or data projector systems
TUB material: code=th4ta

Input: Colorimetric Television Luminous System TLS00a

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

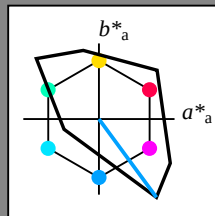
lab^*tch and lab^*nch

D65: hue V

LCH*Ma: 30 129 306

ol*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 $h^* = lab^*h = 306/360 = 0.851$

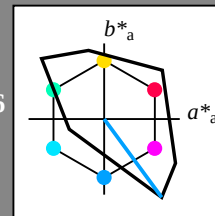
lab^*tch and lab^*nch

D65: hue V

LCH*Ma: 30 129 306

ol*Ma: 0.0 0.0 1.0

triangle lightness t^*



%Gamut

$u^*_{rel} = 158$

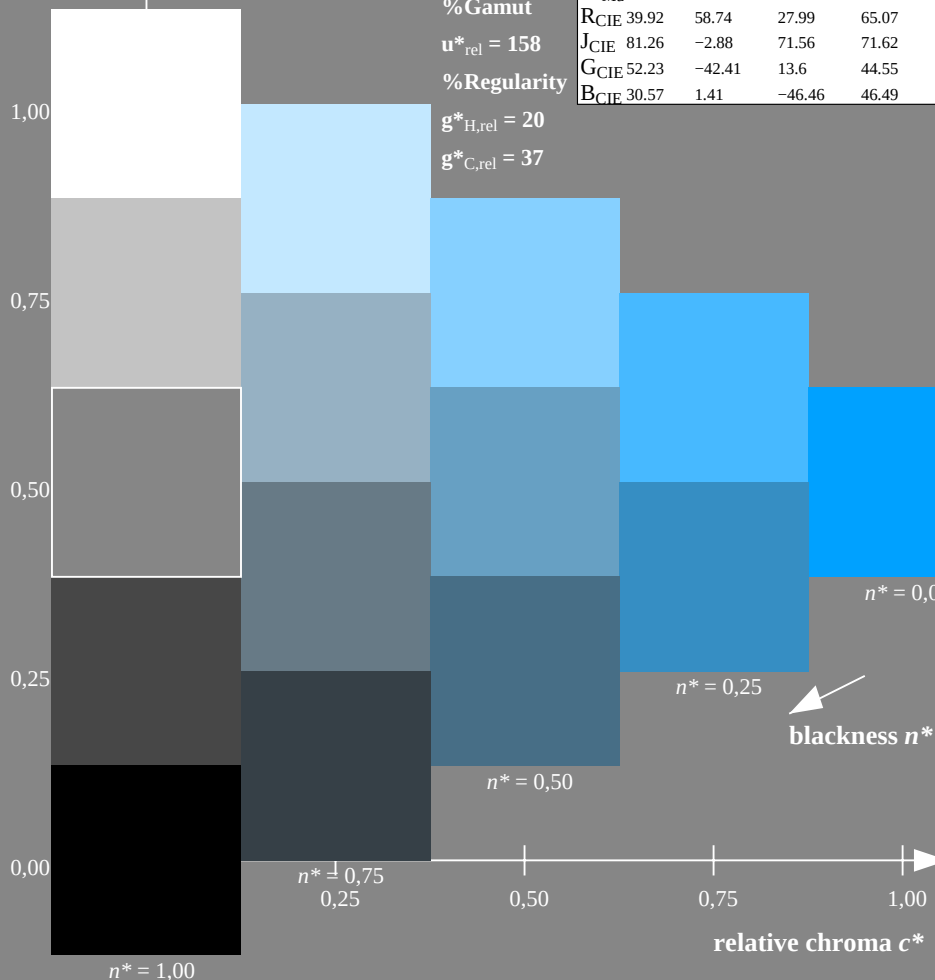
%Regularity

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

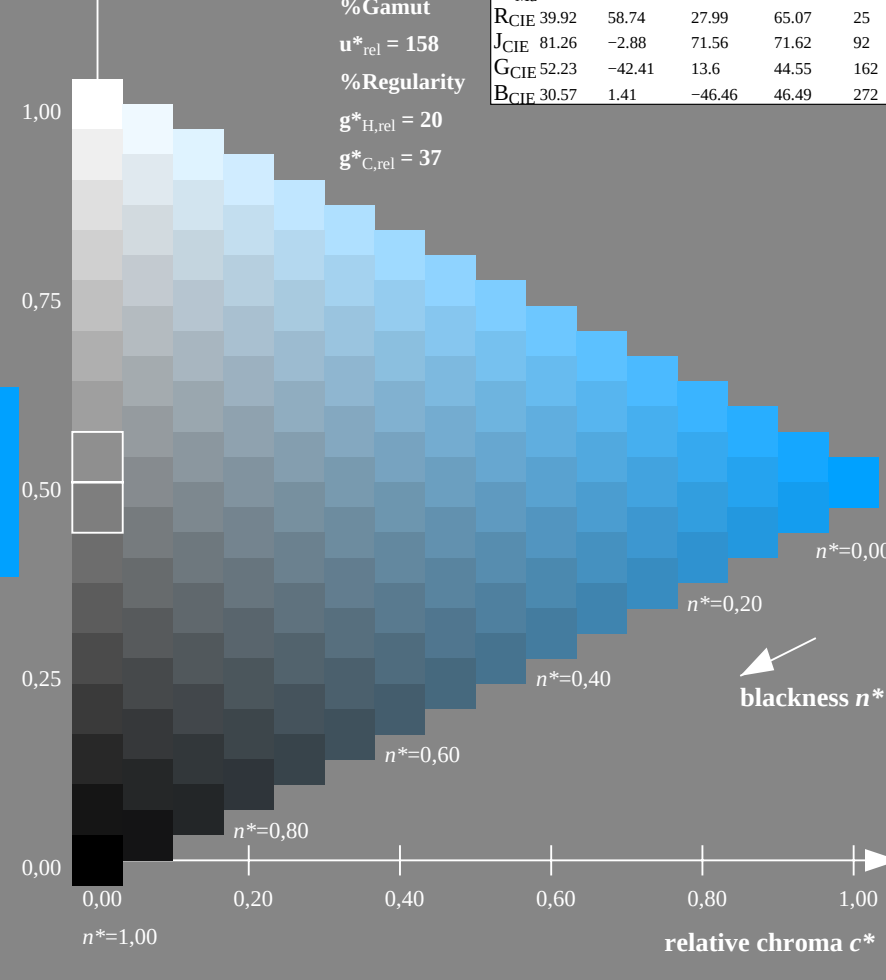
$g^*_{C,rel} = 37$

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



OE820-7N-131-4: 5 step scales for constant CIELAB hue 306/360 = 0.851 (left)



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

OE82: Test chart 1 according to DIN 33872-2, Hue V; 1MR, DEH
Discrimination of 5 and 16 step colour scales

input: $rgb \rightarrow rgb^*_{de}$ setrgbcolor
output 131-4: $g_P=0.92$; $g_N=1.0$

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, CIELAB

TUB registration: 20110801-OE82/OE82L0NA.TXT /.PS
application for output of displays: monitor systems or data projector systems
TUB material: code=rhta4ta

Input: Colorimetric Television Luminous System TLS00a

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

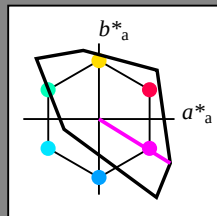
lab^*tch and lab^*nch

D65: hue M

LCH*Ma: 57 111 328

ol v^* 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

Output: Colorimetric Television Luminous System TLS00a

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

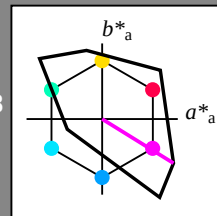
lab^*tch and lab^*nch

D65: hue M

LCH*Ma: 57 111 328

ol v^* Ma: 1.0 0.0 1.0

triangle lightness t^*



%Gamut

$u^*_{rel} = 158$

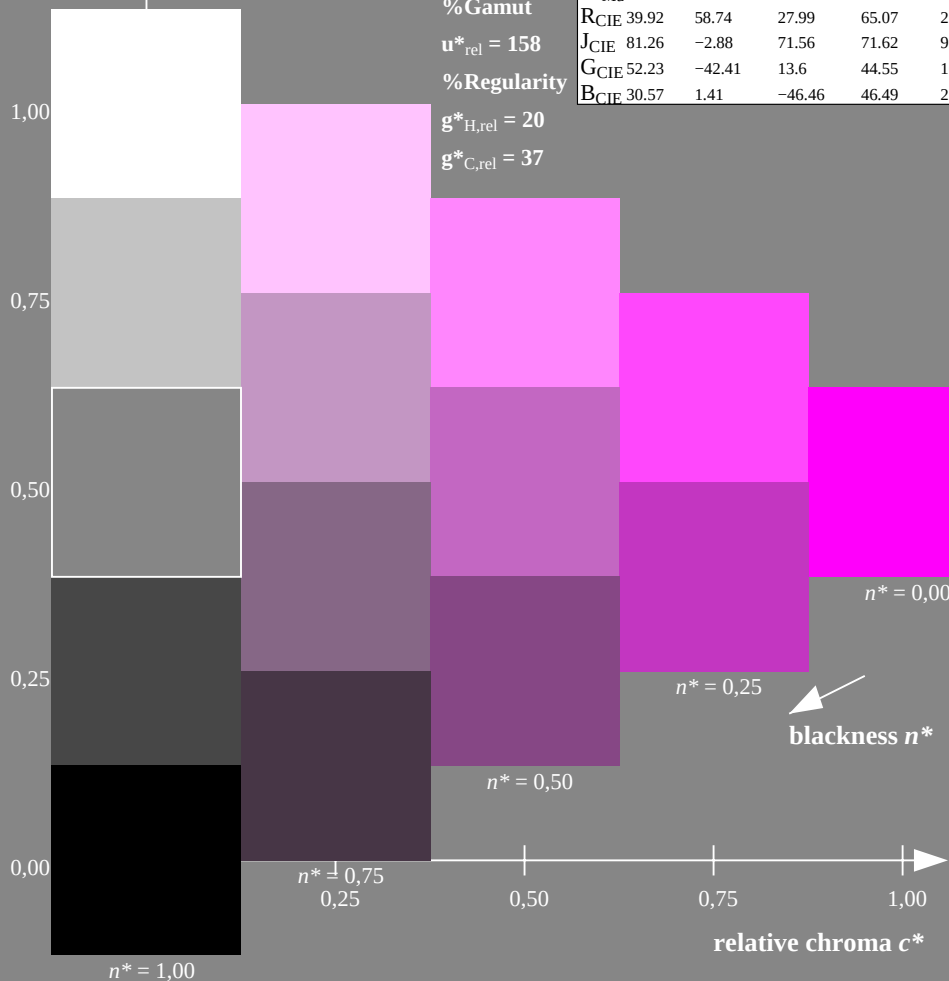
%Regularity

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

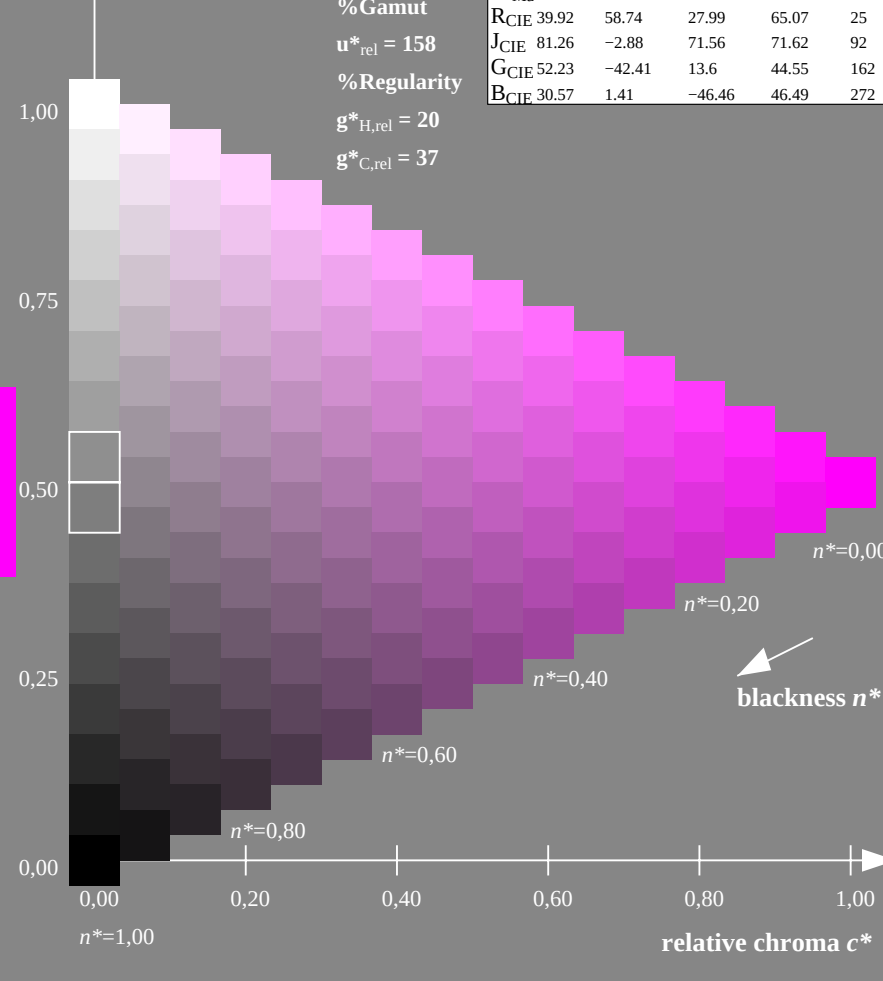
$g^*_{C,rel} = 37$

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



OE820-7N-131-5: 5 step scales for constant CIELAB hue 328/360 = 0.912 (left)



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

OE82: Test chart 1 according to DIN 33872-2, Hue M; 1MR, DEH input: $rgb \rightarrow rgb^*_{de}$ setrgbcolor
Discrimination of 5 and 16 step colour scales output 131-5: $g_P=0.92$; $g_N=1.0$

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, CIELAB

TUB registration: 20110801-OE82/OE82L0NA.TXT /.PS
application for output of displays: monitor systems or data projector systems
TUB material: code=rha4ta

OE82: Test chart 1 according to DIN 33872-2, Hue R; 1MR, DEEH input: *rgb* ($\rightarrow$ *rgb**_{dee}) *setrgbcolor*
Discrimination of 5 and 16 step colour scales output 131-6: $q_P=0.92$; $q_N=1.0$

OE82: Test chart 1 according to DIN 33872-2, Hue R; 1MR, DEEH input: *rgb* ($\rightarrow$ *rgb**_{dee}) *setrgbcolor*
Discrimination of 5 and 16 step colour scales output 131-6: $q_P=0.92$; $q_N=1.0$

TUB material: code=rha4ta

Input: Colorimetric Television Luminous System TLS00a

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

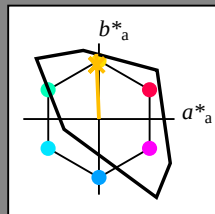
lab^*tch and lab^*nch

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

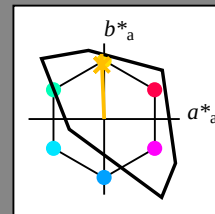
lab^*tch and lab^*nch

D65: hue J

LCH*Ma: 85 86 92

olv*Ma: 1.0 0.82 0.0

triangle lightness t^*



%Gamut

$u^*_{rel} = 158$

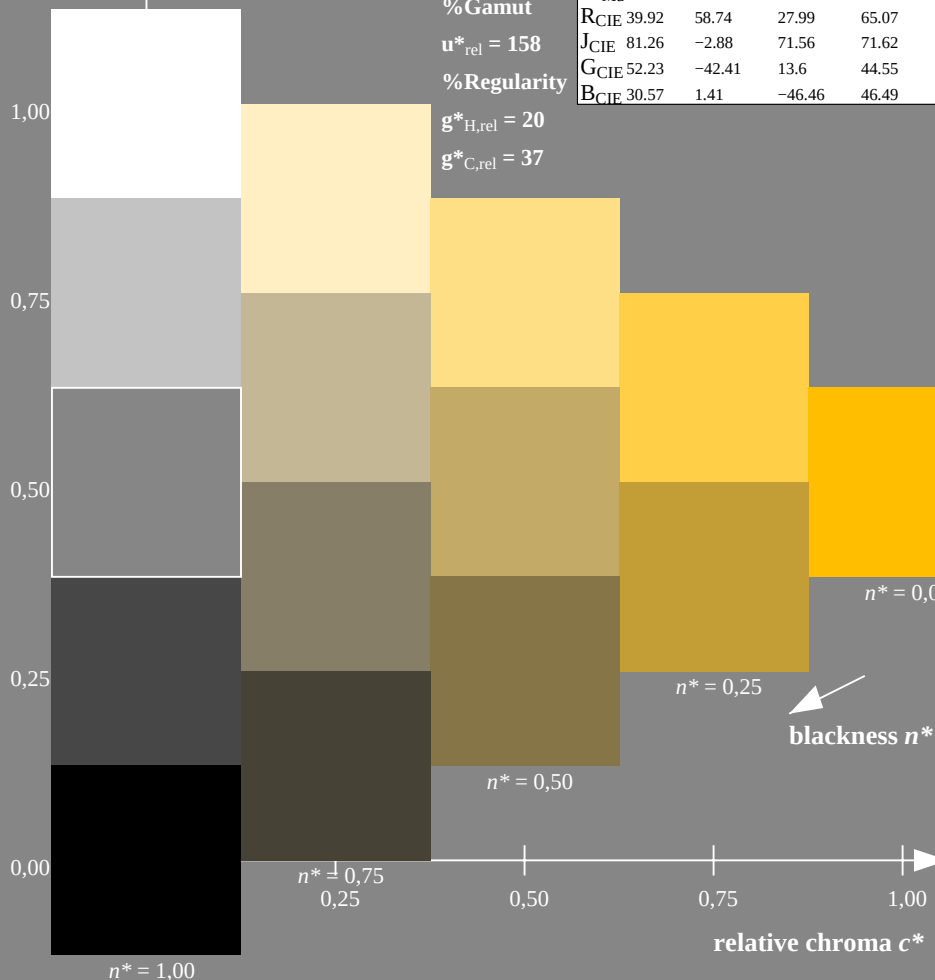
%Regularity

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

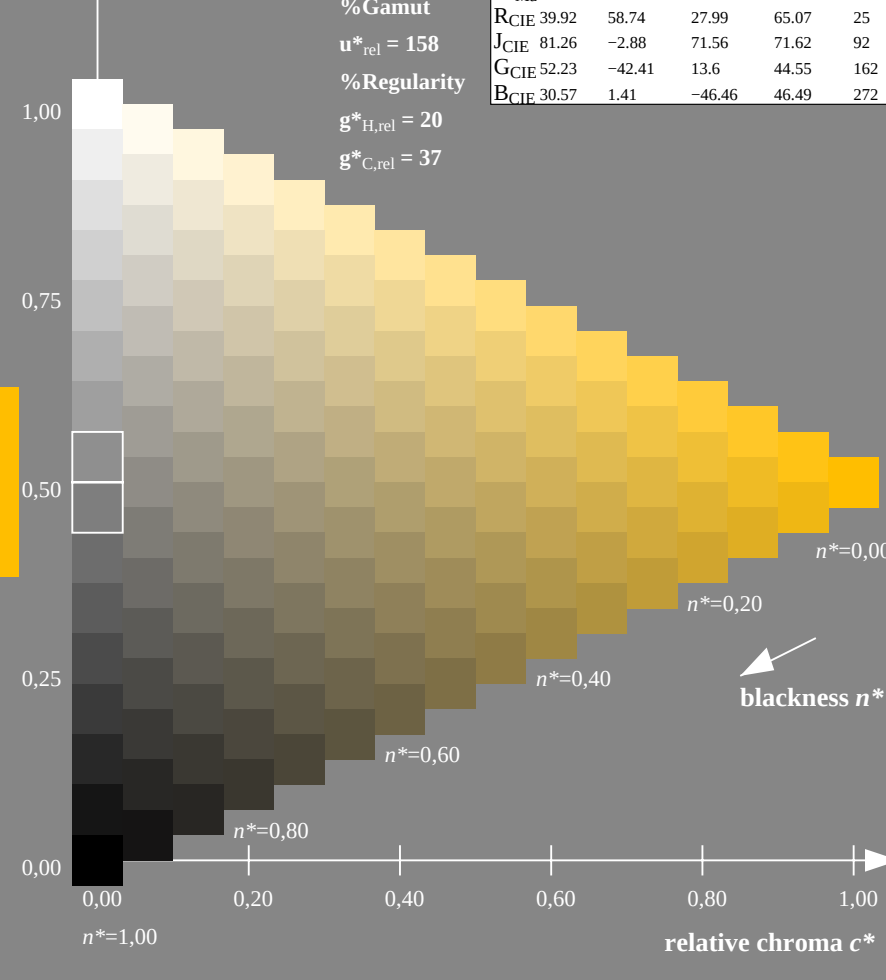
$g^*_{C,rel} = 37$

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



OE820-7N-131-7: 5 step scales for constant CIELAB hue 92/360 = 0.256 (left)



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

OE82: Test chart 1 according to DIN 33872-2, Hue J; 1MR, DEEH input: $rgb \rightarrow rgb^*_{dee}$ setrgbcolo
Discrimination of 5 and 16 step colour scales output 131-7: $g_P=0.92$; $g_N=1.0$

TUB registration: 20110801-OE82/OE82L0NA.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 $h^* = lab^*h = 162/360 = 0.451$

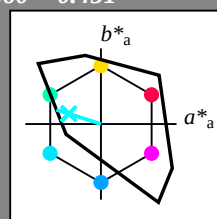
lab^*tch and lab^*nch

D65: hue G

LCH*Ma: 86 62 162

ol v^* 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 $h^* = lab^*h = 162/360 = 0.451$

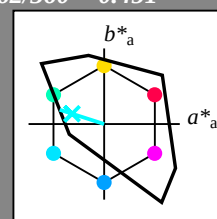
lab^*tch and lab^*nch

D65: hue G

LCH*Ma: 86 62 162

ol v^* Ma: 0.0 1.0 0.65

triangle lightness t^*



%Gamut

$u^*_{rel} = 158$

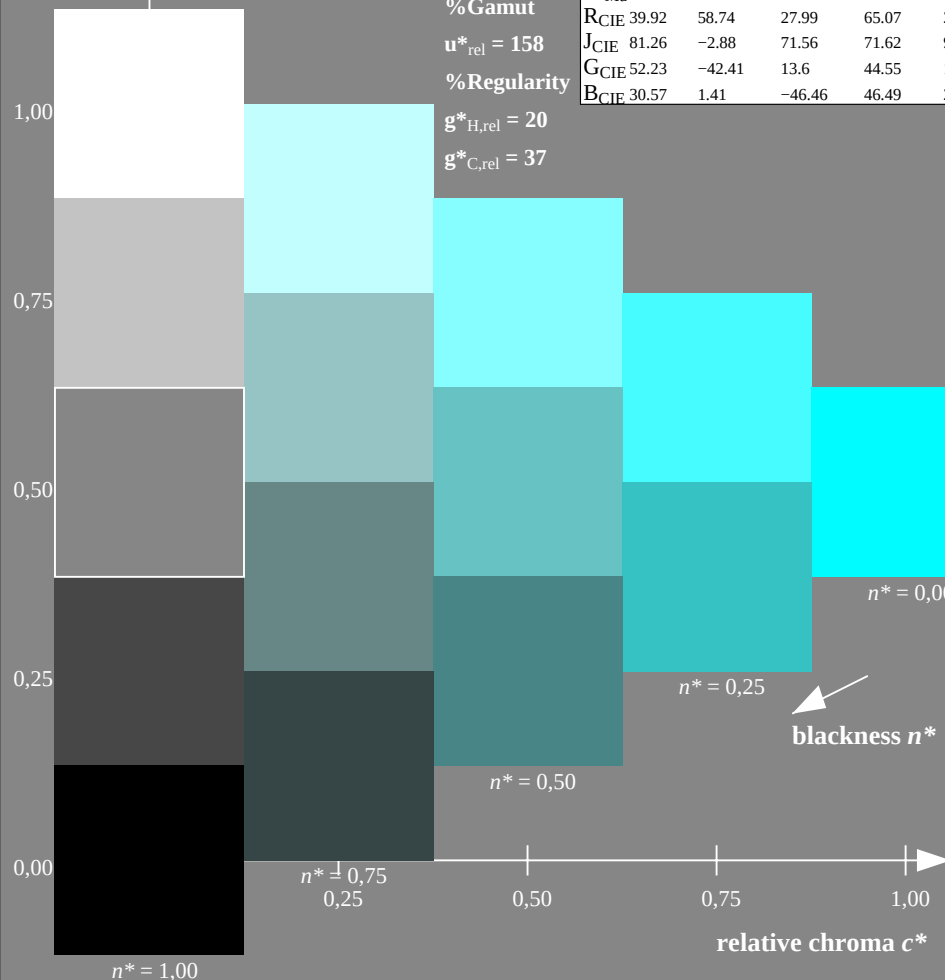
%Regularity

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

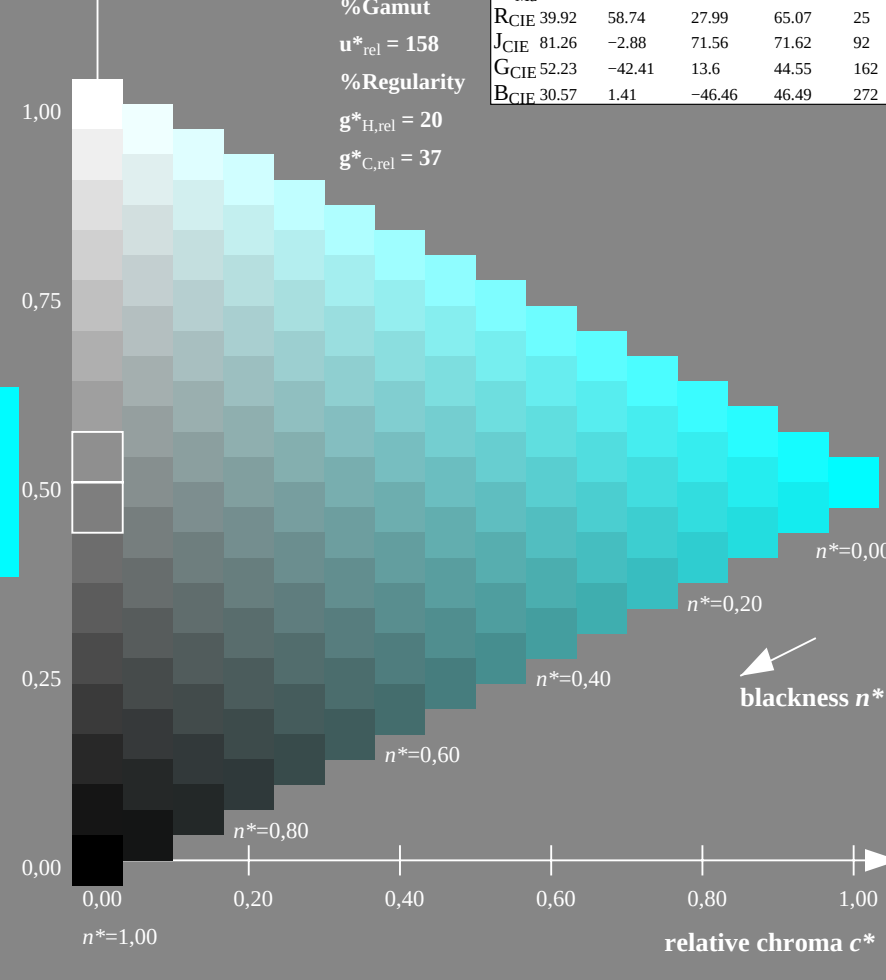
$g^*_{C,rel} = 37$

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



OE820-7N-131-8: 5 step scales for constant CIELAB hue 162/360 = 0.451 (left)



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

OE82: Test chart 1 according to DIN 33872-2, Hue G; 1MR, DEEH input: $rgb \rightarrow rgb^*_{dee}$ setrgbcolo
Discrimination of 5 and 16 step colour scales
output 131-8: $g_P=0.92$; $g_N=1.0$

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, CIELAB

TUB registration: 20110801-OE82/OE82L0NA.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 $h^* = lab^*h = 272/360 = 0.755$

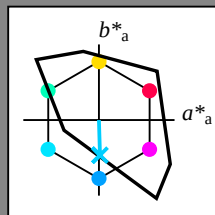
lab^*tch and lab^*nch

D65: hue B

LCH*Ma: 65 49 272

ol v^* 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 $h^* = lab^*h = 272/360 = 0.755$

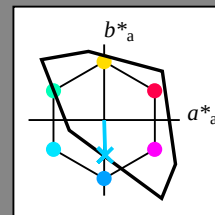
lab^*tch and lab^*nch

D65: hue B

LCH*Ma: 65 49 272

ol v^* Ma: 0.0 0.61 1.0

triangle lightness t^*



%Gamut

$u^*_{rel} = 158$

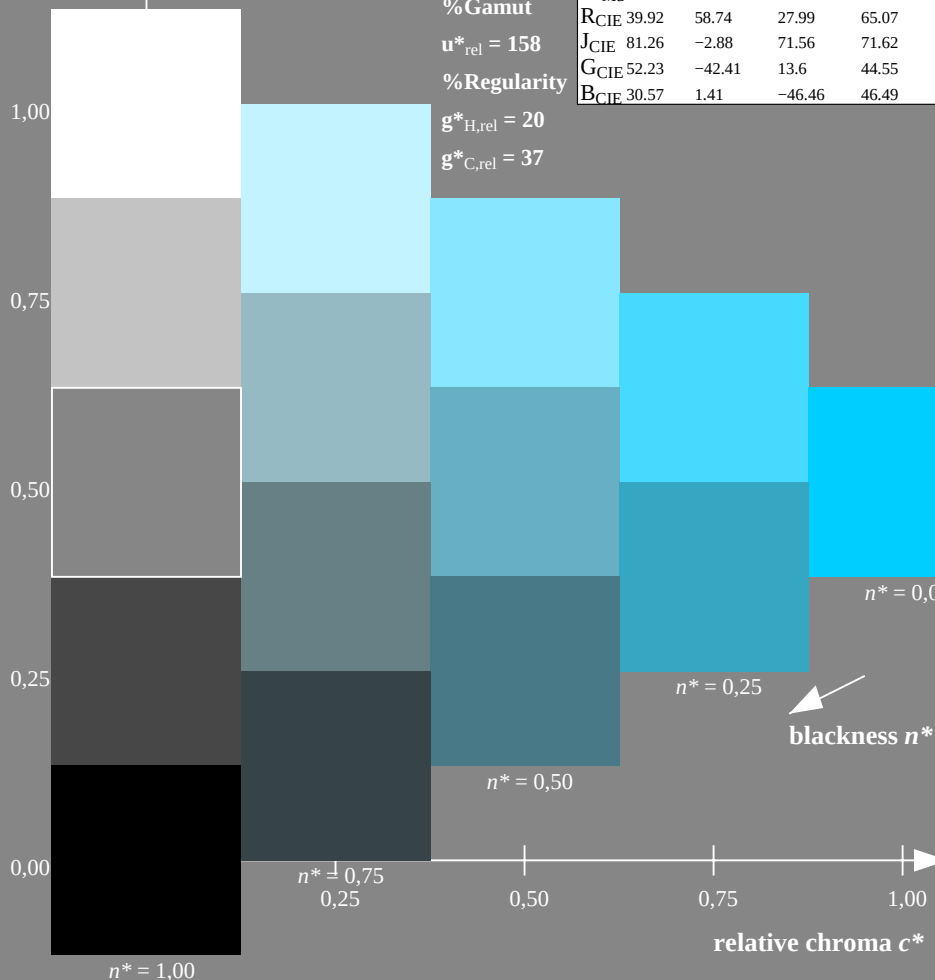
%Regularity

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

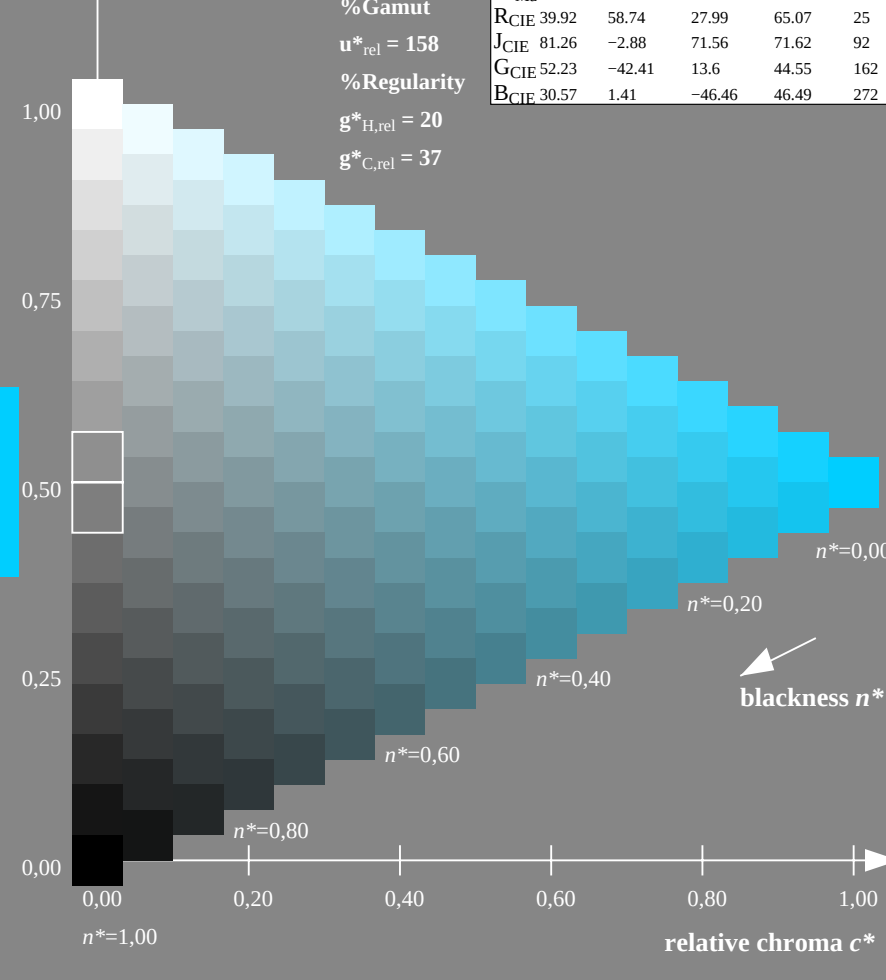
$g^*_{C,rel} = 37$

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



OE820-7N-131-9: 5 step scales for constant CIELAB hue 272/360 = 0.755 (left)

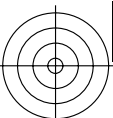


16 step scales for constant CIELAB hue 272/360 = 0.755 (right)

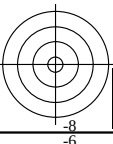
OE82: Test chart 1 according to DIN 33872-2, Hue B; 1MR, DEEH input: $rgb \rightarrow rgb^*_{dee}$ setrgbcolo
Discrimination of 5 and 16 step colour scales
output 131-9: $g_P=0.92$; $g_N=1.0$

TUB registration: 20110801-OE82/OE82L0NA.TXT /.PS
application for output of displays: monitor systems or data projector systems

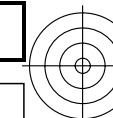
TUB material: code=rha4ta



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, CIELAB

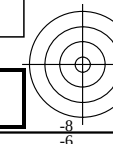


<http://130.149.60.45/~farbmetrik/OE82/OE82L0NA.TXT> /PS; linearized output, Page 11/12
 F: Output Linearization (OL) data OE82/OE82L0NA.TXT /PS in File (F)



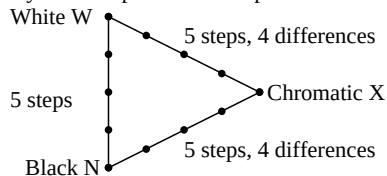
TUB registration: 20110801-OE82/OE82L0NA.TXT /PS
 application for output of displays: monitor systems or data projector systems

TUB material: code=rhta4ta



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

OE820-3N-131-10

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

PDF-File: <http://130.149.60.45/farbmetrik/OE82/OE82L0NP.PDF> underline Yes/No

PS-File: <http://130.149.60.45/farbmetrik/OE82/OE82L0NA.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 OE82L0NP.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 OE82L0NA.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

OE820-7N-131-10

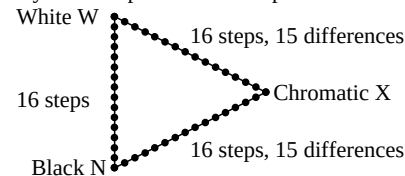


OE82: Form A for test chart 1 according to DIN 33872-2; 1MR, DEH
 Discrimination of colour scales (Yes/No decision)
 Input: $rgb \rightarrow rgb_{de}$ setrgbcolor
 output 131-10: $g_P=0.92; g_N=1.0$



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

OE821-3N-131-10

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/OE82/OE82F1P2.PDF>

underline Yes/No

PS file: <http://130.149.60.45/farbmetrik/OE82/OE82F1P2.PS>

underline Yes/No

Picture A7-131-2: 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/OE82/OE82F1P2.PDF>

picture A7-131-2

underline Yes/No

PS-File: <http://130.149.60.45/farbmetrik/OE82/OE82F1P2.PS>

picture A7-131-2

or underline Yes/No

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

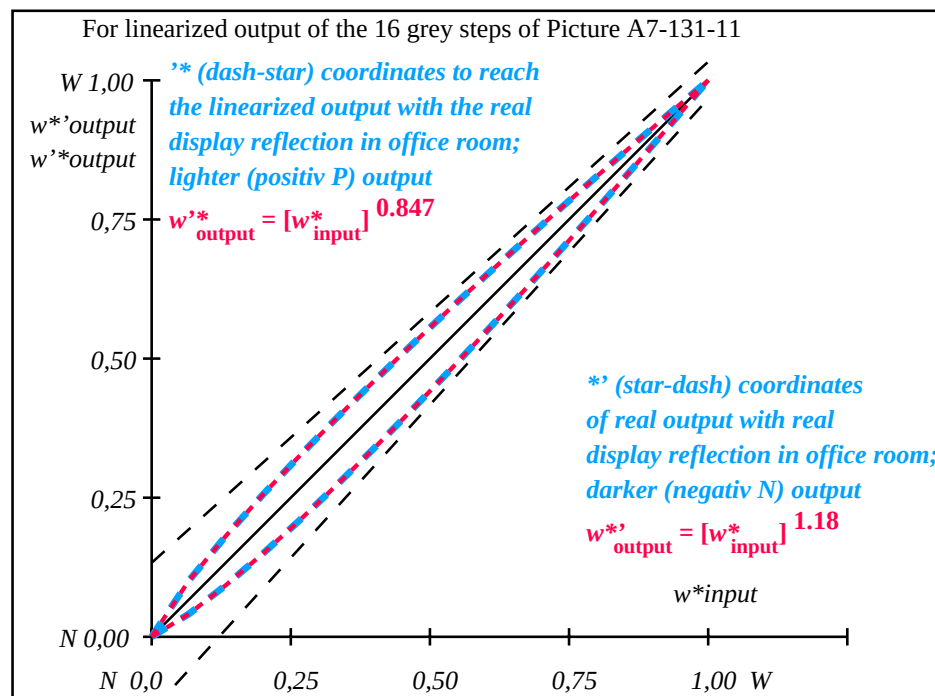
OE821-7N-131-10



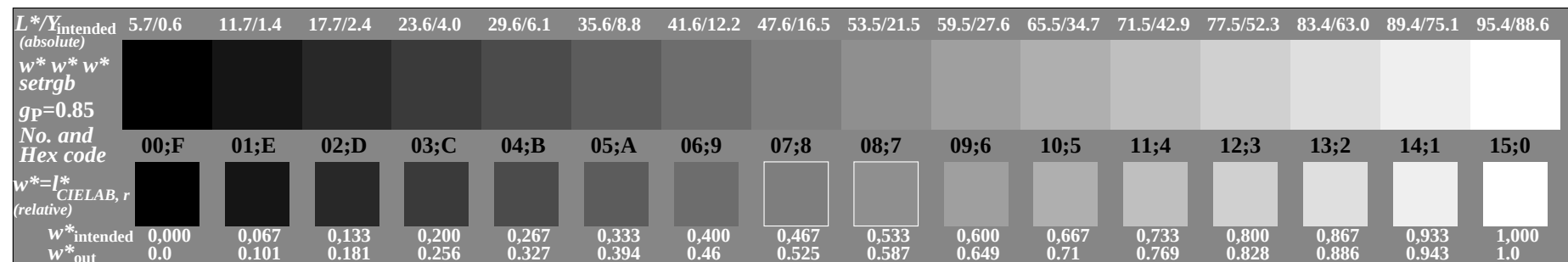
See similar ISO test charts: <http://www.ps.bam.de/24705TE>, <http://www.ps.bam.de/9241E>
Technical information: <http://www.ps.bam.de/33872E> Version 2.1, io=1,1, CIELAB

i	LAB*ref	L*out	LAB*out	LAB*out/c-ref	ΔE*
1	5.69 0.0 0.0	0.0 0.0 0.0	5.69 0.0 0.0	0.0 0.0 0.0	0.01
2	11.67 0.0 0.0	0.1 0.0 0.0	14.73 0.0 0.0	3.06 0.0 0.0	3.06
3	17.65 0.0 0.0	0.18 0.0 0.0	21.96 0.0 0.0	4.3 0.0 0.0	4.3
4	23.63 0.0 0.0	0.26 0.0 0.0	28.63 0.0 0.0	4.99 0.0 0.0	4.99
5	29.62 0.0 0.0	0.33 0.0 0.0	34.96 0.0 0.0	5.34 0.0 0.0	5.34
6	35.6 0.0 0.0	0.39 0.0 0.0	41.05 0.0 0.0	5.46 0.0 0.0	5.46
7	41.58 0.0 0.0	0.46 0.0 0.0	46.96 0.0 0.0	5.38 0.0 0.0	5.38
8	47.56 0.0 0.0	0.52 0.0 0.0	52.72 0.0 0.0	5.16 0.0 0.0	5.16
9	53.54 0.0 0.0	0.59 0.0 0.0	58.36 0.0 0.0	4.82 0.0 0.0	4.82
10	59.52 0.0 0.0	0.65 0.0 0.0	63.88 0.0 0.0	4.36 0.0 0.0	4.36
11	65.5 0.0 0.0	0.71 0.0 0.0	69.32 0.0 0.0	3.82 0.0 0.0	3.82
12	71.48 0.0 0.0	0.77 0.0 0.0	74.67 0.0 0.0	3.19 0.0 0.0	3.19
13	77.47 0.0 0.0	0.83 0.0 0.0	79.95 0.0 0.0	2.49 0.0 0.0	2.49
14	83.45 0.0 0.0	0.89 0.0 0.0	85.16 0.0 0.0	1.72 0.0 0.0	1.72
15	89.43 0.0 0.0	0.94 0.0 0.0	90.31 0.0 0.0	0.89 0.0 0.0	0.89
16	95.41 0.0 0.0	1.0 0.0 0.0	95.41 0.0 0.0	0.0 0.0 0.0	0.01
17	5.69 0.0 0.0	0.0 0.0 0.0	5.69 0.0 0.0	0.0 0.0 0.0	0.01
18	28.12 0.0 0.0	0.31 0.0 0.0	33.4 0.0 0.0	5.28 0.0 0.0	5.28
19	50.55 0.0 0.0	0.56 0.0 0.0	55.55 0.0 0.0	5.0 0.0 0.0	5.0
20	72.98 0.0 0.0	0.78 0.0 0.0	76.0 0.0 0.0	3.02 0.0 0.0	3.02
21	95.41 0.0 0.0	1.0 0.0 0.0	95.41 0.0 0.0	0.0 0.0 0.0	0.01
Mean lightness difference (16 steps)					$\Delta E^*_{\text{CIELAB}} = 3.4$
Mean lightness difference (5 steps)					$\Delta L^*_{\text{CIELAB}} = 2.7$
Mean colour reproduction index:					$R^*_{ab,m} = 85$

OE820-3N-131-11: File: Measure unknown; Device: Device unknown; Date: Date unknown



OE821-3N-131-11: File: Measure unknown; Device: Device unknown; Date: Date unknown



OE820-7N, Picture A7-131-11: 16 visual equidistant L^* -grey steps; PS operator: $w^* w^* w^* \text{setrgbcolor}$

OE82: In-output relation according to ISO 9241-306; 1MR, DEH
Viewing Y contrast $Y_W:Y_N=88,9:0,62$; Y_N range 0,46 to <0,93

input: $\text{rgb} \rightarrow \text{rgb}^*_{de}$ setrgbcolor
output 131-11: $g_P=0.92$; $g_N=1.0$

TUB registration: 20110801-OE82/OE82L0NA.TXT /.PS
application for output of displays: monitor systems or data projector systems
TUB material: code=rh4ta

Input: Colorimetric Television Luminous System TLS00a

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

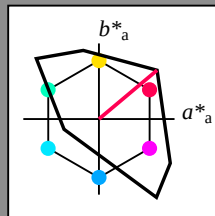
lab^*tch and lab^*nch

D65: hue O

LCH*Ma: 51 100 40

ol*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 $h^* = lab^*h = 40/360 = 0.111$

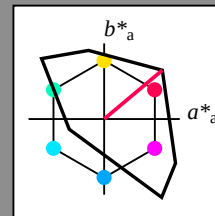
lab^*tch and lab^*nch

D65: hue O

LCH*Ma: 51 100 40

ol*Ma: 1.0 0.0 0.0

triangle lightness t^*



%Gamut

$u^*_{rel} = 158$

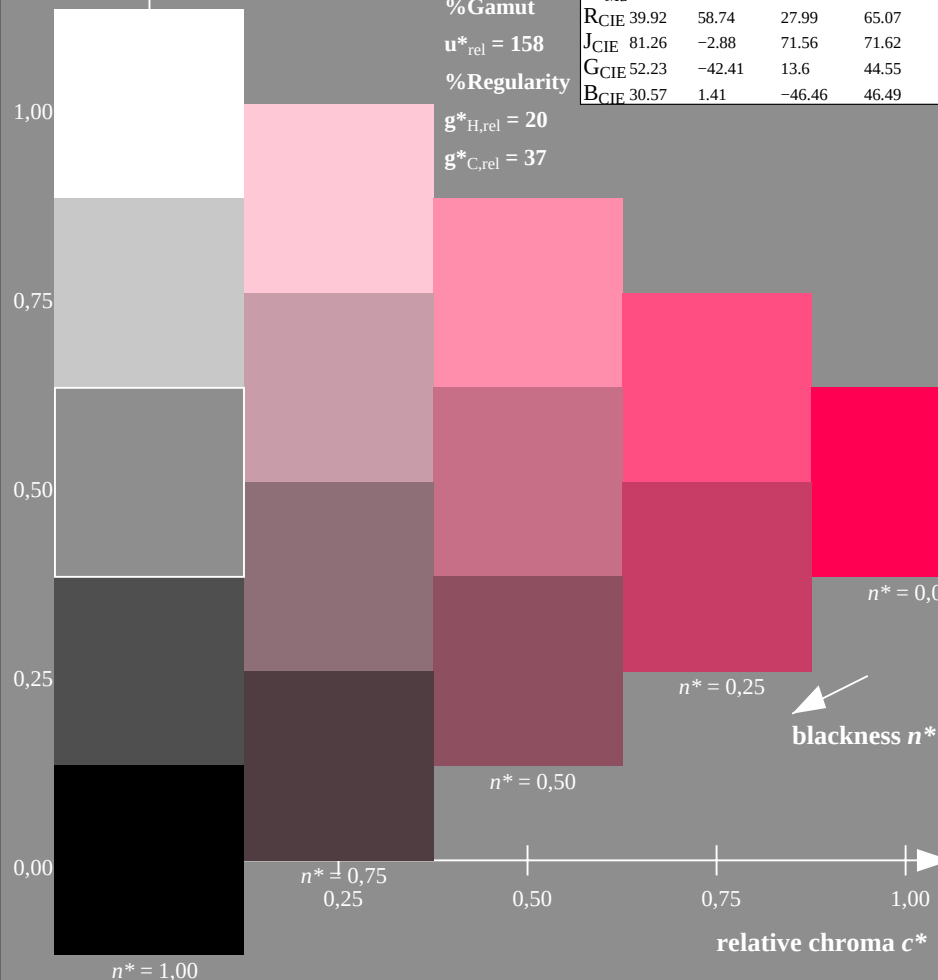
%Regularity

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

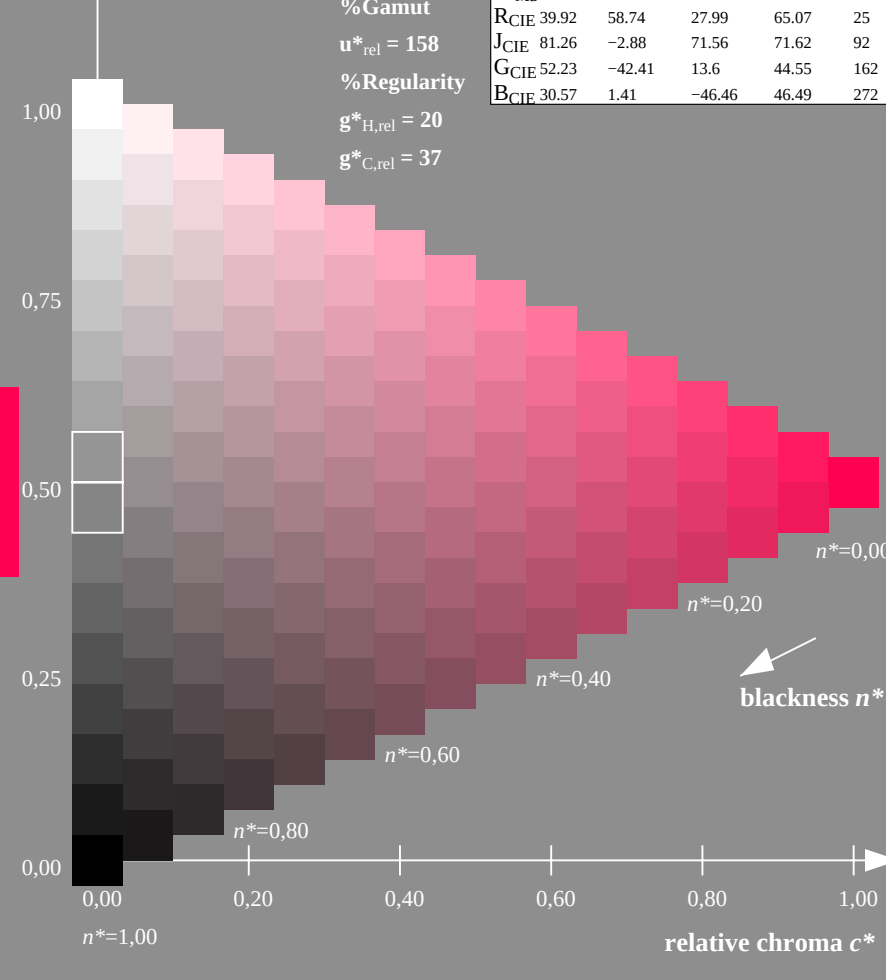
$g^*_{C,rel} = 37$

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



OE820-7N-132-0: 5 step scales for constant CIELAB hue 40/360 = 0.111 (left)



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

OE82: Test chart 1 according to DIN 33872-2, Hue O; 1MR, DEH
Discrimination of 5 and 16 step colour scales

input: $rgb \rightarrow rgb^*_{de}$ setrgbcolor
output 132-0: $g_P=0.85; g_N=1.0$

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, CIELAB

TUB registration: 20110801-OE82/OE82L0NA.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 $h^* = lab^*h = 103/360 = 0.286$

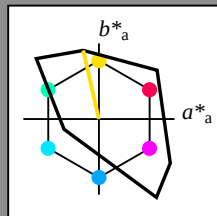
lab^*tch and lab^*nch

D65: hue Y

LCH*Ma: 93 93 103

ol*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 $h^* = lab^*h = 103/360 = 0.286$

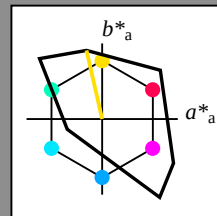
lab^*tch and lab^*nch

D65: hue Y

LCH*Ma: 93 93 103

ol*Ma: 1.0 1.0 0.0

triangle lightness t^*



%Gamut

$u^*_{rel} = 158$

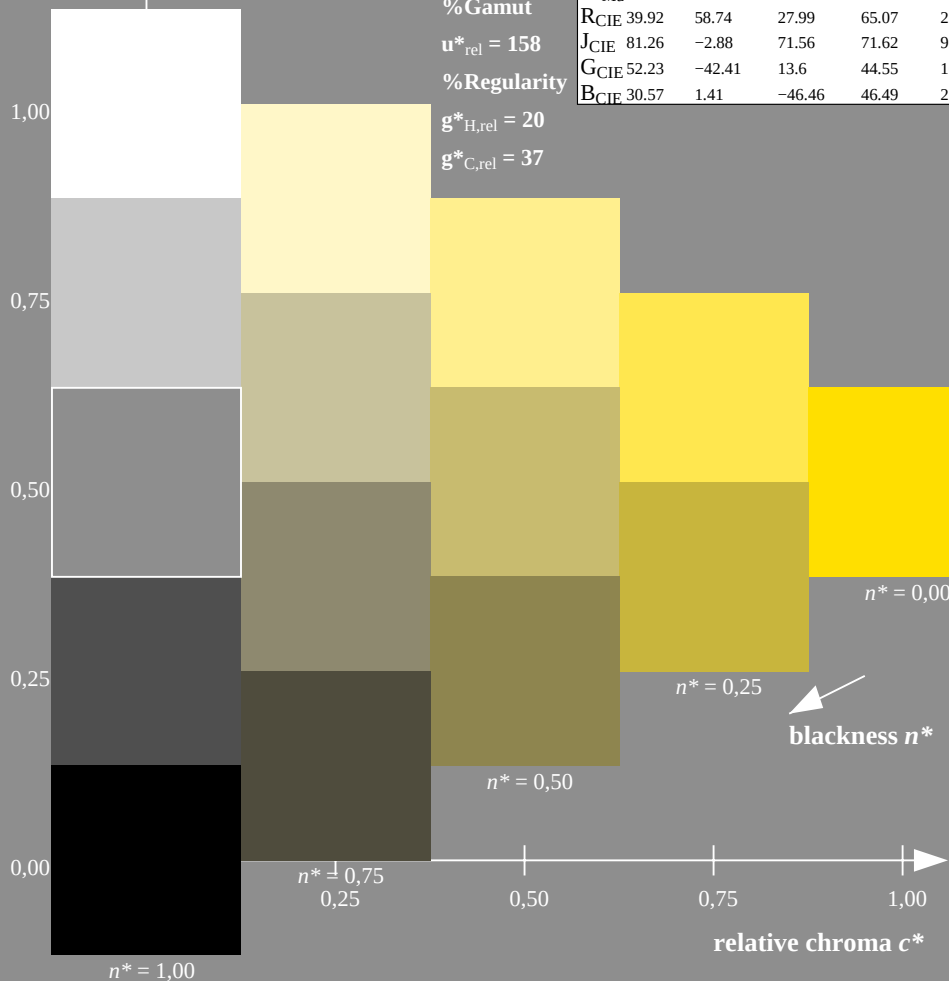
%Regularity

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

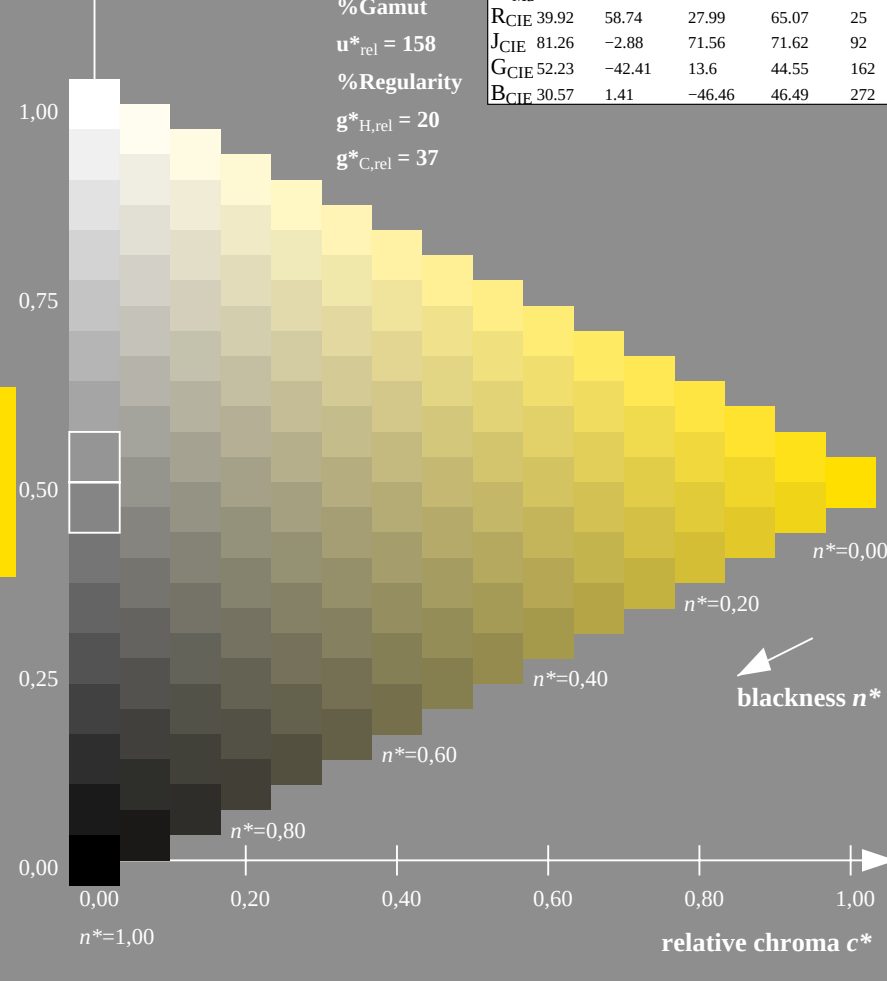
$g^*_{C,rel} = 37$

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



OE820-7N-132-1: 5 step scales for constant CIELAB hue 103/360 = 0.286 (left)



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

OE82: Test chart 1 according to DIN 33872-2, Hue Y; 1MR, DEH
Discrimination of 5 and 16 step colour scales

input: $rgb \rightarrow rgb^*_{de}$ setrgbcolor
output 132-1: $g_P=0.85$; $g_N=1.0$

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, CIELAB

TUB registration: 20110801-OE82/OE82L0NA.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 $h^* = lab^*h = 136/360 = 0.378$

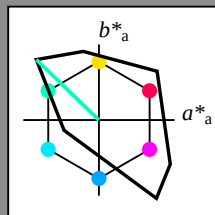
lab^*tch and lab^*nch

D65: hue L

LCH*Ma: 84 115 136

ol v^* 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 $h^* = lab^*h = 136/360 = 0.378$

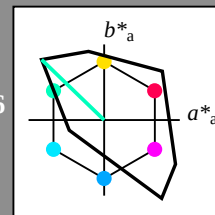
lab^*tch and lab^*nch

D65: hue L

LCH*Ma: 84 115 136

ol v^* Ma: 0.0 1.0 0.0

triangle lightness t^*



%Gamut

$u^*_{rel} = 158$

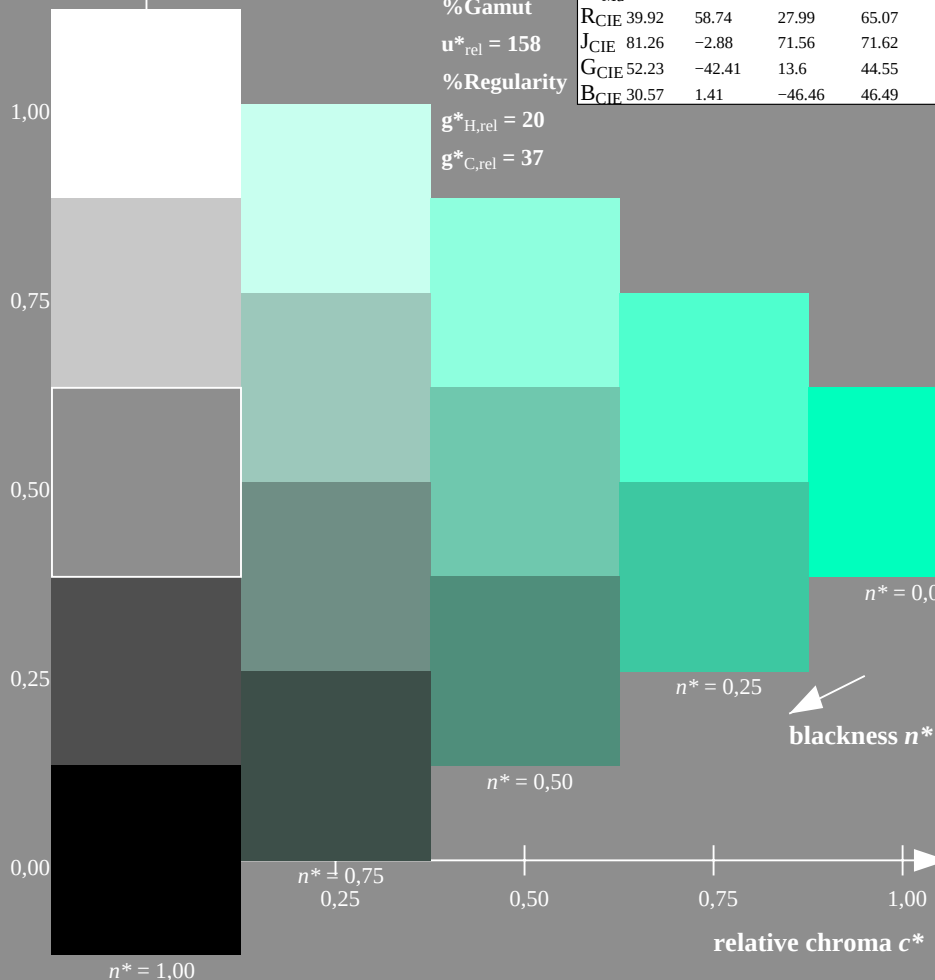
%Regularity

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

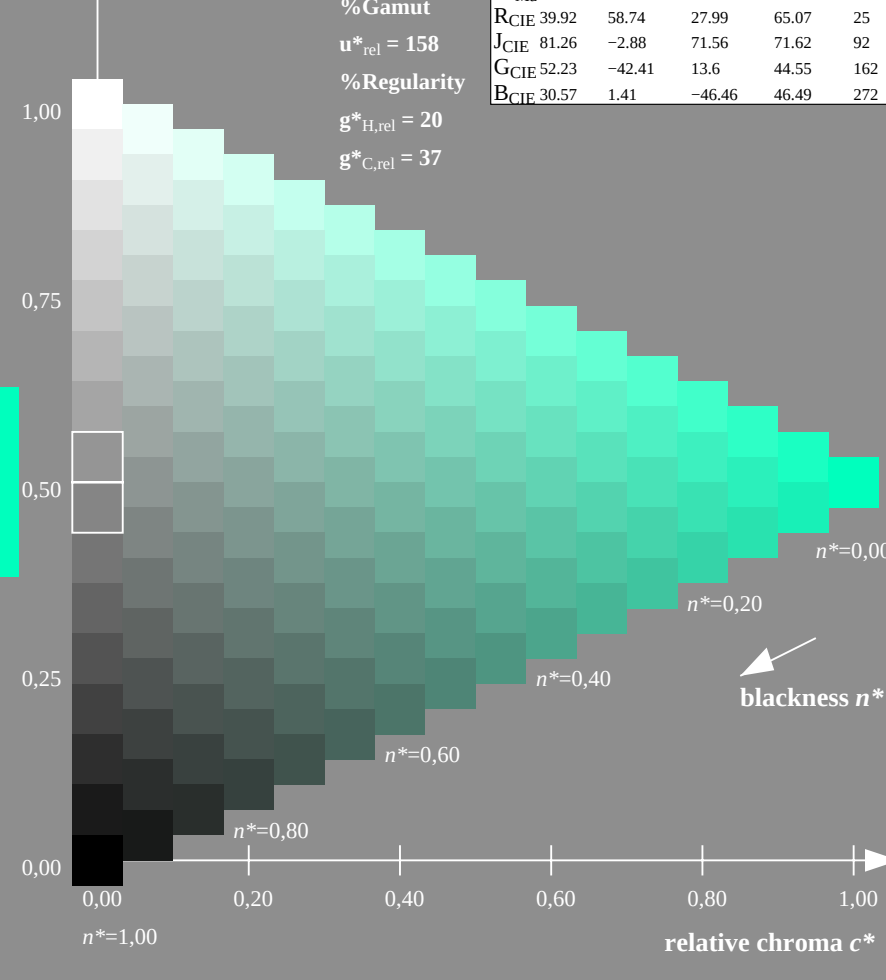
$g^*_{C,rel} = 37$

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



OE820-7N-132-2: 5 step scales for constant CIELAB hue 136/360 = 0.378 (left)



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

OE82: Test chart 1 according to DIN 33872-2, Hue L; 1MR, DEH
Discrimination of 5 and 16 step colour scales

input: $rgb \rightarrow rgb^*_{de}$ setrgbcolor
output 132-2: $g_P=0.85$; $g_N=1.0$

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, CIELAB

TUB registration: 20110801-OE82/OE82L0NA.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 $h^* = lab^*h = 196/360 = 0.545$

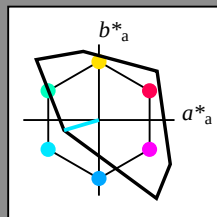
lab^*tch and lab^*nch

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

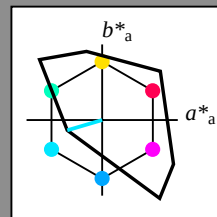
lab^*tch and lab^*nch

D65: hue C

LCH*Ma: 87 48 196

olv*Ma: 0.0 1.0 1.0

triangle lightness t^*



%Gamut

$u^*_{rel} = 158$

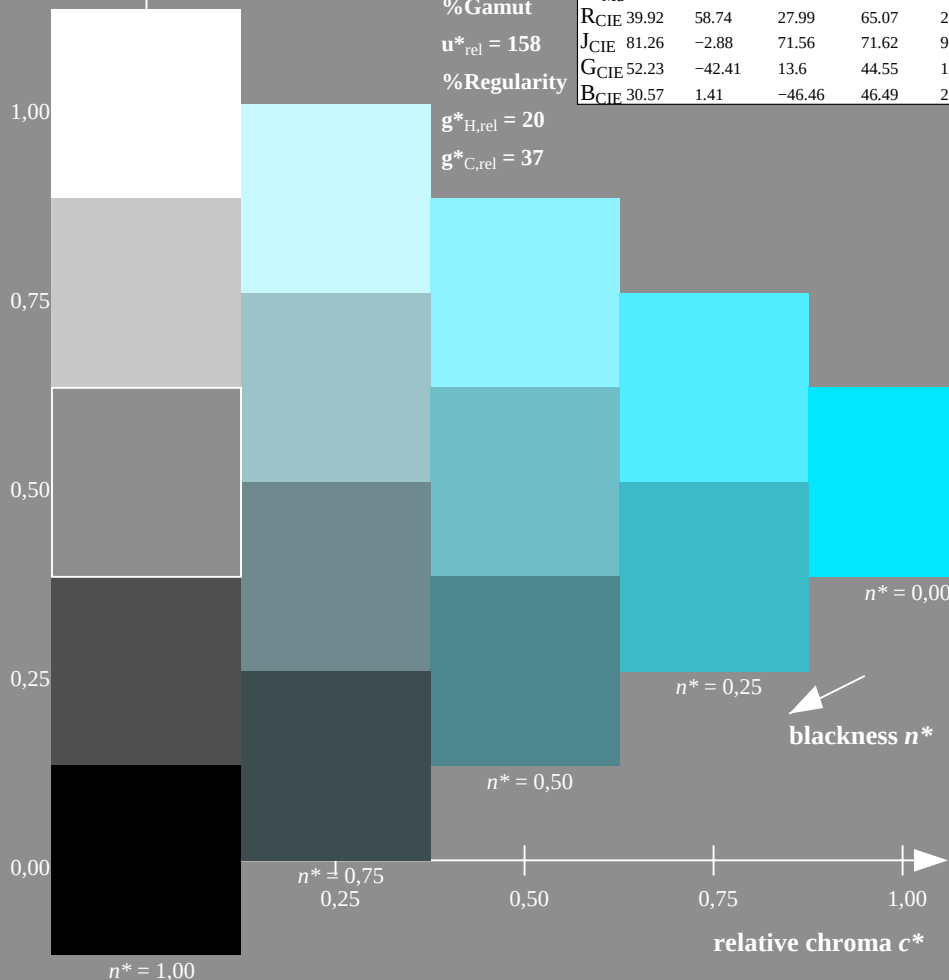
%Regularity

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

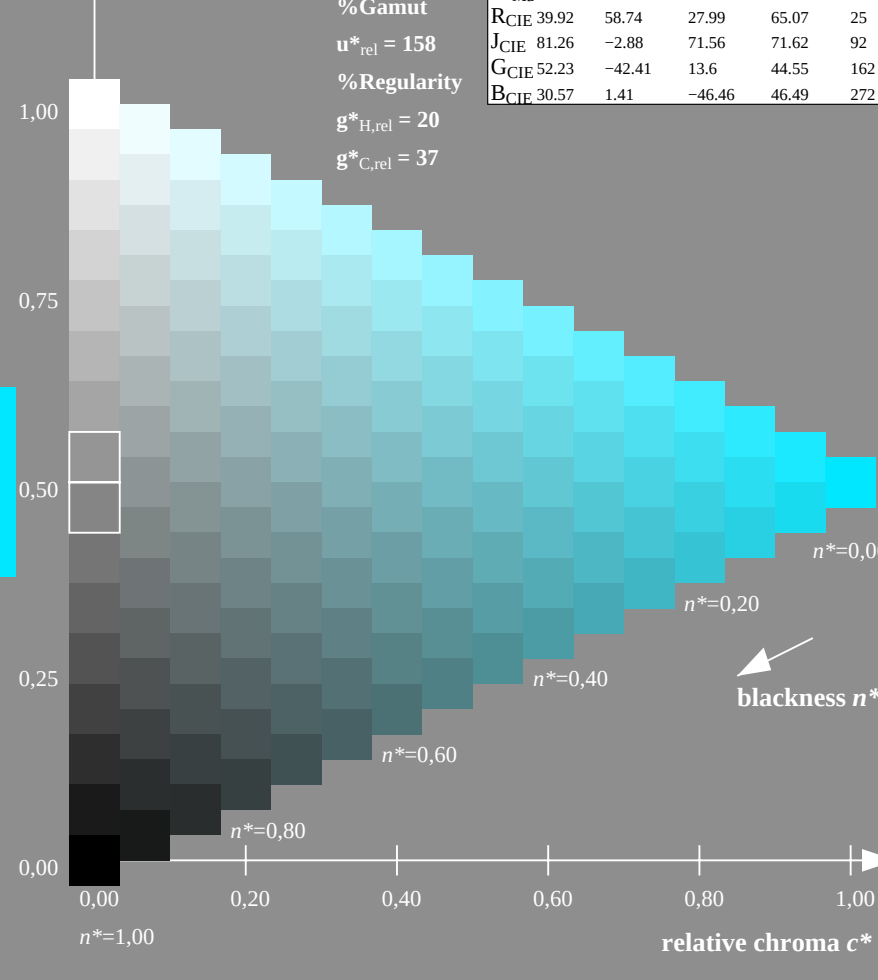
$g^*_{C,rel} = 37$

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



OE820-7N-132-3: 5 step scales for constant CIELAB hue 196/360 = 0.545 (left)



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

OE82: Test chart 1 according to DIN 33872-2, Hue C; 1MR, DEH
Discrimination of 5 and 16 step colour scales

input: $rgb \rightarrow rgb^*_{de}$ setrgbcolor
output 132-3: $g_P=0.85$; $g_N=1.0$

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, CIELAB

TUB registration: 20110801-OE82/OE82L0NA.TXT /.PS
application for output of displays: monitor systems or data projector systems
TUB material: code=th4ta

Input: Colorimetric Television Luminous System TLS00a

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

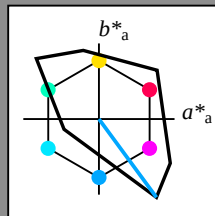
lab^*tch and lab^*nch

D65: hue V

LCH*Ma: 30 129 306

ol*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 $h^* = lab^*h = 306/360 = 0.851$

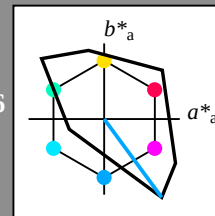
lab^*tch and lab^*nch

D65: hue V

LCH*Ma: 30 129 306

ol*Ma: 0.0 0.0 1.0

triangle lightness t^*



%Gamut

$u^*_{rel} = 158$

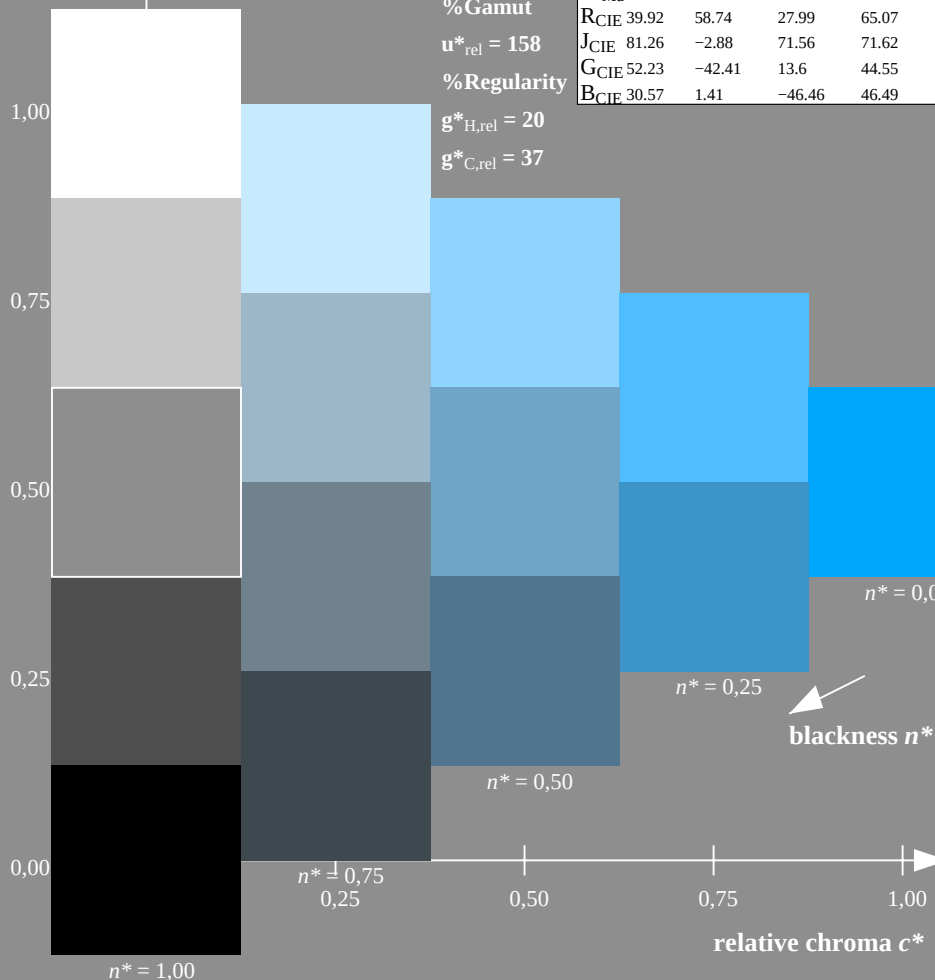
%Regularity

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

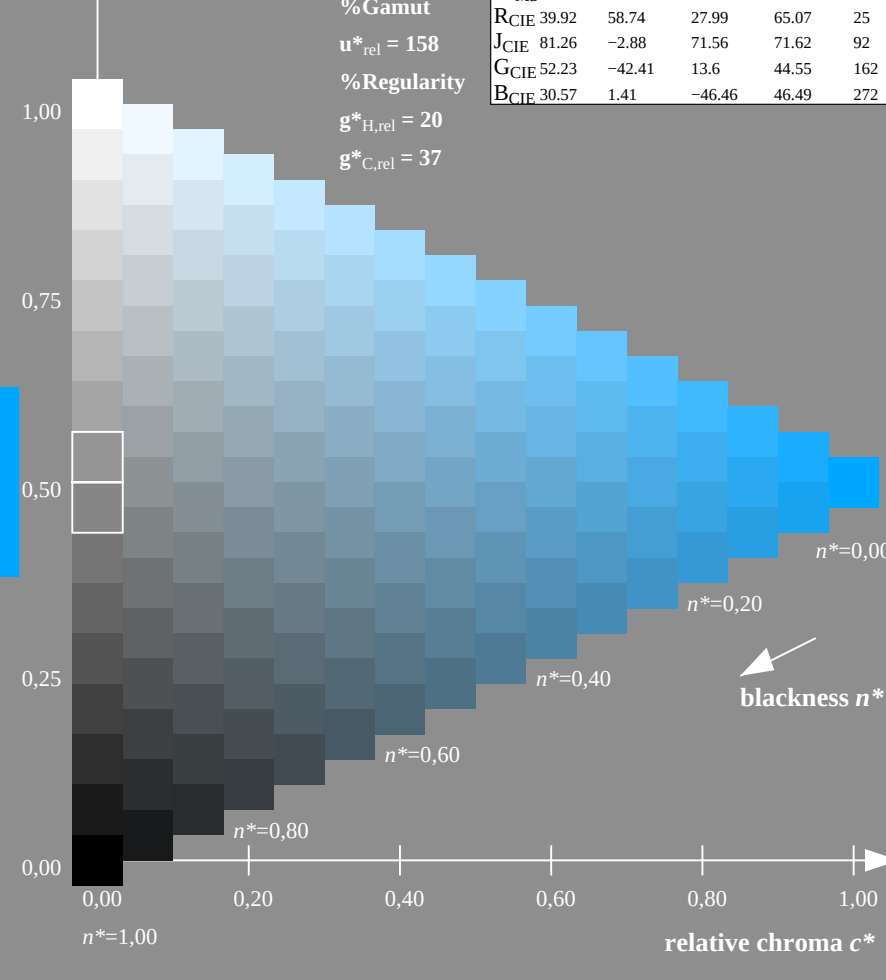
$g^*_{C,rel} = 37$

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



OE820-7N-132-4: 5 step scales for constant CIELAB hue 306/360 = 0.851 (left)



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

OE82: Test chart 1 according to DIN 33872-2, Hue V; 1MR, DEH
Discrimination of 5 and 16 step colour scales

input: $rgb \rightarrow rgb^*_{de}$ setrgbcolor
output 132-4: $g_P=0.85$; $g_N=1.0$

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, CIELAB

TUB registration: 20110801-OE82/OE82L0NA.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 $h^* = lab^*h = 328/360 = 0.912$

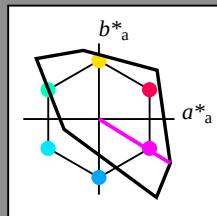
lab^*tch and lab^*nch

D65: hue M

LCH*Ma: 57 111 328

ol*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

Output: Colorimetric Television Luminous System TLS00a

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

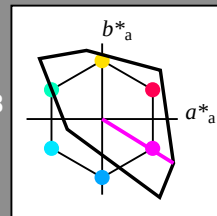
lab^*tch and lab^*nch

D65: hue M

LCH*Ma: 57 111 328

ol*Ma: 1.0 0.0 1.0

triangle lightness t^*



%Gamut

$u^*_{rel} = 158$

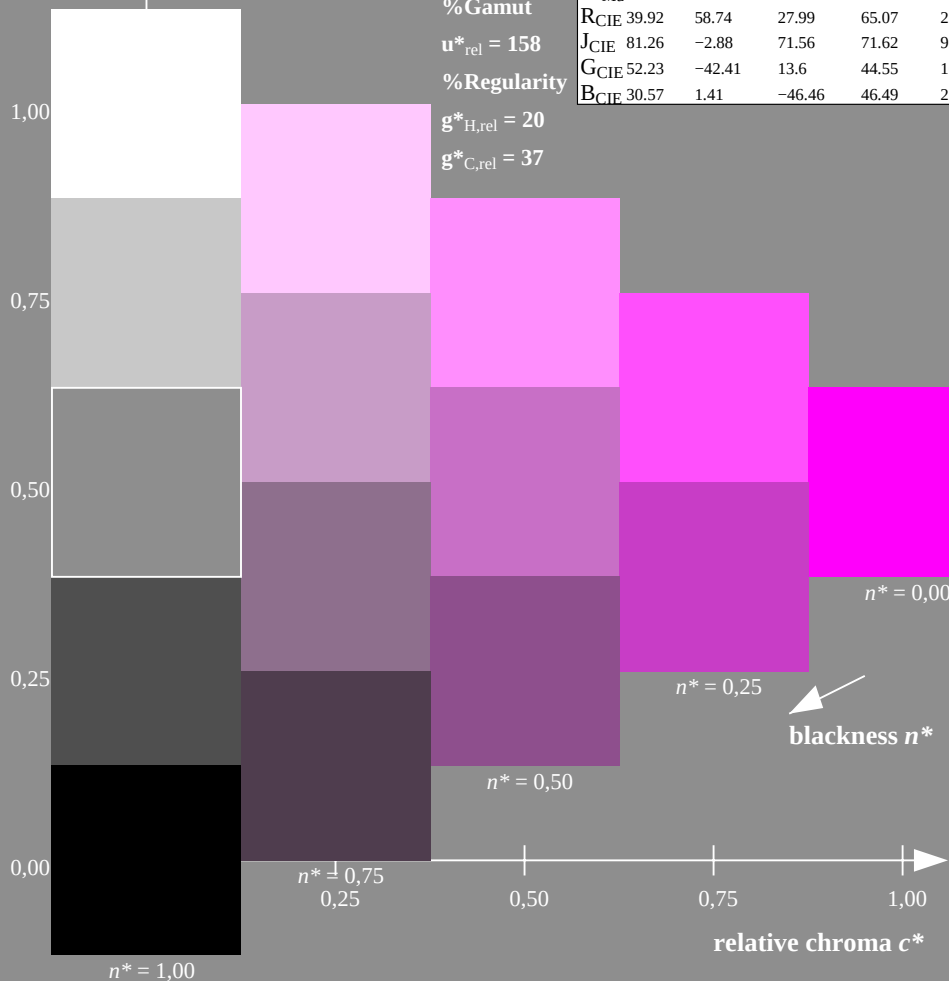
%Regularity

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

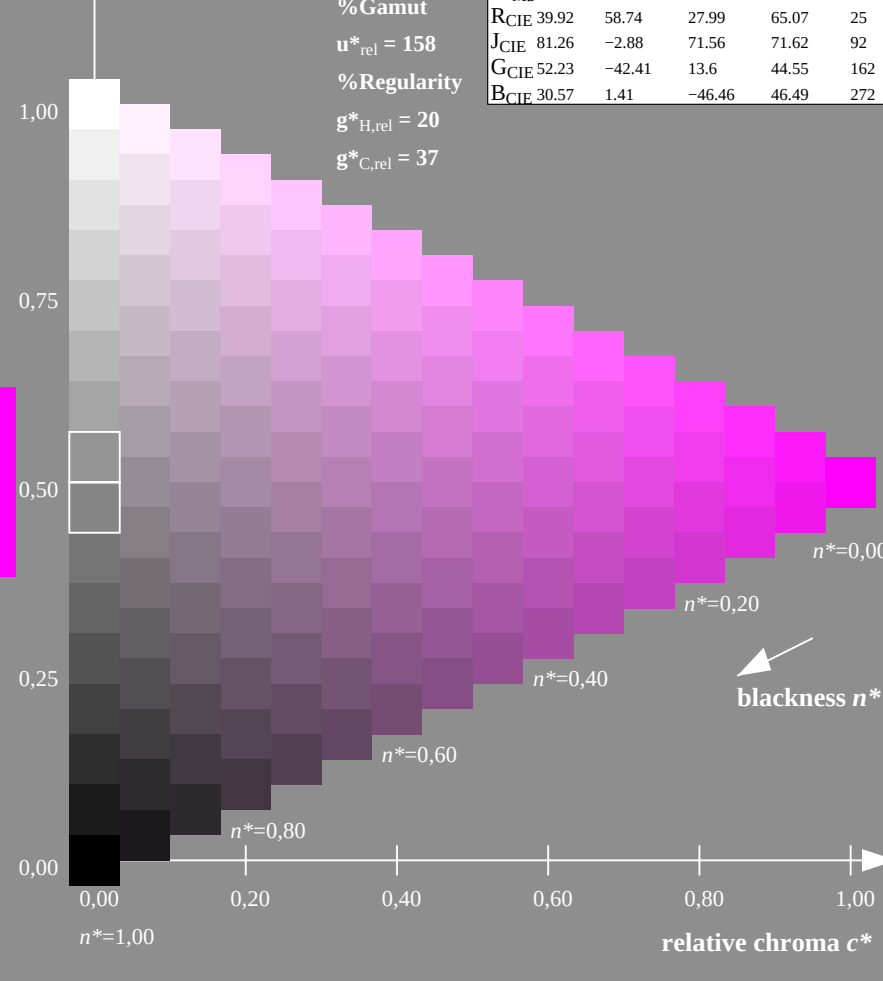
$g^*_{C,rel} = 37$

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



OE820-7N-132-5: 5 step scales for constant CIELAB hue 328/360 = 0.912 (left)



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

OE82: Test chart 1 according to DIN 33872-2, Hue M; 1MR, DEH input: $rgb \rightarrow rgb^*_{de}$ setrgbcolor
Discrimination of 5 and 16 step colour scales output 132-5: $g_P=0.85; g_N=1.0$

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, CIELAB

TUB registration: 20110801-OE82/OE82L0NA.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 $h^* = lab^*h = 25/360 = 0.071$

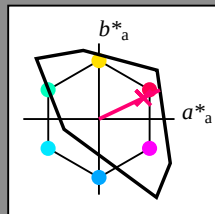
lab^*tch and lab^*nch

D65: hue R

LCH*Ma: 52 89 25

ol*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 $h^* = lab^*h = 25/360 = 0.071$

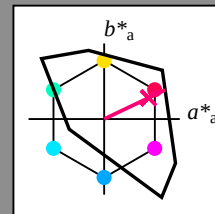
lab^*tch and lab^*nch

D65: hue R

LCH*Ma: 52 89 25

ol*Ma: 1.0 0.0 0.21

triangle lightness t^*



%Gamut

$u^*_{rel} = 158$

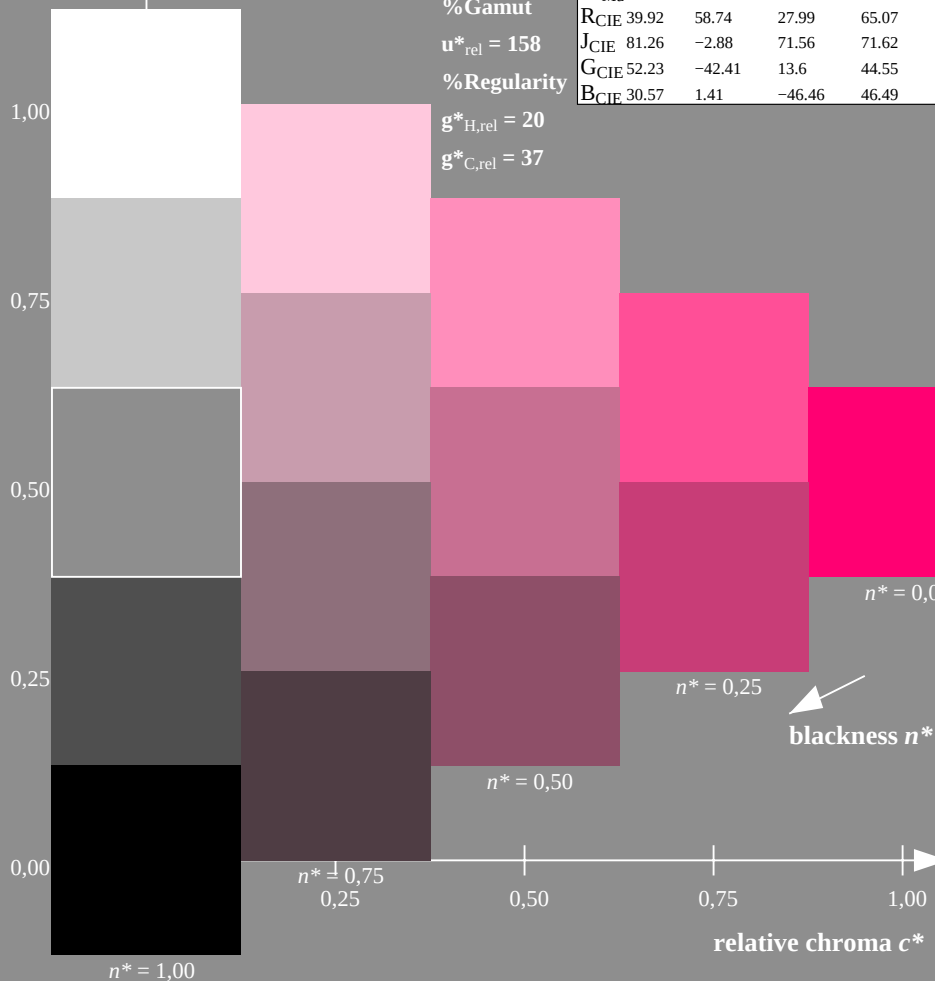
%Regularity

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

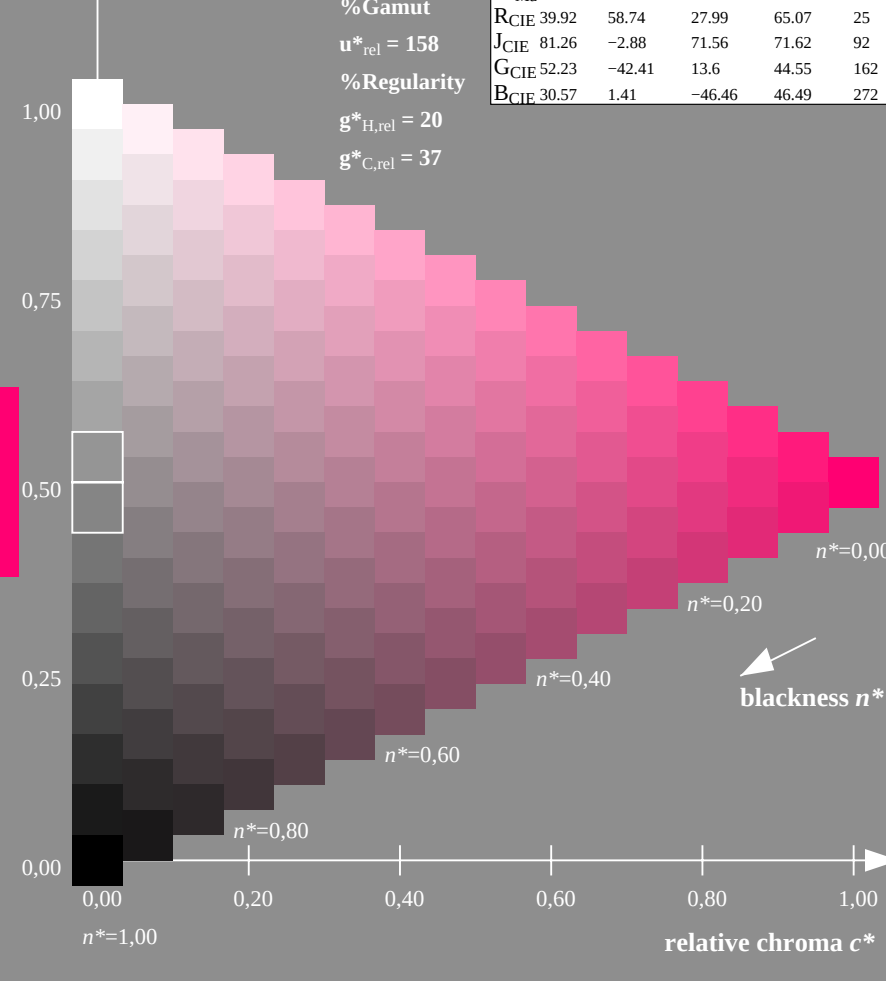
$g^*_{C,rel} = 37$

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



OE820-7N-132-6: 5 step scales for constant CIELAB hue 25/360 = 0.071 (left)



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

OE82: Test chart 1 according to DIN 33872-2, Hue R; 1MR, DEEH input: $rgb \rightarrow rgb^*_{dee}$ setrgbcolo
Discrimination of 5 and 16 step colour scales
output 132-6: $g_P=0.85$; $g_N=1.0$

TUB registration: 20110801-OE82/OE82L0NA.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 $h^* = lab^*h = 92/360 = 0.256$

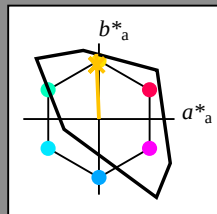
lab^*tch and lab^*nch

D65: hue J

LCH*Ma: 85 86 92

ol*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 $h^* = lab^*h = 92/360 = 0.256$

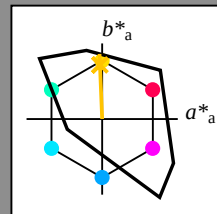
lab^*tch and lab^*nch

D65: hue J

LCH*Ma: 85 86 92

ol*Ma: 1.0 0.82 0.0

triangle lightness t^*



%Gamut

$u^*_{rel} = 158$

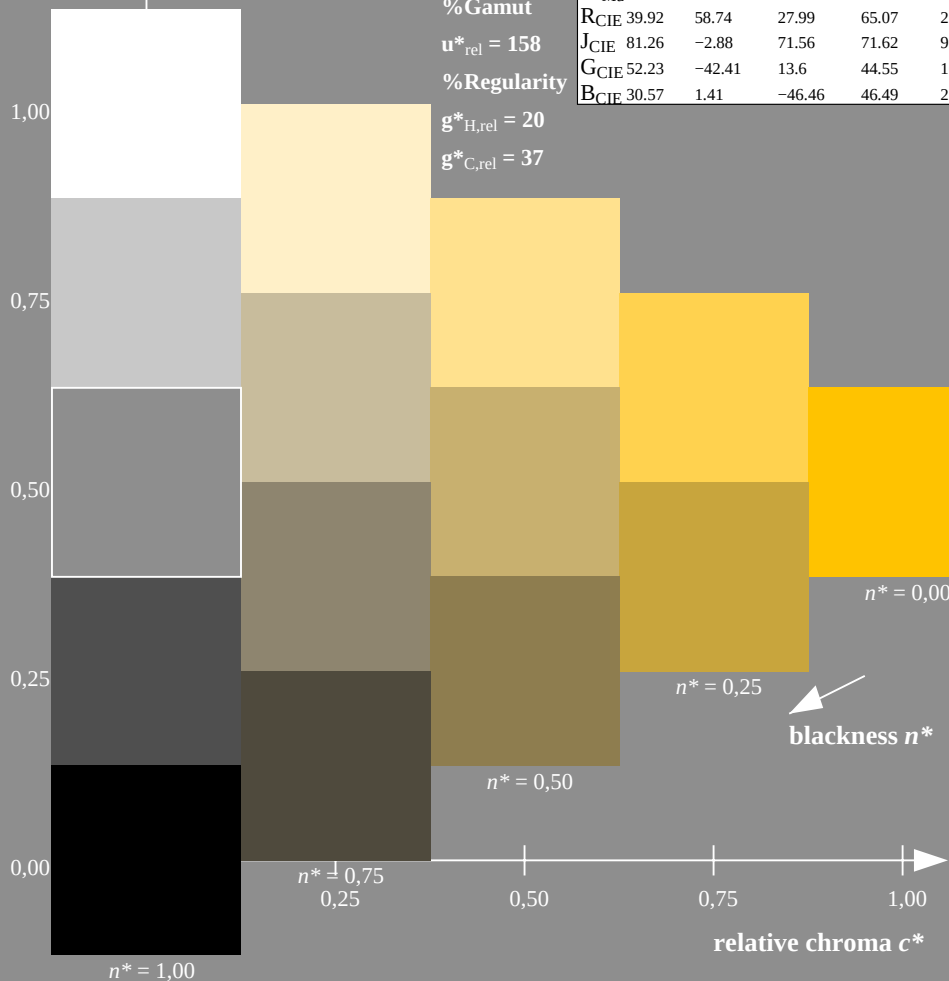
%Regularity

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

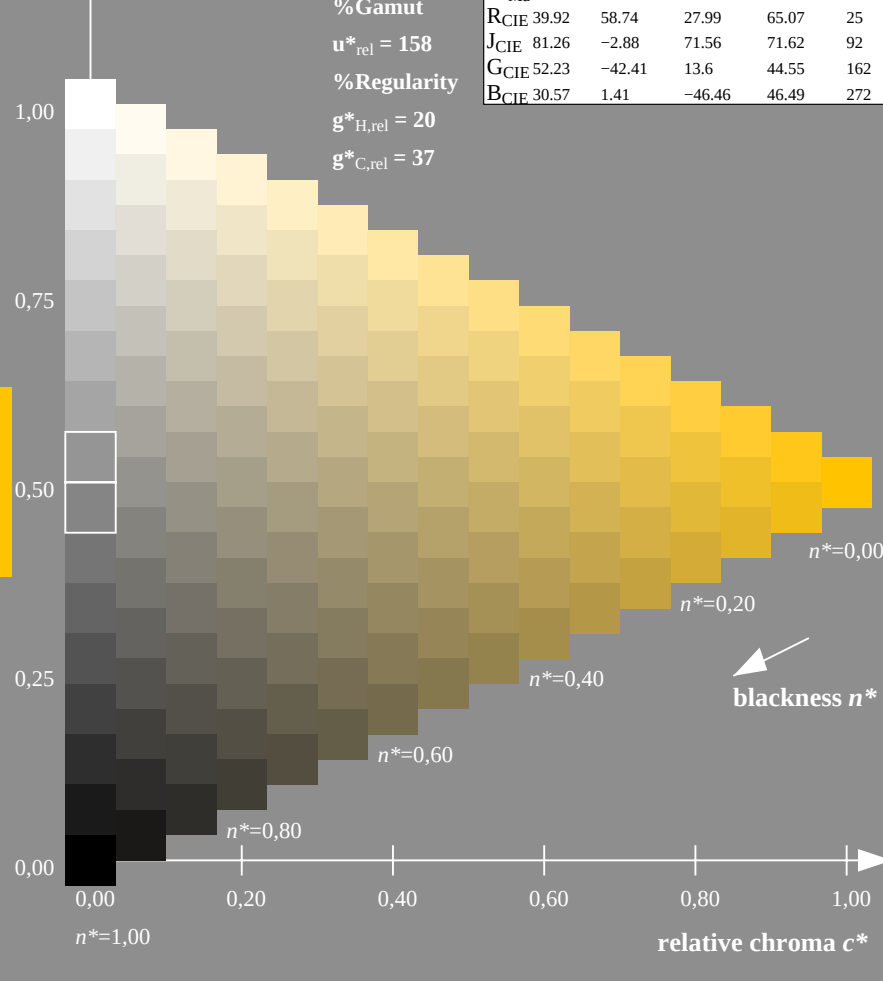
$g^*_{C,rel} = 37$

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



OE820-7N-132-7: 5 step scales for constant CIELAB hue 92/360 = 0.256 (left)



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

OE82: Test chart 1 according to DIN 33872-2, Hue J; 1MR, DEEH input: $rgb \rightarrow rgb^*_{dee}$ setrgbcolo
Discrimination of 5 and 16 step colour scales output 132-7: $g_P=0.85$; $g_N=1.0$

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, CIELAB

TUB registration: 20110801-OE82/OE82L0NA.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 $h^* = lab^*h = 162/360 = 0.451$

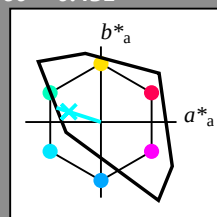
lab^*tch and lab^*nch

D65: hue G

LCH*Ma: 86 62 162

ol*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 $h^* = lab^*h = 162/360 = 0.451$

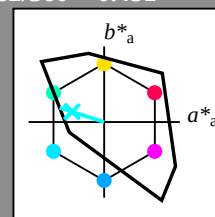
lab^*tch and lab^*nch

D65: hue G

LCH*Ma: 86 62 162

ol*Ma: 0.0 1.0 0.65

triangle lightness t^*



%Gamut

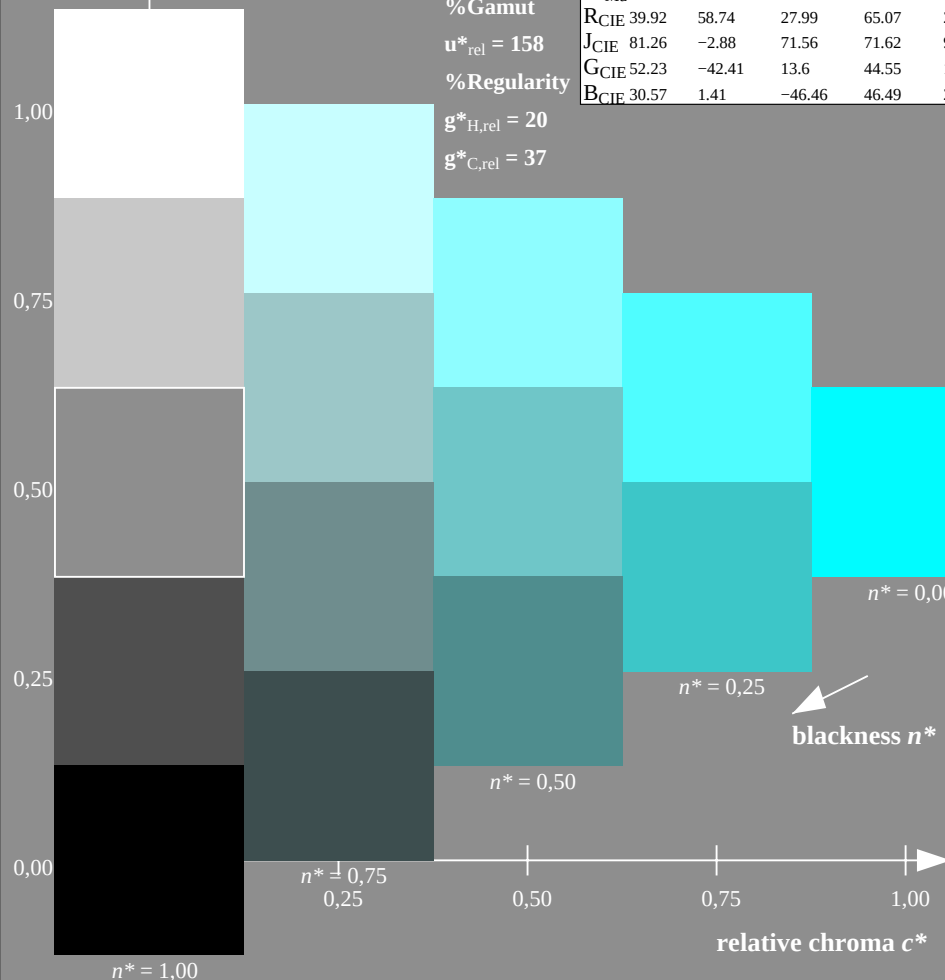
$u^*_{rel} = 158$

%Regularity

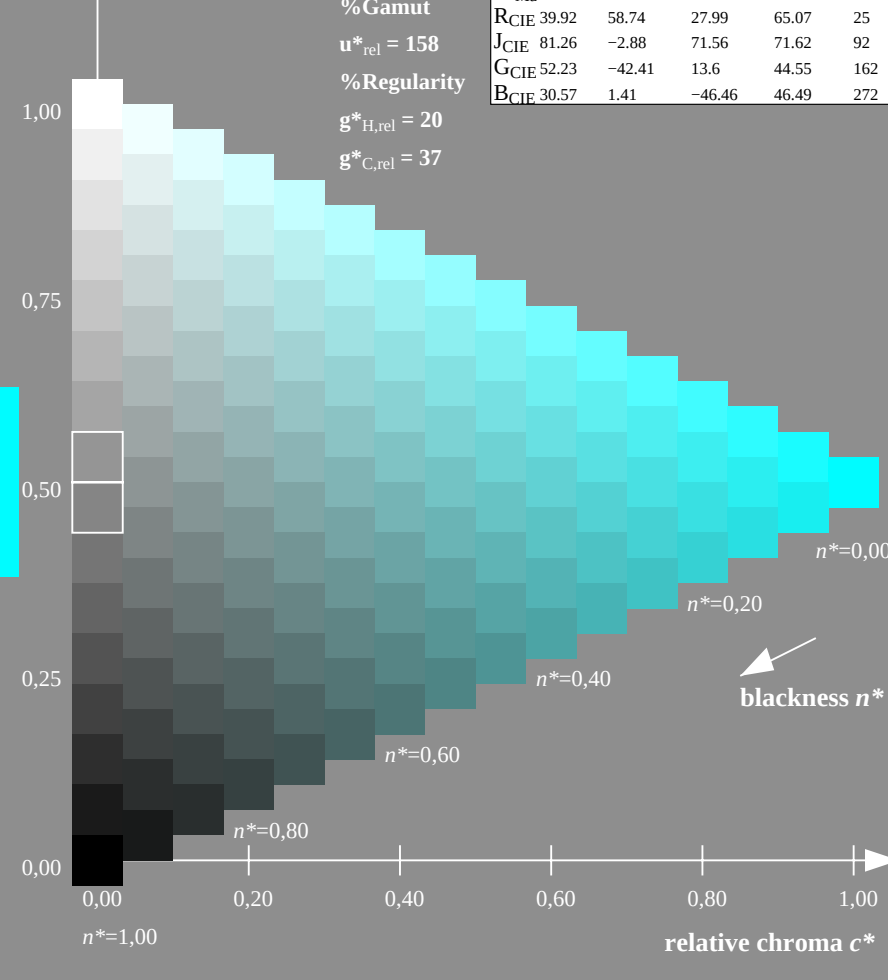
$g^*_{H,rel} = 20$

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

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



OE820-7N-132-8: 5 step scales for constant CIELAB hue 162/360 = 0.451 (left)



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

OE82: Test chart 1 according to DIN 33872-2, Hue G; 1MR, DEEH input: $rgb \rightarrow rgb^*_{dee}$ setrgbcolo
Discrimination of 5 and 16 step colour scales
output 132-8: $g_P=0.85$; $g_N=1.0$

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, CIELAB

TUB registration: 20110801-OE82/OE82L0NA.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 $h^* = lab^*h = 272/360 = 0.755$

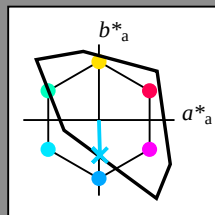
lab^*tch and lab^*nch

D65: hue B

LCH*Ma: 65 49 272

ol v^* 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 $h^* = lab^*h = 272/360 = 0.755$

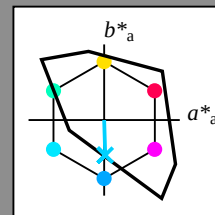
lab^*tch and lab^*nch

D65: hue B

LCH*Ma: 65 49 272

ol v^* Ma: 0.0 0.61 1.0

triangle lightness t^*



%Gamut

$u^*_{rel} = 158$

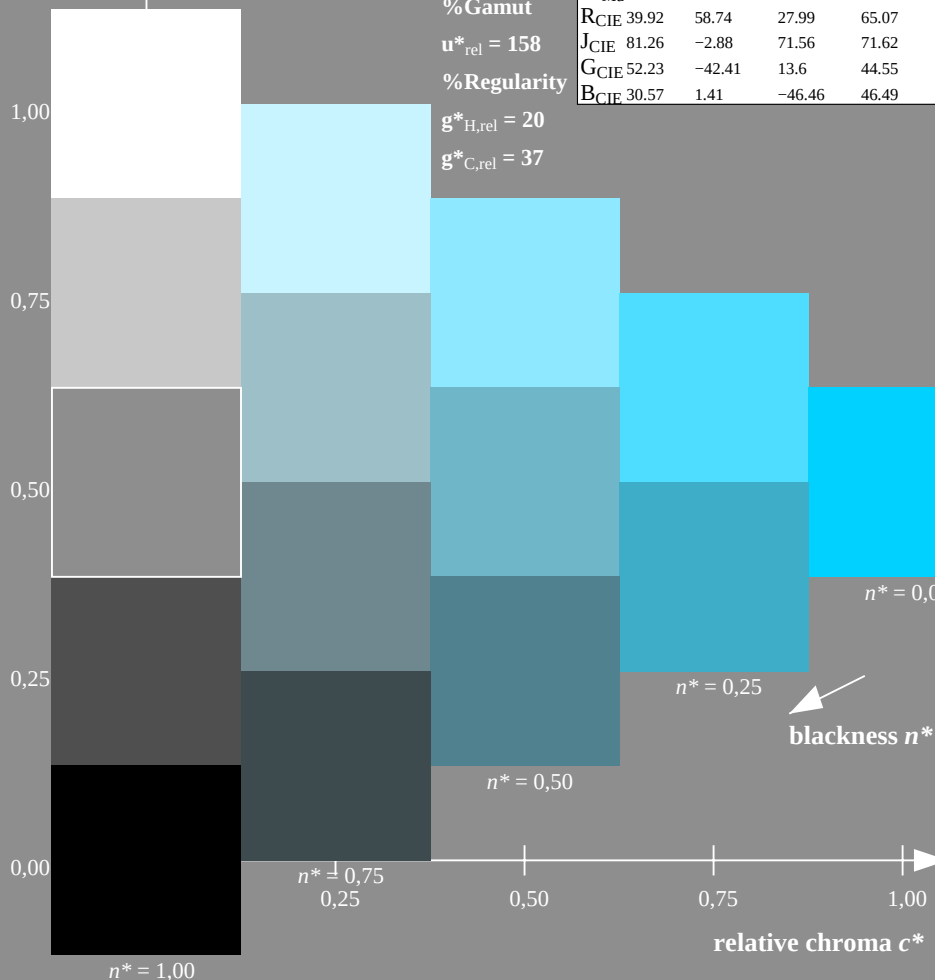
%Regularity

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

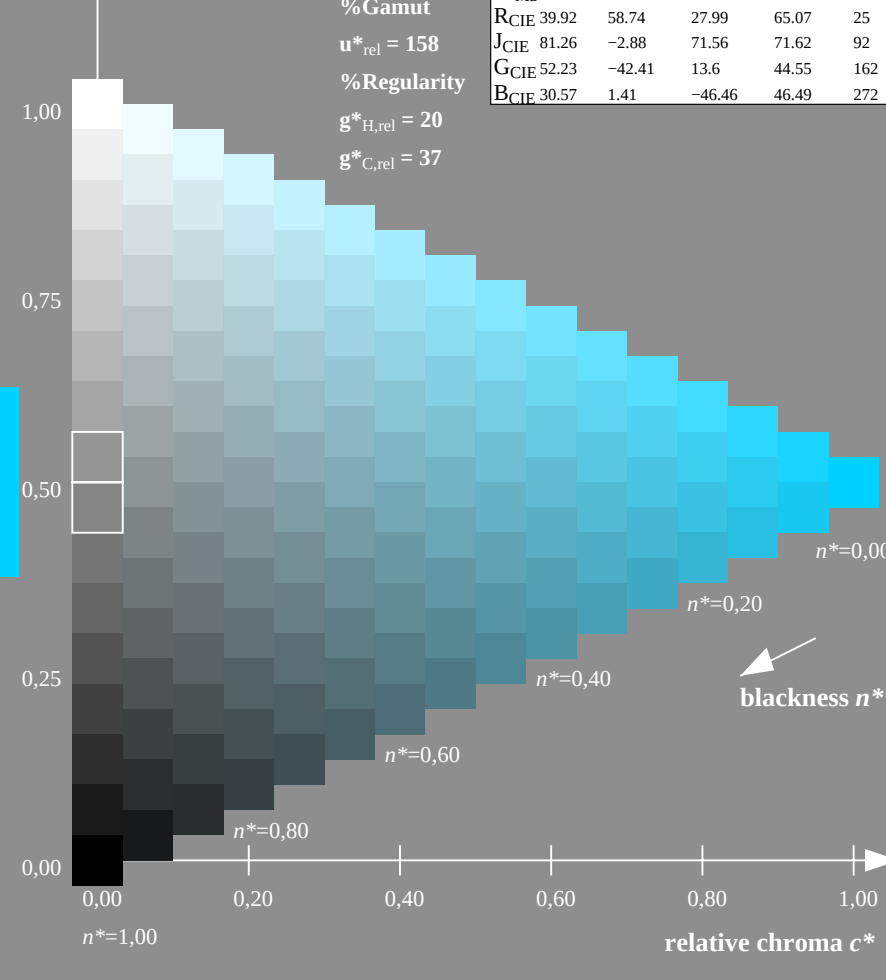
$g^*_{C,rel} = 37$

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



OE820-7N-132-9: 5 step scales for constant CIELAB hue 272/360 = 0.755 (left)

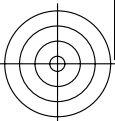


16 step scales for constant CIELAB hue 272/360 = 0.755 (right)

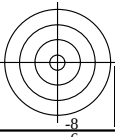
OE82: Test chart 1 according to DIN 33872-2, Hue B; 1MR, DEEH input: $rgb \rightarrow rgb^*_{dee}$ set $rgbcolo$
Discrimination of 5 and 16 step colour scales
output 132-9: $g_P=0.85$; $g_N=1.0$

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, CIELAB

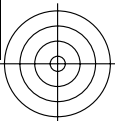
TUB registration: 20110801-OE82/OE82L0NA.TXT /.PS
application for output of displays: monitor systems or data projector systems
TUB material: code=rha4ta



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, CIELAB

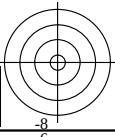


<http://130.149.60.45/~farbmetrik/OE82/OE82L0NA.TXT> /PS; linearized output, Page 11/12
 F: Output Linearization (OL) data OE82/OE82L0NA.TXT /PS in File (F)



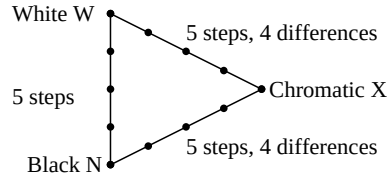
TUB registration: 20110801-OE82/OE82L0NA.TXT /PS
 application for output of displays: monitor systems or data projector systems

TUB material: code=rhta4ta



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

OE820-3N-132-10

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

PDF-File: <http://130.149.60.45/farbmetrik/OE82/OE82L0NP.PDF> underline Yes/No

PS-File: <http://130.149.60.45/farbmetrik/OE82/OE82L0NA.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 OE82L0NP.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 OE82L0NA.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

OE820-7N-132-10

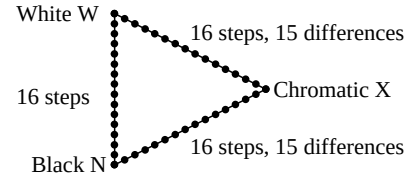


OE82: Form A for test chart 1 according to DIN 33872-2; 1MR, DEH
 Discrimination of colour scales (Yes/No decision)
 Input: $rgb(->rgb_{de})$ setrgbcolor
 output 132-10: $g_P=0.85; g_N=1.0$



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

OE821-3N-132-10

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/OE82/OE82F1P2.PDF>

underline Yes/No

PS file: <http://130.149.60.45/farbmetrik/OE82/OE82F1P2.PS>

underline Yes/No

Picture A7-132-2: 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/OE82/OE82F1P2.PDF>

picture A7-132-2

underline Yes/No

PS-File: <http://130.149.60.45/farbmetrik/OE82/OE82F1P2.PS>

picture A7-132-2

or underline Yes/No

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

OE821-7N-132-10



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, CIELAB

i	LAB*ref	L*out	LAB*out	LAB*out/c-ref	ΔE*
1	10.99 0.0 0.0	0.0 10.99 0.0	0.0 0.0 0.0	0.0 0.0 0.0	0.01
2	16.62 0.0 0.0	0.14 22.52 0.0	0.0 0.0 0.0	5.9 0.0 0.0	5.9
3	22.25 0.0 0.0	0.23 30.18 0.0	0.0 0.0 0.0	7.93 0.0 0.0	7.93
4	27.88 0.0 0.0	0.31 36.84 0.0	0.0 0.0 0.0	8.97 0.0 0.0	8.97
5	33.5 0.0 0.0	0.38 42.93 0.0	0.0 0.0 0.0	9.43 0.0 0.0	9.43
6	39.13 0.0 0.0	0.45 48.63 0.0	0.0 0.0 0.0	9.5 0.0 0.0	9.5
7	44.76 0.0 0.0	0.51 54.03 0.0	0.0 0.0 0.0	9.27 0.0 0.0	9.27
8	50.39 0.0 0.0	0.57 59.19 0.0	0.0 0.0 0.0	8.81 0.0 0.0	8.81
9	56.02 0.0 0.0	0.63 64.17 0.0	0.0 0.0 0.0	8.15 0.0 0.0	8.15
10	61.64 0.0 0.0	0.69 68.98 0.0	0.0 0.0 0.0	7.33 0.0 0.0	7.33
11	67.27 0.0 0.0	0.74 73.65 0.0	0.0 0.0 0.0	6.38 0.0 0.0	6.38
12	72.9 0.0 0.0	0.8 78.2 0.0	0.0 0.0 0.0	5.3 0.0 0.0	5.3
13	78.53 0.0 0.0	0.85 82.64 0.0	0.0 0.0 0.0	4.11 0.0 0.0	4.11
14	84.15 0.0 0.0	0.9 86.98 0.0	0.0 0.0 0.0	2.82 0.0 0.0	2.82
15	89.78 0.0 0.0	0.95 91.23 0.0	0.0 0.0 0.0	1.45 0.0 0.0	1.45
16	95.41 0.0 0.0	1.0 95.41 0.0	0.0 0.0 0.0	0.0 0.0 0.0	0.01
17	10.99 0.0 0.0	0.0 10.99 0.0	0.0 0.0 0.0	0.0 0.0 0.0	0.01
18	32.1 0.0 0.0	0.36 41.45 0.0	0.0 0.0 0.0	9.36 0.0 0.0	9.36
19	53.2 0.0 0.0	0.6 61.7 0.0	0.0 0.0 0.0	8.5 0.0 0.0	8.5
20	74.31 0.0 0.0	0.81 79.32 0.0	0.0 0.0 0.0	5.01 0.0 0.0	5.01
21	95.41 0.0 0.0	1.0 95.41 0.0	0.0 0.0 0.0	0.0 0.0 0.0	0.01

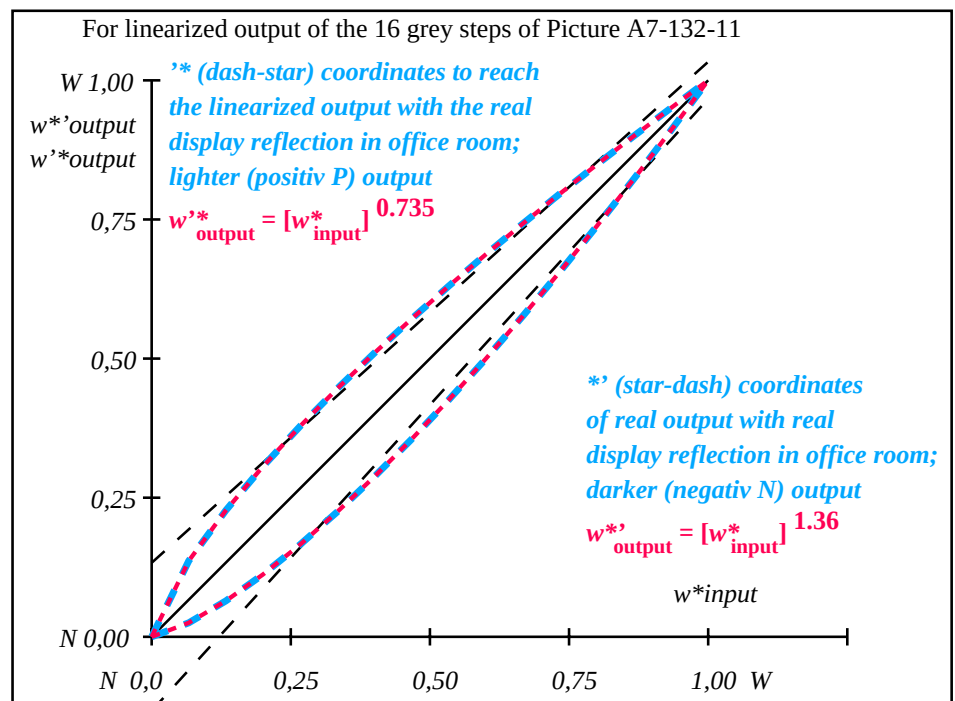
Start output S1
Specification according to ISO/IEC 15775 Annex G and DIN 33866-1 Annex G

Mean lightness difference (16 steps) $\Delta E^*_{\text{CIELAB}} = 6.0$

Mean lightness difference (5 steps) $\Delta L^*_{\text{CIELAB}} = 4.6$

Mean colour reproduction index: $R^*_{\text{ab,m}} = 74$

OE820-3N-132-11: File: Measure unknown; Device: Device unknown; Date: Date unknown



OE821-3N-132-11: File: Measure unknown; Device: Device unknown; Date: Date unknown

L^*/Y_{intended} (absolute)	11.0/1.3	16.6/2.2	22.2/3.6	27.9/5.4	33.5/7.8	39.1/10.7	44.8/14.4	50.4/18.7	56.0/23.9	61.6/30.0	67.3/37.0	72.9/45.0	78.5/54.1	84.2/64.4	89.8/75.8	95.4/88.6
$w^* w^* w^*$ setrgb $g_P=0.74$ 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	0.137	0.227	0.306	0.379	0.446	0.51	0.571	0.63	0.687	0.742	0.796	0.849	0.9	0.95	1.0

OE820-7N, Picture A7-132-11: 16 visual equidistant L^* -grey steps; PS operator: $w^* w^* w^*$ setrgbcolor

OE82: In-output relation according to ISO 9241-306; 1MR, DEH
Viewing Y contrast $Y_W:Y_N=88,9:1,25$; Y_N range 0,93 to <1,87

input: $rgb \rightarrow rgb^*_{\text{de}}$ setrgbcolor
output 132-11: $g_P=0.85$; $g_N=1.0$

TUB registration: 20110801-OE82/OE82L0NA.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 $h^* = lab^*h = 40/360 = 0.111$

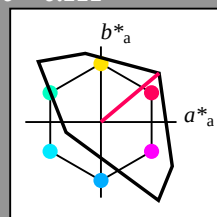
lab^*tch and lab^*nch

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

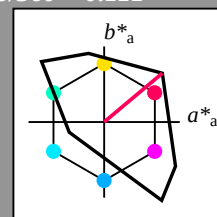
lab^*tch and lab^*nch

D65: hue O

LCH*Ma: 51 100 40

olv*Ma: 1.0 0.0 0.0

triangle lightness t^*



%Gamut

$u^*_{rel} = 158$

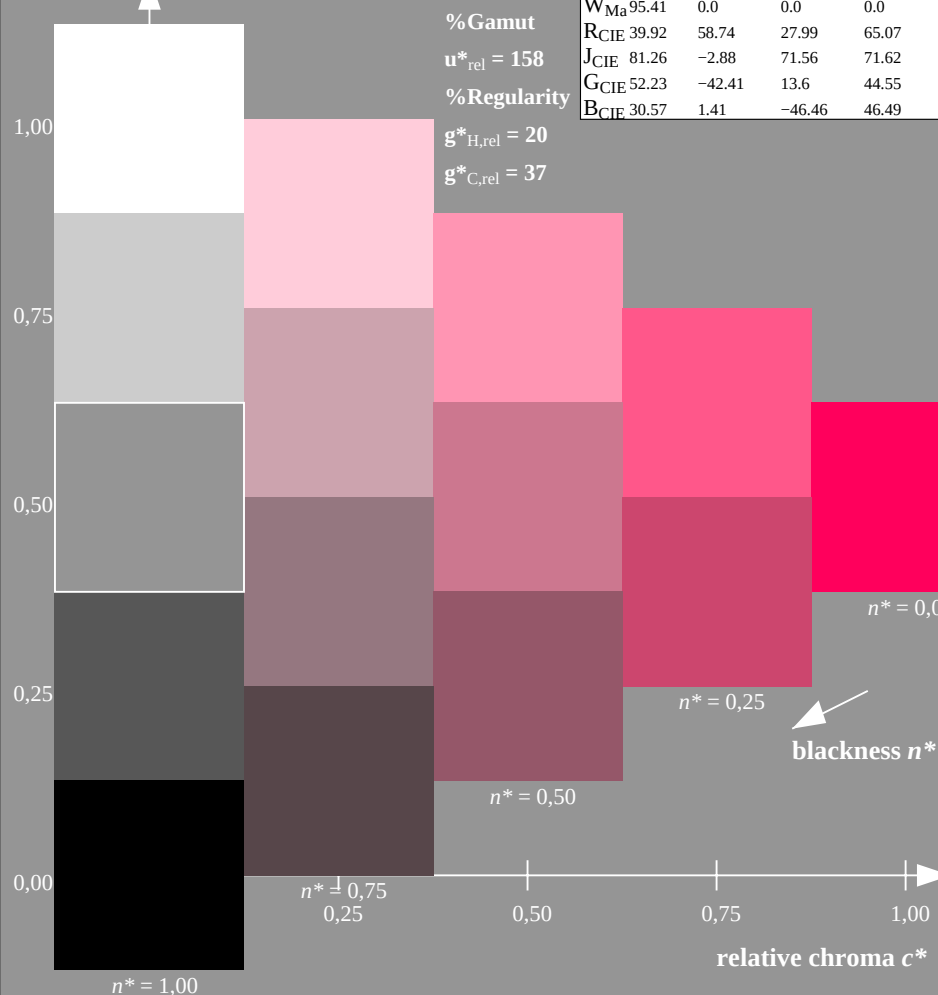
%Regularity

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

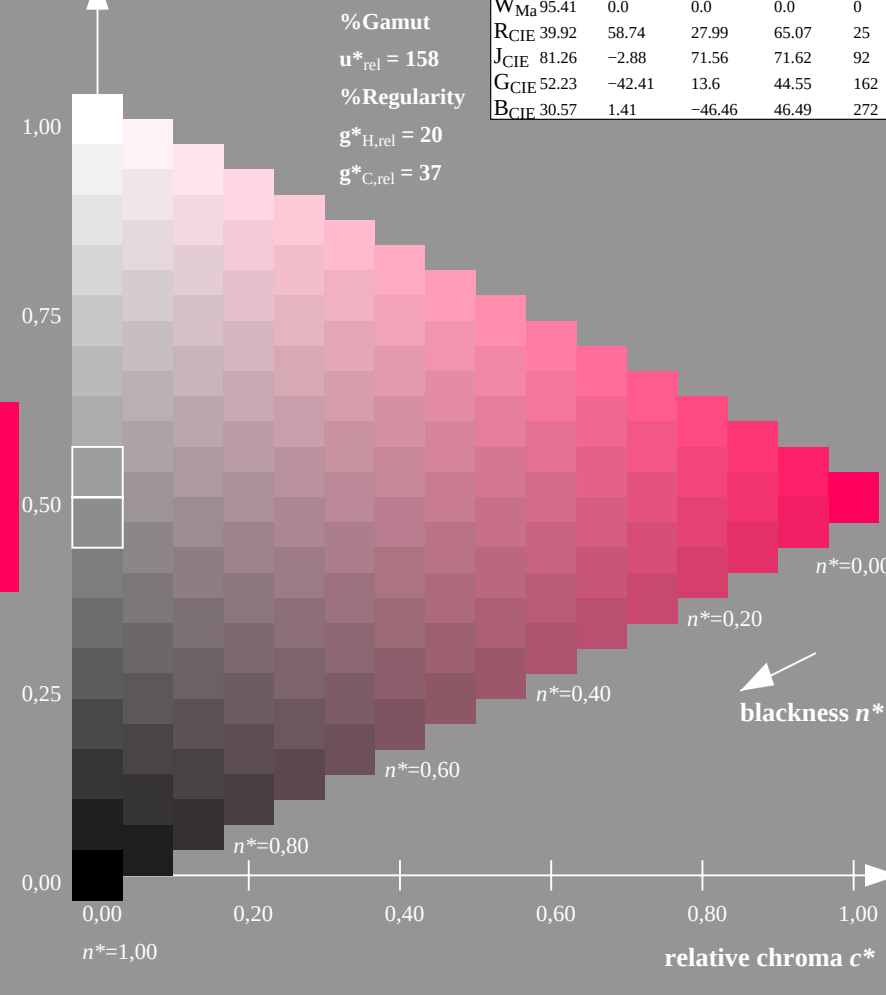
$g^*_{C,rel} = 37$

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



OE820-7N-133-0: 5 step scales for constant CIELAB hue 40/360 = 0.111 (left)



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

OE82: Test chart 1 according to DIN 33872-2, Hue O; 1MR, DEH
Discrimination of 5 and 16 step colour scales

input: $rgb \rightarrow rgb^*_{de}$ setrgbcolor
output 133-0: $g_P=0.77$; $g_N=1.0$

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, CIELAB

TUB registration: 20110801-OE82/OE82L0NA.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 $h^* = lab^*h = 103/360 = 0.286$

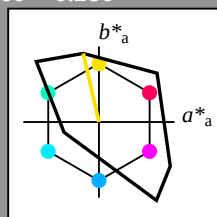
lab^*tch and lab^*nch

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

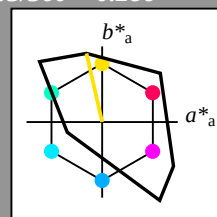
lab^*tch and lab^*nch

D65: hue Y

LCH*Ma: 93 93 103

olv*Ma: 1.0 1.0 0.0

triangle lightness t^*



%Gamut

$u^*_{rel} = 158$

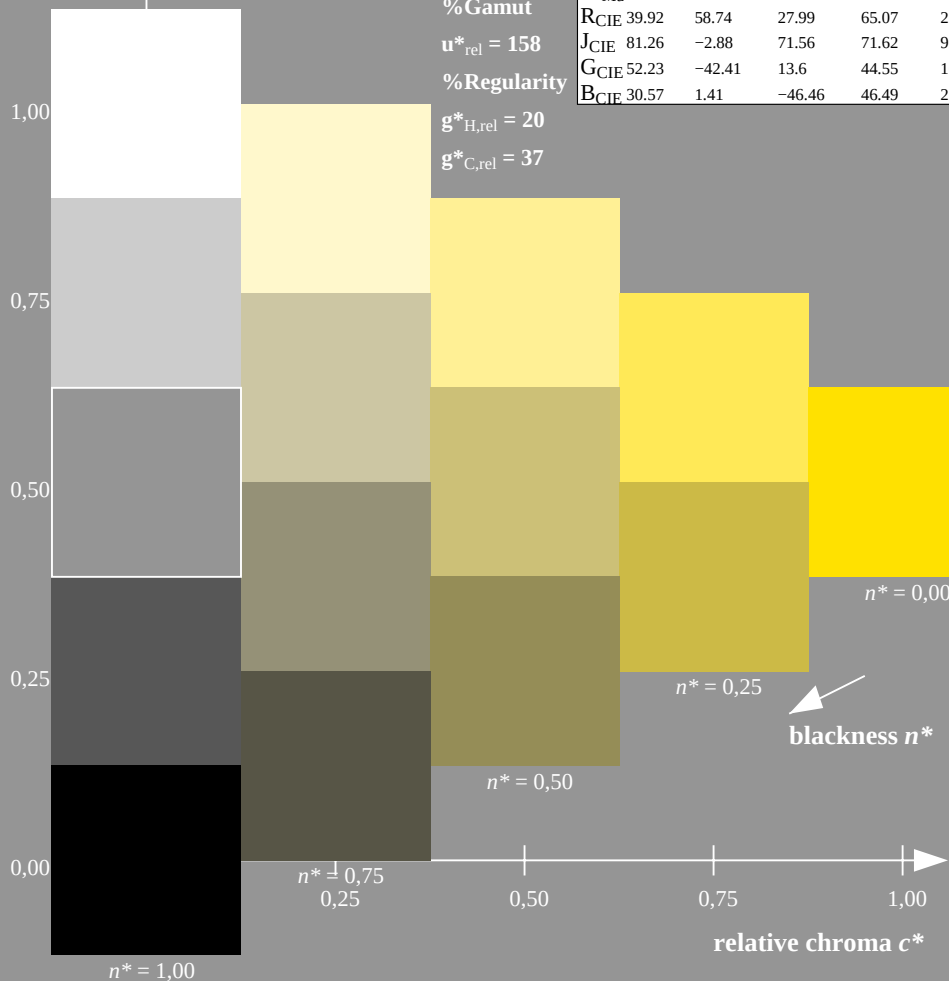
%Regularity

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

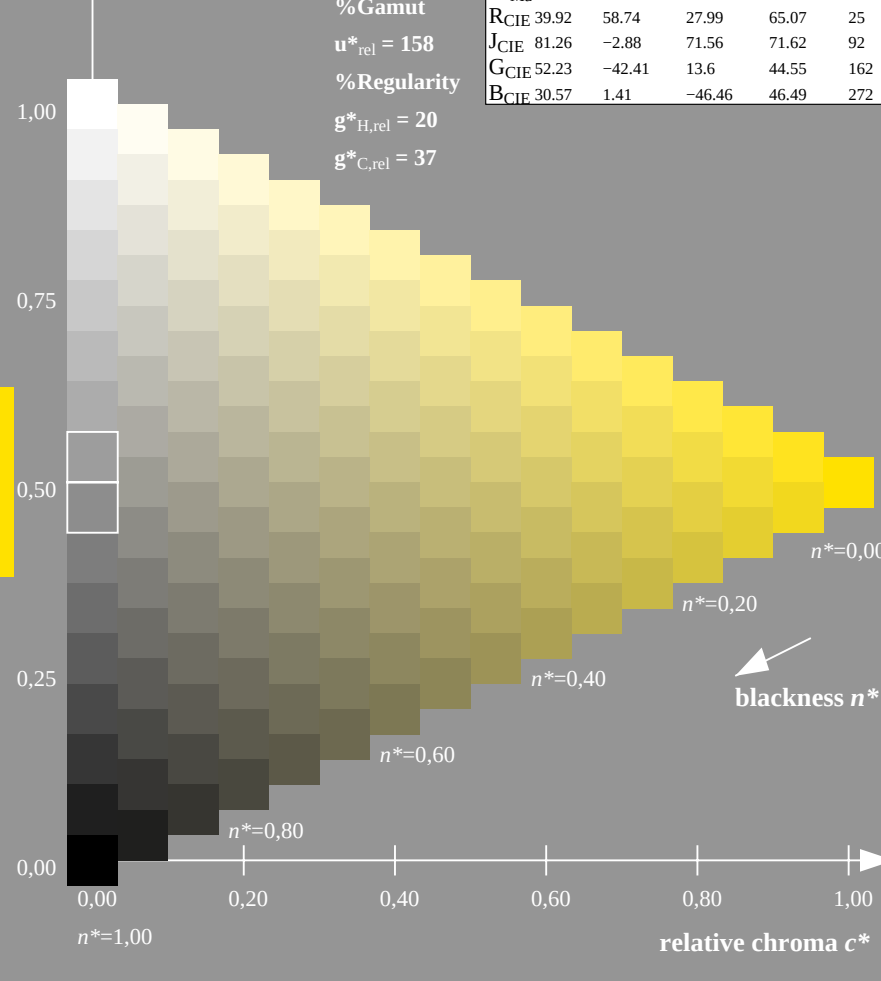
$g^*_{C,rel} = 37$

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
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



OE820-7N-133-1: 5 step scales for constant CIELAB hue 103/360 = 0.286 (left)



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

OE82: Test chart 1 according to DIN 33872-2, Hue Y; 1MR, DEH
Discrimination of 5 and 16 step colour scales

input: $rgb \rightarrow rgb^*_{de}$ setrgbcolor
output 133-1: $g_P=0.77$; $g_N=1.0$

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, CIELAB

TUB registration: 20110801-OE82/OE82L0NA.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 $h^* = lab^*h = 136/360 = 0.378$

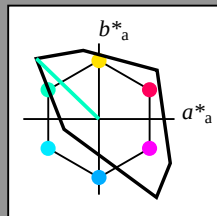
lab^*tch and lab^*nch

D65: hue L

LCH*Ma: 84 115 136

ol v^* 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 $h^* = lab^*h = 136/360 = 0.378$

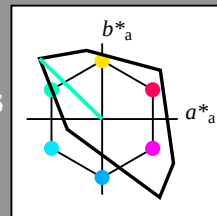
lab^*tch and lab^*nch

D65: hue L

LCH*Ma: 84 115 136

ol v^* Ma: 0.0 1.0 0.0

triangle lightness t^*



%Gamut

$u^*_{rel} = 158$

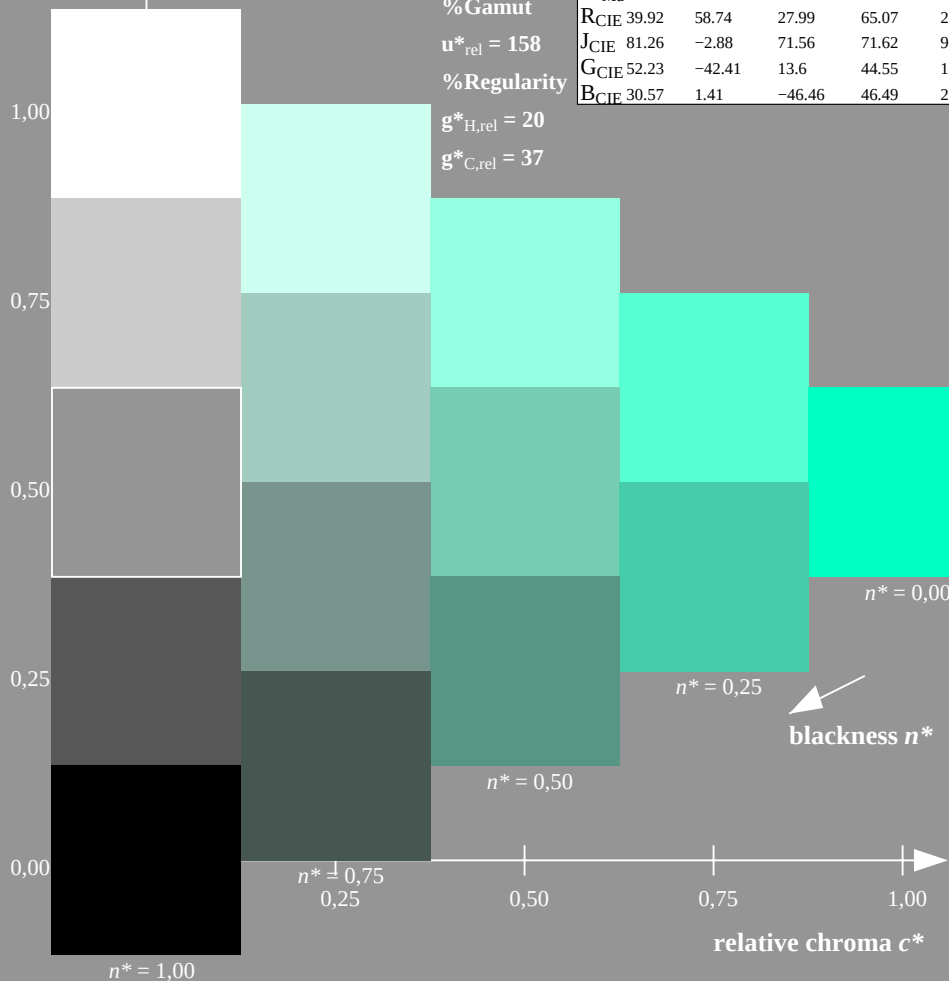
%Regularity

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

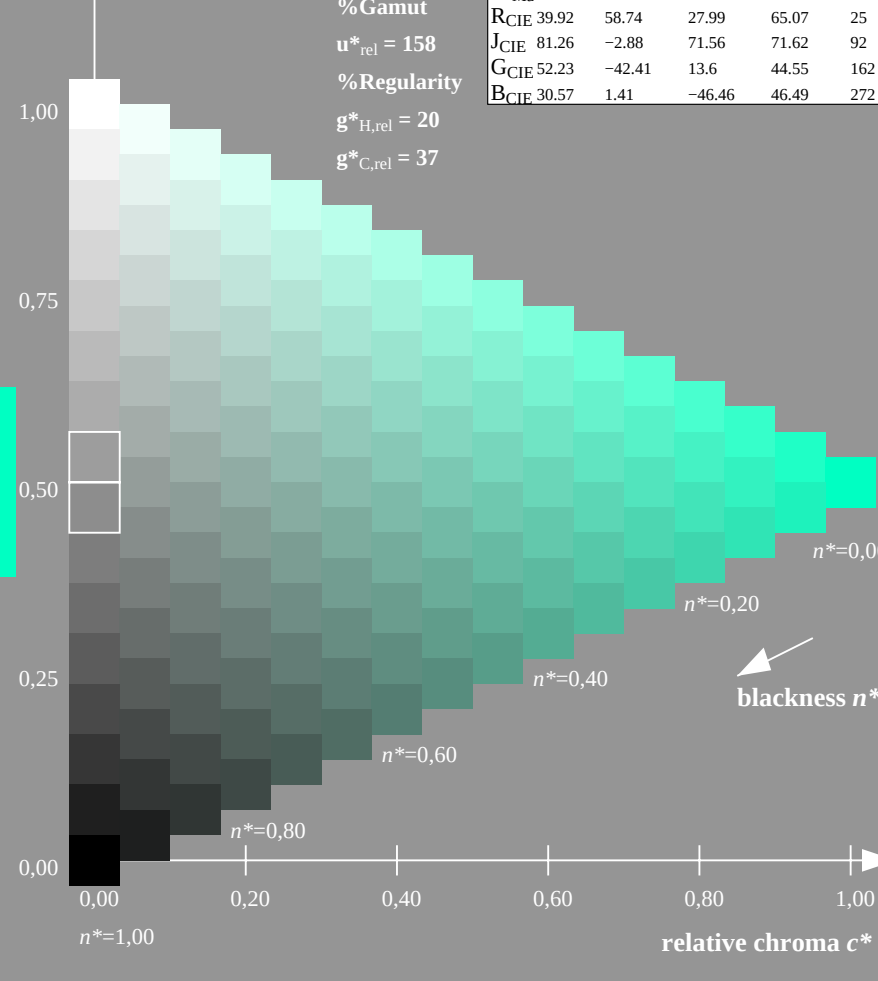
$g^*_{C,rel} = 37$

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



OE820-7N-133-2: 5 step scales for constant CIELAB hue 136/360 = 0.378 (left)



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

OE82: Test chart 1 according to DIN 33872-2, Hue L; 1MR, DEH
Discrimination of 5 and 16 step colour scales

input: $rgb \rightarrow rgb^*_{de}$ set $rgbcolor$
output 133-2: $g_P=0.77$; $g_N=1.0$

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, CIELAB

TUB registration: 20110801-OE82/OE82L0NA.TXT /.PS
application for output of displays: monitor systems or data projector systems
TUB material: code=th4ta

Input: Colorimetric Television Luminous System TLS00a

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

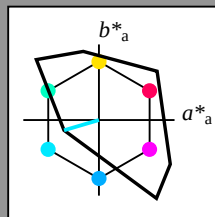
lab^*tch and lab^*nch

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

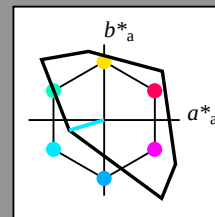
lab^*tch and lab^*nch

D65: hue C

LCH*Ma: 87 48 196

olv*Ma: 0.0 1.0 1.0

triangle lightness t^*



%Gamut

$u^*_{rel} = 158$

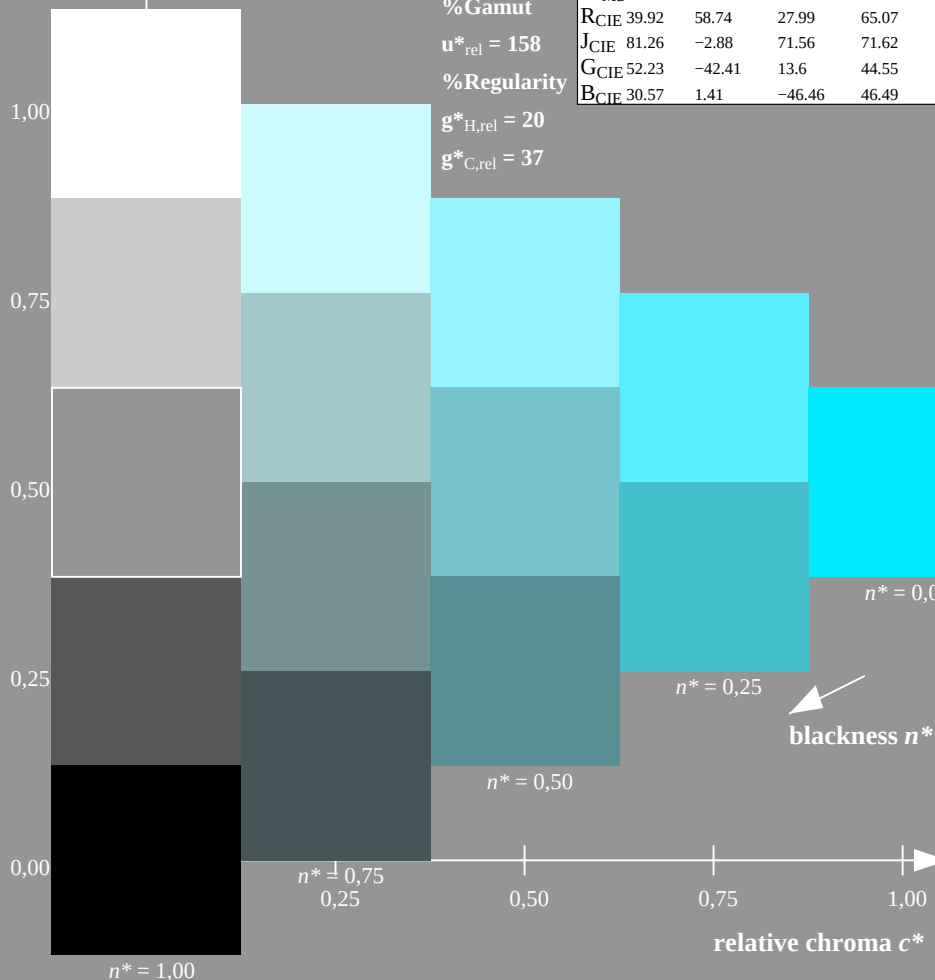
%Regularity

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

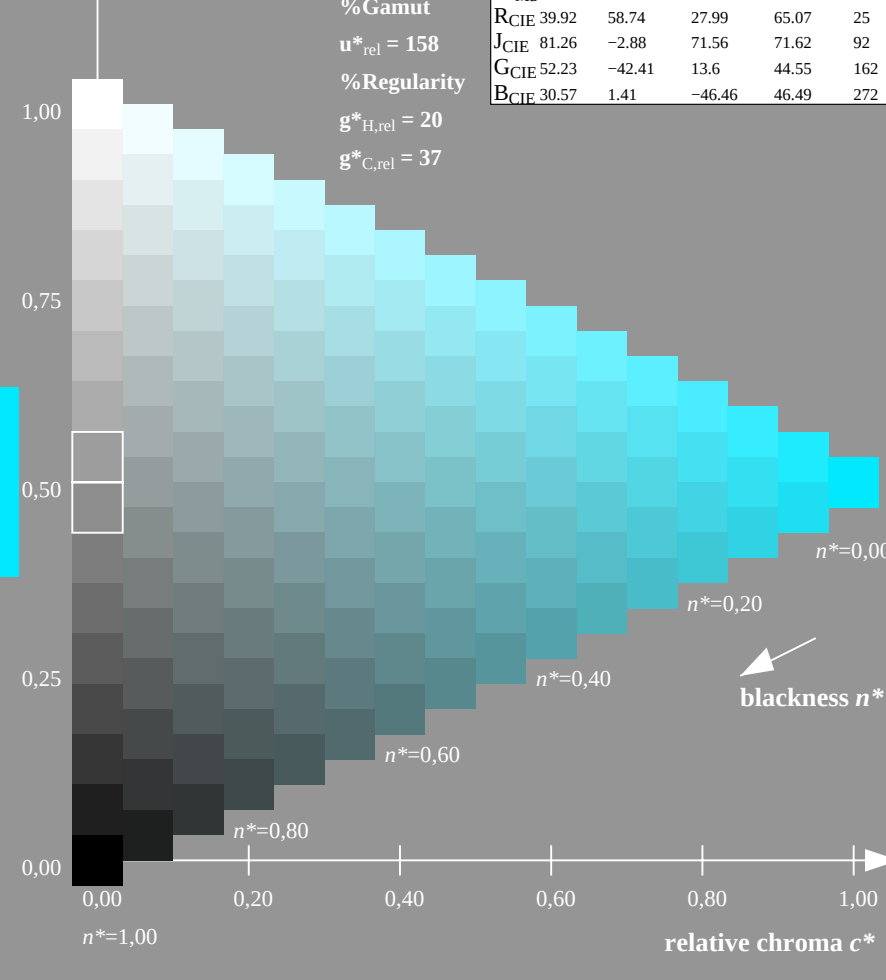
$g^*_{C,rel} = 37$

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



OE820-7N-133-3: 5 step scales for constant CIELAB hue 196/360 = 0.545 (left)



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

OE82: Test chart 1 according to DIN 33872-2, Hue C; 1MR, DEH
Discrimination of 5 and 16 step colour scales

input: $rgb \rightarrow rgb^*_{de}$ setrgbcolor
output 133-3: $g_P=0.77$; $g_N=1.0$

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, CIELAB

TUB registration: 20110801-OE82/OE82L0NA.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 $h^* = lab^*h = 306/360 = 0.851$

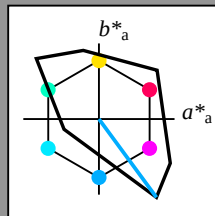
lab^*tch and lab^*nch

D65: hue V

LCH*Ma: 30 129 306

ol v^* 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 $h^* = lab^*h = 306/360 = 0.851$

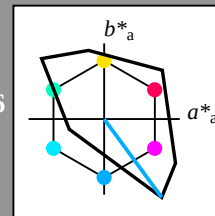
lab^*tch and lab^*nch

D65: hue V

LCH*Ma: 30 129 306

ol v^* Ma: 0.0 0.0 1.0

triangle lightness t^*



%Gamut

$u^*_{rel} = 158$

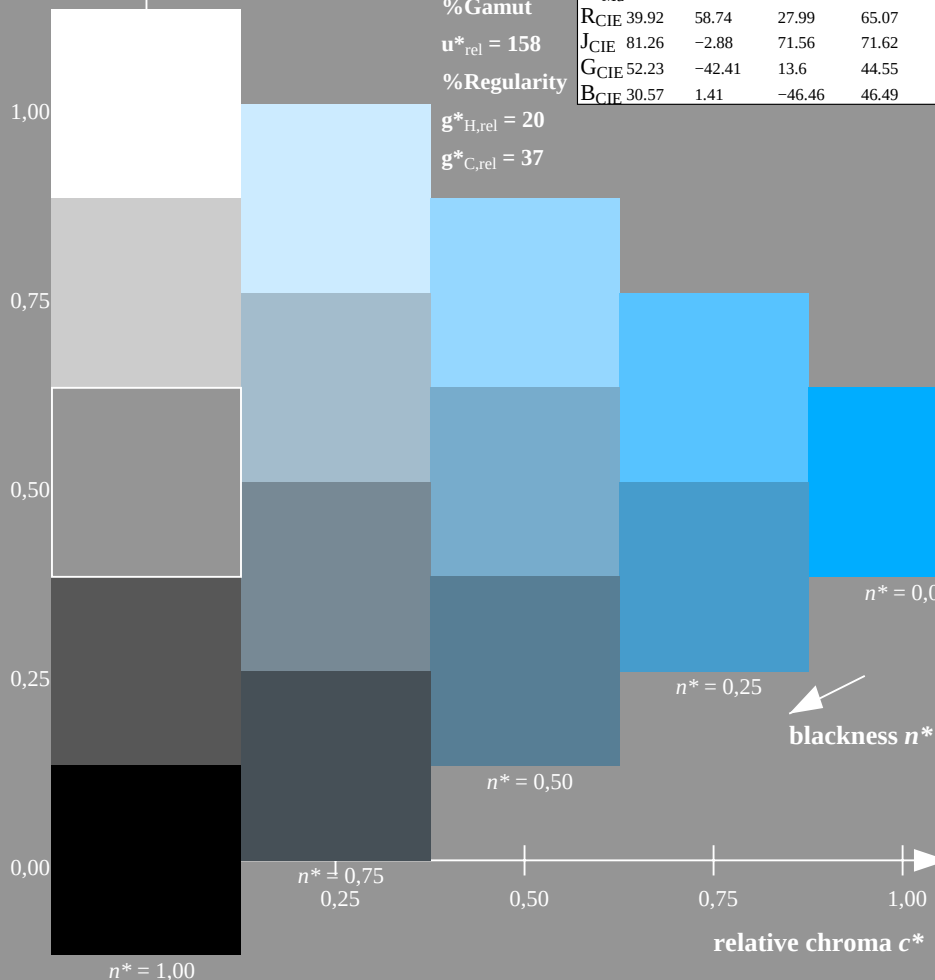
%Regularity

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

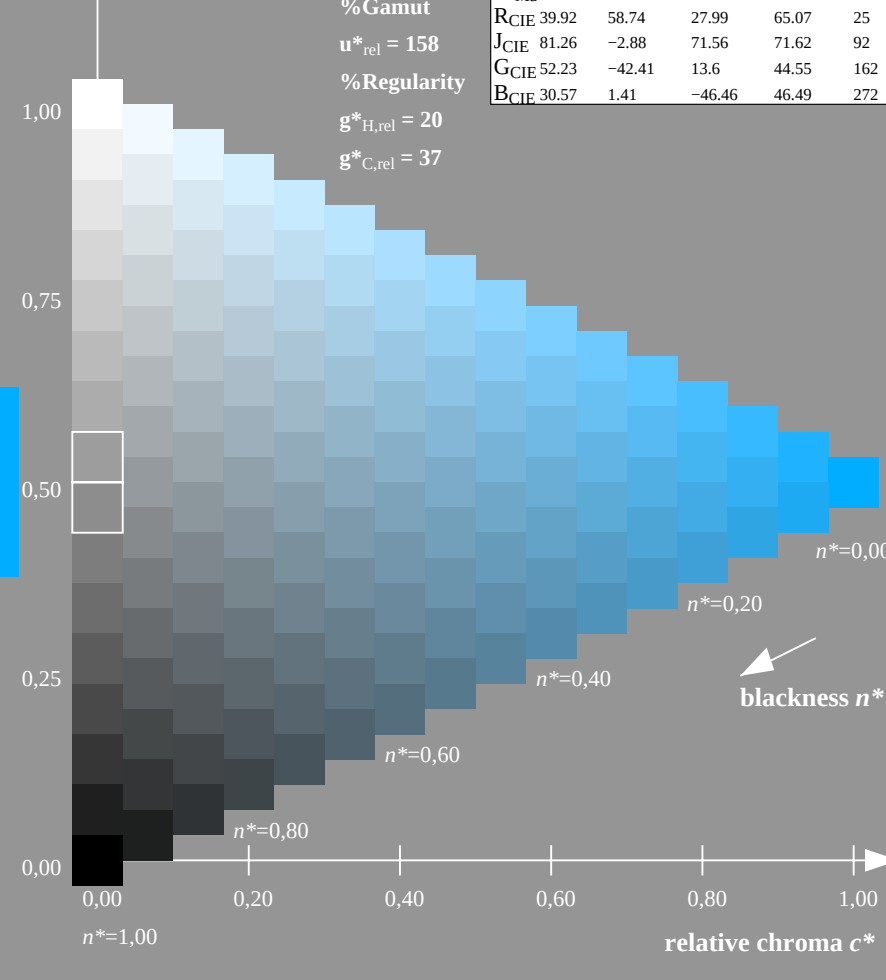
$g^*_{C,rel} = 37$

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



OE820-7N-133-4: 5 step scales for constant CIELAB hue 306/360 = 0.851 (left)



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

OE82: Test chart 1 according to DIN 33872-2, Hue V; 1MR, DEH
Discrimination of 5 and 16 step colour scales

input: $rgb \rightarrow rgb^*_{de}$ setrgbcolor
output 133-4: $g_P=0.77$; $g_N=1.0$

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, CIELAB

TUB registration: 20110801-OE82/OE82L0NA.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 $h^* = lab^*h = 328/360 = 0.912$

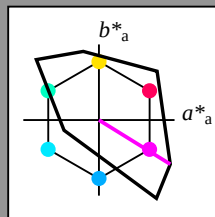
lab^*tch and lab^*nch

D65: hue M

LCH*Ma: 57 111 328

ol*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

Output: Colorimetric Television Luminous System TLS00a

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

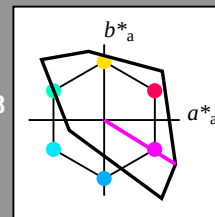
lab^*tch and lab^*nch

D65: hue M

LCH*Ma: 57 111 328

ol*Ma: 1.0 0.0 1.0

triangle lightness t^*



%Gamut

$u^*_{rel} = 158$

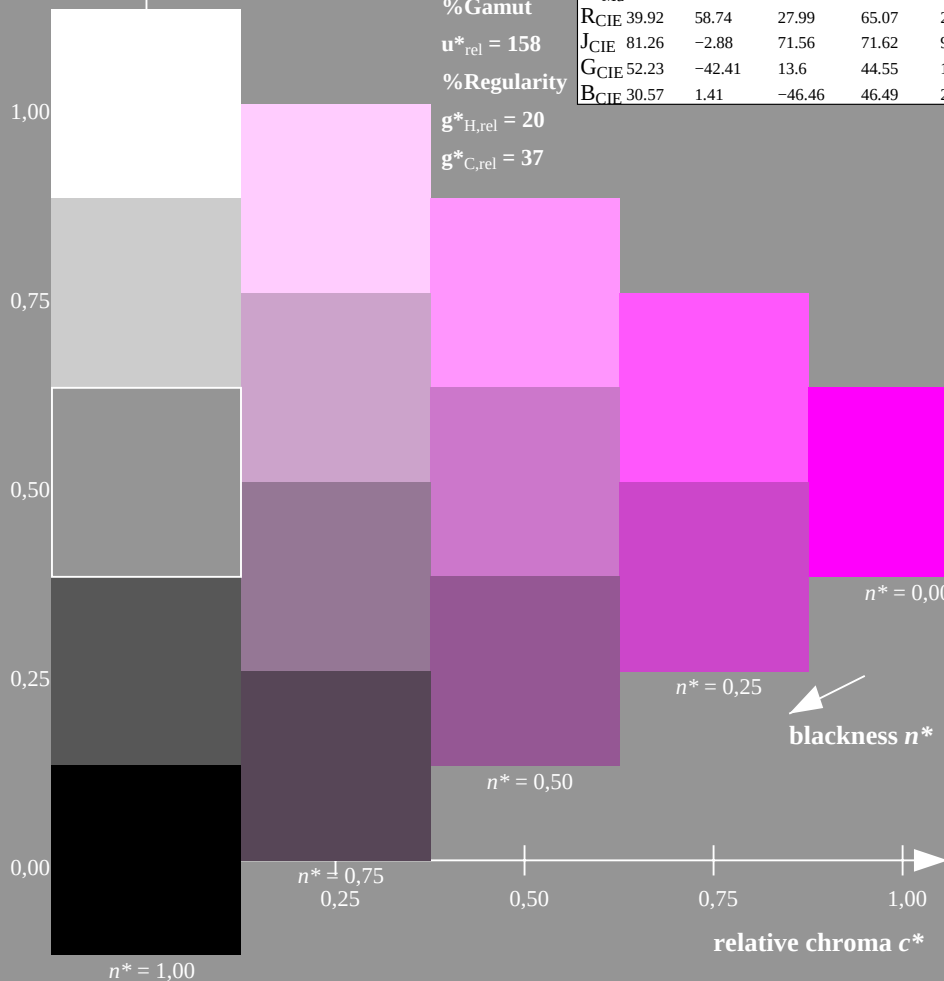
%Regularity

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

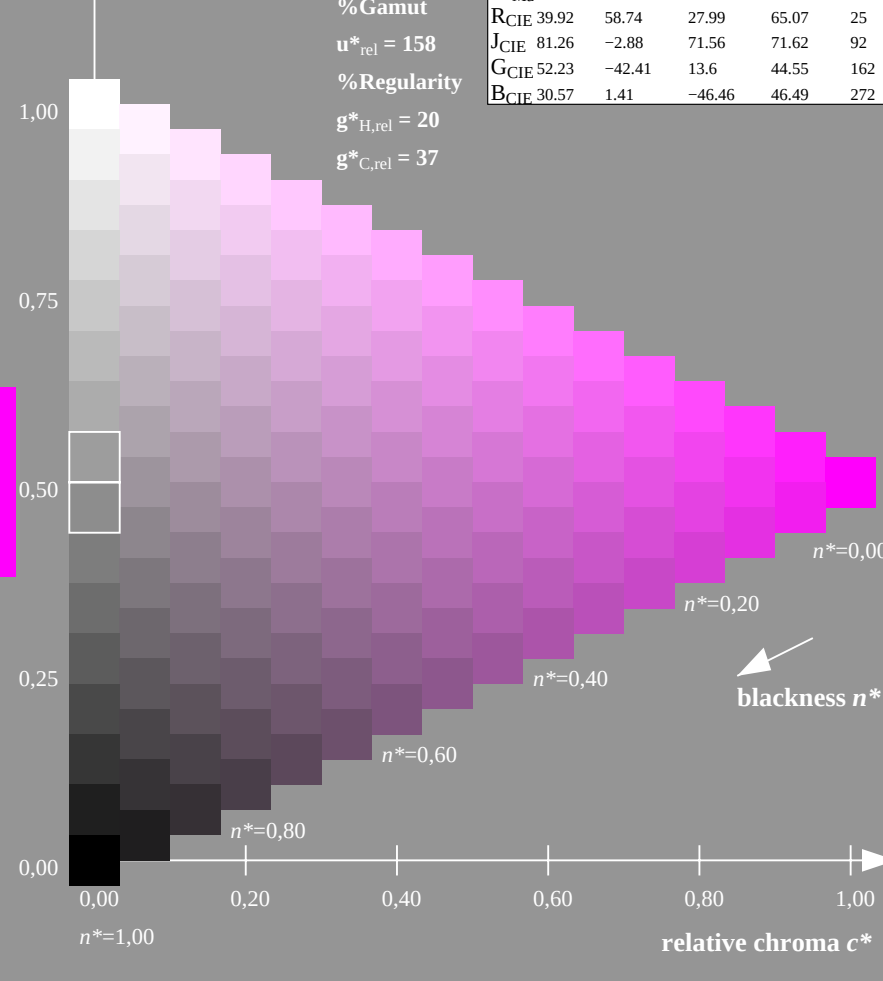
$g^*_{C,rel} = 37$

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



OE820-7N-133-5: 5 step scales for constant CIELAB hue 328/360 = 0.912 (left)



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

OE82: Test chart 1 according to DIN 33872-2, Hue M; 1MR, DEH input: $rgb \rightarrow rgb^*_{de}$ setrgbcolor
Discrimination of 5 and 16 step colour scales output 133-5: $g_P=0.77$; $g_N=1.0$

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, CIELAB

TUB registration: 20110801-OE82/OE82L0NA.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 $h^* = lab^*h = 25/360 = 0.071$

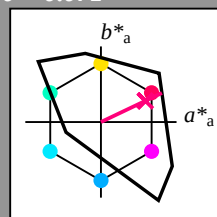
lab^*tch and lab^*nch

D65: hue R

LCH*Ma: 52 89 25

ol*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 $h^* = lab^*h = 25/360 = 0.071$

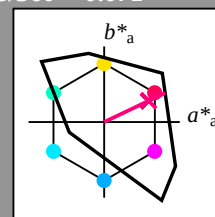
lab^*tch and lab^*nch

D65: hue R

LCH*Ma: 52 89 25

ol*Ma: 1.0 0.0 0.21

triangle lightness t^*



%Gamut

$u^*_{rel} = 158$

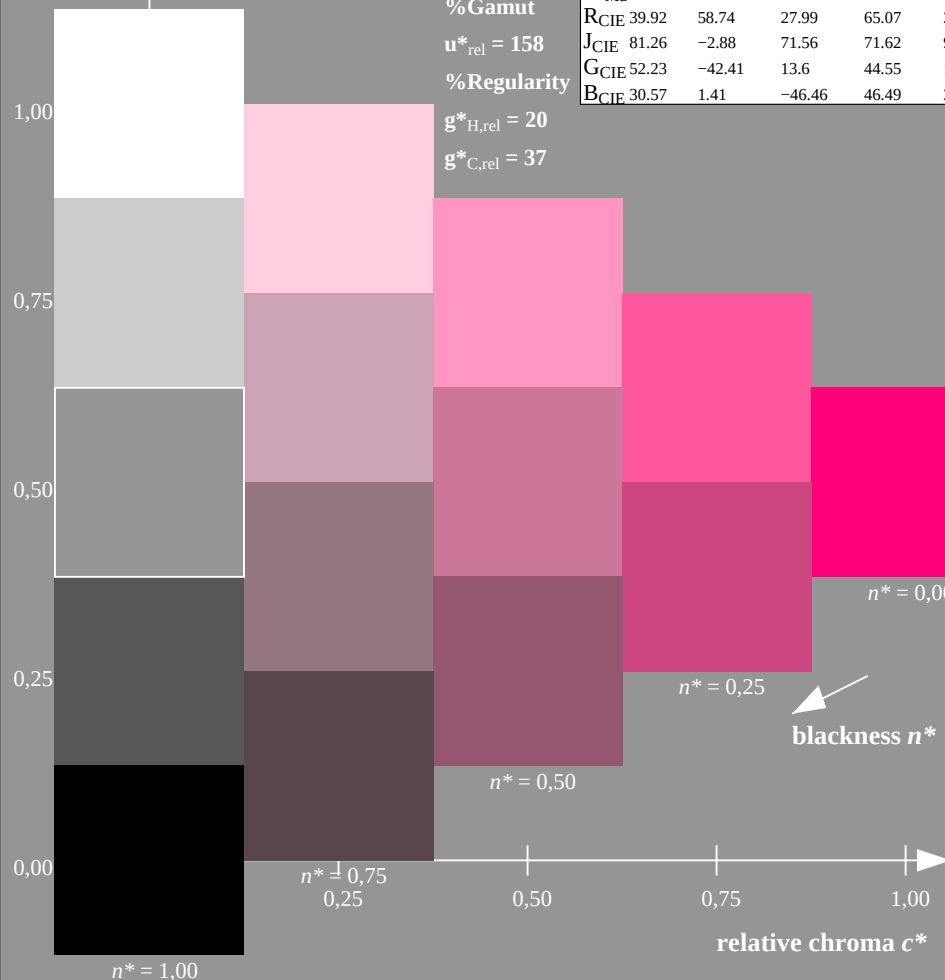
%Regularity

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

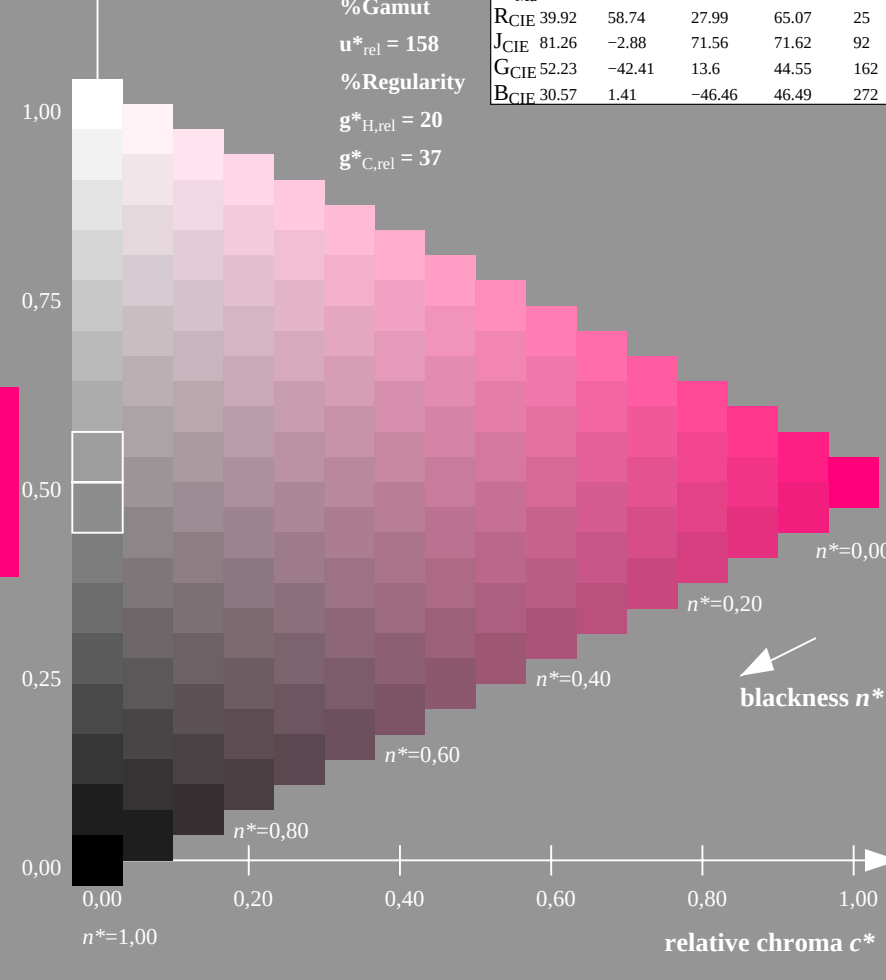
$g^*_{C,rel} = 37$

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



OE820-7N-133-6: 5 step scales for constant CIELAB hue 25/360 = 0.071 (left)



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

OE82: Test chart 1 according to DIN 33872-2, Hue R; 1MR, DEEH input: $rgb \rightarrow rgb^*_{dee}$ setrgbcolo
Discrimination of 5 and 16 step colour scales
output 133-6: $g_P=0.77$; $g_N=1.0$

TUB registration: 20110801-OE82/OE82L0NA.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 $h^* = lab^*h = 92/360 = 0.256$

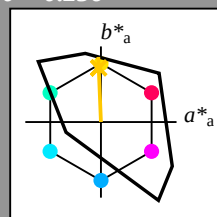
lab^*tch and lab^*nch

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

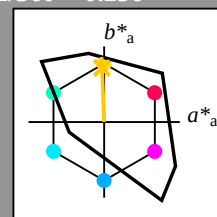
lab^*tch and lab^*nch

D65: hue J

LCH*Ma: 85 86 92

olv*Ma: 1.0 0.82 0.0

triangle lightness t^*



%Gamut

$u^*_{rel} = 158$

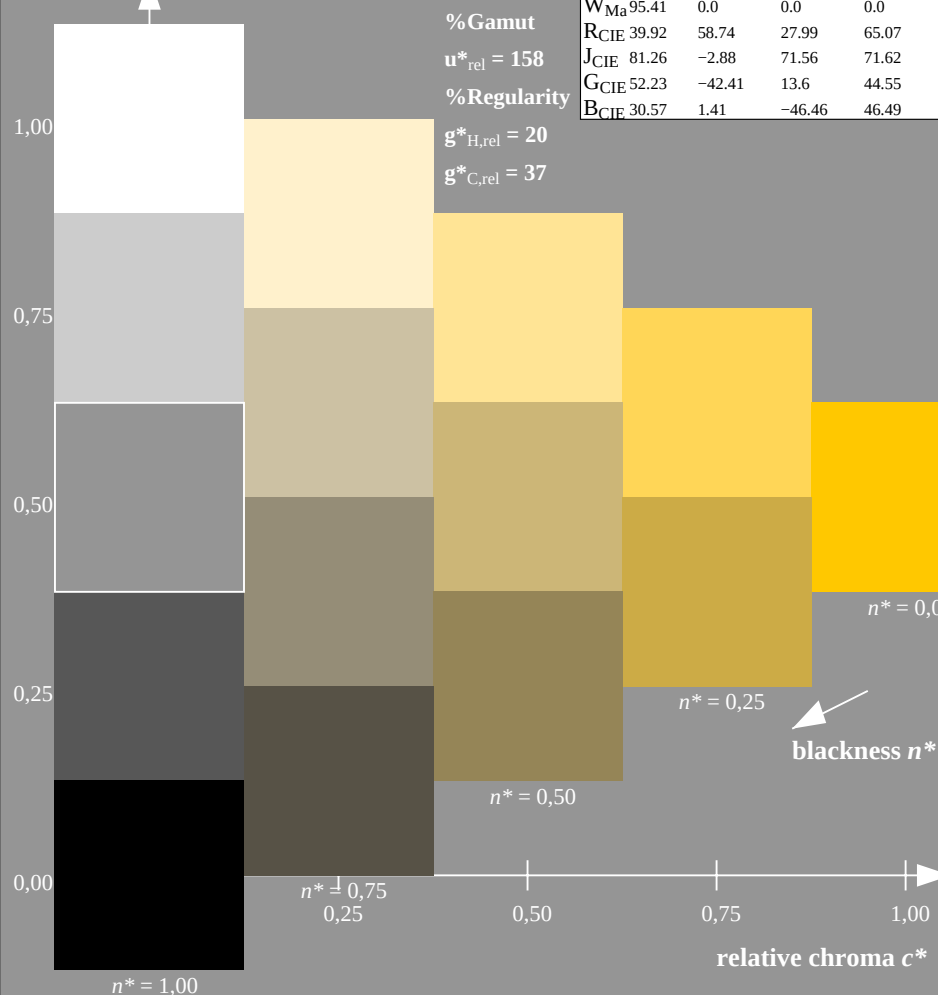
%Regularity

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

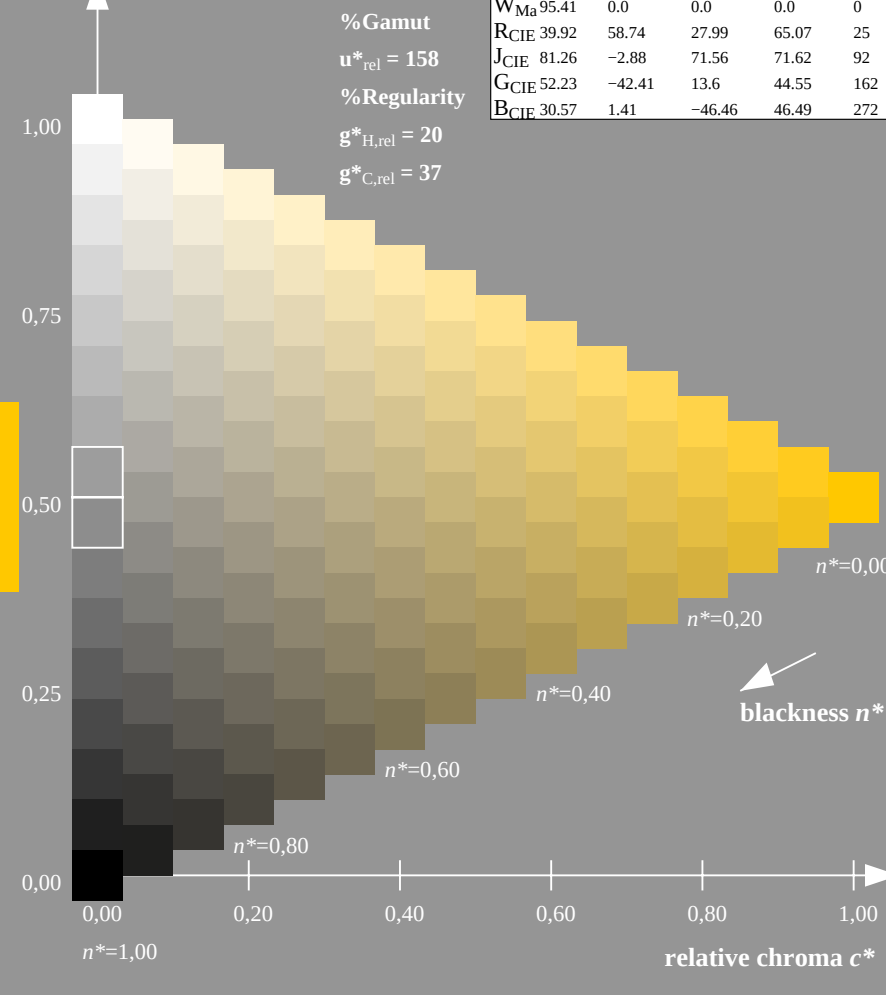
$g^*_{C,rel} = 37$

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



OE820-7N-133-7: 5 step scales for constant CIELAB hue 92/360 = 0.256 (left)



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

OE82: Test chart 1 according to DIN 33872-2, Hue J; 1MR, DEEH input: $rgb \rightarrow rgb^*_{dee}$ setrgbcolo
Discrimination of 5 and 16 step colour scales output 133-7: $g_P=0.77$; $g_N=1.0$

TUB registration: 20110801-OE82/OE82L0NA.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 $h^* = lab^*h = 162/360 = 0.451$

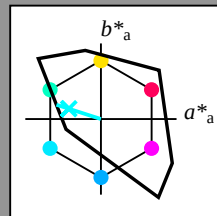
lab^*tch and lab^*nch

D65: hue G

LCH*Ma: 86 62 162

ol v^* 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 $h^* = lab^*h = 162/360 = 0.451$

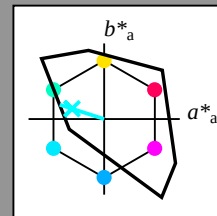
lab^*tch and lab^*nch

D65: hue G

LCH*Ma: 86 62 162

ol v^* Ma: 0.0 1.0 0.65

triangle lightness t^*



%Gamut

$u^*_{rel} = 158$

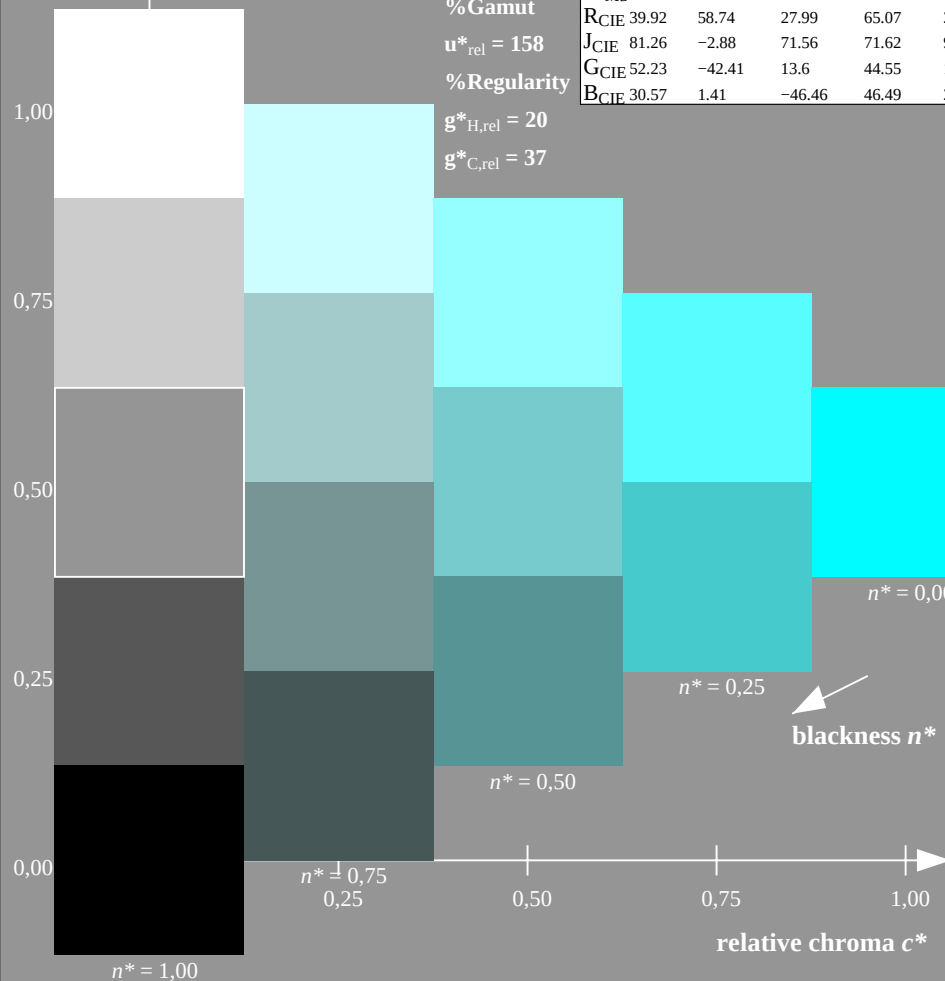
%Regularity

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

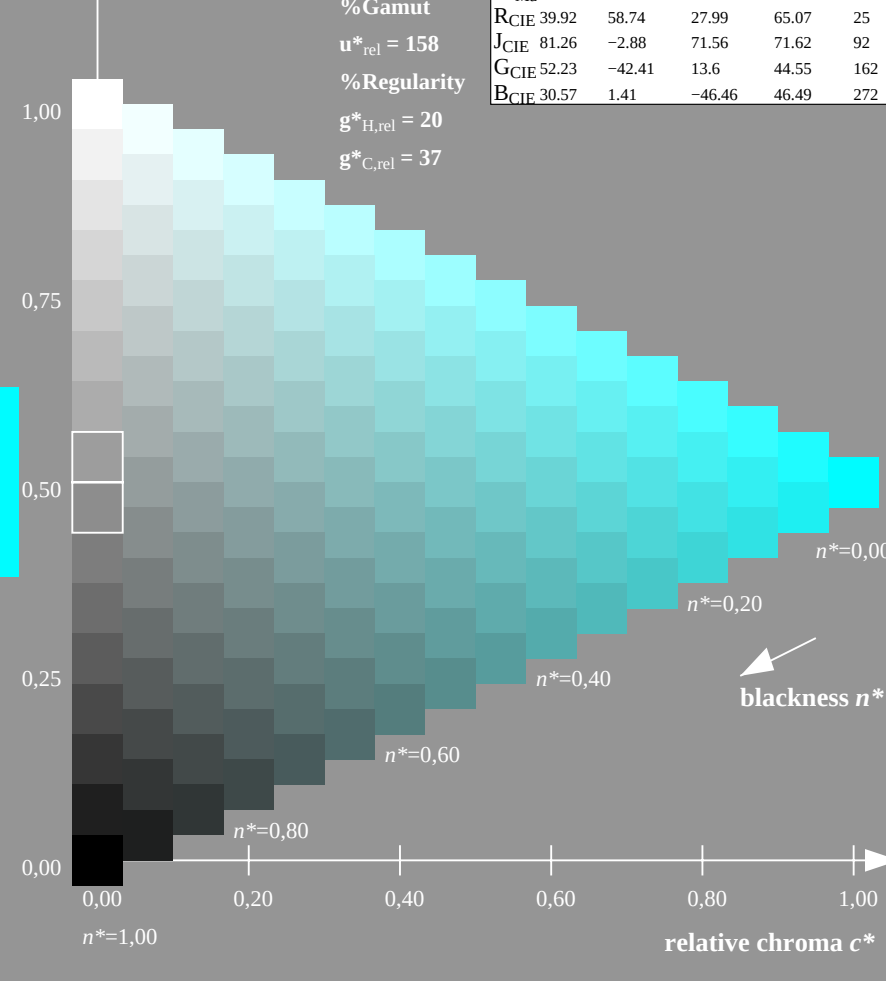
$g^*_{C,rel} = 37$

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



OE820-7N-133-8: 5 step scales for constant CIELAB hue 162/360 = 0.451 (left)



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

OE82: Test chart 1 according to DIN 33872-2, Hue G; 1MR, DEEH input: $rgb \rightarrow rgb^*_{dee}$ setrgbcolo
Discrimination of 5 and 16 step colour scales
output 133-8: $g_P=0.77$; $g_N=1.0$

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, CIELAB

TUB registration: 20110801-OE82/OE82L0NA.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 $h^* = lab^*h = 272/360 = 0.755$

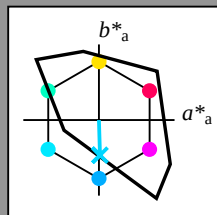
lab^*tch and lab^*nch

D65: hue B

LCH*Ma: 65 49 272

ol v^* 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 $h^* = lab^*h = 272/360 = 0.755$

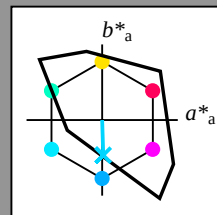
lab^*tch and lab^*nch

D65: hue B

LCH*Ma: 65 49 272

ol v^* Ma: 0.0 0.61 1.0

triangle lightness t^*



%Gamut

$u^*_{rel} = 158$

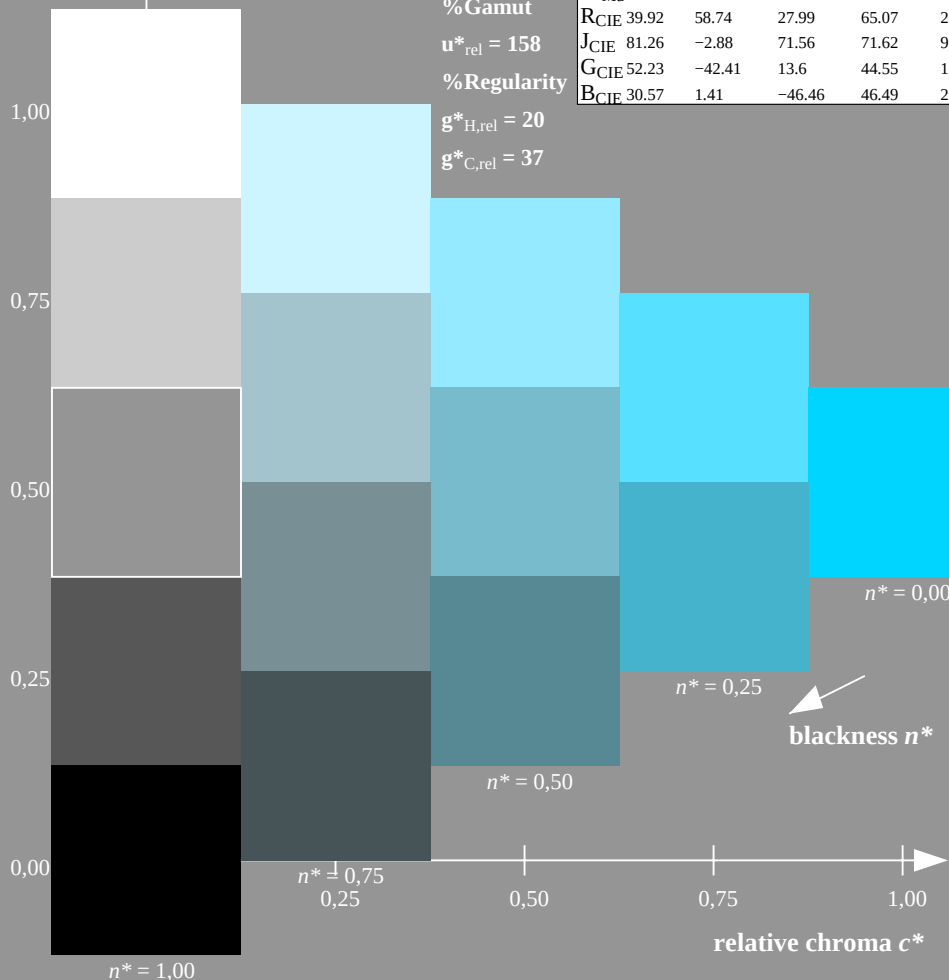
%Regularity

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

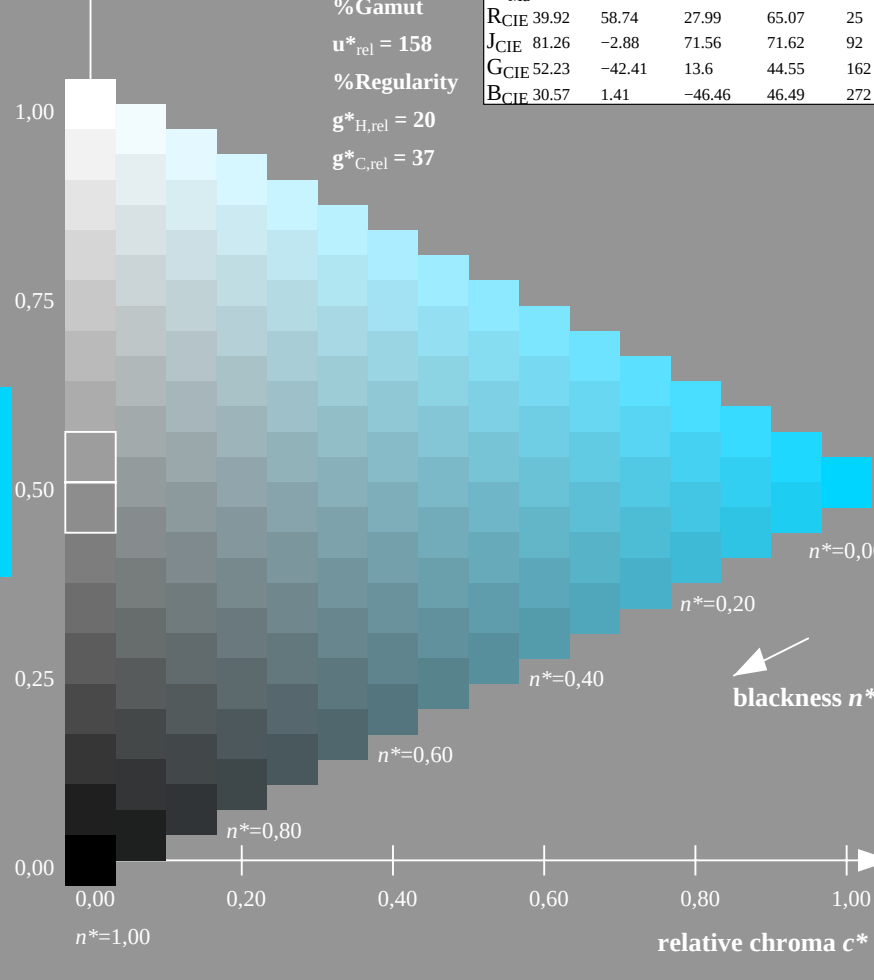
$g^*_{C,rel} = 37$

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



OE820-7N-133-9: 5 step scales for constant CIELAB hue 272/360 = 0.755 (left)

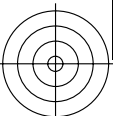


16 step scales for constant CIELAB hue 272/360 = 0.755 (right)

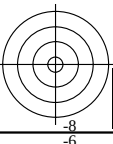
OE82: Test chart 1 according to DIN 33872-2, Hue B; 1MR, DEEH input: $rgb \rightarrow rgb^*_{dee}$ setrgbcolo
Discrimination of 5 and 16 step colour scales
output 133-9: $g_P=0.77$; $g_N=1.0$

TUB registration: 20110801-OE82/OE82L0NA.TXT /.PS
application for output of displays: monitor systems or data projector systems

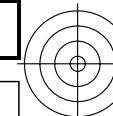
TUB material: code=rha4ta



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, CIELAB

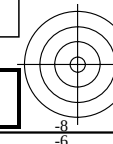


<http://130.149.60.45/~farbmetrik/OE82/OE82L0NA.TXT> /PS; linearized output, Page 11/12
 F: Output Linearization (OL) data OE82/OE82L0NA.TXT /PS in File (F)



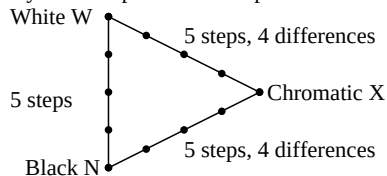
TUB registration: 20110801-OE82/OE82L0NA.TXT /PS
 application for output of displays: monitor systems or data projector systems

TUB material: code=rhta4ta



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

OE820-3N-133-10

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

PDF-File: <http://130.149.60.45/farbmetrik/OE82/OE82L0NP.PDF> underline Yes/No

PS-File: <http://130.149.60.45/farbmetrik/OE82/OE82L0NA.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 OE82L0NP.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 OE82L0NA.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

OE820-7N-133-10

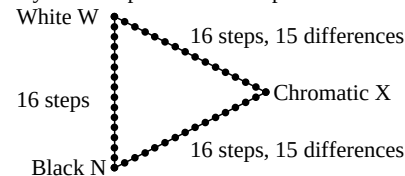


OE82: Form A for test chart 1 according to DIN 33872-2; 1MR, DEH
 Discrimination of colour scales (Yes/No decision)
 Input: $rgb \rightarrow rgb_{de}$ setrgbcolor
 output 133-10: $g_P=0.77$; $g_N=1.0$



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

OE821-3N-133-10

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/OE82/OE82F1P2.PDF>

underline Yes/No

PS file: <http://130.149.60.45/farbmetrik/OE82/OE82F1P2.PS>

underline Yes/No

Picture A7-133-2: 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/OE82/OE82F1P2.PDF>

picture A7-133-2

underline Yes/No

PS-File: <http://130.149.60.45/farbmetrik/OE82/OE82F1P2.PS>

picture A7-133-2

or underline Yes/No

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

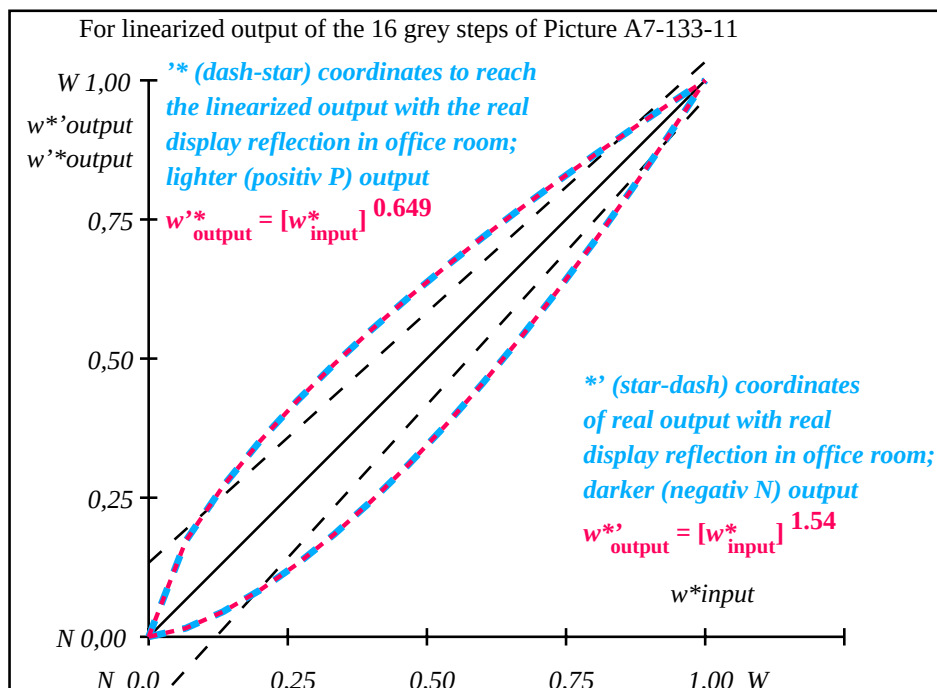
OE821-7N-133-10



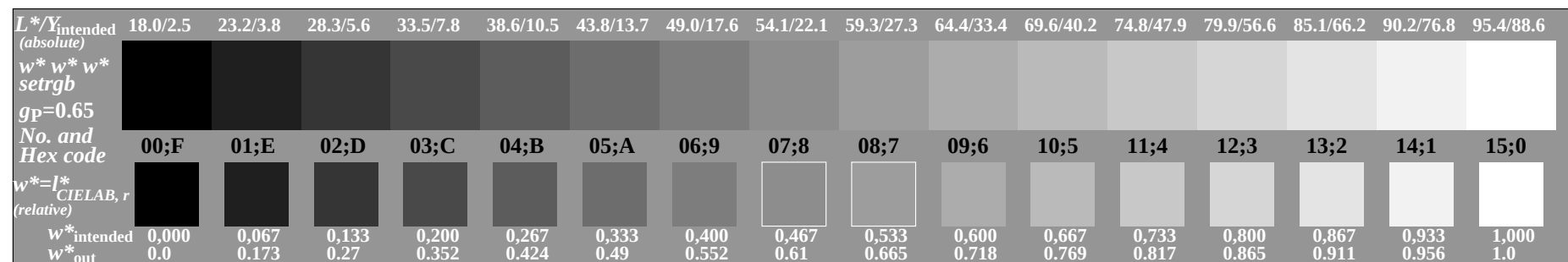
See similar ISO test charts: <http://www.ps.bam.de/24705TE>, <http://www.ps.bam.de/9241E>
Technical information: <http://www.ps.bam.de/33872E> Version 2.1, io=1,1, CIELAB

i	LAB*ref	L*out	LAB*out	LAB*out/c-ref	ΔE*
1	18.01 0.0 0.0	0.0 18.01 0.0	0.0 0.0 0.0	0.0 0.0 0.0	0.01
2	23.17 0.0 0.0	0.17 31.35 0.0	0.0 0.0 0.0	8.18 0.0 0.0	8.18
3	28.33 0.0 0.0	0.27 38.93 0.0	0.0 0.0 0.0	10.6 0.0 0.0	10.6
4	33.49 0.0 0.0	0.35 45.23 0.0	0.0 0.0 0.0	11.74 0.0 0.0	11.74
5	38.65 0.0 0.0	0.42 50.82 0.0	0.0 0.0 0.0	12.17 0.0 0.0	12.17
6	43.81 0.0 0.0	0.49 55.93 0.0	0.0 0.0 0.0	12.12 0.0 0.0	12.12
7	48.97 0.0 0.0	0.55 60.7 0.0	0.0 0.0 0.0	11.73 0.0 0.0	11.73
8	54.13 0.0 0.0	0.61 65.2 0.0	0.0 0.0 0.0	11.07 0.0 0.0	11.07
9	59.29 0.0 0.0	0.66 69.47 0.0	0.0 0.0 0.0	10.18 0.0 0.0	10.18
10	64.45 0.0 0.0	0.72 73.56 0.0	0.0 0.0 0.0	9.11 0.0 0.0	9.11
11	69.61 0.0 0.0	0.77 77.49 0.0	0.0 0.0 0.0	7.88 0.0 0.0	7.88
12	74.77 0.0 0.0	0.82 81.29 0.0	0.0 0.0 0.0	6.52 0.0 0.0	6.52
13	79.93 0.0 0.0	0.87 84.97 0.0	0.0 0.0 0.0	5.04 0.0 0.0	5.04
14	85.09 0.0 0.0	0.91 88.54 0.0	0.0 0.0 0.0	3.45 0.0 0.0	3.45
15	90.25 0.0 0.0	0.96 92.02 0.0	0.0 0.0 0.0	1.77 0.0 0.0	1.77
16	95.41 0.0 0.0	1.0 95.41 0.0	0.0 0.0 0.0	0.0 0.0 0.0	0.01
17	18.01 0.0 0.0	0.0 18.01 0.0	0.0 0.0 0.0	0.0 0.0 0.0	0.01
18	37.36 0.0 0.0	0.41 49.47 0.0	0.0 0.0 0.0	12.11 0.0 0.0	12.11
19	56.71 0.0 0.0	0.64 67.36 0.0	0.0 0.0 0.0	10.65 0.0 0.0	10.65
20	76.06 0.0 0.0	0.83 82.22 0.0	0.0 0.0 0.0	6.16 0.0 0.0	6.16
21	95.41 0.0 0.0	1.0 95.41 0.0	0.0 0.0 0.0	0.0 0.0 0.0	0.01
Mean lightness difference (16 steps)					ΔE* _{CIELAB} = 7.6
Mean lightness difference (5 steps)					ΔL* _{CIELAB} = 5.8
Mean colour reproduction index:					R* _{ab,m} = 67

OE820-3N-133-11: File: Measure unknown; Device: Device unknown; Date: Date unknown



OE821-3N-133-11: File: Measure unknown; Device: Device unknown; Date: Date unknown



OE82: In-output relation according to ISO 9241-306; 1MR, DEH
Viewing Y contrast $Y_W:Y_N=88,9:2,5$; Y_N range 1,87 to <3,75
input: $rgb \rightarrow rgb_{de}$ setrgbcolor
output 133-11: $g_P=0,77$; $g_N=1,0$

Input: Colorimetric Television Luminous System TLS00a

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

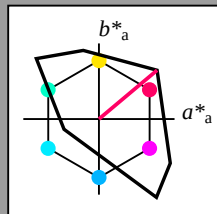
lab^*tch and lab^*nch

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

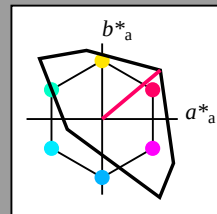
lab^*tch and lab^*nch

D65: hue O

LCH*Ma: 51 100 40

olv*Ma: 1.0 0.0 0.0

triangle lightness t^*



%Gamut

$u^*_{rel} = 158$

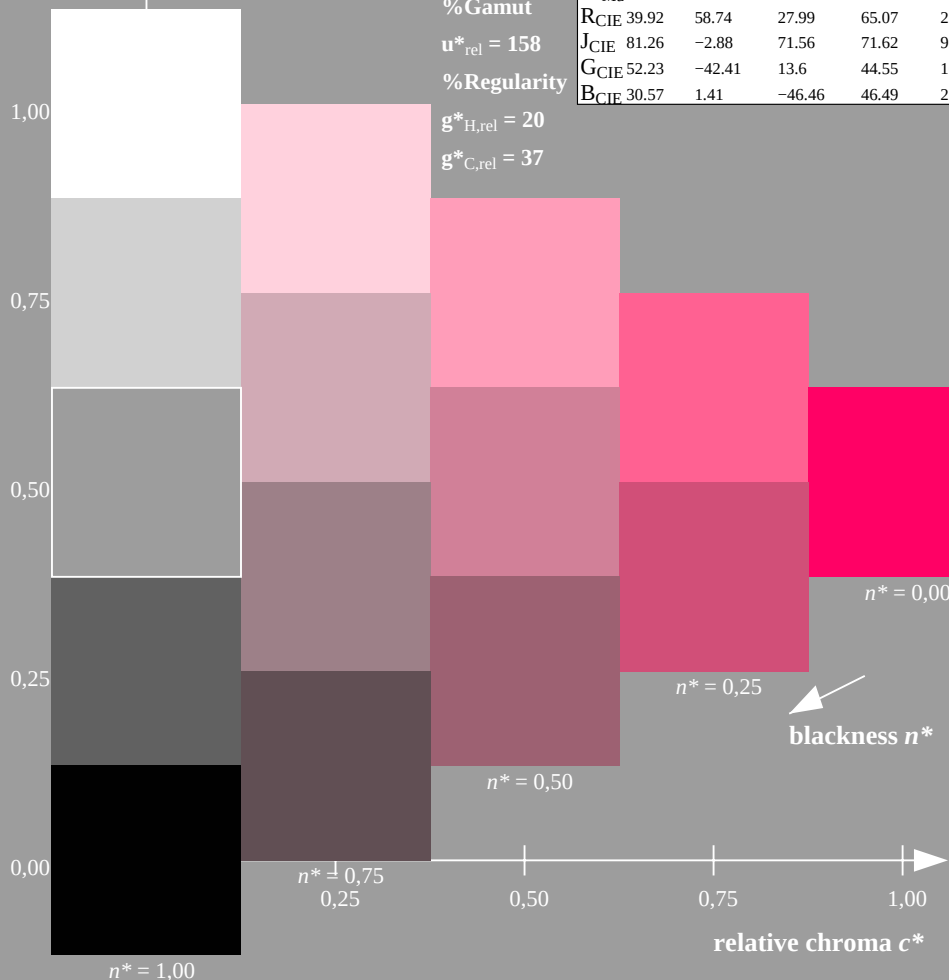
%Regularity

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

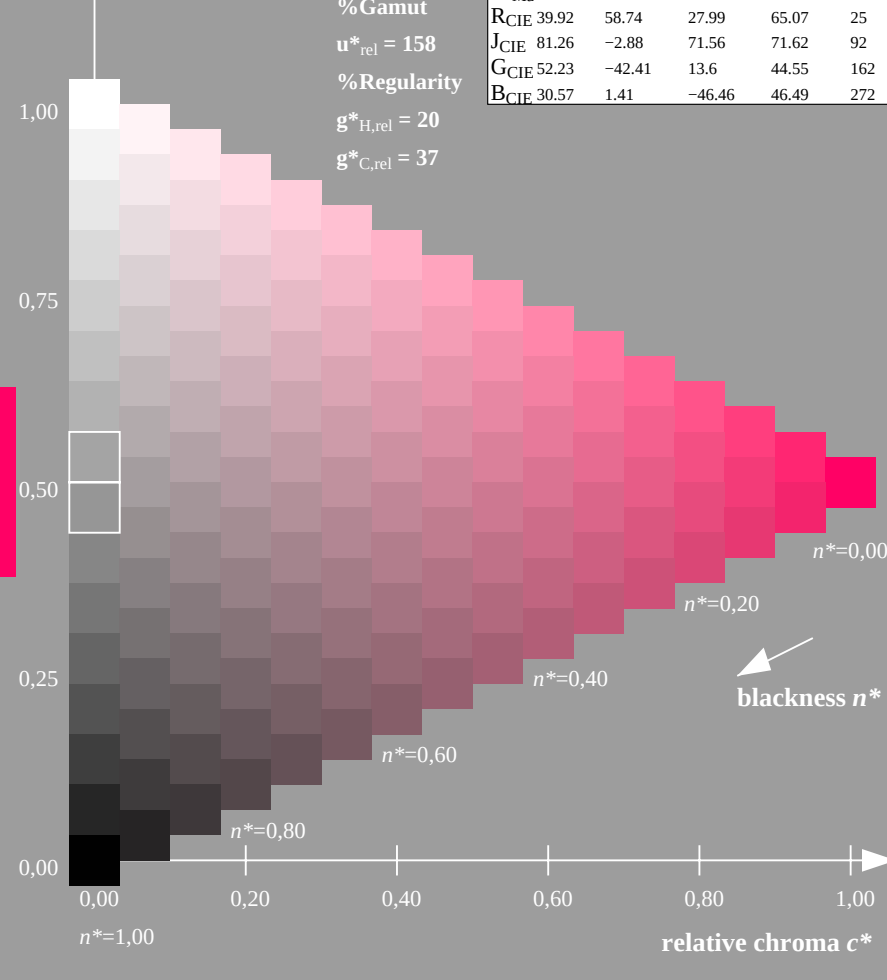
$g^*_{C,rel} = 37$

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



OE820-7N-134-0: 5 step scales for constant CIELAB hue 40/360 = 0.111 (left)



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

OE82: Test chart 1 according to DIN 33872-2, Hue O; 1MR, DEH
Discrimination of 5 and 16 step colour scales

input: $rgb \rightarrow rgb^*_{de}$ setrgbcolor
output 134-0: $g_P=0.7$; $g_N=1.0$

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, CIELAB

TUB registration: 20110801-OE82/OE82L0NA.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 $h^* = lab^*h = 103/360 = 0.286$

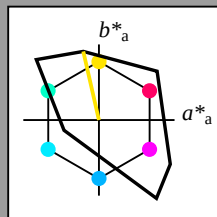
lab^*tch and lab^*nch

D65: hue Y

LCH*Ma: 93 93 103

ol v^* 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 $h^* = lab^*h = 103/360 = 0.286$

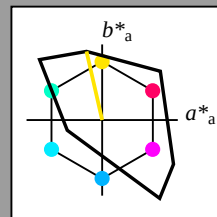
lab^*tch and lab^*nch

D65: hue Y

LCH*Ma: 93 93 103

ol v^* Ma: 1.0 1.0 0.0

triangle lightness t^*



%Gamut

$u^*_{rel} = 158$

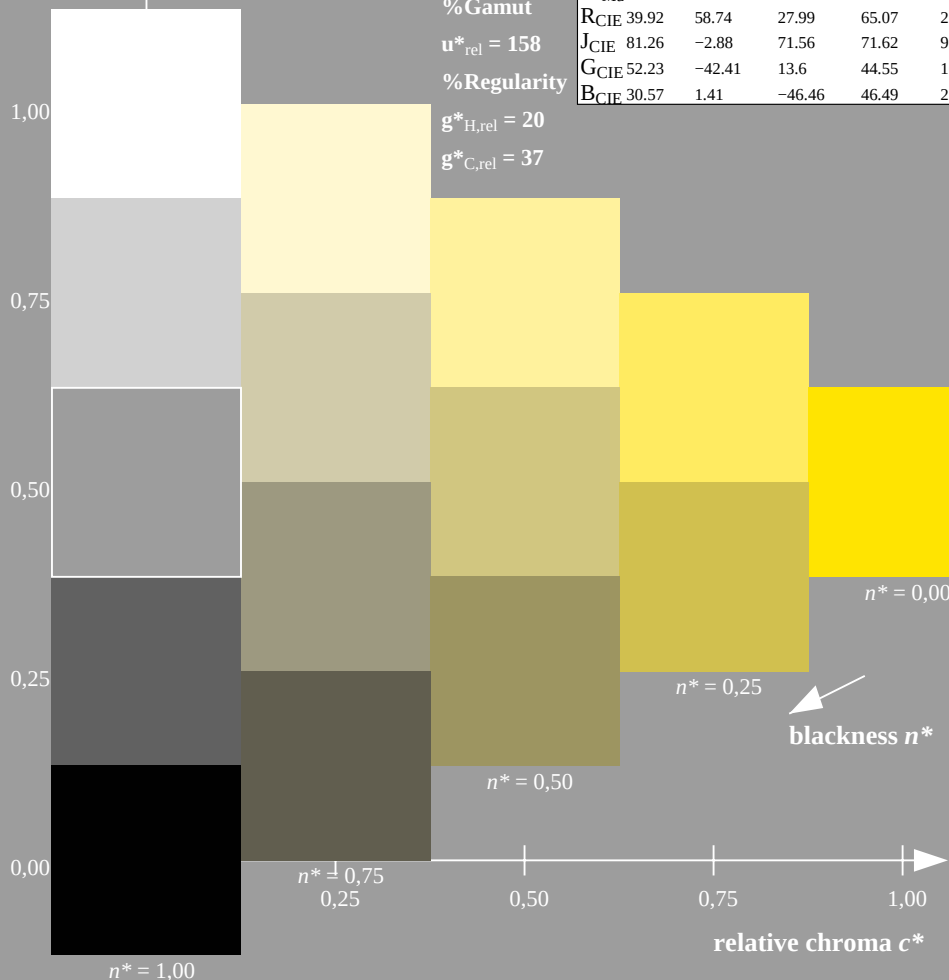
%Regularity

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

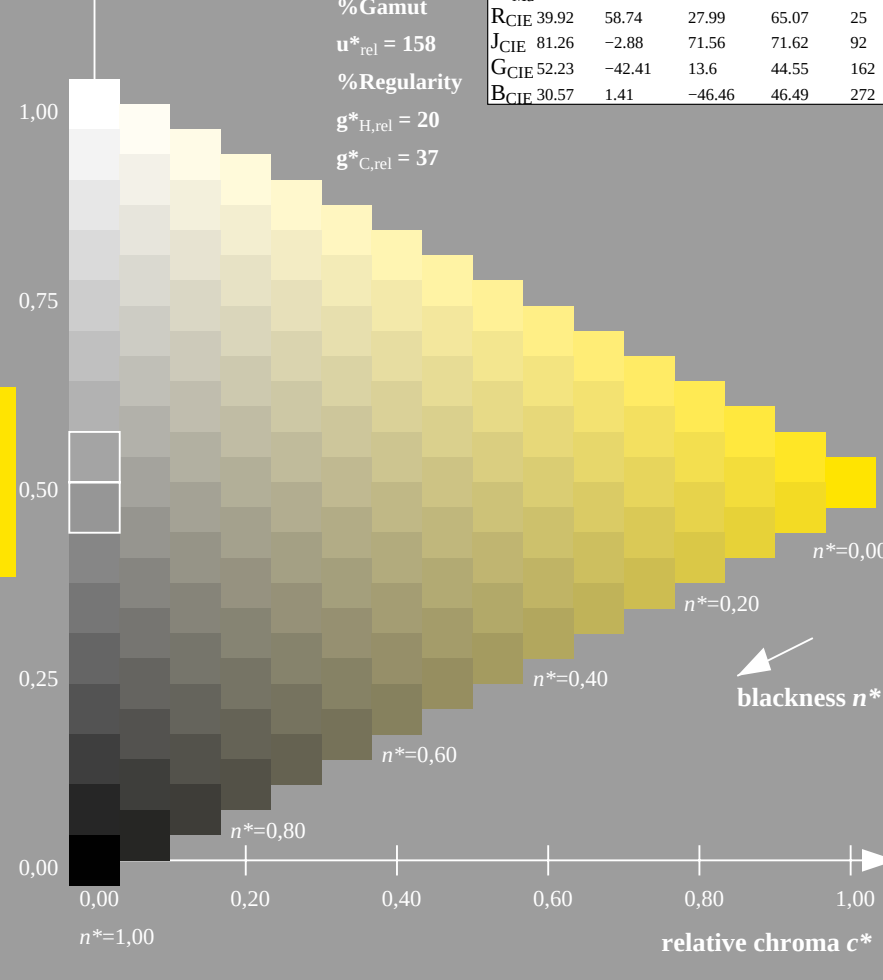
$g^*_{C,rel} = 37$

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



OE820-7N-134-1: 5 step scales for constant CIELAB hue 103/360 = 0.286 (left)



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

OE82: Test chart 1 according to DIN 33872-2, Hue Y; 1MR, DEH
Discrimination of 5 and 16 step colour scales

input: rgb ($\rightarrow rgb^*_{de}$) $setrgbcolor$
output 134-1: $g_P=0.7$; $g_N=1.0$

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, CIELAB

TUB registration: 20110801-OE82/OE82L0NA.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 $h^* = lab^*h = 136/360 = 0.378$

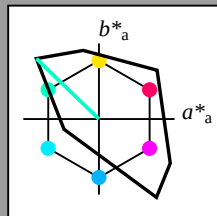
lab^*tch and lab^*nch

D65: hue L

LCH*Ma: 84 115 136

ol v^* 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 $h^* = lab^*h = 136/360 = 0.378$

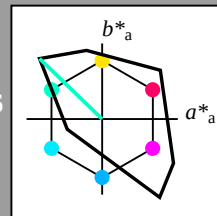
lab^*tch and lab^*nch

D65: hue L

LCH*Ma: 84 115 136

ol v^* Ma: 0.0 1.0 0.0

triangle lightness t^*



%Gamut

$u^*_{rel} = 158$

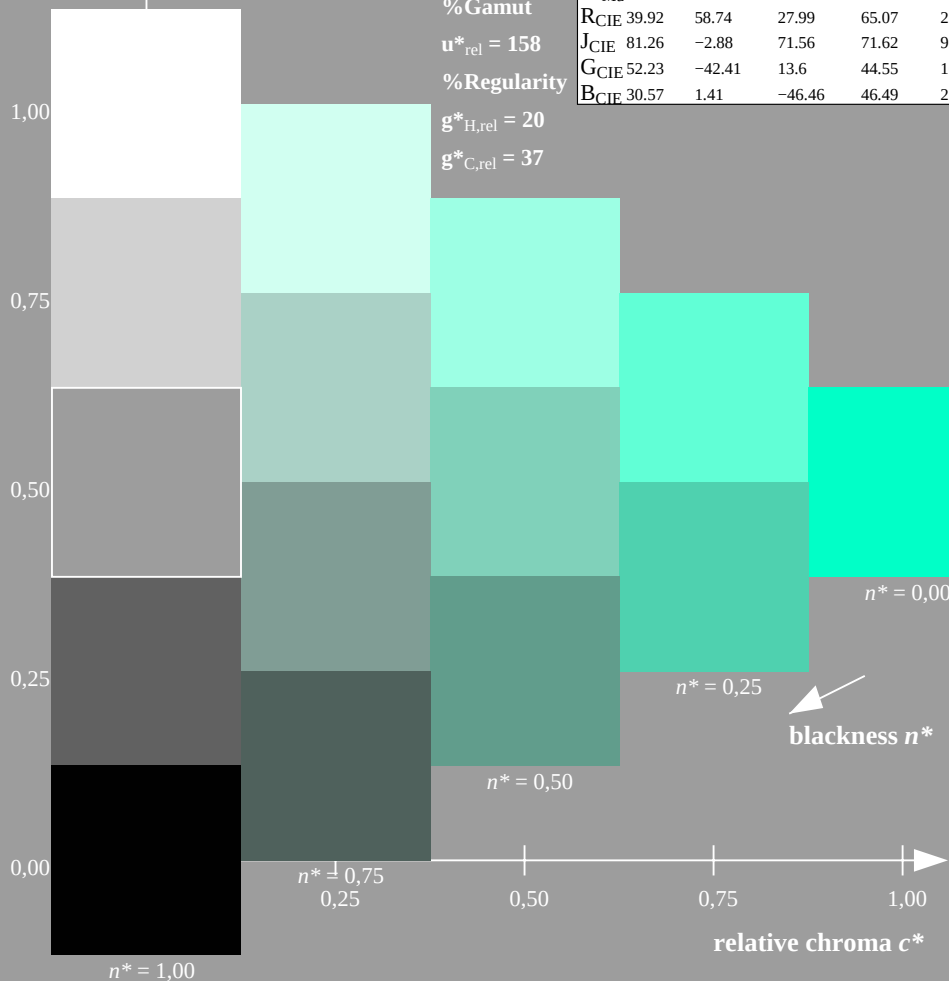
%Regularity

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

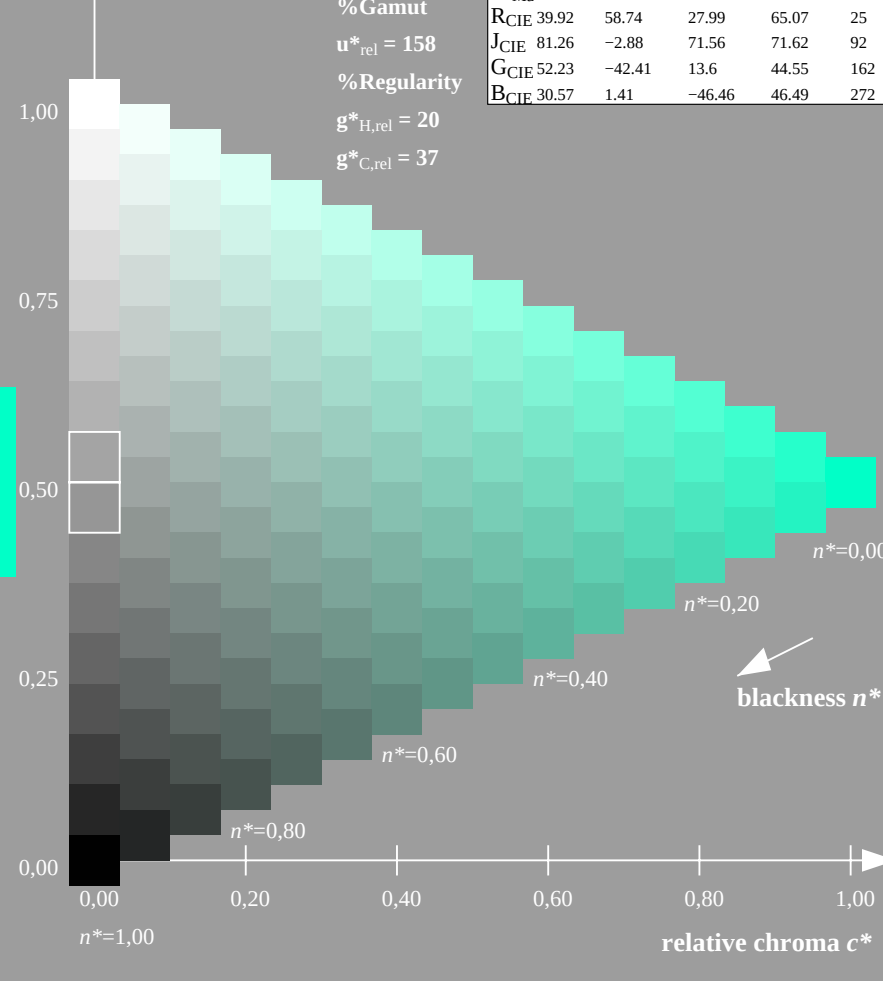
$g^*_{C,rel} = 37$

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



OE820-7N-134-2: 5 step scales for constant CIELAB hue 136/360 = 0.378 (left)



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

OE82: Test chart 1 according to DIN 33872-2, Hue L; 1MR, DEH
Discrimination of 5 and 16 step colour scales

input: rgb ($\rightarrow rgb^*_{de}$) $setrgbcolor$
output 134-2: $g_P=0.7$; $g_N=1.0$

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, CIELAB

TUB registration: 20110801-OE82/OE82L0NA.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 $h^* = lab^*h = 196/360 = 0.545$

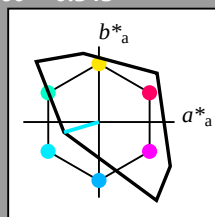
lab^*tch and lab^*nch

D65: hue C

LCH*Ma: 87 48 196

ol v^* 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 $h^* = lab^*h = 196/360 = 0.545$

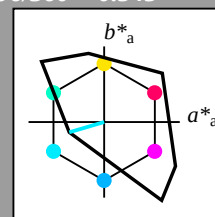
lab^*tch and lab^*nch

D65: hue C

LCH*Ma: 87 48 196

ol v^* Ma: 0.0 1.0 1.0

triangle lightness t^*



%Gamut

$u^*_{rel} = 158$

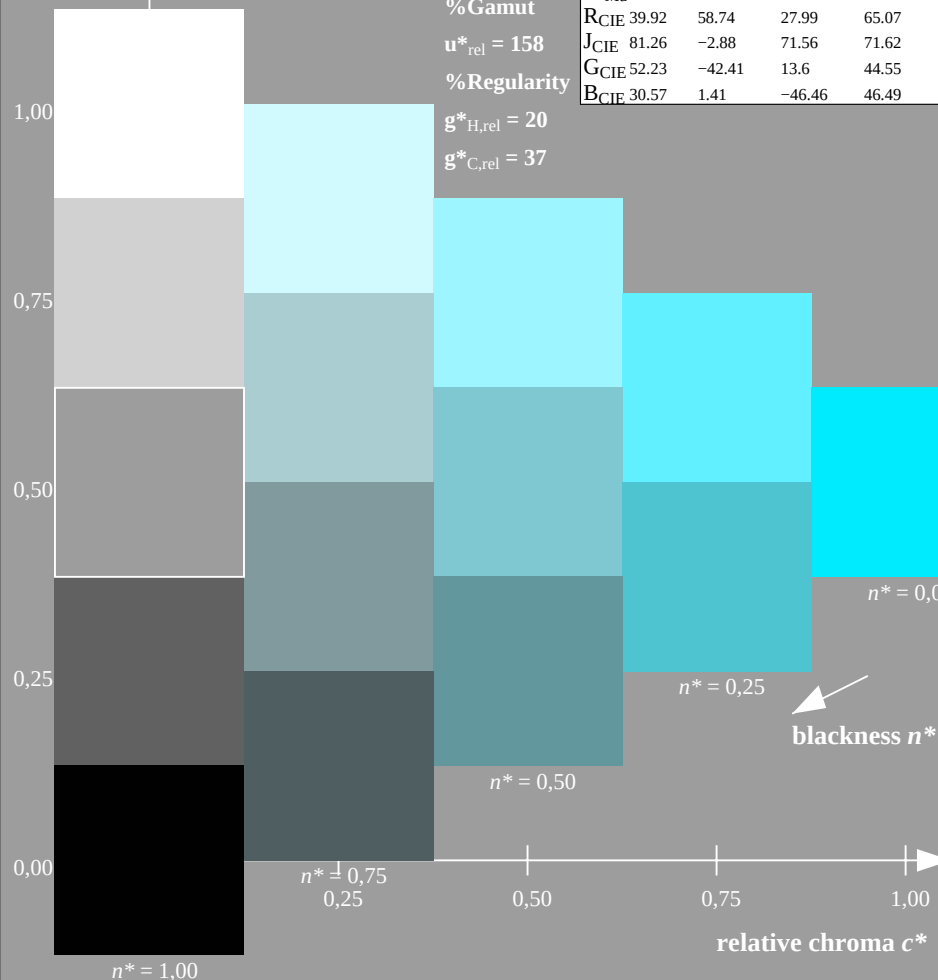
%Regularity

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

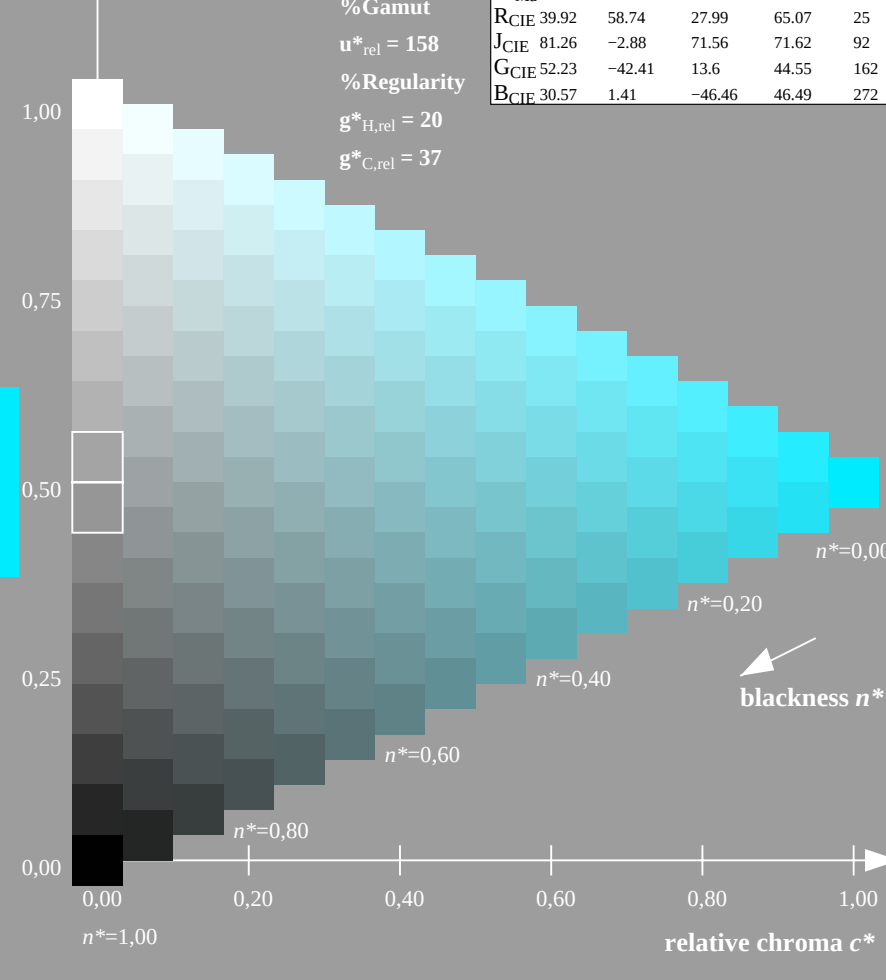
$g^*_{C,rel} = 37$

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



OE820-7N-134-3: 5 step scales for constant CIELAB hue 196/360 = 0.545 (left)



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

OE82: Test chart 1 according to DIN 33872-2, Hue C; 1MR, DEH
Discrimination of 5 and 16 step colour scales

input: $rgb \rightarrow rgb^*_{de}$ set $rgbcolor$
output 134-3: $g_P=0.7$; $g_N=1.0$

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, CIELAB

TUB registration: 20110801-OE82/OE82L0NA.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 $h^* = lab^*h = 306/360 = 0.851$

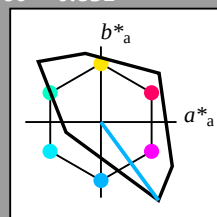
lab^*tch and lab^*nch

D65: hue V

LCH*Ma: 30 129 306

ol v^* 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 $h^* = lab^*h = 306/360 = 0.851$

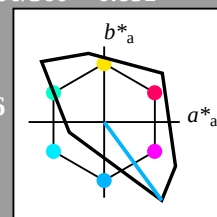
lab^*tch and lab^*nch

D65: hue V

LCH*Ma: 30 129 306

ol v^* Ma: 0.0 0.0 1.0

triangle lightness t^*



%Gamut

$u^*_{rel} = 158$

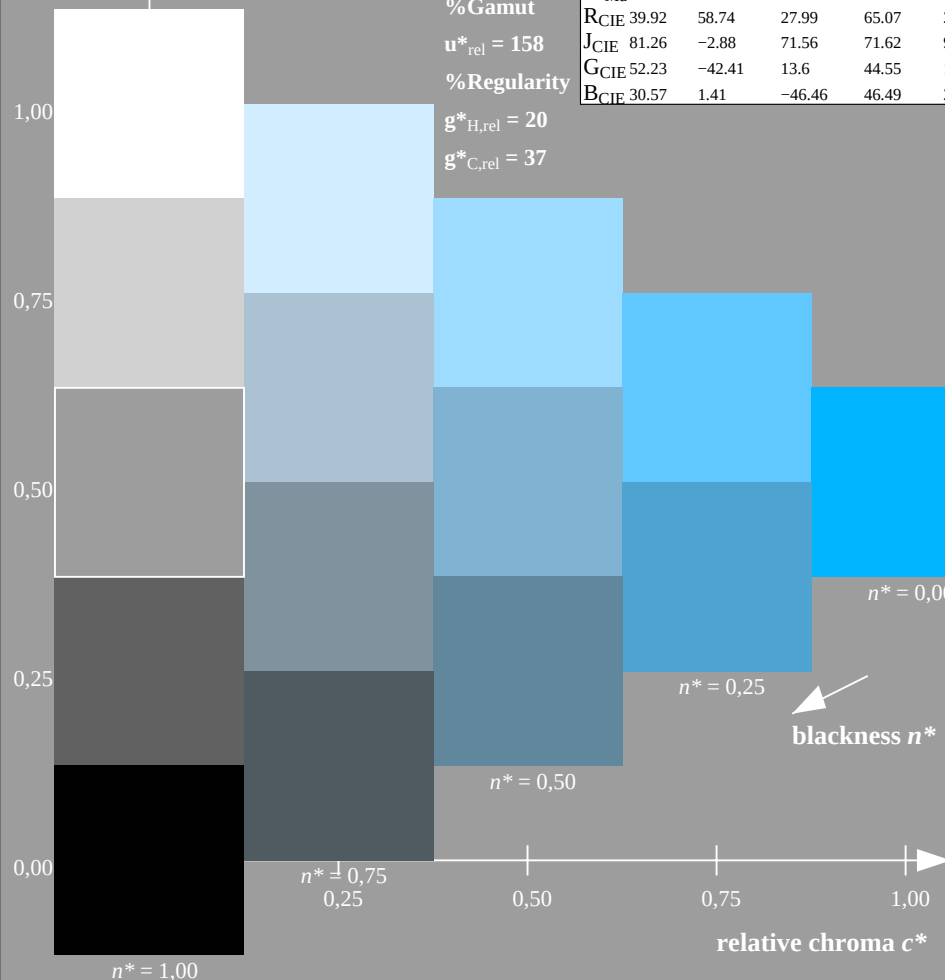
%Regularity

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

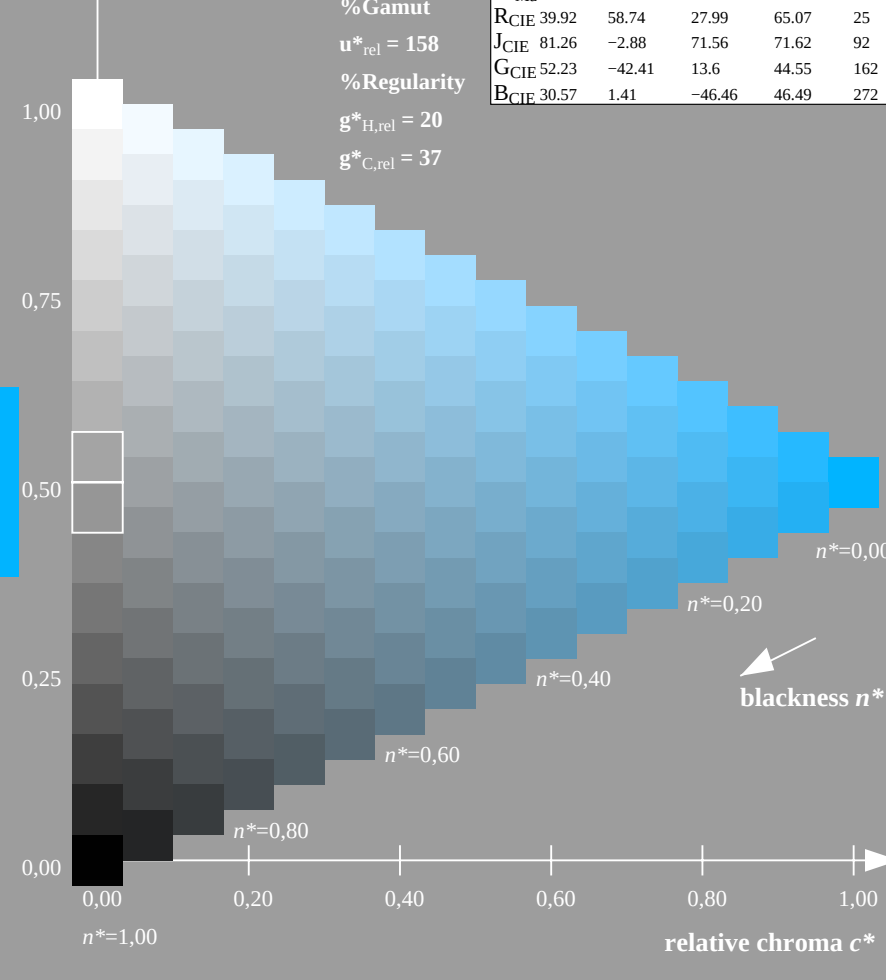
$g^*_{C,rel} = 37$

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



OE820-7N-134-4: 5 step scales for constant CIELAB hue 306/360 = 0.851 (left)



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

OE82: Test chart 1 according to DIN 33872-2, Hue V; 1MR, DEH
Discrimination of 5 and 16 step colour scales

input: rgb ($\rightarrow rgb^*_{de}$) $setrgbcolor$
output 134-4: $g_P=0.7$; $g_N=1.0$

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, CIELAB

TUB registration: 20110801-OE82/OE82L0NA.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 $h^* = lab^*h = 328/360 = 0.912$

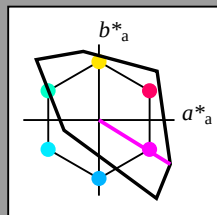
lab^*tch and lab^*nch

D65: hue M

LCH*Ma: 57 111 328

ol v^* 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

Output: Colorimetric Television Luminous System TLS00a

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

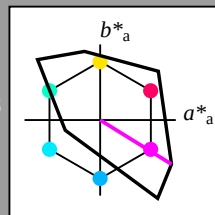
lab^*tch and lab^*nch

D65: hue M

LCH*Ma: 57 111 328

ol v^* Ma: 1.0 0.0 1.0

triangle lightness t^*



%Gamut

$u^*_{rel} = 158$

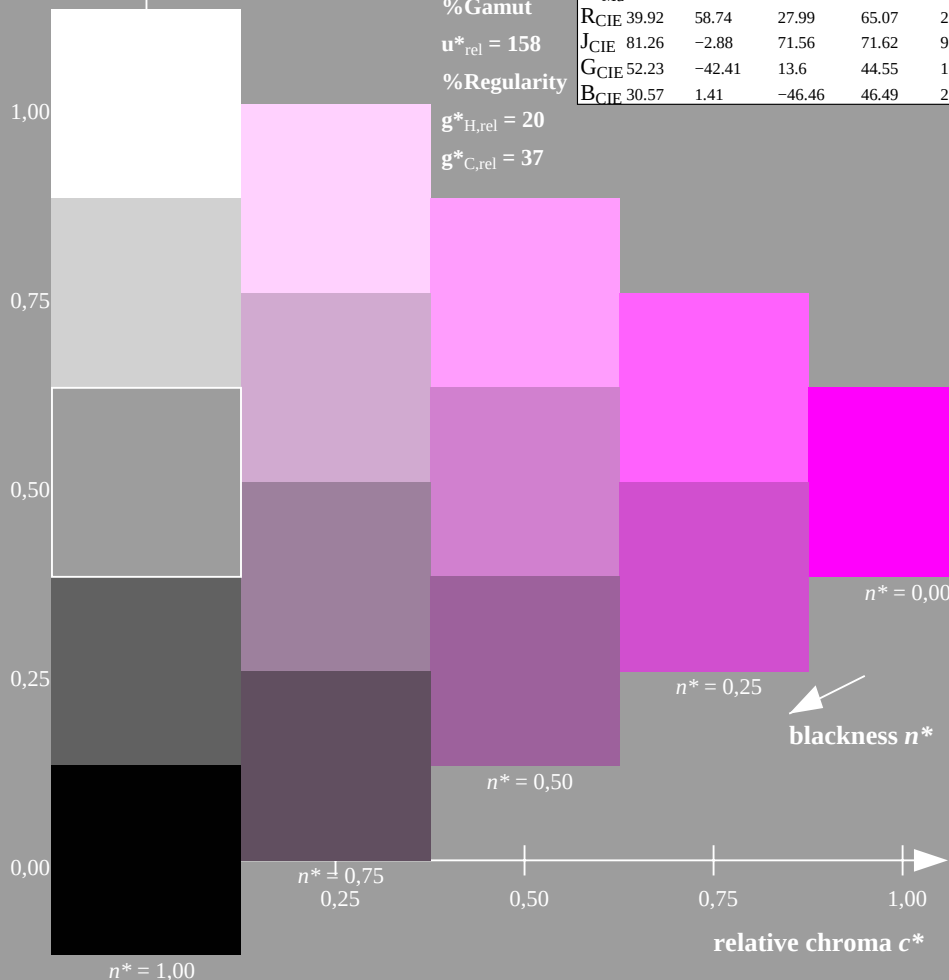
%Regularity

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

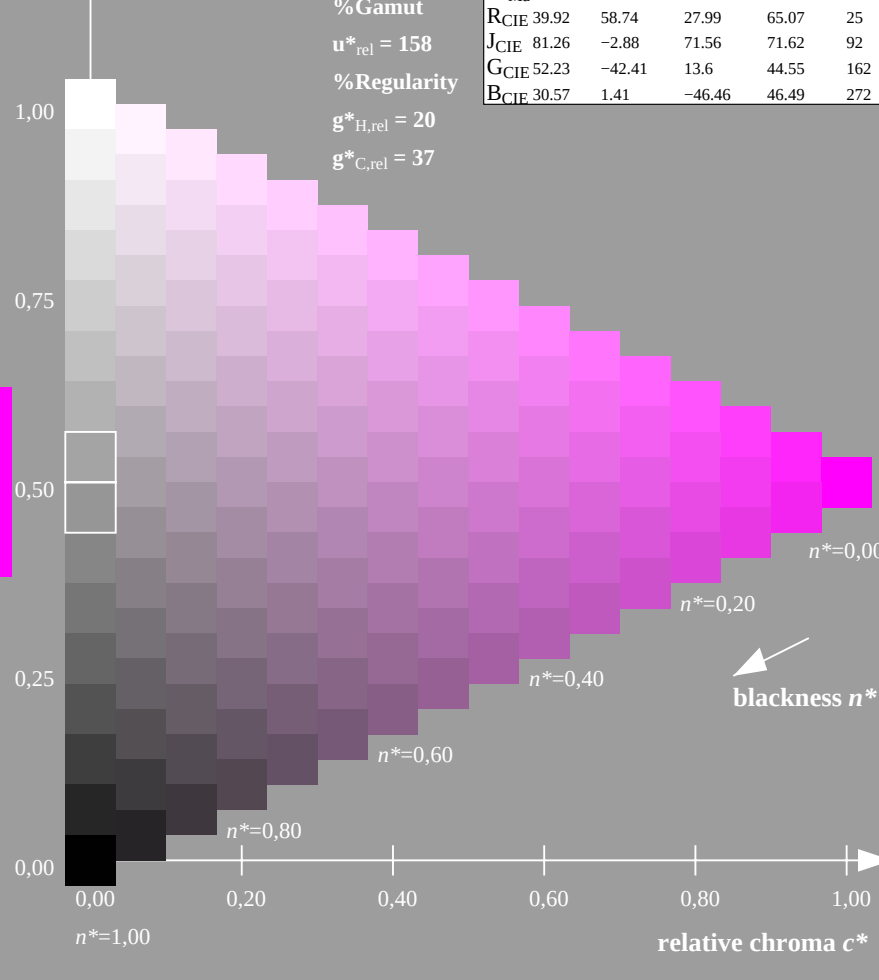
$g^*_{C,rel} = 37$

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



OE820-7N-134-5: 5 step scales for constant CIELAB hue 328/360 = 0.912 (left)



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

OE82: Test chart 1 according to DIN 33872-2, Hue M; 1MR, DEH input: $rgb \rightarrow rgb^*_{de}$ setrgbcolor
Discrimination of 5 and 16 step colour scales output 134-5: $g_P=0.7$; $g_N=1.0$

TUB registration: 20110801-OE82/OE82L0NA.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 $h^* = lab^*h = 25/360 = 0.071$

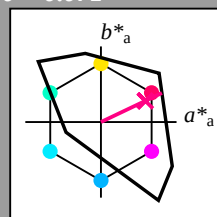
lab^*tch and lab^*nch

D65: hue R

LCH*Ma: 52 89 25

ol*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 $h^* = lab^*h = 25/360 = 0.071$

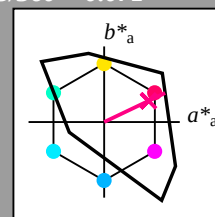
lab^*tch and lab^*nch

D65: hue R

LCH*Ma: 52 89 25

ol*Ma: 1.0 0.0 0.21

triangle lightness t^*



%Gamut

$u^*_{rel} = 158$

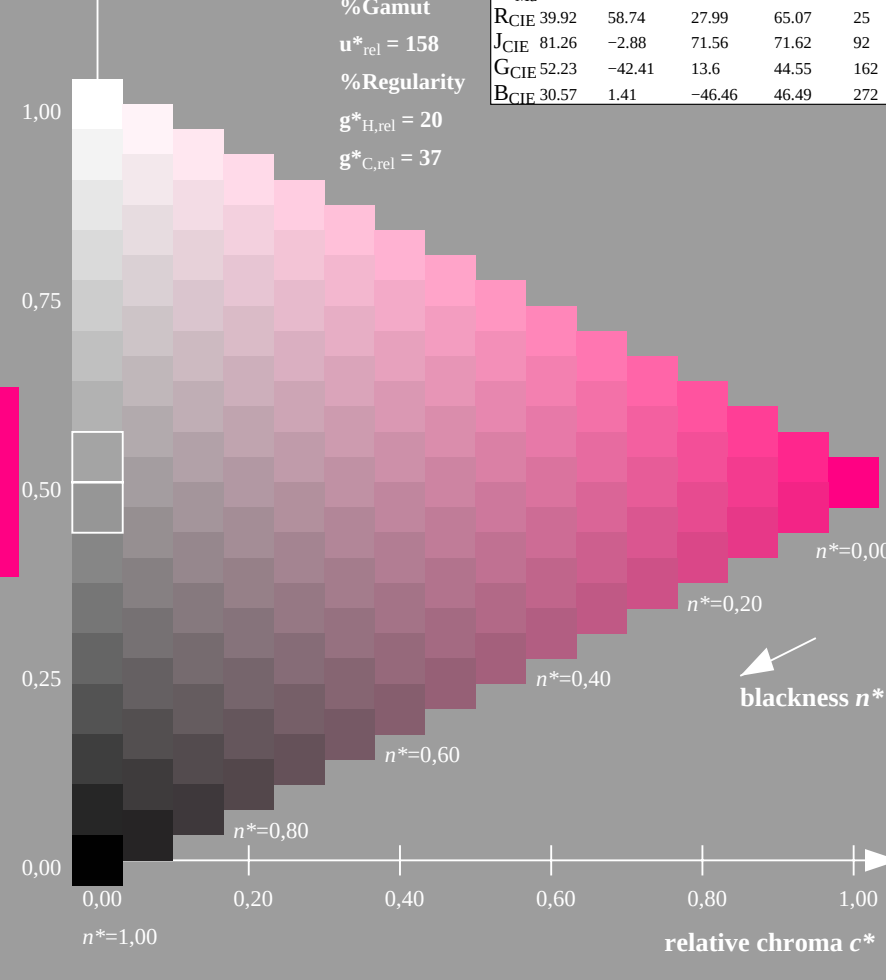
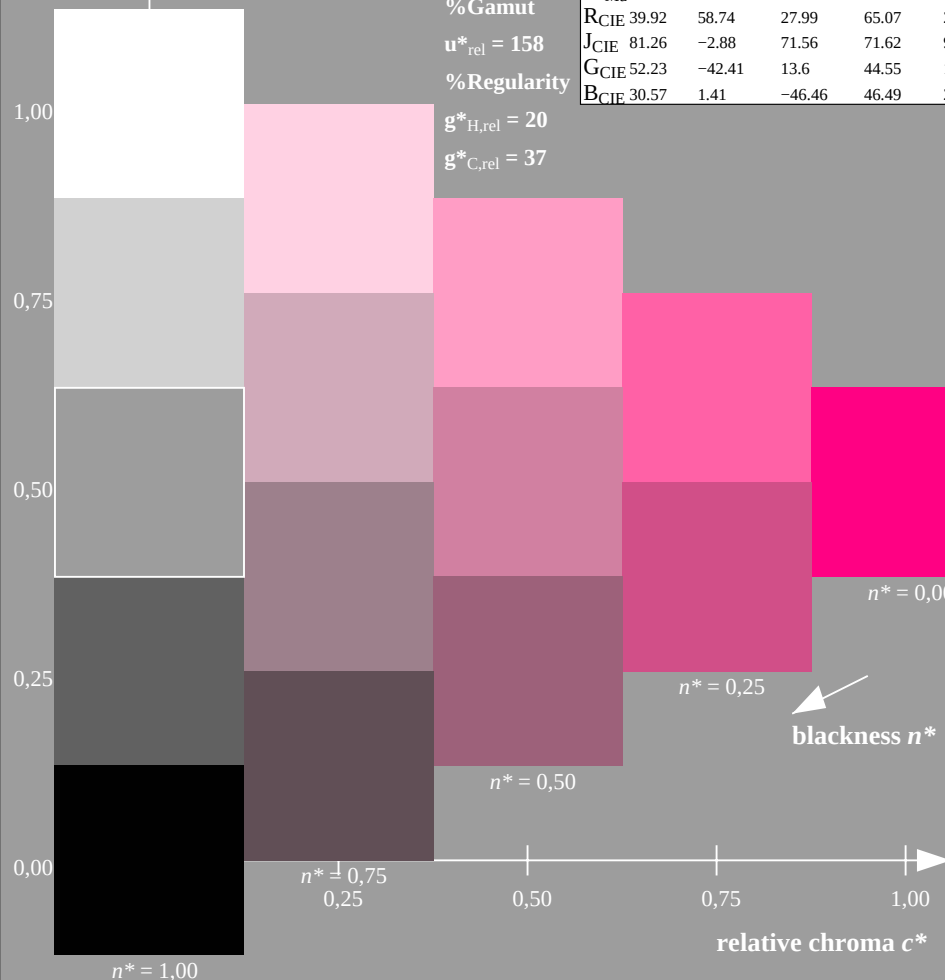
%Regularity

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

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

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



OE820-7N-134-6: 5 step scales for constant CIELAB hue 25/360 = 0.071 (left)

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

OE82: Test chart 1 according to DIN 33872-2, Hue R; 1MR, DEEH input: $rgb \rightarrow rgb^*_{dee}$ setrgbcolo
Discrimination of 5 and 16 step colour scales
output 134-6: $g_P=0.7$; $g_N=1.0$

TUB registration: 20110801-OE82/OE82L0NA.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 $h^* = lab^*h = 92/360 = 0.256$

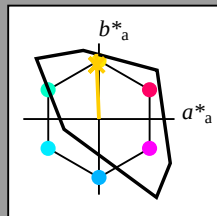
lab^*tch and lab^*nch

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

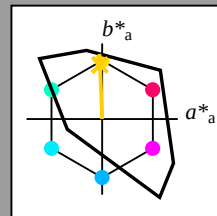
lab^*tch and lab^*nch

D65: hue J

LCH*Ma: 85 86 92

olv*Ma: 1.0 0.82 0.0

triangle lightness t^*



%Gamut

$u^*_{rel} = 158$

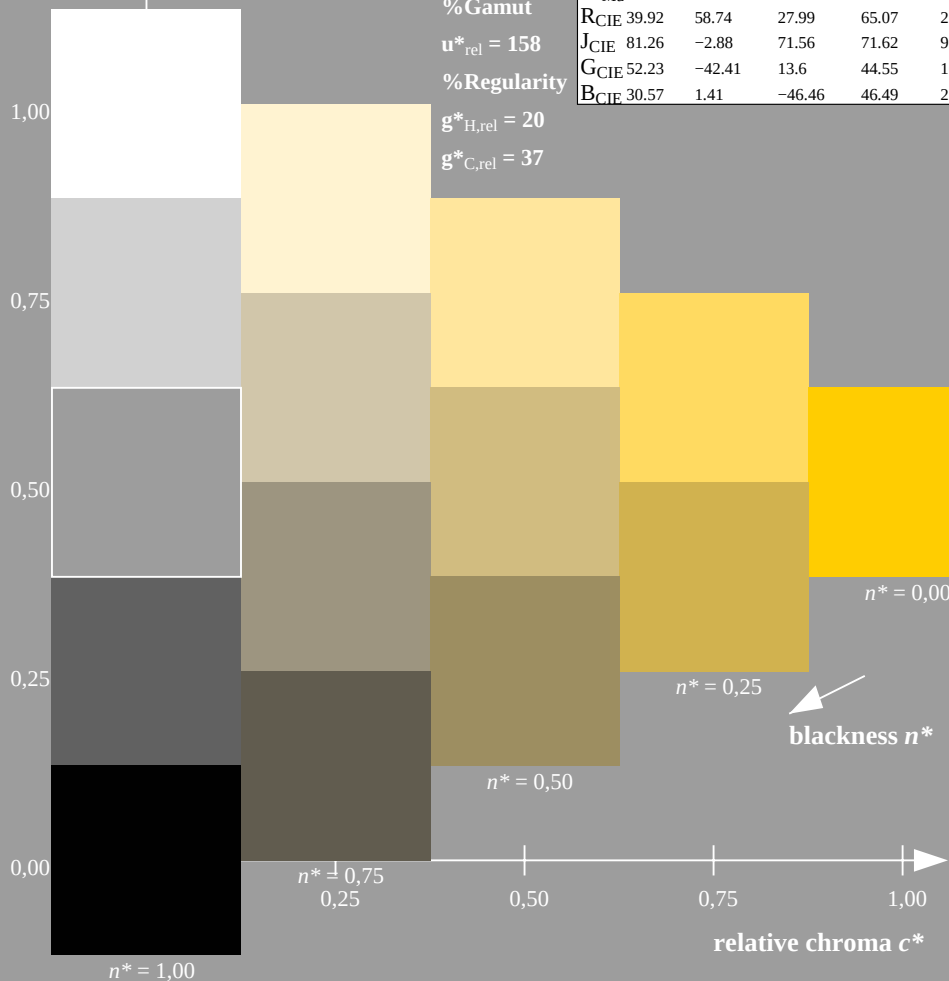
%Regularity

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

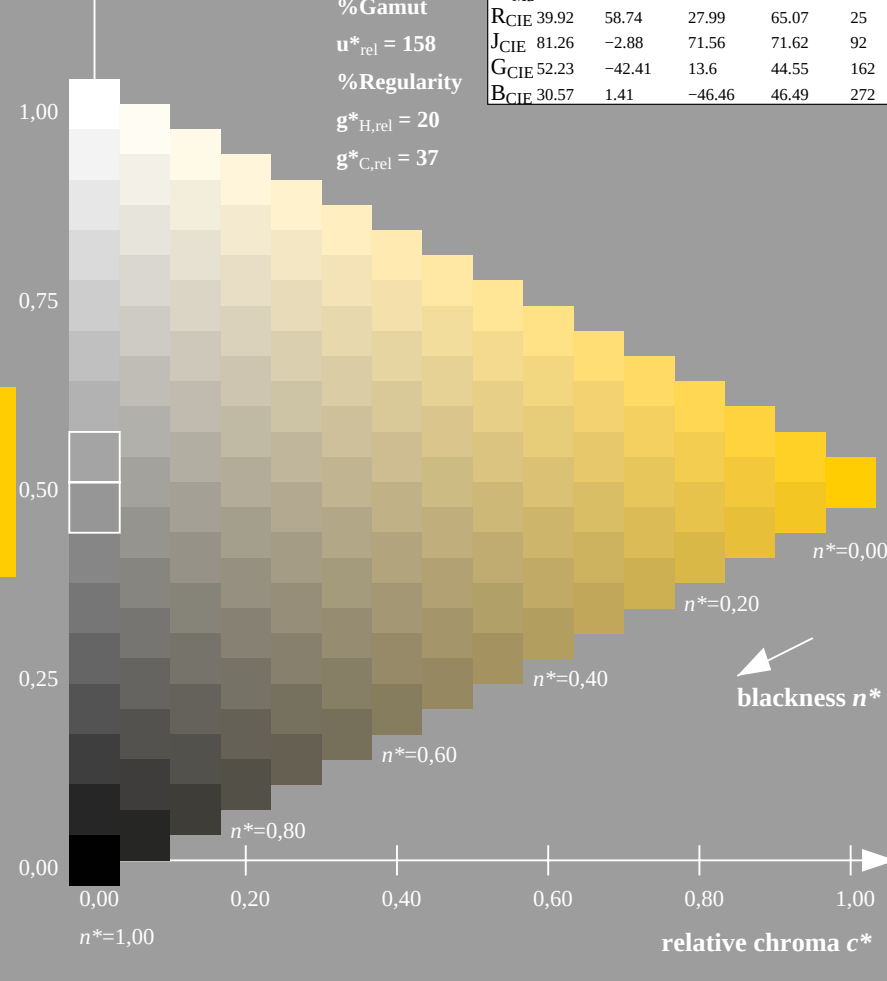
$g^*_{C,rel} = 37$

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



OE820-7N-134-7: 5 step scales for constant CIELAB hue 92/360 = 0.256 (left)



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

OE82: Test chart 1 according to DIN 33872-2, Hue J; 1MR, DEEH input: $rgb \rightarrow rgb^*_{dee}$ setrgbcolo
Discrimination of 5 and 16 step colour scales output 134-7: $g_P=0.7$; $g_N=1.0$

Input: Colorimetric Television Luminous System TLS00a

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

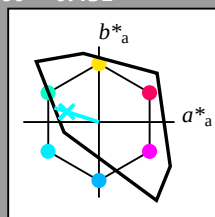
lab^*tch and lab^*nch

D65: hue G

LCH*Ma: 86 62 162

ol v^* 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 $h^* = lab^*h = 162/360 = 0.451$

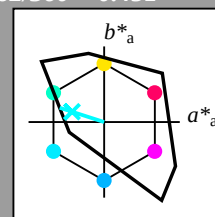
lab^*tch and lab^*nch

D65: hue G

LCH*Ma: 86 62 162

ol v^* Ma: 0.0 1.0 0.65

triangle lightness t^*



%Gamut

$u^*_{rel} = 158$

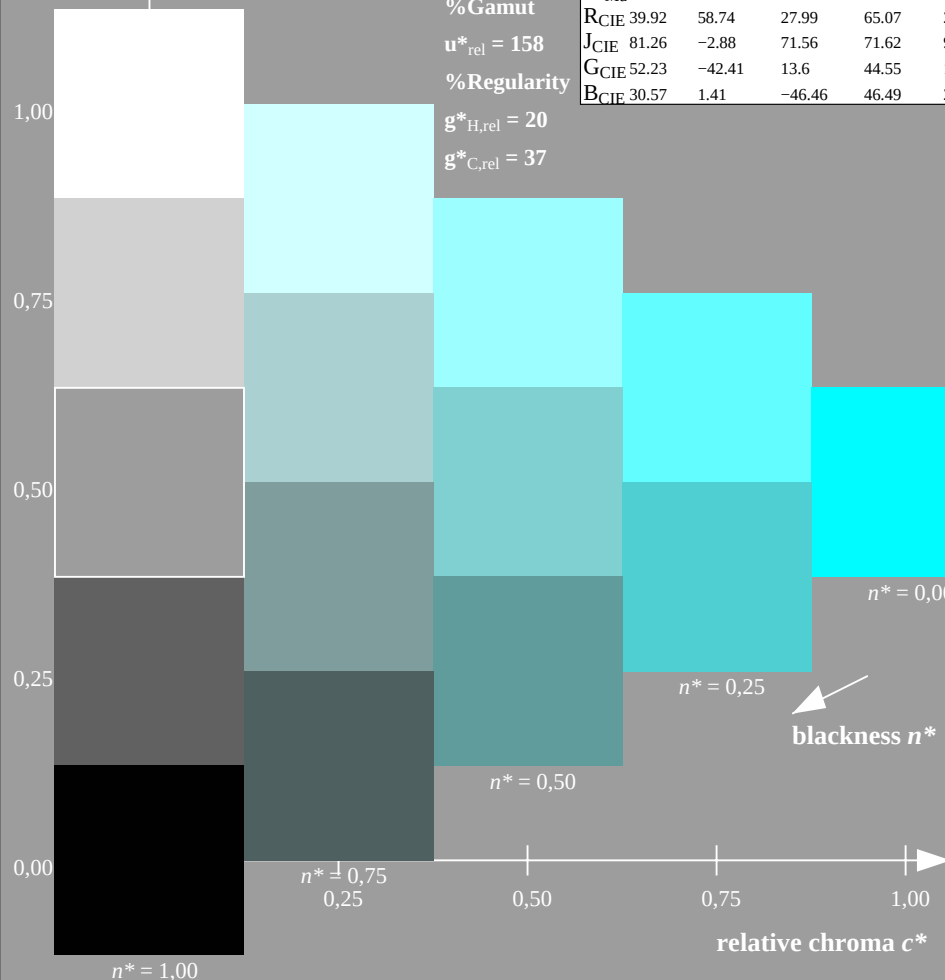
%Regularity

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

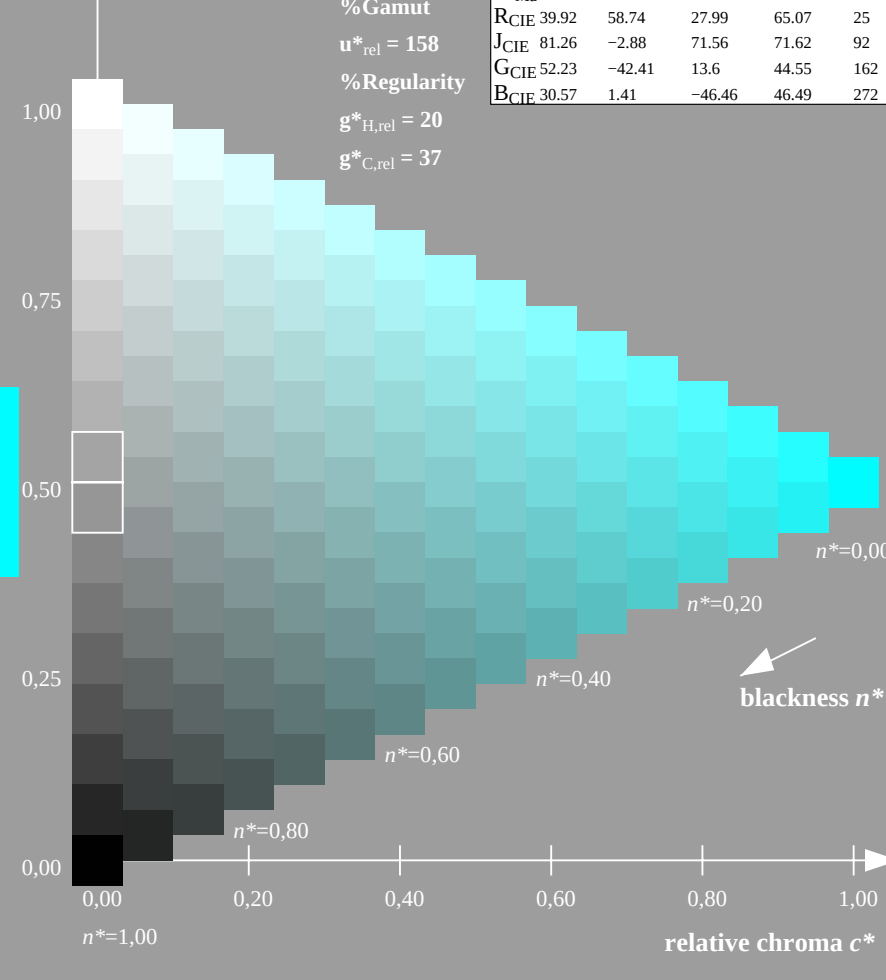
$g^*_{C,rel} = 37$

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



OE820-7N-134-8: 5 step scales for constant CIELAB hue 162/360 = 0.451 (left)



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

OE82: Test chart 1 according to DIN 33872-2, Hue G; 1MR, DEEH input: $rgb \rightarrow rgb^*_{dee}$ setrgbcolo
Discrimination of 5 and 16 step colour scales
output 134-8: $g_P=0.7$; $g_N=1.0$

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, CIELAB

TUB registration: 20110801-OE82/OE82L0NA.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 $h^* = lab^*h = 272/360 = 0.755$

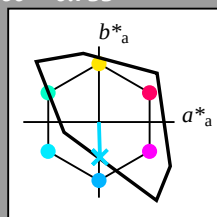
lab^*tch and lab^*nch

D65: hue B

LCH*Ma: 65 49 272

ol v^* 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 $h^* = lab^*h = 272/360 = 0.755$

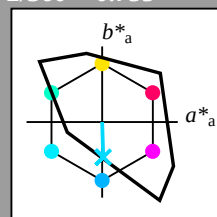
lab^*tch and lab^*nch

D65: hue B

LCH*Ma: 65 49 272

ol v^* Ma: 0.0 0.61 1.0

triangle lightness t^*



%Gamut

$u^*_{rel} = 158$

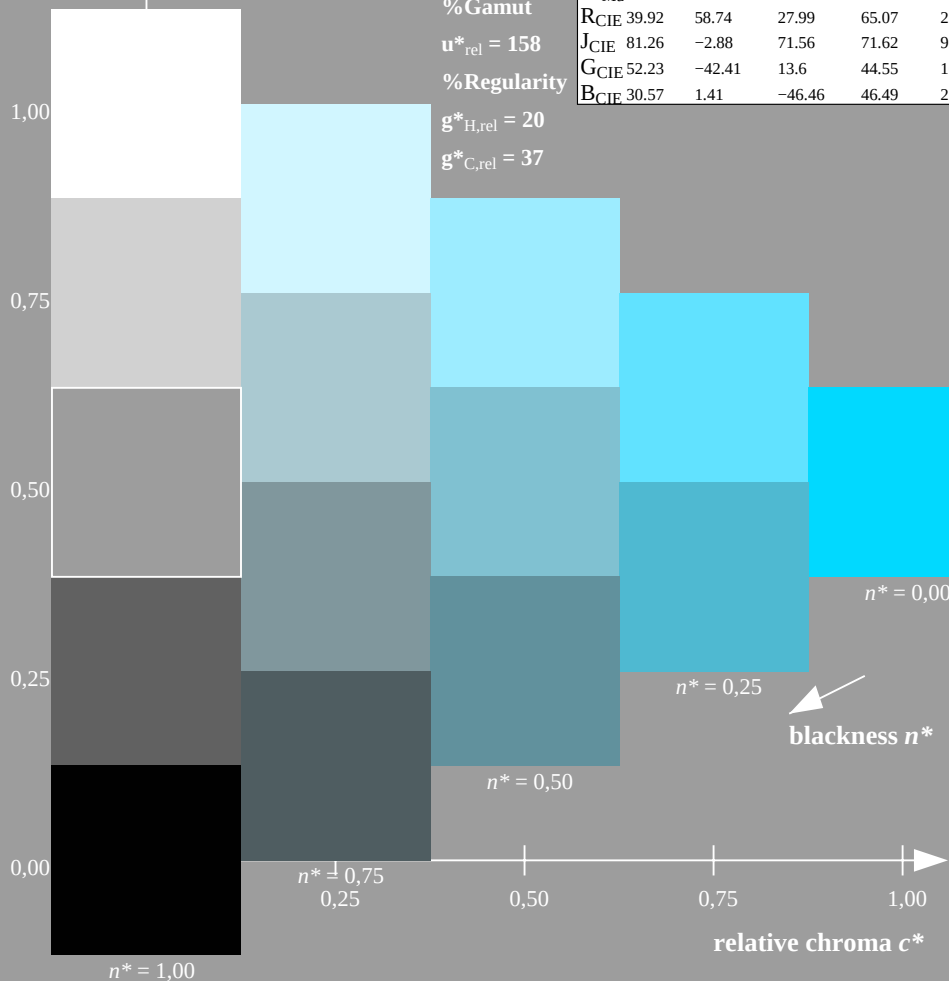
%Regularity

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

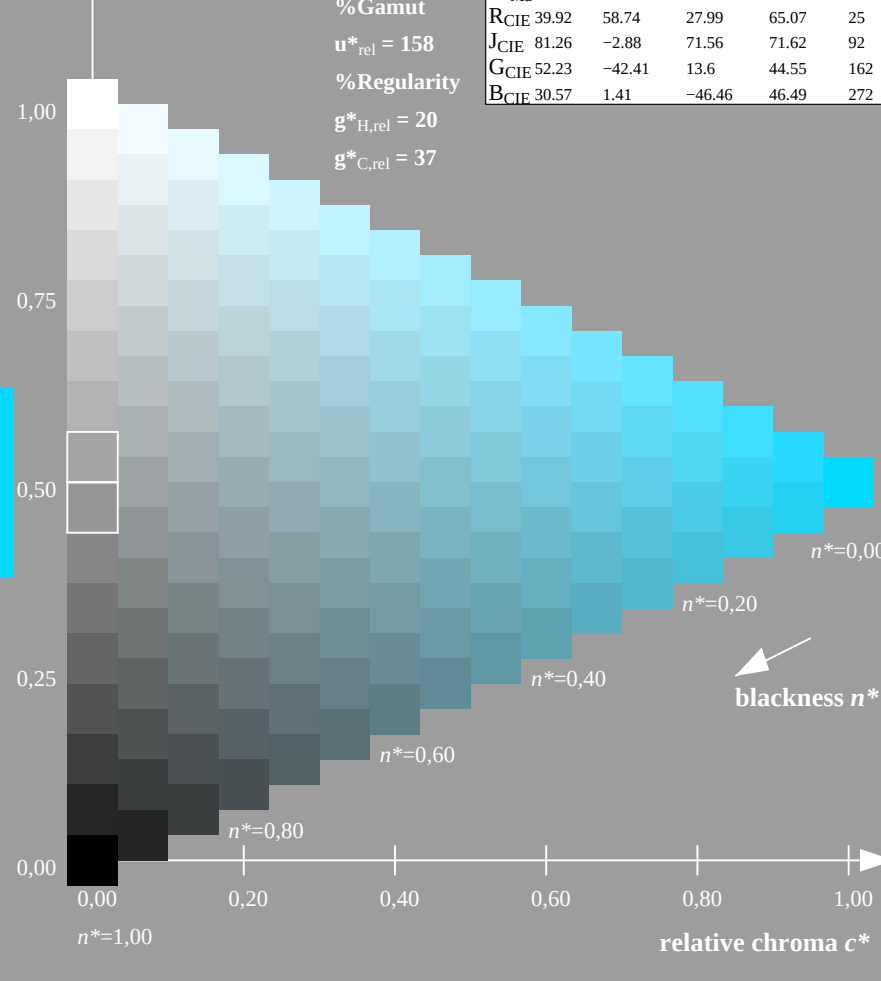
$g^*_{C,rel} = 37$

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



OE820-7N-134-9: 5 step scales for constant CIELAB hue 272/360 = 0.755 (left)

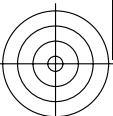


16 step scales for constant CIELAB hue 272/360 = 0.755 (right)

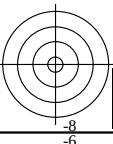
OE82: Test chart 1 according to DIN 33872-2, Hue B; 1MR, DEEH input: $rgb \rightarrow rgb^*_{dee}$ set $rgbcolo$
Discrimination of 5 and 16 step colour scales
output 134-9: $g_P=0.7$; $g_N=1.0$

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, CIELAB

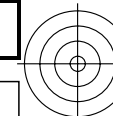
TUB registration: 20110801-OE82/OE82L0NA.TXT /.PS
application for output of displays: monitor systems or data projector systems
TUB material: code=rha4ta



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, CIELAB

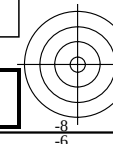


<http://130.149.60.45/~farbmetrik/OE82/OE82L0NA.TXT> /PS; linearized output, Page 11/12
 F: Output Linearization (OL) data OE82/OE82L0NA.TXT /PS in File (F)



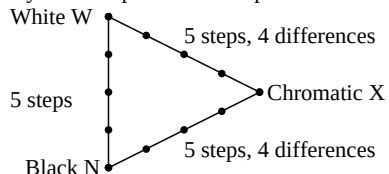
TUB registration: 20110801-OE82/OE82L0NA.TXT /PS
 application for output of displays: monitor systems or data projector systems

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

OE820-3N-134-10

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

PDF-File: <http://130.149.60.45/farbmetrik/OE82/OE82L0NP.PDF> underline Yes/No

PS-File: <http://130.149.60.45/farbmetrik/OE82/OE82L0NA.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 OE82L0NP.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 OE82L0NA.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

OE820-7N-134-10

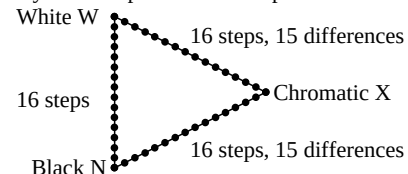


OE82: Form A for test chart 1 according to DIN 33872-2; 1MR, DEH
 Discrimination of colour scales (Yes/No decision)
 Input: $rgb \rightarrow rgb_{de}$ setrgbcolor
 output 134-10: $g_P=0.7; g_N=1.0$



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

OE821-3N-134-10

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/OE82/OE82F1P2.PDF>

underline Yes/No

PS file: <http://130.149.60.45/farbmetrik/OE82/OE82F1P2.PS>

underline Yes/No

Picture A7-134-2: 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/OE82/OE82F1P2.PDF>

picture A7-134-2

underline Yes/No

PS-File: <http://130.149.60.45/farbmetrik/OE82/OE82F1P2.PS>

picture A7-134-2

or underline Yes/No

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

OE821-7N-134-10



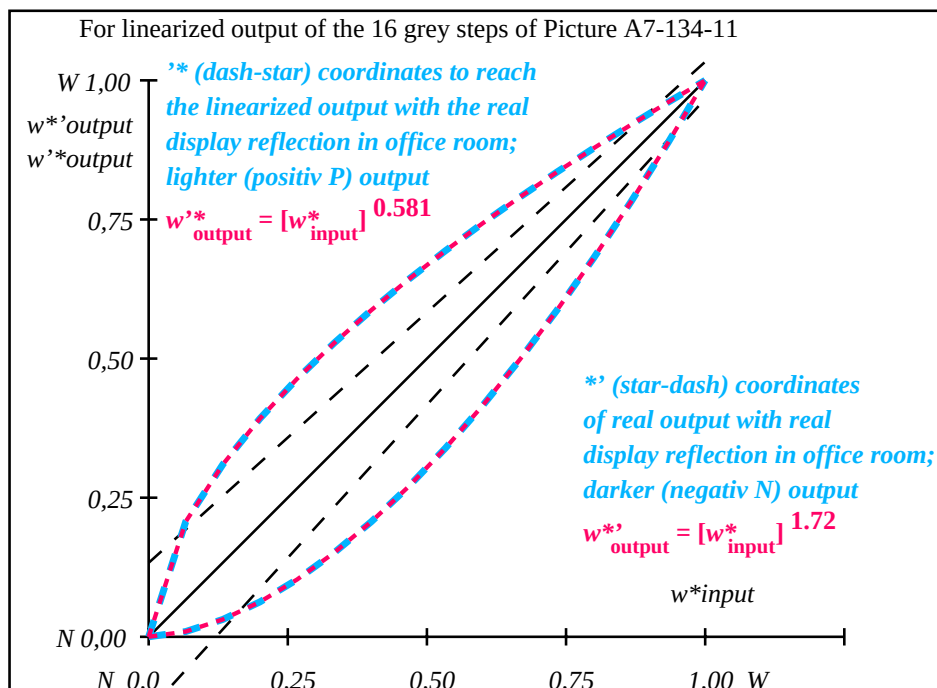
See similar ISO test charts: <http://www.ps.bam.de/24705TE>, <http://www.ps.bam.de/9241E>
Technical information: <http://www.ps.bam.de/33872E> Version 2.1, io=1,1, CIELAB

i	LAB*ref	l*out	LAB*out	LAB*out/c-ref	ΔE*
1	26.85 0.0 0.0	0.0 26.85 0.0	0.0 0.0 0.0	0.0 0.0 0.0	0.01
2	31.42 0.0 0.0	0.21 41.05 0.0	0.0 0.0 0.0	9.63 0.0 0.0	9.63
3	35.99 0.0 0.0	0.31 48.1 0.0	0.0 0.0 0.0	12.11 0.0 0.0	12.11
4	40.56 0.0 0.0	0.39 53.75 0.0	0.0 0.0 0.0	13.18 0.0 0.0	13.18
5	45.13 0.0 0.0	0.46 58.64 0.0	0.0 0.0 0.0	13.51 0.0 0.0	13.51
6	49.7 0.0 0.0	0.53 63.05 0.0	0.0 0.0 0.0	13.34 0.0 0.0	13.34
7	54.27 0.0 0.0	0.59 67.09 0.0	0.0 0.0 0.0	12.82 0.0 0.0	12.82
8	58.84 0.0 0.0	0.64 70.87 0.0	0.0 0.0 0.0	12.02 0.0 0.0	12.02
9	63.41 0.0 0.0	0.69 74.42 0.0	0.0 0.0 0.0	11.01 0.0 0.0	11.01
10	67.99 0.0 0.0	0.74 77.79 0.0	0.0 0.0 0.0	9.81 0.0 0.0	9.81
11	72.56 0.0 0.0	0.79 81.01 0.0	0.0 0.0 0.0	8.46 0.0 0.0	8.46
12	77.13 0.0 0.0	0.84 84.1 0.0	0.0 0.0 0.0	6.97 0.0 0.0	6.97
13	81.7 0.0 0.0	0.88 87.07 0.0	0.0 0.0 0.0	5.37 0.0 0.0	5.37
14	86.27 0.0 0.0	0.92 89.94 0.0	0.0 0.0 0.0	3.67 0.0 0.0	3.67
15	90.84 0.0 0.0	0.96 92.71 0.0	0.0 0.0 0.0	1.88 0.0 0.0	1.88
16	95.41 0.0 0.0	1.0 95.41 0.0	0.0 0.0 0.0	0.0 0.0 0.0	0.01
17	26.85 0.0 0.0	0.0 26.85 0.0	0.0 0.0 0.0	0.0 0.0 0.0	0.01
18	43.99 0.0 0.0	0.45 57.47 0.0	0.0 0.0 0.0	13.48 0.0 0.0	13.48
19	61.13 0.0 0.0	0.67 72.67 0.0	0.0 0.0 0.0	11.54 0.0 0.0	11.54
20	78.27 0.0 0.0	0.85 84.85 0.0	0.0 0.0 0.0	6.58 0.0 0.0	6.58
21	95.41 0.0 0.0	1.0 95.41 0.0	0.0 0.0 0.0	0.0 0.0 0.0	0.01

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

Mean lightness difference (16 steps) $\Delta E^*_{\text{CIELAB}} = 8.4$
Mean lightness difference (5 steps) $\Delta L^*_{\text{CIELAB}} = 6.3$
Mean colour reproduction index: $R^*_{ab,m} = 64$

OE820-3N-134-11: File: Measure unknown; Device: Device unknown; Date: Date unknown



OE821-3N-134-11: File: Measure unknown; Device: Device unknown; Date: Date unknown

L^*/Y_{intended} (absolute)	26.8/5.0	31.4/6.8	36.0/9.0	40.6/11.6	45.1/14.6	49.7/18.2	54.3/22.2	58.8/26.9	63.4/32.1	68.0/38.0	72.6/44.5	77.1/51.7	81.7/59.7	86.3/68.5	90.8/78.1	95.4/88.6
$w^* w^* w^*$ setrgb																
$g_P=0.58$																
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	0.208	0.309	0.392	0.464	0.528	0.587	0.642	0.694	0.743	0.79	0.835	0.878	0.92	0.96	1.0

OE820-7N, Picture A7-134-11: 16 visual equidistant L^* -grey steps; PS operator: $w^* w^* w^*$ setrgbcolor

OE82: In-output relation according to ISO 9241-306; 1MR, DEH
Viewing Y contrast $Y_W:Y_N=88,9:5$; Y_N range 3,75 to <7,5

input: $rgb \rightarrow rgb^*_{de}$ setrgbcolor
output 134-11: $g_P=0.7$; $g_N=1.0$

TUB registration: 20110801-OE82/OE82L0NA.TXT /.PS
TUB material: code=rh4ta
application for output of displays: monitor systems or data projector systems

Input: Colorimetric Television Luminous System TLS00a

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

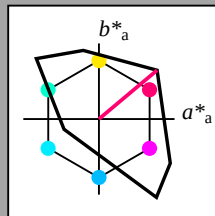
lab^*tch and lab^*nch

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

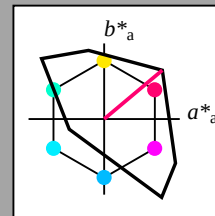
lab^*tch and lab^*nch

D65: hue O

LCH*Ma: 51 100 40

olv*Ma: 1.0 0.0 0.0

triangle lightness t^*



%Gamut

$u^*_{rel} = 158$

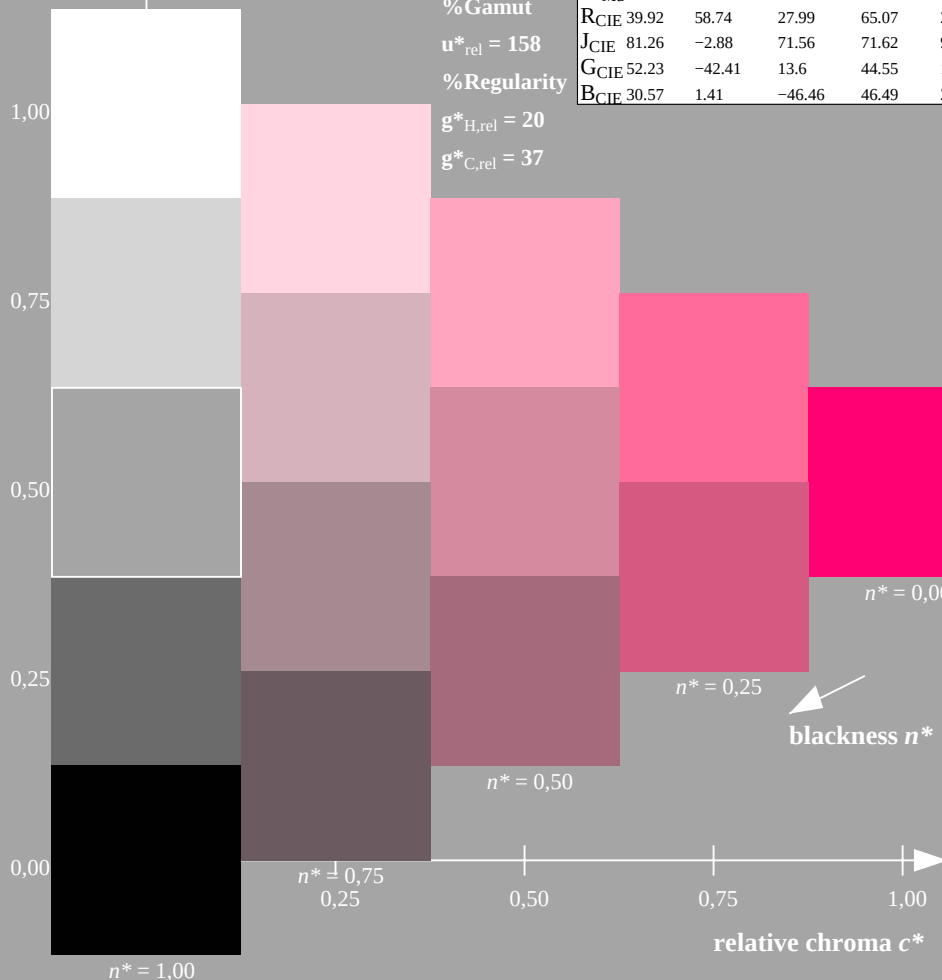
%Regularity

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

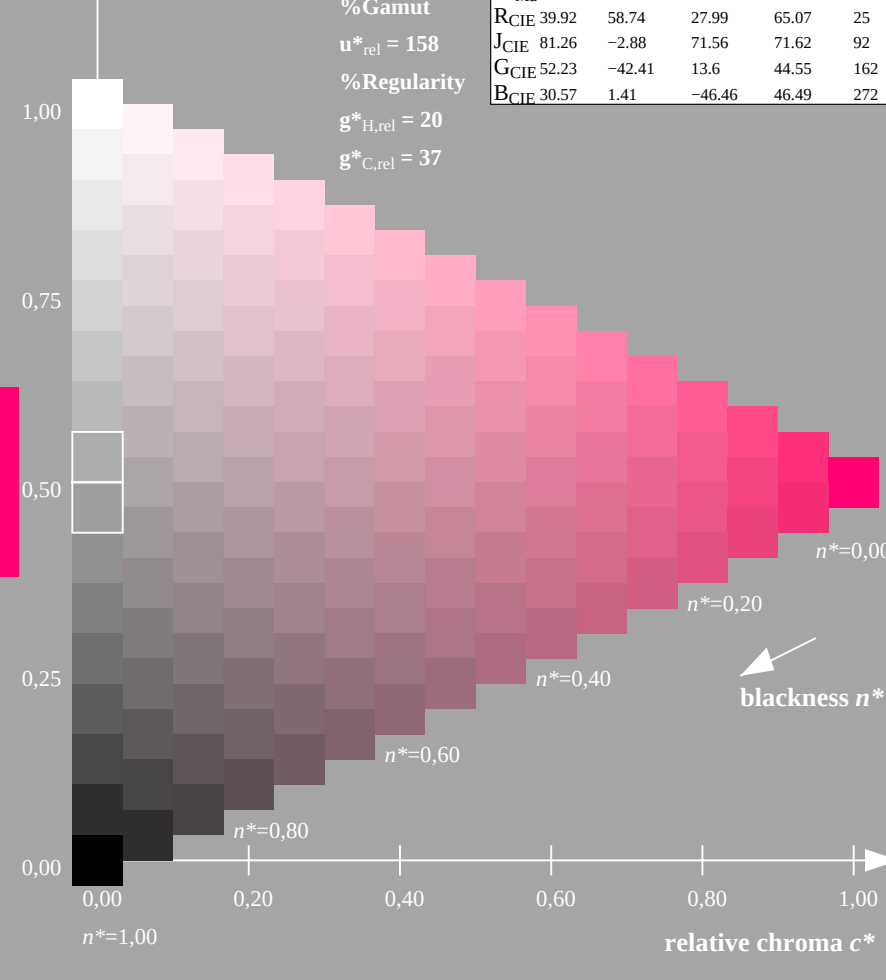
$g^*_{C,rel} = 37$

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



OE820-7N-135-0: 5 step scales for constant CIELAB hue 40/360 = 0.111 (left)



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

OE82: Test chart 1 according to DIN 33872-2, Hue O; 1MR, DEH
Discrimination of 5 and 16 step colour scales

input: $rgb \rightarrow rgb^*_{de}$ setrgbcolor
output 135-0: $g_P=0.62$; $g_N=1.0$

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, CIELAB

TUB registration: 20110801-OE82/OE82L0NA.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 $h^* = lab^*h = 103/360 = 0.286$

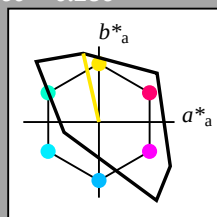
lab^*tch and lab^*nch

D65: hue Y

LCH*Ma: 93 93 103

ol v^* 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 $h^* = lab^*h = 103/360 = 0.286$

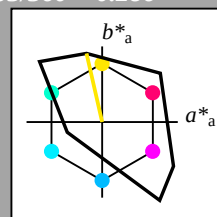
lab^*tch and lab^*nch

D65: hue Y

LCH*Ma: 93 93 103

ol v^* Ma: 1.0 1.0 0.0

triangle lightness t^*



%Gamut

$u^*_{rel} = 158$

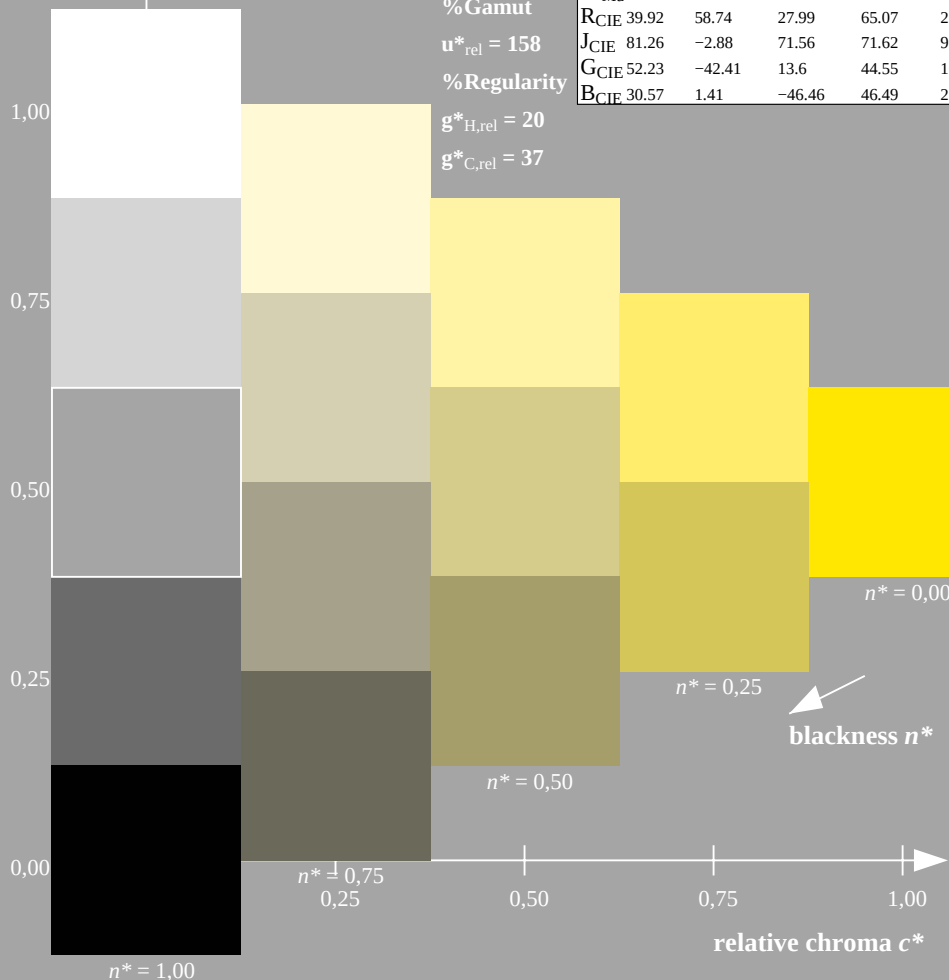
%Regularity

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

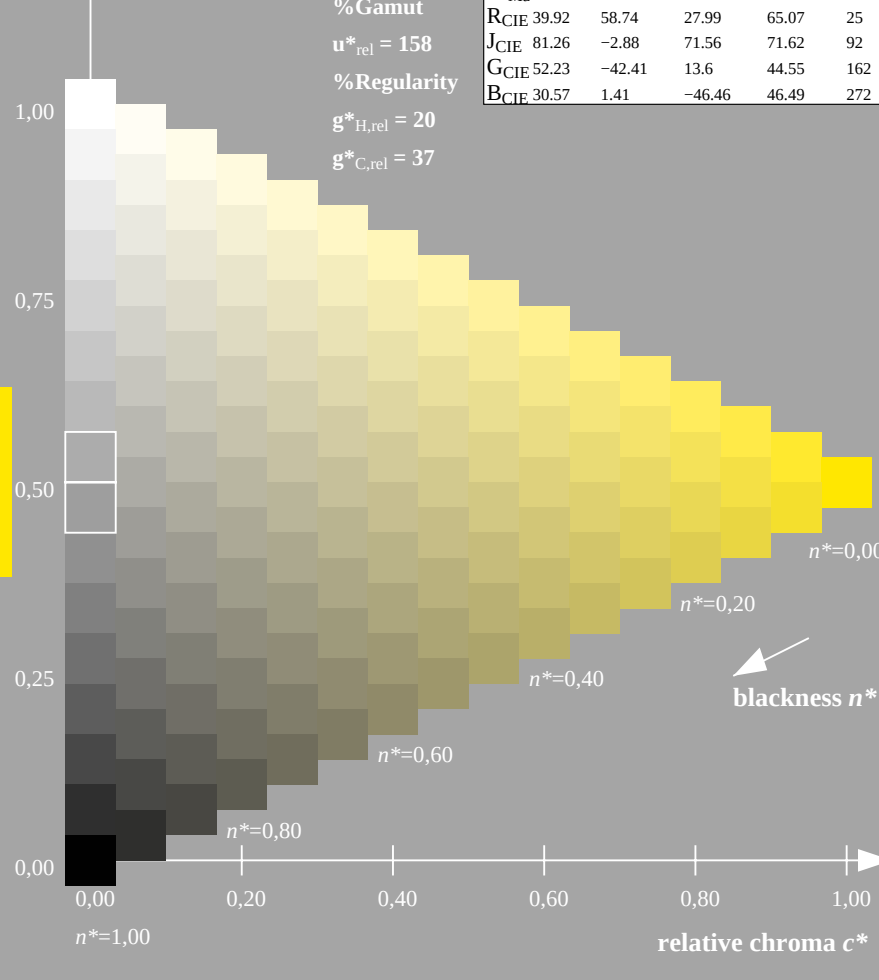
$g^*_{C,rel} = 37$

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



OE820-7N-135-1: 5 step scales for constant CIELAB hue 103/360 = 0.286 (left)



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

OE82: Test chart 1 according to DIN 33872-2, Hue Y; 1MR, DEH
Discrimination of 5 and 16 step colour scales

input: $rgb \rightarrow rgb^*_{de}$ setrgbcolor
output 135-1: $g_P=0.62$; $g_N=1.0$

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, CIELAB

TUB registration: 20110801-OE82/OE82L0NA.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 $h^* = lab^*h = 136/360 = 0.378$

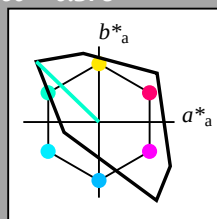
lab^*tch and lab^*nch

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

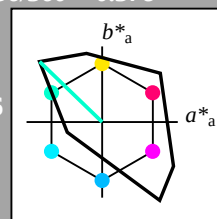
lab^*tch and lab^*nch

D65: hue L

LCH*Ma: 84 115 136

olv*Ma: 0.0 1.0 0.0

triangle lightness t^*



%Gamut

$u^*_{rel} = 158$

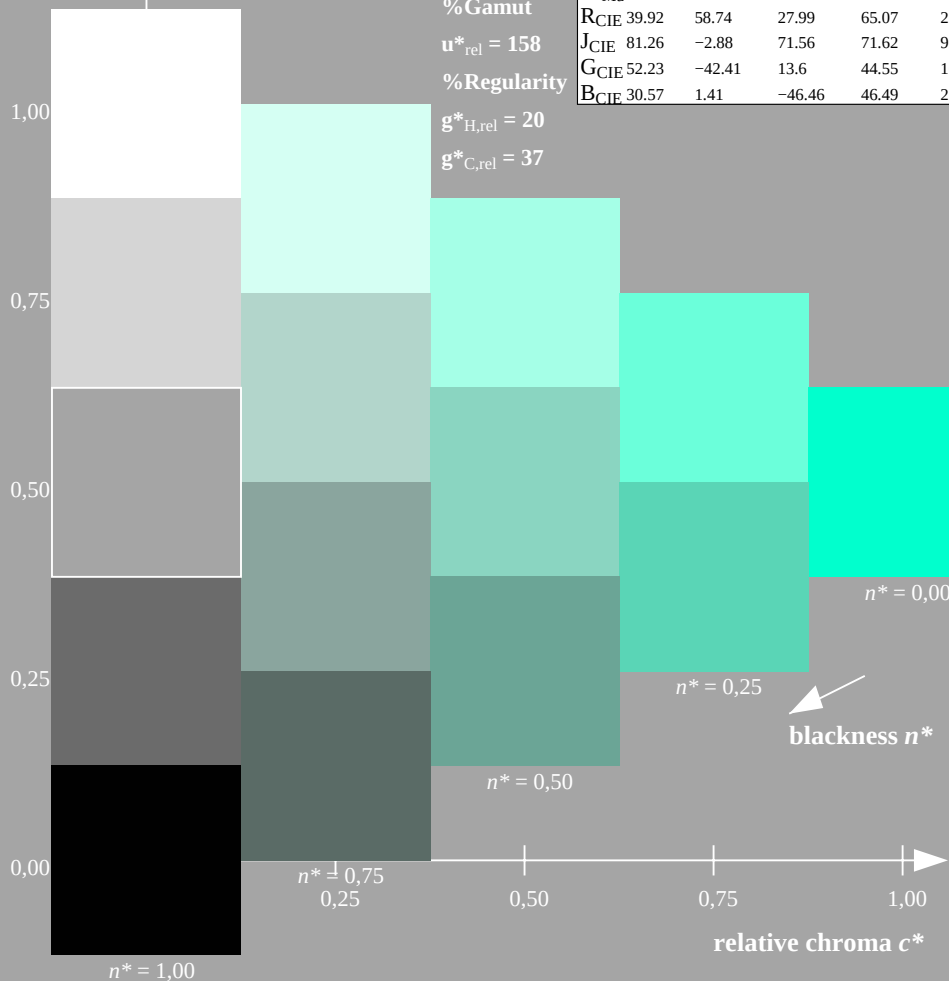
%Regularity

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

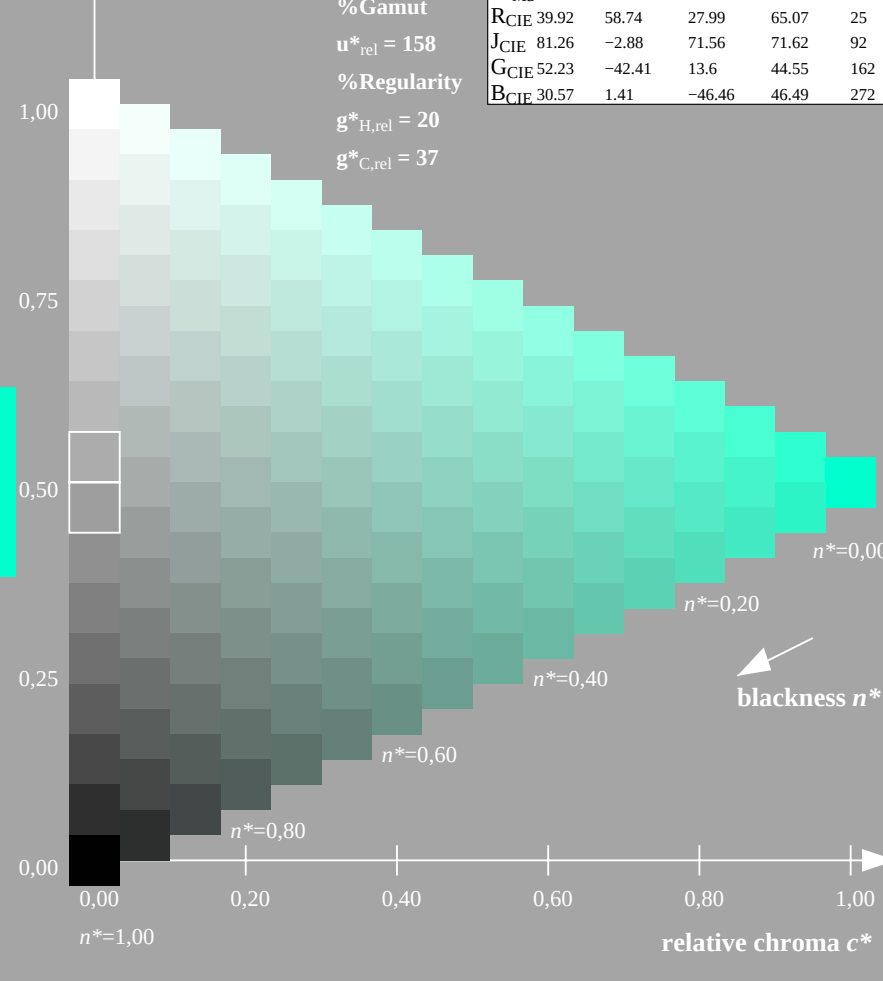
$g^*_{C,rel} = 37$

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



OE820-7N-135-2: 5 step scales for constant CIELAB hue 136/360 = 0.378 (left)



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

OE82: Test chart 1 according to DIN 33872-2, Hue L; 1MR, DEH
Discrimination of 5 and 16 step colour scales

input: $rgb \rightarrow rgb_{de}$ setrgbcolor
output 135-2: $g_P=0.62$; $g_N=1.0$

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, CIELAB

TUB registration: 20110801-OE82/OE82L0NA.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 $h^* = lab^*h = 196/360 = 0.545$

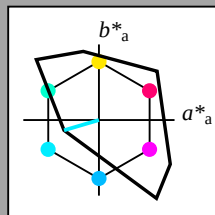
lab^*tch and lab^*nch

D65: hue C

LCH*Ma: 87 48 196

ol v^* 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 $h^* = lab^*h = 196/360 = 0.545$

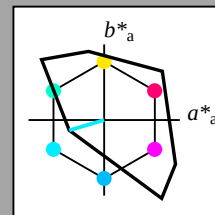
lab^*tch and lab^*nch

D65: hue C

LCH*Ma: 87 48 196

ol v^* Ma: 0.0 1.0 1.0

triangle lightness t^*



%Gamut

$u^*_{rel} = 158$

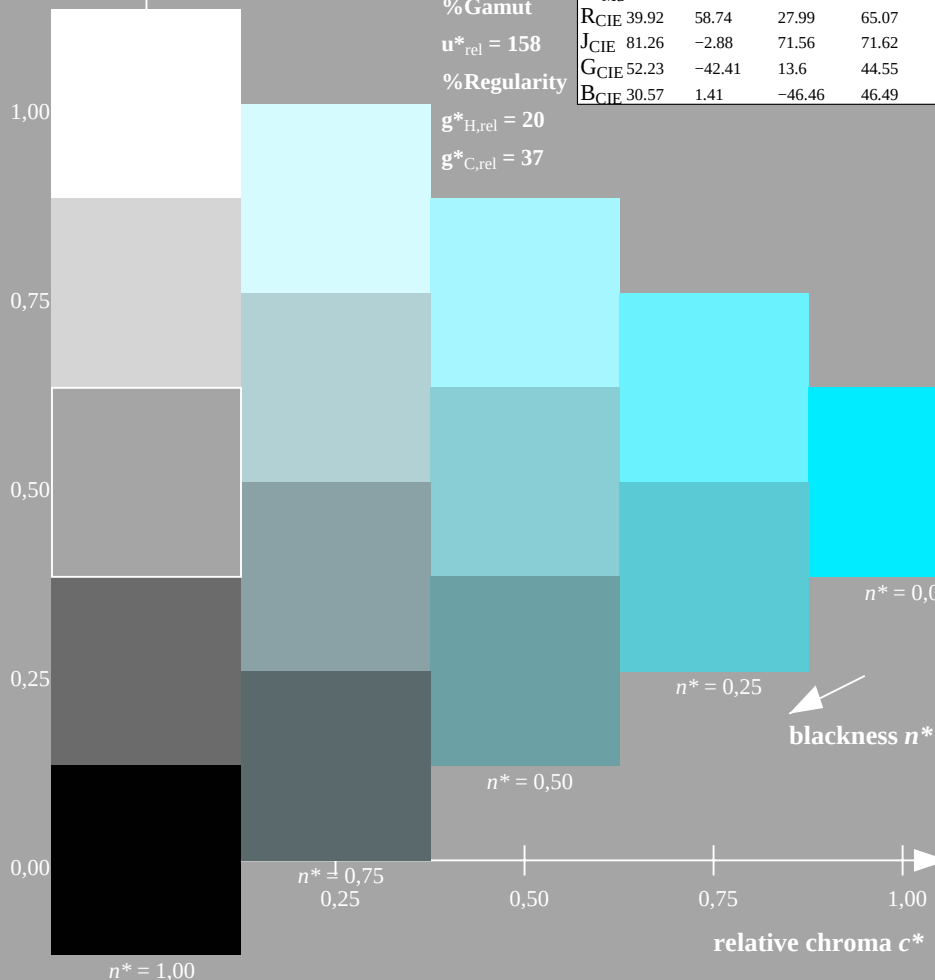
%Regularity

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

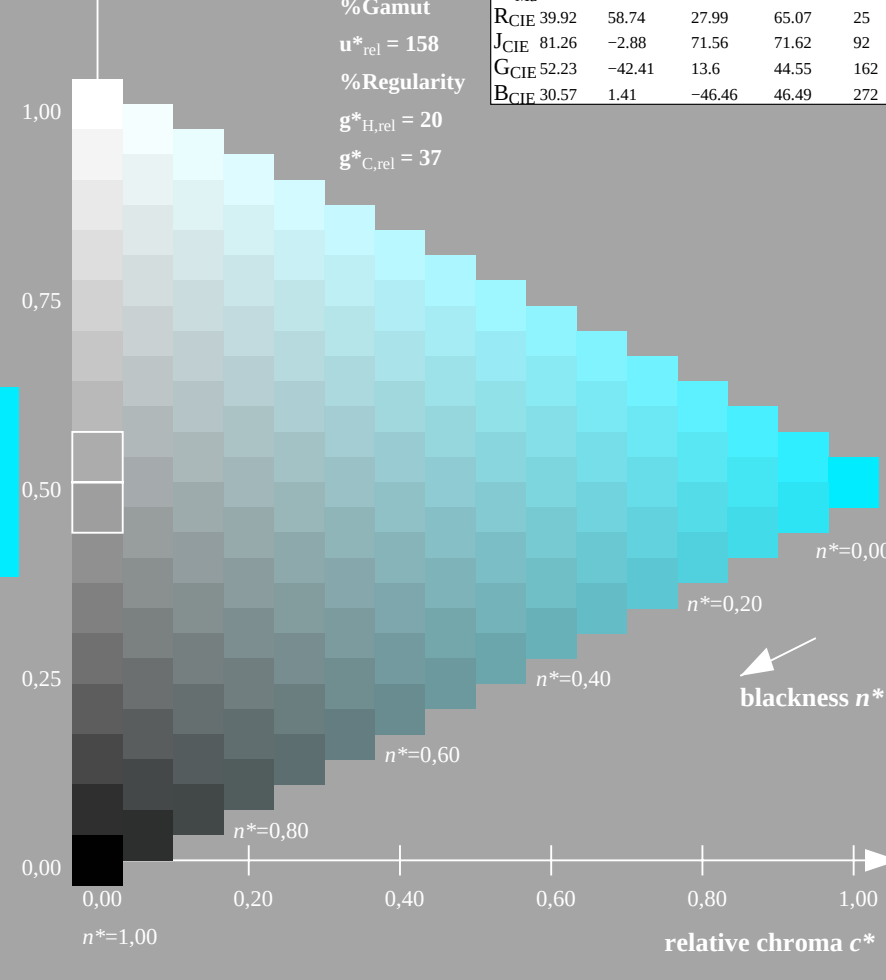
$g^*_{C,rel} = 37$

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



OE820-7N-135-3: 5 step scales for constant CIELAB hue 196/360 = 0.545 (left)



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

OE82: Test chart 1 according to DIN 33872-2, Hue C; 1MR, DEH
Discrimination of 5 and 16 step colour scales

input: $rgb \rightarrow rgb^*_{de}$ setrgbcolor
output 135-3: $g_P=0.62$; $g_N=1.0$

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, CIELAB

TUB registration: 20110801-OE82/OE82L0NA.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 $h^* = lab^*h = 306/360 = 0.851$

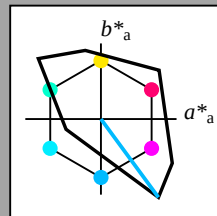
lab^*tch and lab^*nch

D65: hue V

LCH*Ma: 30 129 306

ol v^* 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 $h^* = lab^*h = 306/360 = 0.851$

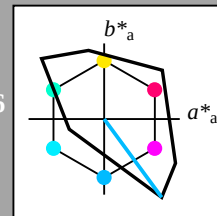
lab^*tch and lab^*nch

D65: hue V

LCH*Ma: 30 129 306

ol v^* Ma: 0.0 0.0 1.0

triangle lightness t^*



%Gamut

$u^*_{rel} = 158$

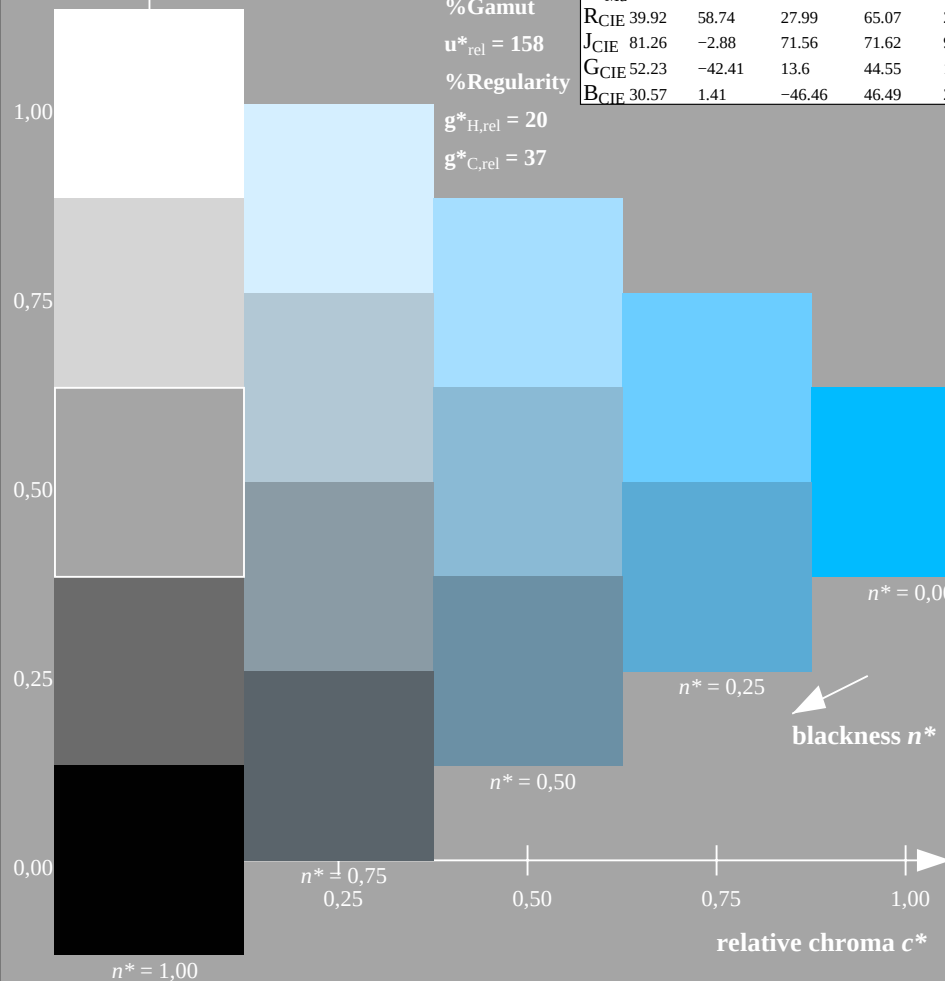
%Regularity

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

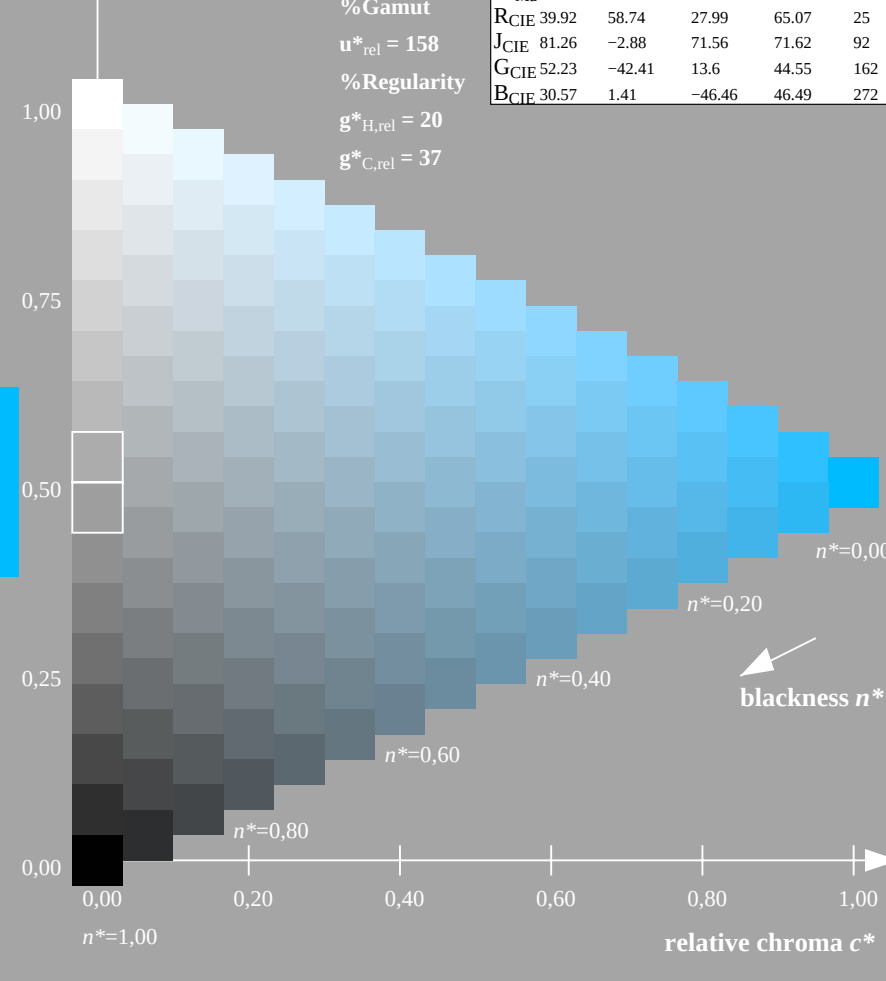
$g^*_{C,rel} = 37$

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



OE820-7N-135-4: 5 step scales for constant CIELAB hue 306/360 = 0.851 (left)



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

OE82: Test chart 1 according to DIN 33872-2, Hue V; 1MR, DEH
Discrimination of 5 and 16 step colour scales

input: rgb ($\rightarrow rgb^*_{de}$) $setrgbcolor$
output 135-4: $g_P=0.62$; $g_N=1.0$

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, CIELAB

TUB registration: 20110801-OE82/OE82L0NA.TXT /.PS
application for output of displays: monitor systems or data projector systems

TUB material: code=th4ta

Input: Colorimetric Television Luminous System TLS00a

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

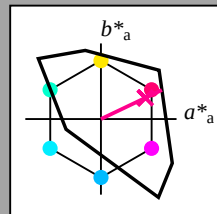
lab^*tch and lab^*nch

D65: hue R

LCH*Ma: 52 89 25

ol*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 $h^* = lab^*h = 25/360 = 0.071$

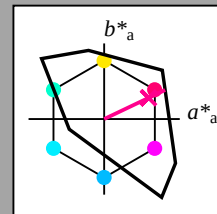
lab^*tch and lab^*nch

D65: hue R

LCH*Ma: 52 89 25

ol*Ma: 1.0 0.0 0.21

triangle lightness t^*



%Gamut

$u^*_{rel} = 158$

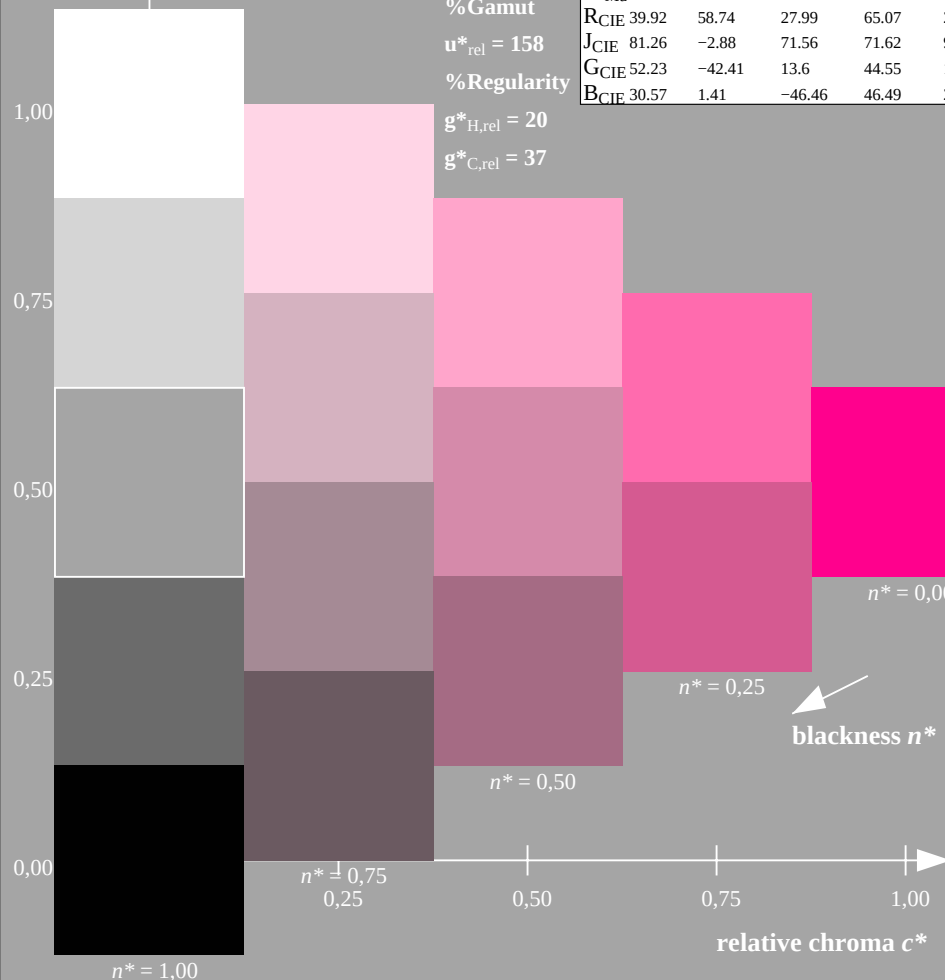
%Regularity

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

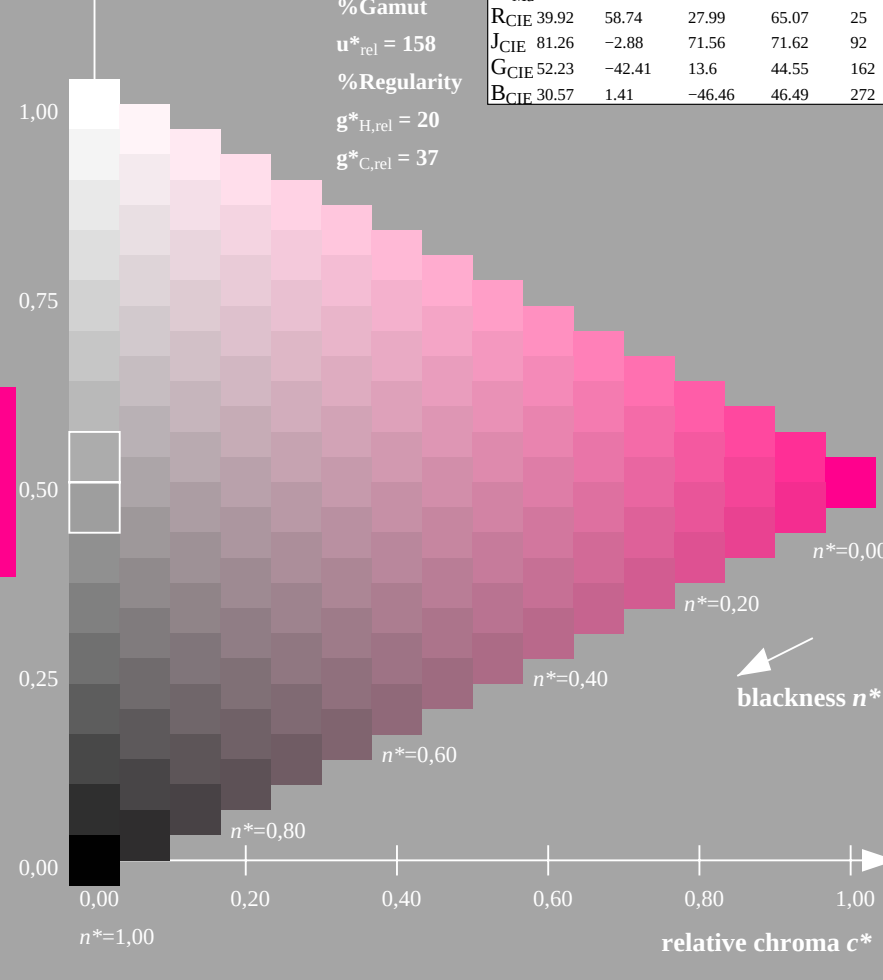
$g^*_{C,rel} = 37$

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



OE820-7N-135-6: 5 step scales for constant CIELAB hue 25/360 = 0.071 (left)



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

OE82: Test chart 1 according to DIN 33872-2, Hue R; 1MR, DEEH input: $rgb \rightarrow rgb^*_{dee}$ setrgbcolo
Discrimination of 5 and 16 step colour scales
output 135-6: $g_P=0.62$; $g_N=1.0$

TUB registration: 20110801-OE82/OE82L0NA.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 $h^* = lab^*h = 92/360 = 0.256$

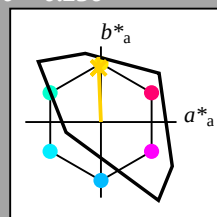
lab^*tch and lab^*nch

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

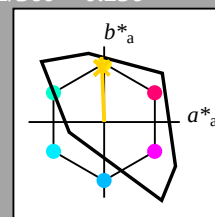
lab^*tch and lab^*nch

D65: hue J

LCH*Ma: 85 86 92

olv*Ma: 1.0 0.82 0.0

triangle lightness t^*



%Gamut

$u^*_{rel} = 158$

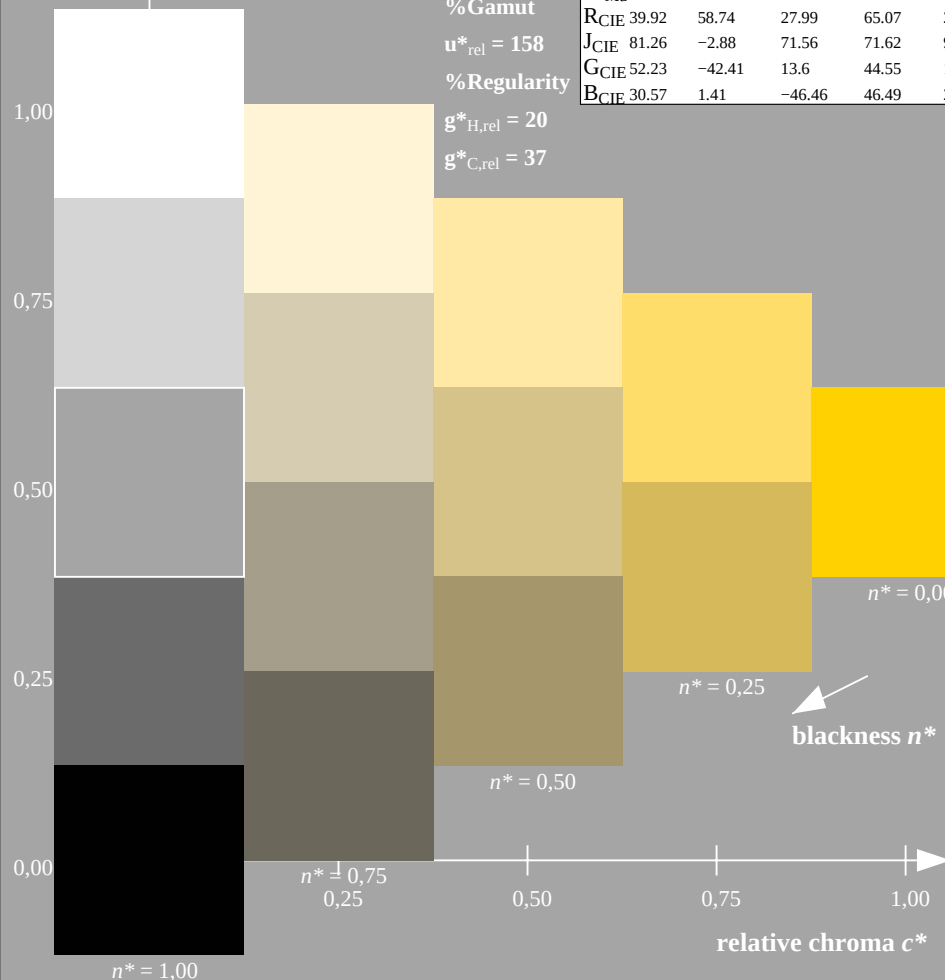
%Regularity

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

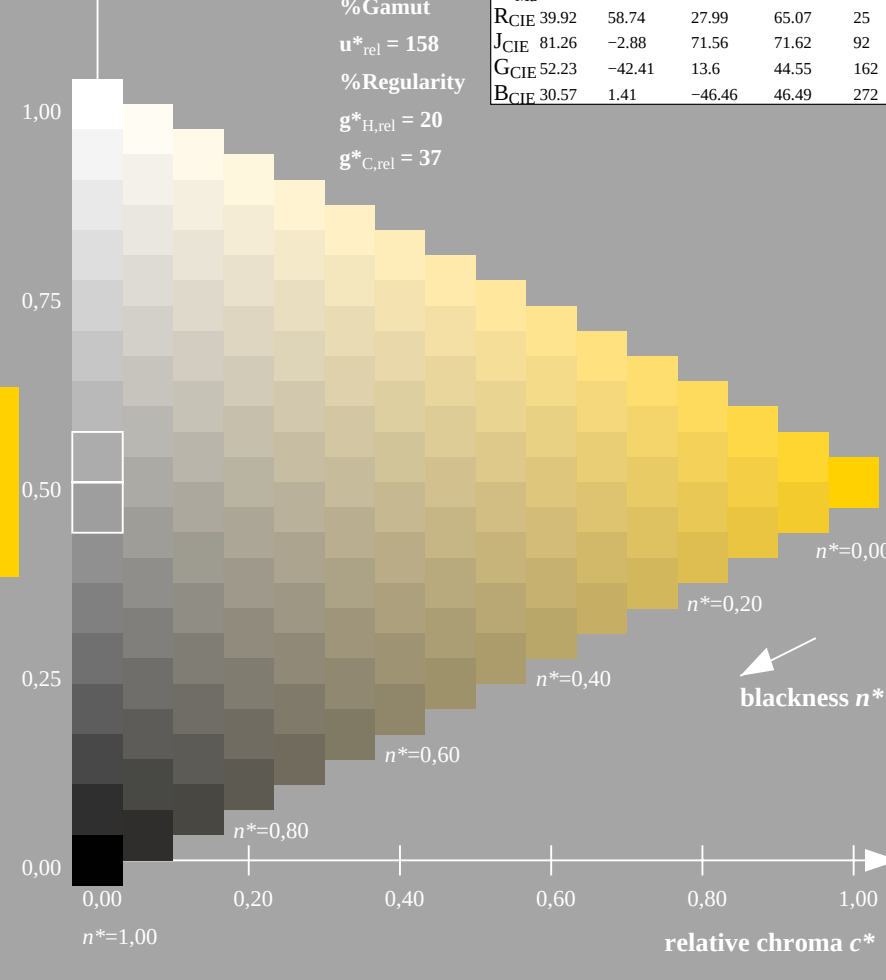
$g^*_{C,rel} = 37$

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



OE820-7N-135-7: 5 step scales for constant CIELAB hue 92/360 = 0.256 (left)



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

OE82: Test chart 1 according to DIN 33872-2, Hue J; 1MR, DEEH input: $rgb \rightarrow rgb^*_{dee}$ setrgbcolo
Discrimination of 5 and 16 step colour scales output 135-7: $g_P=0.62$; $g_N=1.0$

TUB registration: 20110801-OE82/OE82L0NA.TXT /.PS
application for output of displays: monitor systems or data projector systems

TUB material: code=th4ta

Input: Colorimetric Television Luminous System TLS00a

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

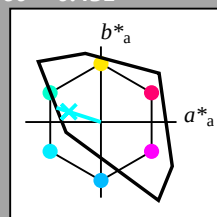
lab^*tch and lab^*nch

D65: hue G

LCH*Ma: 86 62 162

ol v^* 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 $h^* = lab^*h = 162/360 = 0.451$

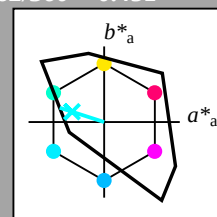
lab^*tch and lab^*nch

D65: hue G

LCH*Ma: 86 62 162

ol v^* Ma: 0.0 1.0 0.65

triangle lightness t^*



%Gamut

$u^*_{rel} = 158$

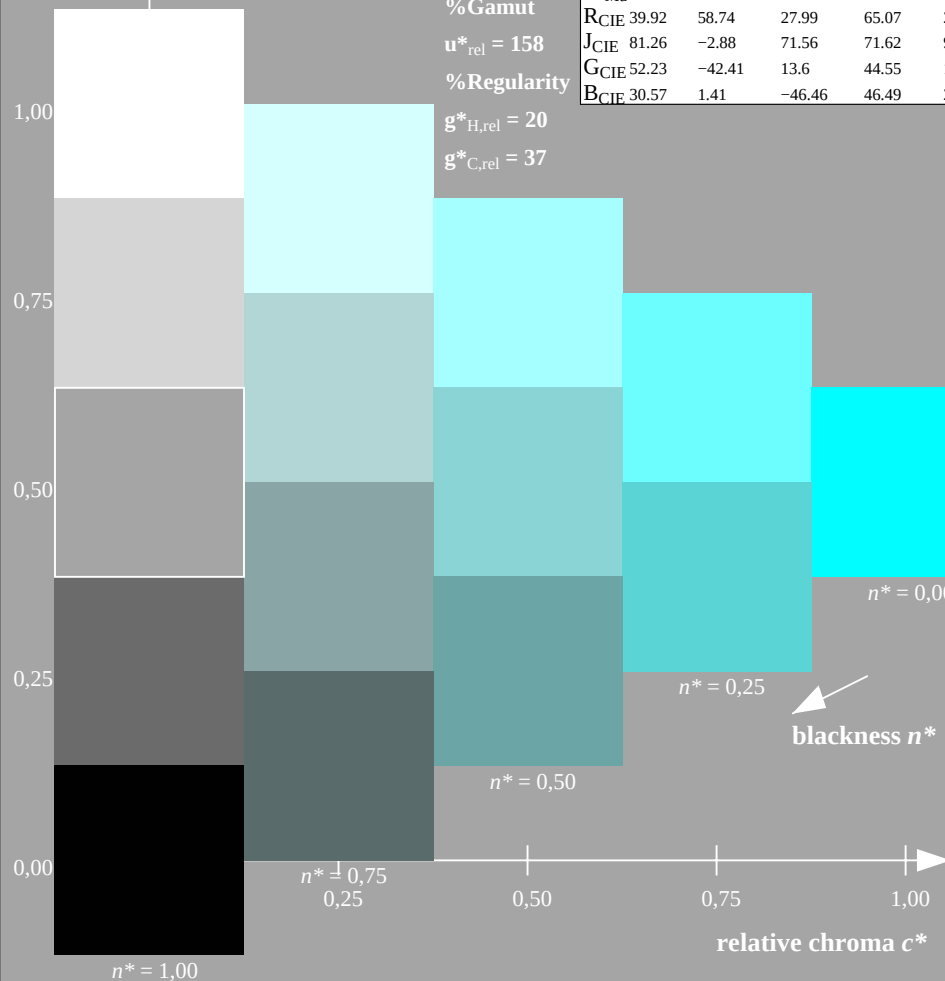
%Regularity

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

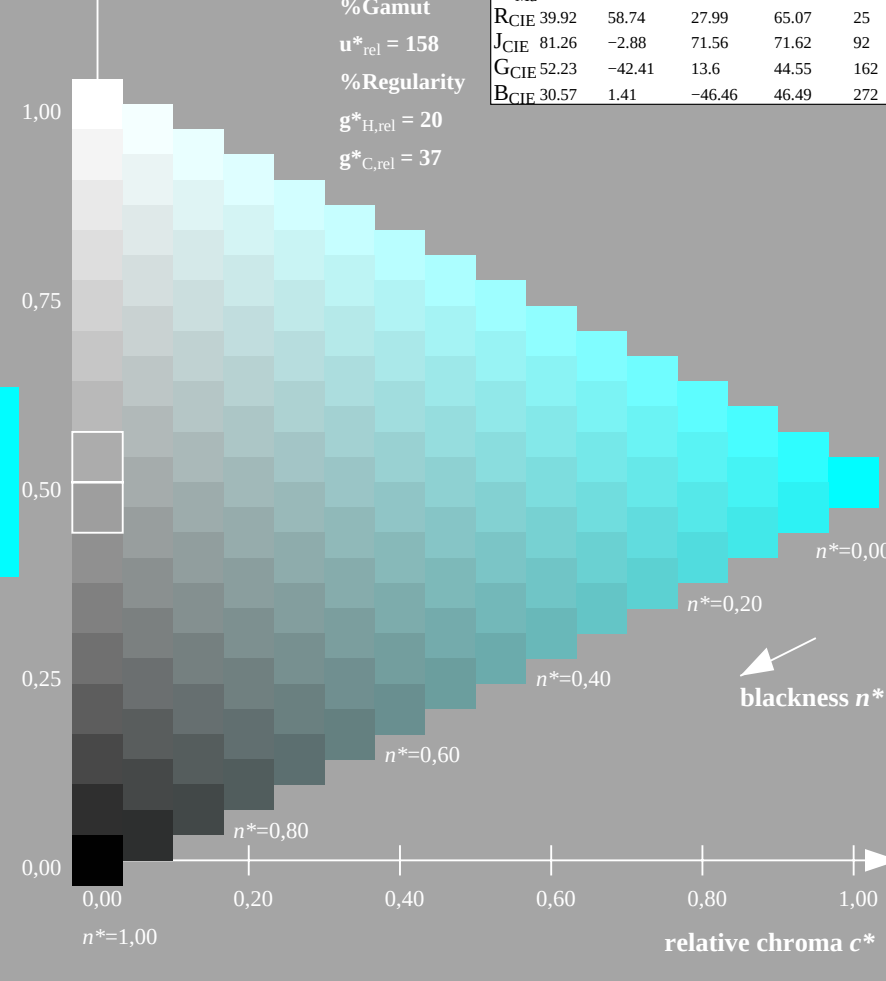
$g^*_{C,rel} = 37$

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



OE820-7N-135-8: 5 step scales for constant CIELAB hue 162/360 = 0.451 (left)



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

OE82: Test chart 1 according to DIN 33872-2, Hue G; 1MR, DEEH input: $rgb \rightarrow rgb^*_{dee}$ setrgbcolo
Discrimination of 5 and 16 step colour scales
output 135-8: $g_P=0.62$; $g_N=1.0$

TUB registration: 20110801-OE82/OE82L0NA.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 $h^* = lab^*h = 272/360 = 0.755$

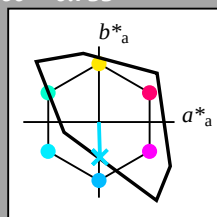
lab^*tch and lab^*nch

D65: hue B

LCH*Ma: 65 49 272

ol v^* 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 $h^* = lab^*h = 272/360 = 0.755$

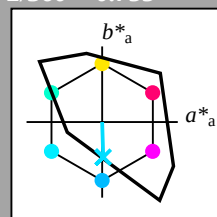
lab^*tch and lab^*nch

D65: hue B

LCH*Ma: 65 49 272

ol v^* Ma: 0.0 0.61 1.0

triangle lightness t^*



%Gamut

$u^*_{rel} = 158$

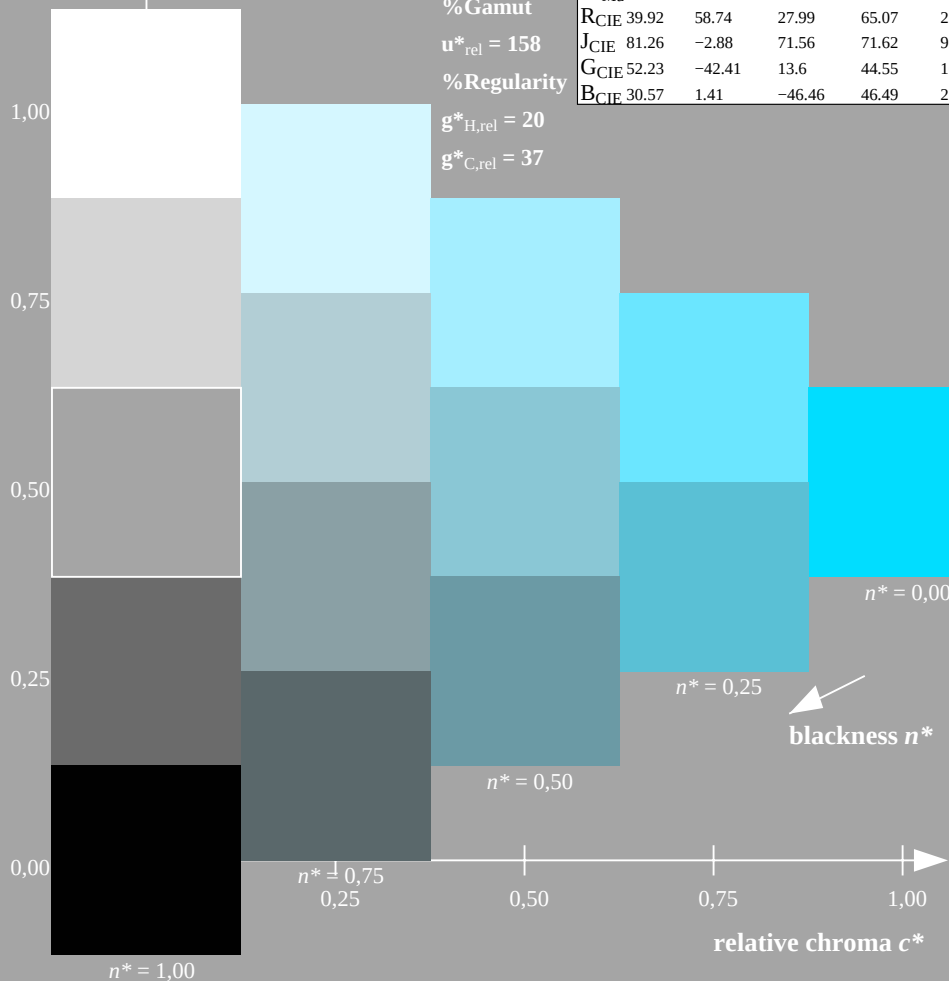
%Regularity

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

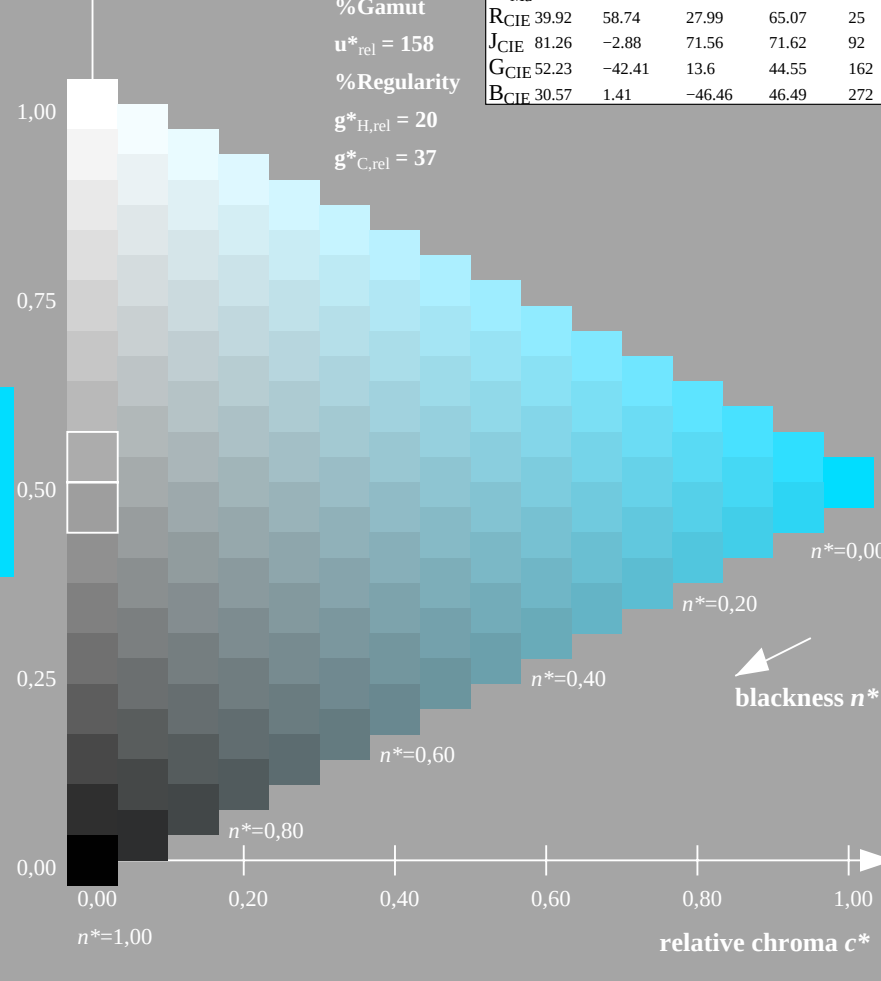
$g^*_{C,rel} = 37$

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

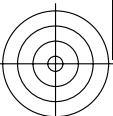


OE820-7N-135-9: 5 step scales for constant CIELAB hue 272/360 = 0.755 (left)

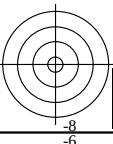


16 step scales for constant CIELAB hue 272/360 = 0.755 (right)

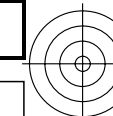
OE82: Test chart 1 according to DIN 33872-2, Hue B; 1MR, DEEH input: $rgb \rightarrow rgb^*_{dee}$ setrgbcolo
Discrimination of 5 and 16 step colour scales
output 135-9: $g_P=0.62$; $g_N=1.0$



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, CIELAB

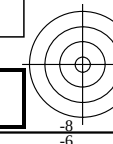


<http://130.149.60.45/~farbmetrik/OE82/OE82L0NA.TXT> /PS; linearized output, Page 11/12
 F: Output Linearization (OL) data OE82/OE82L0NA.TXT /PS in File (F)



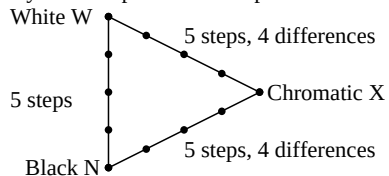
TUB registration: 20110801-OE82/OE82L0NA.TXT /PS
 application for output of displays: monitor systems or data projector systems

TUB material: code=rh4ta



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

OE820-3N-135-10

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

PDF-File: <http://130.149.60.45/farbmetrik/OE82/OE82L0NP.PDF> underline Yes/No

PS-File: <http://130.149.60.45/farbmetrik/OE82/OE82L0NA.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 OE82L0NP.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 OE82L0NA.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

OE820-7N-135-10

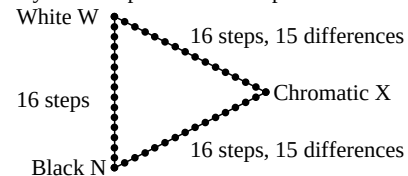


OE82: Form A for test chart 1 according to DIN 33872-2; 1MR, DEH
 Discrimination of colour scales (Yes/No decision)
 Input: $rgb \rightarrow rgb_{de}$ setrgbcolor
 output 135-10: $g_P=0.62$; $g_N=1.0$



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

OE821-3N-135-10

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/OE82/OE82F1P2.PDF>

underline Yes/No

PS file: <http://130.149.60.45/farbmetrik/OE82/OE82F1P2.PS>

underline Yes/No

Picture A7-135-2: 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/OE82/OE82F1P2.PDF>

picture A7-135-2

underline Yes/No

PS-File: <http://130.149.60.45/farbmetrik/OE82/OE82F1P2.PS>

picture A7-135-2

or underline Yes/No

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

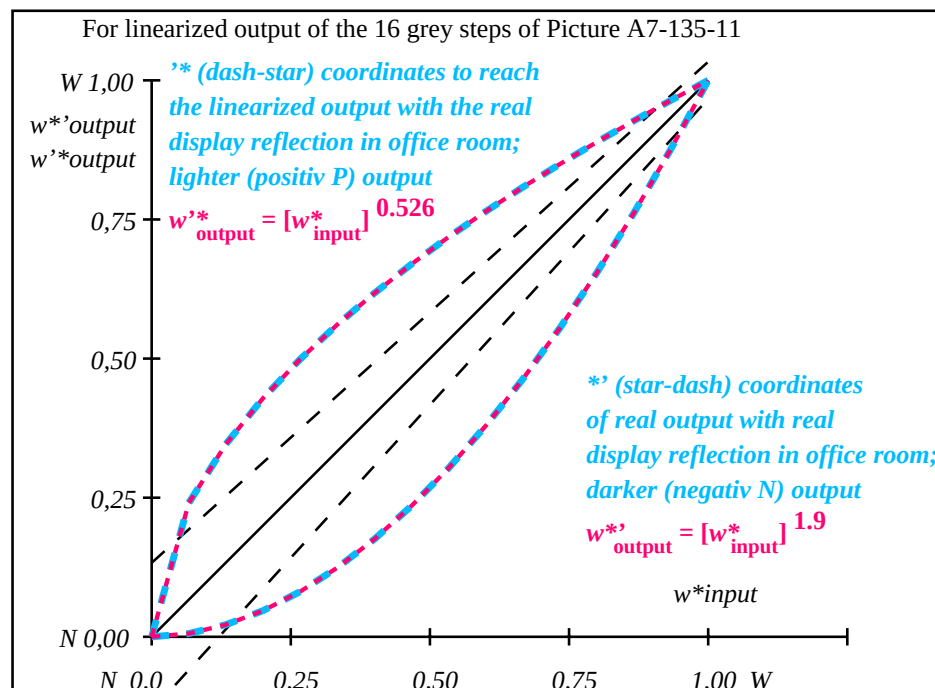
OE821-7N-135-10



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, CIELAB

i	LAB*ref			l*out			LAB*out			LAB*out/c-ref			ΔE*	Start output S1 Specification according to ISO/IEC 15775 Annex G and DIN 33866-1 Annex G
1	37.99	0.0	0.0	0.0	37.99	0.0	0.0	0.0	0.0	0.0	0.0	0.01		
2	41.81	0.0	0.0	0.24	51.79	0.0	0.0	9.98	0.0	0.0	9.98			
3	45.64	0.0	0.0	0.35	57.87	0.0	0.0	12.23	0.0	0.0	12.23			
4	49.47	0.0	0.0	0.43	62.6	0.0	0.0	13.13	0.0	0.0	13.13			
5	53.3	0.0	0.0	0.5	66.63	0.0	0.0	13.33	0.0	0.0	13.33			
6	57.13	0.0	0.0	0.56	70.19	0.0	0.0	13.07	0.0	0.0	13.07			
7	60.96	0.0	0.0	0.62	73.44	0.0	0.0	12.48	0.0	0.0	12.48			
8	64.78	0.0	0.0	0.67	76.44	0.0	0.0	11.65	0.0	0.0	11.65			
9	68.61	0.0	0.0	0.72	79.23	0.0	0.0	10.62	0.0	0.0	10.62			
10	72.44	0.0	0.0	0.76	81.87	0.0	0.0	9.43	0.0	0.0	9.43			
11	76.27	0.0	0.0	0.81	84.37	0.0	0.0	8.11	0.0	0.0	8.11			
12	80.1	0.0	0.0	0.85	86.76	0.0	0.0	6.66	0.0	0.0	6.66			
13	83.93	0.0	0.0	0.89	89.05	0.0	0.0	5.12	0.0	0.0	5.12			
14	87.75	0.0	0.0	0.93	91.24	0.0	0.0	3.49	0.0	0.0	3.49			
15	91.58	0.0	0.0	0.96	93.36	0.0	0.0	1.78	0.0	0.0	1.78	Mean lightness difference (16 steps)		
16	95.41	0.0	0.0	1.0	95.41	0.0	0.0	0.0	0.0	0.0	0.01	ΔE*CIELAB = 8.2		
17	37.99	0.0	0.0	0.0	37.99	0.0	0.0	0.0	0.0	0.0	0.01			
18	52.34	0.0	0.0	0.48	65.67	0.0	0.0	13.33	0.0	0.0	13.33			
19	66.7	0.0	0.0	0.69	77.86	0.0	0.0	11.16	0.0	0.0	11.16			
20	81.05	0.0	0.0	0.86	87.34	0.0	0.0	6.29	0.0	0.0	6.29	Mean lightness difference (5 steps)		
21	95.41	0.0	0.0	1.0	95.41	0.0	0.0	0.0	0.0	0.0	0.01	ΔL*CIELAB = 6.2		
Mean colour reproduction index:												R*ab,m = 65		

OE820-3N-135-11: File: Measure unknown; Device: Device unknown; Date: Date unknown



OE821-3N-135-11: File: Measure unknown; Device: Device unknown; Date: Date unknown

L^*/Y_{intended} (absolute)	38.0/10.1	41.8/12.4	45.6/15.0	49.5/18.0	53.3/21.3	57.1/25.1	61.0/29.2	64.8/33.8	68.6/38.8	72.4/44.3	76.3/50.3	80.1/56.9	83.9/63.9	87.8/71.6	91.6/79.8	95.4/88.6
$w^* w^* w^*$ setrgb																
$g_P=0.53$																
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	0.241	0.346	0.429	0.499	0.561	0.617	0.67	0.718	0.764	0.808	0.849	0.889	0.928	0.964	1.0

OE820-7N, Picture A7-135-11: 16 visual equidistant L^* -grey steps; PS operator: $w^* w^* w^*$ setrgbcolor

OE82: In-output relation according to ISO 9241-306; 1MR, DEH
Viewing Y contrast $Y_W:Y_N=88,9:10$; Y_N range 7,5 to <15

input: $rgb \rightarrow rgb^*_{de}$ setrgbcolor
output 135-11: $g_P=0.62$; $g_N=1.0$

TUB registration: 20110801-OE82/OE82L0NA.TXT /.PS
application for output of displays: monitor systems or data projector systems
TUB material: code=rh4ta

Input: Colorimetric Television Luminous System TLS00a

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

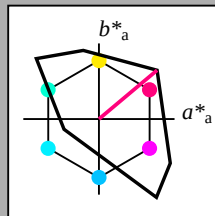
lab^*tch and lab^*nch

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

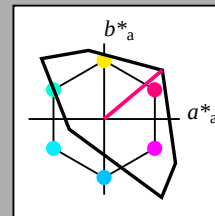
lab^*tch and lab^*nch

D65: hue O

LCH*Ma: 51 100 40

olv*Ma: 1.0 0.0 0.0

triangle lightness t^*



%Gamut

$u^*_{rel} = 158$

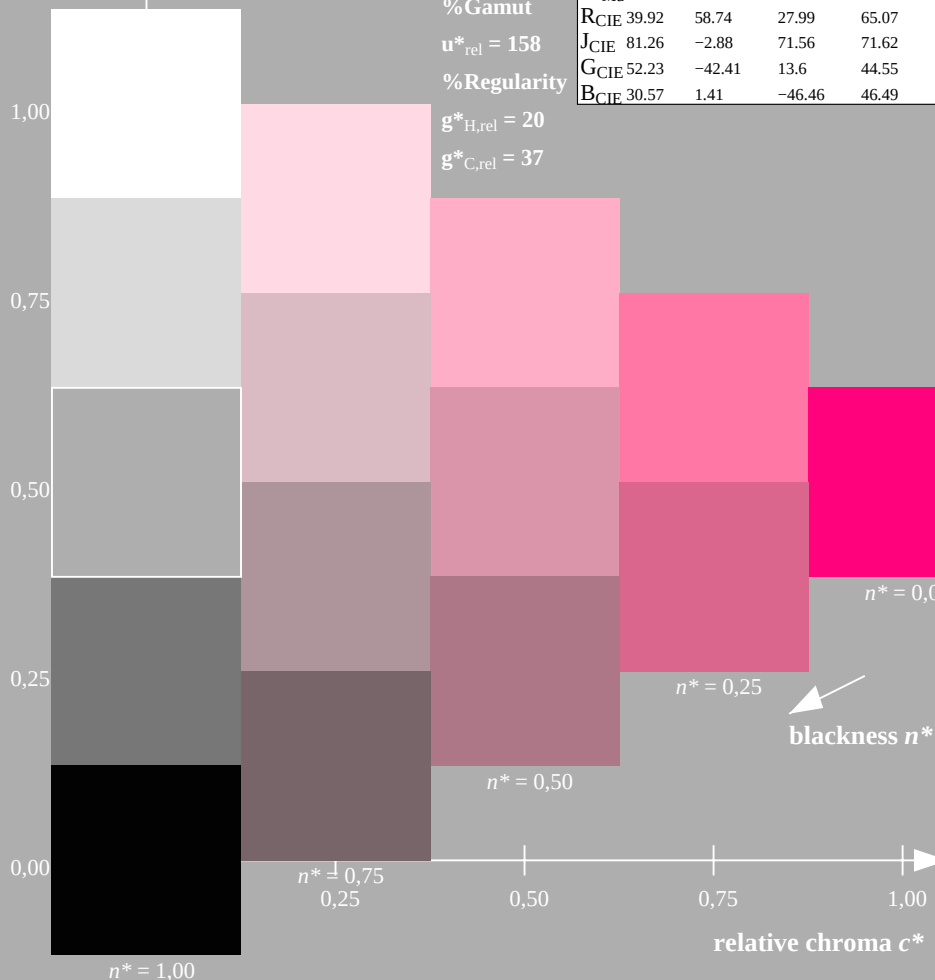
%Regularity

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

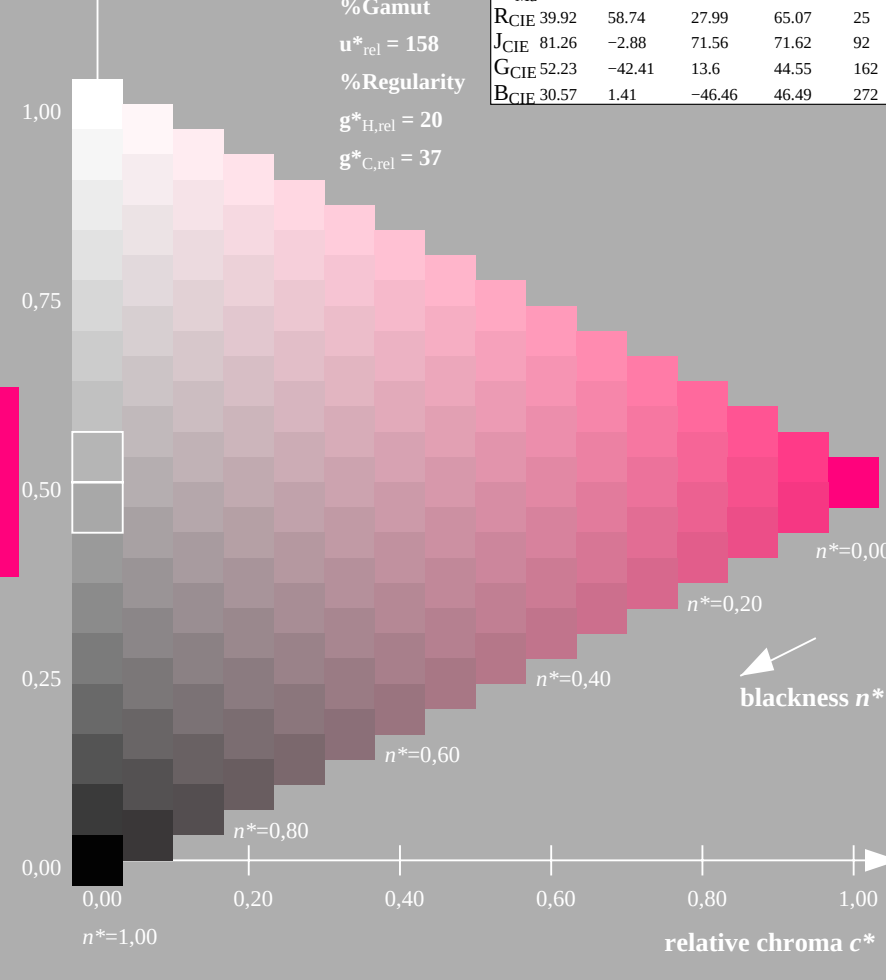
$g^*_{C,rel} = 37$

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



OE820-7N-136-0: 5 step scales for constant CIELAB hue 40/360 = 0.111 (left)



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

OE82: Test chart 1 according to DIN 33872-2, Hue O; 1MR, DEH
Discrimination of 5 and 16 step colour scales

input: $rgb \rightarrow rgb^*_{de}$ setrgbcolor
output 136-0: $g_P=0.55$; $g_N=1.0$

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, CIELAB

TUB registration: 20110801-OE82/OE82L0NA.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 $h^* = lab^*h = 103/360 = 0.286$

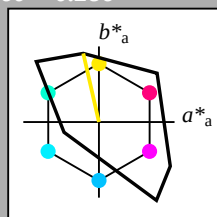
lab^*tch and lab^*nch

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

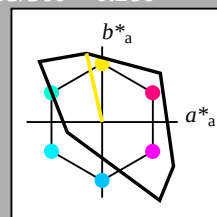
lab^*tch and lab^*nch

D65: hue Y

LCH*Ma: 93 93 103

olv*Ma: 1.0 1.0 0.0

triangle lightness t^*



%Gamut

$u^*_{rel} = 158$

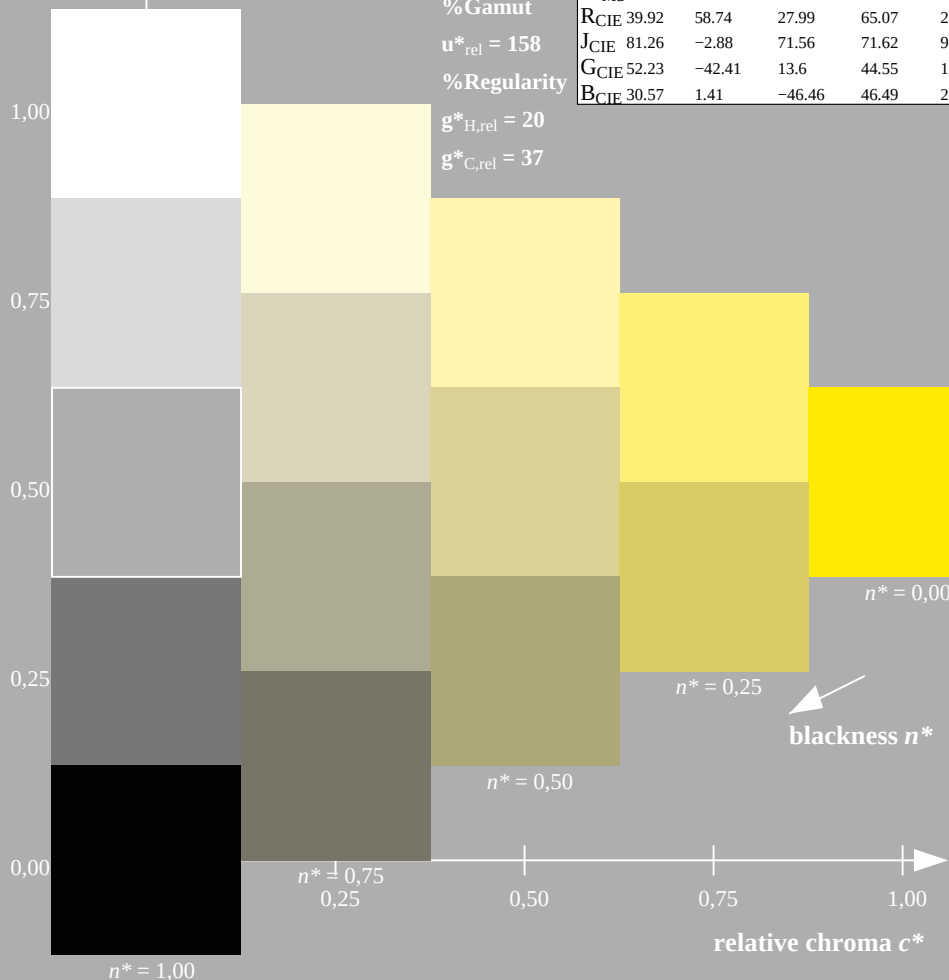
%Regularity

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

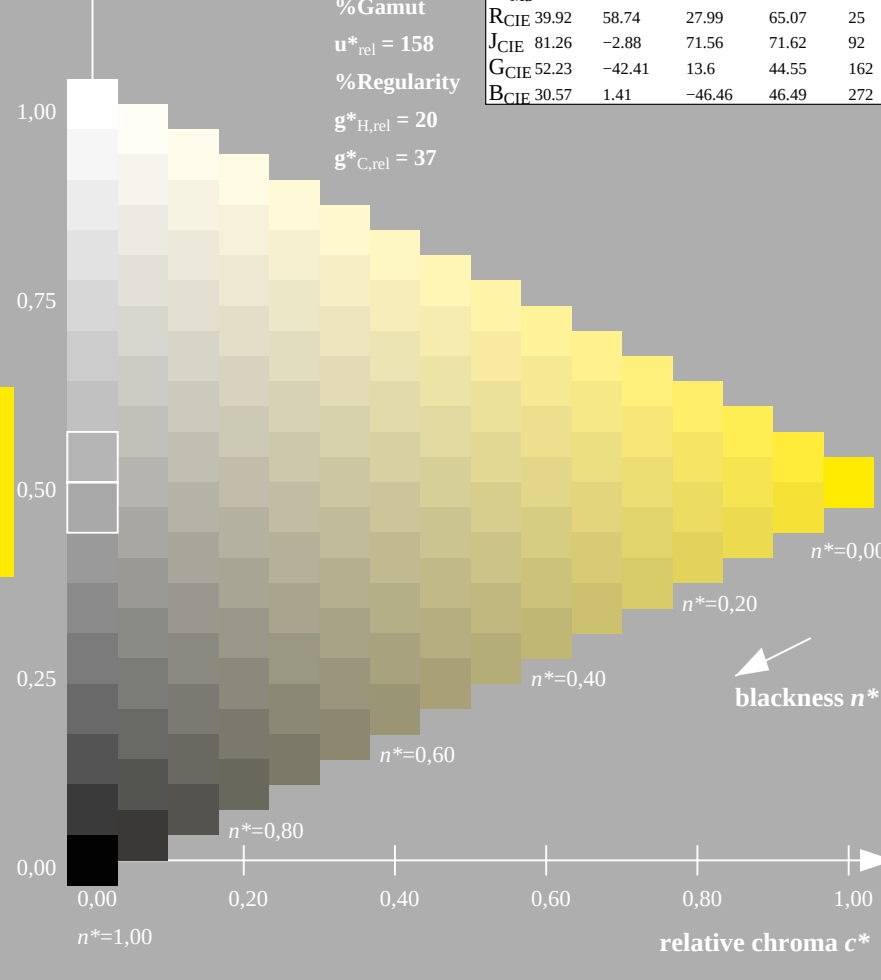
$g^*_{C,rel} = 37$

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
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



OE820-7N-136-1: 5 step scales for constant CIELAB hue 103/360 = 0.286 (left)



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

OE82: Test chart 1 according to DIN 33872-2, Hue Y; 1MR, DEH
Discrimination of 5 and 16 step colour scales

input: $rgb \rightarrow rgb^*_{de}$ setrgbcolor
output 136-1: $g_P=0.55$; $g_N=1.0$

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, CIELAB

TUB registration: 20110801-OE82/OE82L0NA.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 $h^* = lab^*h = 136/360 = 0.378$

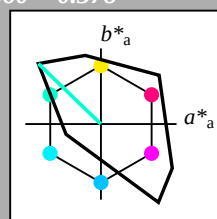
lab^*tch and lab^*nch

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

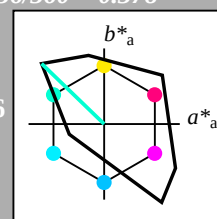
lab^*tch and lab^*nch

D65: hue L

LCH*Ma: 84 115 136

olv*Ma: 0.0 1.0 0.0

triangle lightness t^*



%Gamut

$u^*_{rel} = 158$

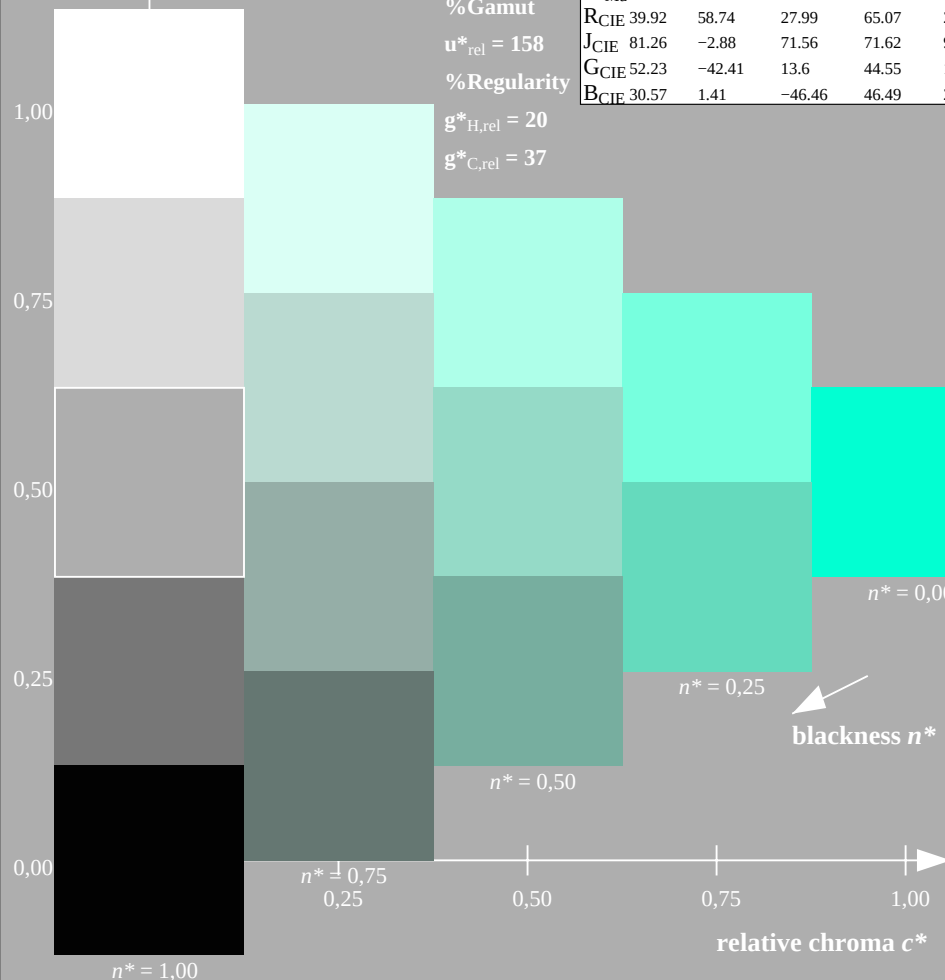
%Regularity

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

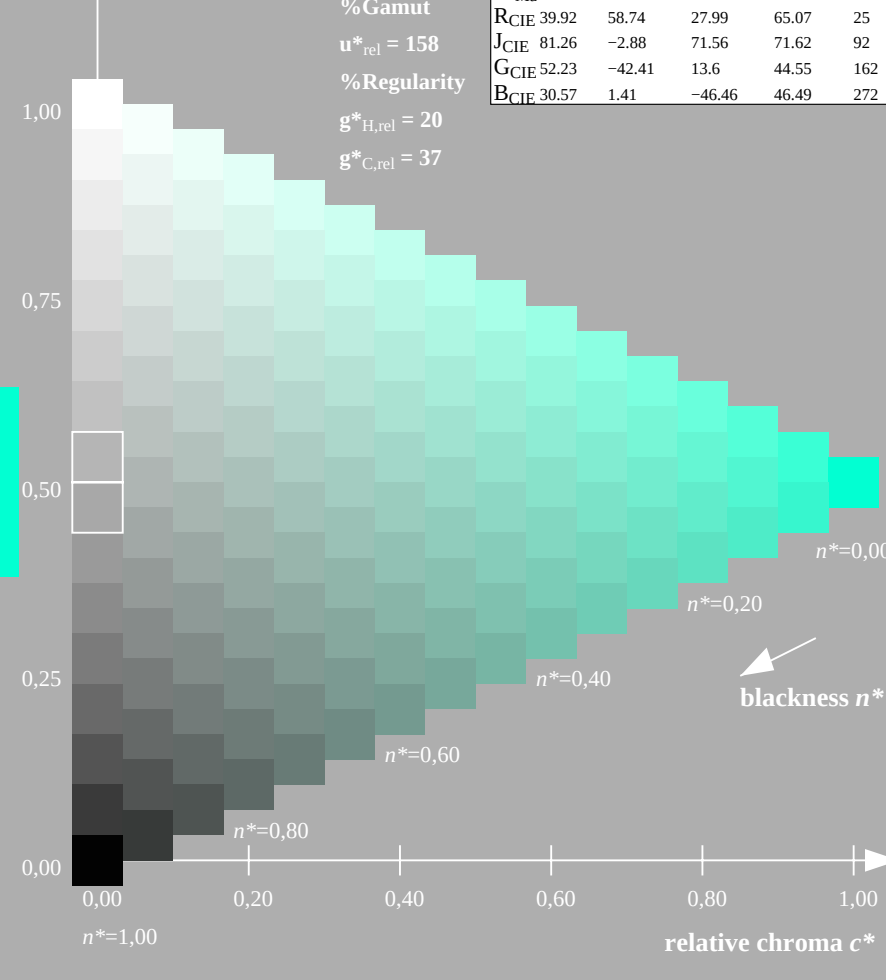
$g^*_{C,rel} = 37$

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



OE820-7N-136-2: 5 step scales for constant CIELAB hue 136/360 = 0.378 (left)



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

OE82: Test chart 1 according to DIN 33872-2, Hue L; 1MR, DEH
Discrimination of 5 and 16 step colour scales

input: $rgb \rightarrow rgb^*_{de}$ setrgbcolor
output 136-2: $g_P=0.55$; $g_N=1.0$

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, CIELAB

TUB registration: 20110801-OE82/OE82L0NA.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 $h^* = lab^*h = 196/360 = 0.545$

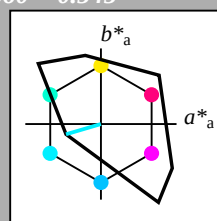
lab^*tch and lab^*nch

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

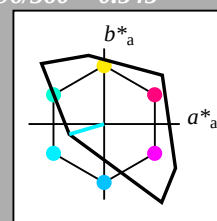
lab^*tch and lab^*nch

D65: hue C

LCH*Ma: 87 48 196

olv*Ma: 0.0 1.0 1.0

triangle lightness t^*



%Gamut

$u^*_{rel} = 158$

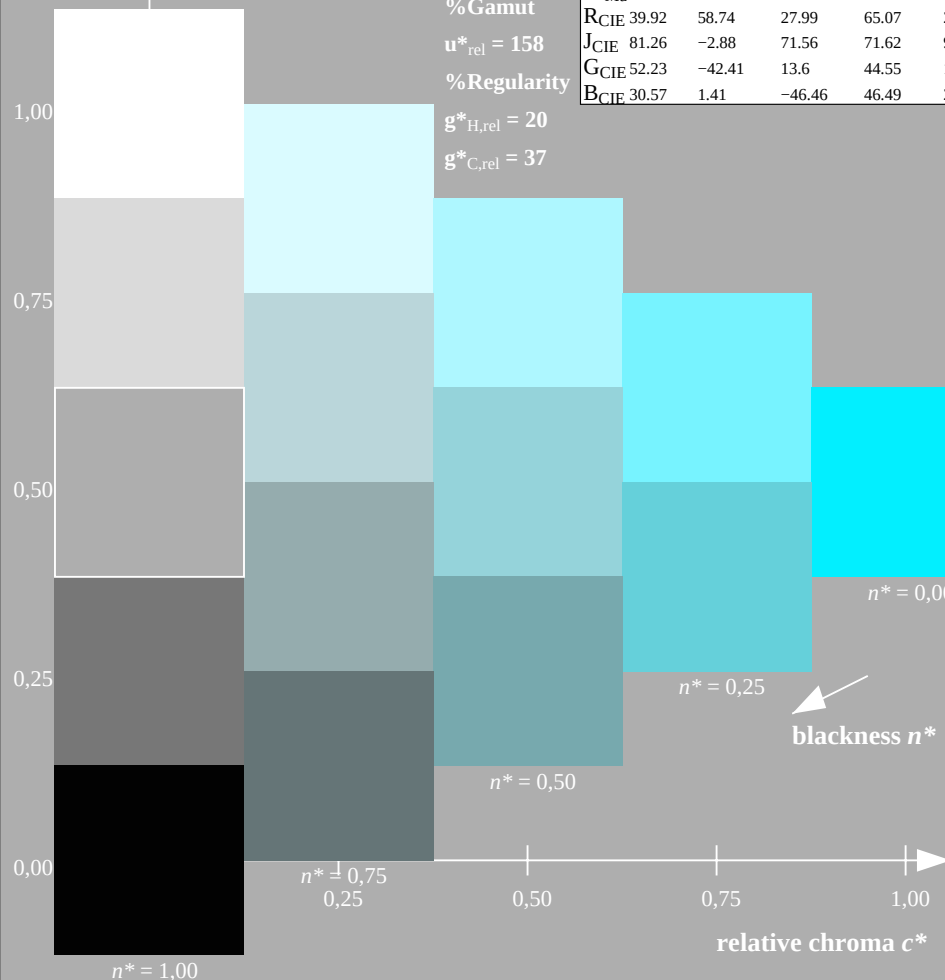
%Regularity

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

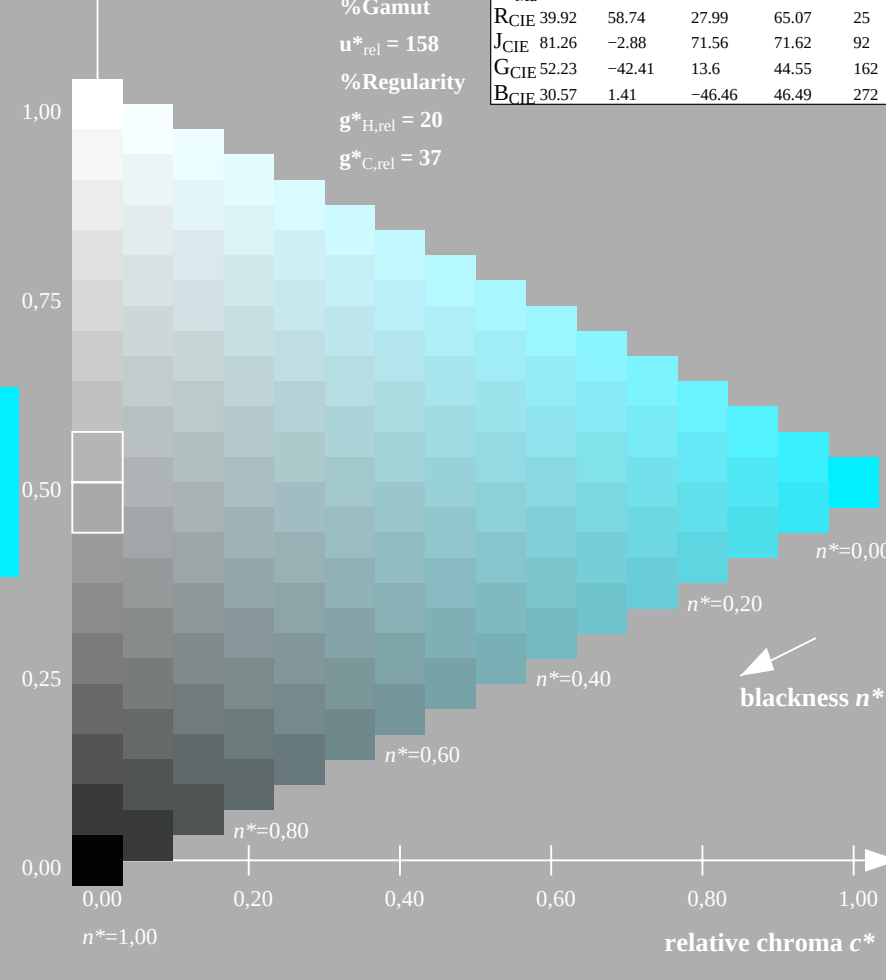
$g^*_{C,rel} = 37$

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



OE820-7N-136-3: 5 step scales for constant CIELAB hue 196/360 = 0.545 (left)



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

OE82: Test chart 1 according to DIN 33872-2, Hue C; 1MR, DEH
Discrimination of 5 and 16 step colour scales

input: $rgb (->rgb^*_{de})$ setrgbcolor
output 136-3: $g_P=0.55; g_N=1.0$

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, CIELAB

TUB registration: 20110801-OE82/OE82L0NA.TXT /.PS
application for output of displays: monitor systems or data projector systems
TUB material: code=th4ta

Input: Colorimetric Television Luminous System TLS00a

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

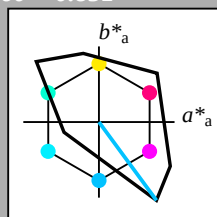
lab^*tch and lab^*nch

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

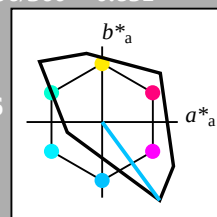
lab^*tch and lab^*nch

D65: hue V

LCH*Ma: 30 129 306

olv*Ma: 0.0 0.0 1.0

triangle lightness t^*



%Gamut

$u^*_{rel} = 158$

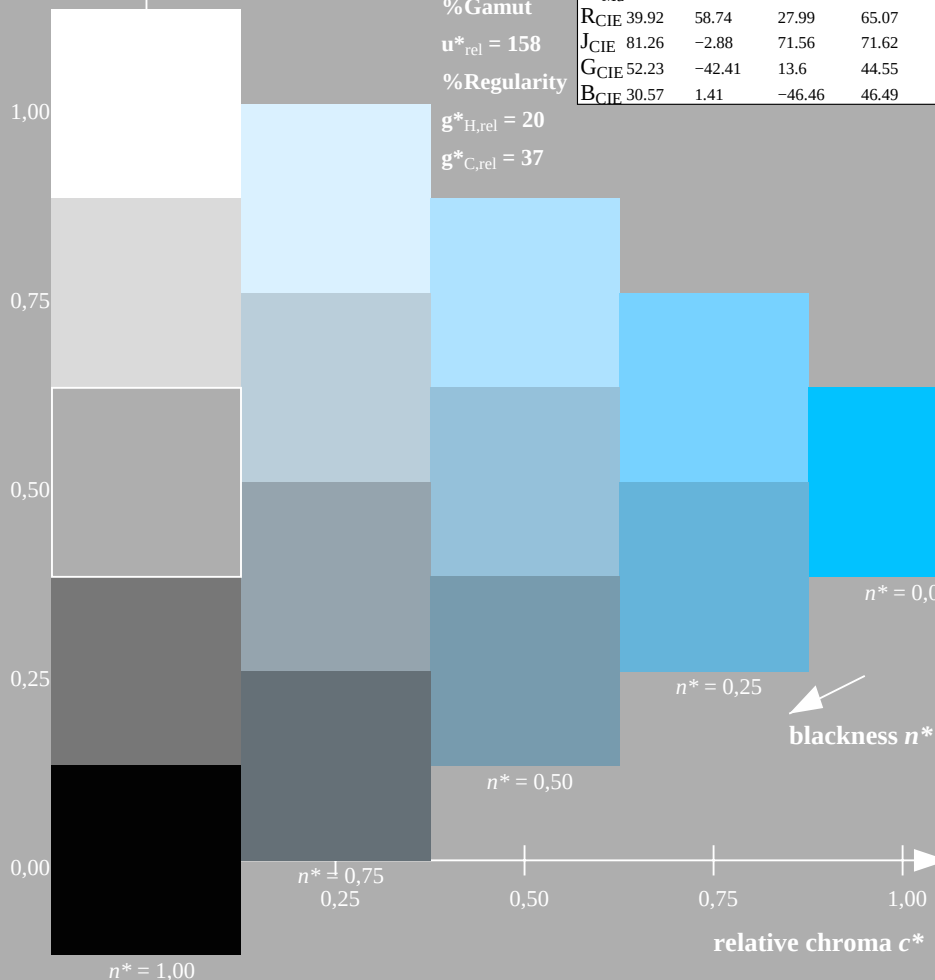
%Regularity

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

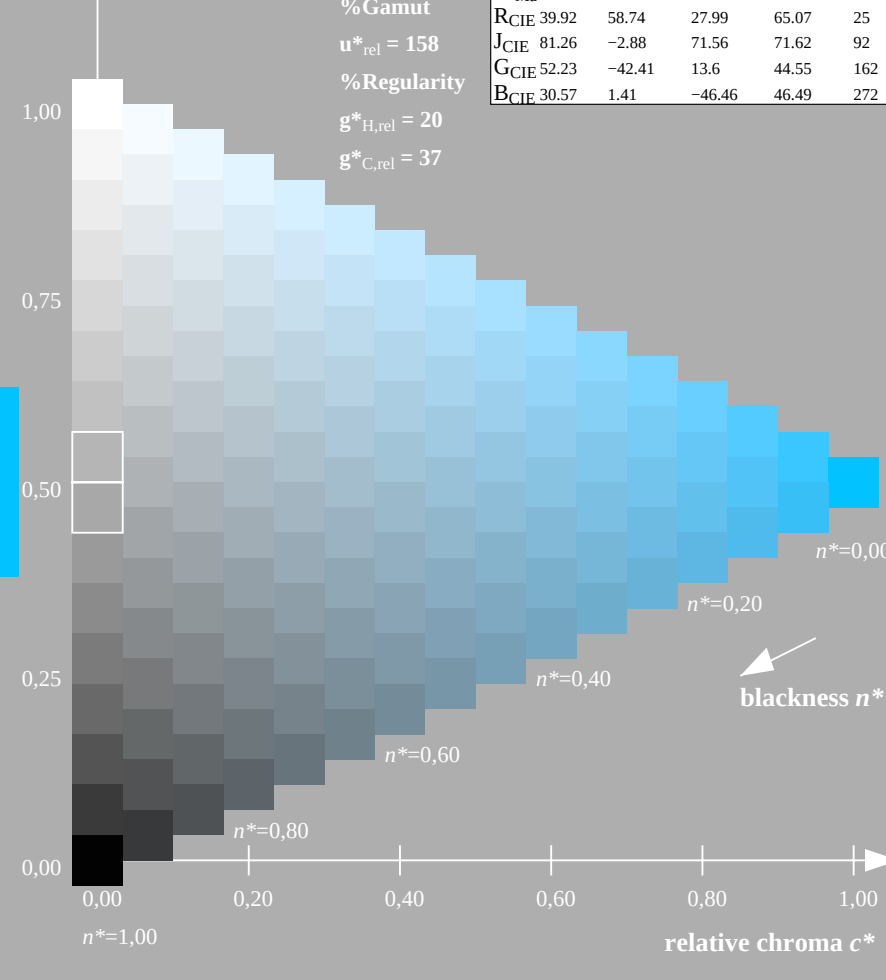
$g^*_{C,rel} = 37$

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
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



OE820-7N-136-4: 5 step scales for constant CIELAB hue 306/360 = 0.851 (left)



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

OE82: Test chart 1 according to DIN 33872-2, Hue V; 1MR, DEH
Discrimination of 5 and 16 step colour scales

input: $rgb (->rgb^*_{de})$ setrgbcolor
output 136-4: $g_P=0.55; g_N=1.0$

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, CIELAB

TUB registration: 20110801-OE82/OE82L0NA.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 $h^* = lab^*h = 328/360 = 0.912$

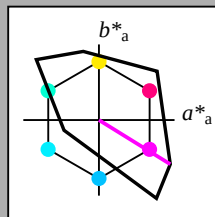
lab^*tch and lab^*nch

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

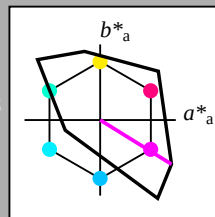
lab^*tch and lab^*nch

D65: hue M

LCH*Ma: 57 111 328

olv*Ma: 1.0 0.0 1.0

triangle lightness t^*



%Gamut

$u^*_{rel} = 158$

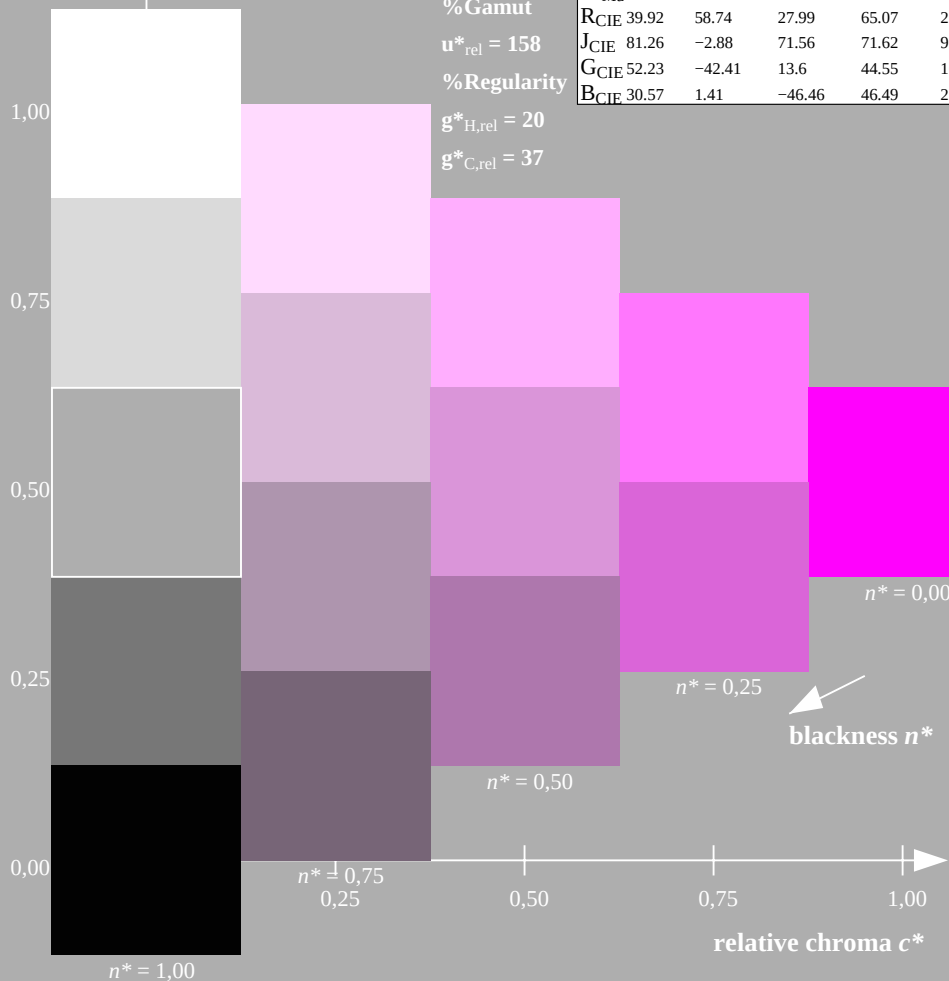
%Regularity

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

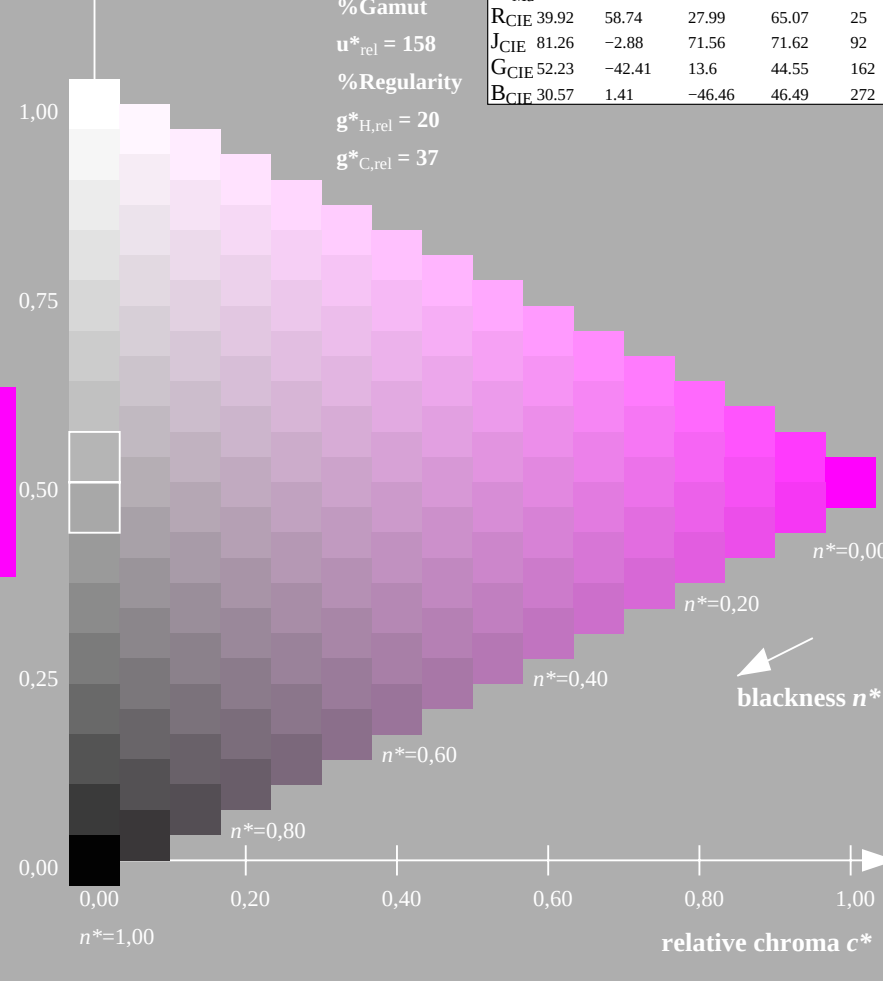
$g^*_{C,rel} = 37$

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



OE820-7N-136-5: 5 step scales for constant CIELAB hue 328/360 = 0.912 (left)



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

OE82: Test chart 1 according to DIN 33872-2, Hue M; 1MR, DEH input: $rgb \rightarrow rgb^*_{de}$ setrgbcolor
Discrimination of 5 and 16 step colour scales output 136-5: $g_P=0.55$; $g_N=1.0$

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, CIELAB

TUB registration: 20110801-OE82/OE82L0NA.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 $h^* = lab^*h = 25/360 = 0.071$

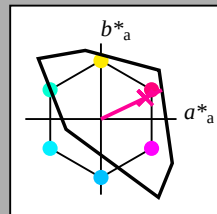
lab^*tch and lab^*nch

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

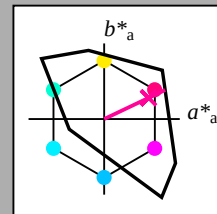
lab^*tch and lab^*nch

D65: hue R

LCH*Ma: 52 89 25

olv*Ma: 1.0 0.0 0.21

triangle lightness t^*



%Gamut

$u^*_{rel} = 158$

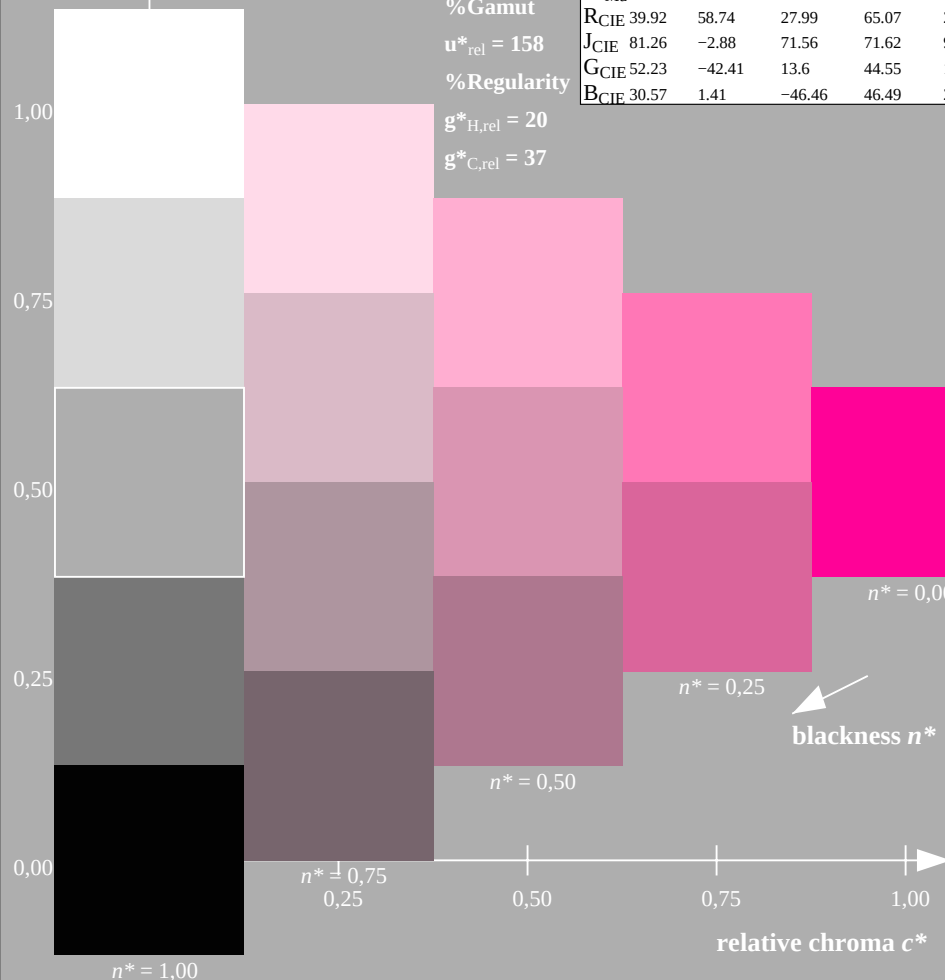
%Regularity

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

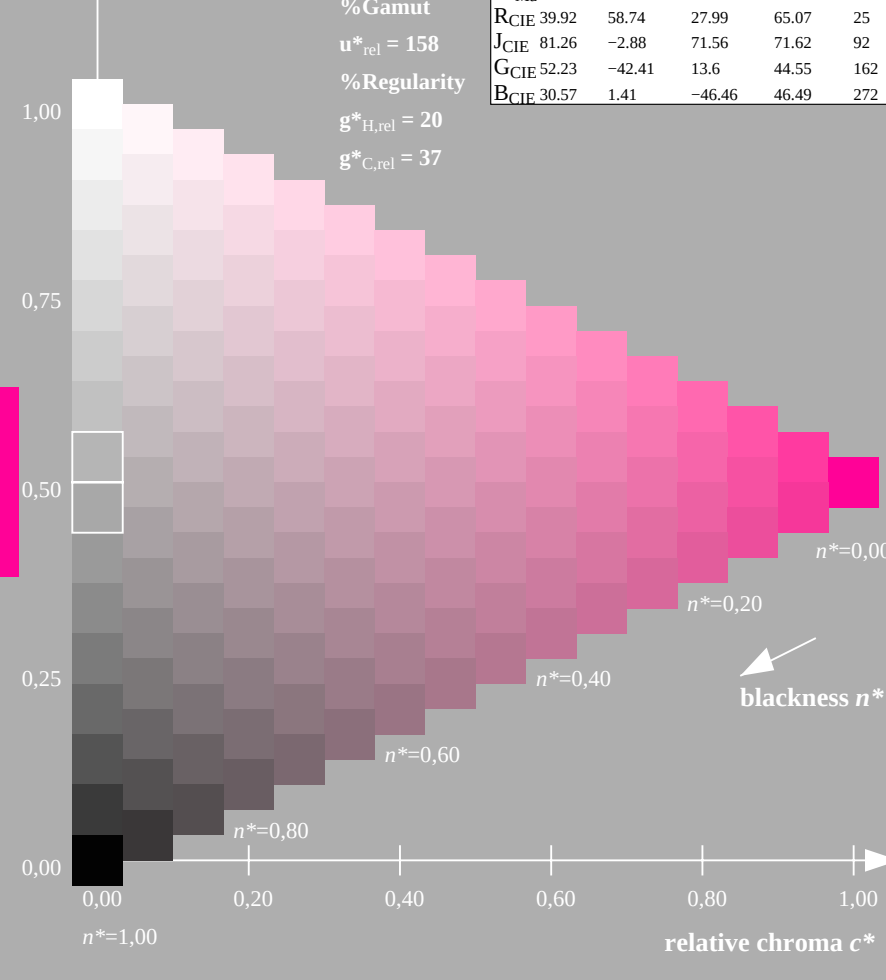
$g^*_{C,rel} = 37$

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



OE820-7N-136-6: 5 step scales for constant CIELAB hue 25/360 = 0.071 (left)



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

OE82: Test chart 1 according to DIN 33872-2, Hue R; 1MR, DEEH input: $rgb \rightarrow rgb^*_{dee}$ setrgbcolo
Discrimination of 5 and 16 step colour scales
output 136-6: $g_P=0.55$; $g_N=1.0$

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, CIELAB

TUB registration: 20110801-OE82/OE82L0NA.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 $h^* = lab^*h = 92/360 = 0.256$

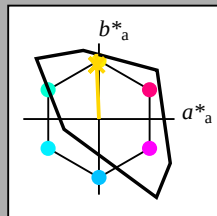
lab^*tch and lab^*nch

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

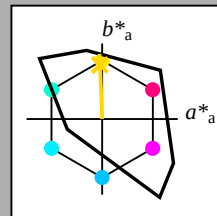
lab^*tch and lab^*nch

D65: hue J

LCH*Ma: 85 86 92

olv*Ma: 1.0 0.82 0.0

triangle lightness t^*



%Gamut

$u^*_{rel} = 158$

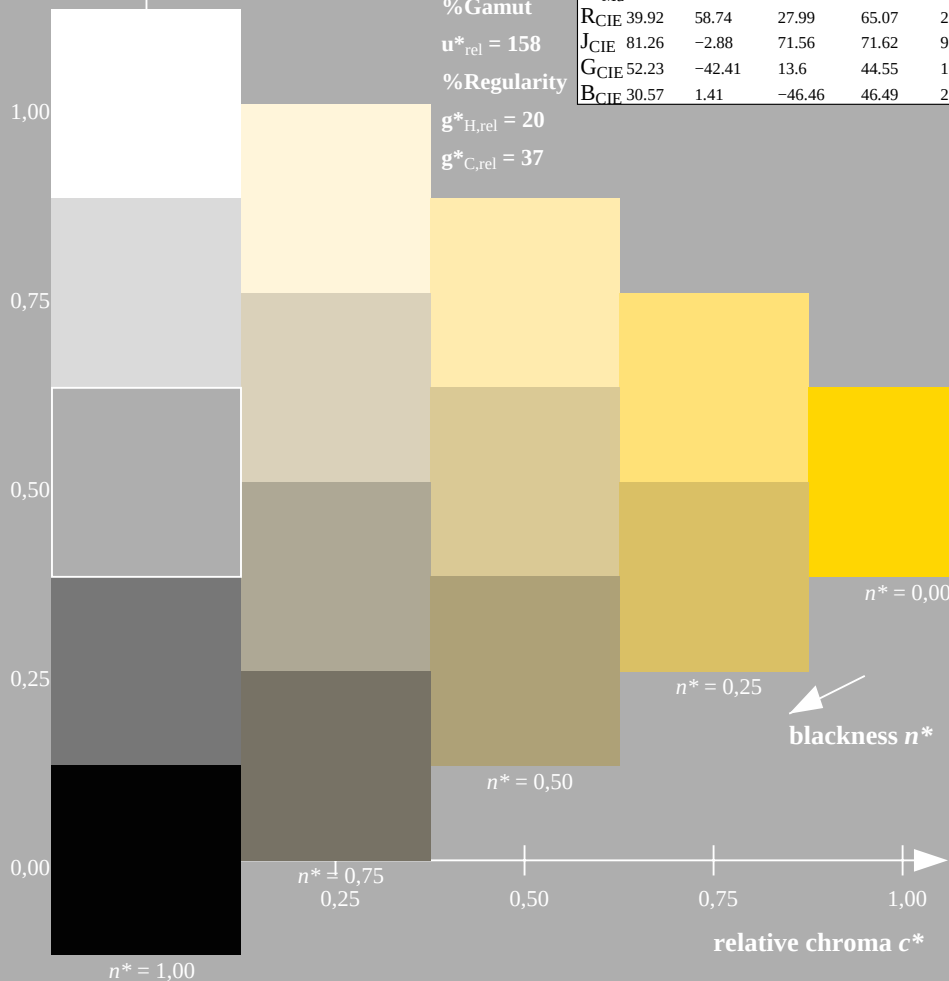
%Regularity

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

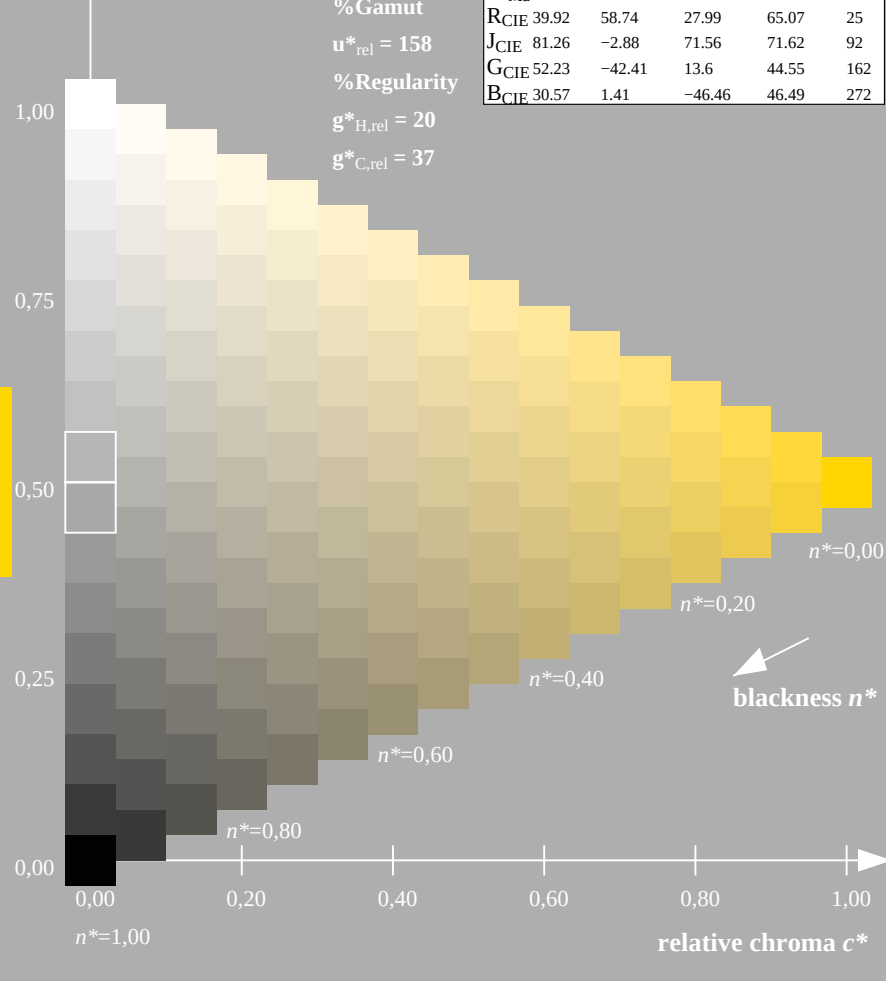
$g^*_{C,rel} = 37$

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



OE820-7N-136-7: 5 step scales for constant CIELAB hue 92/360 = 0.256 (left)



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

OE82: Test chart 1 according to DIN 33872-2, Hue J; 1MR, DEEH input: $rgb \rightarrow rgb^*_{dee}$ setrgbcolo
Discrimination of 5 and 16 step colour scales output 136-7: $g_P=0.55$; $g_N=1.0$

TUB registration: 20110801-OE82/OE82L0NA.TXT /.PS
application for output of displays: monitor systems or data projector systems

TUB material: code=tha4ta

Input: Colorimetric Television Luminous System TLS00a

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

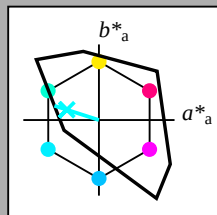
lab^*tch and lab^*nch

D65: hue G

LCH*Ma: 86 62 162

ol v^* 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 $h^* = lab^*h = 162/360 = 0.451$

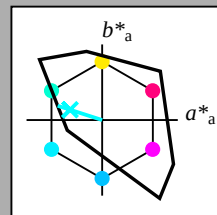
lab^*tch and lab^*nch

D65: hue G

LCH*Ma: 86 62 162

ol v^* Ma: 0.0 1.0 0.65

triangle lightness t^*



%Gamut

$u^*_{rel} = 158$

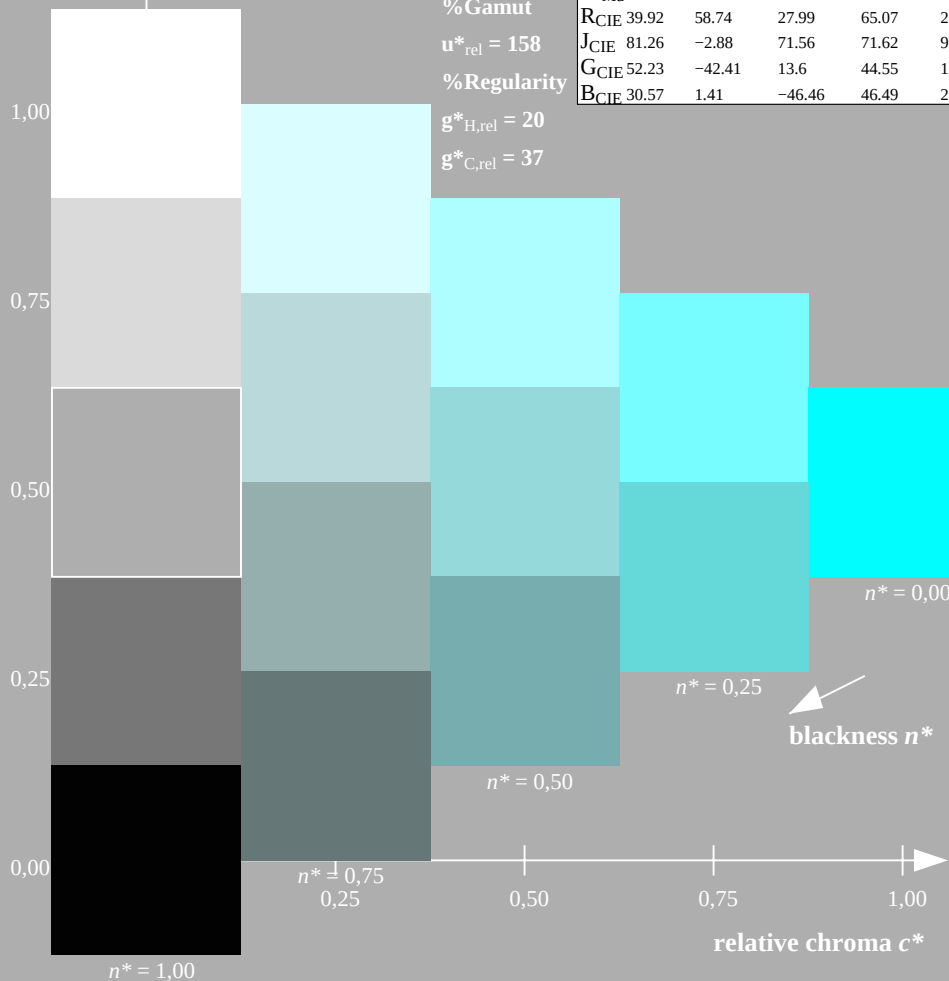
%Regularity

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

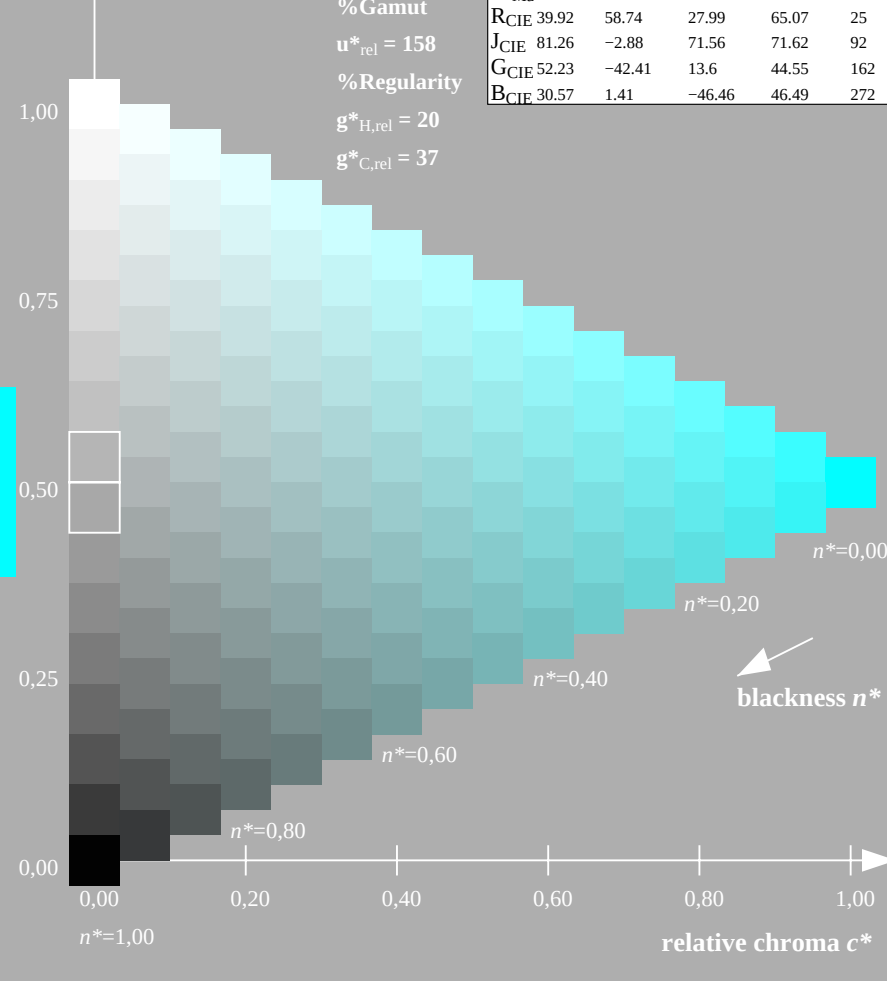
$g^*_{C,rel} = 37$

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



OE820-7N-136-8: 5 step scales for constant CIELAB hue 162/360 = 0.451 (left)



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

OE82: Test chart 1 according to DIN 33872-2, Hue G; 1MR, DEEH input: $rgb \rightarrow rgb^*_{dee}$ setrgbcolo
Discrimination of 5 and 16 step colour scales
output 136-8: $g_P=0.55$; $g_N=1.0$

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, CIELAB

TUB registration: 20110801-OE82/OE82L0NA.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 $h^* = lab^*h = 272/360 = 0.755$

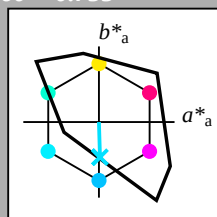
lab^*tch and lab^*nch

D65: hue B

LCH*Ma: 65 49 272

ol v^* 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 $h^* = lab^*h = 272/360 = 0.755$

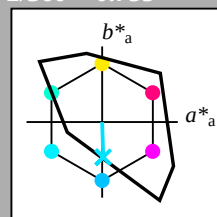
lab^*tch and lab^*nch

D65: hue B

LCH*Ma: 65 49 272

ol v^* Ma: 0.0 0.61 1.0

triangle lightness t^*



%Gamut

$u^*_{rel} = 158$

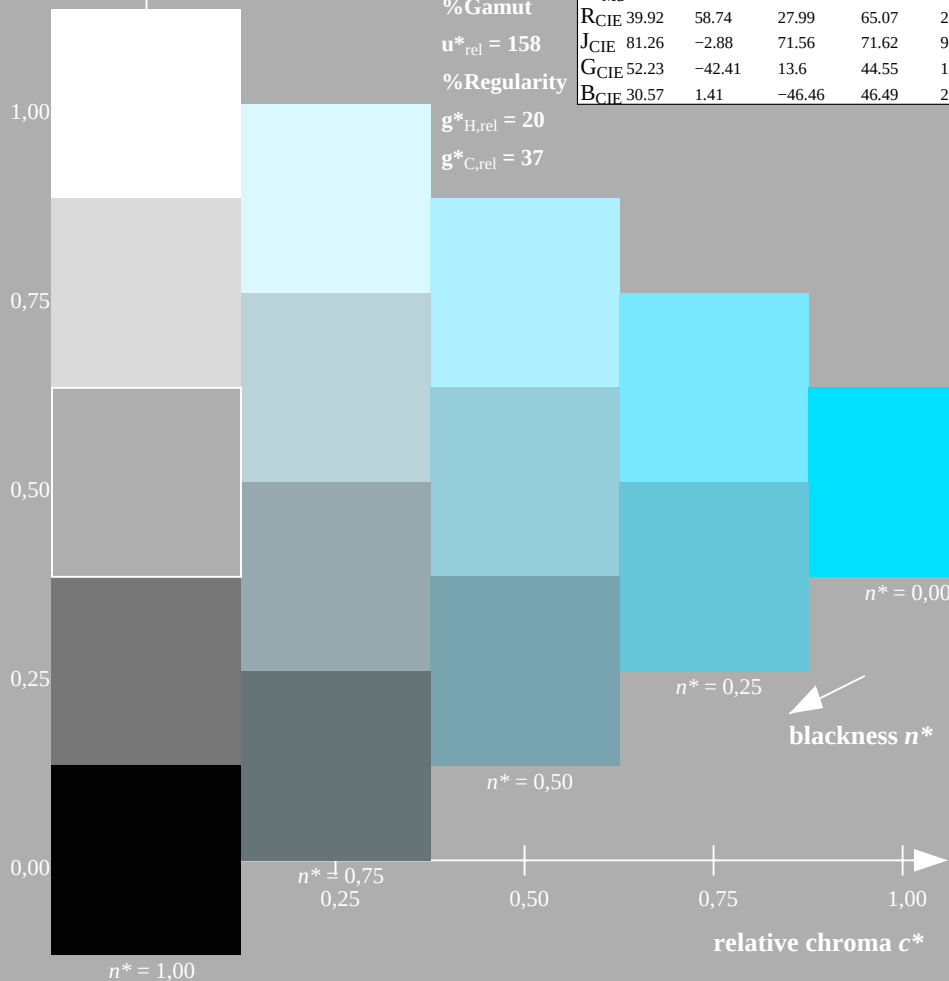
%Regularity

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

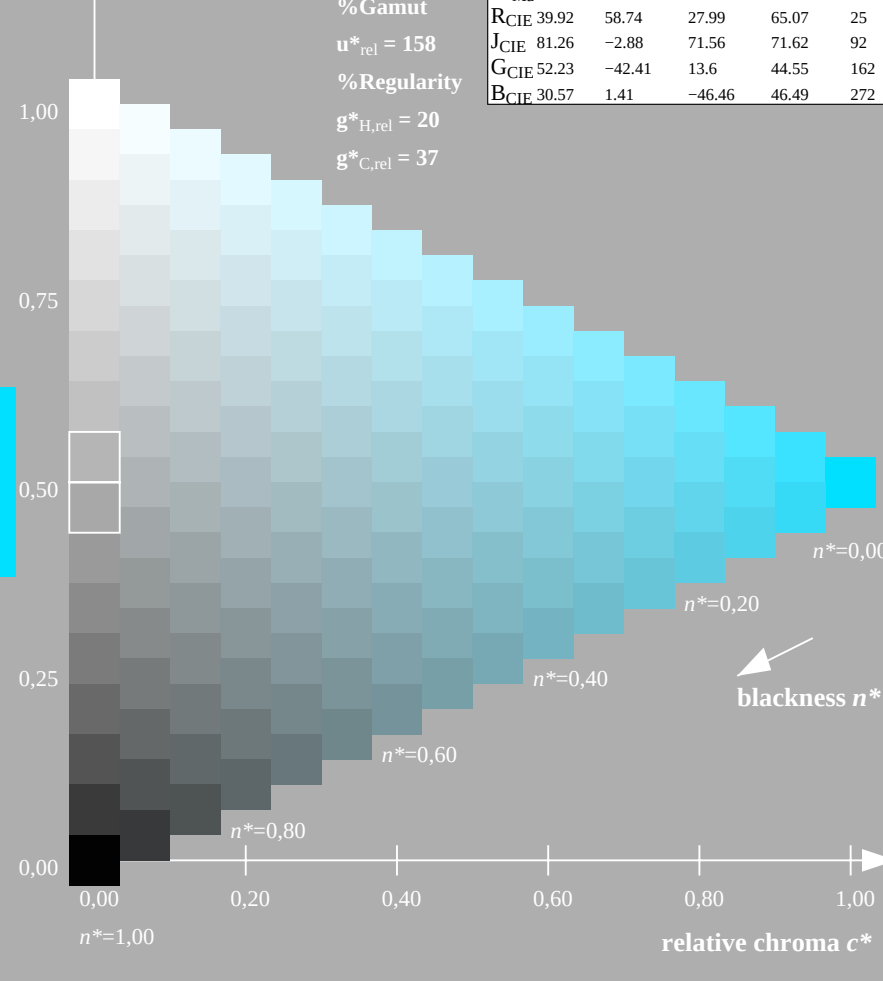
$g^*_{C,rel} = 37$

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



OE820-7N-136-9: 5 step scales for constant CIELAB hue 272/360 = 0.755 (left)



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

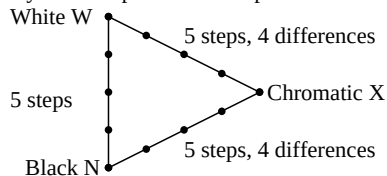
OE82: Test chart 1 according to DIN 33872-2, Hue B; 1MR, DEEH input: $rgb \rightarrow rgb^*_{dee}$ setrgbcolo
Discrimination of 5 and 16 step colour scales
output 136-9: $g_P=0.55$; $g_N=1.0$

TUB registration: 20110801-OE82/OE82L0NA.TXT /.PS
application for output of displays: monitor systems or data projector systems

TUB material: code=th4ta

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

OE820-3N-136-10

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

PDF-File: <http://130.149.60.45/farbmetrik/OE82/OE82L0NP.PDF> underline Yes/No

PS-File: <http://130.149.60.45/farbmetrik/OE82/OE82L0NA.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 OE82L0NP.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 OE82L0NA.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)

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.....
.....

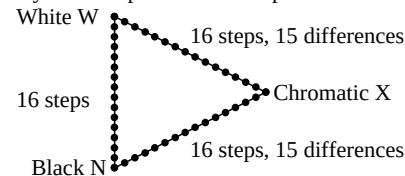
Part 3

OE820-7N-136-10

OE82: Form A for test chart 1 according to DIN 33872-2; 1MR, DEH
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

OE821-3N-136-10

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/OE82/OE82F1P2.PDF>

underline Yes/No

PS file: <http://130.149.60.45/farbmetrik/OE82/OE82F1P2.PS>

underline Yes/No

Picture A7-136-2: contrast range: (>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/OE82/OE82F1P2.PDF>

picture A7-136-2

underline Yes/No

PS-File: <http://130.149.60.45/farbmetrik/OE82/OE82F1P2.PS>

picture A7-136-2

or underline Yes/No

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

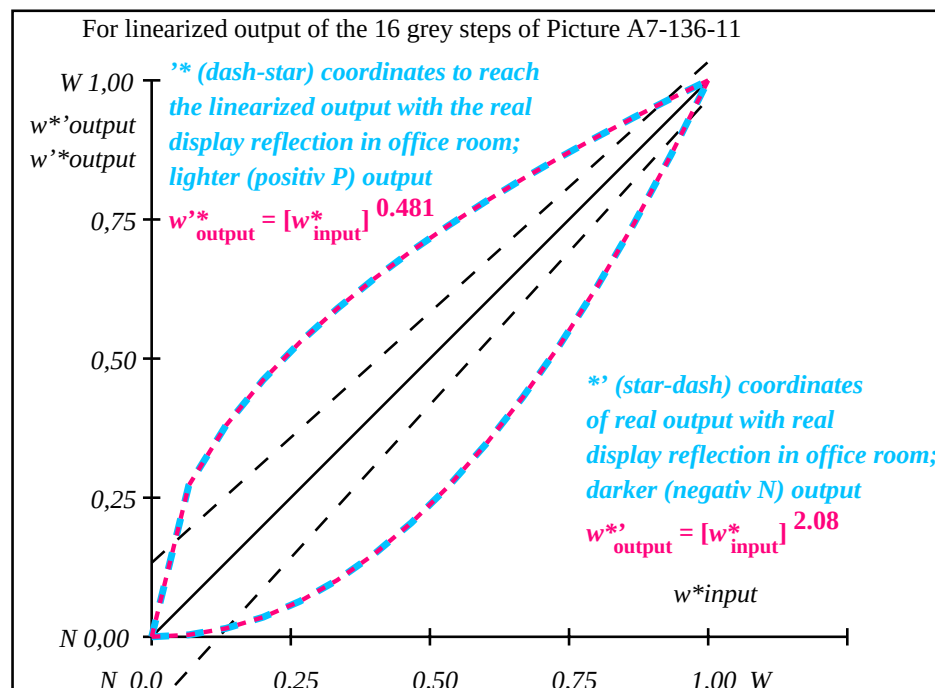
OE821-7N-136-10

Input: $rgb \rightarrow rgb_{de}$ setrgbcolor
output 136-10: $g_P=0.55$; $g_N=1.0$

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, CIELAB

i	LAB*ref	l*out	LAB*out	LAB*out/c-ref	ΔE*
1	52.02 0.0 0.0	0.0 52.02 0.0	0.0 0.0 0.0	0.0 0.0 0.0	0.01
2	54.91 0.0 0.0	0.27 63.82 0.0	0.0 0.0 0.0	8.91 0.0 0.0	8.91
3	57.8 0.0 0.0	0.38 68.49 0.0	0.0 0.0 0.0	10.69 0.0 0.0	10.69
4	60.7 0.0 0.0	0.46 72.03 0.0	0.0 0.0 0.0	11.34 0.0 0.0	11.34
5	63.59 0.0 0.0	0.53 75.0 0.0	0.0 0.0 0.0	11.41 0.0 0.0	11.41
6	66.48 0.0 0.0	0.59 77.61 0.0	0.0 0.0 0.0	11.12 0.0 0.0	11.12
7	69.37 0.0 0.0	0.64 79.95 0.0	0.0 0.0 0.0	10.57 0.0 0.0	10.57
8	72.27 0.0 0.0	0.69 82.1 0.0	0.0 0.0 0.0	9.83 0.0 0.0	9.83
9	75.16 0.0 0.0	0.74 84.09 0.0	0.0 0.0 0.0	8.93 0.0 0.0	8.93
10	78.05 0.0 0.0	0.78 85.96 0.0	0.0 0.0 0.0	7.91 0.0 0.0	7.91
11	80.95 0.0 0.0	0.82 87.72 0.0	0.0 0.0 0.0	6.78 0.0 0.0	6.78
12	83.84 0.0 0.0	0.86 89.4 0.0	0.0 0.0 0.0	5.56 0.0 0.0	5.56
13	86.73 0.0 0.0	0.9 91.0 0.0	0.0 0.0 0.0	4.26 0.0 0.0	4.26
14	89.62 0.0 0.0	0.93 92.53 0.0	0.0 0.0 0.0	2.9 0.0 0.0	2.9
15	92.52 0.0 0.0	0.97 93.99 0.0	0.0 0.0 0.0	1.48 0.0 0.0	1.48
16	95.41 0.0 0.0	1.0 95.41 0.0	0.0 0.0 0.0	0.0 0.0 0.0	0.01
17	52.02 0.0 0.0	0.0 52.02 0.0	0.0 0.0 0.0	0.0 0.0 0.0	0.01
18	62.87 0.0 0.0	0.51 74.3 0.0	0.0 0.0 0.0	11.43 0.0 0.0	11.43
19	73.71 0.0 0.0	0.72 83.11 0.0	0.0 0.0 0.0	9.4 0.0 0.0	9.4
20	84.56 0.0 0.0	0.87 89.81 0.0	0.0 0.0 0.0	5.24 0.0 0.0	5.24
21	95.41 0.0 0.0	1.0 95.41 0.0	0.0 0.0 0.0	0.0 0.0 0.0	0.01
Mean lightness difference (16 steps)					ΔE* _{CIELAB} = 7.0
Mean lightness difference (5 steps)					ΔL* _{CIELAB} = 5.2
Mean colour reproduction index:					R* _{ab,m} = 70

OE820-3N-136-11: File: Measure unknown; Device: Device unknown; Date: Date unknown



OE821-3N-136-11: File: Measure unknown; Device: Device unknown; Date: Date unknown

L^*/Y_{intended} (absolute)	52.0/20.2	54.9/22.8	57.8/25.8	60.7/28.9	63.6/32.3	66.5/36.0	69.4/39.9	72.3/44.1	75.2/48.5	78.1/53.3	80.9/58.4	83.8/63.8	86.7/69.5	89.6/75.5	92.5/81.9	95.4/88.6
$w^* w^* w^*$ setrgb	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)	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^*_{intended}	0.0	0.273	0.379	0.461	0.53	0.589	0.644	0.693	0.739	0.782	0.823	0.861	0.898	0.934	0.967	1.0

OE820-7N, Picture A7-136-11: 16 visual equidistant L^* -grey steps; PS operator: $w^* w^* w^*$ setrgbcolor

OE82: In-output relation according to ISO 9241-306; 1MR, DEH
Viewing Y contrast $Y_W:Y_N=88,9:20$; Y_N range 15 to <30

input: $rgb \rightarrow rgb^*_{de}$ setrgbcolor
output 136-11: $g_P=0.55$; $g_N=1.0$

TUB registration: 20110801-OE82/OE82L0NA.TXT /.PS
application for output of displays: monitor systems or data projector systems
TUB material: code=rh4ta

Input: Colorimetric Television Luminous System TLS00a

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

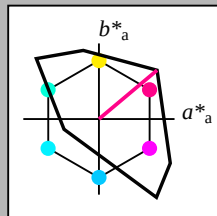
lab^*tch and lab^*nch

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

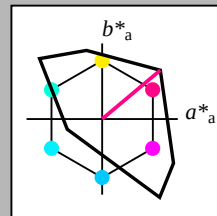
lab^*tch and lab^*nch

D65: hue O

LCH*Ma: 51 100 40

olv*Ma: 1.0 0.0 0.0

triangle lightness t^*



%Gamut

$u^*_{rel} = 158$

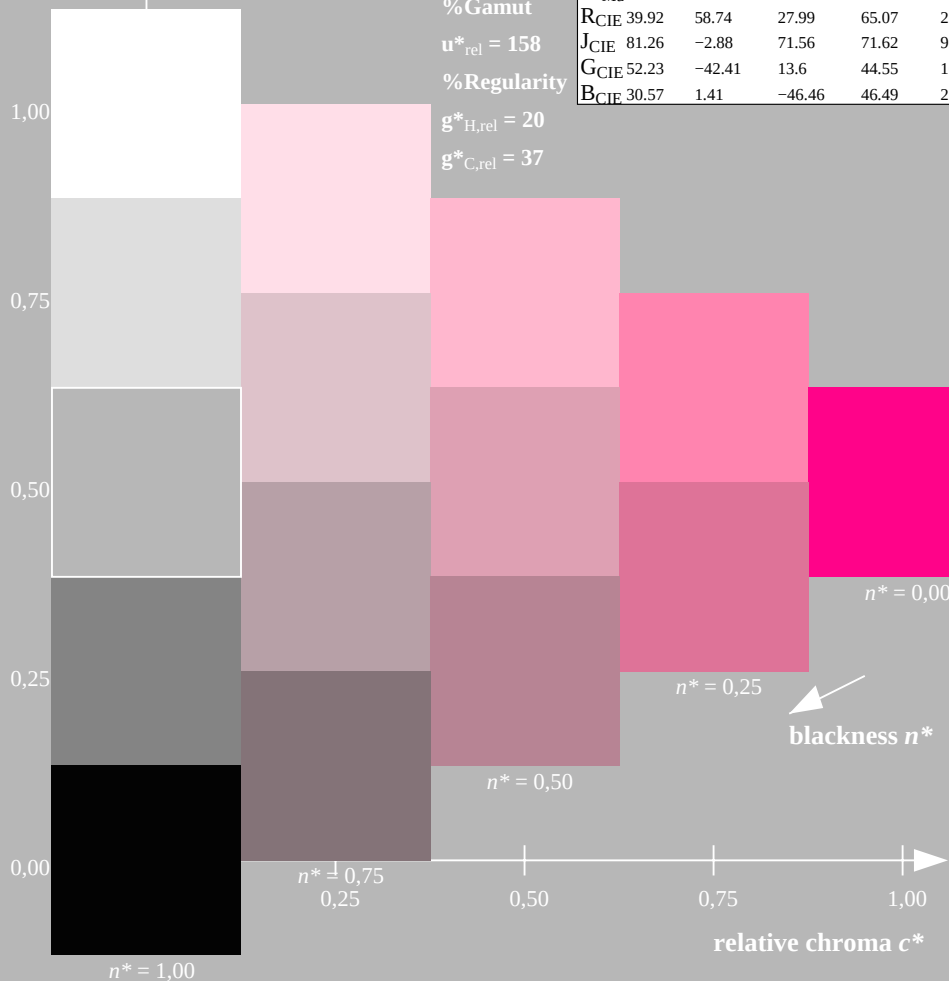
%Regularity

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

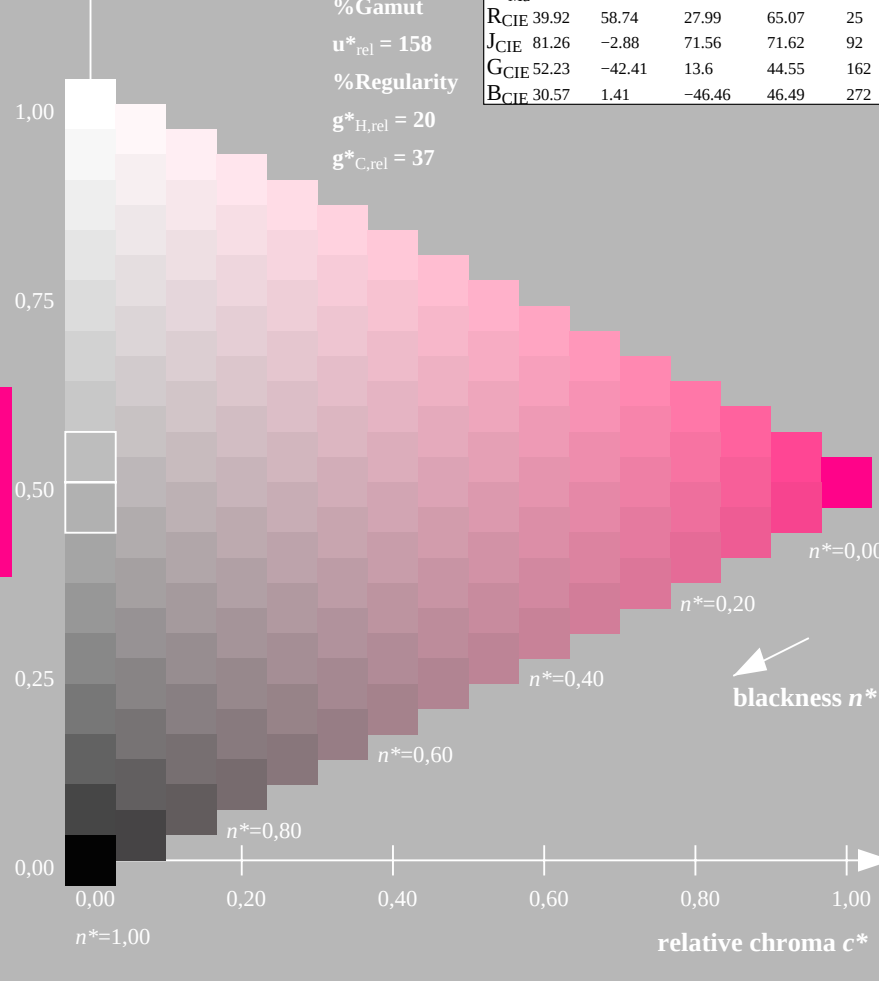
$g^*_{C,rel} = 37$

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



OE820-7N-137-0: 5 step scales for constant CIELAB hue 40/360 = 0.111 (left)



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

OE82: Test chart 1 according to DIN 33872-2, Hue O; 1MR, DEH
Discrimination of 5 and 16 step colour scales

input: $rgb \rightarrow rgb^*_{de}$ setrgbcolor
output 137-0: $g_P=0.47$; $g_N=1.0$

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, CIELAB

TUB registration: 20110801-OE82/OE82L0NA.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 $h^* = lab^*h = 103/360 = 0.286$

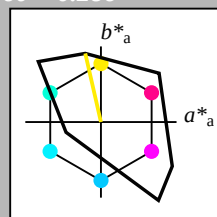
lab^*tch and lab^*nch

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

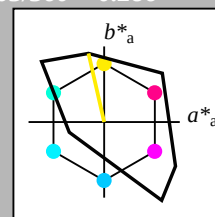
lab^*tch and lab^*nch

D65: hue Y

LCH*Ma: 93 93 103

olv*Ma: 1.0 1.0 0.0

triangle lightness t^*



%Gamut

$u^*_{rel} = 158$

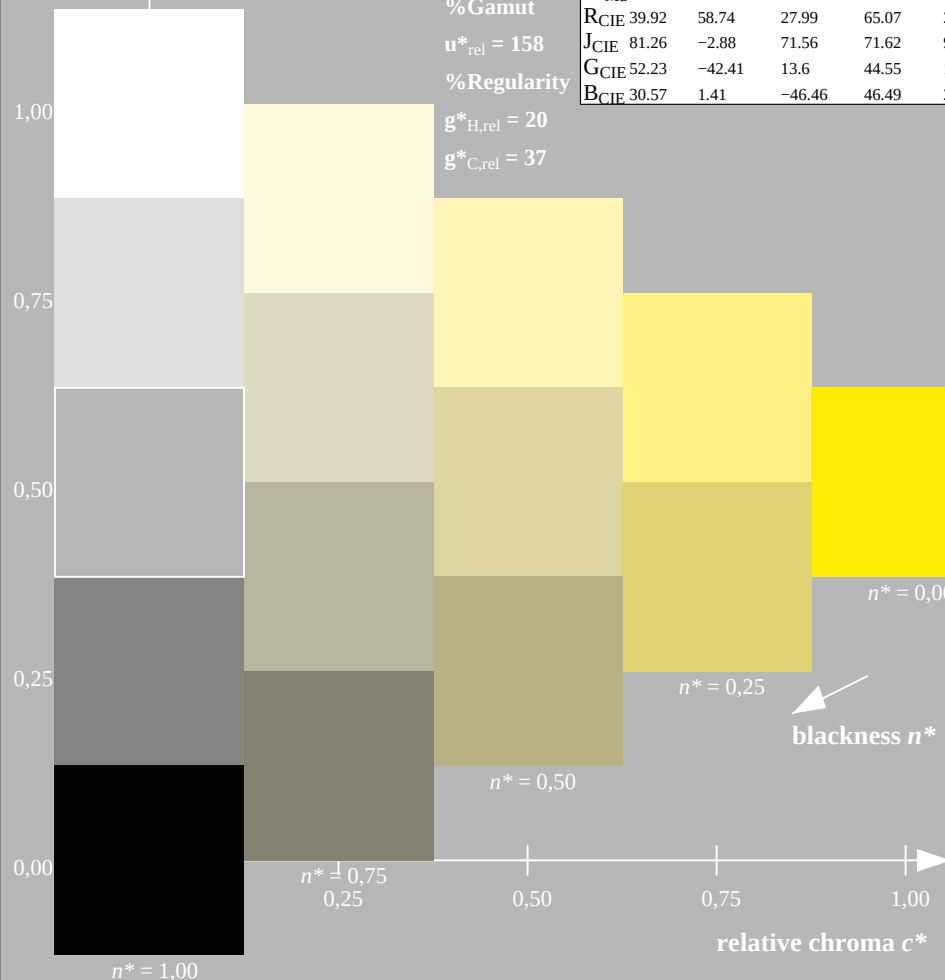
%Regularity

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

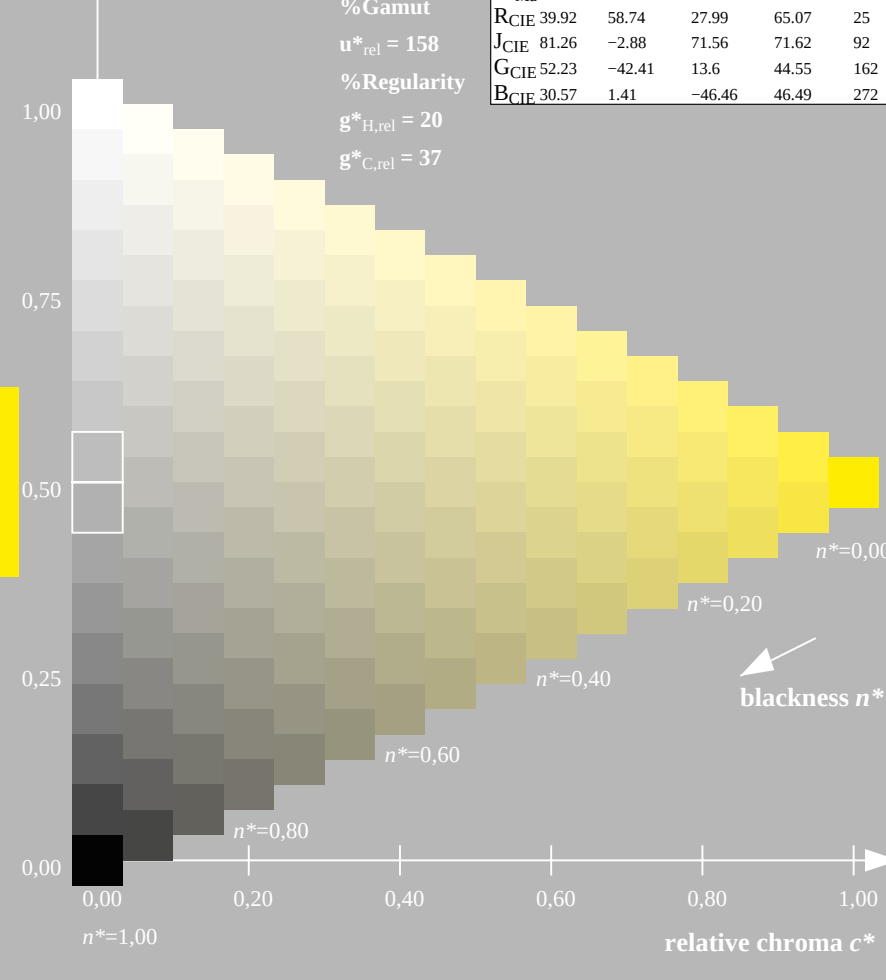
$g^*_{C,rel} = 37$

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
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



OE820-7N-137-1: 5 step scales for constant CIE LAB hue 103/360 = 0.286 (left)



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

OE82: Test chart 1 according to DIN 33872-2, Hue Y; 1MR, DEH
Discrimination of 5 and 16 step colour scales

input: $rgb \rightarrow rgb^*_{de}$ setrgbcolor
output 137-1: $g_P=0.47$; $g_N=1.0$

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, CIELAB

TUB registration: 20110801-OE82/OE82L0NA.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 $h^* = lab^*h = 136/360 = 0.378$

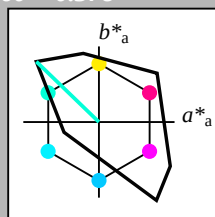
lab^*tch and lab^*nch

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

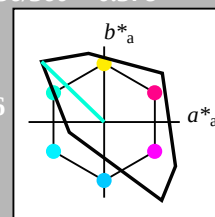
lab^*tch and lab^*nch

D65: hue L

LCH*Ma: 84 115 136

olv*Ma: 0.0 1.0 0.0

triangle lightness t^*



%Gamut

$u^*_{rel} = 158$

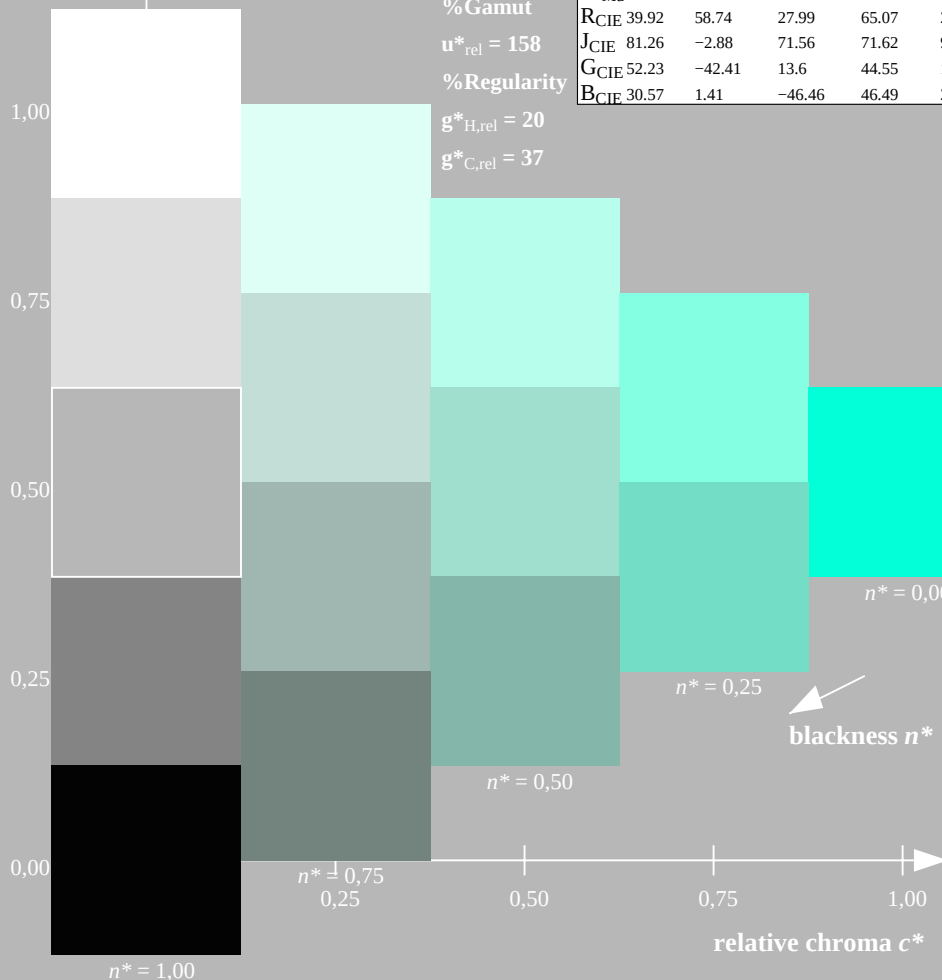
%Regularity

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

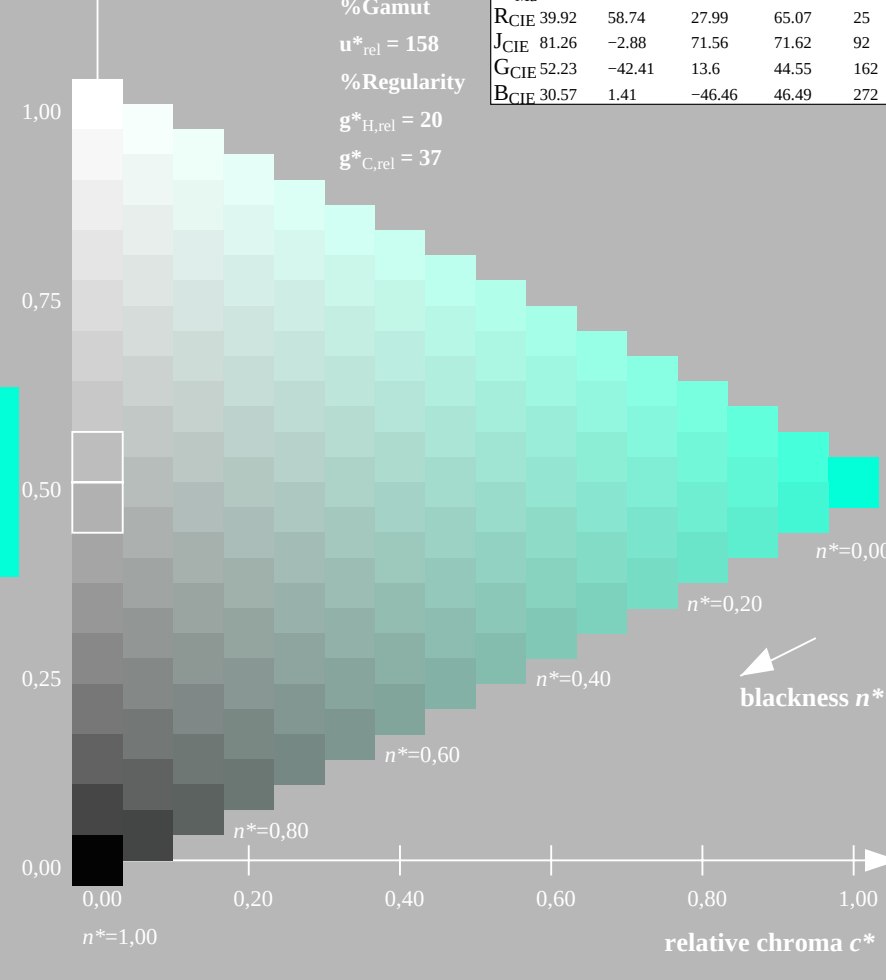
$g^*_{C,rel} = 37$

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



OE820-7N-137-2: 5 step scales for constant CIELAB hue 136/360 = 0.378 (left)



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

OE82: Test chart 1 according to DIN 33872-2, Hue L; 1MR, DEH
Discrimination of 5 and 16 step colour scales

input: rgb ($\rightarrow rgb^*_{de}$) $setrgbcolor$
output 137-2: $g_P=0.47$; $g_N=1.0$

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, CIELAB

TUB registration: 20110801-OE82/OE82L0NA.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 $h^* = lab^*h = 196/360 = 0.545$

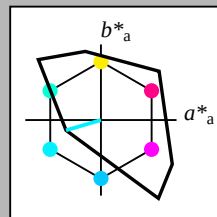
lab^*tch and lab^*nch

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

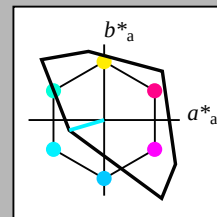
lab^*tch and lab^*nch

D65: hue C

LCH*Ma: 87 48 196

olv*Ma: 0.0 1.0 1.0

triangle lightness t^*



%Gamut

$u^*_{rel} = 158$

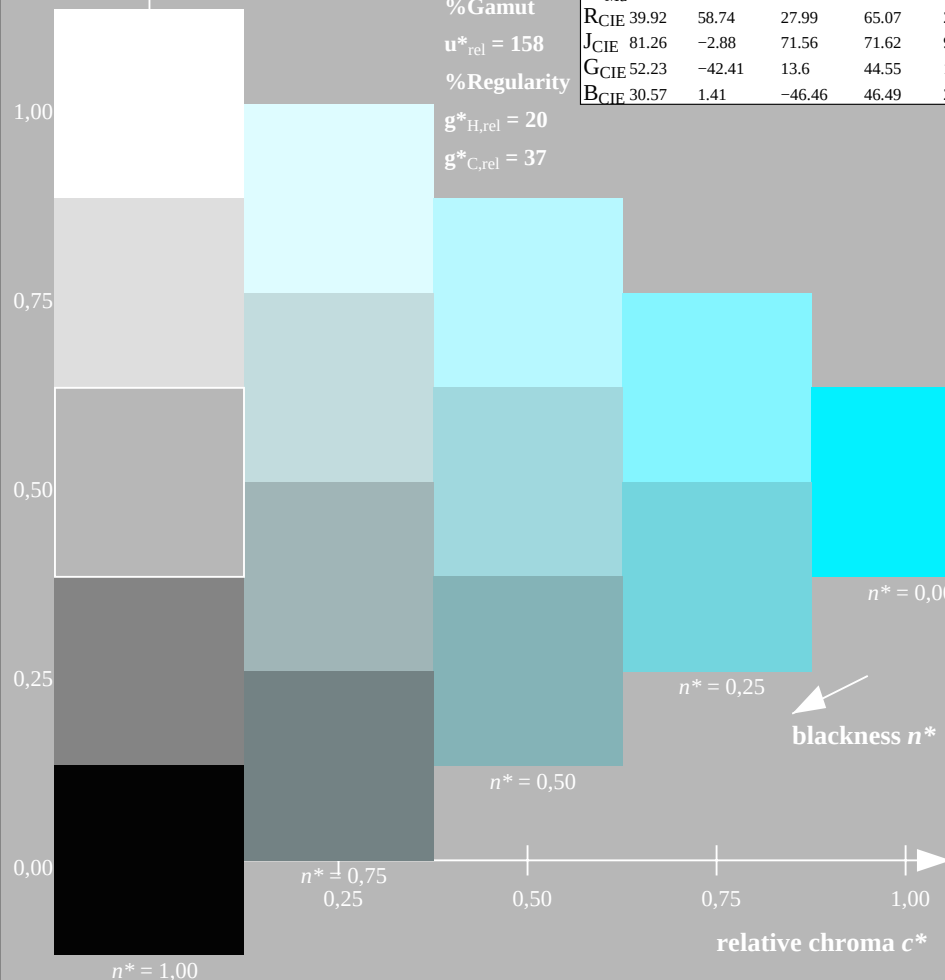
%Regularity

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

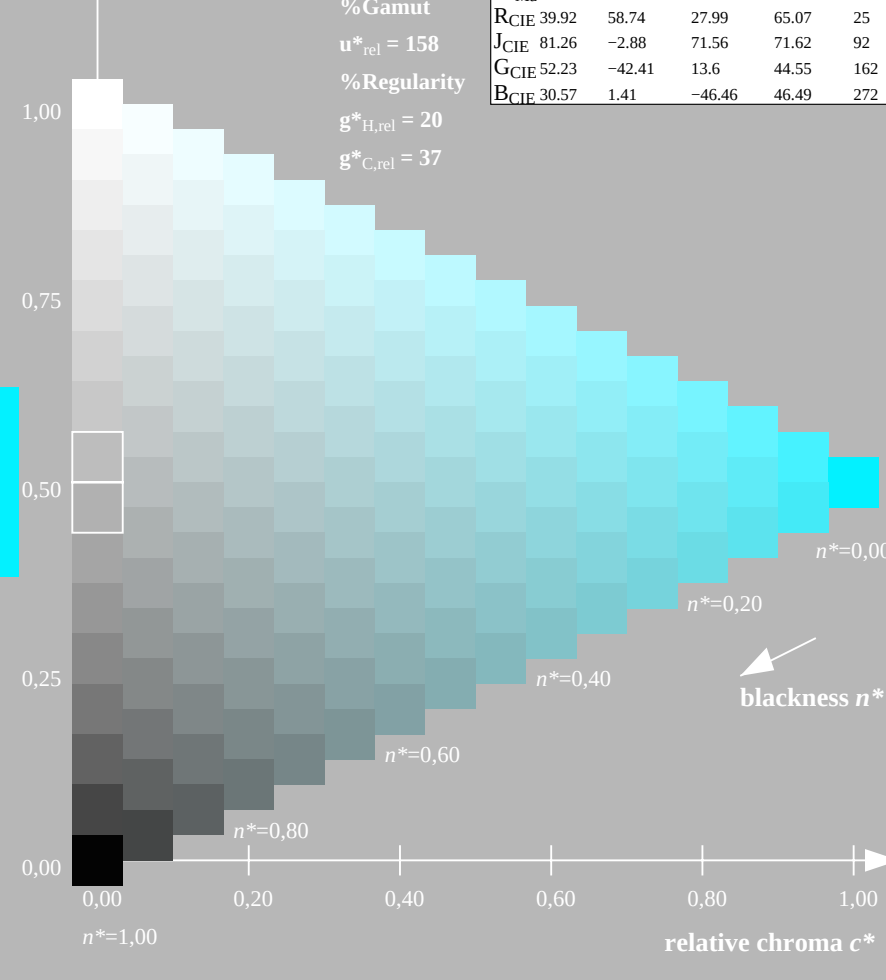
$g^*_{C,rel} = 37$

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



OE820-7N-137-3: 5 step scales for constant CIELAB hue 196/360 = 0.545 (left)



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

OE82: Test chart 1 according to DIN 33872-2, Hue C; 1MR, DEH
Discrimination of 5 and 16 step colour scales

input: $rgb \rightarrow rgb^*_{de}$ setrgbcolor
output 137-3: $g_P=0.47$; $g_N=1.0$

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, CIELAB

TUB registration: 20110801-OE82/OE82L0NA.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 $h^* = lab^*h = 306/360 = 0.851$

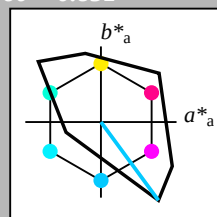
lab^*tch and lab^*nch

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

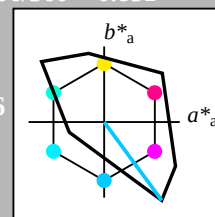
lab^*tch and lab^*nch

D65: hue V

LCH*Ma: 30 129 306

olv*Ma: 0.0 0.0 1.0

triangle lightness t^*



%Gamut

$u^*_{rel} = 158$

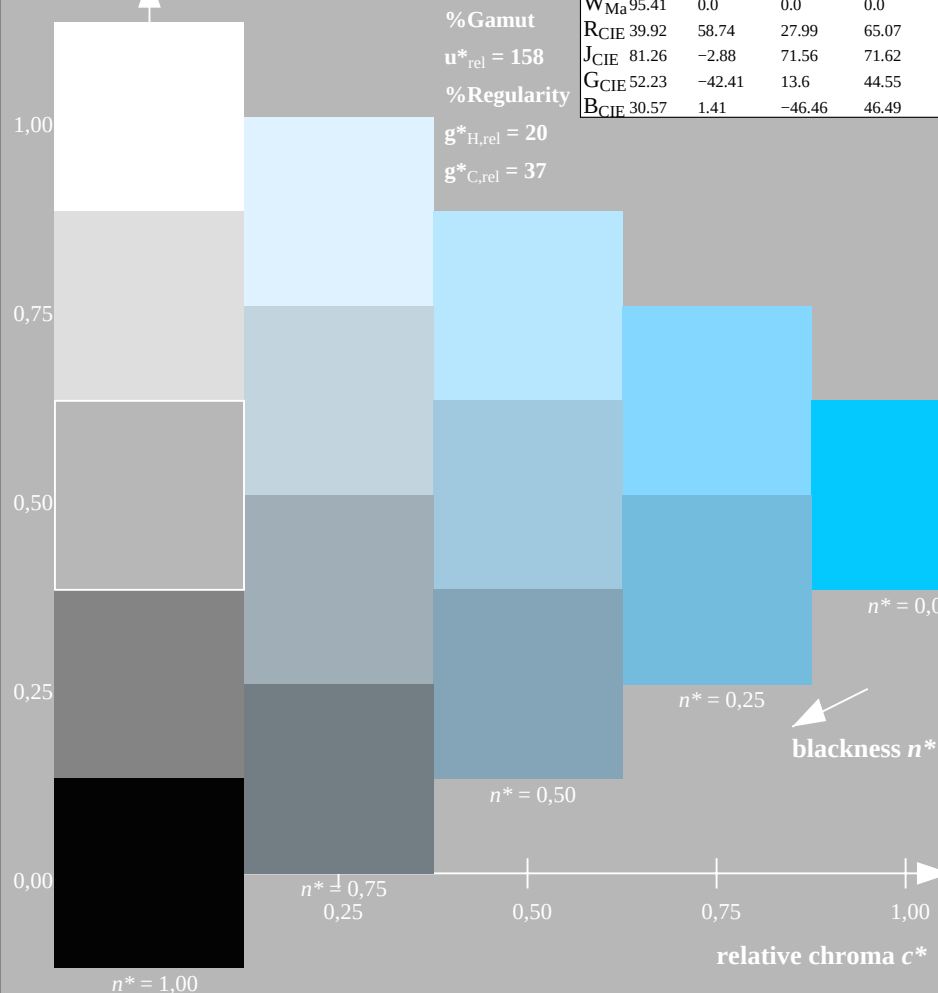
%Regularity

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

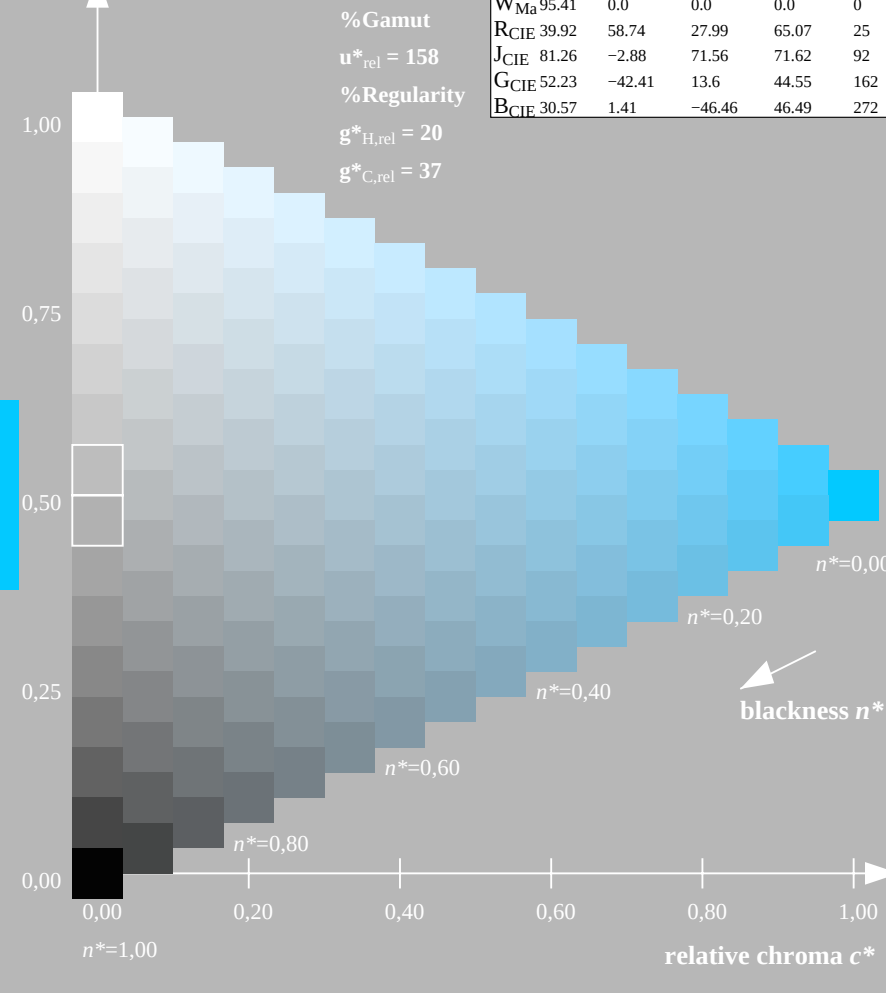
$g^*_{C,rel} = 37$

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
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



OE820-7N-137-4: 5 step scales for constant CIELAB hue 306/360 = 0.851 (left)



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

OE82: Test chart 1 according to DIN 33872-2, Hue V; 1MR, DEH
Discrimination of 5 and 16 step colour scales

input: $rgb (->rgb^*_{de})$ setrgbcolor
output 137-4: $g_P=0.47$; $g_N=1.0$

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, CIELAB

TUB registration: 20110801-OE82/OE82L0NA.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 $h^* = lab^*h = 328/360 = 0.912$

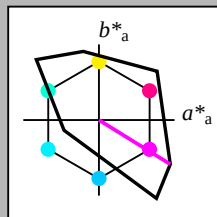
lab^*tch and lab^*nch

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

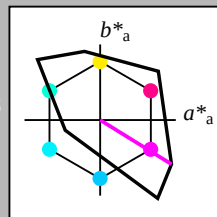
lab^*tch and lab^*nch

D65: hue M

LCH*Ma: 57 111 328

olv*Ma: 1.0 0.0 1.0

triangle lightness t^*



%Gamut

$u^*_{rel} = 158$

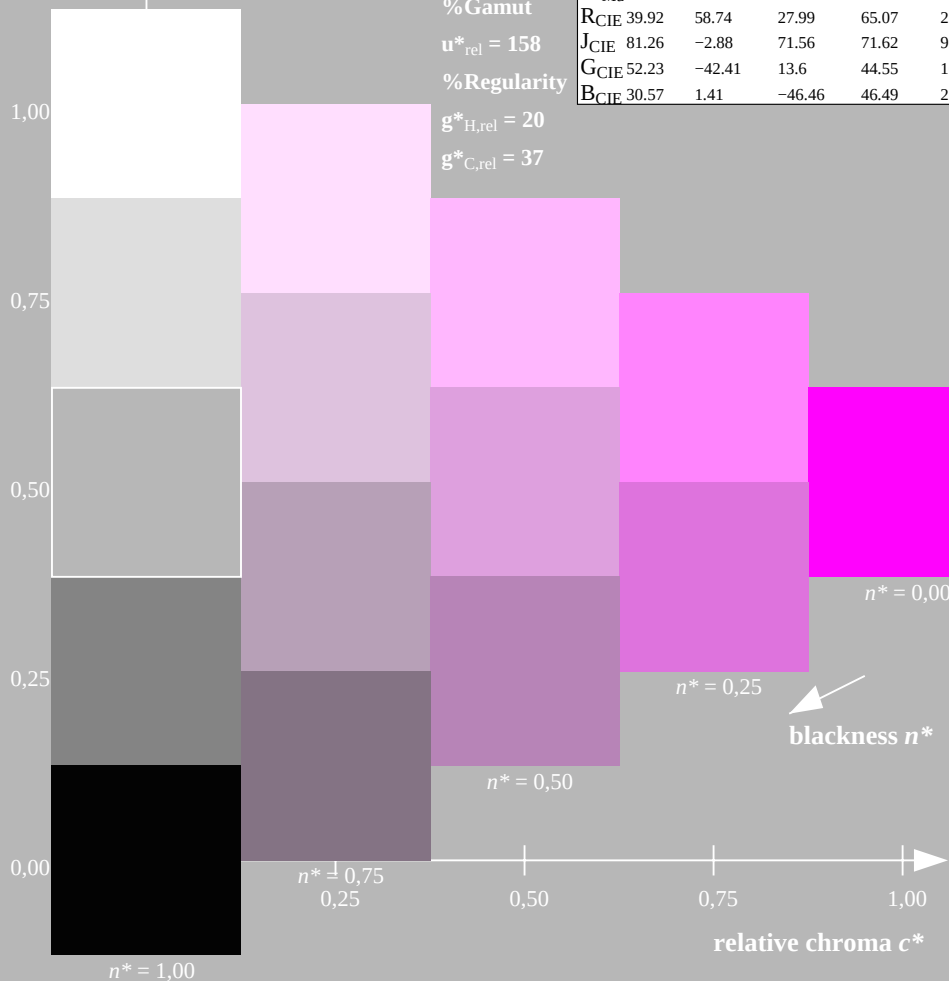
%Regularity

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

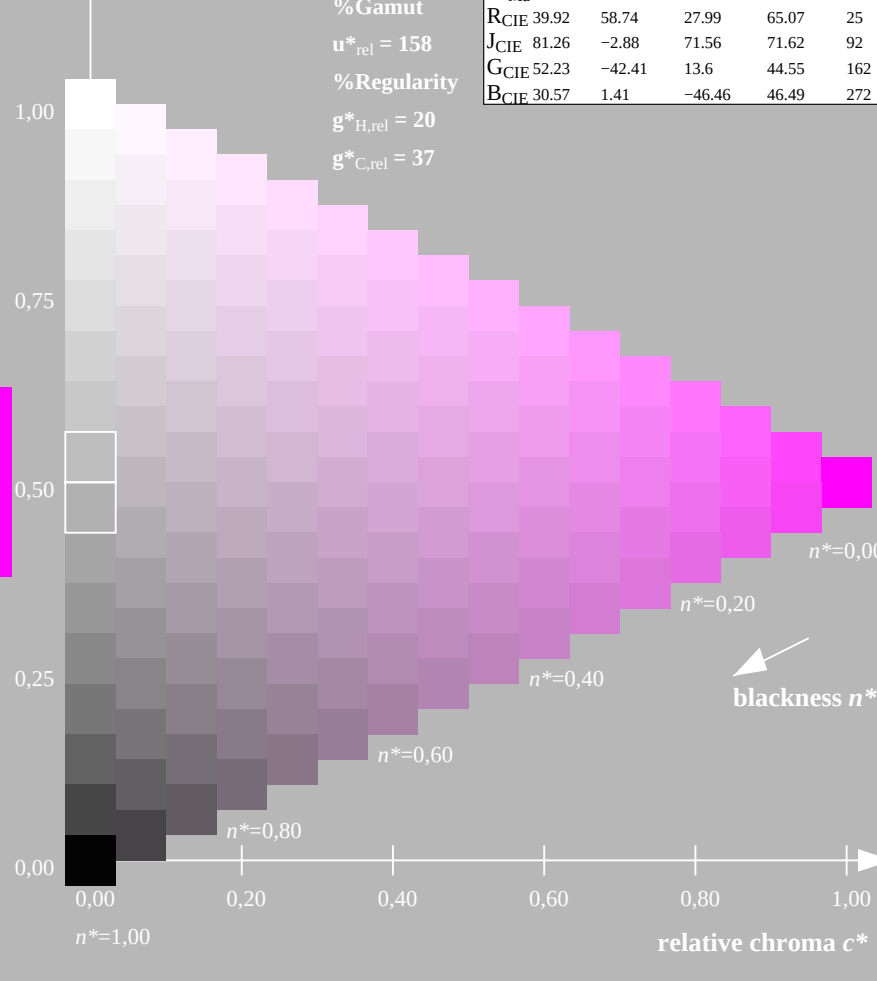
$g^*_{C,rel} = 37$

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



OE820-7N-137-5: 5 step scales for constant CIELAB hue 328/360 = 0.912 (left)



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

OE82: Test chart 1 according to DIN 33872-2, Hue M; 1MR, DEH input: $rgb \rightarrow rgb^*_{de}$ setrgbcolor
Discrimination of 5 and 16 step colour scales output 137-5: $g_P=0.47$; $g_N=1.0$

Input: Colorimetric Television Luminous System TLS00a

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

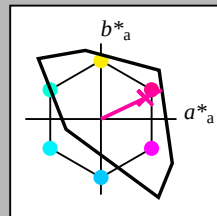
lab^*tch and lab^*nch

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

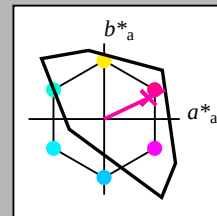
lab^*tch and lab^*nch

D65: hue R

LCH*Ma: 52 89 25

olv*Ma: 1.0 0.0 0.21

triangle lightness t^*



%Gamut

$u^*_{rel} = 158$

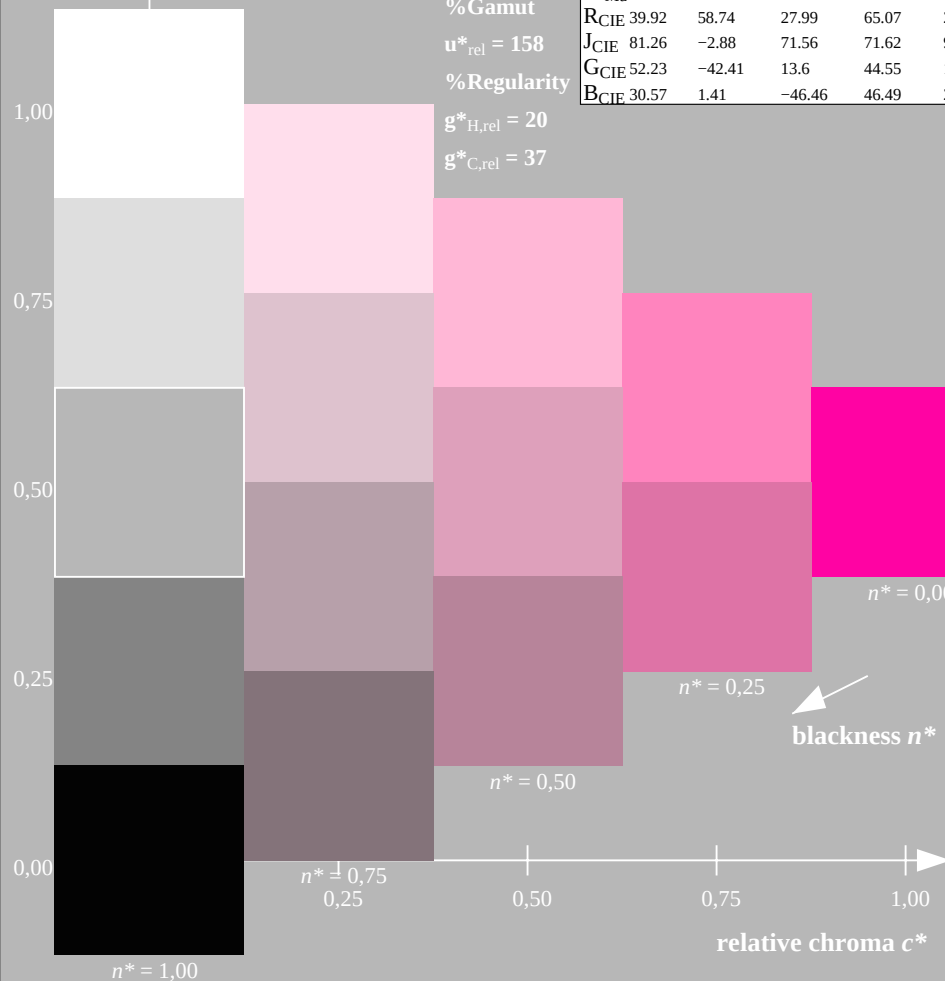
%Regularity

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

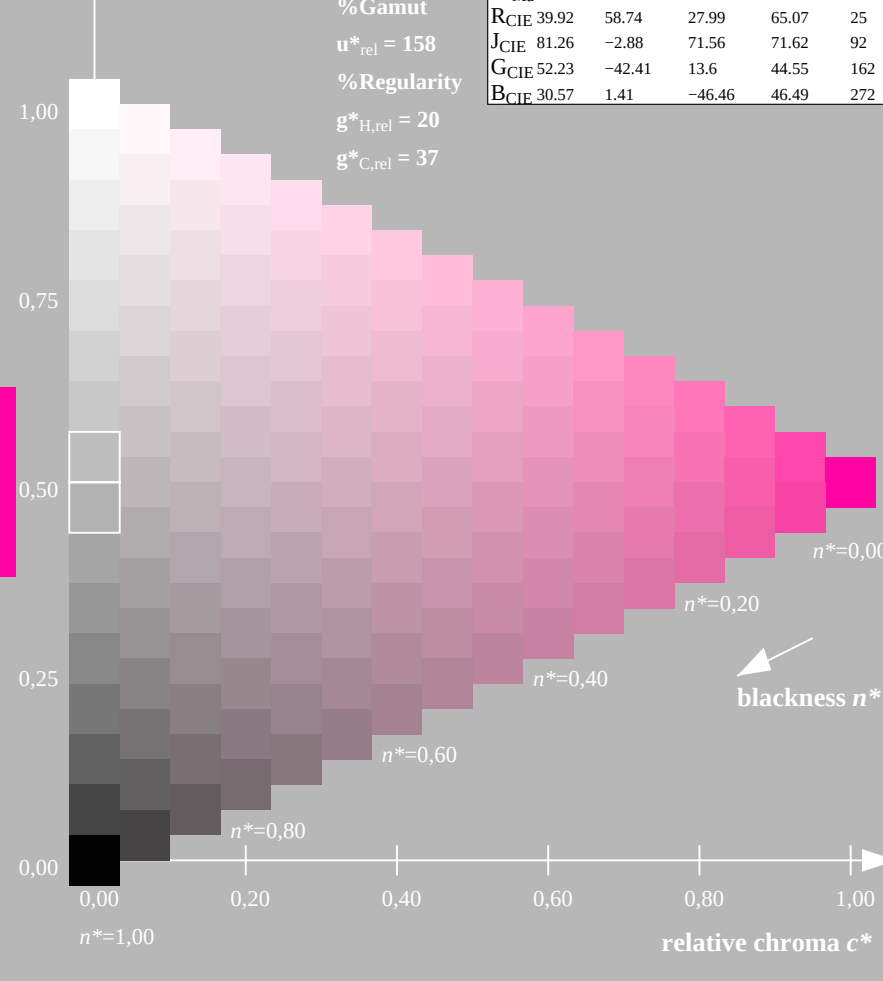
$g^*_{C,rel} = 37$

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



OE820-7N-137-6: 5 step scales for constant CIELAB hue 25/360 = 0.071 (left)



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

OE82: Test chart 1 according to DIN 33872-2, Hue R; 1MR, DEEH input: $rgb \rightarrow rgb^*_{dee}$ setrgbcolo
Discrimination of 5 and 16 step colour scales
output 137-6: $g_P=0.47$; $g_N=1.0$

Input: Colorimetric Television Luminous System TLS00a

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

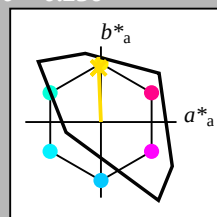
lab^*tch and lab^*nch

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

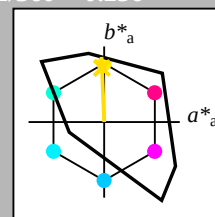
lab^*tch and lab^*nch

D65: hue J

LCH*Ma: 85 86 92

olv*Ma: 1.0 0.82 0.0

triangle lightness t^*



%Gamut

$u^*_{rel} = 158$

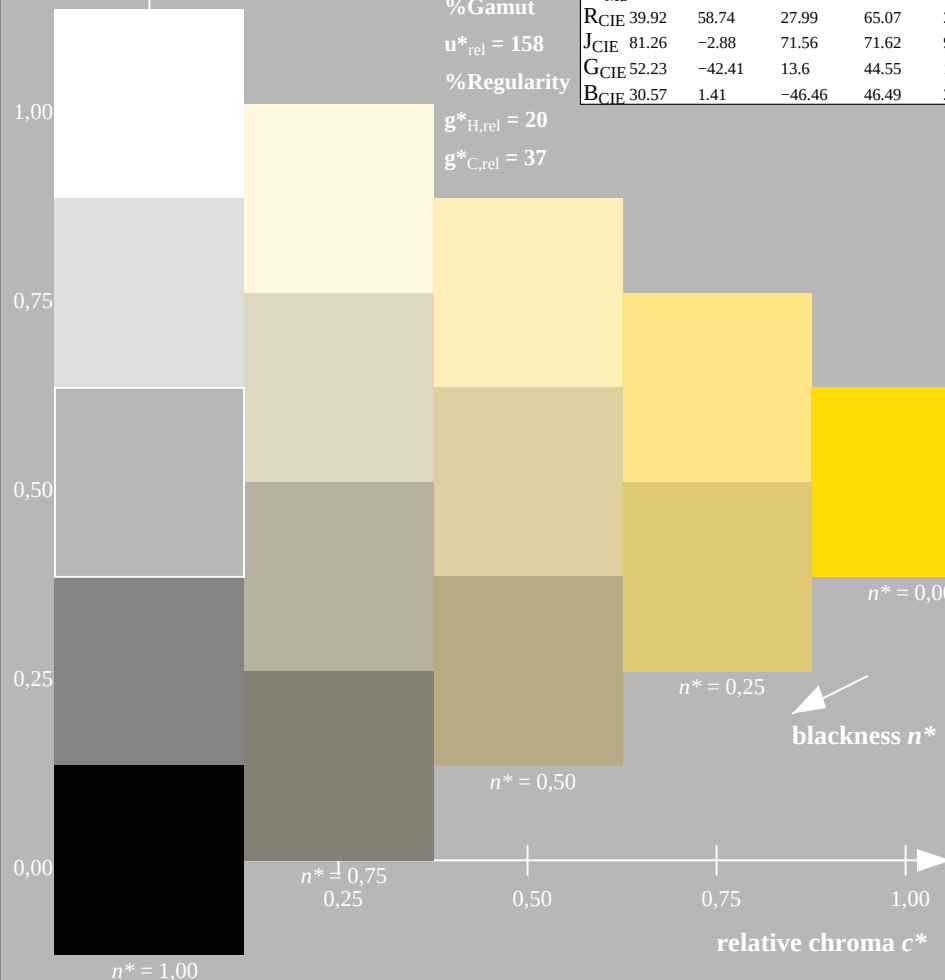
%Regularity

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

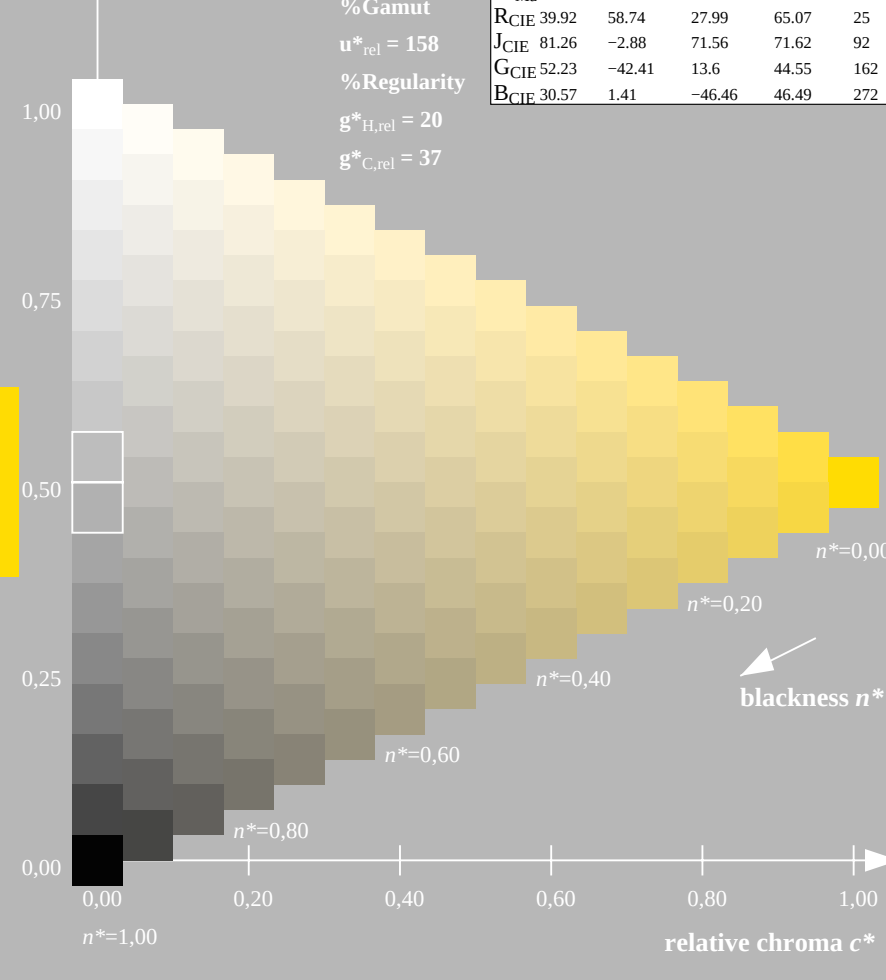
$g^*_{C,rel} = 37$

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



OE820-7N-137-7: 5 step scales for constant CIELAB hue 92/360 = 0.256 (left)



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

OE82: Test chart 1 according to DIN 33872-2, Hue J; 1MR, DEEH input: $rgb \rightarrow rgb^*_{dee}$ setrgbcolo
Discrimination of 5 and 16 step colour scales output 137-7: $g_P=0.47$; $g_N=1.0$

TUB registration: 20110801-OE82/OE82L0NA.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 $h^* = lab^*h = 162/360 = 0.451$

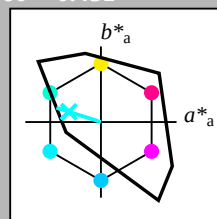
lab^*tch and lab^*nch

D65: hue G

LCH*Ma: 86 62 162

ol v^* 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 $h^* = lab^*h = 162/360 = 0.451$

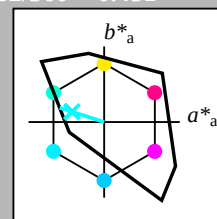
lab^*tch and lab^*nch

D65: hue G

LCH*Ma: 86 62 162

ol v^* Ma: 0.0 1.0 0.65

triangle lightness t^*



%Gamut

$u^*_{rel} = 158$

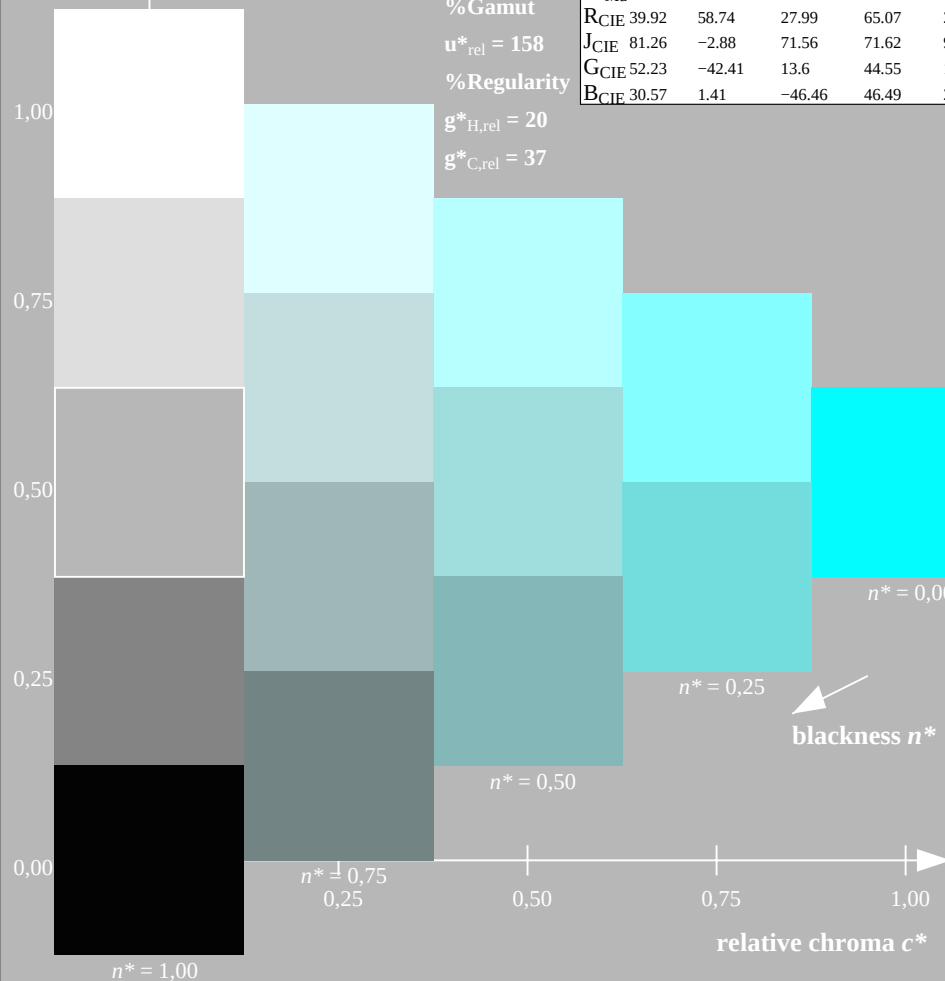
%Regularity

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

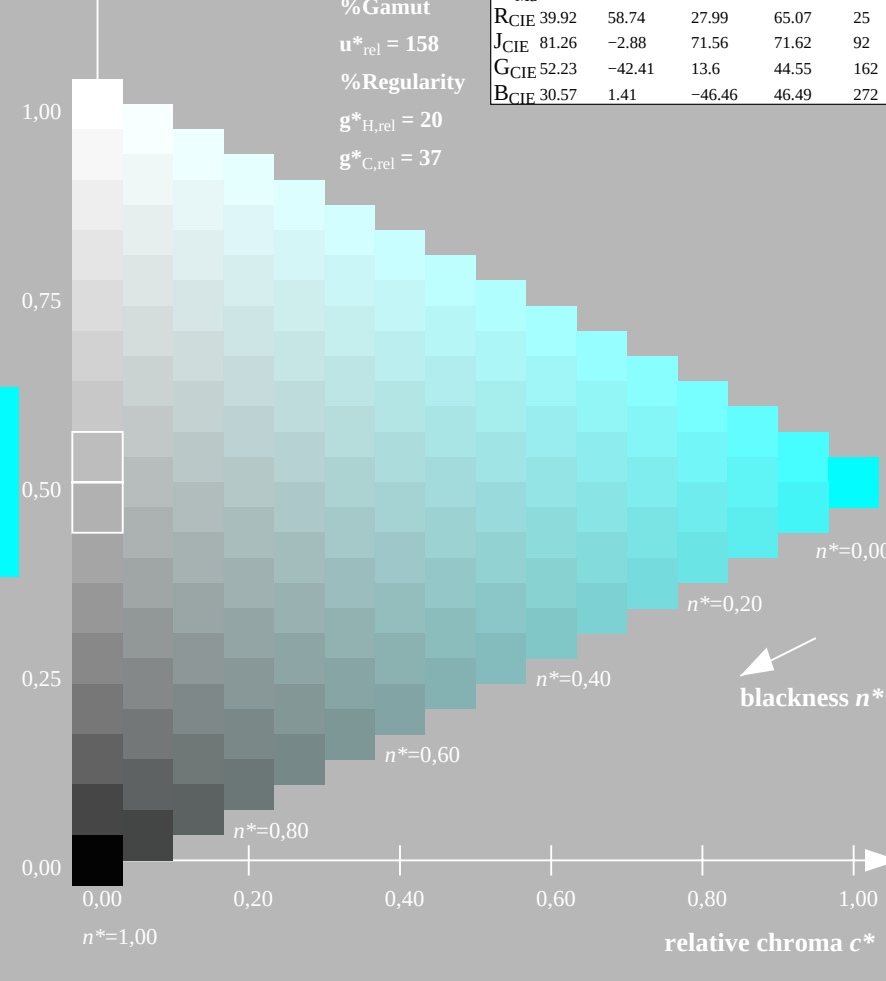
$g^*_{C,rel} = 37$

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



OE820-7N-137-8: 5 step scales for constant CIELAB hue 162/360 = 0.451 (left)



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

OE82: Test chart 1 according to DIN 33872-2, Hue G; 1MR, DEEH input: $rgb \rightarrow rgb^*_{dee}$ setrgbcolo
Discrimination of 5 and 16 step colour scales
output 137-8: $g_P=0.47$; $g_N=1.0$

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, CIELAB

TUB registration: 20110801-OE82/OE82L0NA.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 $h^* = lab^*h = 272/360 = 0.755$

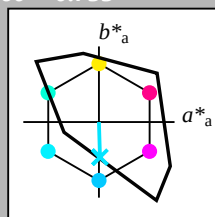
lab^*tch and lab^*nch

D65: hue B

LCH*Ma: 65 49 272

ol v^* 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 $h^* = lab^*h = 272/360 = 0.755$

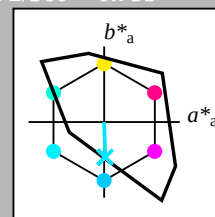
lab^*tch and lab^*nch

D65: hue B

LCH*Ma: 65 49 272

ol v^* Ma: 0.0 0.61 1.0

triangle lightness t^*



%Gamut

$u^*_{rel} = 158$

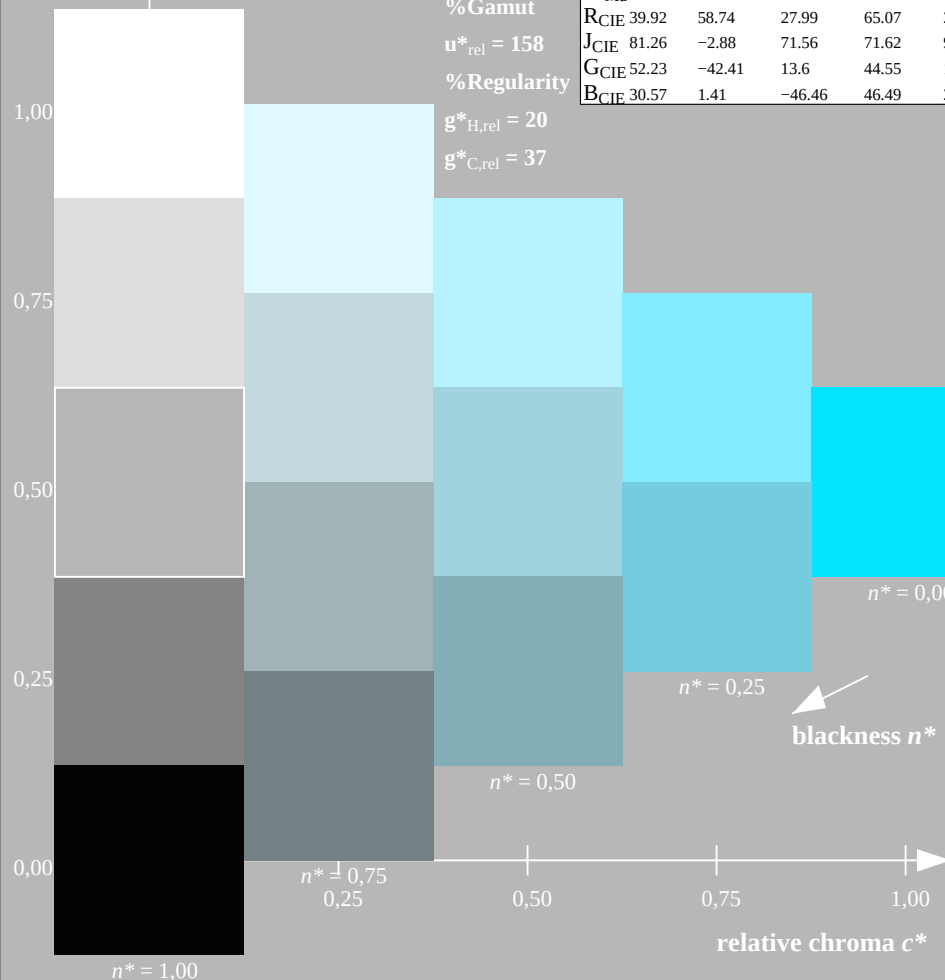
%Regularity

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

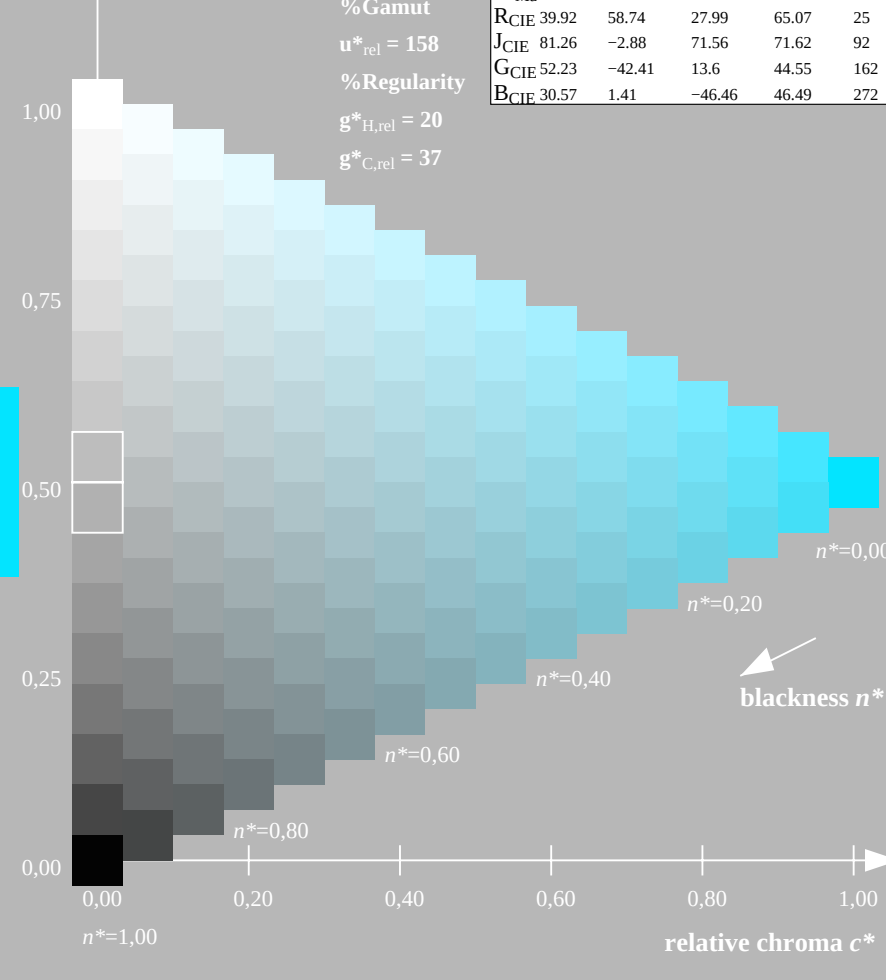
$g^*_{C,rel} = 37$

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

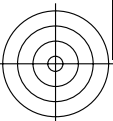


OE820-7N-137-9: 5 step scales for constant CIELAB hue 272/360 = 0.755 (left)

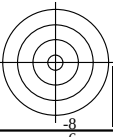


16 step scales for constant CIELAB hue 272/360 = 0.755 (right)

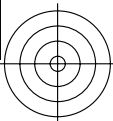
OE82: Test chart 1 according to DIN 33872-2, Hue B; 1MR, DEEH input: $rgb \rightarrow rgb^*_{dee}$ setrgbcolo
Discrimination of 5 and 16 step colour scales
output 137-9: $g_P=0.47$; $g_N=1.0$



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, CIELAB

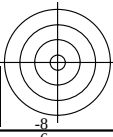


<http://130.149.60.45/~farbmetrik/OE82/OE82L0NA.TXT> /PS; linearized output, Page 11/12
 F: Output Linearization (OL) data OE82/OE82L0NA.TXT /PS in File (F)



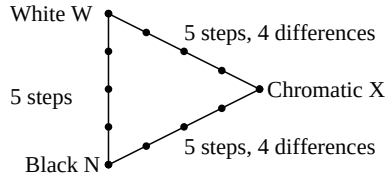
TUB registration: 20110801-OE82/OE82L0NA.TXT /PS
 application for output of displays: monitor systems or data projector systems

TUB material: code=rhta4ta



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

OE820-3N-137-10

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

PDF-File: <http://130.149.60.45/farbmetrik/OE82/OE82L0NP.PDF> underline Yes/No

PS-File: <http://130.149.60.45/farbmetrik/OE82/OE82L0NA.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 OE82L0NP.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 OE82L0NA.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

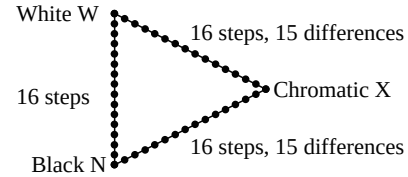
OE820-7N-137-10



OE82: Form A for test chart 1 according to DIN 33872-2; 1MR, DEH
 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

OE821-3N-137-10

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/OE82/OE82F1P2.PDF>

underline Yes/No

PS file: <http://130.149.60.45/farbmetrik/OE82/OE82F1P2.PS>

underline Yes/No

Picture A7-137-2: 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/OE82/OE82F1P2.PDF>

picture A7-137-2

underline Yes/No

PS-File: <http://130.149.60.45/farbmetrik/OE82/OE82F1P2.PS>

picture A7-137-2

or underline Yes/No

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

OE821-7N-137-10



Input: $rgb (->rgb^*_{de})$ setrgbcolor
 output 137-10: $g_P=0.47$; $g_N=1.0$

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, CIELAB

i	LAB*ref	l*out	LAB*out	LAB*out/c-ref	ΔE*
1	69.7 0.0 0.0	0.0 69.7 0.0	0.0 0.0 0.0	0.0 0.0 0.0	0.01
2	71.41 0.0 0.0	0.3 77.46 0.0	0.0 0.0 0.0	6.04 0.0 0.0	6.04
3	73.13 0.0 0.0	0.41 80.24 0.0	0.0 0.0 0.0	7.11 0.0 0.0	7.11
4	74.84 0.0 0.0	0.49 82.31 0.0	0.0 0.0 0.0	7.47 0.0 0.0	7.47
5	76.55 0.0 0.0	0.56 84.02 0.0	0.0 0.0 0.0	7.47 0.0 0.0	7.47
6	78.27 0.0 0.0	0.62 85.51 0.0	0.0 0.0 0.0	7.24 0.0 0.0	7.24
7	79.98 0.0 0.0	0.67 86.84 0.0	0.0 0.0 0.0	6.86 0.0 0.0	6.86
8	81.7 0.0 0.0	0.71 88.05 0.0	0.0 0.0 0.0	6.35 0.0 0.0	6.35
9	83.41 0.0 0.0	0.76 89.17 0.0	0.0 0.0 0.0	5.76 0.0 0.0	5.76
10	85.12 0.0 0.0	0.8 90.21 0.0	0.0 0.0 0.0	5.08 0.0 0.0	5.08
11	86.84 0.0 0.0	0.84 91.19 0.0	0.0 0.0 0.0	4.35 0.0 0.0	4.35
12	88.55 0.0 0.0	0.87 92.11 0.0	0.0 0.0 0.0	3.56 0.0 0.0	3.56
13	90.27 0.0 0.0	0.91 92.99 0.0	0.0 0.0 0.0	2.73 0.0 0.0	2.73
14	91.98 0.0 0.0	0.94 93.83 0.0	0.0 0.0 0.0	1.85 0.0 0.0	1.85
15	93.7 0.0 0.0	0.97 94.64 0.0	0.0 0.0 0.0	0.94 0.0 0.0	0.94
16	95.41 0.0 0.0	1.0 95.41 0.0	0.0 0.0 0.0	0.0 0.0 0.0	0.01
17	69.7 0.0 0.0	0.0 69.7 0.0	0.0 0.0 0.0	0.0 0.0 0.0	0.01
18	76.13 0.0 0.0	0.54 83.62 0.0	0.0 0.0 0.0	7.5 0.0 0.0	7.5
19	82.55 0.0 0.0	0.74 88.62 0.0	0.0 0.0 0.0	6.06 0.0 0.0	6.06
20	88.98 0.0 0.0	0.88 92.34 0.0	0.0 0.0 0.0	3.35 0.0 0.0	3.35
21	95.41 0.0 0.0	1.0 95.41 0.0	0.0 0.0 0.0	0.0 0.0 0.0	0.01

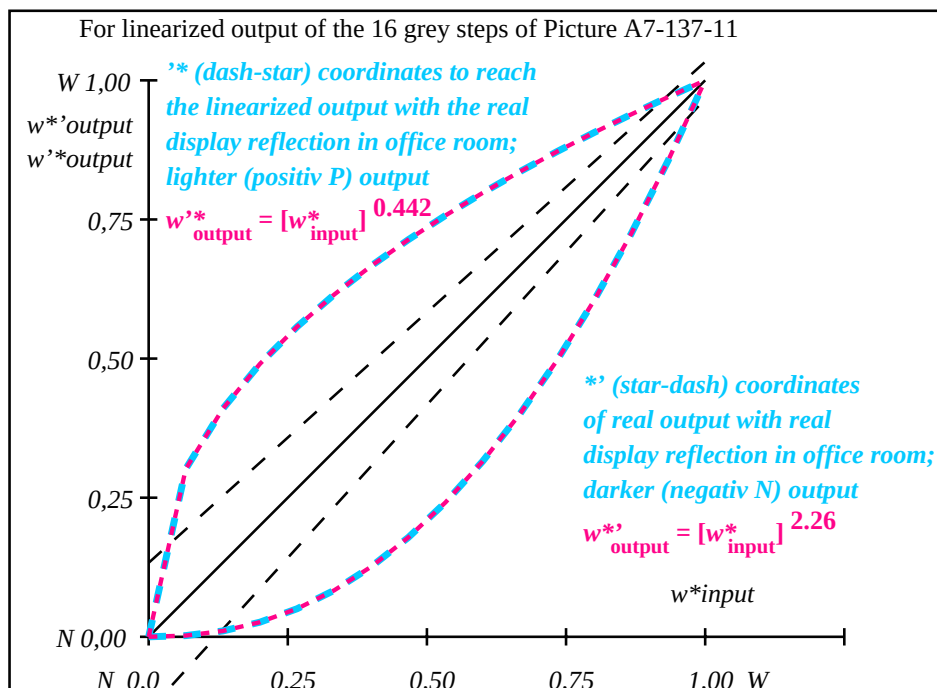
Start output S1
Specification according to
ISO/IEC 15775 Annex G
and DIN 33866-1 Annex G

Mean lightness difference (16 steps)
 $\Delta E^*_{CIELAB} = 4.6$

Mean lightness difference (5 steps)
 $\Delta L^*_{CIELAB} = 3.4$

Mean colour reproduction index: $R^*_{ab,m} = 80$

OE820-3N-137-11: File: Measure unknown; Device: Device unknown; Date: Date unknown



OE821-3N-137-11: File: Measure unknown; Device: Device unknown; Date: Date unknown

$L^*/Y_{intended}$ (absolute)	69.7/40.3	71.4/42.8	73.1/45.4	74.8/48.0	76.6/50.8	78.3/53.7	80.0/56.6	81.7/59.7	83.4/62.9	85.1/66.3	86.8/69.7	88.6/73.2	90.3/76.9	92.0/80.7	93.7/84.6	95.4/88.6
$w^* w^* w^*$ setrgb $g_P=0.44$ 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
$w^* = l^*$ $CIELAB, r$ (relative)	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
$w^*_{intended}$	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	0.302	0.41	0.491	0.557	0.615	0.667	0.714	0.757	0.798	0.836	0.872	0.906	0.939	0.97	1.0

OE820-7N, Picture A7-137-11: 16 visual equidistant L^* -grey steps; PS operator: $w^* w^* w^* setrgbcolor$

OE82: In-output relation according to ISO 9241-306; 1MR, DEH
Viewing Y contrast $Y_W:Y_N=88,9:40$; Y_N range 30 to <60

input: $rgb (->rgb^*_{de}) setrgbcolor$
output 137-11: $g_P=0.47$; $g_N=1.0$