

Input: Colorimetric Television Luminous System TLS00a

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

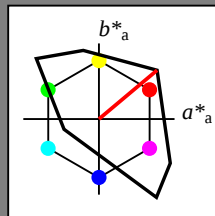
lab^*tch and lab^*nch

D65: hue O

LCH*Ma: 51 100 40

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

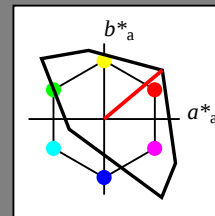
lab^*tch and lab^*nch

D65: hue O

LCH*Ma: 51 100 40

ol v^* Ma: 1.0 0.0 0.0

triangle lightness t^*



%Gamut

$u^*_{rel} = 158$

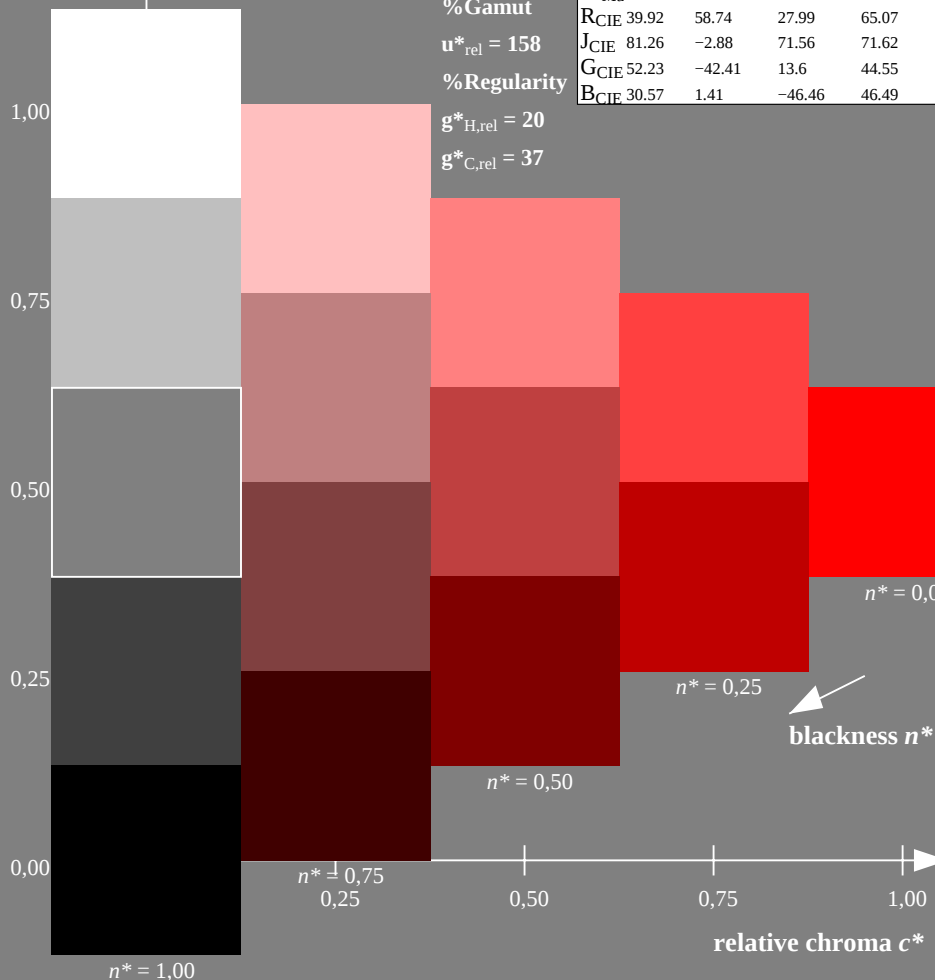
%Regularity

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

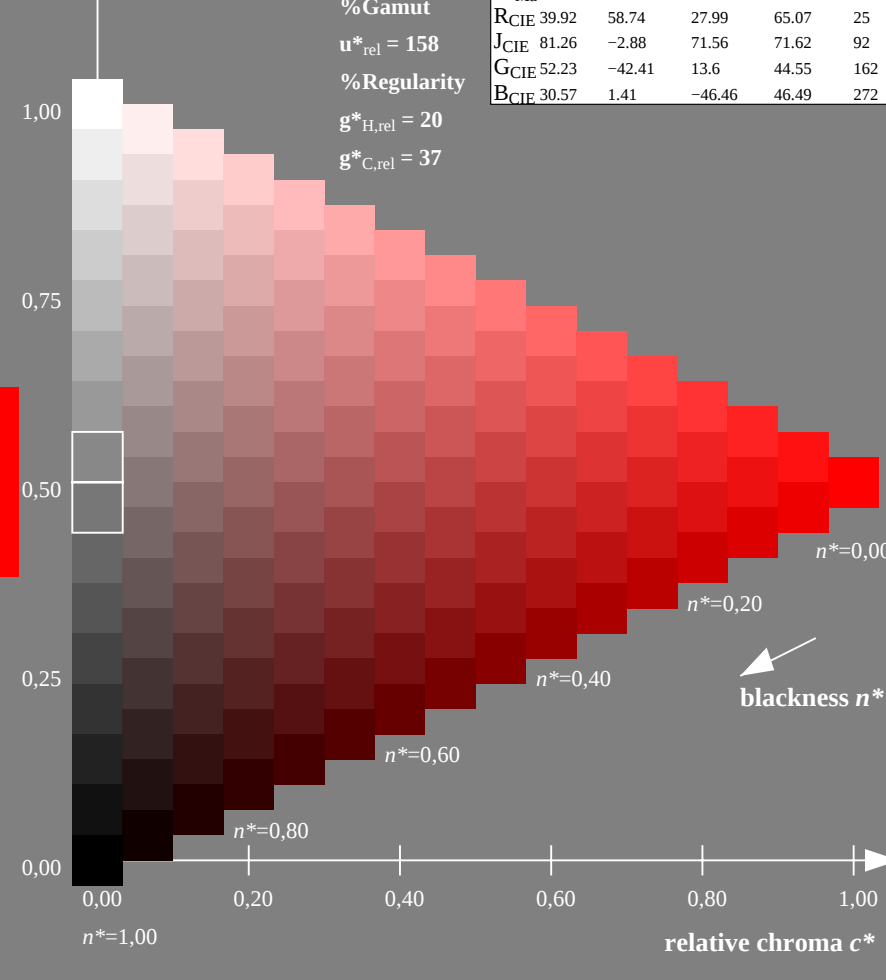
$g^*_{C,rel} = 37$

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
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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



OE730-7N-130-0: 5 step scales for constant CIELAB hue 40/360 = 0.111 (left)



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

OE73: Test chart 2 according to DIN 33872-2, Hue O; 1MR, DH
Discrimination of 5 and 16 step colour scales

input: $cmy0$ ($\rightarrow cmy0^*_{\Delta}$) $setcmyk$
output 130-0: $g_P=1.0$; $g_N=1.0$

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-OE73/OE73L0NA.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 $h^* = lab^*h = 103/360 = 0.286$

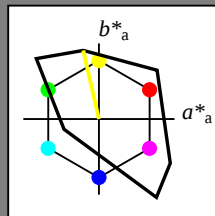
lab^*tch and lab^*nch

D65: hue Y

LCH*Ma: 93 93 103

olv*Ma: 1.0 1.0 0.0

triangle lightness t^*



%Gamut

$u^*_{rel} = 158$

%Regularity

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

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

TLS00a; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O _{Ma}	50.5	76.92	64.55	100.42	40
Y _{Ma}	92.66	-20.69	90.75	93.08	103
L _{Ma}	83.63	-82.75	79.9	115.04	136
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W _{Ma}	95.41	0.0	0.0	0.0	0
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Output: Colorimetric Television Luminous System TLS00a

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

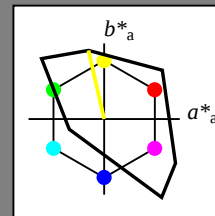
lab^*tch and lab^*nch

D65: hue Y

LCH*Ma: 93 93 103

olv*Ma: 1.0 1.0 0.0

triangle lightness t^*



%Gamut

$u^*_{rel} = 158$

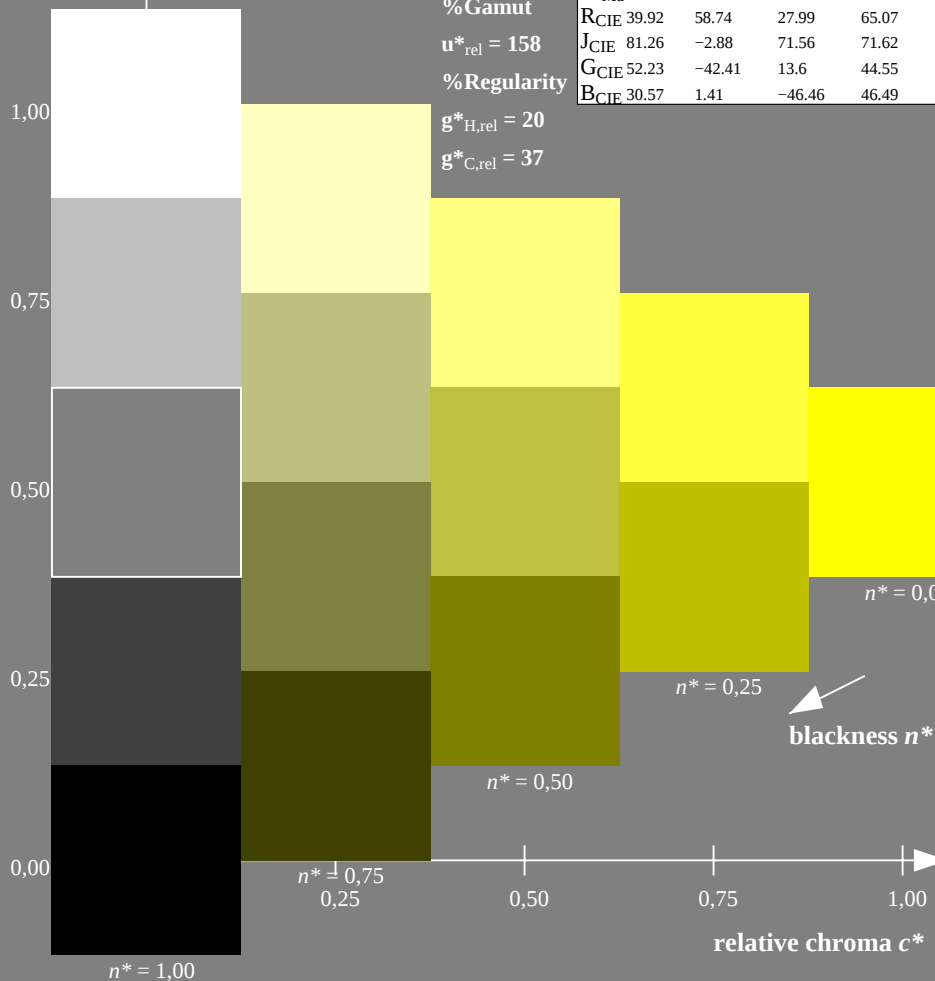
%Regularity

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

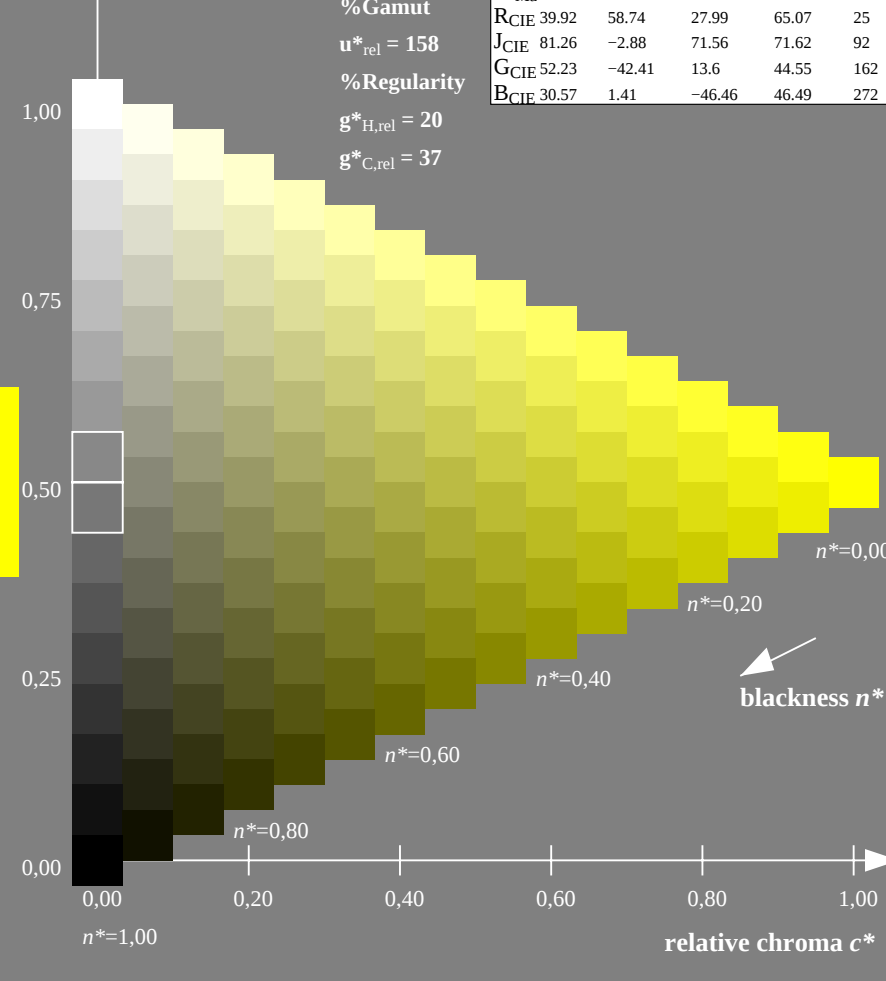
$g^*_{C,rel} = 37$

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
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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



OE730-7N-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)

OE73: Test chart 2 according to DIN 33872-2, Hue Y; 1MR, DH
Discrimination of 5 and 16 step colour scales

input: $cmy0$ ($\rightarrow cmy0^*_{\Delta}$) $setcmyk$
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-OE73/OE73L0NA.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 $h^* = lab^*h = 136/360 = 0.378$

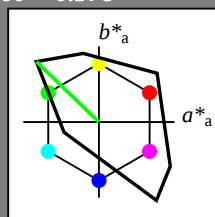
lab^*tch and lab^*nch

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
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M _{Ma}	57.3	94.35	-58.41	110.97	328
N _{Ma}	0.01	0.0	0.0	0.0	0
W _{Ma}	95.41	0.0	0.0	0.0	0
R _{CIE}	39.92	58.74	27.99	65.07	25
J _{CIE}	81.26	-2.88	71.56	71.62	92
G _{CIE}	52.23	-42.41	13.6	44.55	162
B _{CIE}	30.57	1.41	-46.46	46.49	272

Output: Colorimetric Television Luminous System TLS00a

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

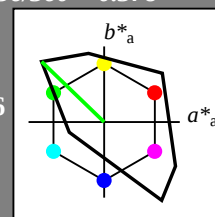
lab^*tch and lab^*nch

D65: hue L

LCH*Ma: 84 115 136

ol v^* Ma: 0.0 1.0 0.0

triangle lightness t^*



%Gamut

$u^*_{rel} = 158$

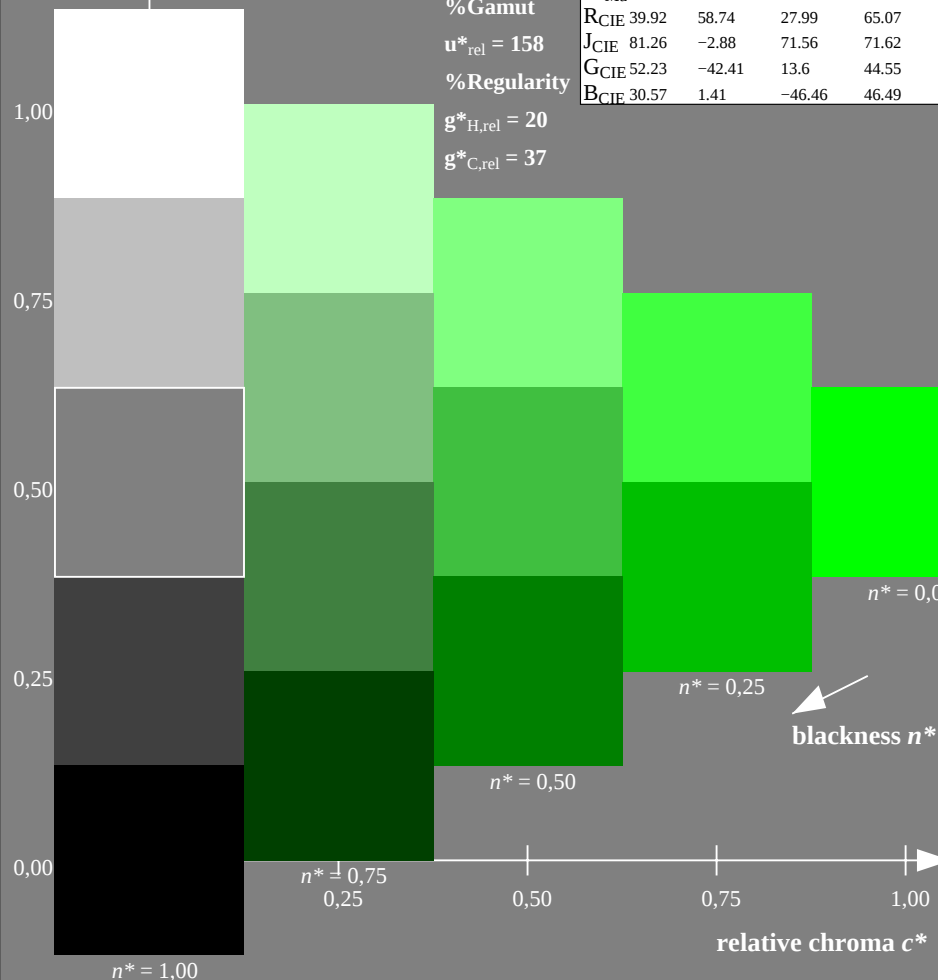
%Regularity

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

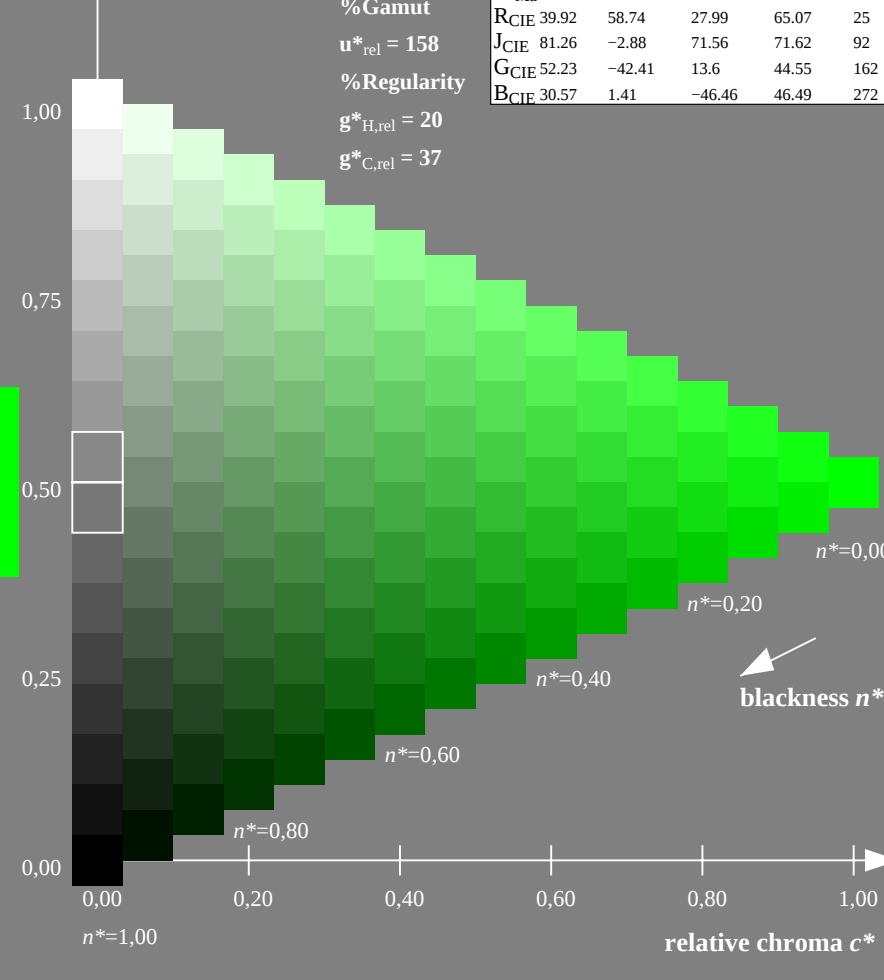
$g^*_{C,rel} = 37$

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
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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



OE730-7N-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)

OE73: Test chart 2 according to DIN 33872-2, Hue L; 1MR, DH
Discrimination of 5 and 16 step colour scales

input: $cmy0$ ($\rightarrow cmy0^*_d$) $setcmyk$
output 130-2: $g_P=1.0$; $g_N=1.0$

Input: Colorimetric Television Luminous System TLS00a

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

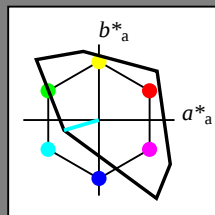
lab^*tch and lab^*nch

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

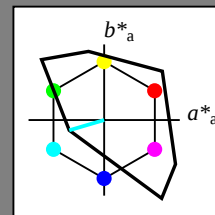
lab^*tch and lab^*nch

D65: hue C

LCH*Ma: 87 48 196

ol v^* Ma: 0.0 1.0 1.0

triangle lightness t^*



%Gamut

$u^*_{rel} = 158$

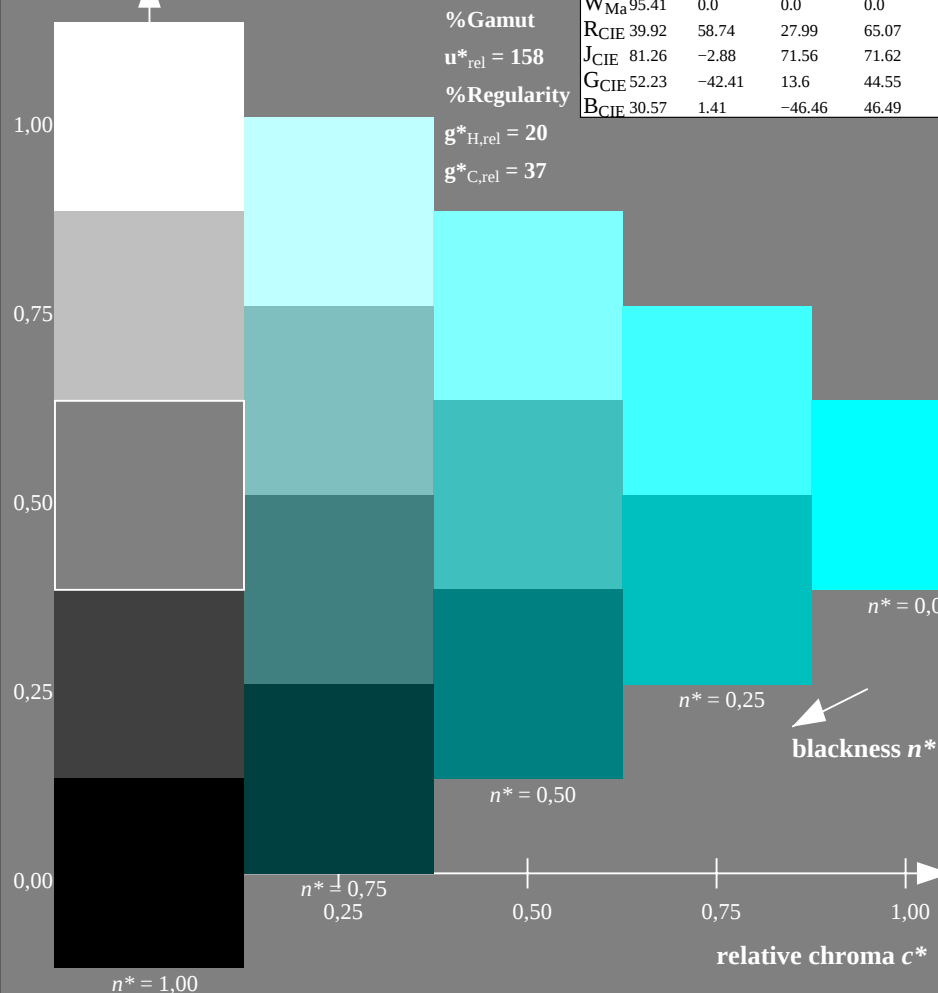
%Regularity

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

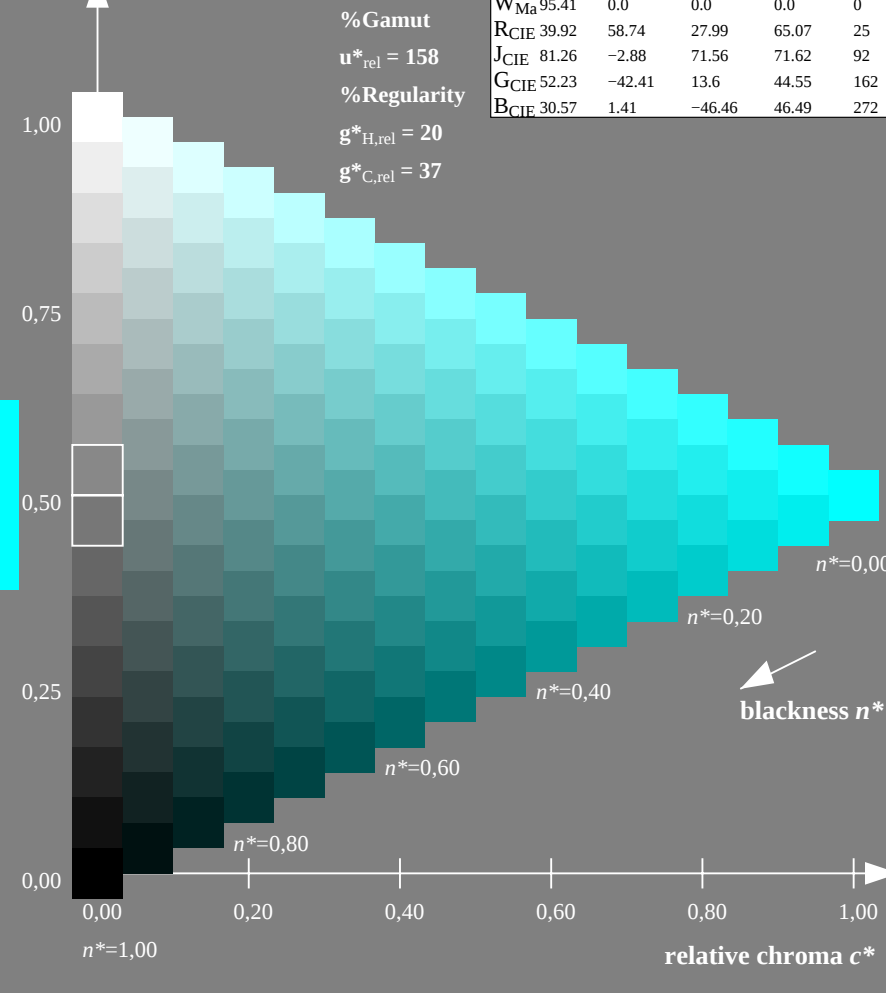
$g^*_{C,rel} = 37$

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
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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



OE730-7N-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)

OE73: Test chart 2 according to DIN 33872-2, Hue C; 1MR, DH
Discrimination of 5 and 16 step colour scales

input: $cmy0$ ($\rightarrow cmy0^*_d$) $setcmyk$
output 130-3: $g_P=1.0$; $g_N=1.0$

TUB registration: 20110801-OE73/OE73L0NA.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 $h^* = lab^*h = 306/360 = 0.851$

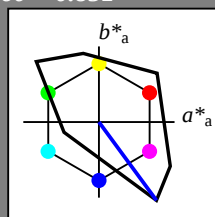
lab^*tch and lab^*nch

D65: hue V

LCH*Ma: 30 129 306

ol 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	$C^*_{ab,a}$	$h^*_{ab,a}$
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M _{Ma}	57.3	94.35	-58.41	110.97	328
N _{Ma}	0.01	0.0	0.0	0.0	0
W _{Ma}	95.41	0.0	0.0	0.0	0
R _{CIE}	39.92	58.74	27.99	65.07	25
J _{CIE}	81.26	-2.88	71.56	71.62	92
G _{CIE}	52.23	-42.41	13.6	44.55	162
B _{CIE}	30.57	1.41	-46.46	46.49	272

Output: Colorimetric Television Luminous System TLS00a

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

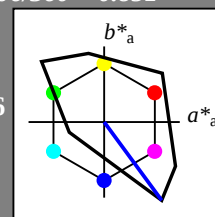
lab^*tch and lab^*nch

D65: hue V

LCH*Ma: 30 129 306

ol v^* Ma: 0.0 0.0 1.0

triangle lightness t^*



%Gamut

$u^*_{rel} = 158$

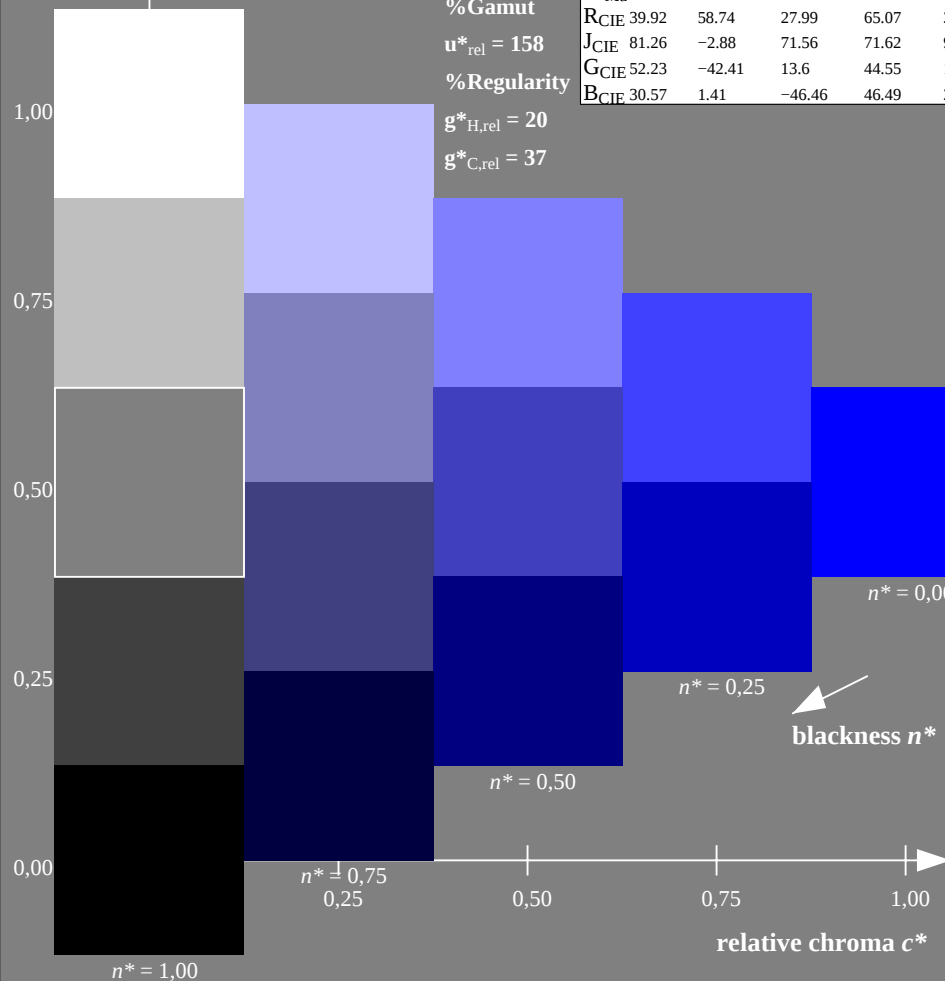
%Regularity

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

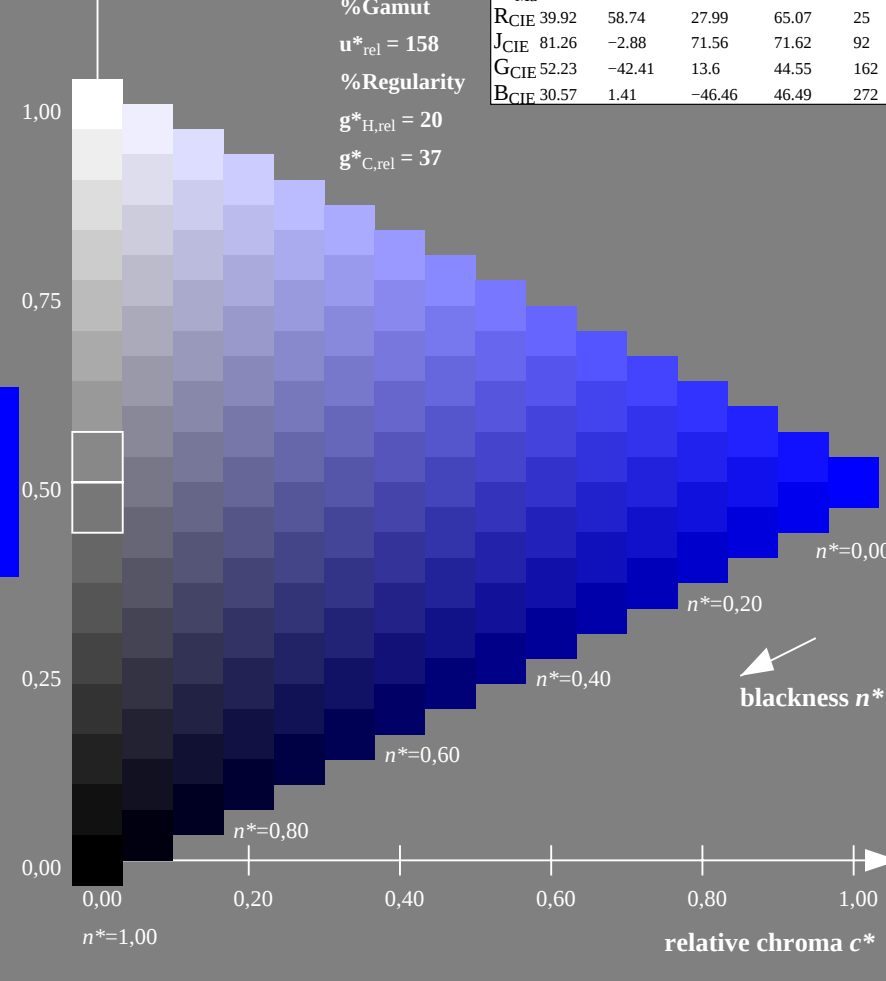
$g^*_{C,rel} = 37$

TLS00a; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
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B _{CIE}	30.57	1.41	-46.46	46.49	272



OE730-7N-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)

OE73: Test chart 2 according to DIN 33872-2, Hue V; 1MR, DH
Discrimination of 5 and 16 step colour scales

input: $cmy0$ ($\rightarrow cmy0^*_{\Delta}$) $setcmyk$
output 130-4: $g_P=1.0$; $g_N=1.0$

TUB registration: 20110801-OE73/OE73L0NA.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 $h^* = lab^*h = 328/360 = 0.912$

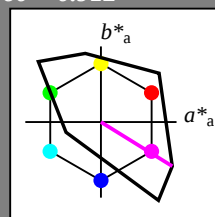
lab^*tch and lab^*nch

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
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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
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B _{CIE}	30.57	1.41	-46.46	46.49	272

Output: Colorimetric Television Luminous System TLS00a

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

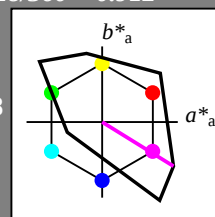
lab^*tch and lab^*nch

D65: hue M

LCH*Ma: 57 111 328

ol v^* Ma: 1.0 0.0 1.0

triangle lightness t^*



%Gamut

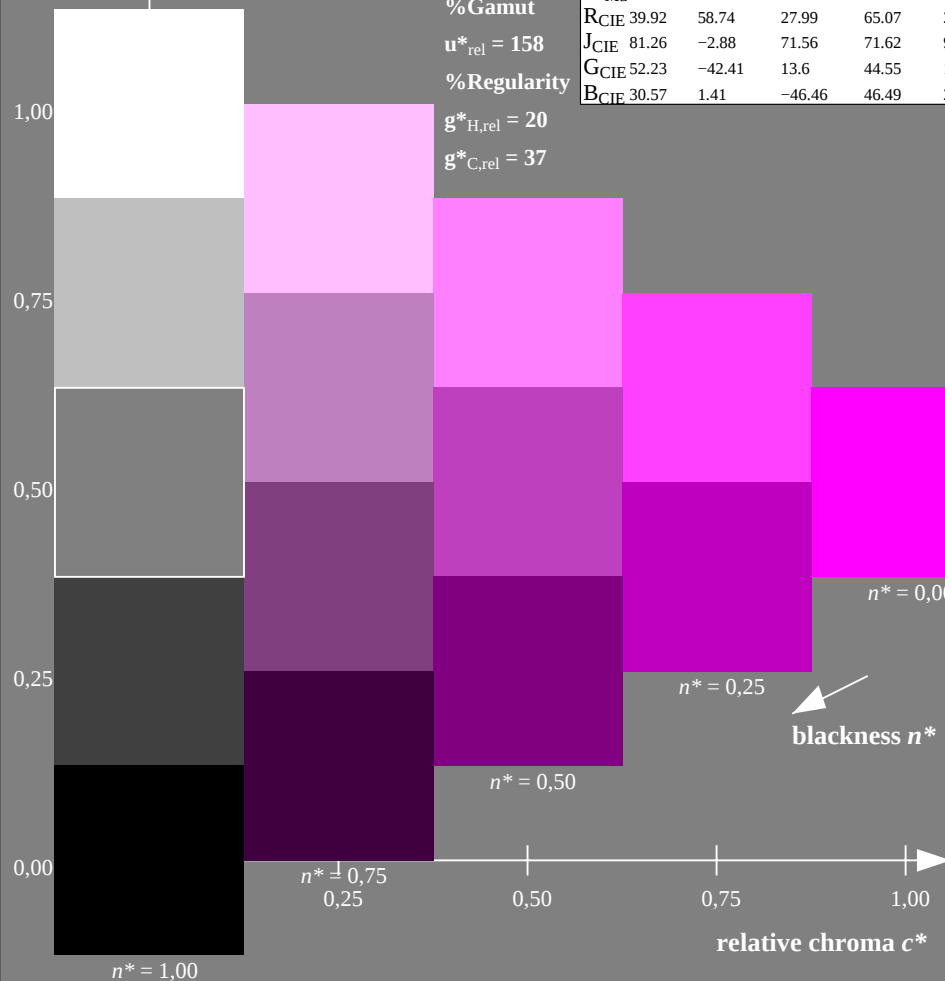
$u^*_{rel} = 158$

%Regularity

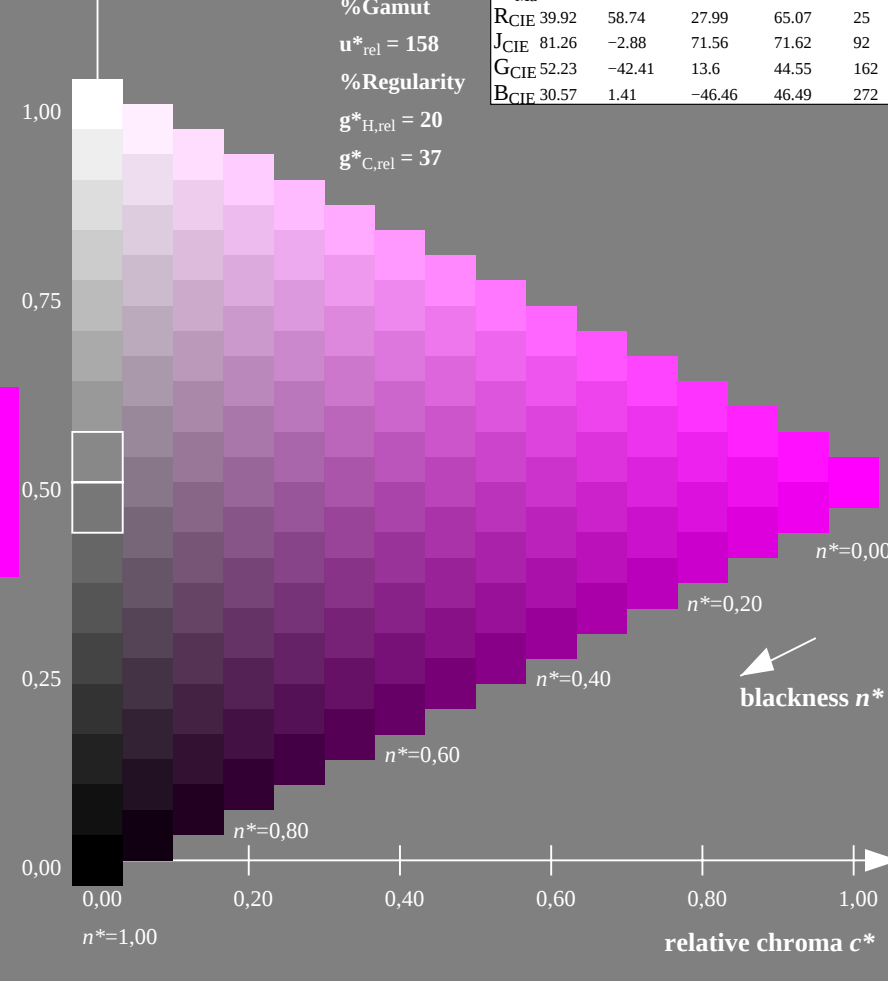
$g^*_{H,rel} = 20$

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

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



OE730-7N-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)

OE73: Test chart 2 according to DIN 33872-2, Hue M; 1MR, DH
Discrimination of 5 and 16 step colour scales

input: $cmy0$ ($\rightarrow cmy0^*_{\Delta}$) $setcmyk$
output 130-5: $g_P=1.0$; $g_N=1.0$

Input: Colorimetric Television Luminous System TLS00a

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

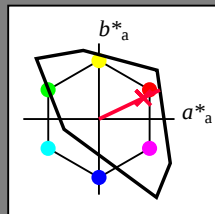
lab^*tch and lab^*nch

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

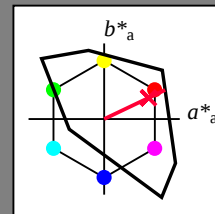
lab^*tch and lab^*nch

D65: hue R

LCH*Ma: 52 89 25

olv*Ma: 1.0 0.0 0.21

triangle lightness t^*



%Gamut

$u^*_{rel} = 158$

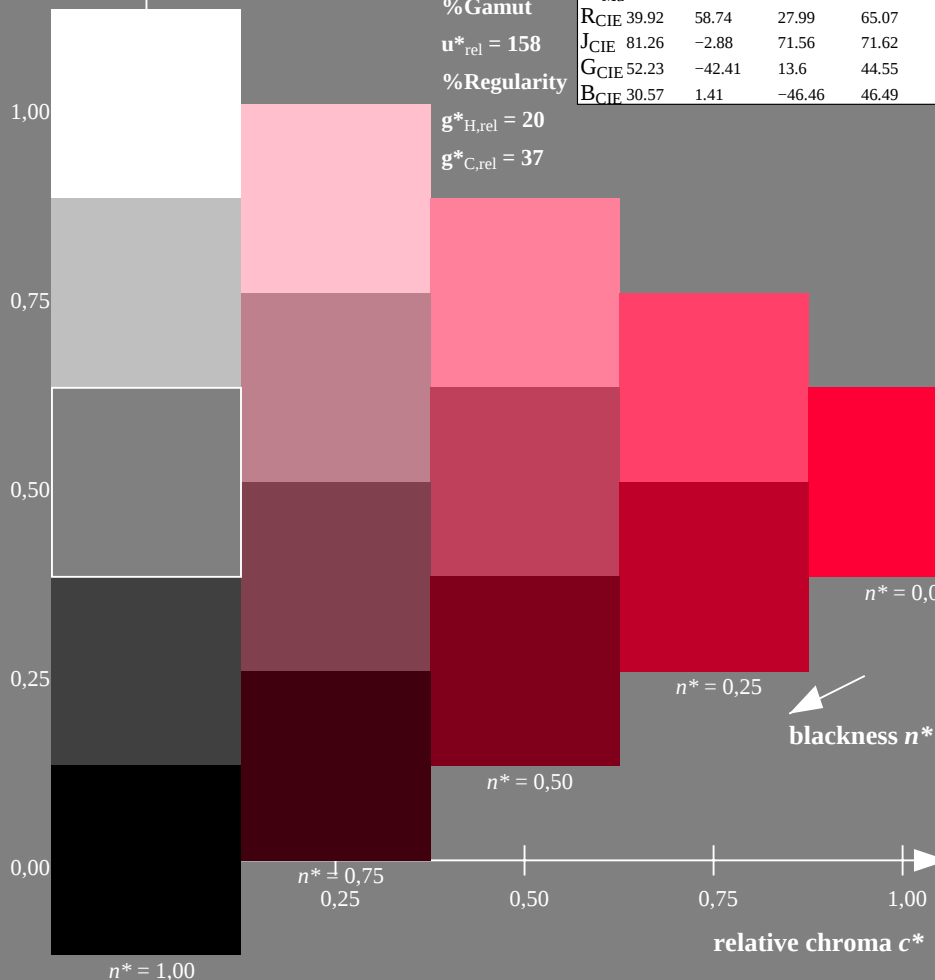
%Regularity

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

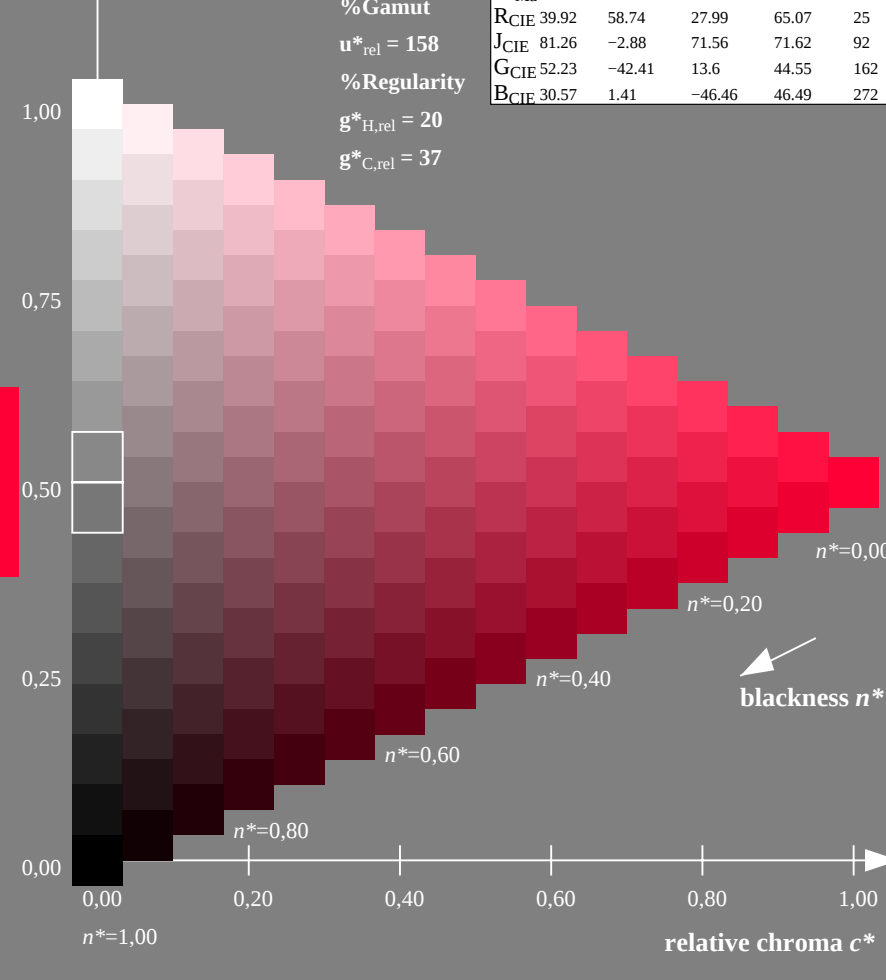
$g^*_{C,rel} = 37$

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



OE730-7N-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)

OE73: Test chart 2 according to DIN 33872-2, Hue R; 1MR, DH
Discrimination of 5 and 16 step colour scales

input: $cmy0$ ($\rightarrow cmy0^*_{de}$) $setcmyk$
output 130-6: $g_P=1.0$; $g_N=1.0$

Input: Colorimetric Television Luminous System TLS00a

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

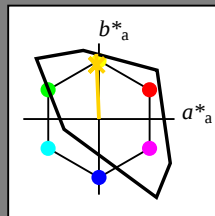
lab^*tch and lab^*nch

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

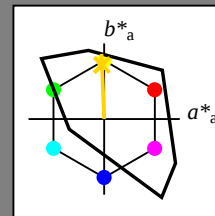
lab^*tch and lab^*nch

D65: hue J

LCH*Ma: 85 86 92

olv*Ma: 1.0 0.82 0.0

triangle lightness t^*



%Gamut

$u^*_{rel} = 158$

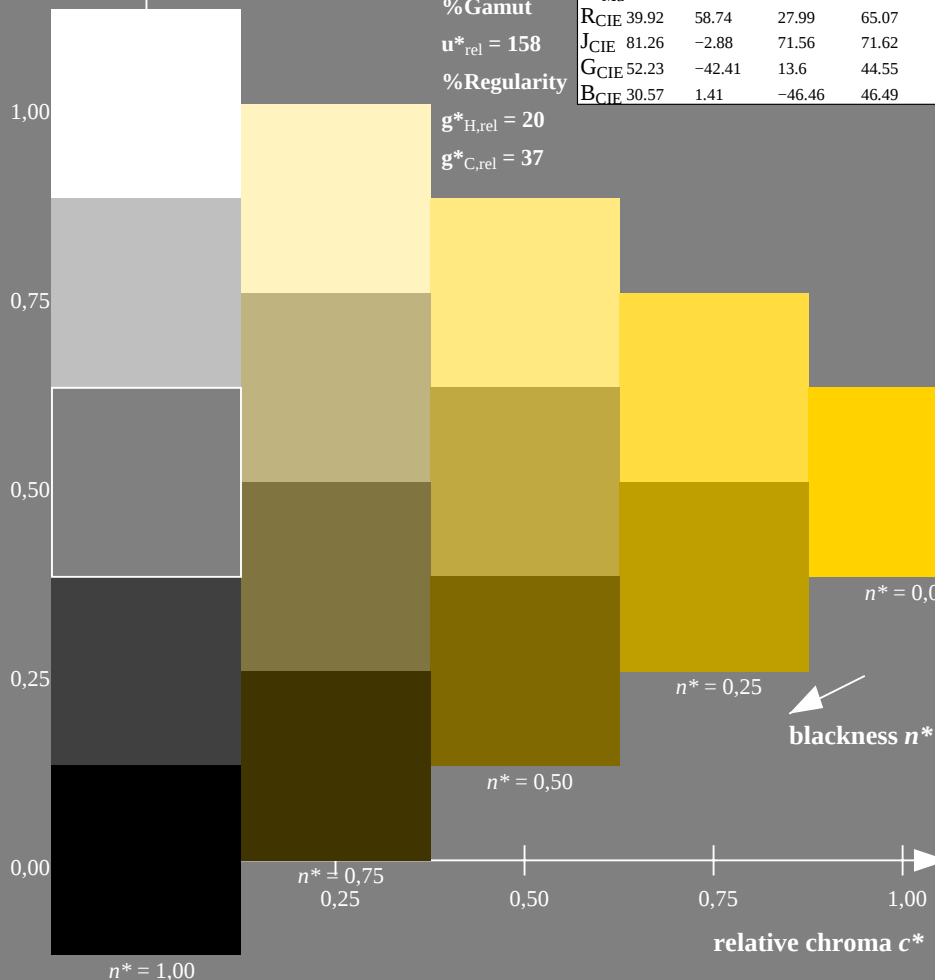
%Regularity

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

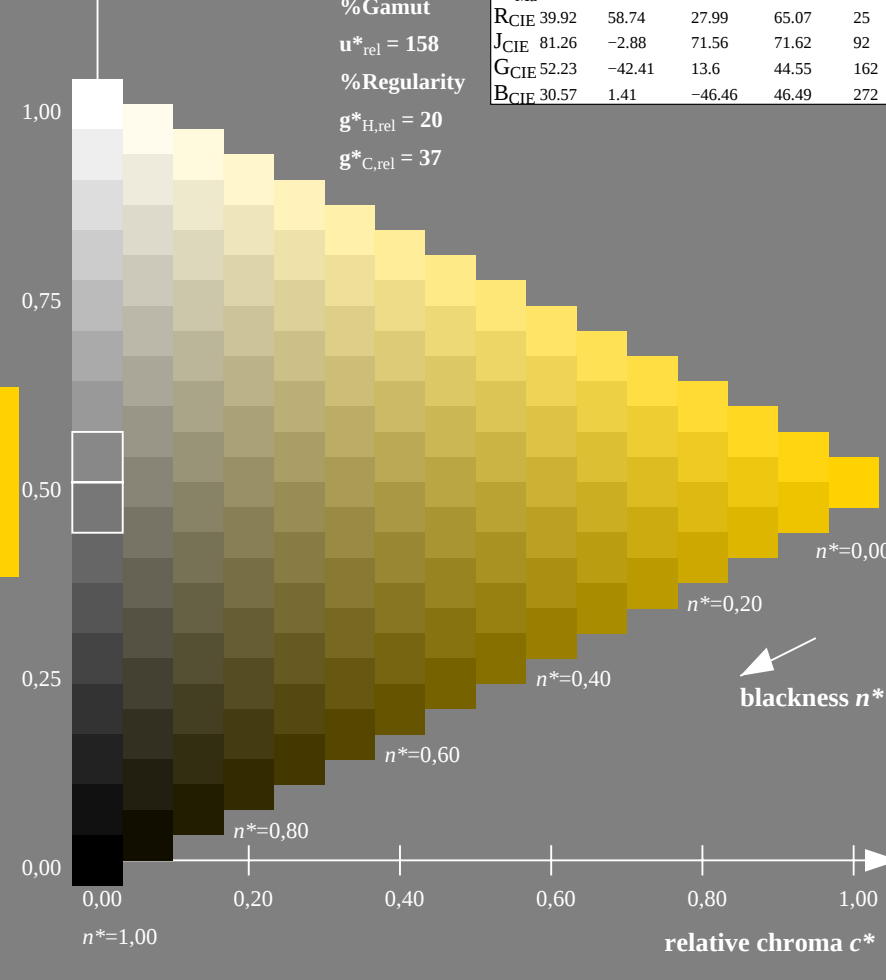
$g^*_{C,rel} = 37$

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



OE730-7N-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)

OE73: Test chart 2 according to DIN 33872-2, Hue J; 1MR, DH
Discrimination of 5 and 16 step colour scales

input: $cmy0$ ($\rightarrow cmy0^*_{de}$) $setcmyk$
output 130-7: $g_P=1.0$; $g_N=1.0$

TUB registration: 20110801-OE73/OE73L0NA.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 $h^* = lab^*h = 162/360 = 0.451$

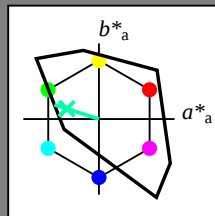
lab^*tch and lab^*nch

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

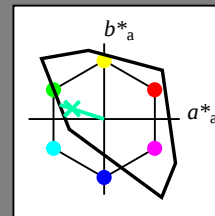
lab^*tch and lab^*nch

D65: hue G

LCH*Ma: 86 62 162

ol v^* Ma: 0.0 1.0 0.65

triangle lightness t^*



%Gamut

$u^*_{rel} = 158$

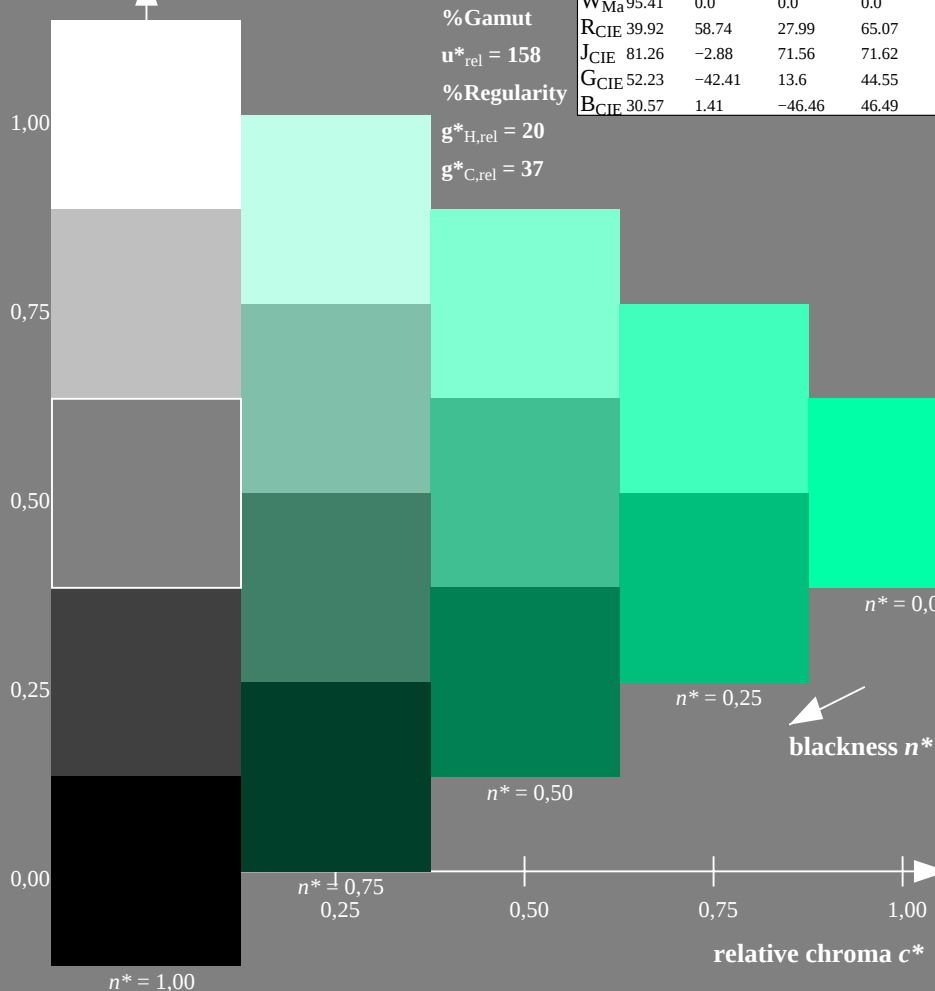
%Regularity

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

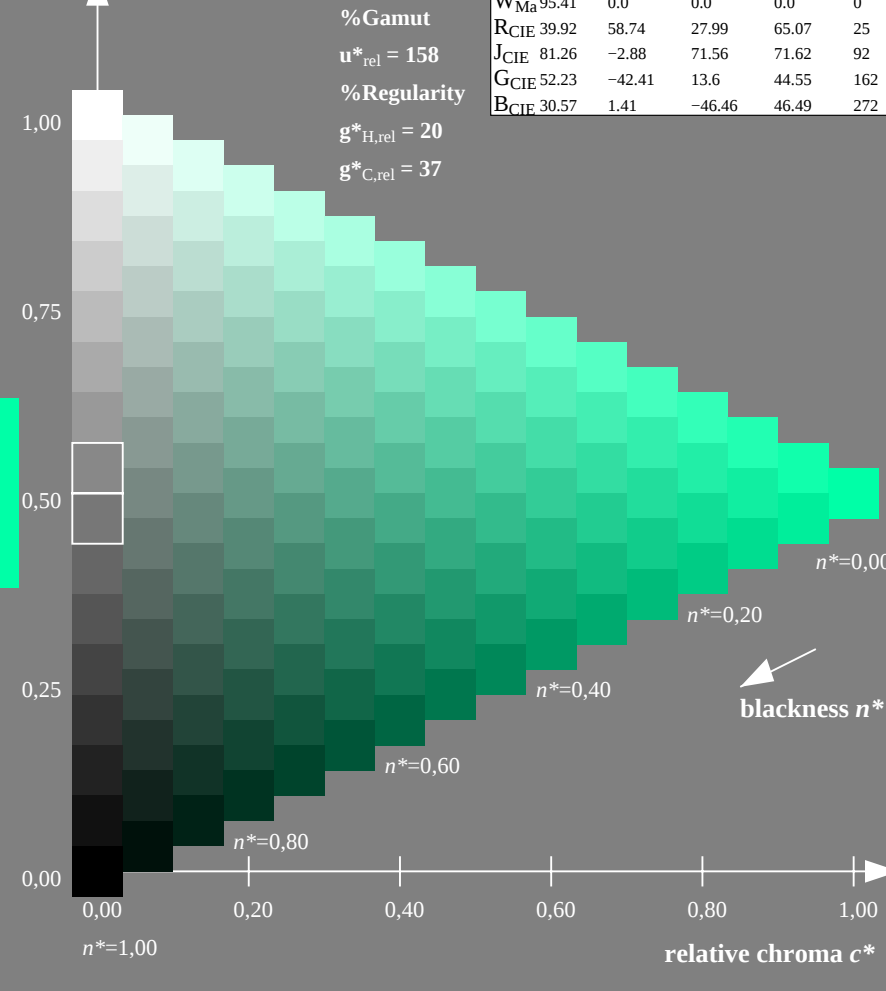
$g^*_{C,rel} = 37$

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



OE730-7N-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)

OE73: Test chart 2 according to DIN 33872-2, Hue G; 1MR, DH
Discrimination of 5 and 16 step colour scales

input: $cmy0$ ($\rightarrow cmy0^*_{de}$) $setcmyk$
output 130-8: $g_P=1.0$; $g_N=1.0$

Input: Colorimetric Television Luminous System TLS00a

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

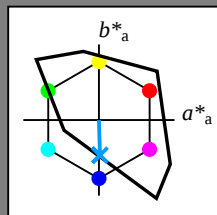
lab^*tch and lab^*nch

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

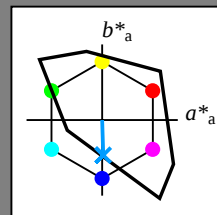
lab^*tch and lab^*nch

D65: hue B

LCH*Ma: 65 49 272

ol v^* Ma: 0.0 0.61 1.0

triangle lightness t^*



%Gamut

$u^*_{rel} = 158$

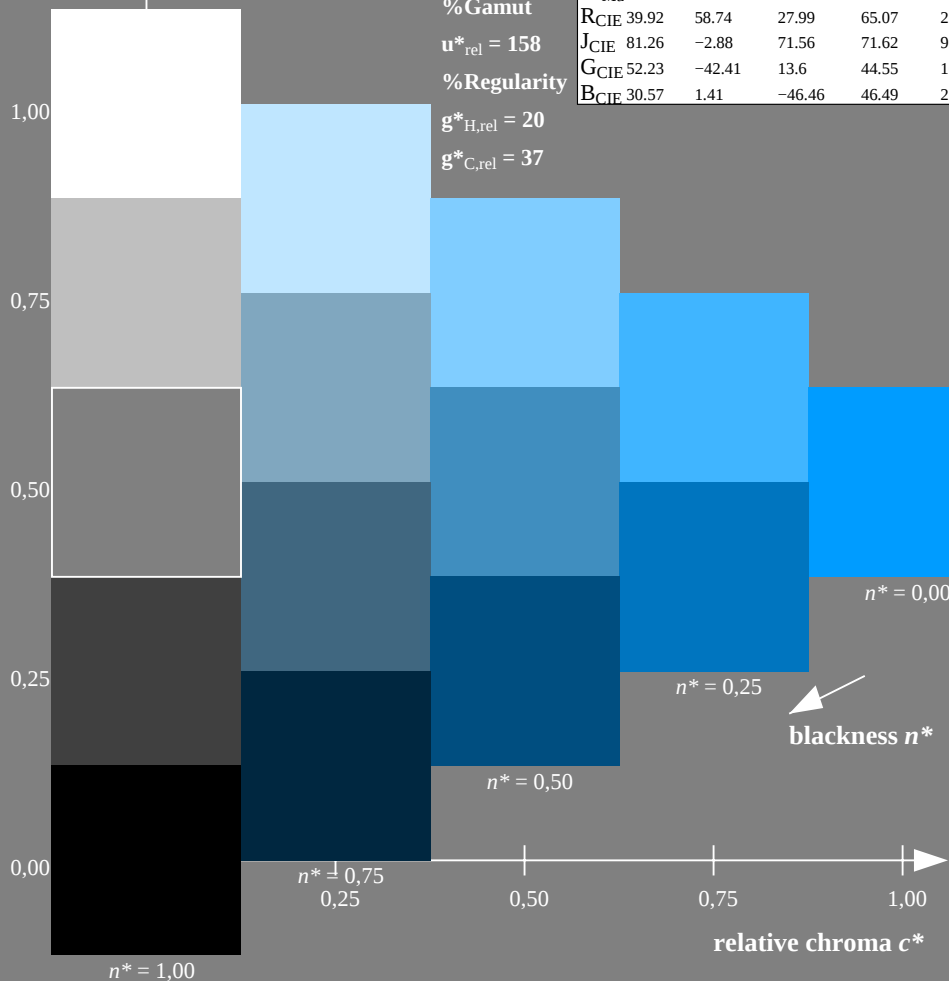
%Regularity

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

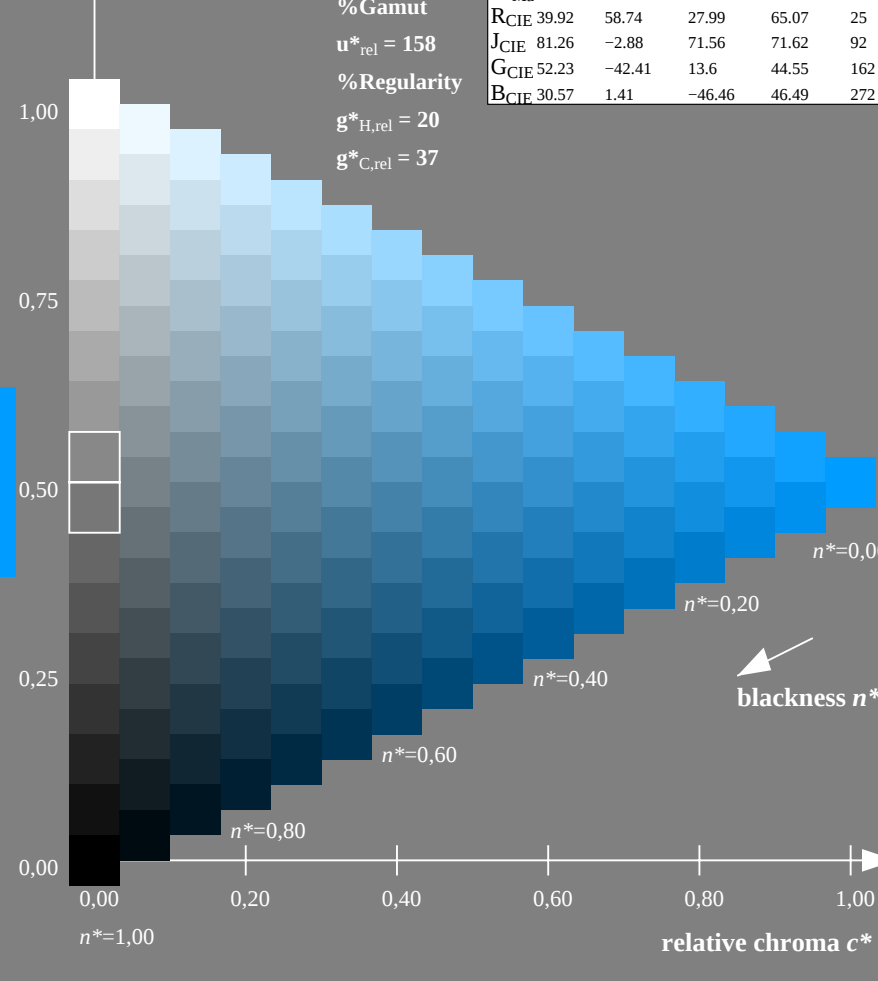
$g^*_{C,rel} = 37$

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



OE730-7N-130-9: 5 step scales for constant CIE LAB hue 272/360 = 0.755 (left)



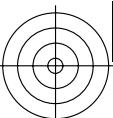
16 step scales for constant CIE LAB hue 272/360 = 0.755 (right)

OE73: Test chart 2 according to DIN 33872-2, Hue B; 1MR, DH
Discrimination of 5 and 16 step colour scales

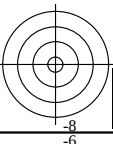
input: $cmy0$ ($\rightarrow cmy0^*_{de}$) $setcmyk$
output 130-9: $g_P=1.0$; $g_N=1.0$

TUB registration: 20110801-OE73/OE73L0NA.TXT /.PS
application for output of displays: monitor systems or data projector systems

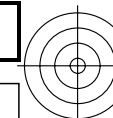
TUB material: code=rha4ta



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

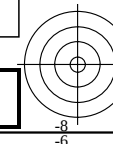


<http://130.149.60.45/~farbmetrik/OE73/OE73L0NA.TXT> /PS; linearized output, Page 11/12
 F: Output Linearization (OL) data OE73/OE73L0NA.TXT /PS in File (F)



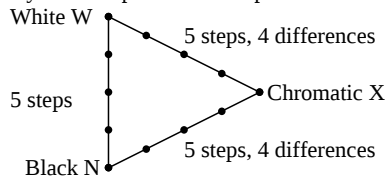
TUB registration: 20110801-OE73/OE73L0NA.TXT /PS
 application for output of displays: monitor systems or data projector systems

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

OE730-3N-130-10

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

PDF-File: <http://130.149.60.45/farbmetrik/OE73/OE73L0NP.PDF> underline Yes/No

PS-File: <http://130.149.60.45/farbmetrik/OE73/OE73L0NA.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 OE73L0NP.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 OE73L0NA.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

OE730-7N-130-10

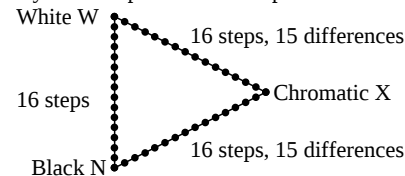


OE73: Form A for test chart 2 according to DIN 33872-2; 1MR, DHinput: *cmy0* (->*cmy0***1*) *setcmyk*
 Discrimination of colour scales (Yes/No decision)
 output 130-10: *g_P*=1.0; *g_N*=1.0



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

OE731-3N-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/OE73/OE73F1P2.PDF>

underline Yes/No

PS file: <http://130.149.60.45/farbmetrik/OE73/OE73F1P2.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/OE73/OE73F1P2.PDF>

picture A7-130-2

underline Yes/No

PS-File: <http://130.149.60.45/farbmetrik/OE73/OE73F1P2.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

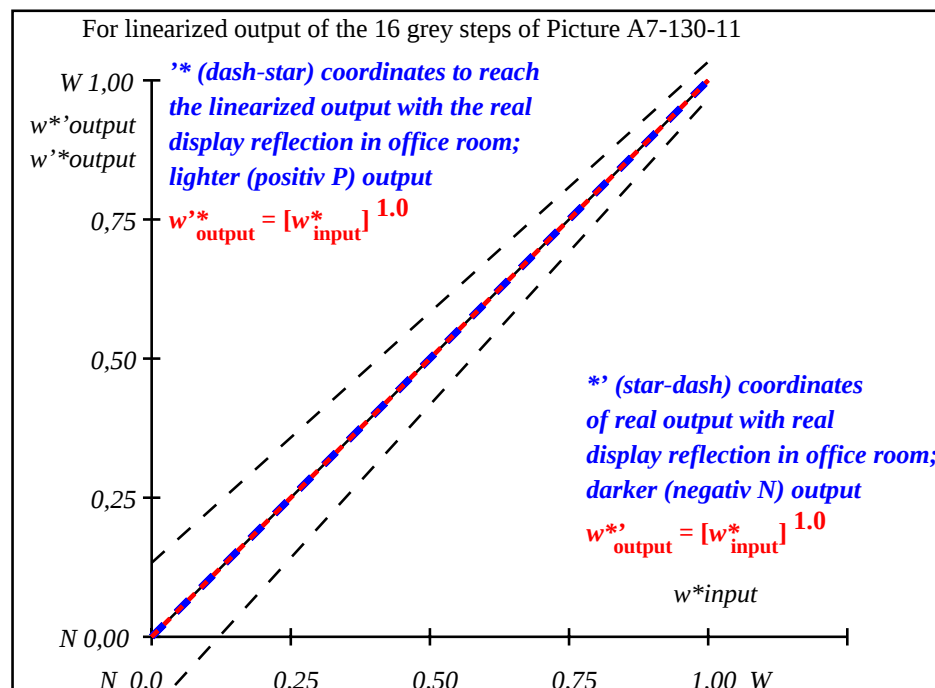
OE731-7N-130-10



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	0.0	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	0.0	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	0.0	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	0.0	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	0.0	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	0.0	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	0.0	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	0.0	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	0.0	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	0.0	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	0.0	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	0.0	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	0.0	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	0.0	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	0.0	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	0.0	0.01	Mean lightness difference (16 steps)
17	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.01	ΔE* _{CIELAB} = 0.0
18	23.85	0.0	0.0	0.25	23.85	0.0	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	0.0	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	0.0	0.01	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	0.0	0.0	0.01	ΔL* _{CIELAB} = 0.0
Mean colour reproduction index:													R* _{ab,m} = 100	

OE730-3N-130-11: File: Measure unknown; Device: Device unknown; Date: Date unknown



OE731-3N-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* 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

OE730-7N, Picture A7-130-11: 16 visual equidistant L*-grey steps; PS operator: w* w* w* setrgbcolor

OE73: In-output relation according to ISO 9241-306; 1MR, DH
Viewing Y contrast Y_W:Y_N=88,9:0,31; Y_N range 0,0 to <0,46

input: cmy0 (->cmy0*_d) setcmyk
output 130-11: g_P=1.0; g_N=1.0

TUB registration: 20110801-OE73/OE73L0NA.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 $h^* = lab^*h = 40/360 = 0.111$

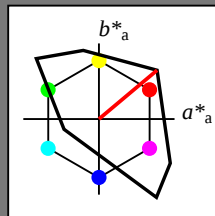
lab^*tch and lab^*nch

D65: hue O

LCH*Ma: 51 100 40

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

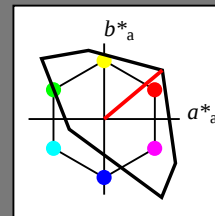
lab^*tch and lab^*nch

D65: hue O

LCH*Ma: 51 100 40

ol v^* Ma: 1.0 0.0 0.0

triangle lightness t^*



%Gamut

$u^*_{rel} = 158$

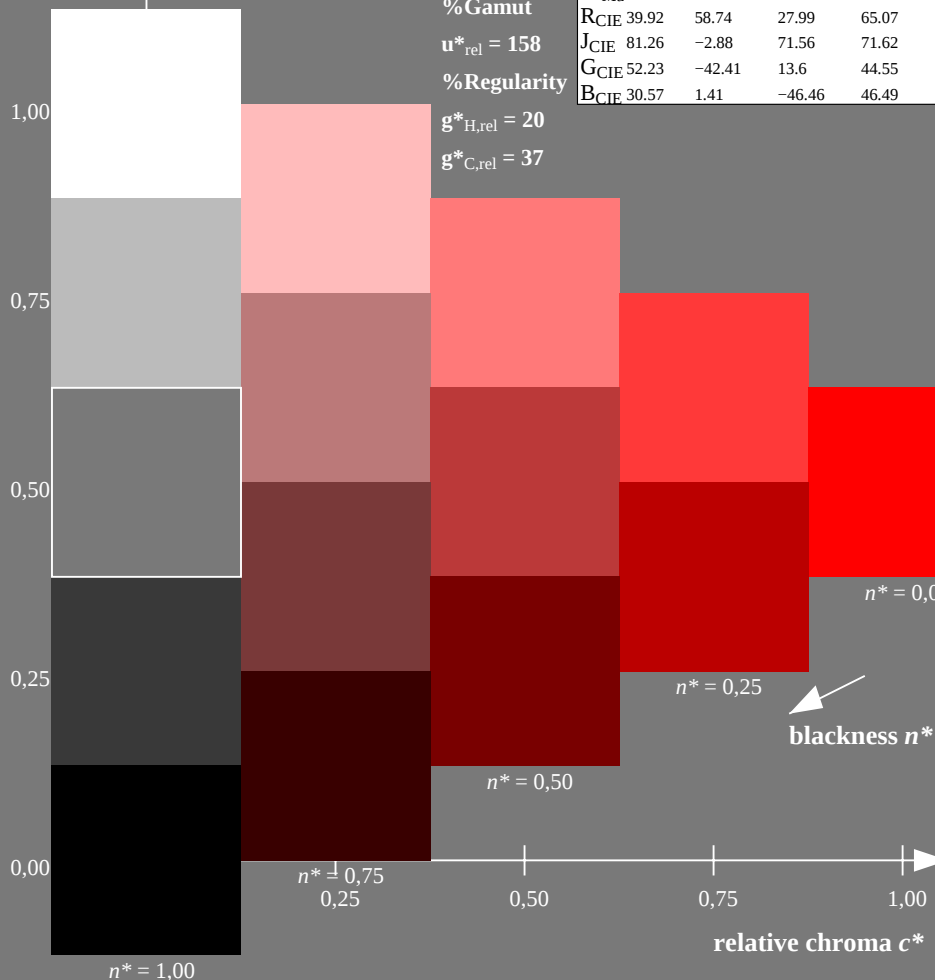
%Regularity

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

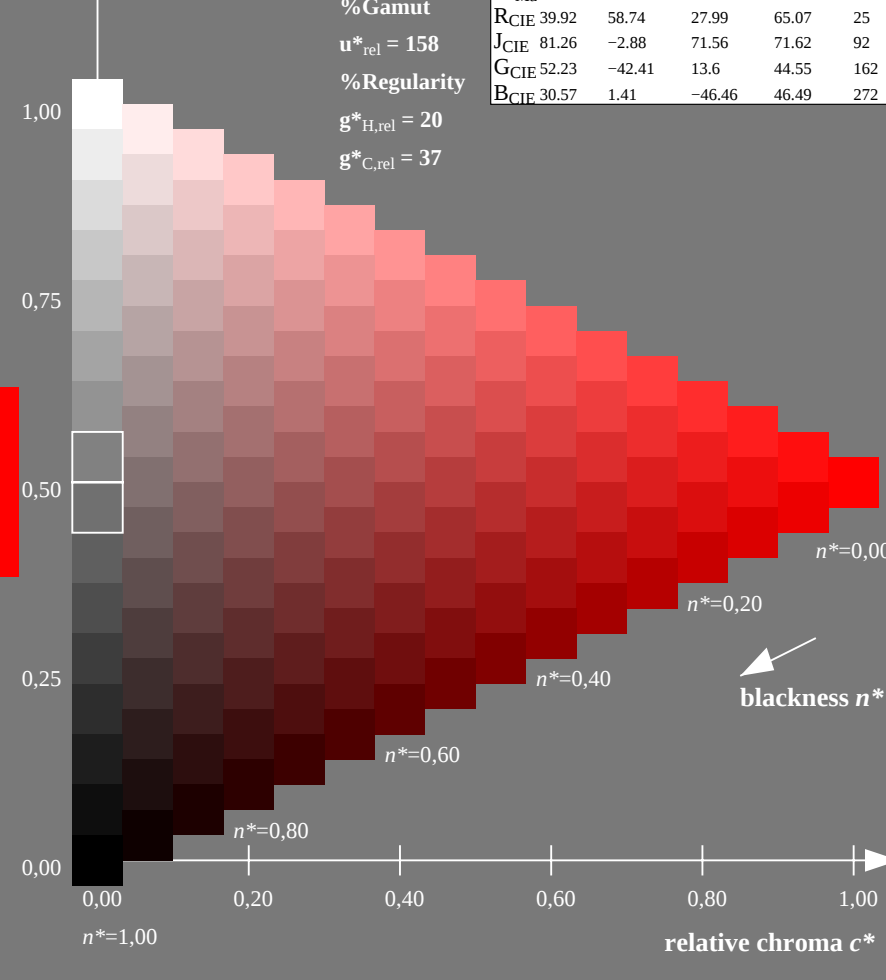
$g^*_{C,rel} = 37$

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



OE730-7N-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)

OE73: Test chart 2 according to DIN 33872-2, Hue O; 1MR, DH
Discrimination of 5 and 16 step colour scales

input: $cmy0$ ($\rightarrow cmy0^*_{\Delta}$) $setcmyk$
output 130-0: $g_P=1.0$; $g_N=1.08$

Input: Colorimetric Television Luminous System TLS00a

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

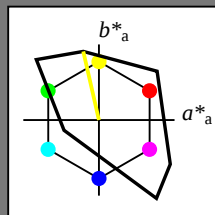
lab^*tch and lab^*nch

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

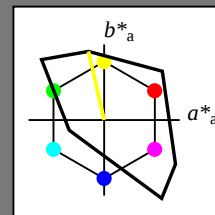
lab^*tch and lab^*nch

D65: hue Y

LCH*Ma: 93 93 103

olv*Ma: 1.0 1.0 0.0

triangle lightness t^*



%Gamut

$u^*_{rel} = 158$

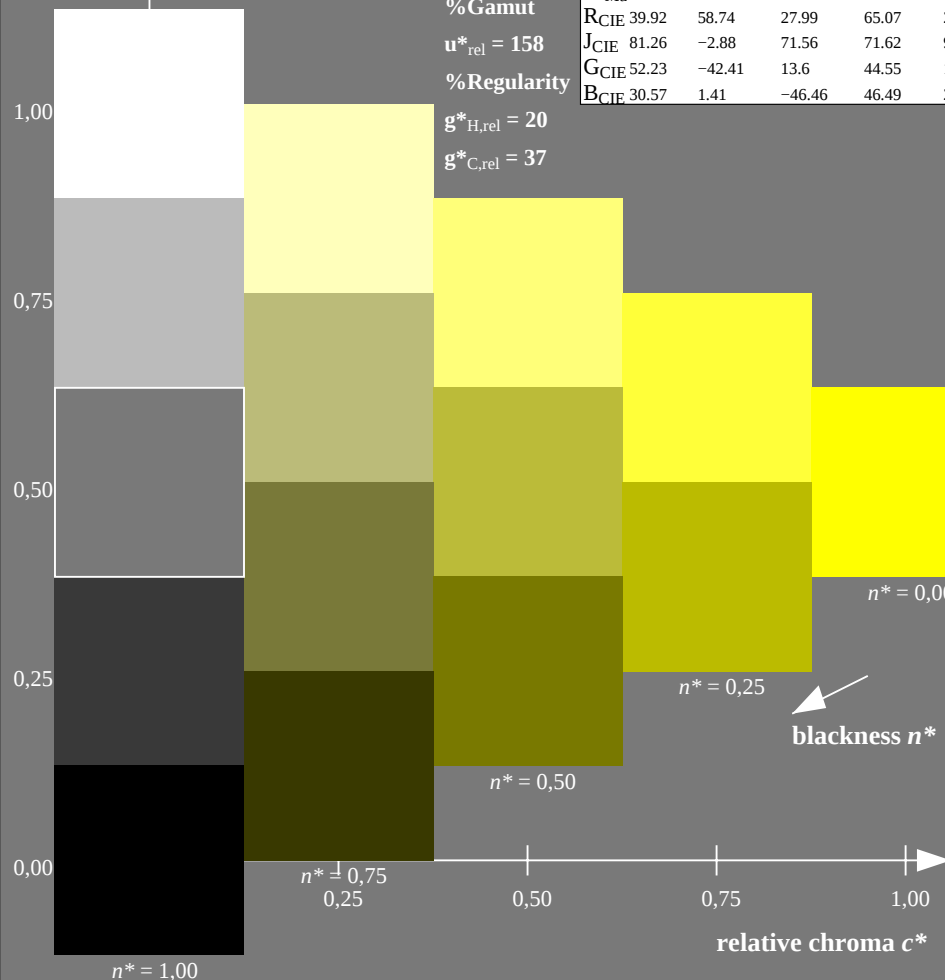
%Regularity

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

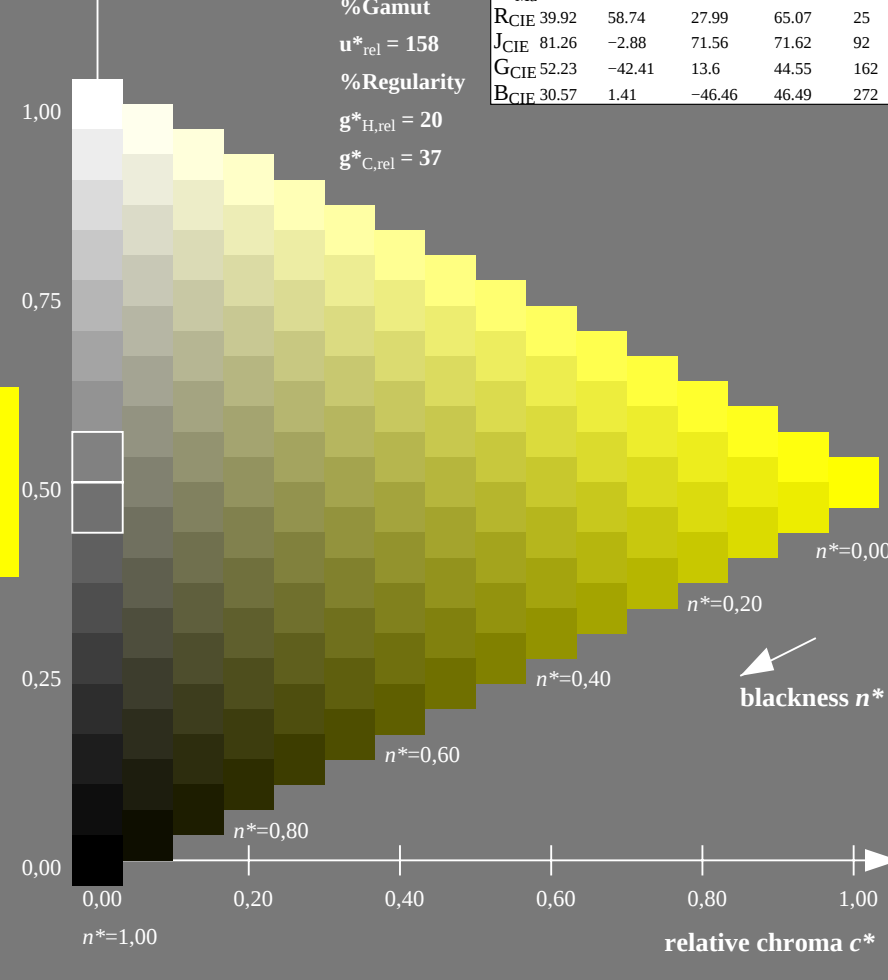
$g^*_{C,rel} = 37$

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



OE730-7N-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)

OE73: Test chart 2 according to DIN 33872-2, Hue Y; 1MR, DH
Discrimination of 5 and 16 step colour scales

input: $cmy0$ ($\rightarrow cmy0^*_{\Delta}$) $setcmyk$
output 130-1: $g_P=1.0$; $g_N=1.08$

TUB registration: 20110801-OE73/OE73L0NA.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 $h^* = lab^*h = 136/360 = 0.378$

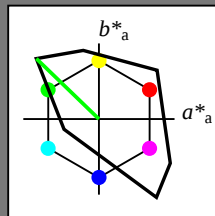
lab^*tch and lab^*nch

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

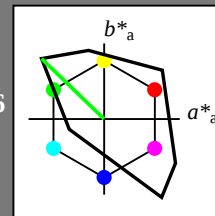
lab^*tch and lab^*nch

D65: hue L

LCH*Ma: 84 115 136

ol v^* Ma: 0.0 1.0 0.0

triangle lightness t^*



%Gamut

$u^*_{rel} = 158$

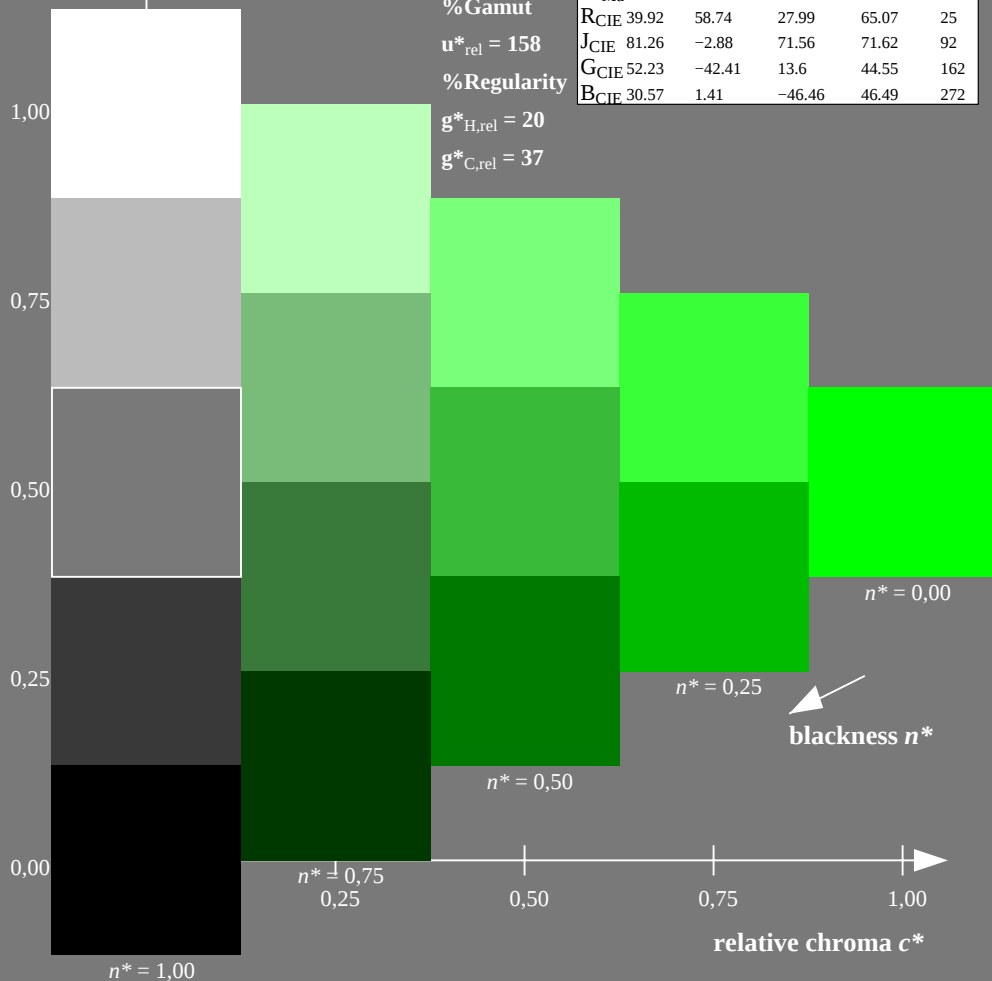
%Regularity

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

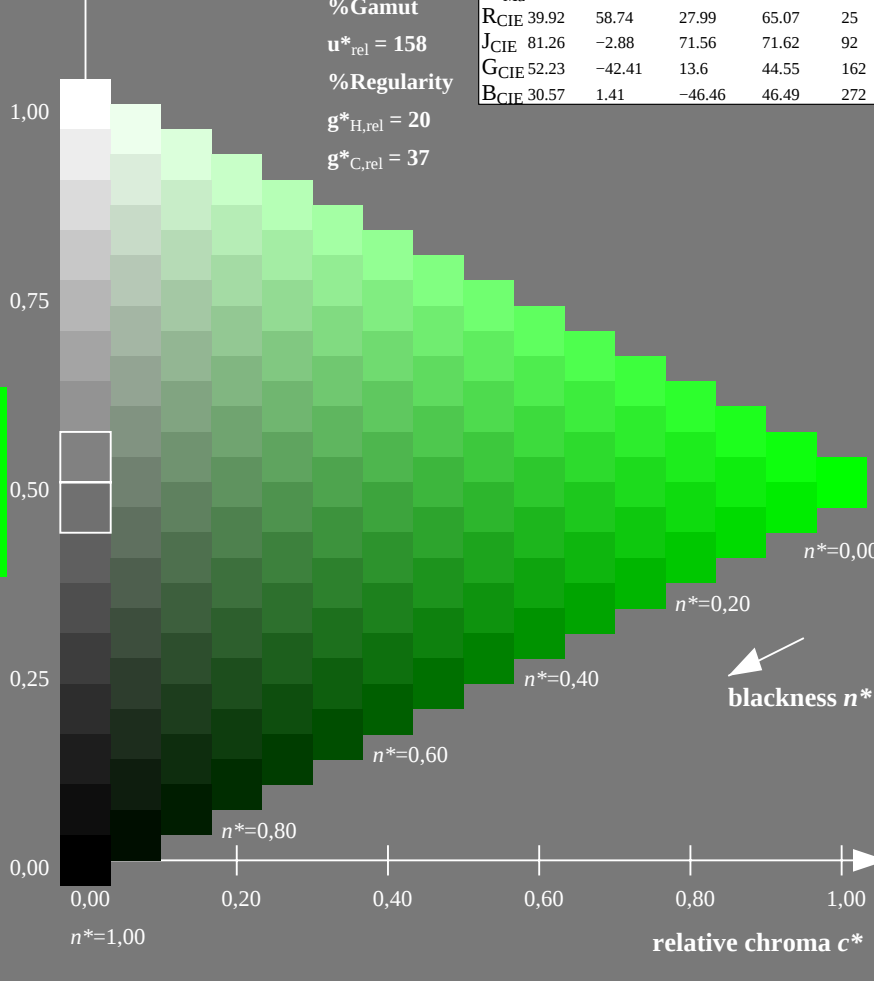
$g^*_{C,rel} = 37$

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



OE730-7N-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)

OE73: Test chart 2 according to DIN 33872-2, Hue L; 1MR, DH
Discrimination of 5 and 16 step colour scales

input: $cmy0$ ($\rightarrow cmy0^*_d$) $setcmyk$
output 130-2: $g_P=1.0$; $g_N=1.08$

Input: Colorimetric Television Luminous System TLS00a

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

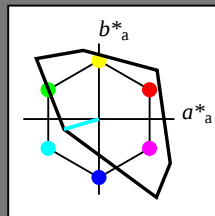
lab^*tch and lab^*nch

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

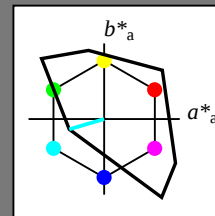
lab^*tch and lab^*nch

D65: hue C

LCH*Ma: 87 48 196

ol v^* Ma: 0.0 1.0 1.0

triangle lightness t^*



%Gamut

$u^*_{rel} = 158$

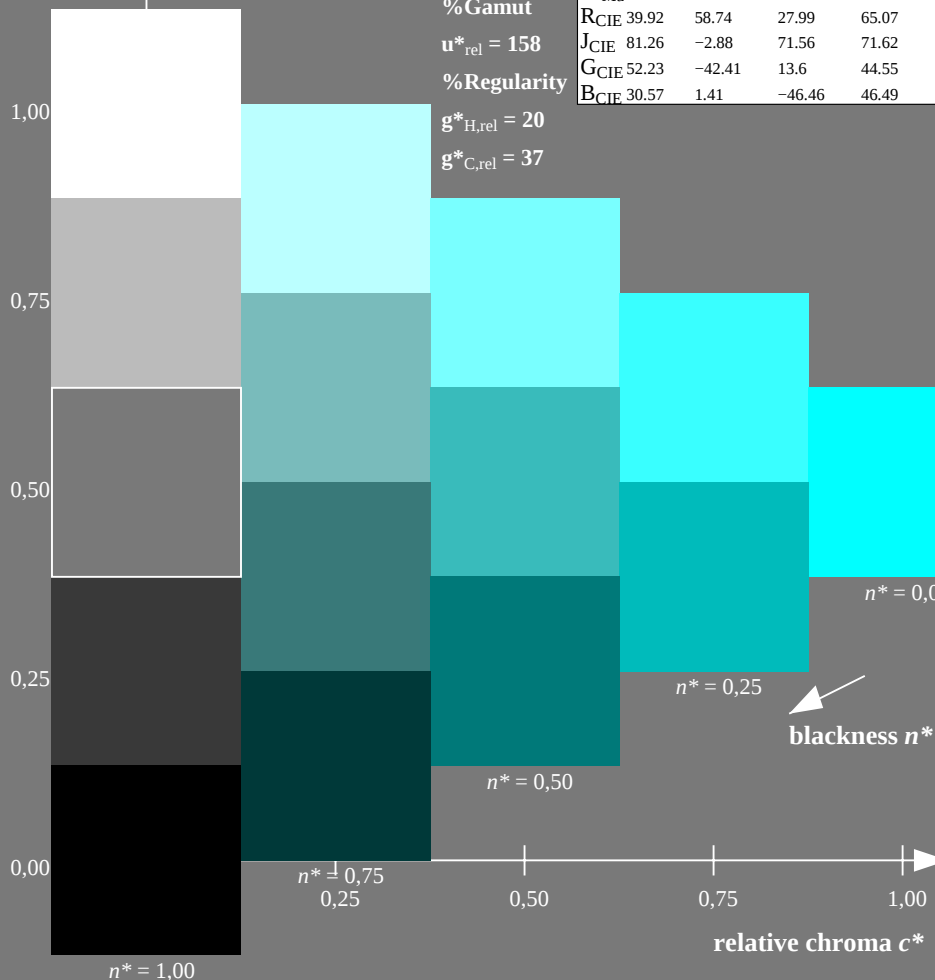
%Regularity

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

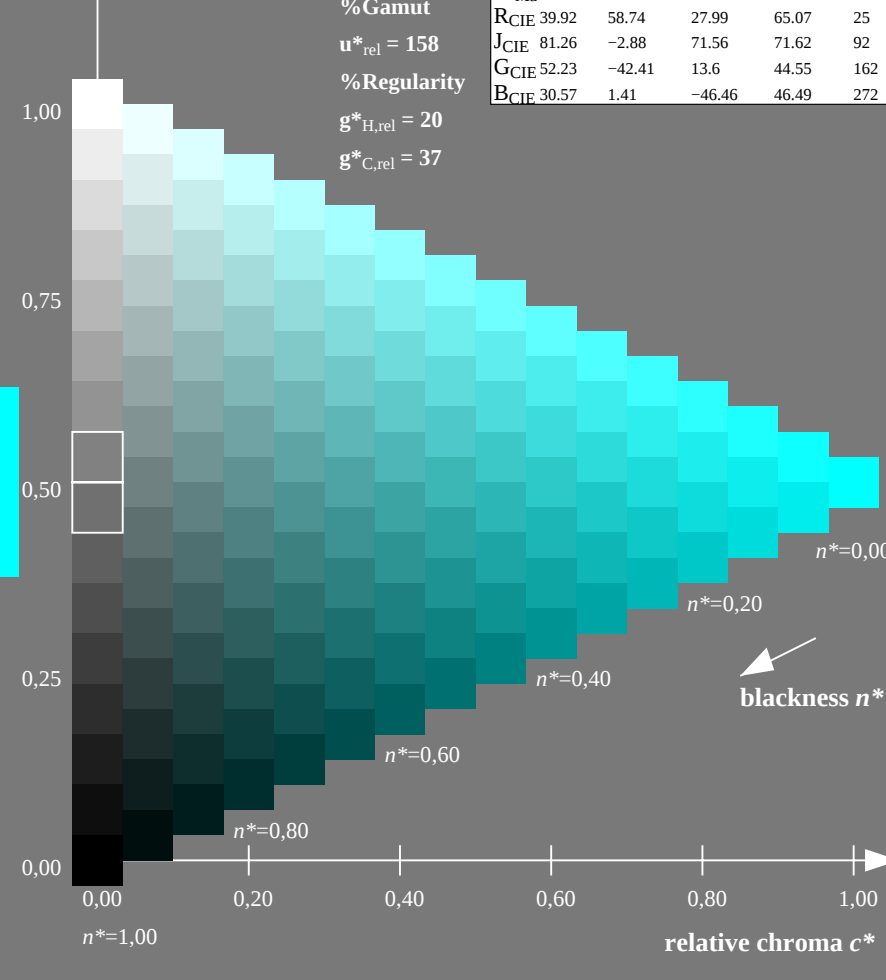
$g^*_{C,rel} = 37$

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



OE730-7N-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)

OE73: Test chart 2 according to DIN 33872-2, Hue C; 1MR, DH
Discrimination of 5 and 16 step colour scales

input: $cmy0$ ($\rightarrow cmy0^*_d$) $setcmyk$
output 130-3: $g_P=1.0$; $g_N=1.08$

TUB registration: 20110801-OE73/OE73L0NA.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 $h^* = lab^*h = 306/360 = 0.851$

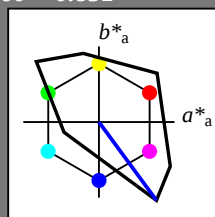
lab^*tch and lab^*nch

D65: hue V

LCH*Ma: 30 129 306

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

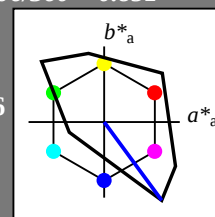
lab^*tch and lab^*nch

D65: hue V

LCH*Ma: 30 129 306

ol v^* Ma: 0.0 0.0 1.0

triangle lightness t^*



%Gamut

$u^*_{rel} = 158$

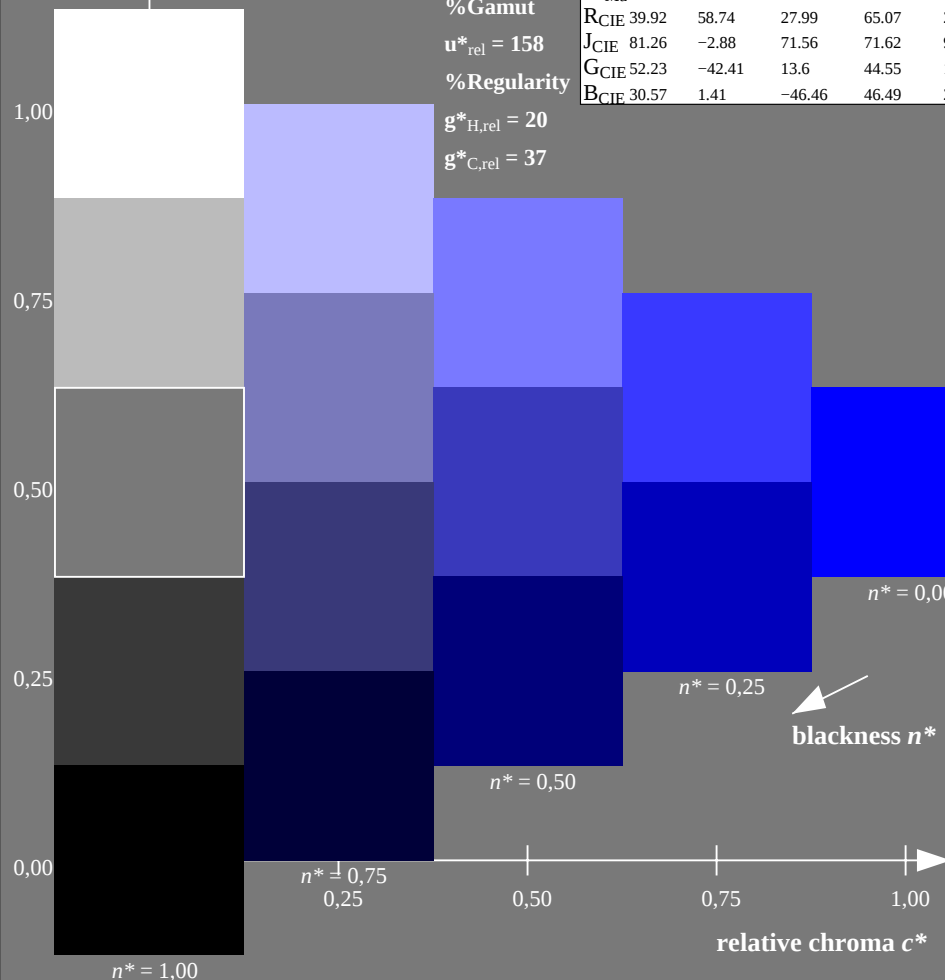
%Regularity

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

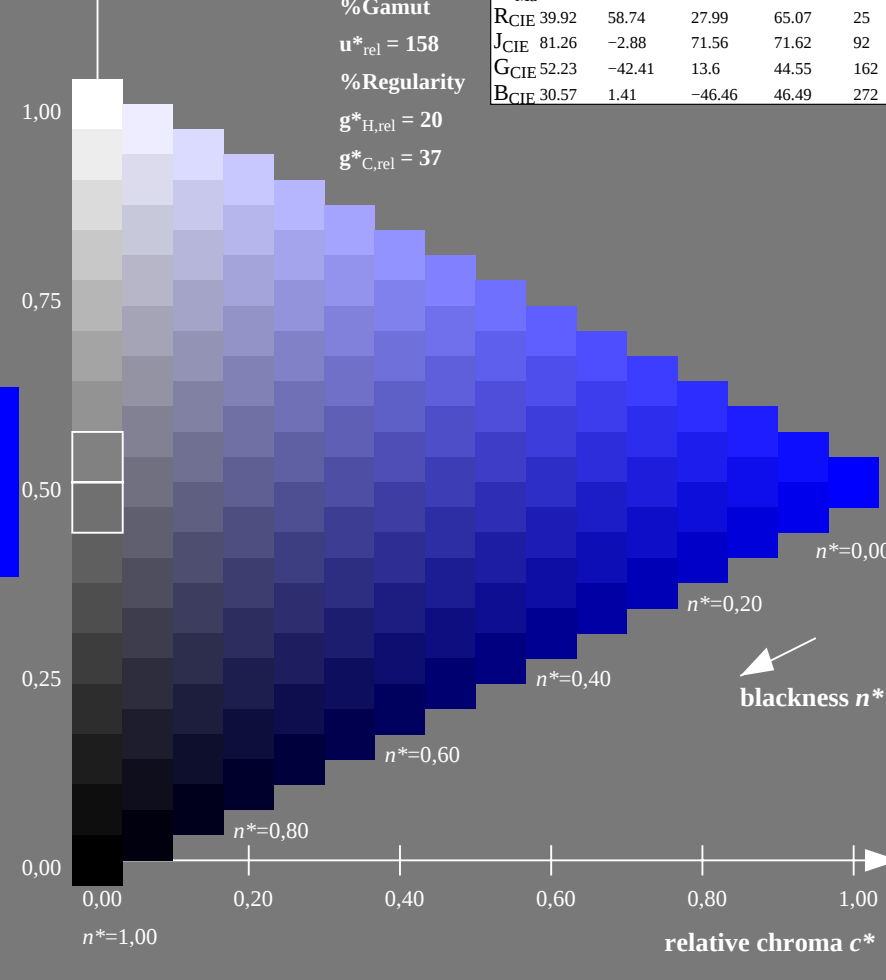
$g^*_{C,rel} = 37$

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



OE730-7N-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)

OE73: Test chart 2 according to DIN 33872-2, Hue V; 1MR, DH
Discrimination of 5 and 16 step colour scales

input: $cmy0$ ($\rightarrow cmy0^*_{\Delta}$) $setcmyk$
output 130-4: $g_P=1.0$; $g_N=1.08$

Input: Colorimetric Television Luminous System TLS00a

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

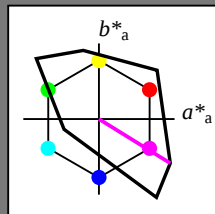
lab^*tch and lab^*nch

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

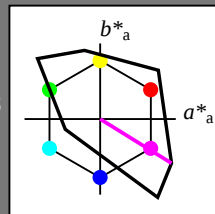
lab^*tch and lab^*nch

D65: hue M

LCH*Ma: 57 111 328

ol v^* Ma: 1.0 0.0 1.0

triangle lightness t^*



%Gamut

$u^*_{rel} = 158$

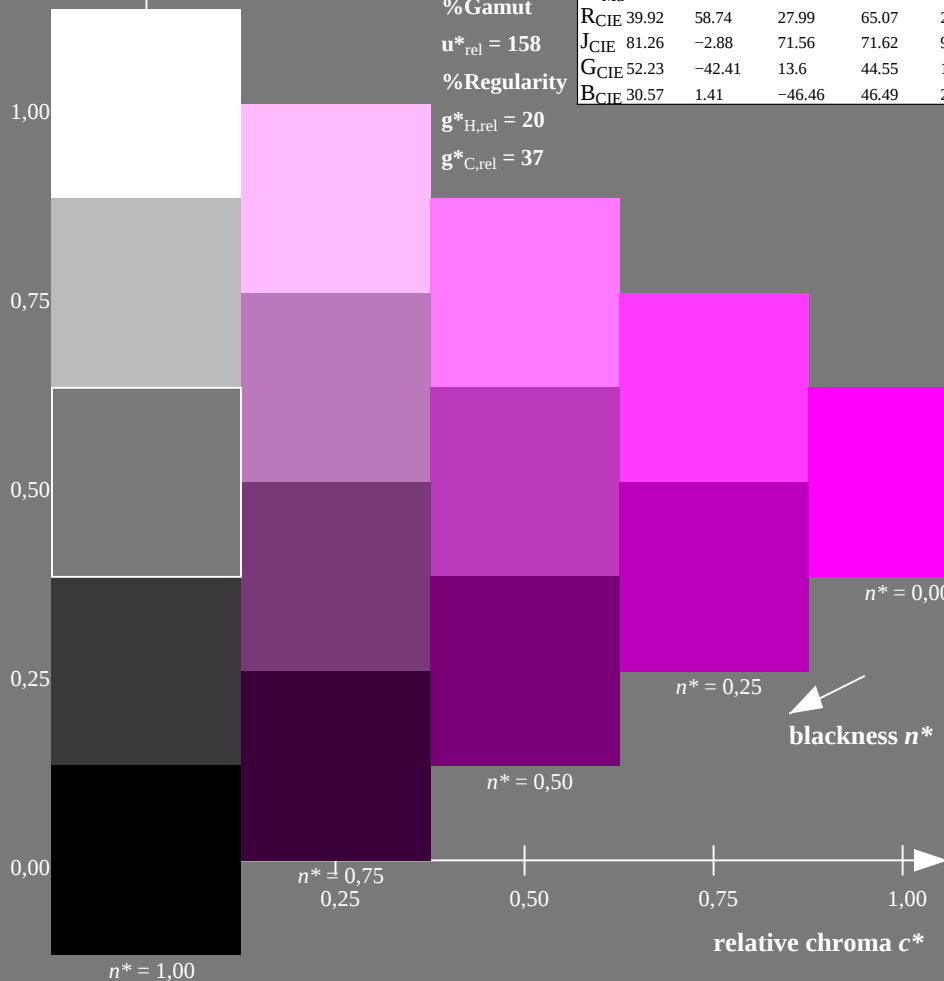
%Regularity

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

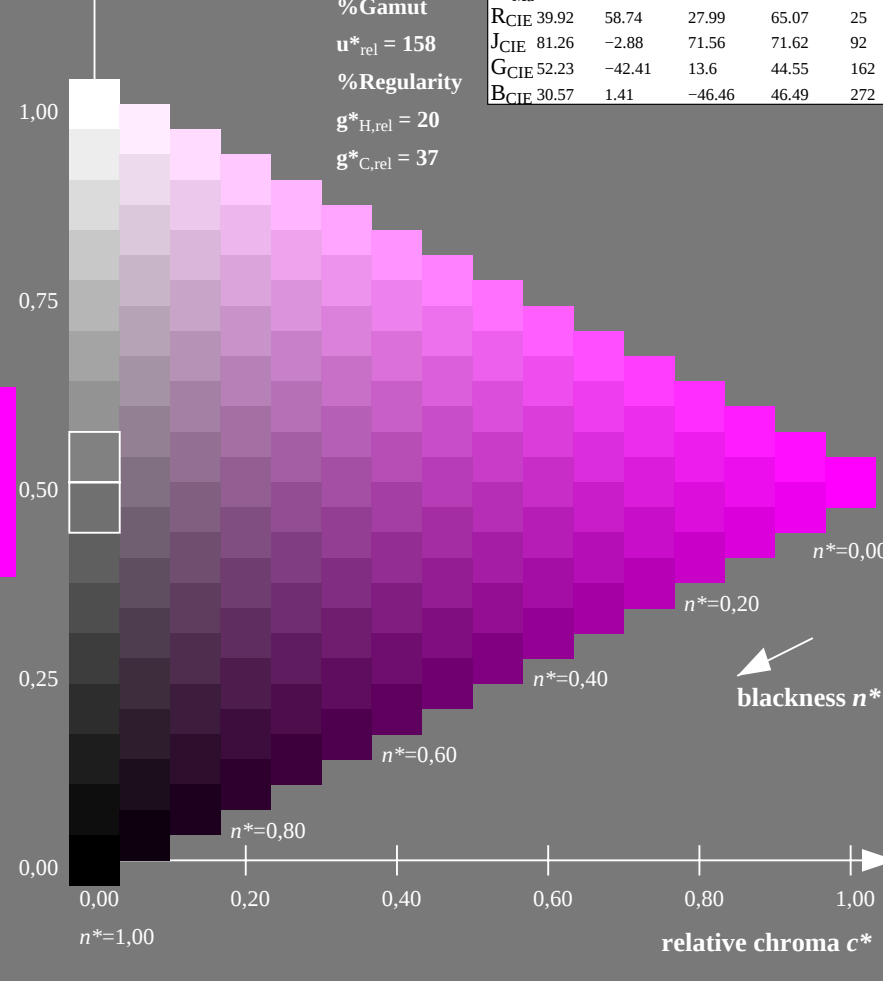
$g^*_{C,rel} = 37$

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



OE730-7N-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)

OE73: Test chart 2 according to DIN 33872-2, Hue M; 1MR, DH
Discrimination of 5 and 16 step colour scales

input: $cmy0$ ($\rightarrow cmy0^*_{\Delta}$) $setcmyk$
output 130-5: $g_P=1.0$; $g_N=1.08$

Input: Colorimetric Television Luminous System TLS00a

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

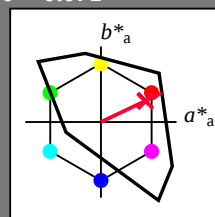
lab^*tch and lab^*nch

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

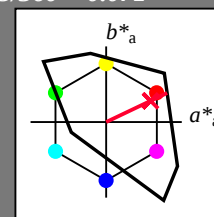
lab^*tch and lab^*nch

D65: hue R

LCH*Ma: 52 89 25

olv*Ma: 1.0 0.0 0.21

triangle lightness t^*



%Gamut

$u^*_{rel} = 158$

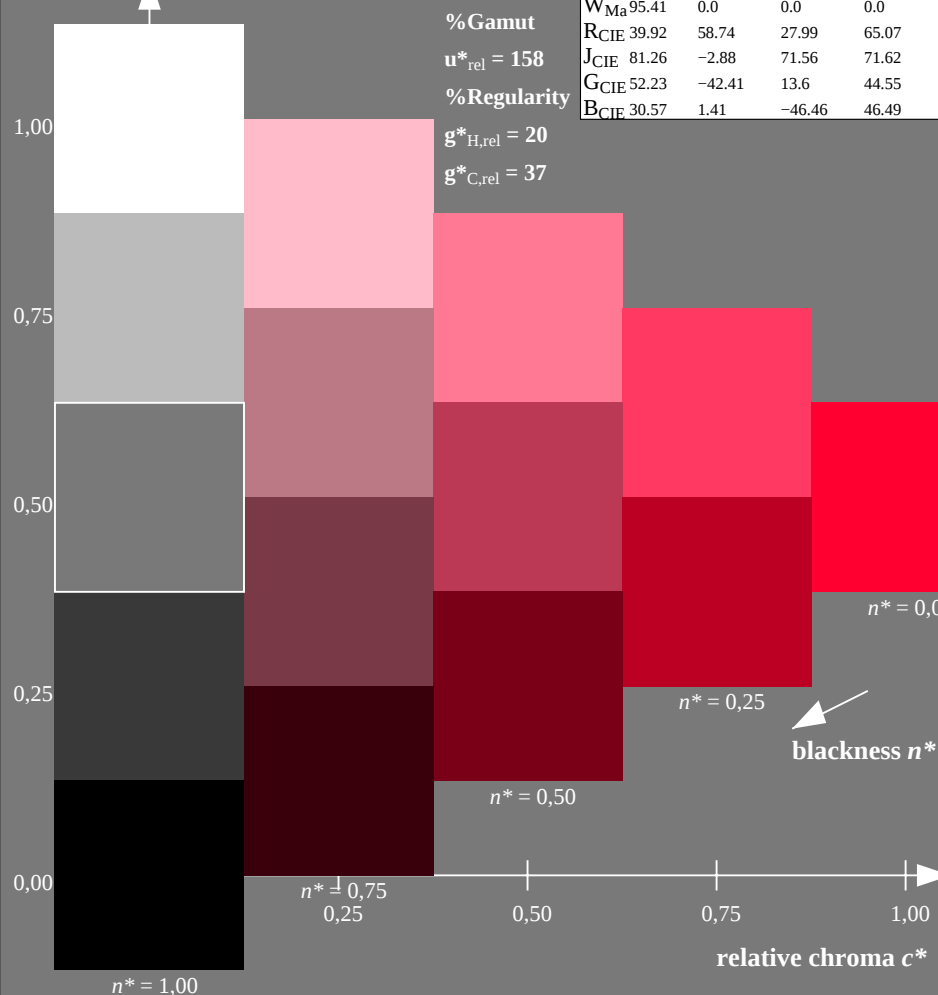
%Regularity

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

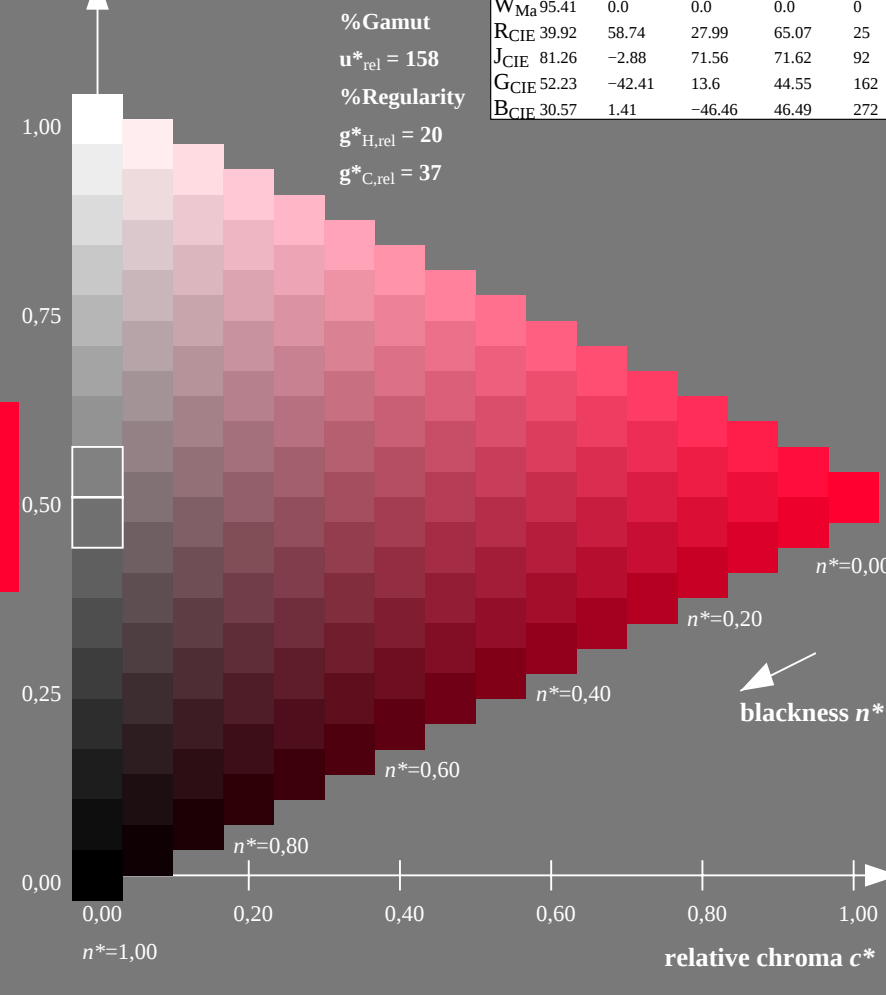
$g^*_{C,rel} = 37$

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



OE730-7N-131-6: 5 step scales for constant CIELAB hue 25/360 = 0.071 (left)



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

OE73: Test chart 2 according to DIN 33872-2, Hue R; 1MR, DH
Discrimination of 5 and 16 step colour scales

input: $cmy0$ ($\rightarrow cmy0^*_{de}$) $setcmyk$
output 130-6: $g_P=1.0$; $g_N=1.08$

Input: Colorimetric Television Luminous System TLS00a

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

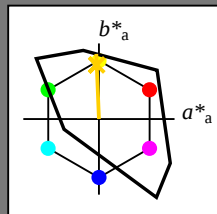
lab^*tch and lab^*nch

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

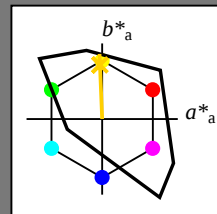
lab^*tch and lab^*nch

D65: hue J

LCH*Ma: 85 86 92

olv*Ma: 1.0 0.82 0.0

triangle lightness t^*



%Gamut

$u^*_{rel} = 158$

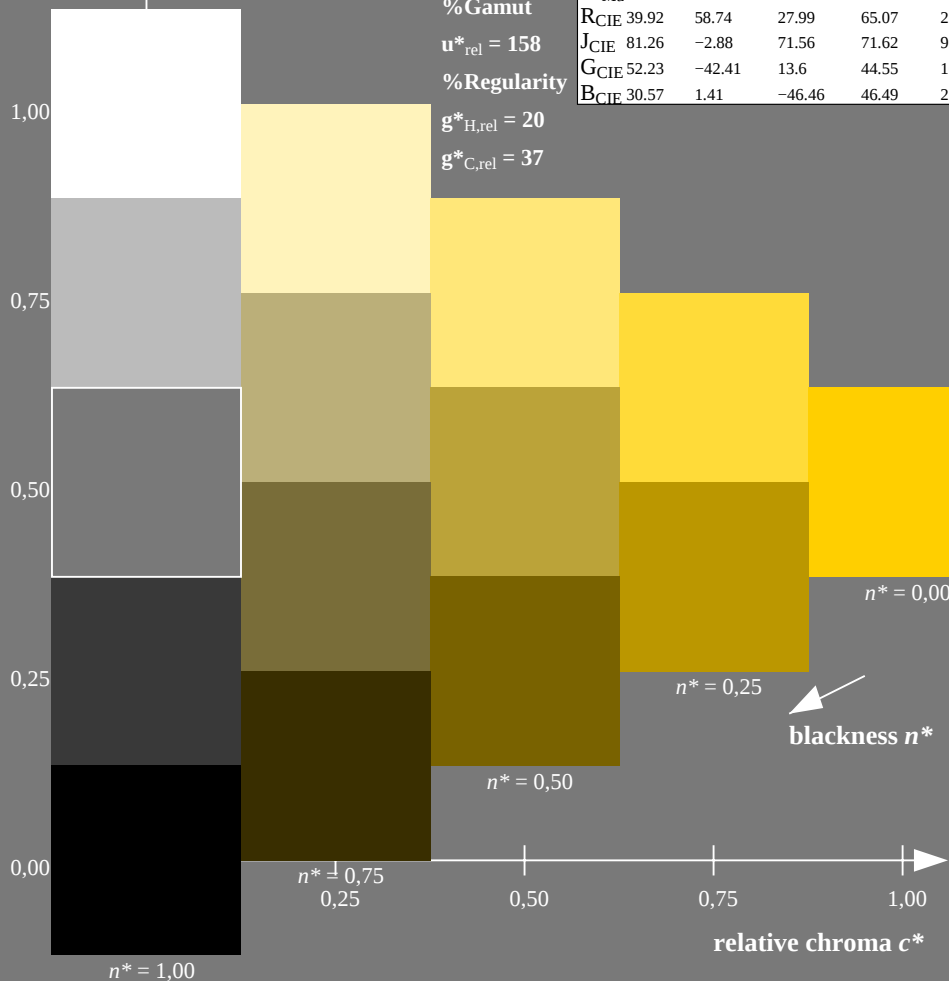
%Regularity

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

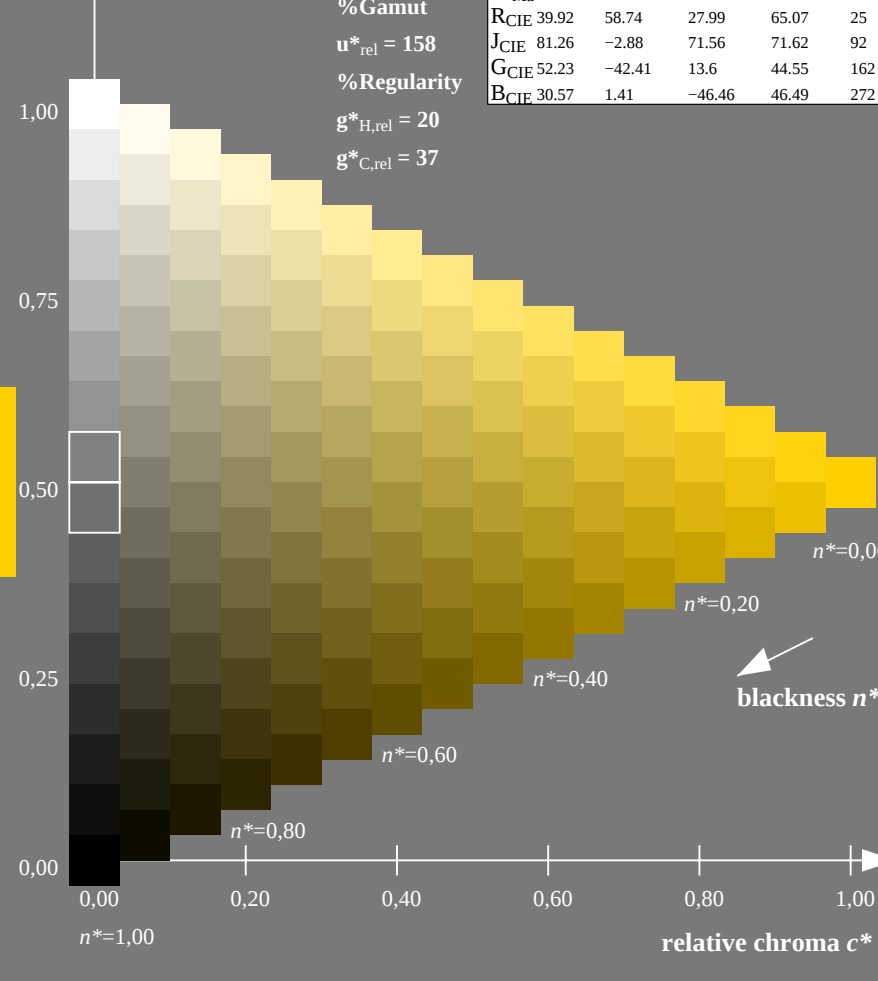
$g^*_{C,rel} = 37$

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



OE730-7N-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)

OE73: Test chart 2 according to DIN 33872-2, Hue J; 1MR, DH
Discrimination of 5 and 16 step colour scales

input: $cmy0$ ($\rightarrow cmy0^*_{de}$) $setcmyk$
output 130-7: $g_P=1.0$; $g_N=1.08$

Input: Colorimetric Television Luminous System TLS00a

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

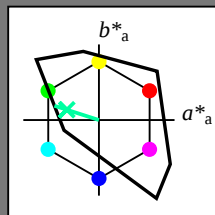
lab^*tch and lab^*nch

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

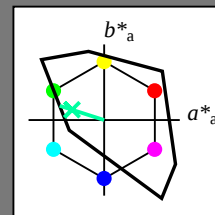
lab^*tch and lab^*nch

D65: hue G

LCH*Ma: 86 62 162

ol v^* Ma: 0.0 1.0 0.65

triangle lightness t^*



%Gamut

$u^*_{rel} = 158$

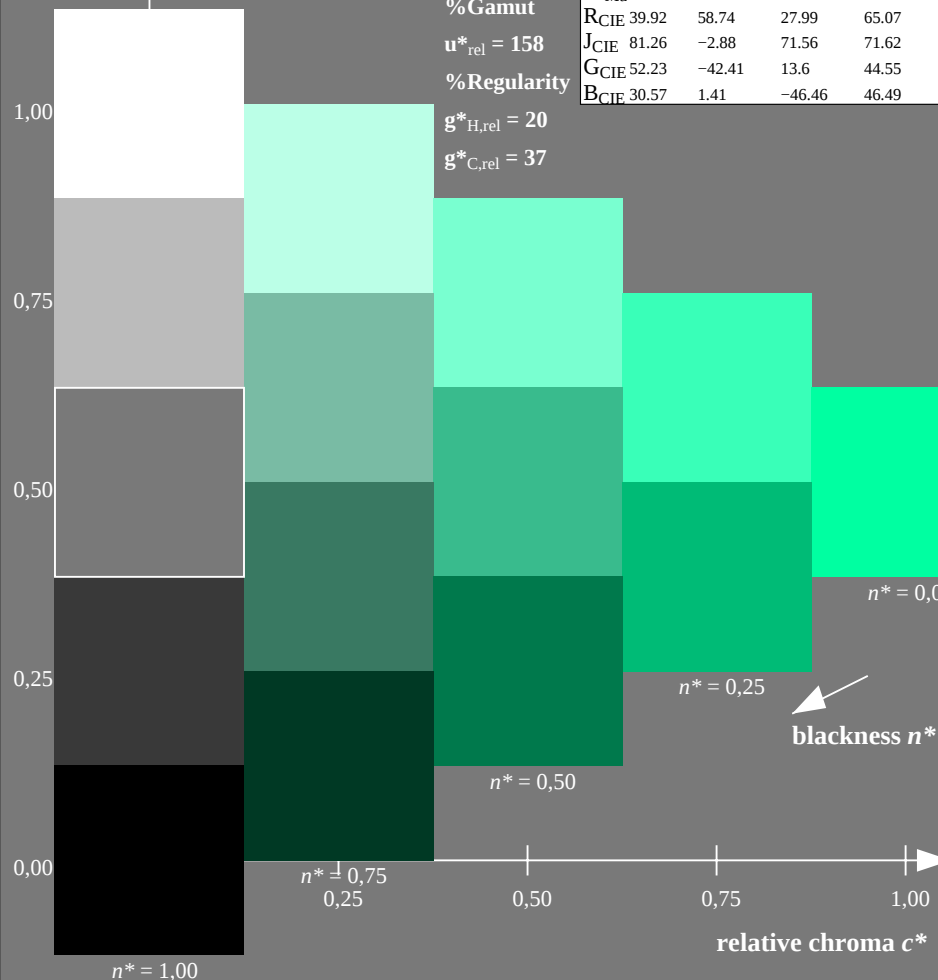
%Regularity

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

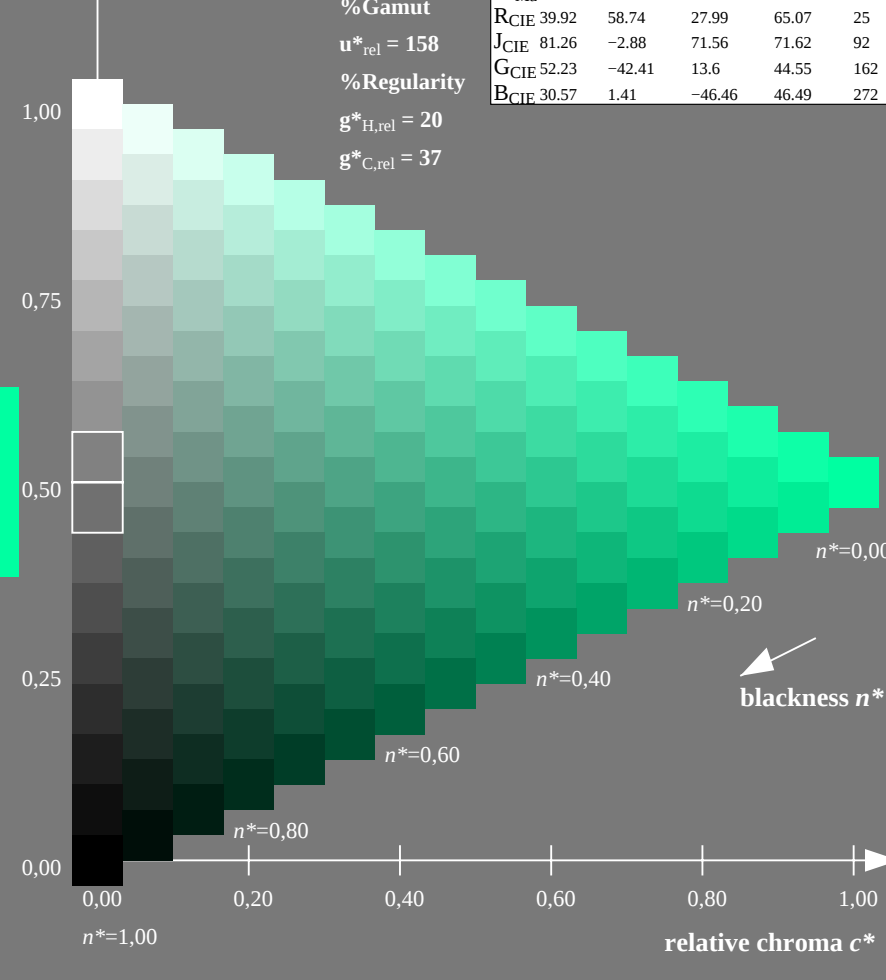
$g^*_{C,rel} = 37$

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



OE730-7N-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)

OE73: Test chart 2 according to DIN 33872-2, Hue G; 1MR, DH
Discrimination of 5 and 16 step colour scales

input: $cmy0$ ($\rightarrow cmy0^*_{de}$) $setcmyk$
output 130-8: $g_P=1.0$; $g_N=1.08$

Input: Colorimetric Television Luminous System TLS00a

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

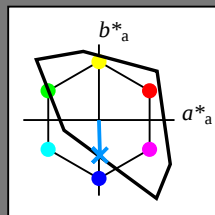
lab^*tch and lab^*nch

D65: hue B

LCH*Ma: 65 49 272

olv*Ma: 0.0 0.61 1.0

triangle lightness t^*



%Gamut

$u^*_{rel} = 158$

%Regularity

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

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

TLS00a; adapted (a) CIELAB data

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

Output: Colorimetric Television Luminous System TLS00a

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

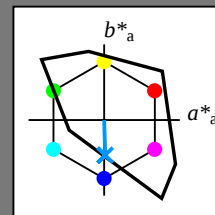
lab^*tch and lab^*nch

D65: hue B

LCH*Ma: 65 49 272

olv*Ma: 0.0 0.61 1.0

triangle lightness t^*



%Gamut

$u^*_{rel} = 158$

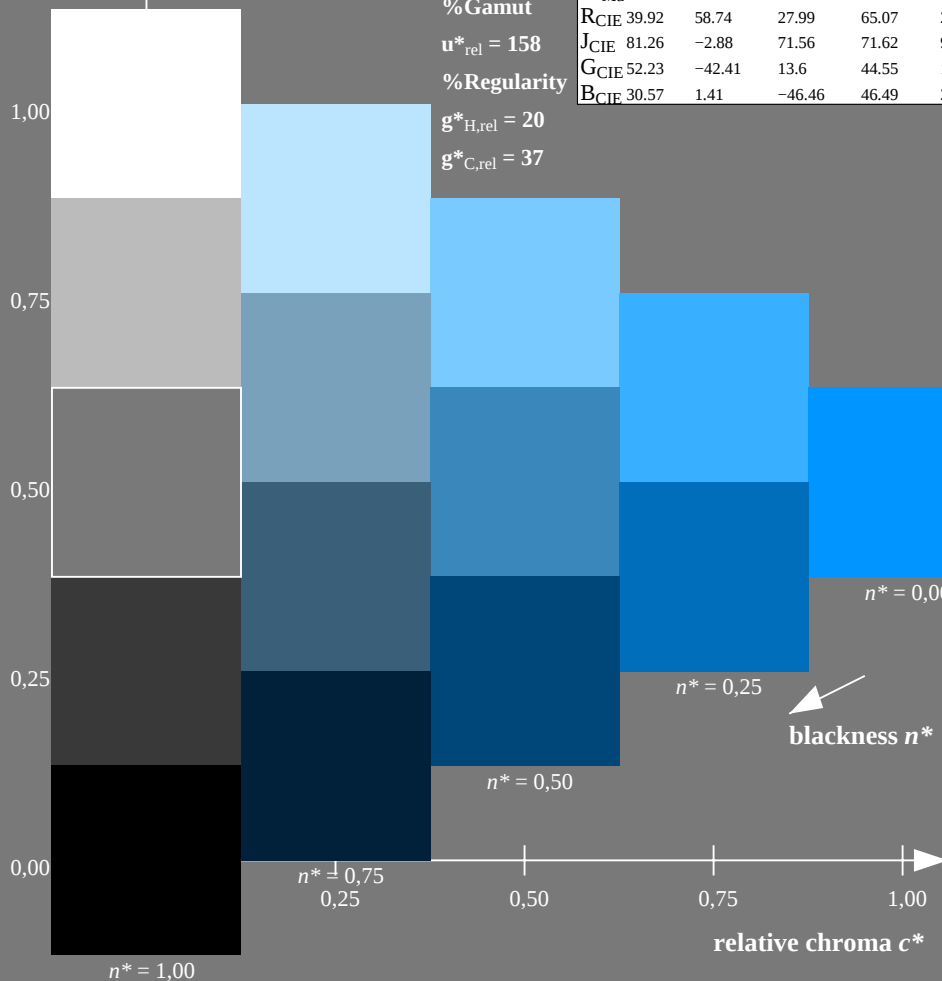
%Regularity

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

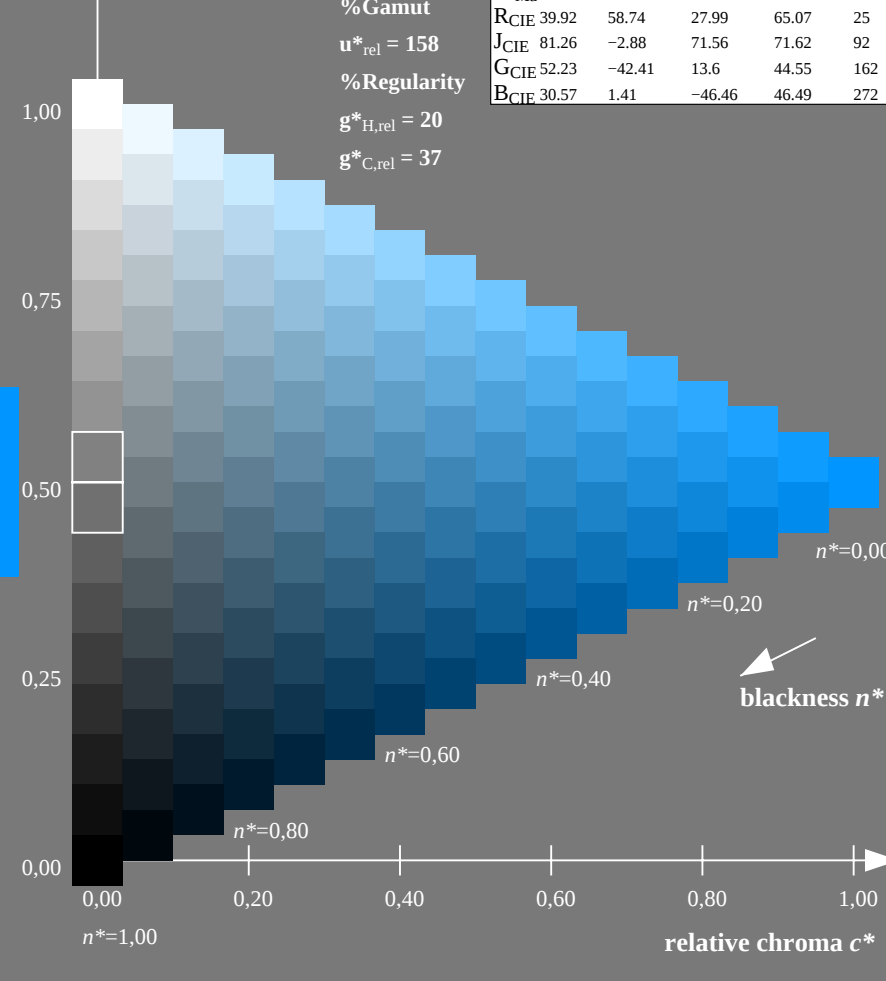
$g^*_{C,rel} = 37$

TLS00a; adapted (a) CIELAB data

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



OE730-7N-131-9: 5 step scales for constant CIELAB hue 272/360 = 0.755 (left)



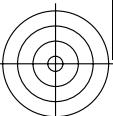
16 step scales for constant CIELAB hue 272/360 = 0.755 (right)

OE73: Test chart 2 according to DIN 33872-2, Hue B; 1MR, DH
Discrimination of 5 and 16 step colour scales

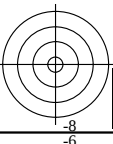
input: $cmy0$ ($\rightarrow cmy0^*_{de}$) $setcmyk$
output 130-9: $g_P=1.0$; $g_N=1.08$

TUB registration: 20110801-OE73/OE73L0NA.TXT /.PS
application for output of displays: monitor systems or data projector systems

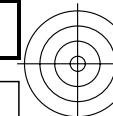
TUB material: code=rha4ta



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

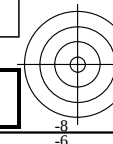


<http://130.149.60.45/~farbmetrik/OE73/OE73L0NA.TXT> /PS; linearized output, Page 11/12
 F: Output Linearization (OL) data OE73/OE73L0NA.TXT /PS in File (F)



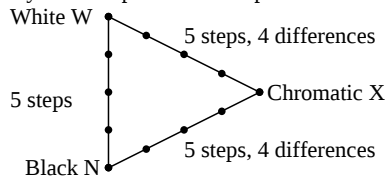
TUB registration: 20110801-OE73/OE73L0NA.TXT /PS
 application for output of displays: monitor systems or data projector systems

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

OE730-3N-131-10

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

PDF-File: <http://130.149.60.45/farbmetrik/OE73/OE73L0NP.PDF> underline Yes/No

PS-File: <http://130.149.60.45/farbmetrik/OE73/OE73L0NA.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 OE73L0NP.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 OE73L0NA.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

OE730-7N-131-10

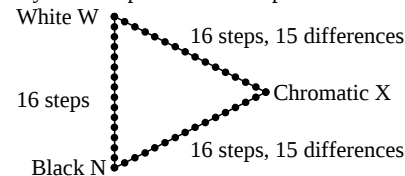


OE73: Form A for test chart 2 according to DIN 33872-2; 1MR, DHinput: *cmy0* (->*cmy0***1*) *setcmyk*
 Discrimination of colour scales (Yes/No decision) output 130-10: *g_P*=1.0; *g_N*=1.08



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

OE731-3N-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/OE73/OE73F1P2.PDF>

underline Yes/No

PS file: <http://130.149.60.45/farbmetrik/OE73/OE73F1P2.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/OE73/OE73F1P2.PDF>

picture A7-131-2

underline Yes/No

PS-File: <http://130.149.60.45/farbmetrik/OE73/OE73F1P2.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

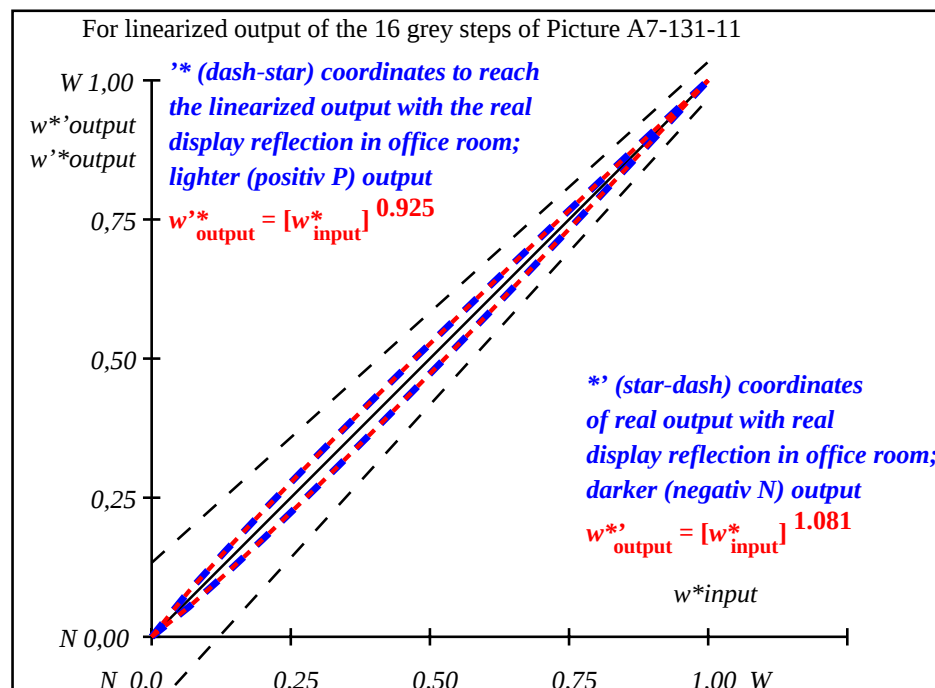
OE731-7N-131-10



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 5.69 0.0	0.0 0.0 0.0	0.0 0.0 0.0	0.01
2	11.67 0.0 0.0	0.05 10.49 0.0	0.0 0.0 -1.17	0.0 0.0 0.0	1.18
3	17.65 0.0 0.0	0.11 15.85 0.0	0.0 0.0 -1.79	0.0 0.0 0.0	1.8
4	23.63 0.0 0.0	0.18 21.44 0.0	0.0 0.0 -2.19	0.0 0.0 0.0	2.2
5	29.62 0.0 0.0	0.24 27.18 0.0	0.0 0.0 -2.42	0.0 0.0 0.0	2.43
6	35.6 0.0 0.0	0.3 33.05 0.0	0.0 0.0 -2.54	0.0 0.0 0.0	2.55
7	41.58 0.0 0.0	0.37 39.01 0.0	0.0 0.0 -2.56	0.0 0.0 0.0	2.57
8	47.56 0.0 0.0	0.44 45.05 0.0	0.0 0.0 -2.5	0.0 0.0 0.0	2.51
9	53.54 0.0 0.0	0.51 51.16 0.0	0.0 0.0 -2.37	0.0 0.0 0.0	2.38
10	59.52 0.0 0.0	0.58 57.34 0.0	0.0 0.0 -2.17	0.0 0.0 0.0	2.18
11	65.5 0.0 0.0	0.65 63.57 0.0	0.0 0.0 -1.92	0.0 0.0 0.0	1.93
12	71.48 0.0 0.0	0.72 69.85 0.0	0.0 0.0 -1.62	0.0 0.0 0.0	1.63
13	77.47 0.0 0.0	0.79 76.18 0.0	0.0 0.0 -1.28	0.0 0.0 0.0	1.29
14	83.45 0.0 0.0	0.86 82.55 0.0	0.0 0.0 -0.89	0.0 0.0 0.0	0.9
15	89.43 0.0 0.0	0.93 88.96 0.0	0.0 0.0 -0.46	0.0 0.0 0.0	0.47
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	5.69 0.0 0.0	0.0 5.69 0.0	0.0 0.0 0.0	0.0 0.0 0.0	0.01
18	28.12 0.0 0.0	0.22 25.74 0.0	0.0 0.0 -2.37	0.0 0.0 0.0	2.38
19	50.55 0.0 0.0	0.47 48.1 0.0	0.0 0.0 -2.44	0.0 0.0 0.0	2.45
20	72.98 0.0 0.0	0.73 71.43 0.0	0.0 0.0 -1.54	0.0 0.0 0.0	1.55
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)					0.47
ΔE* _{CIELAB} =					1.6
Mean lightness difference (5 steps)					1.55
ΔL* _{CIELAB} =					1.3
Mean colour reproduction index:					R* _{ab,m} = 93

OE730-3N-131-11: File: Measure unknown; Device: Device unknown; Date: Date unknown



OE731-3N-131-11: File: Measure unknown; Device: Device unknown; Date: Date unknown

L*/Y _{intended} (absolute)	5.7/0.6	11.7/1.4	17.7/2.4	23.6/4.0	29.6/6.1	35.6/8.8	41.6/12.2	47.6/16.5	53.5/21.5	59.5/27.6	65.5/34.7	71.5/42.9	77.5/52.3	83.4/63.0	89.4/75.1	95.4/88.6
w* w* w* setrgb																
g _N =1.08																
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)																
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	0,054	0,113	0,176	0,24	0,305	0,371	0,439	0,506	0,576	0,645	0,715	0,786	0,857	0,928	1,0

OE730-7N, Picture A7-131-11: 16 visual equidistant L*-grey steps; PS operator: w* w* w* setrgbcolor

OE73: In-output relation according to ISO 9241-306; 1MR, DH
Viewing Y contrast Y_W:Y_N=88,9:0,62; Y_N range 0,46 to <0,93

input: cmy0 (->cmy0*) setcmyk
output 130-11: g_P=1.0; g_N=1.08

Input: Colorimetric Television Luminous System TLS00a

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

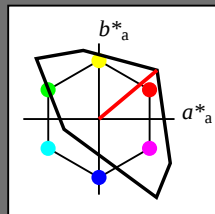
lab^*tch and lab^*nch

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

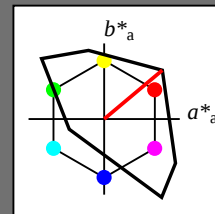
lab^*tch and lab^*nch

D65: hue O

LCH*Ma: 51 100 40

olv*Ma: 1.0 0.0 0.0

triangle lightness t^*



%Gamut

$u^*_{rel} = 158$

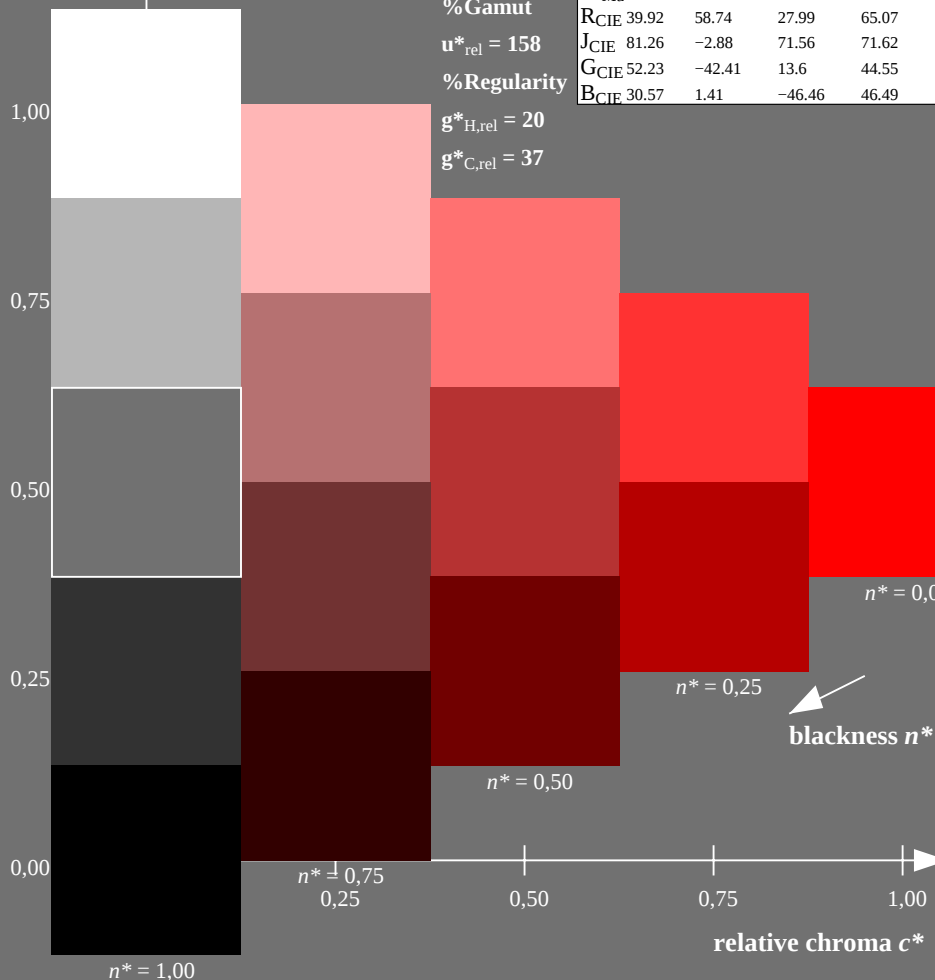
%Regularity

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

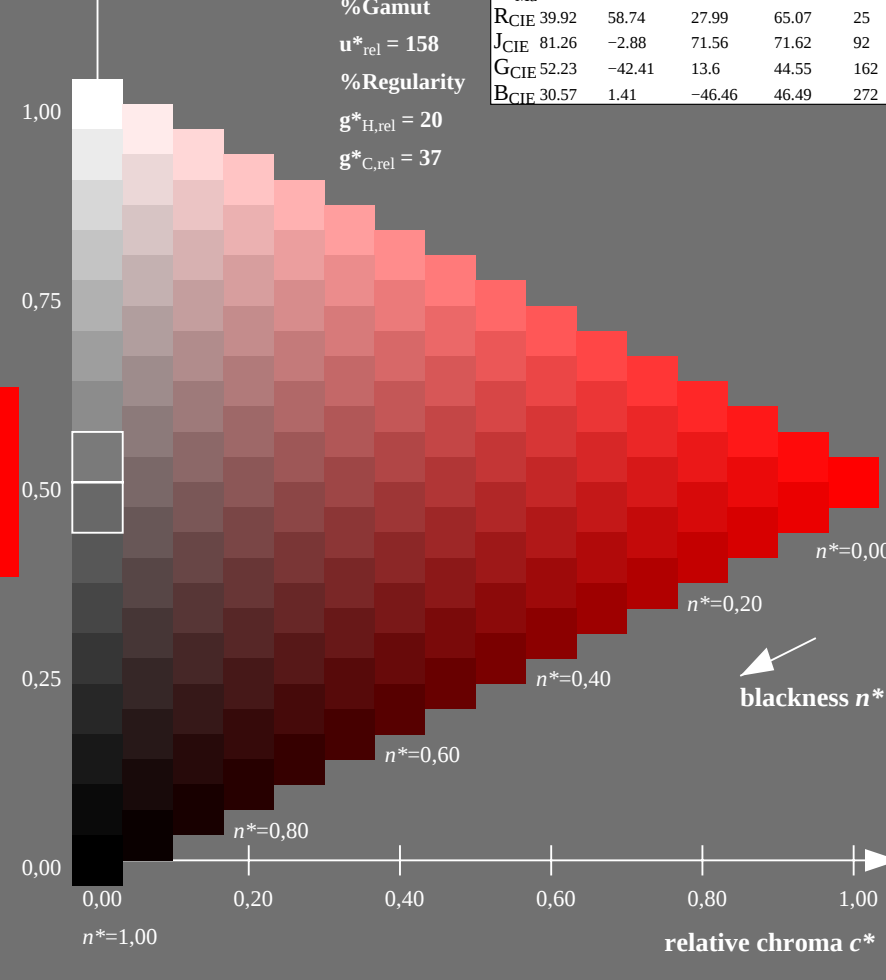
$g^*_{C,rel} = 37$

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



OE730-7N-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)

OE73: Test chart 2 according to DIN 33872-2, Hue O; 1MR, DH
Discrimination of 5 and 16 step colour scales

input: $cmy0$ ($\rightarrow cmy0^*_d$) $setcmyk$
output 130-0: $g_P=1.0$; $g_N=1.17$

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-OE73/OE73L0NA.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 $h^* = lab^*h = 103/360 = 0.286$

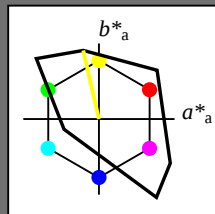
lab^*tch and lab^*nch

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

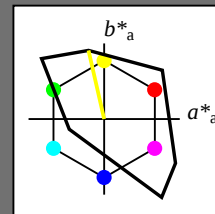
lab^*tch and lab^*nch

D65: hue Y

LCH*Ma: 93 93 103

olv*Ma: 1.0 1.0 0.0

triangle lightness t^*



%Gamut

$u^*_{rel} = 158$

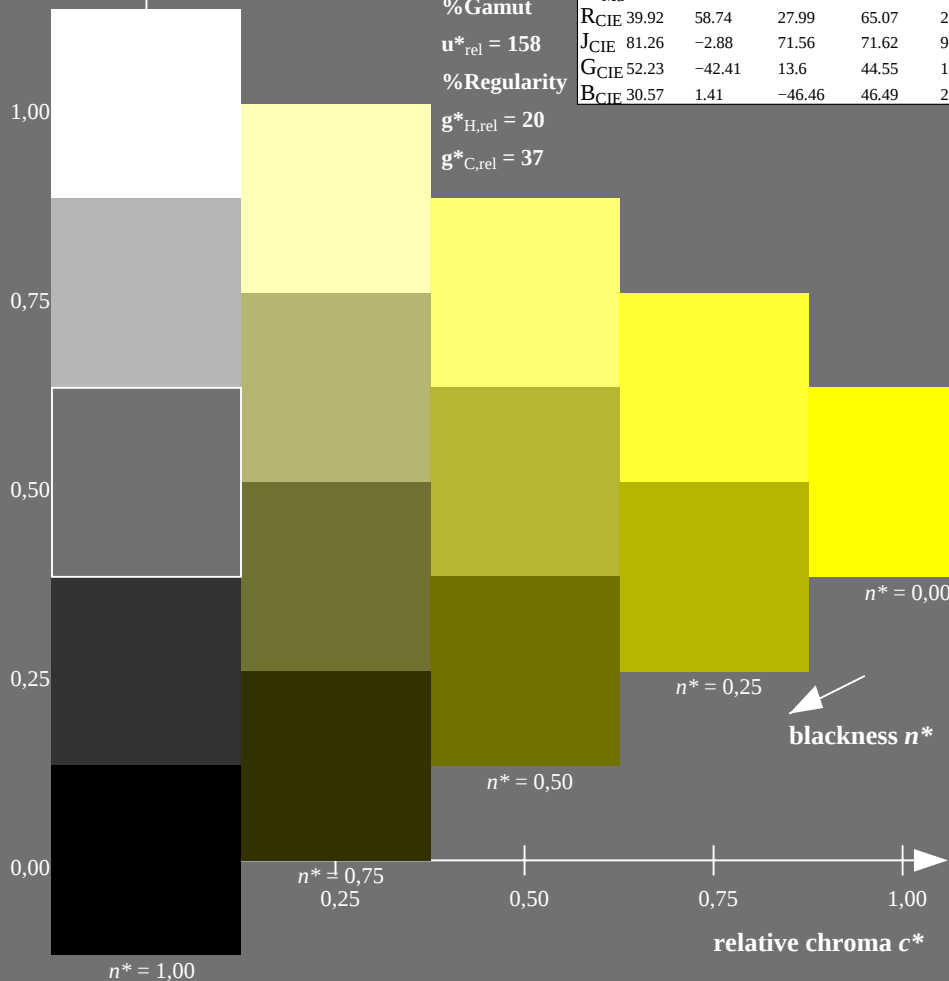
%Regularity

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

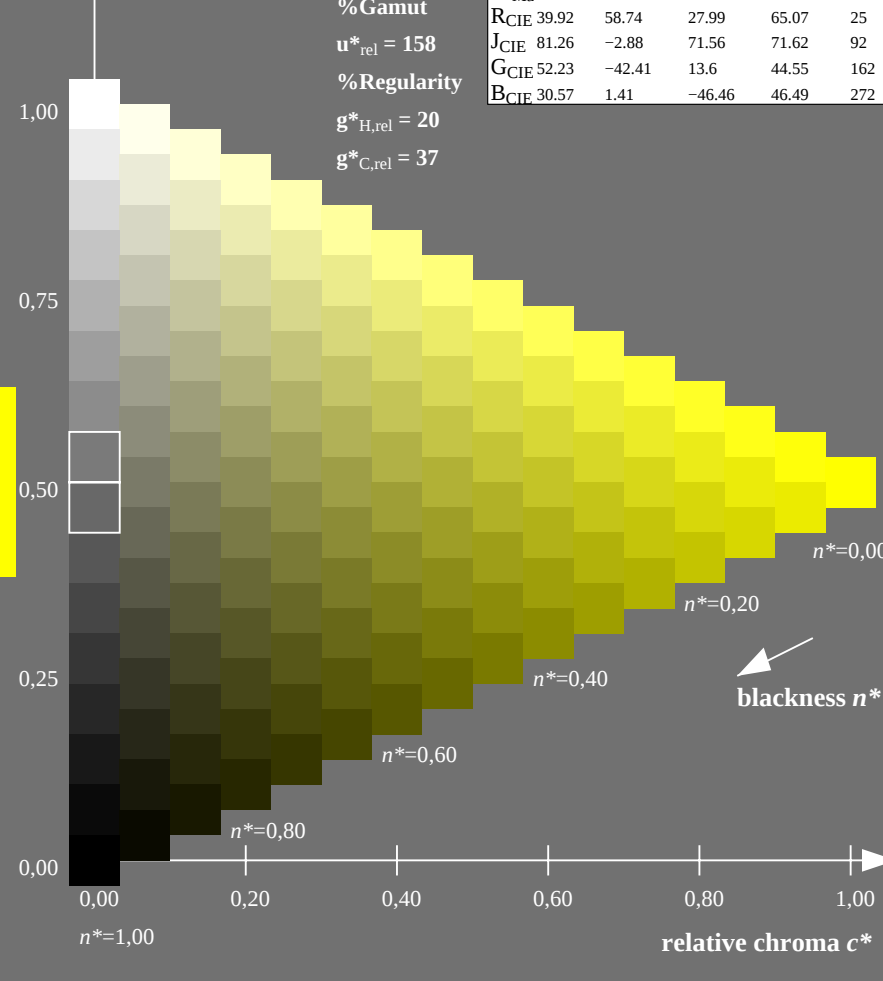
$g^*_{C,rel} = 37$

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



OE730-7N-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)

OE73: Test chart 2 according to DIN 33872-2, Hue Y; 1MR, DH
Discrimination of 5 and 16 step colour scales

input: $cmy0$ ($\rightarrow cmy0^*_{\Delta}$) $setcmyk$
output 130-1: $g_P=1.0$; $g_N=1.17$

Input: Colorimetric Television Luminous System TLS00a

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

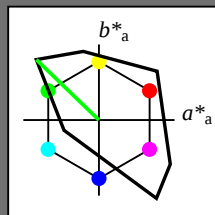
lab^*tch and lab^*nch

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

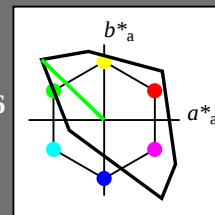
lab^*tch and lab^*nch

D65: hue L

LCH*Ma: 84 115 136

ol v^* Ma: 0.0 1.0 0.0

triangle lightness t^*



%Gamut

$u^*_{rel} = 158$

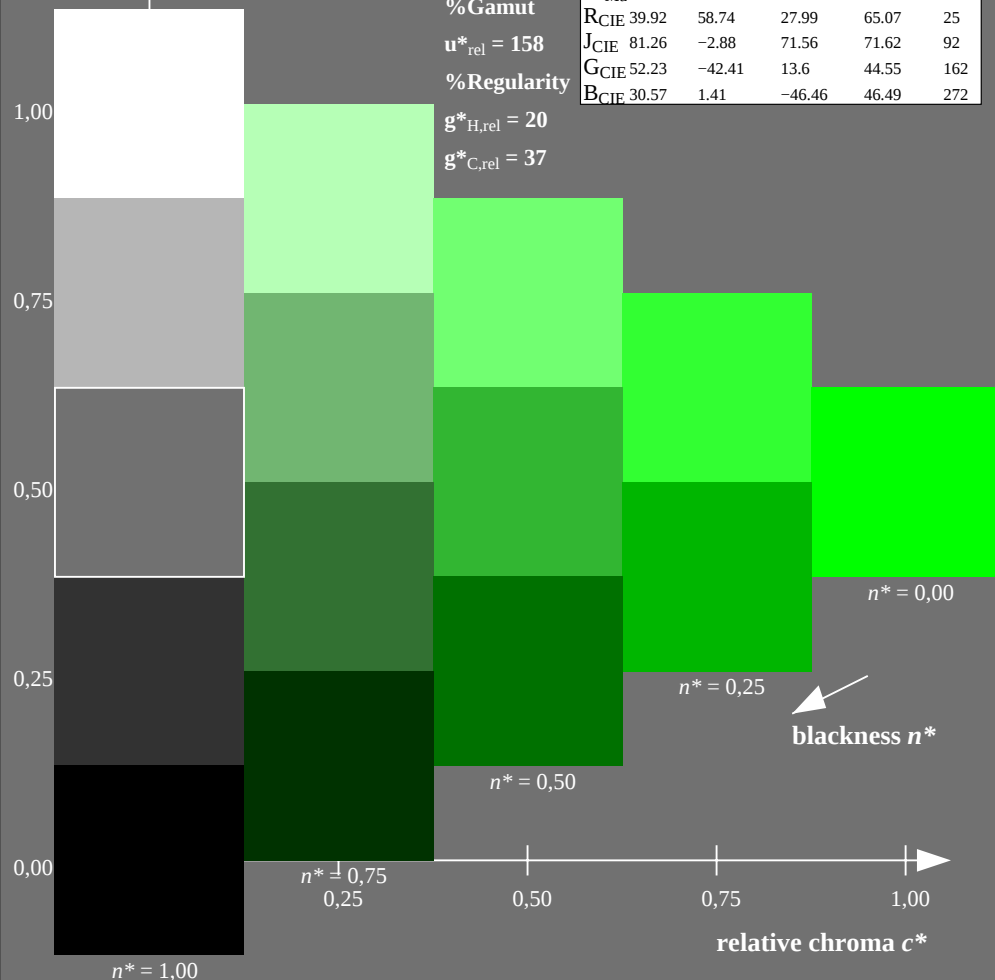
%Regularity

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

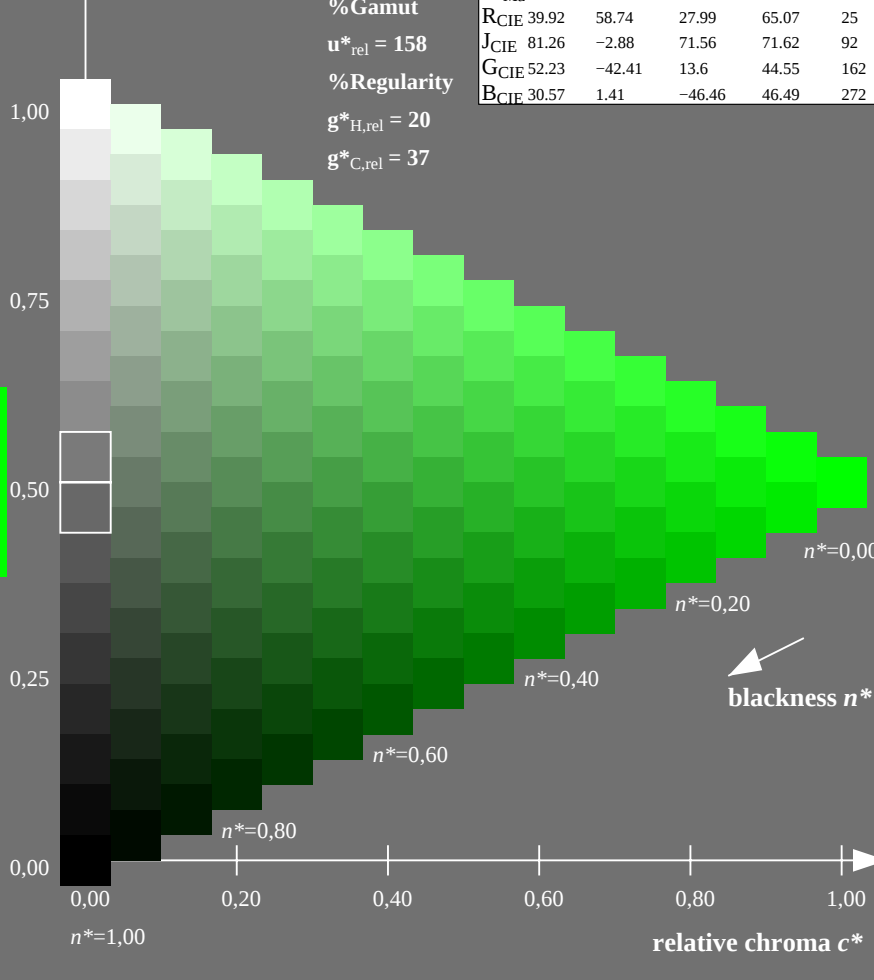
$g^*_{C,rel} = 37$

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



OE730-7N-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)

OE73: Test chart 2 according to DIN 33872-2, Hue L; 1MR, DH
Discrimination of 5 and 16 step colour scales

input: $cmy0$ ($\rightarrow cmy0^*_d$) $setcmyk$
output 130-2: $g_P=1.0$; $g_N=1.17$

TUB registration: 20110801-OE73/OE73L0NA.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 $h^* = lab^*h = 196/360 = 0.545$

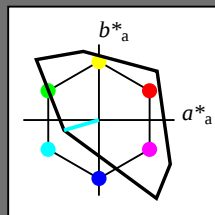
lab^*tch and lab^*nch

D65: hue C

LCH*Ma: 87 48 196

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

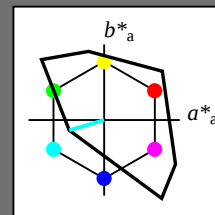
lab^*tch and lab^*nch

D65: hue C

LCH*Ma: 87 48 196

ol*Ma: 0.0 1.0 1.0

triangle lightness t^*



%Gamut

$u^*_{rel} = 158$

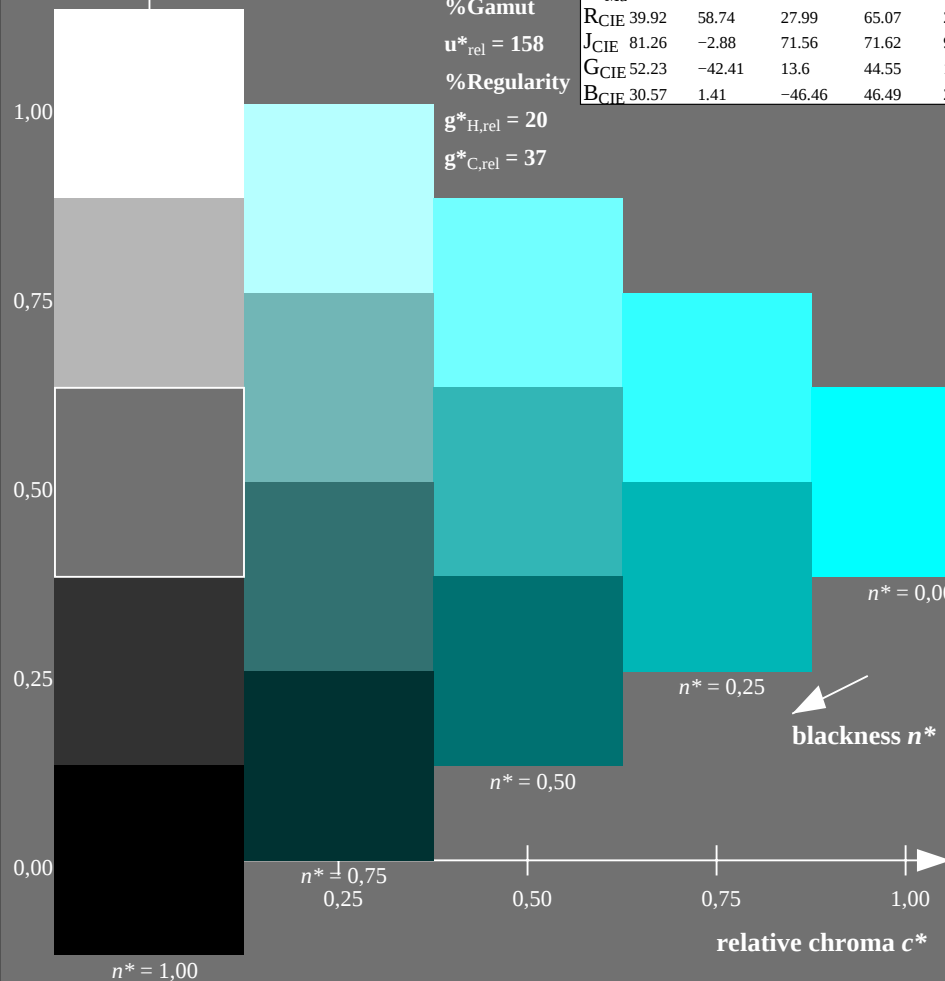
%Regularity

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

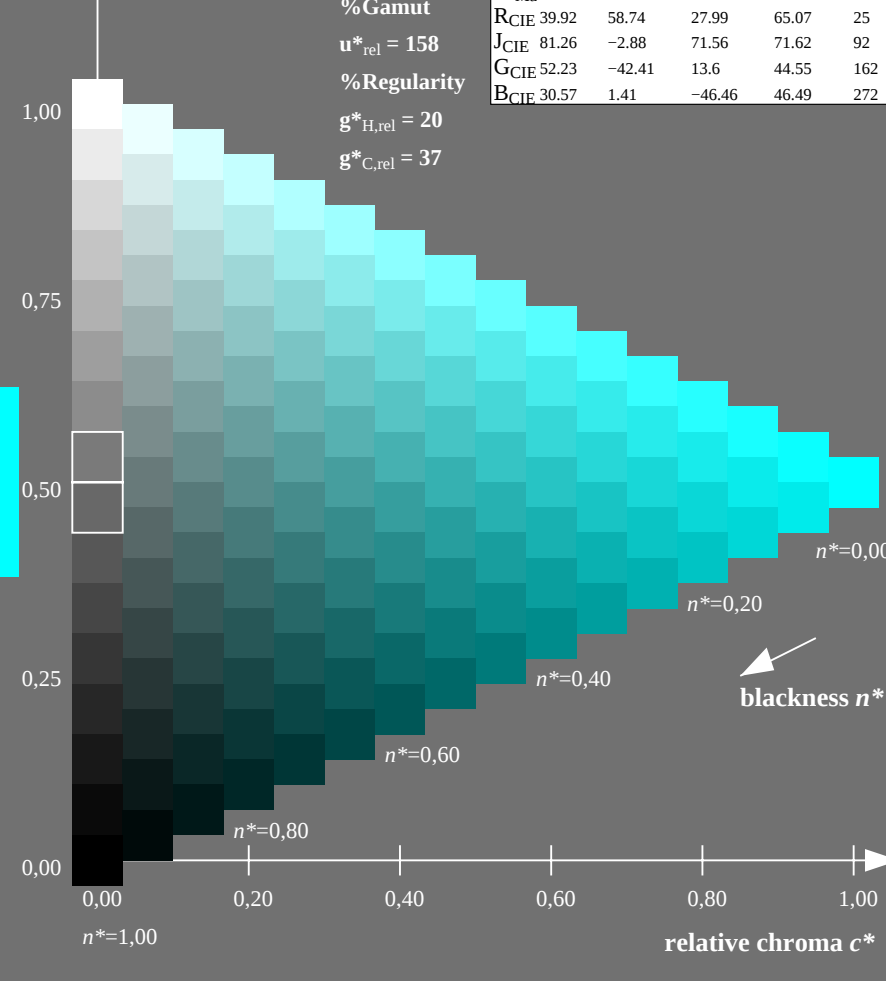
$g^*_{C,rel} = 37$

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



OE730-7N-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)

OE73: Test chart 2 according to DIN 33872-2, Hue C; 1MR, DH
Discrimination of 5 and 16 step colour scales

input: $cmy0$ ($\rightarrow cmy0^*_{\Delta}$) $setcmyk$
output 130-3: $g_P=1.0$; $g_N=1.17$

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-OE73/OE73L0NA.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 $h^* = lab^*h = 306/360 = 0.851$

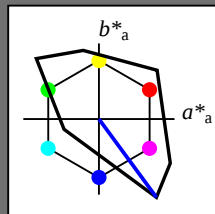
lab^*tch and lab^*nch

D65: hue V

LCH*Ma: 30 129 306

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

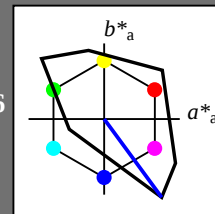
lab^*tch and lab^*nch

D65: hue V

LCH*Ma: 30 129 306

ol v^* Ma: 0.0 0.0 1.0

triangle lightness t^*



%Gamut

$u^*_{rel} = 158$

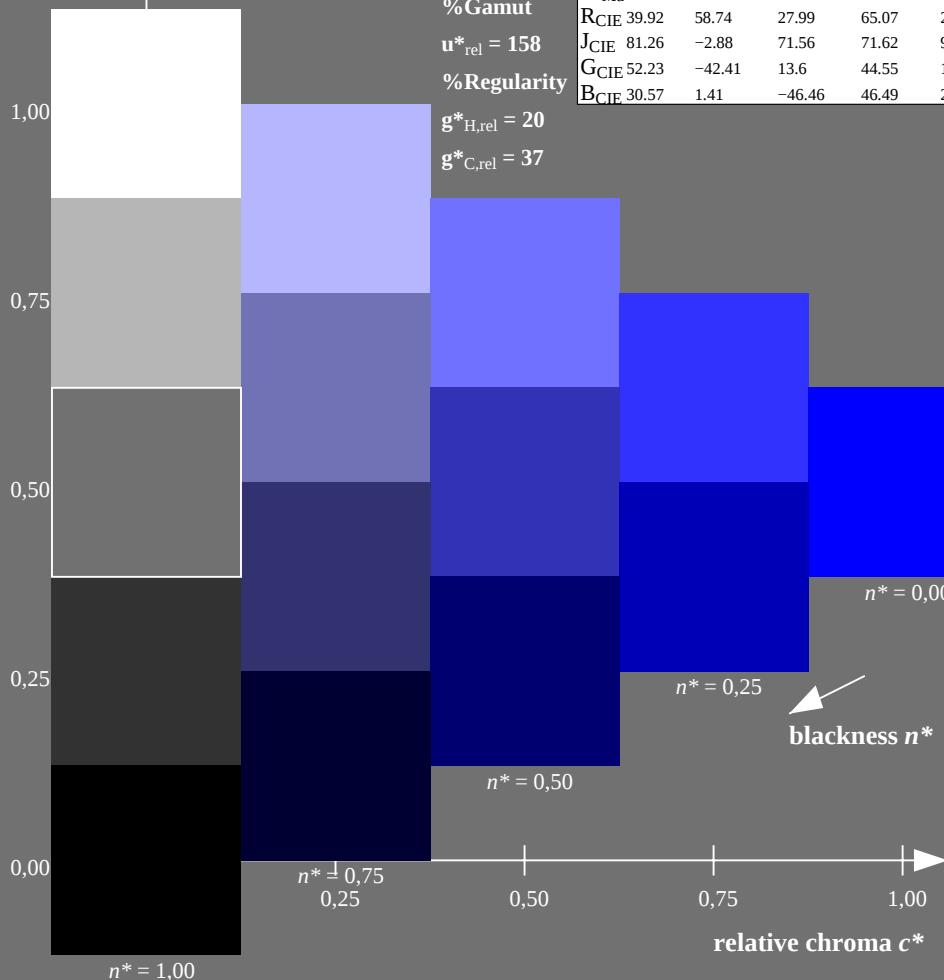
%Regularity

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

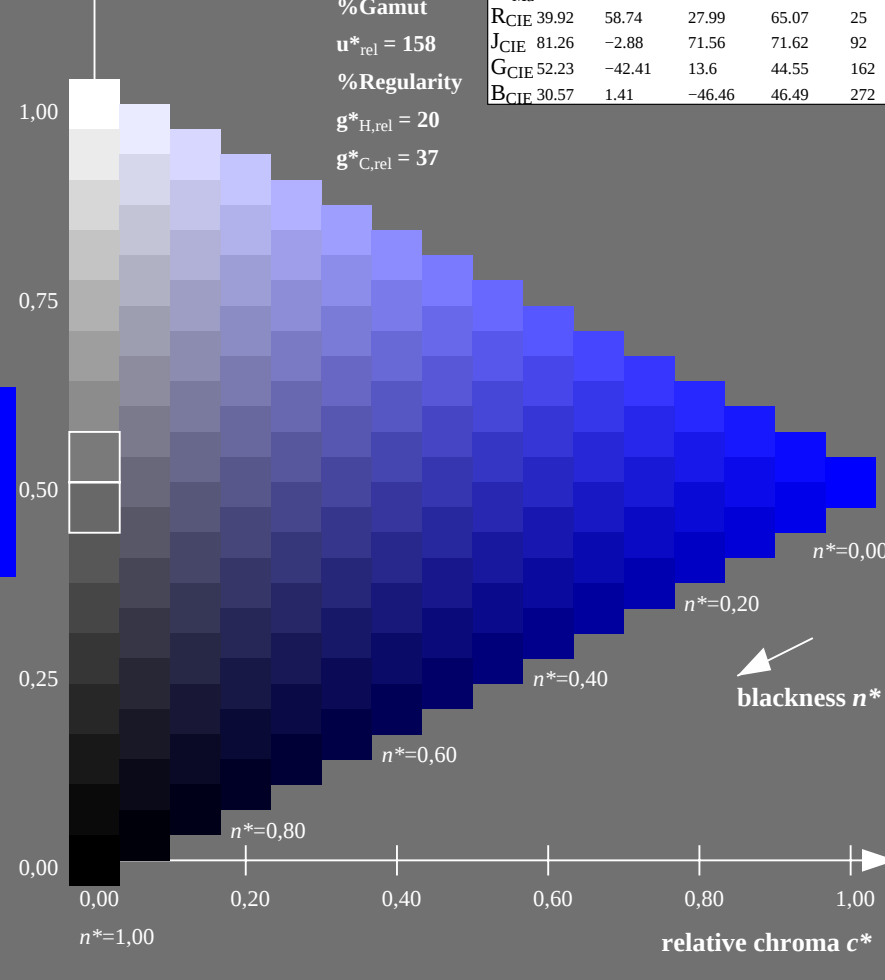
$g^*_{C,rel} = 37$

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



OE730-7N-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)

OE73: Test chart 2 according to DIN 33872-2, Hue V; 1MR, DH
Discrimination of 5 and 16 step colour scales

input: $cmy0$ ($\rightarrow cmy0^*_{\Delta}$) $setcmyk$
output 130-4: $g_P=1.0$; $g_N=1.17$

Input: Colorimetric Television Luminous System TLS00a

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

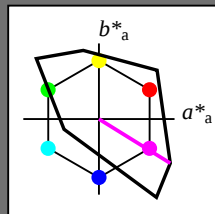
lab^*tch and lab^*nch

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

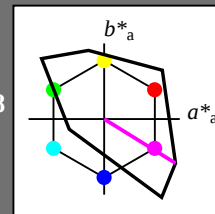
lab^*tch and lab^*nch

D65: hue M

LCH*Ma: 57 111 328

ol v^* Ma: 1.0 0.0 1.0

triangle lightness t^*



%Gamut

$u^*_{rel} = 158$

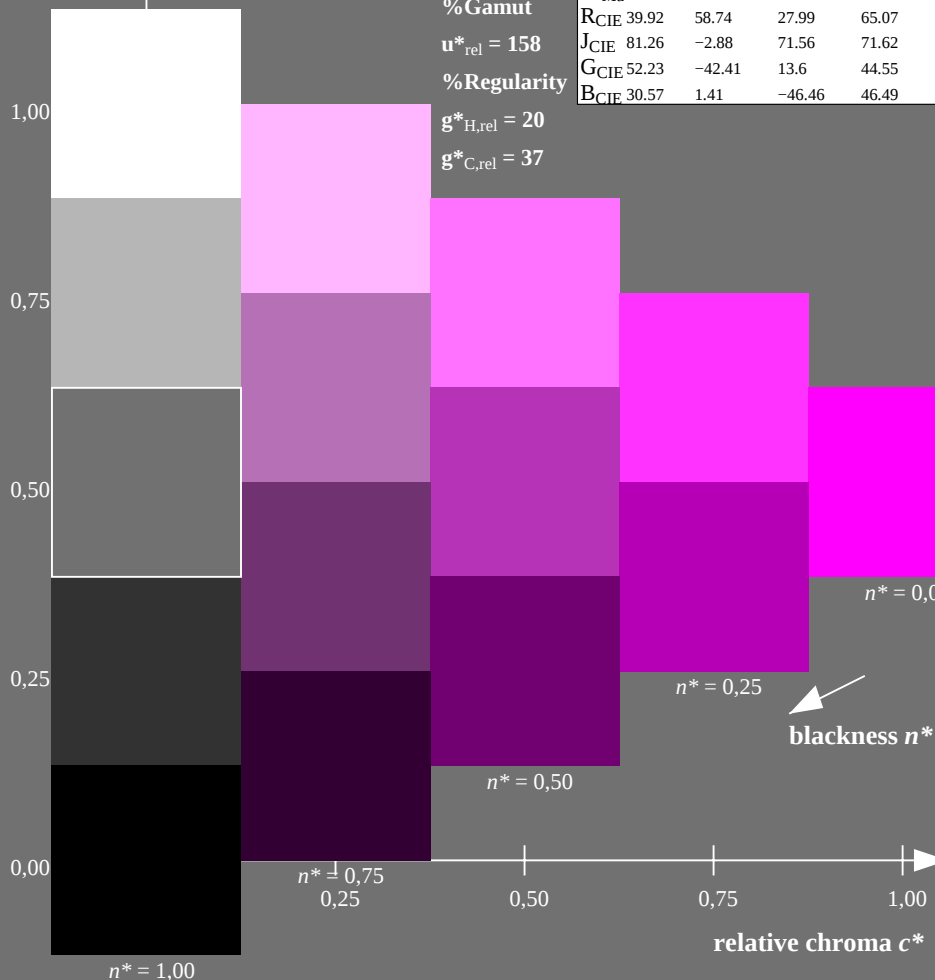
%Regularity

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

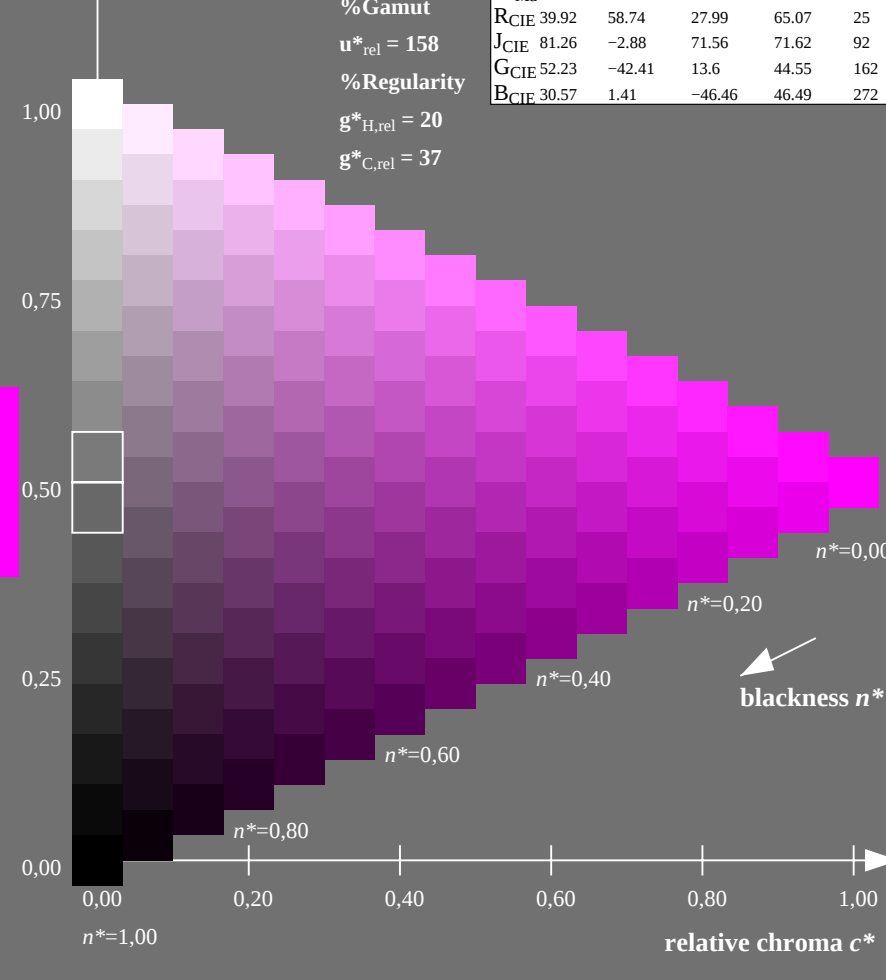
$g^*_{C,rel} = 37$

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



OE730-7N-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)

OE73: Test chart 2 according to DIN 33872-2, Hue M; 1MR, DH
Discrimination of 5 and 16 step colour scales

input: $cmy0$ ($\rightarrow cmy0^*_{\Delta}$) $setcmyk$
output 130-5: $g_P=1.0$; $g_N=1.17$

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-OE73/OE73L0NA.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 $h^* = lab^*h = 25/360 = 0.071$

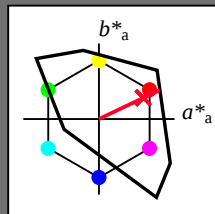
lab^*tch and lab^*nch

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

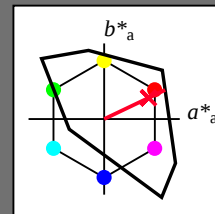
lab^*tch and lab^*nch

D65: hue R

LCH*Ma: 52 89 25

ol*Ma: 1.0 0.0 0.21

triangle lightness t^*



%Gamut

$u^*_{rel} = 158$

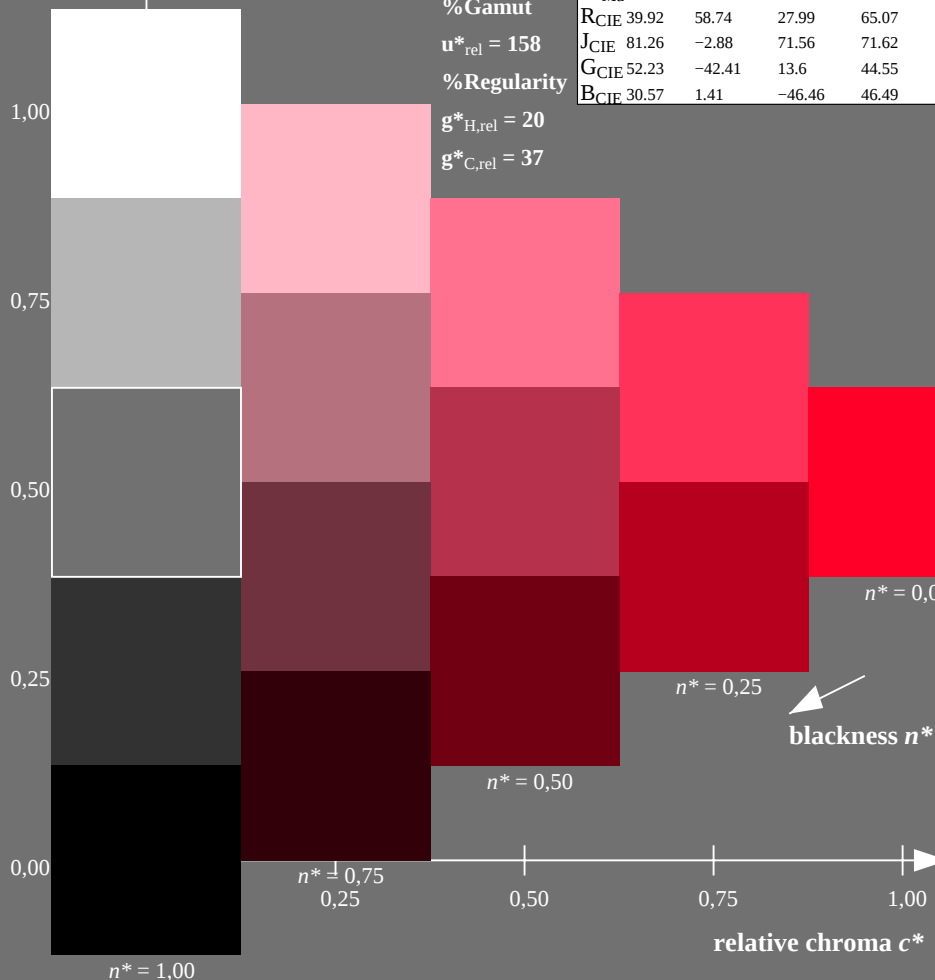
%Regularity

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

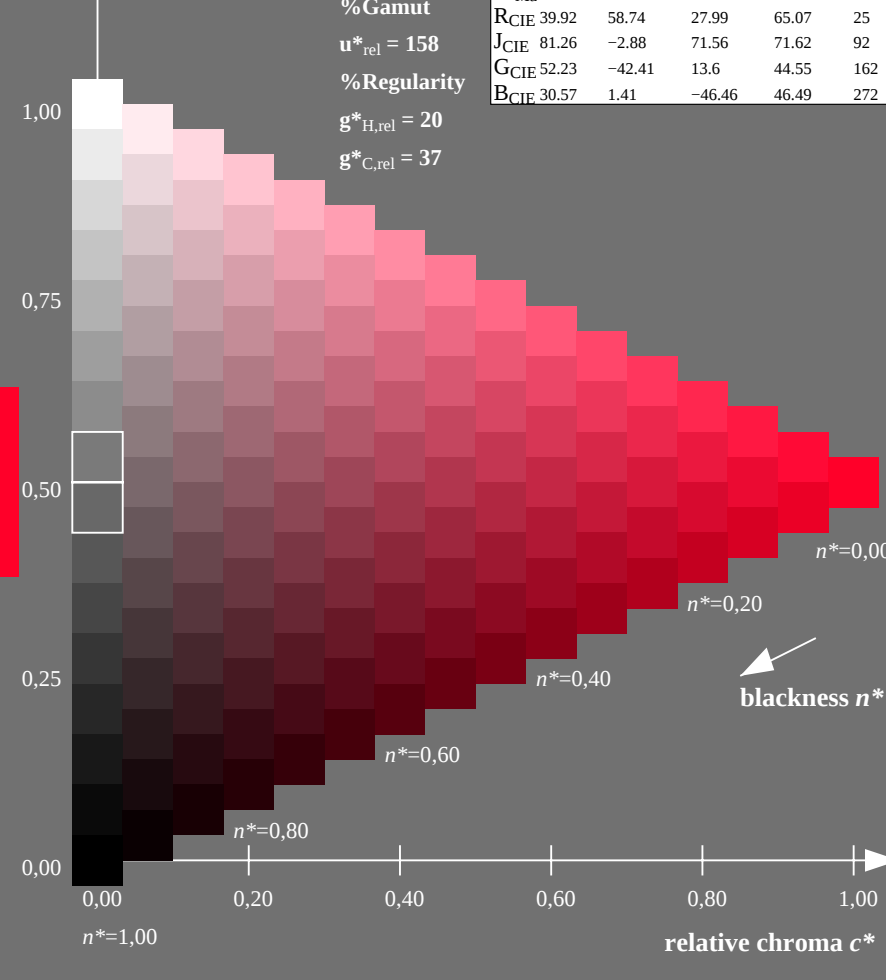
$g^*_{C,rel} = 37$

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



OE730-7N-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)

OE73: Test chart 2 according to DIN 33872-2, Hue R; 1MR, DH
Discrimination of 5 and 16 step colour scales

input: $cmy0$ ($\rightarrow cmy0^*_{de}$) $setcmyk$
output 130-6: $g_P=1.0$; $g_N=1.17$

TUB registration: 20110801-OE73/OE73L0NA.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 $h^* = lab^*h = 92/360 = 0.256$

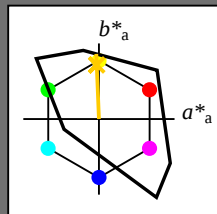
lab^*tch and lab^*nch

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

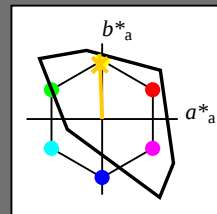
lab^*tch and lab^*nch

D65: hue J

LCH*Ma: 85 86 92

olv*Ma: 1.0 0.82 0.0

triangle lightness t^*



%Gamut

$u^*_{rel} = 158$

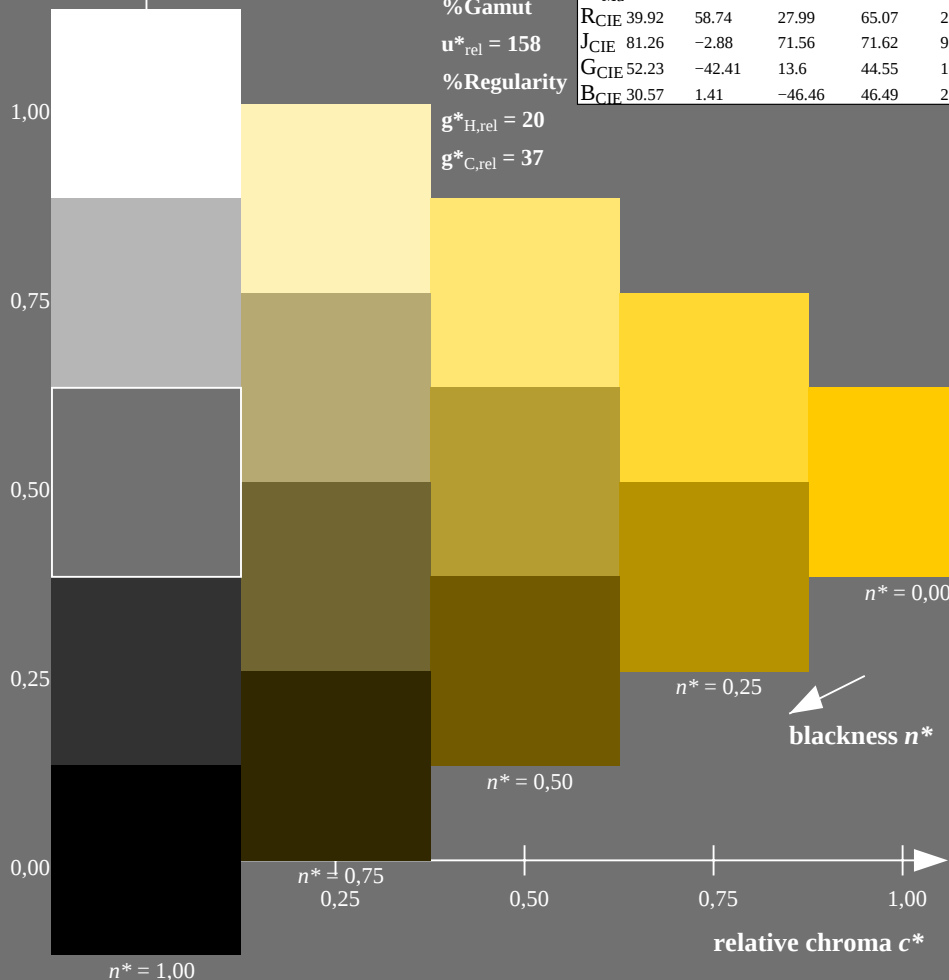
%Regularity

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

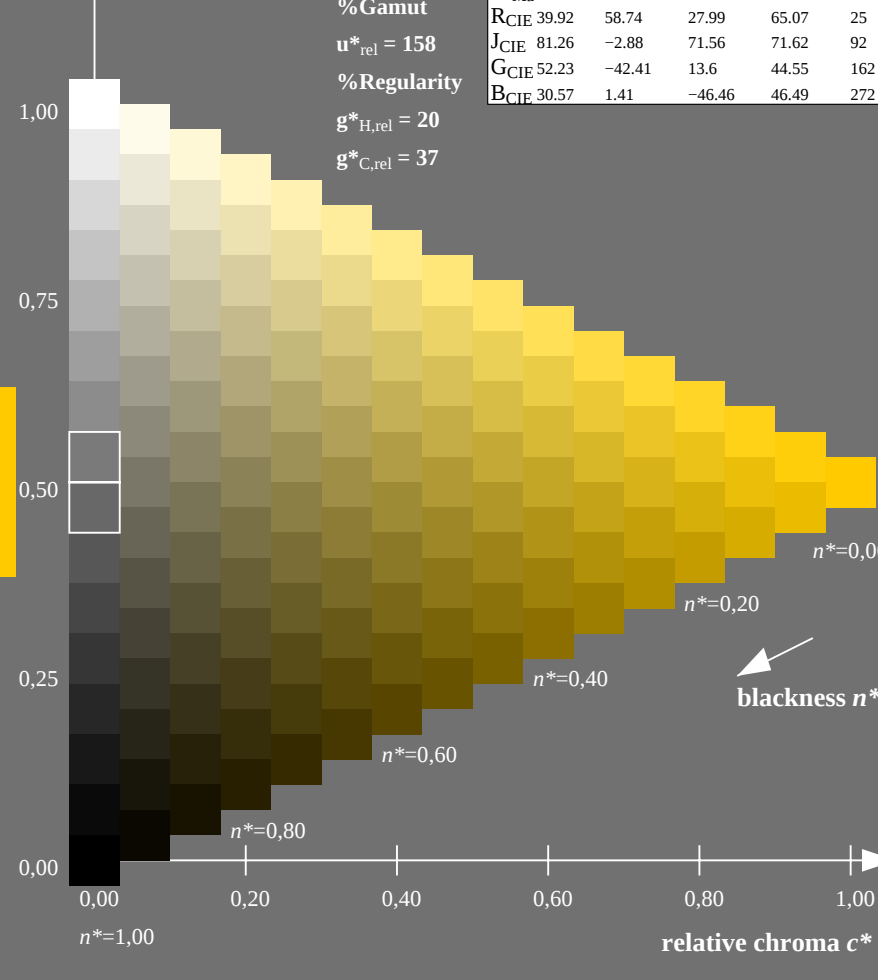
$g^*_{C,rel} = 37$

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



OE730-7N-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)

OE73: Test chart 2 according to DIN 33872-2, Hue J; 1MR, DH
Discrimination of 5 and 16 step colour scales

input: $cmy0$ ($\rightarrow cmy0^*_{de}$) $setcmyk$
output 130-7: $g_P=1.0$; $g_N=1.17$

Input: Colorimetric Television Luminous System TLS00a

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

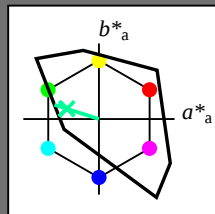
lab^*tch and lab^*nch

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

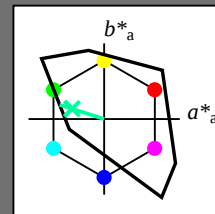
lab^*tch and lab^*nch

D65: hue G

LCH*Ma: 86 62 162

ol v^* Ma: 0.0 1.0 0.65

triangle lightness t^*



%Gamut

$u^*_{rel} = 158$

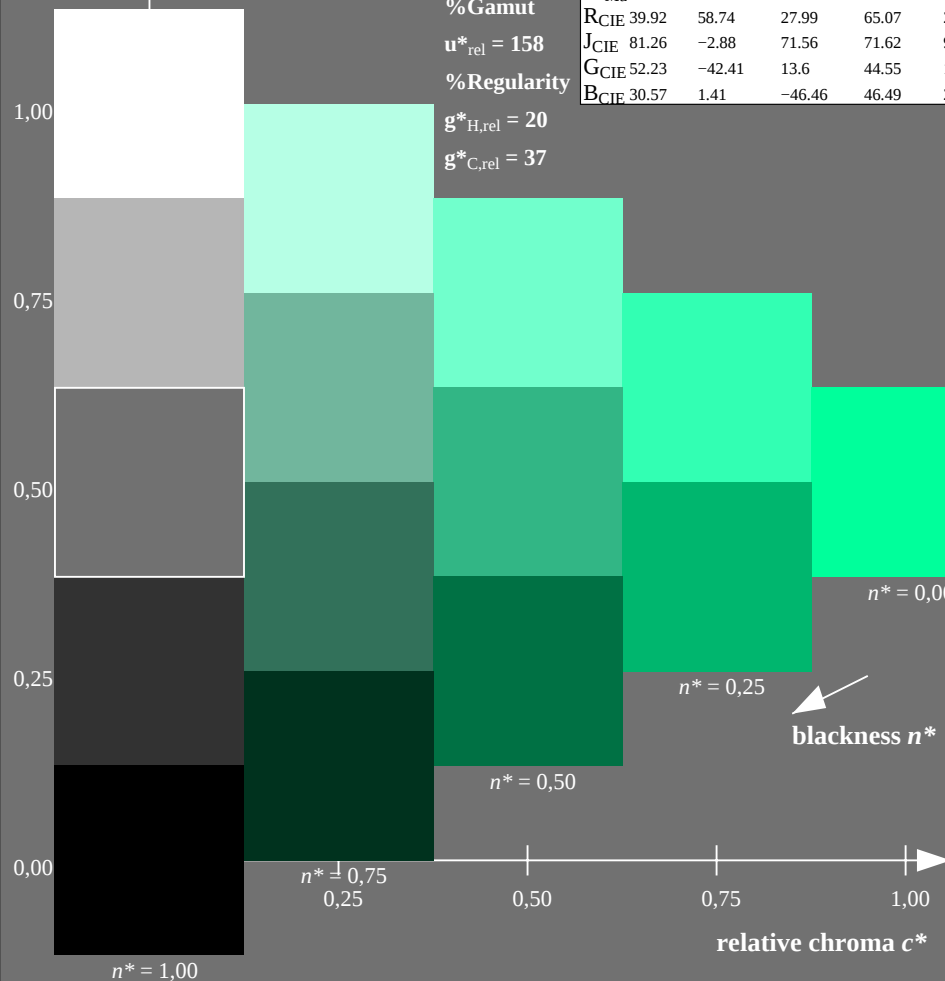
%Regularity

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

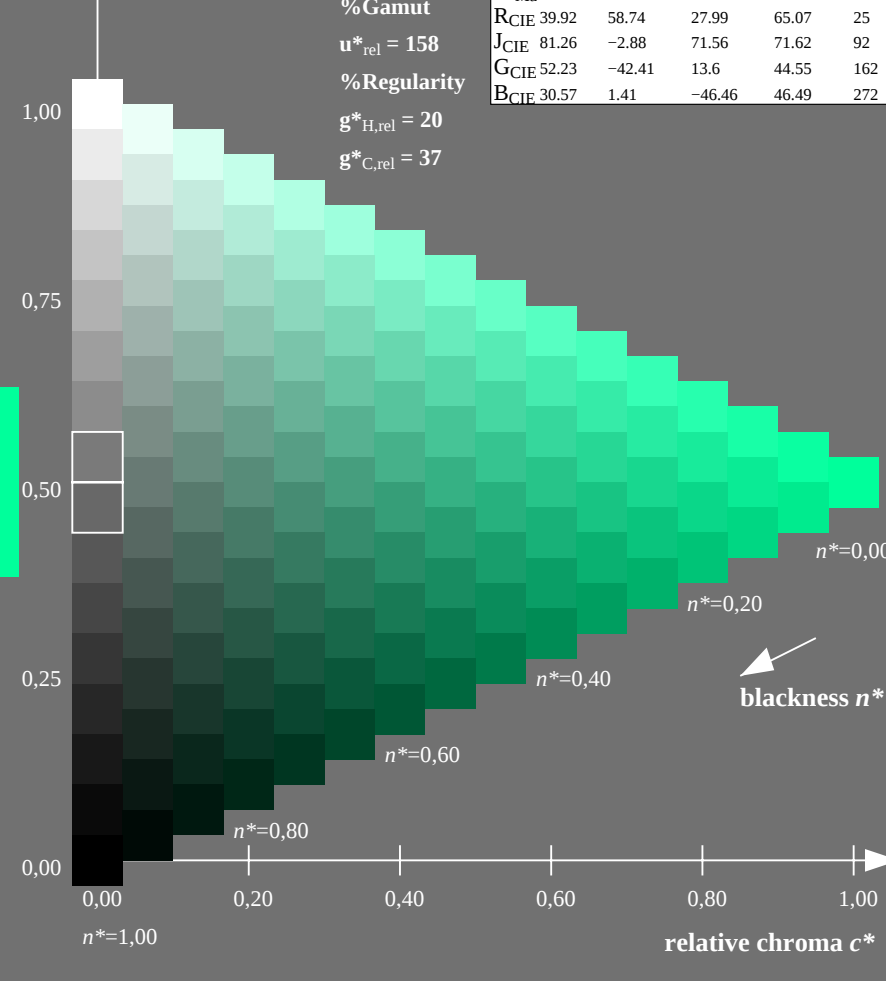
$g^*_{C,rel} = 37$

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



OE730-7N-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)

OE73: Test chart 2 according to DIN 33872-2, Hue G; 1MR, DH
Discrimination of 5 and 16 step colour scales

input: $cmy0$ ($\rightarrow cmy0^*_{de}$) $setcmyk$
output 130-8: $g_P=1.0$; $g_N=1.17$

TUB registration: 20110801-OE73/OE73L0NA.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 $h^* = lab^*h = 272/360 = 0.755$

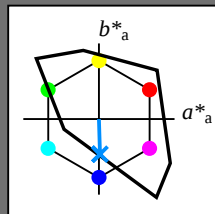
lab^*tch and lab^*nch

D65: hue B

LCH*Ma: 65 49 272

olv*Ma: 0.0 0.61 1.0

triangle lightness t^*



%Gamut

$u^*_{rel} = 158$

%Regularity

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

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

TLS00a; adapted (a) CIELAB data

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

Output: Colorimetric Television Luminous System TLS00a

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

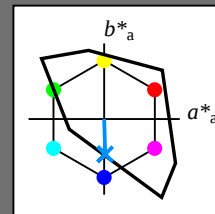
lab^*tch and lab^*nch

D65: hue B

LCH*Ma: 65 49 272

olv*Ma: 0.0 0.61 1.0

triangle lightness t^*



%Gamut

$u^*_{rel} = 158$

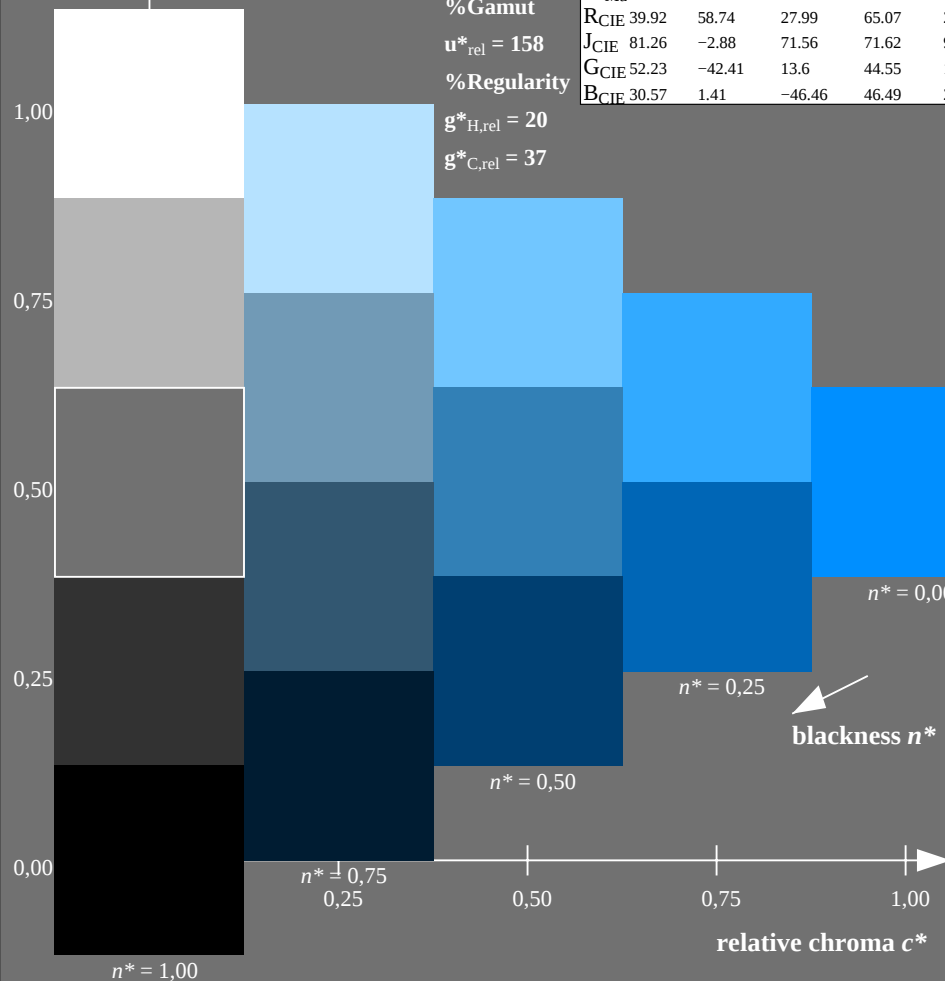
%Regularity

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

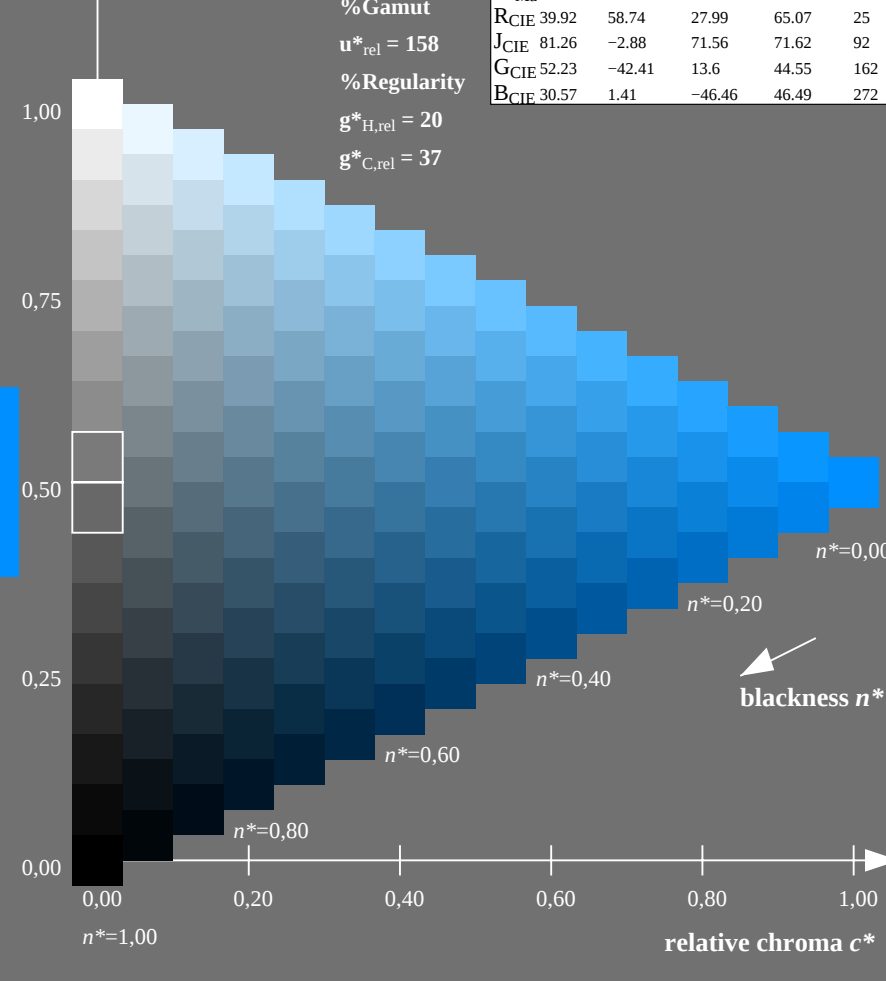
$g^*_{C,rel} = 37$

TLS00a; adapted (a) CIELAB data

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



OE730-7N-132-9: 5 step scales for constant CIELAB hue 272/360 = 0.755 (left)



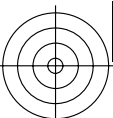
16 step scales for constant CIELAB hue 272/360 = 0.755 (right)

OE73: Test chart 2 according to DIN 33872-2, Hue B; 1MR, DH
Discrimination of 5 and 16 step colour scales

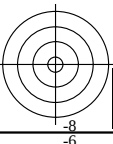
input: $cmy0$ ($\rightarrow cmy0^*_{de}$) $setcmyk$
output 130-9: $g_P=1.0$; $g_N=1.17$

TUB registration: 20110801-OE73/OE73L0NA.TXT /.PS
application for output of displays: monitor systems or data projector systems

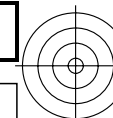
TUB material: code=th4ta



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

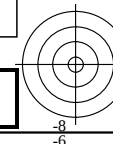


<http://130.149.60.45/~farbmetrik/OE73/OE73L0NA.TXT> /PS; linearized output, Page 11/12
 F: Output Linearization (OL) data OE73/OE73L0NA.TXT /PS in File (F)



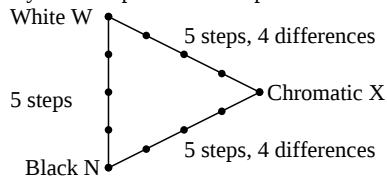
TUB registration: 20110801-OE73/OE73L0NA.TXT /PS
 application for output of displays: monitor systems or data projector systems

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

OE730-3N-132-10

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

PDF-File: <http://130.149.60.45/farbmetrik/OE73/OE73L0NP.PDF> underline Yes/No

PS-File: <http://130.149.60.45/farbmetrik/OE73/OE73L0NA.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 OE73L0NP.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 OE73L0NA.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

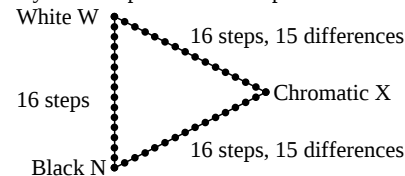
OE730-7N-132-10



OE73: Form A for test chart 2 according to DIN 33872-2; 1MR, DHinput: *cmy0* (->*cmy0***1*) *setcmyk*
 Discrimination of colour scales (Yes/No decision) output 130-10: *g_P*=1.0; *g_N*=1.17

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

OE731-3N-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/OE73/OE73F1P2.PDF>

underline Yes/No

PS file: <http://130.149.60.45/farbmetrik/OE73/OE73F1P2.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/OE73/OE73F1P2.PDF>

picture A7-132-2

underline Yes/No

PS-File: <http://130.149.60.45/farbmetrik/OE73/OE73F1P2.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

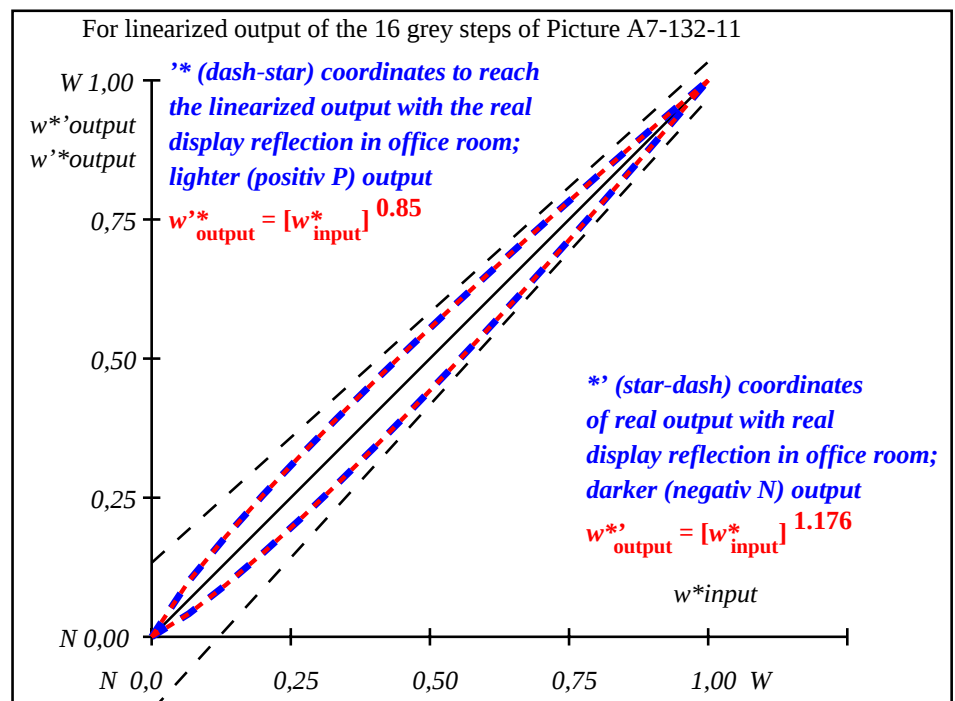
OE731-7N-132-10



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	0.04 14.48 0.0	0.0 0.0 -2.13	0.0 0.0 0.0	2.14
3	22.25 0.0 0.0	0.09 18.88 0.0	0.0 0.0 -3.36	0.0 0.0 0.0	3.37
4	27.88 0.0 0.0	0.15 23.7 0.0	0.0 0.0 -4.16	0.0 0.0 0.0	4.17
5	33.5 0.0 0.0	0.21 28.82 0.0	0.0 0.0 -4.67	0.0 0.0 0.0	4.68
6	39.13 0.0 0.0	0.27 34.17 0.0	0.0 0.0 -4.95	0.0 0.0 0.0	4.96
7	44.76 0.0 0.0	0.34 39.72 0.0	0.0 0.0 -5.03	0.0 0.0 0.0	5.04
8	50.39 0.0 0.0	0.41 45.43 0.0	0.0 0.0 -4.95	0.0 0.0 0.0	4.96
9	56.02 0.0 0.0	0.48 51.29 0.0	0.0 0.0 -4.72	0.0 0.0 0.0	4.73
10	61.64 0.0 0.0	0.55 57.28 0.0	0.0 0.0 -4.36	0.0 0.0 0.0	4.37
11	67.27 0.0 0.0	0.62 63.38 0.0	0.0 0.0 -3.88	0.0 0.0 0.0	3.89
12	72.9 0.0 0.0	0.69 69.6 0.0	0.0 0.0 -3.29	0.0 0.0 0.0	3.3
13	78.53 0.0 0.0	0.77 75.92 0.0	0.0 0.0 -2.6	0.0 0.0 0.0	2.61
14	84.15 0.0 0.0	0.85 82.33 0.0	0.0 0.0 -1.81	0.0 0.0 0.0	1.82
15	89.78 0.0 0.0	0.92 88.83 0.0	0.0 0.0 -0.94	0.0 0.0 0.0	0.95
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
Mean lightness difference (16 steps)					
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	0.2 27.52 0.0	0.0 0.0 -4.57	0.0 0.0 0.0	4.58
19	53.2 0.0 0.0	0.44 48.34 0.0	0.0 0.0 -4.85	0.0 0.0 0.0	4.86
20	74.31 0.0 0.0	0.71 71.17 0.0	0.0 0.0 -3.12	0.0 0.0 0.0	3.13
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 (5 steps)					
Mean colour reproduction index: $R^*_{ab,m} = 86$					

OE730-3N-132-11: File: Measure unknown; Device: Device unknown; Date: Date unknown



OE731-3N-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																
$g_N=1.18$ 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)																
$w^*_{intended}$	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	0,042	0,093	0,151	0,211	0,274	0,34	0,408	0,477	0,548	0,621	0,694	0,769	0,845	0,922	1,0

OE730-7N, Picture A7-132-11: 16 visual equidistant L^* -grey steps; PS operator: $w^* w^* w^*$ setrgbcolor

OE73: In-output relation according to ISO 9241-306; 1MR, DH
Viewing Y contrast $Y_W:Y_N=88,9:1,25$; Y_N range 0,93 to <1,87

input: $cmy0$ (-> $cmy0^*_d$) setcmyk
output 130-11: $g_P=1.0$; $g_N=1.17$

TUB registration: 20110801-OE73/OE73L0NA.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 $h^* = lab^*h = 40/360 = 0.111$

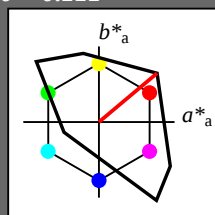
lab^*tch and lab^*nch

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

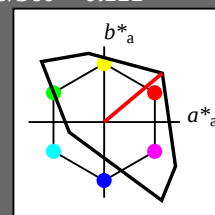
lab^*tch and lab^*nch

D65: hue O

LCH*Ma: 51 100 40

olv*Ma: 1.0 0.0 0.0

triangle lightness t^*



%Gamut

$u^*_{rel} = 158$

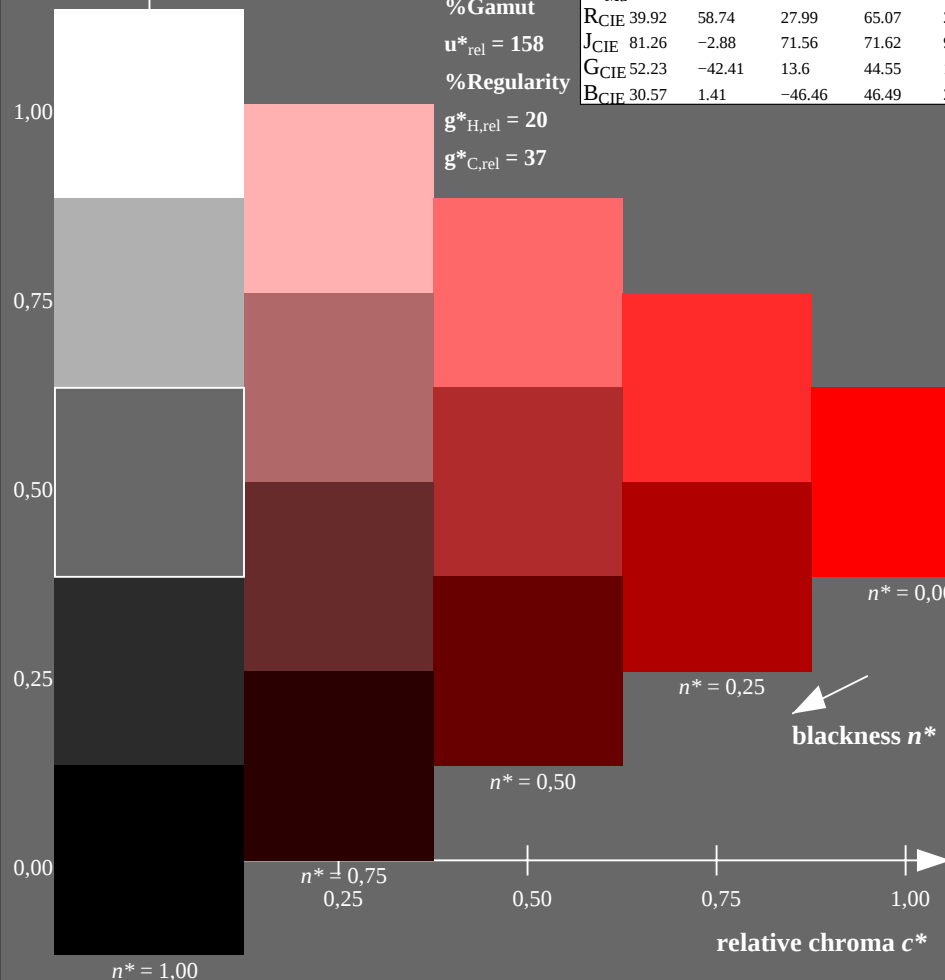
%Regularity

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

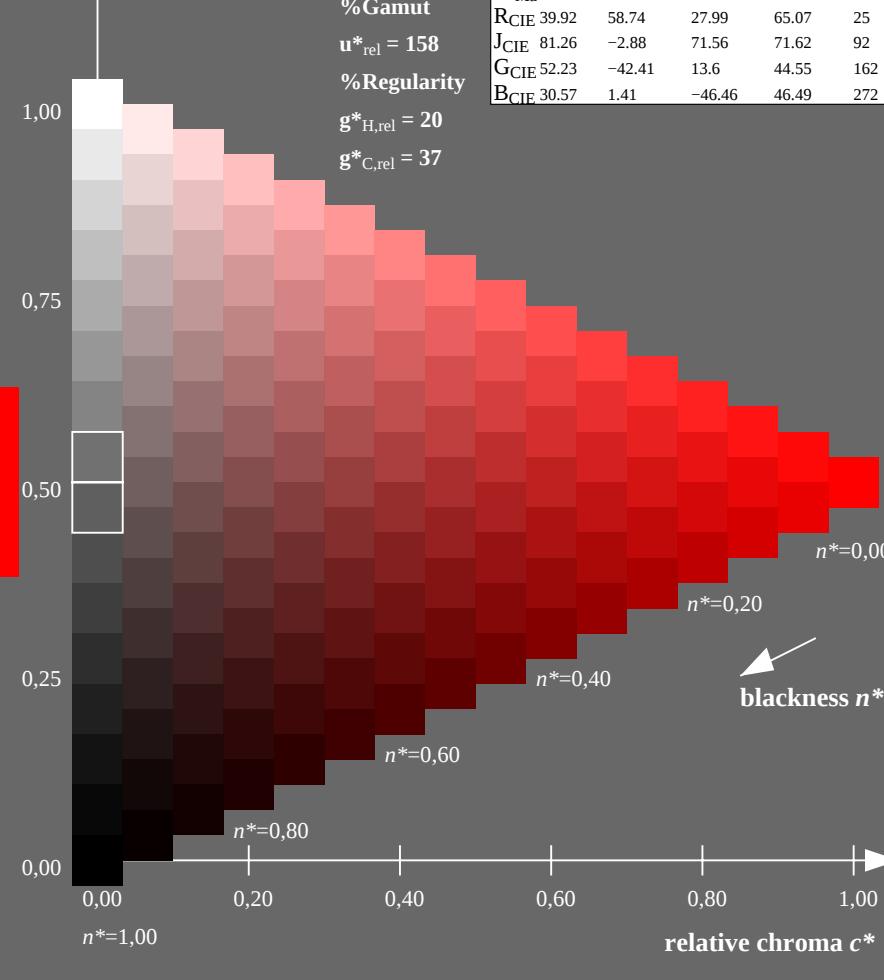
$g^*_{C,rel} = 37$

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



OE730-7N-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)

OE73: Test chart 2 according to DIN 33872-2, Hue O; 1MR, DH
Discrimination of 5 and 16 step colour scales

input: $cmy0$ ($\rightarrow cmy0^*_d$) $setcmyk$
output 130-0: $g_P=1.0$; $g_N=1.29$

Input: Colorimetric Television Luminous System TLS00a

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

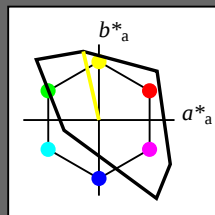
lab^*tch and lab^*nch

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

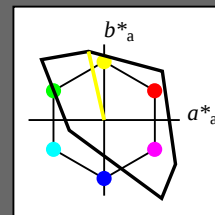
lab^*tch and lab^*nch

D65: hue Y

LCH*Ma: 93 93 103

olv*Ma: 1.0 1.0 0.0

triangle lightness t^*



%Gamut

$u^*_{rel} = 158$

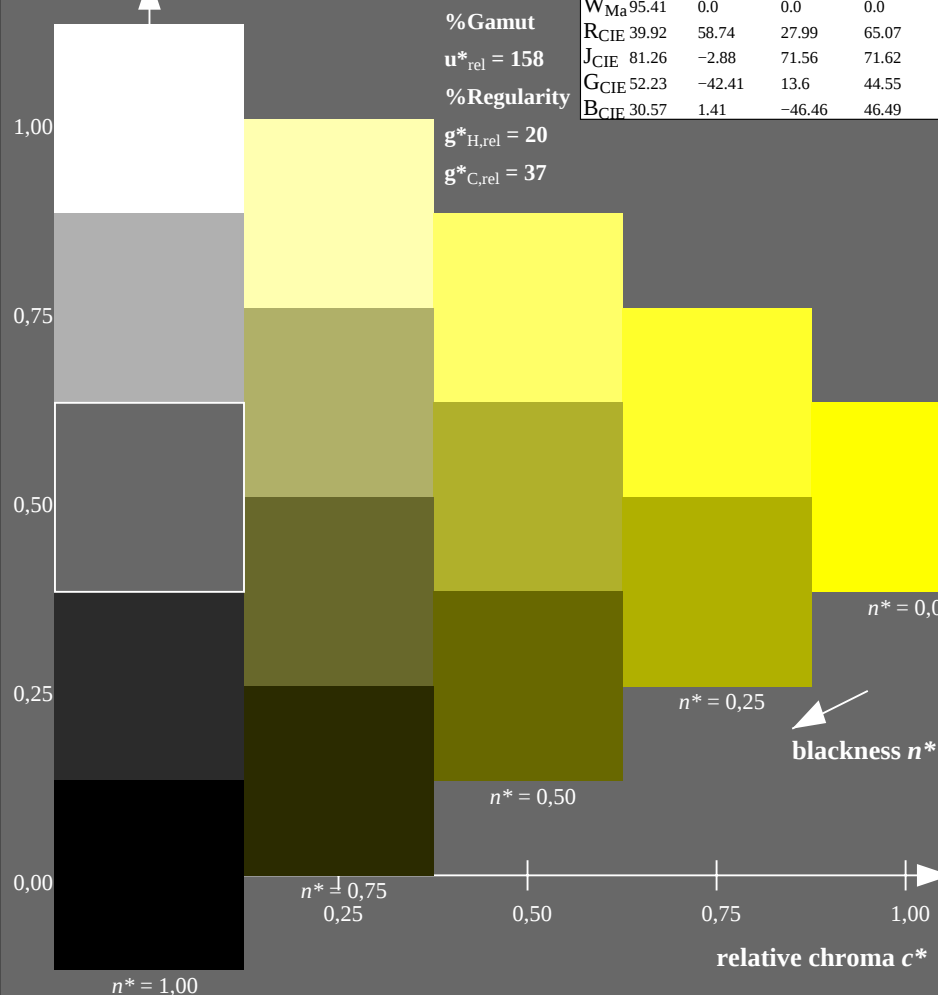
%Regularity

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

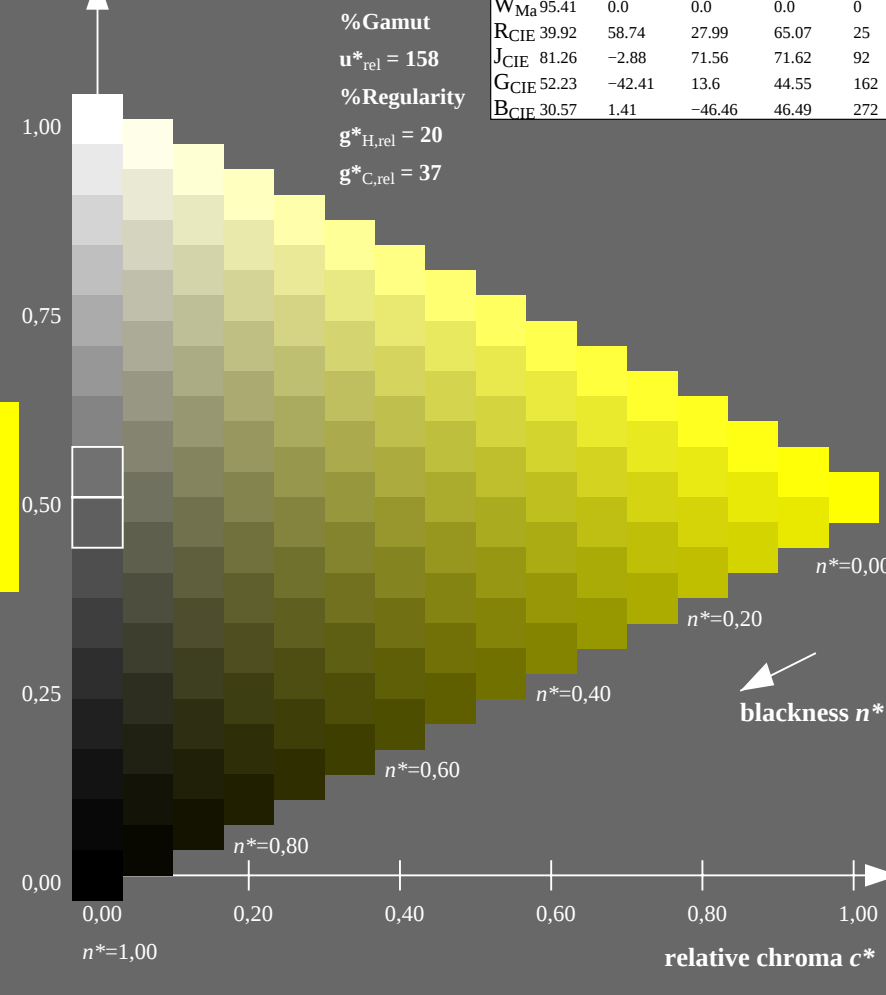
$g^*_{C,rel} = 37$

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



OE730-7N-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)

OE73: Test chart 2 according to DIN 33872-2, Hue Y; 1MR, DH
Discrimination of 5 and 16 step colour scales

input: $cmy0$ ($\rightarrow cmy0^*_{\Delta}$) $setcmyk$
output 130-1: $g_P=1.0$; $g_N=1.29$

TUB registration: 20110801-OE73/OE73L0NA.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 $h^* = lab^*h = 136/360 = 0.378$

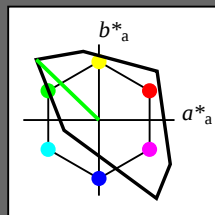
lab^*tch and lab^*nch

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

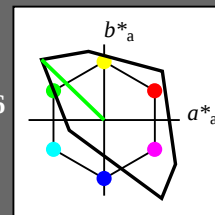
lab^*tch and lab^*nch

D65: hue L

LCH*Ma: 84 115 136

ol v^* Ma: 0.0 1.0 0.0

triangle lightness t^*



%Gamut

$u^*_{rel} = 158$

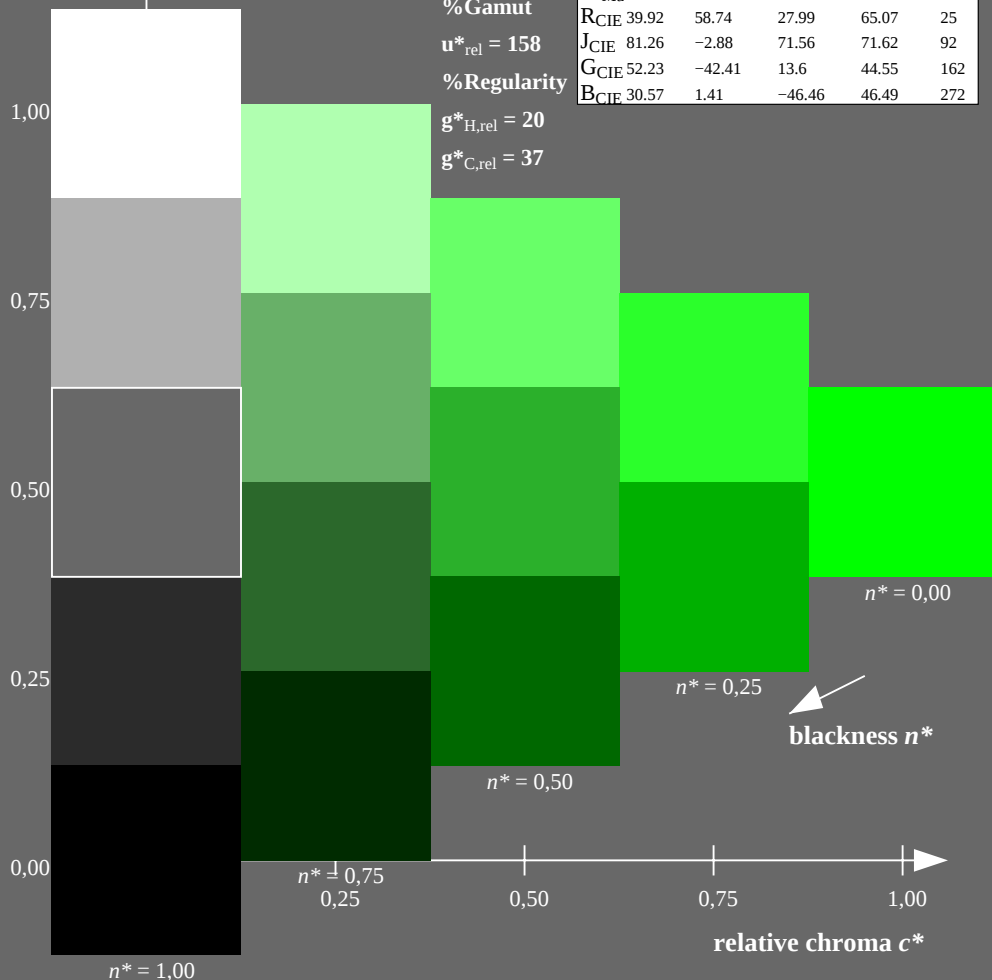
%Regularity

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

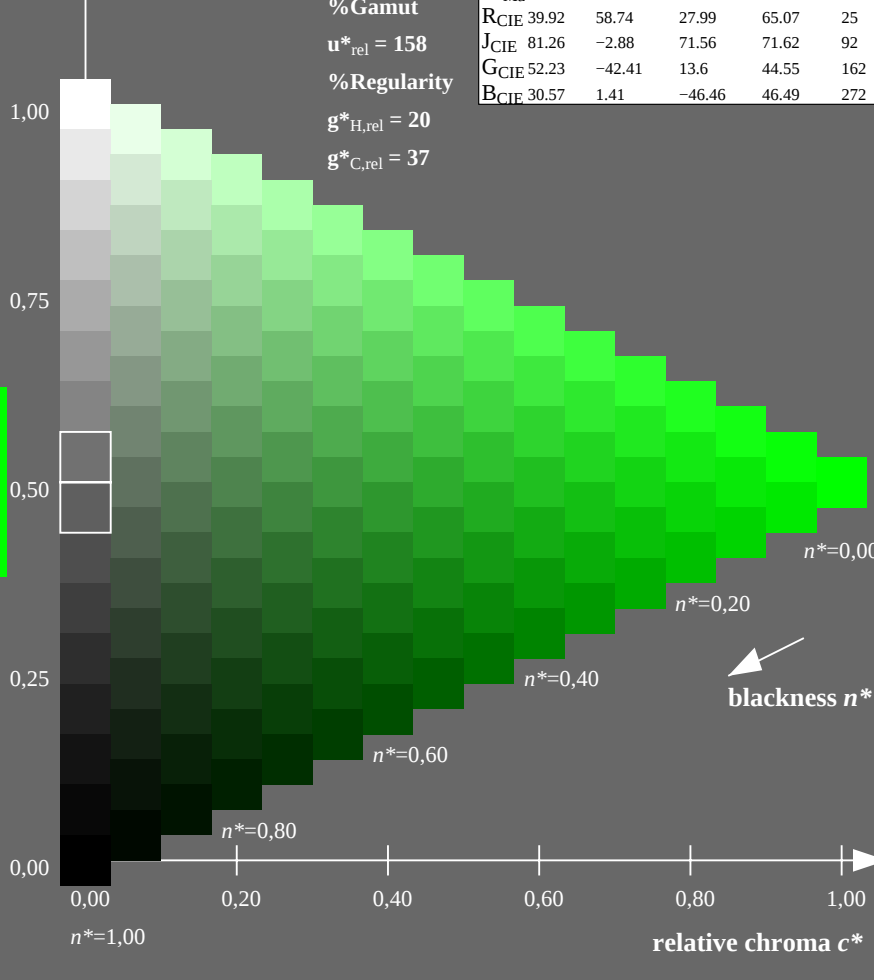
$g^*_{C,rel} = 37$

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



OE730-7N-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)

OE73: Test chart 2 according to DIN 33872-2, Hue L; 1MR, DH
Discrimination of 5 and 16 step colour scales

input: $cmy0$ ($\rightarrow cmy0^*_d$) $setcmyk$
output 130-2: $g_P=1.0$; $g_N=1.29$

Input: Colorimetric Television Luminous System TLS00a

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

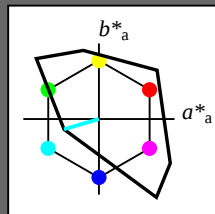
lab^*tch and lab^*nch

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

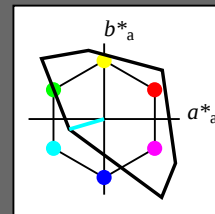
lab^*tch and lab^*nch

D65: hue C

LCH*Ma: 87 48 196

ol v^* Ma: 0.0 1.0 1.0

triangle lightness t^*



%Gamut

$u^*_{rel} = 158$

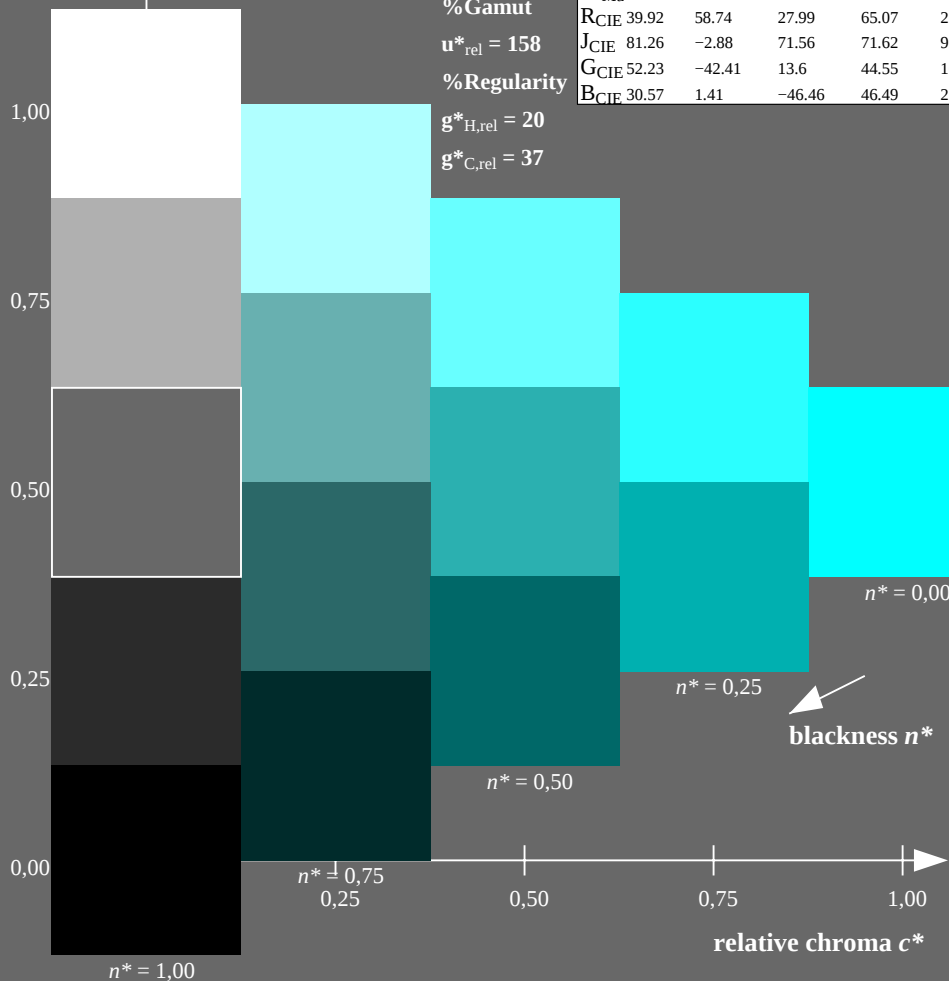
%Regularity

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

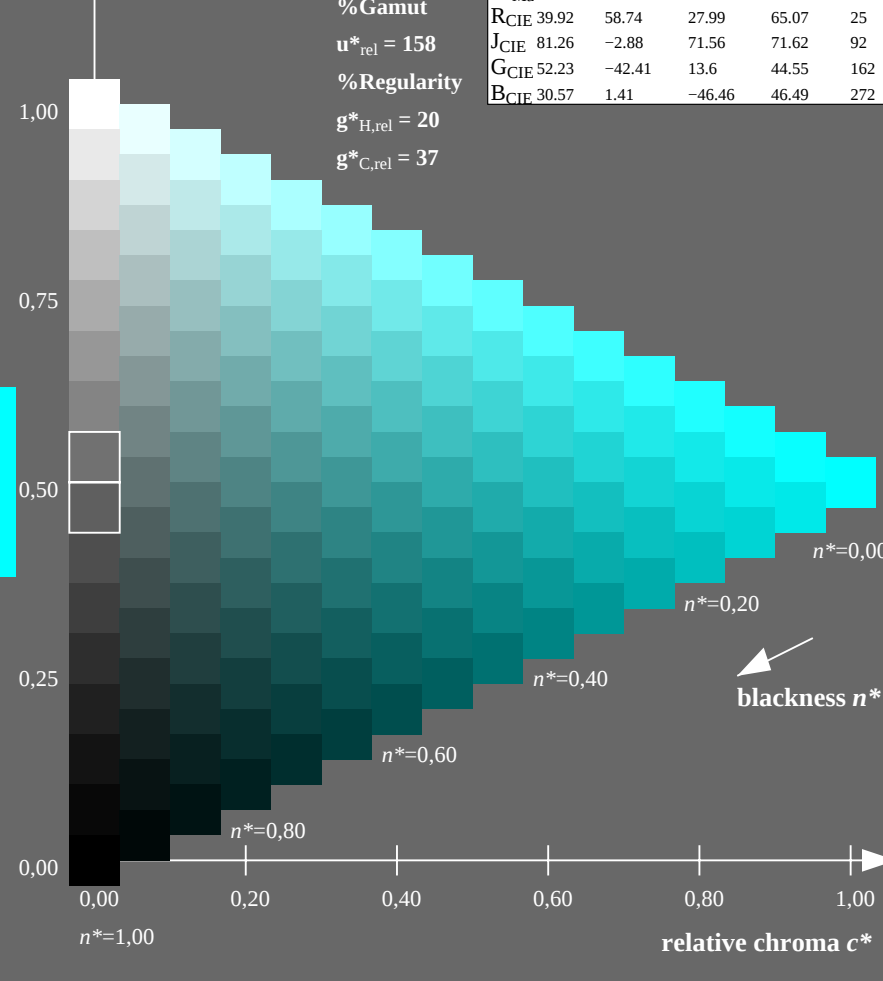
$g^*_{C,rel} = 37$

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



OE730-7N-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)

OE73: Test chart 2 according to DIN 33872-2, Hue C; 1MR, DH
Discrimination of 5 and 16 step colour scales

input: $cmy0$ ($\rightarrow cmy0^*_{\Delta}$) $setcmyk$
output 130-3: $g_P=1.0$; $g_N=1.29$

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-OE73/OE73L0NA.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 $h^* = lab^*h = 306/360 = 0.851$

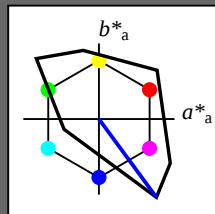
lab^*tch and lab^*nch

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

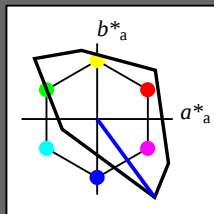
lab^*tch and lab^*nch

D65: hue V

LCH*Ma: 30 129 306

olv*Ma: 0.0 0.0 1.0

triangle lightness t^*



%Gamut

$u^*_{rel} = 158$

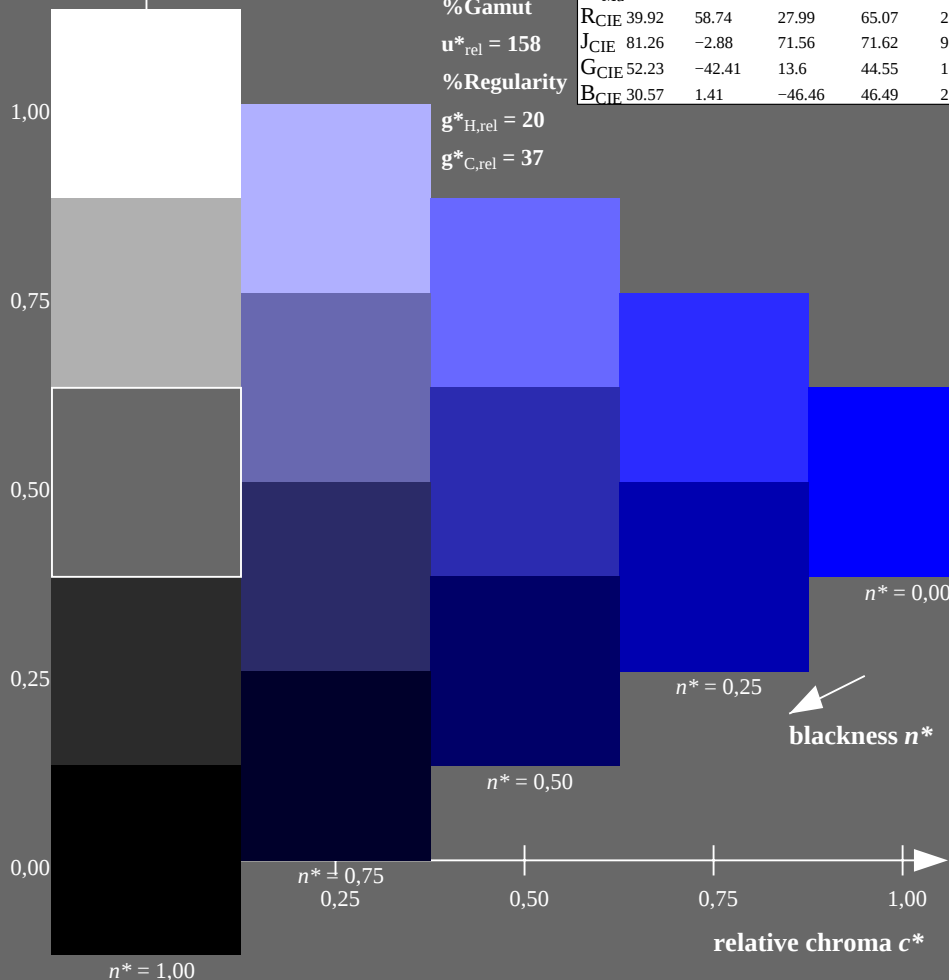
%Regularity

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

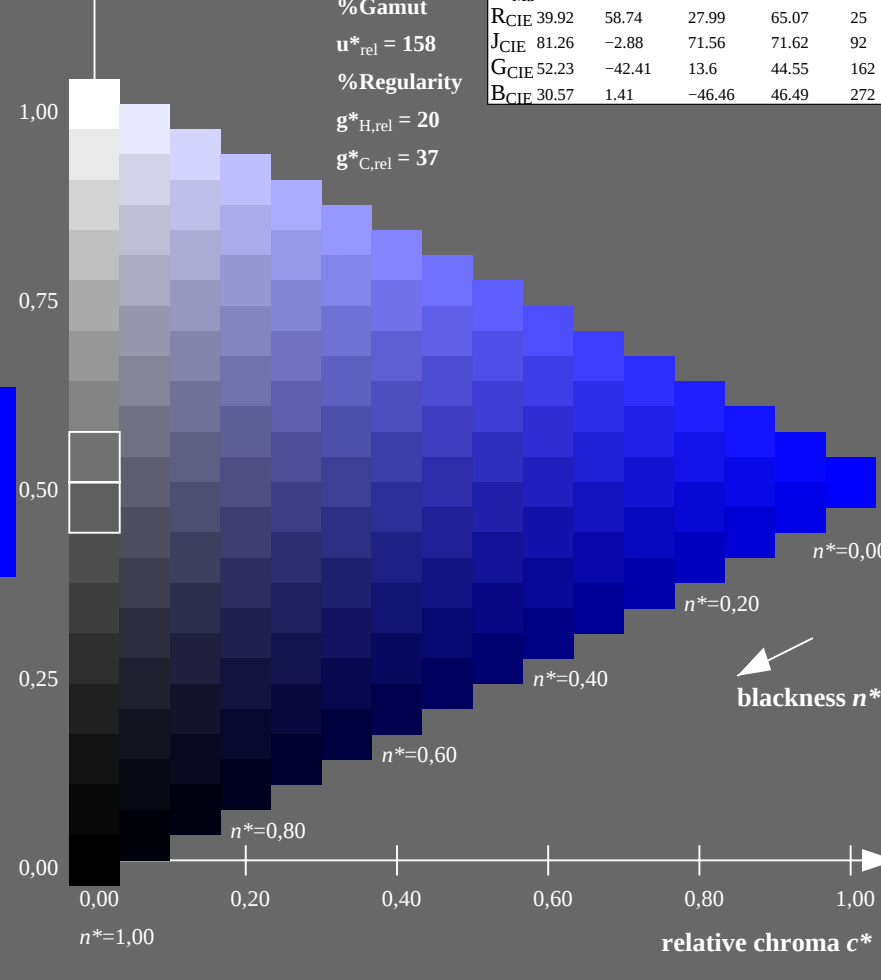
$g^*_{C,rel} = 37$

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



OE730-7N-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)

OE73: Test chart 2 according to DIN 33872-2, Hue V; 1MR, DH
Discrimination of 5 and 16 step colour scales

input: $cmy0$ ($\rightarrow cmy0^*_{\Delta}$) $setcmyk$
output 130-4: $g_P=1.0$; $g_N=1.29$

TUB registration: 20110801-OE73/OE73L0NA.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 $h^* = lab^*h = 328/360 = 0.912$

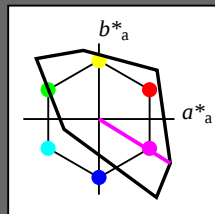
lab^*tch and lab^*nch

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

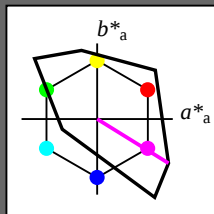
lab^*tch and lab^*nch

D65: hue M

LCH*Ma: 57 111 328

ol v^* Ma: 1.0 0.0 1.0

triangle lightness t^*



%Gamut

$u^*_{rel} = 158$

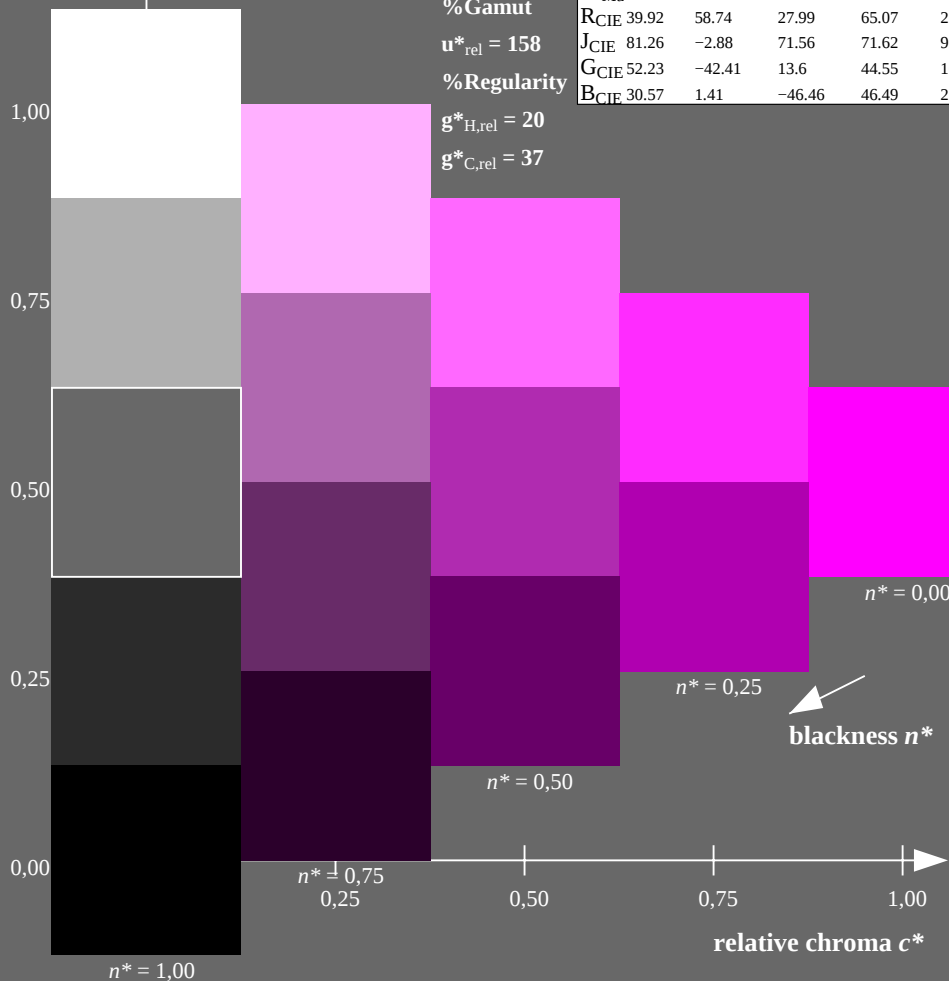
%Regularity

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

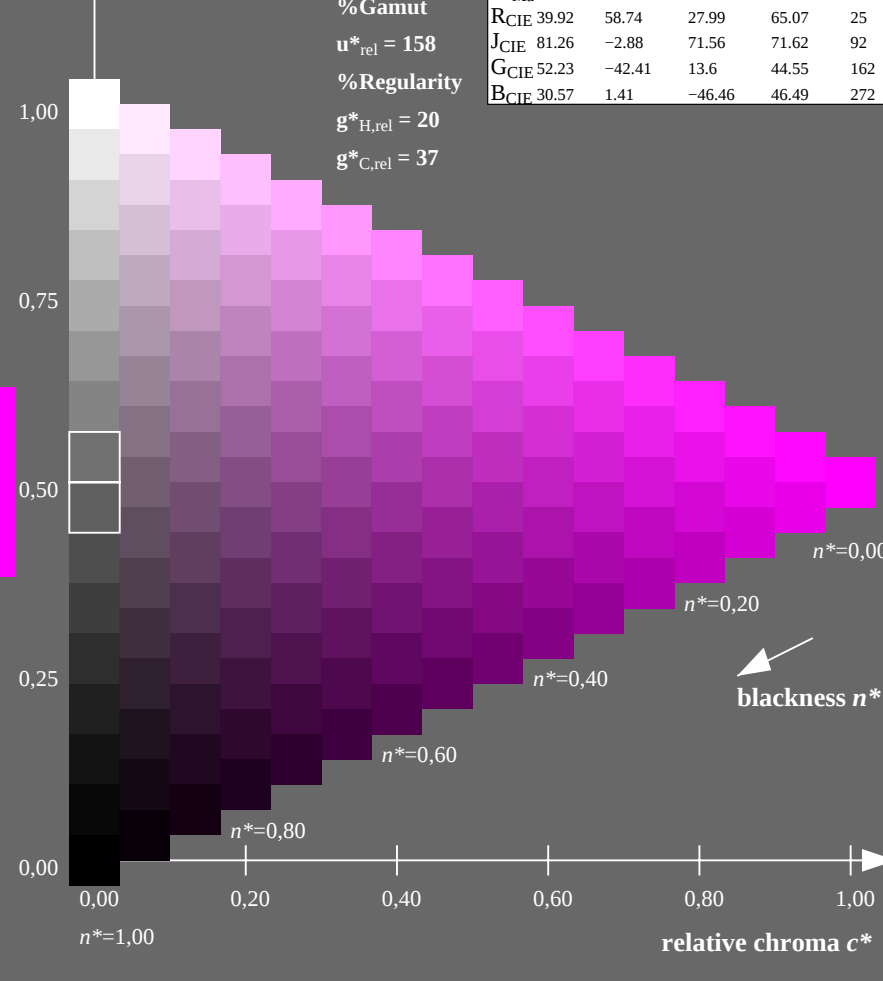
$g^*_{C,rel} = 37$

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



OE730-7N-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)

OE73: Test chart 2 according to DIN 33872-2, Hue M; 1MR, DH
Discrimination of 5 and 16 step colour scales

input: $cmy0$ ($\rightarrow cmy0^*_d$) $setcmyk$
output 130-5: $g_P=1.0$; $g_N=1.29$

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-OE73/OE73L0NA.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 $h^* = lab^*h = 25/360 = 0.071$

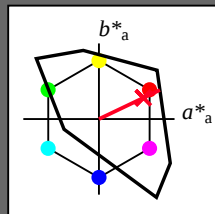
lab^*tch and lab^*nch

D65: hue R

LCH*Ma: 52 89 25

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

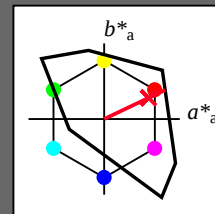
lab^*tch and lab^*nch

D65: hue R

LCH*Ma: 52 89 25

olv*Ma: 1.0 0.0 0.21

triangle lightness t^*



%Gamut

$u^*_{rel} = 158$

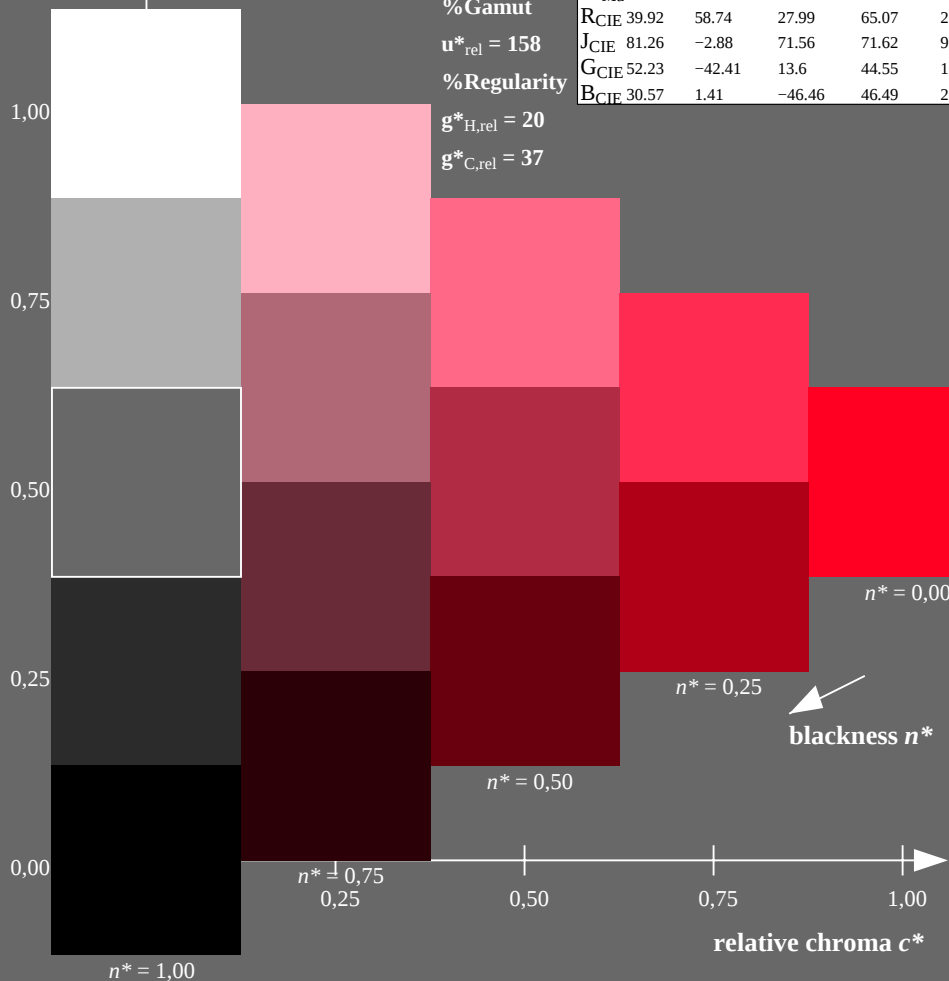
%Regularity

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

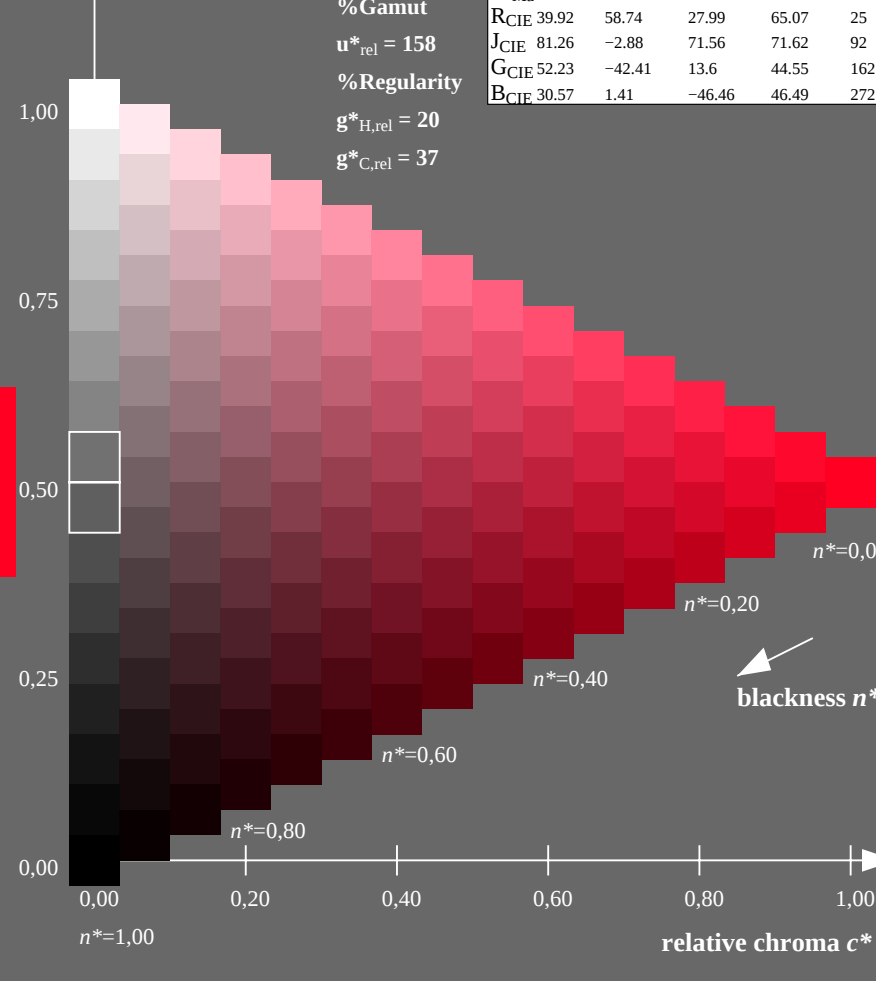
$g^*_{C,rel} = 37$

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



OE730-7N-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)

OE73: Test chart 2 according to DIN 33872-2, Hue R; 1MR, DH
Discrimination of 5 and 16 step colour scales

input: $cmy0$ ($\rightarrow cmy0^*_{de}$) $setcmyk$
output 130-6: $g_P=1.0$; $g_N=1.29$

Input: Colorimetric Television Luminous System TLS00a

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

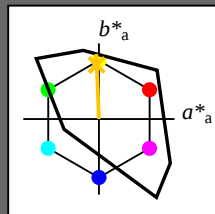
lab^*tch and lab^*nch

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

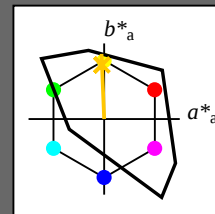
lab^*tch and lab^*nch

D65: hue J

LCH*Ma: 85 86 92

olv*Ma: 1.0 0.82 0.0

triangle lightness t^*



%Gamut

$u^*_{rel} = 158$

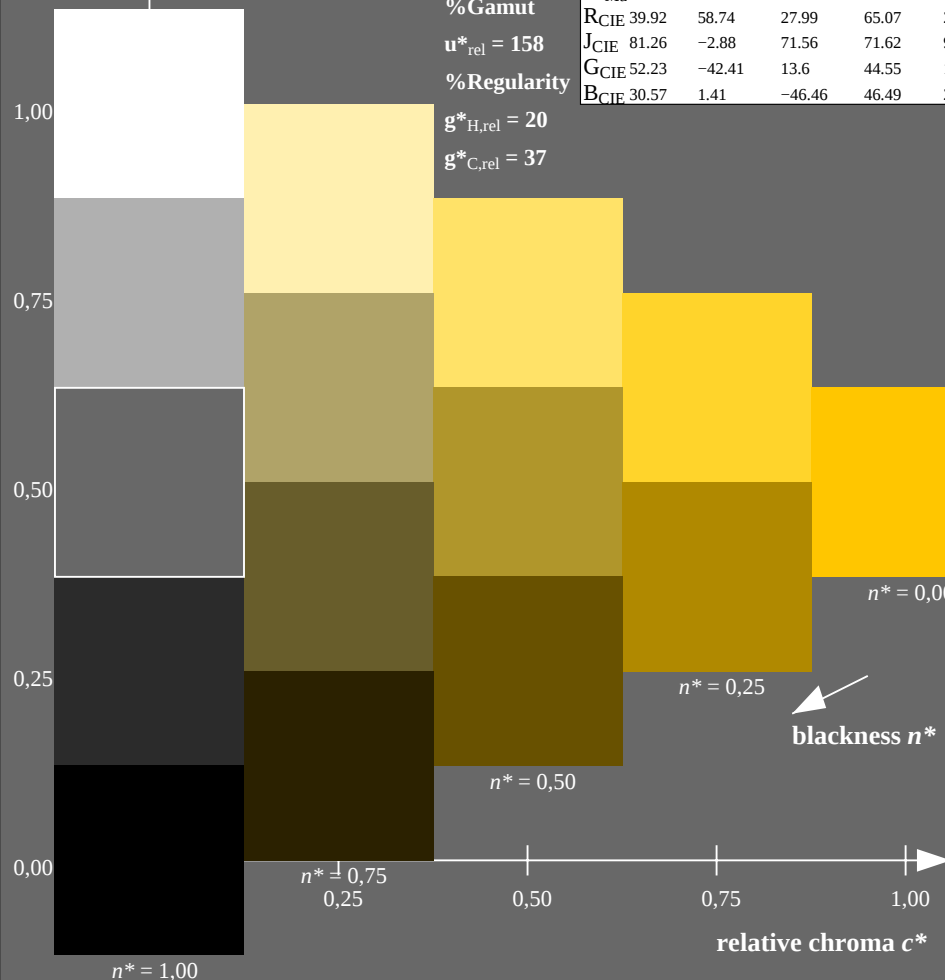
%Regularity

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

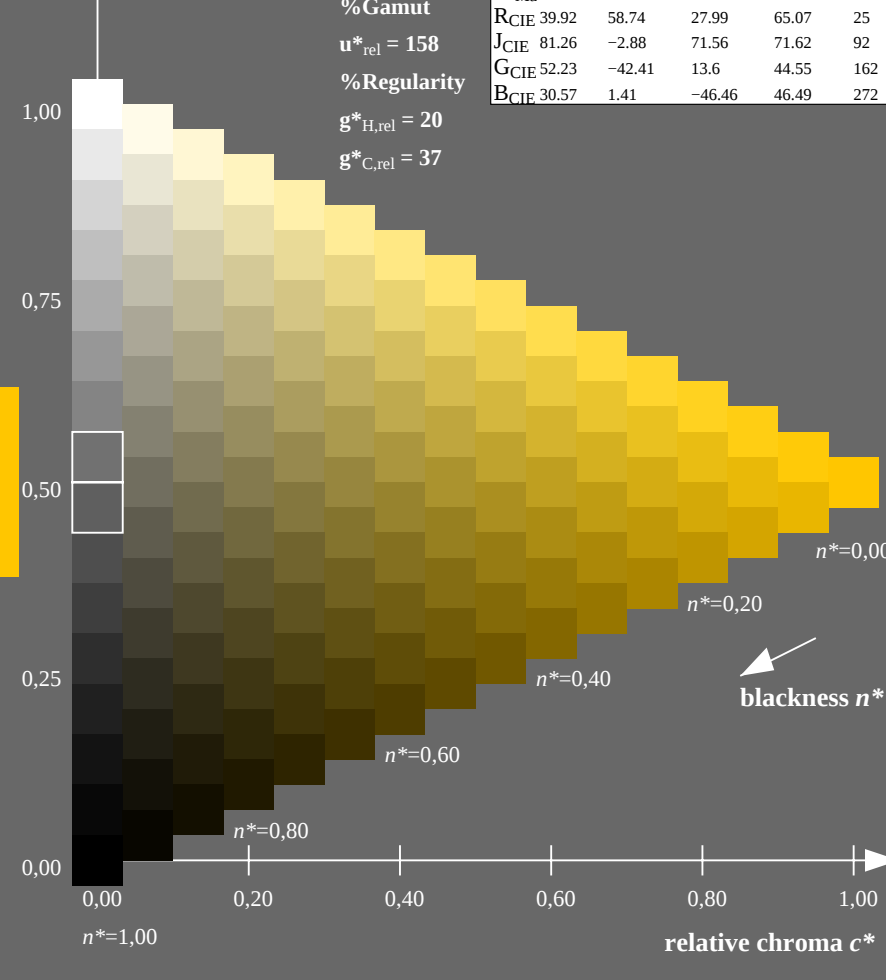
$g^*_{C,rel} = 37$

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



OE730-7N-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)

OE73: Test chart 2 according to DIN 33872-2, Hue J; 1MR, DH
Discrimination of 5 and 16 step colour scales

input: $cmy0$ ($\rightarrow cmy0^*_{de}$) $setcmyk$
output 130-7: $g_P=1.0$; $g_N=1.29$

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-OE73/OE73L0NA.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 $h^* = lab^*h = 162/360 = 0.451$

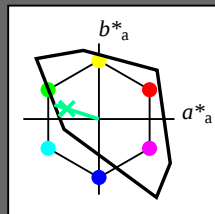
lab^*tch and lab^*nch

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

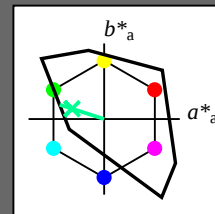
lab^*tch and lab^*nch

D65: hue G

LCH*Ma: 86 62 162

ol v^* Ma: 0.0 1.0 0.65

triangle lightness t^*



%Gamut

$u^*_{rel} = 158$

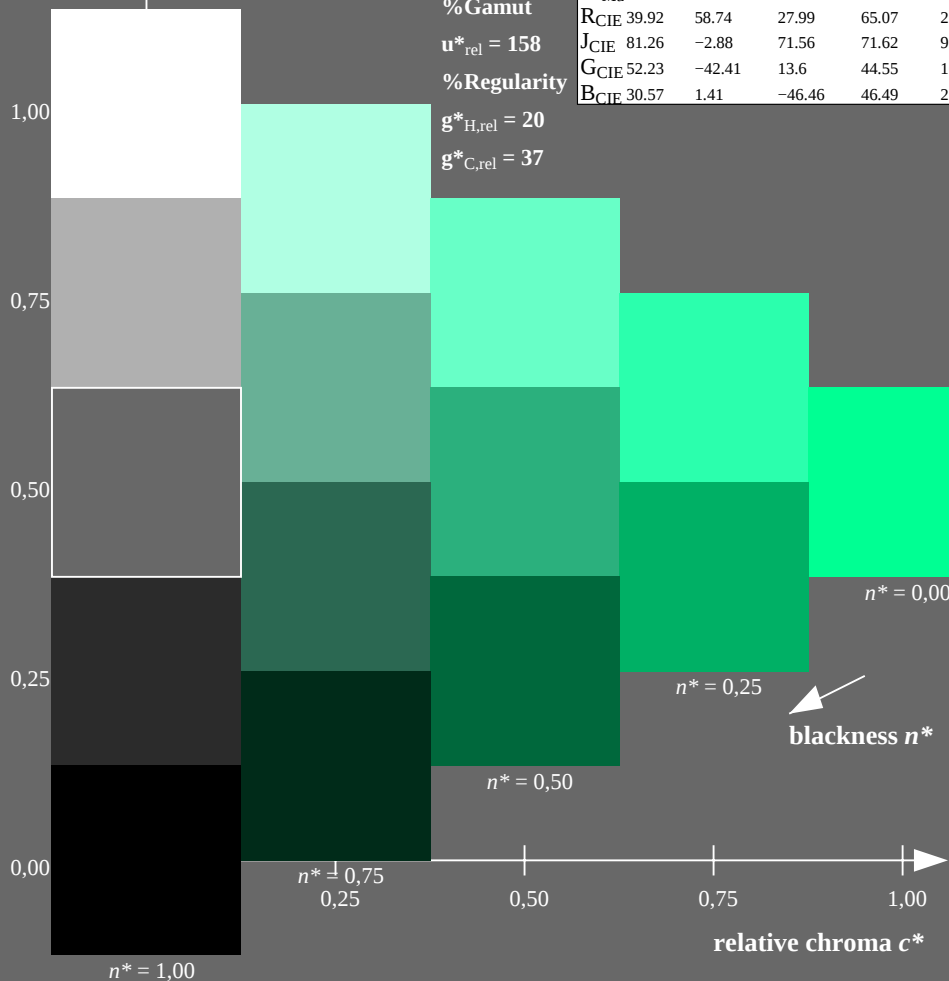
%Regularity

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

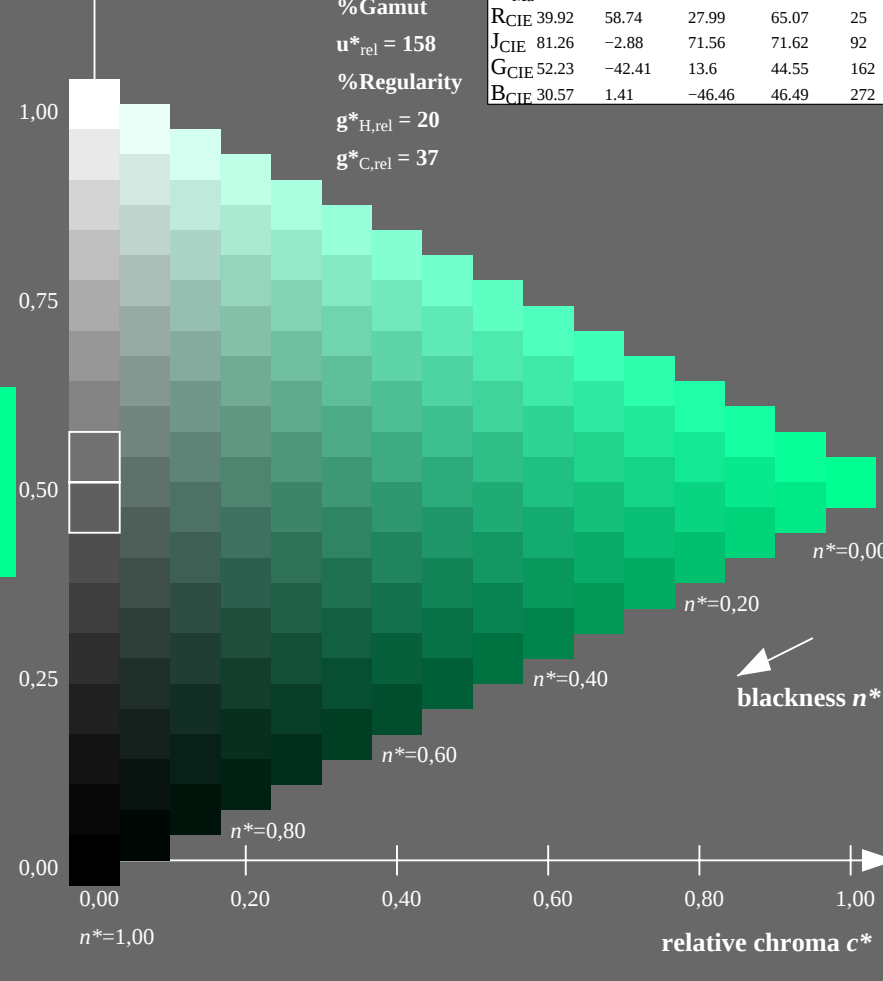
$g^*_{C,rel} = 37$

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



OE730-7N-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)

OE73: Test chart 2 according to DIN 33872-2, Hue G; 1MR, DH
Discrimination of 5 and 16 step colour scales

input: $cmy0$ ($\rightarrow cmy0^*_{de}$) $setcmyk$
output 130-8: $g_P=1.0$; $g_N=1.29$

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-OE73/OE73L0NA.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 $h^* = lab^*h = 272/360 = 0.755$

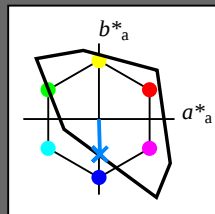
lab^*tch and lab^*nch

D65: hue B

LCH*Ma: 65 49 272

olv*Ma: 0.0 0.61 1.0

triangle lightness t^*



%Gamut

$u^*_{rel} = 158$

%Regularity

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

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

TLS00a; adapted (a) CIELAB data

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

Output: Colorimetric Television Luminous System TLS00a

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

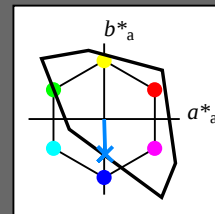
lab^*tch and lab^*nch

D65: hue B

LCH*Ma: 65 49 272

olv*Ma: 0.0 0.61 1.0

triangle lightness t^*



%Gamut

$u^*_{rel} = 158$

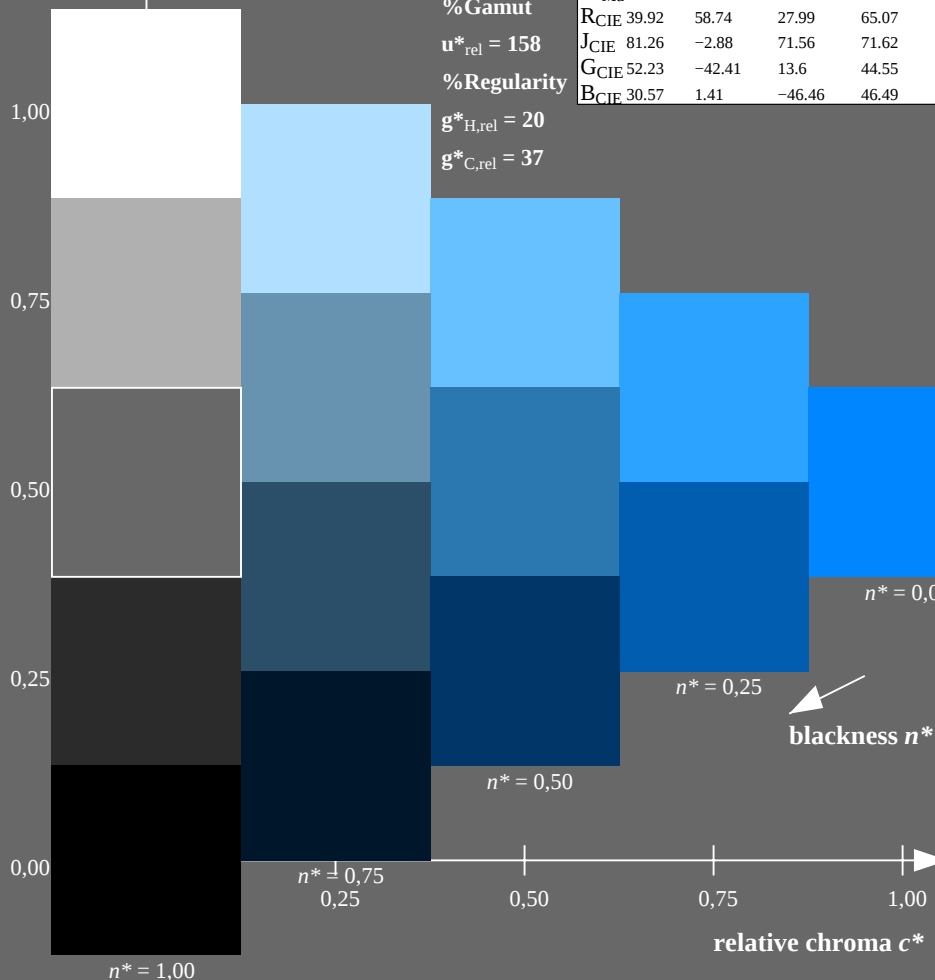
%Regularity

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

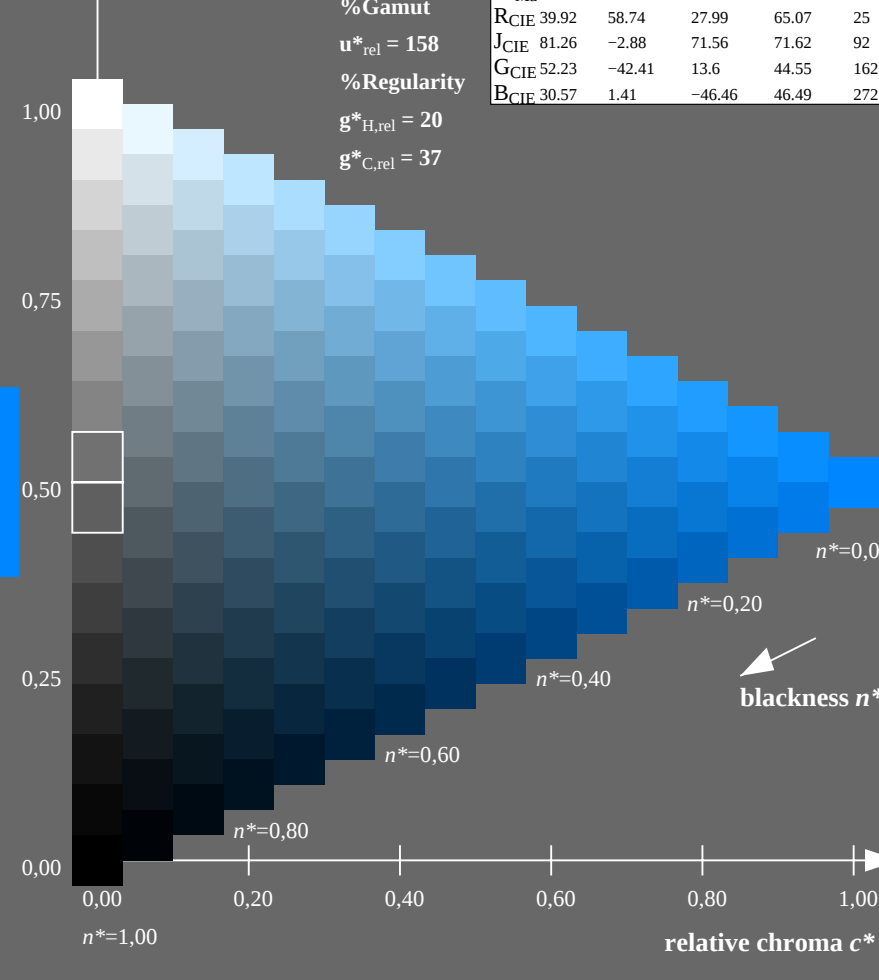
$g^*_{C,rel} = 37$

TLS00a; adapted (a) CIELAB data

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



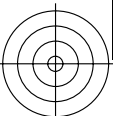
OE730-7N-133-9: 5 step scales for constant CIELAB hue 272/360 = 0.755 (left)



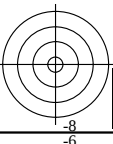
16 step scales for constant CIELAB hue 272/360 = 0.755 (right)

OE73: Test chart 2 according to DIN 33872-2, Hue B; 1MR, DH
Discrimination of 5 and 16 step colour scales

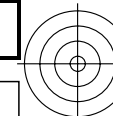
input: $cmy0$ ($\rightarrow cmy0^*_{de}$) $setcmyk$
output 130-9: $g_P=1.0$; $g_N=1.29$



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

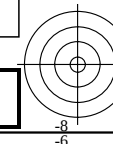


<http://130.149.60.45/~farbmetrik/OE73/OE73L0NA.TXT> /PS; linearized output, Page 11/12
 F: Output Linearization (OL) data OE73/OE73L0NA.TXT /PS in File (F)



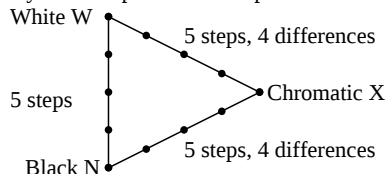
TUB registration: 20110801-OE73/OE73L0NA.TXT /PS
 application for output of displays: monitor systems or data projector systems

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

OE730-3N-133-10

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

PDF-File: <http://130.149.60.45/farbmetrik/OE73/OE73L0NP.PDF> underline Yes/No

PS-File: <http://130.149.60.45/farbmetrik/OE73/OE73L0NA.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 OE73L0NP.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 OE73L0NA.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

OE730-7N-133-10

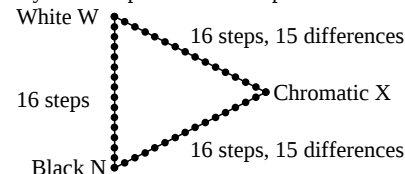


OE73: Form A for test chart 2 according to DIN 33872-2; 1MR, DHinput: *cmy0* (->*cmy0***1*) *setcmyk*
 Discrimination of colour scales (Yes/No decision) output 130-10: *g_P*=1.0; *g_N*=1.29



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

OE731-3N-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/OE73/OE73F1P2.PDF>

underline Yes/No

PS file: <http://130.149.60.45/farbmetrik/OE73/OE73F1P2.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/OE73/OE73F1P2.PDF>

picture A7-133-2

underline Yes/No

PS-File: <http://130.149.60.45/farbmetrik/OE73/OE73F1P2.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

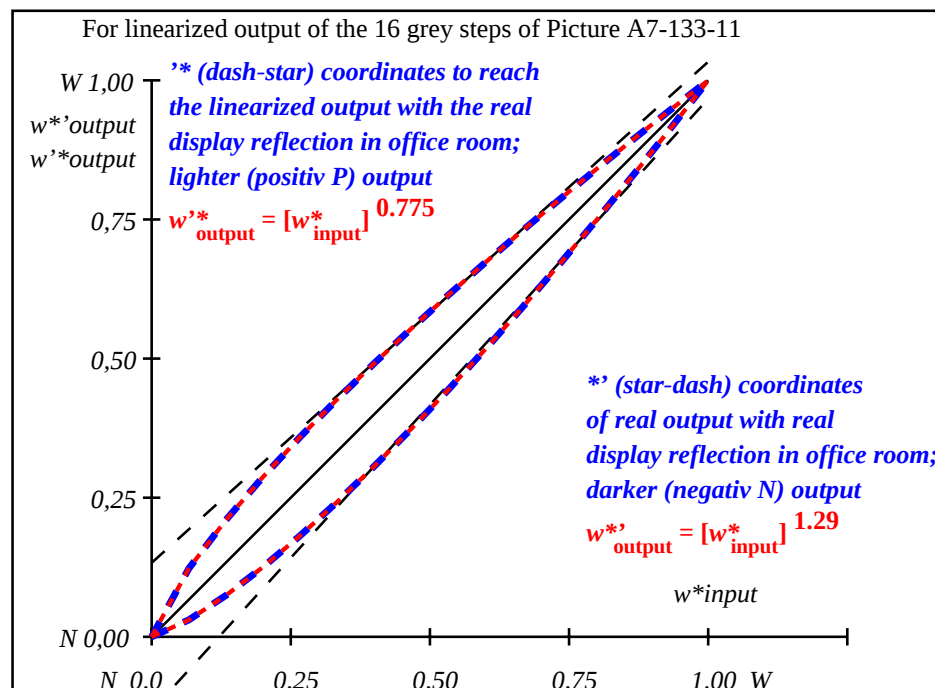
OE731-7N-133-10



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*	Start output S1
1	18.01	0.0	0.0	0.0	18.01	0.0	0.0	0.0	0.0	0.0	0.0	0.01	Specification according to ISO/IEC 15775 Annex G and DIN 33866-1 Annex G	
2	23.17	0.0	0.0	0.03	20.36	0.0	0.0	-2.8	0.0	0.0	2.81			
3	28.33	0.0	0.0	0.07	23.76	0.0	0.0	-4.56	0.0	0.0	4.57			
4	33.49	0.0	0.0	0.13	27.71	0.0	0.0	-5.77	0.0	0.0	5.78			
5	38.65	0.0	0.0	0.18	32.07	0.0	0.0	-6.57	0.0	0.0	6.58			
6	43.81	0.0	0.0	0.24	36.76	0.0	0.0	-7.04	0.0	0.0	7.05			
7	48.97	0.0	0.0	0.31	41.74	0.0	0.0	-7.22	0.0	0.0	7.23			
8	54.13	0.0	0.0	0.37	46.96	0.0	0.0	-7.16	0.0	0.0	7.17			
9	59.29	0.0	0.0	0.44	52.4	0.0	0.0	-6.88	0.0	0.0	6.89			
10	64.45	0.0	0.0	0.52	58.05	0.0	0.0	-6.39	0.0	0.0	6.4			
11	69.61	0.0	0.0	0.59	63.88	0.0	0.0	-5.72	0.0	0.0	5.73			
12	74.77	0.0	0.0	0.67	69.88	0.0	0.0	-4.88	0.0	0.0	4.89			
13	79.93	0.0	0.0	0.75	76.05	0.0	0.0	-3.87	0.0	0.0	3.88			
14	85.09	0.0	0.0	0.83	82.36	0.0	0.0	-2.72	0.0	0.0	2.73			
15	90.25	0.0	0.0	0.91	88.82	0.0	0.0	-1.42	0.0	0.0	1.43	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 = 4.6		
17	18.01	0.0	0.0	0.0	18.01	0.0	0.0	0.0	0.0	0.0	0.01			
18	37.36	0.0	0.0	0.17	30.95	0.0	0.0	-6.4	0.0	0.0	6.41			
19	56.71	0.0	0.0	0.41	49.66	0.0	0.0	-7.04	0.0	0.0	7.05			
20	76.06	0.0	0.0	0.69	71.41	0.0	0.0	-4.64	0.0	0.0	4.65	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 = 3.6		
Mean colour reproduction index:													R*ab,m = 80	

OE730-3N-133-11: File: Measure unknown; Device: Device unknown; Date: Date unknown



OE731-3N-133-11: File: Measure unknown; Device: Device unknown; Date: Date unknown

L^*/Y_{intended} (absolute)	18.0/2.5	23.2/3.8	28.3/5.6	33.5/7.8	38.6/10.5	43.8/13.7	49.0/17.6	54.1/22.1	59.3/27.3	64.4/33.4	69.6/40.2	74.8/47.9	79.9/56.6	85.1/66.2	90.2/76.8	95.4/88.6
$w^* w^* w^*$ setrgb $g_N=1.29$ 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
$w^*=l^*$ C_{IELAB}, 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	0.031	0.074	0.125	0.182	0.242	0.307	0.374	0.444	0.517	0.593	0.67	0.75	0.832	0.914	1.0

OE730-7N, Picture A7-133-11: 16 visual equidistant L^* -grey steps; PS operator: $w^* w^* w^*$ setrgbcolor

OE73: In-output relation according to ISO 9241-306; 1MR, DH
Viewing Y contrast $Y_W:Y_N=88,9:2,5$; Y_N range 1,87 to <3,75

input: $cmy0$ (-> $cmy0^*_d$) setcmyk
output 130-11: $g_P=1.0$; $g_N=1.29$

Input: Colorimetric Television Luminous System TLS00a

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

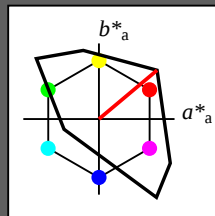
lab^*tch and lab^*nch

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

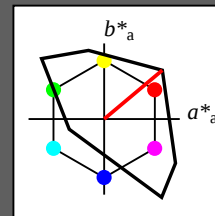
lab^*tch and lab^*nch

D65: hue O

LCH*Ma: 51 100 40

olv*Ma: 1.0 0.0 0.0

triangle lightness t^*



%Gamut

$u^*_{rel} = 158$

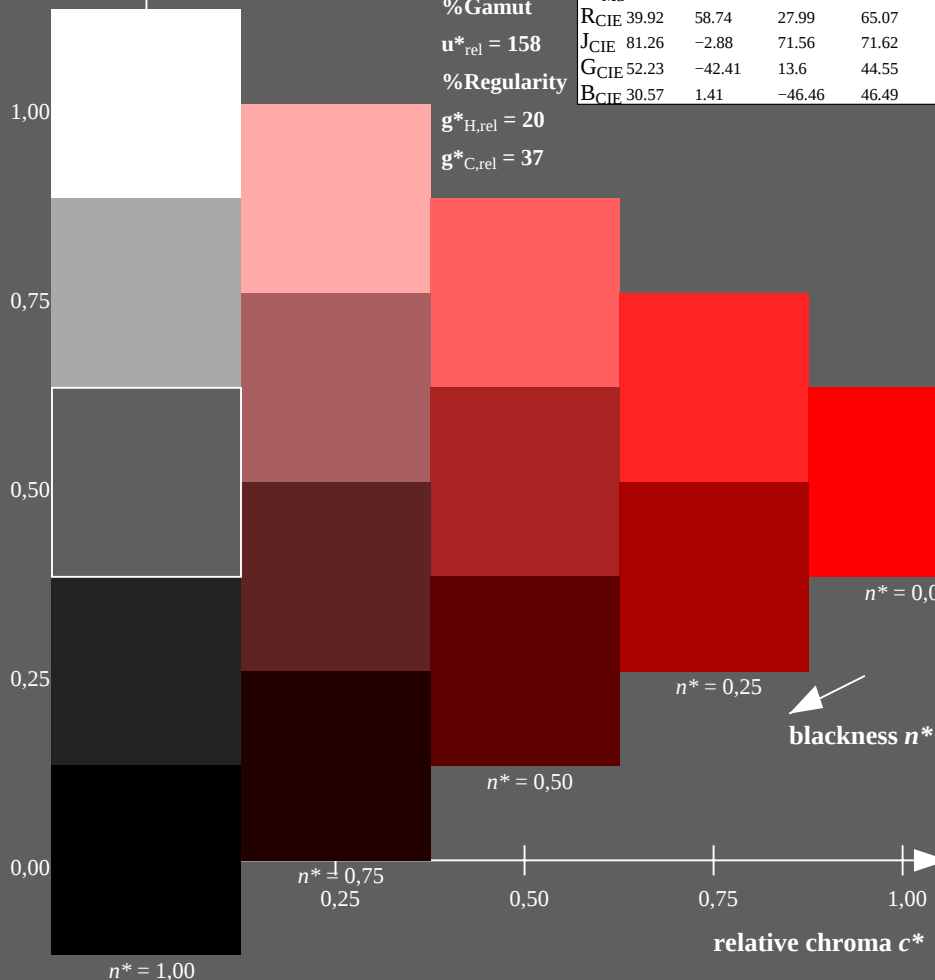
%Regularity

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

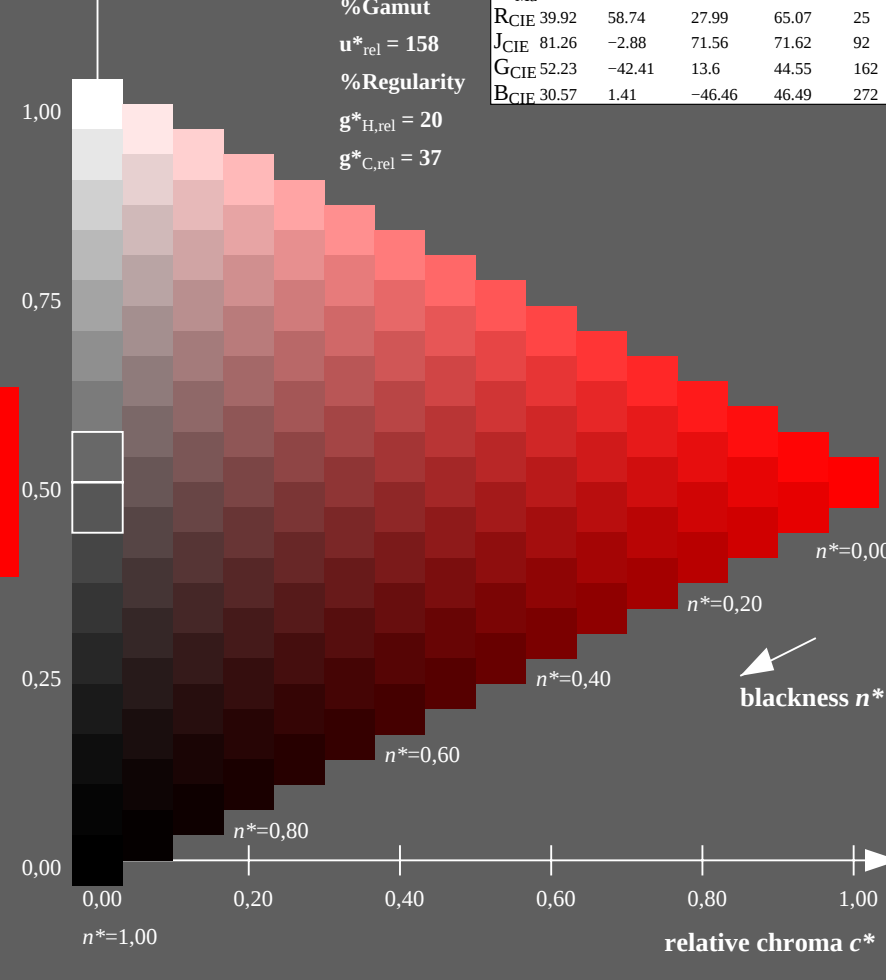
$g^*_{C,rel} = 37$

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



OE730-7N-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)

OE73: Test chart 2 according to DIN 33872-2, Hue O; 1MR, DH
Discrimination of 5 and 16 step colour scales

input: $cmy0$ ($\rightarrow cmy0^*_d$) $setcmyk$
output 130-0: $g_P=1.0$; $g_N=1.42$

Input: Colorimetric Television Luminous System TLS00a

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

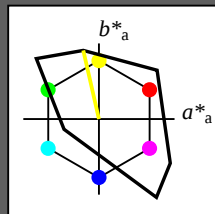
lab^*tch and lab^*nch

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

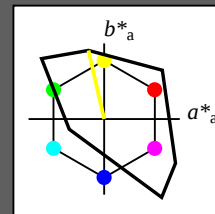
lab^*tch and lab^*nch

D65: hue Y

LCH*Ma: 93 93 103

ol v^* Ma: 1.0 1.0 0.0

triangle lightness t^*



%Gamut

$u^*_{rel} = 158$

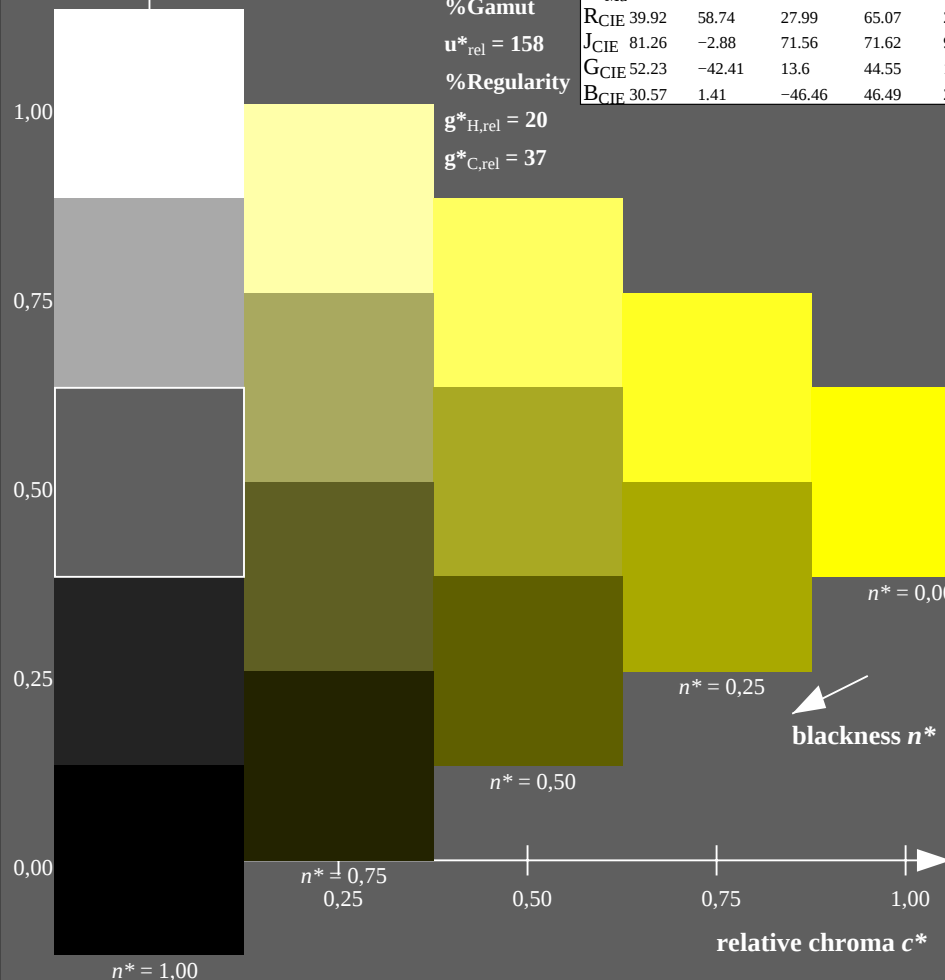
%Regularity

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

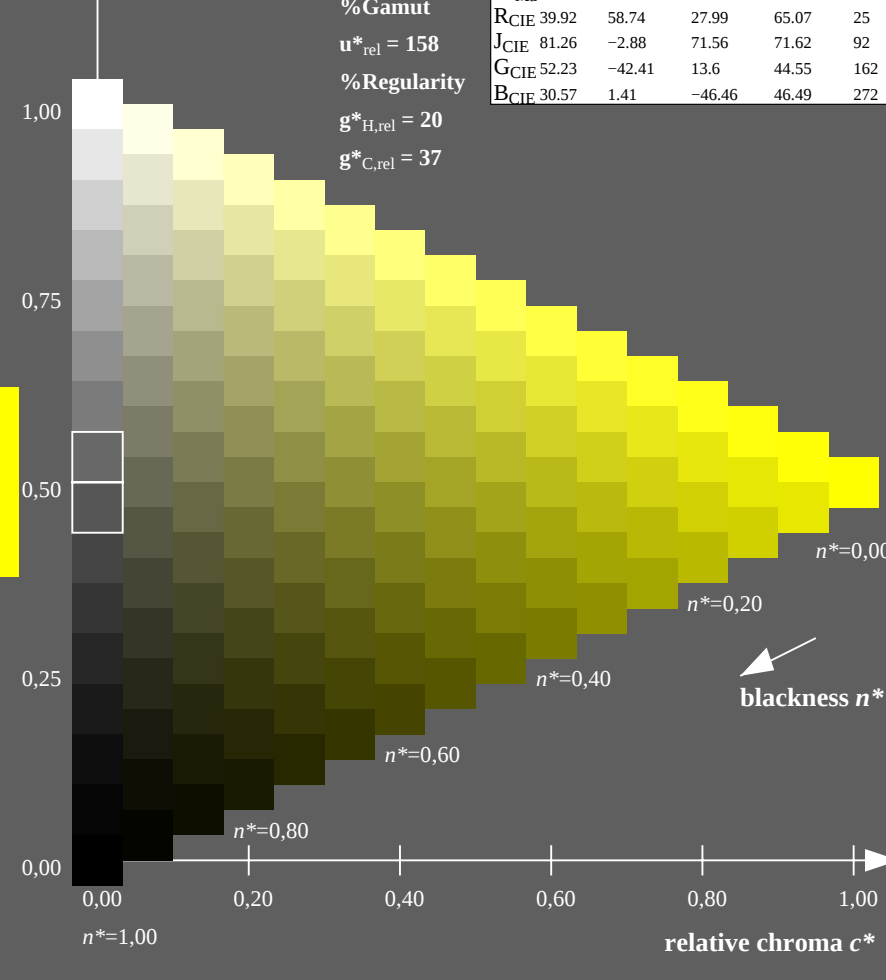
$g^*_{C,rel} = 37$

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



OE730-7N-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)

OE73: Test chart 2 according to DIN 33872-2, Hue Y; 1MR, DH
Discrimination of 5 and 16 step colour scales

input: $cmy0$ ($\rightarrow cmy0^*_{\Delta}$) $setcmyk$
output 130-1: $g_P=1.0$; $g_N=1.42$

Input: Colorimetric Television Luminous System TLS00a

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

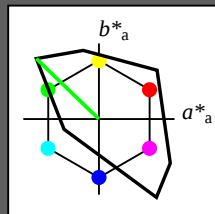
lab^*tch and lab^*nch

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

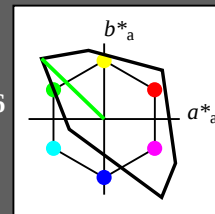
lab^*tch and lab^*nch

D65: hue L

LCH*Ma: 84 115 136

ol v^* Ma: 0.0 1.0 0.0

triangle lightness t^*



%Gamut

$u^*_{rel} = 158$

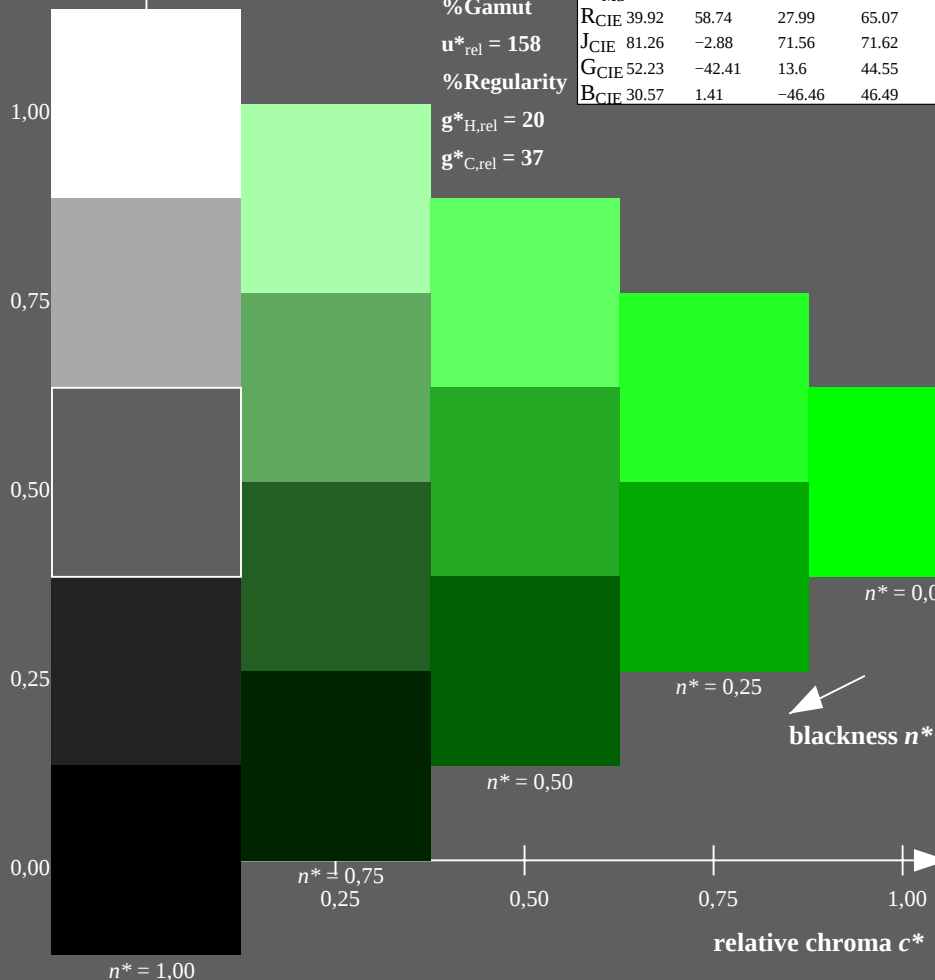
%Regularity

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

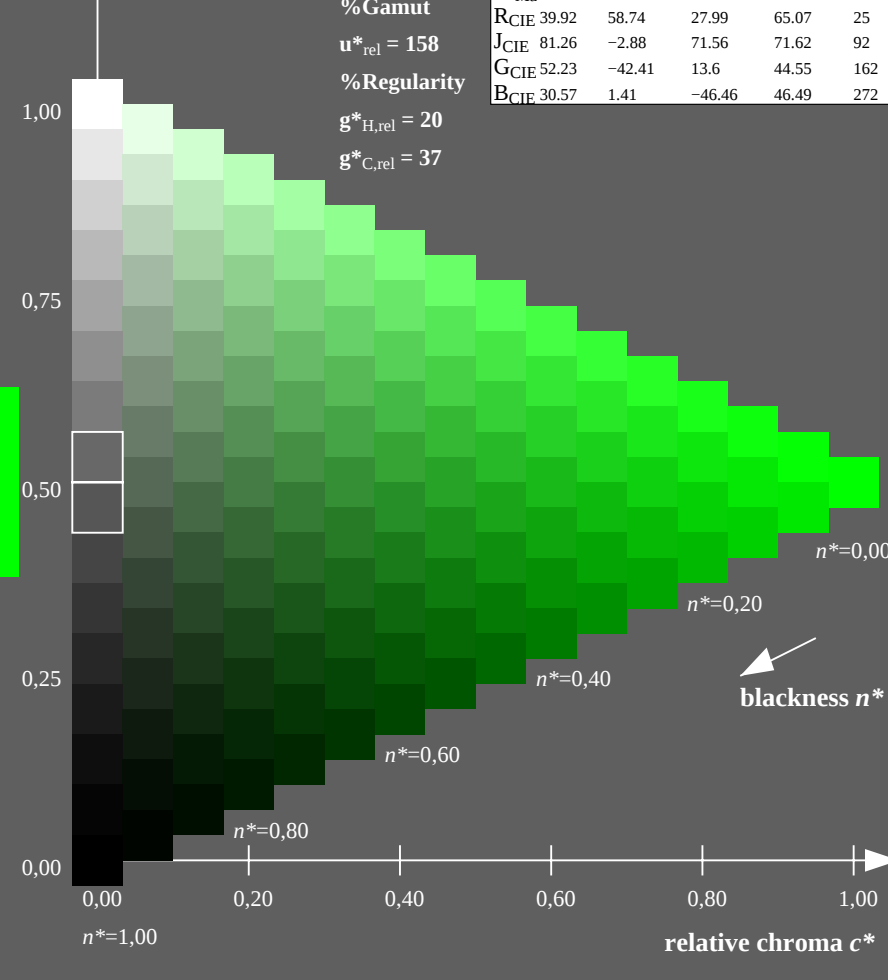
$g^*_{C,rel} = 37$

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



OE730-7N-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)

OE73: Test chart 2 according to DIN 33872-2, Hue L; 1MR, DH
Discrimination of 5 and 16 step colour scales

input: $cmy0$ ($\rightarrow cmy0^*_d$) $setcmyk$
output 130-2: $g_P=1.0$; $g_N=1.42$

Input: Colorimetric Television Luminous System TLS00a

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

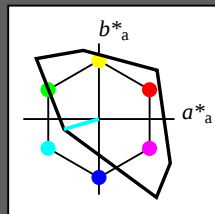
lab^*tch and lab^*nch

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

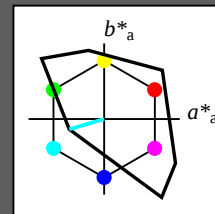
lab^*tch and lab^*nch

D65: hue C

LCH*Ma: 87 48 196

olv*Ma: 0.0 1.0 1.0

triangle lightness t^*



%Gamut

$u^*_{rel} = 158$

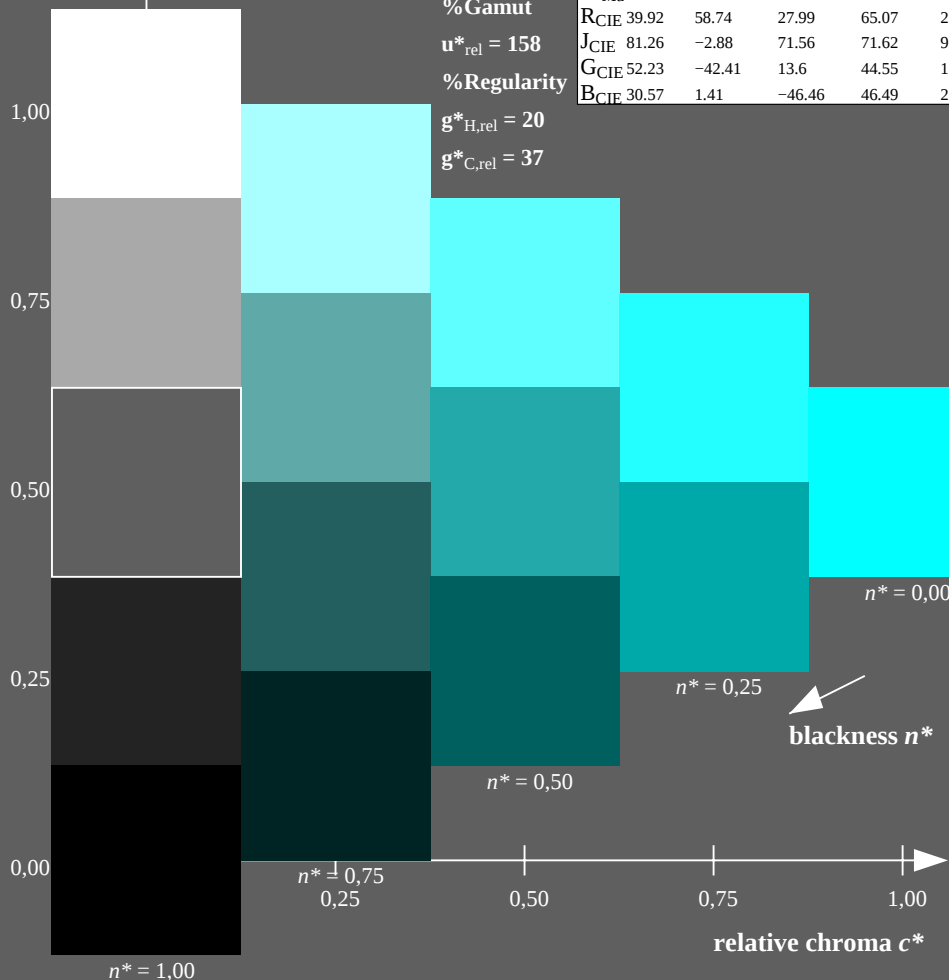
%Regularity

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

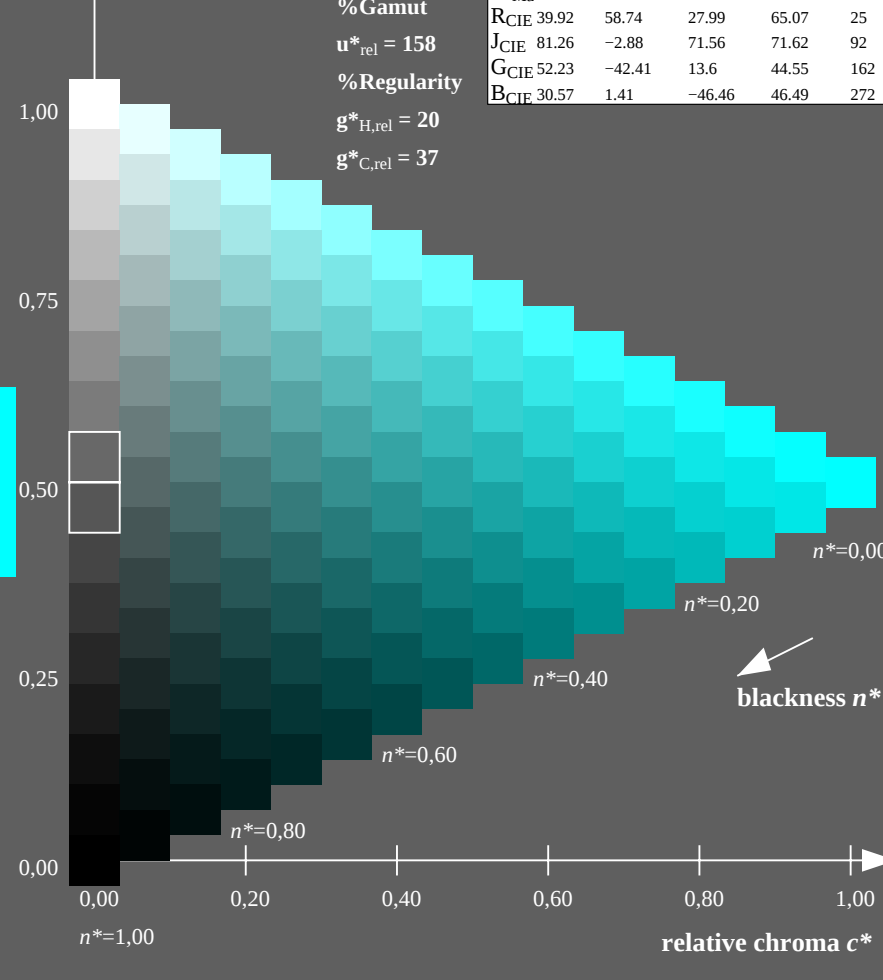
$g^*_{C,rel} = 37$

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



OE730-7N-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)

OE73: Test chart 2 according to DIN 33872-2, Hue C; 1MR, DH
Discrimination of 5 and 16 step colour scales

input: $cmy0$ ($\rightarrow cmy0^*_{\Delta}$) $setcmyk$
output 130-3: $g_P=1.0$; $g_N=1.42$

Input: Colorimetric Television Luminous System TLS00a

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

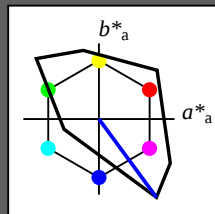
lab^*tch and lab^*nch

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

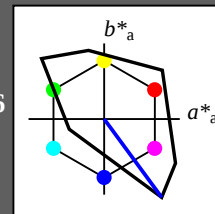
lab^*tch and lab^*nch

D65: hue V

LCH*Ma: 30 129 306

ol v^* Ma: 0.0 0.0 1.0

triangle lightness t^*



%Gamut

$u^*_{rel} = 158$

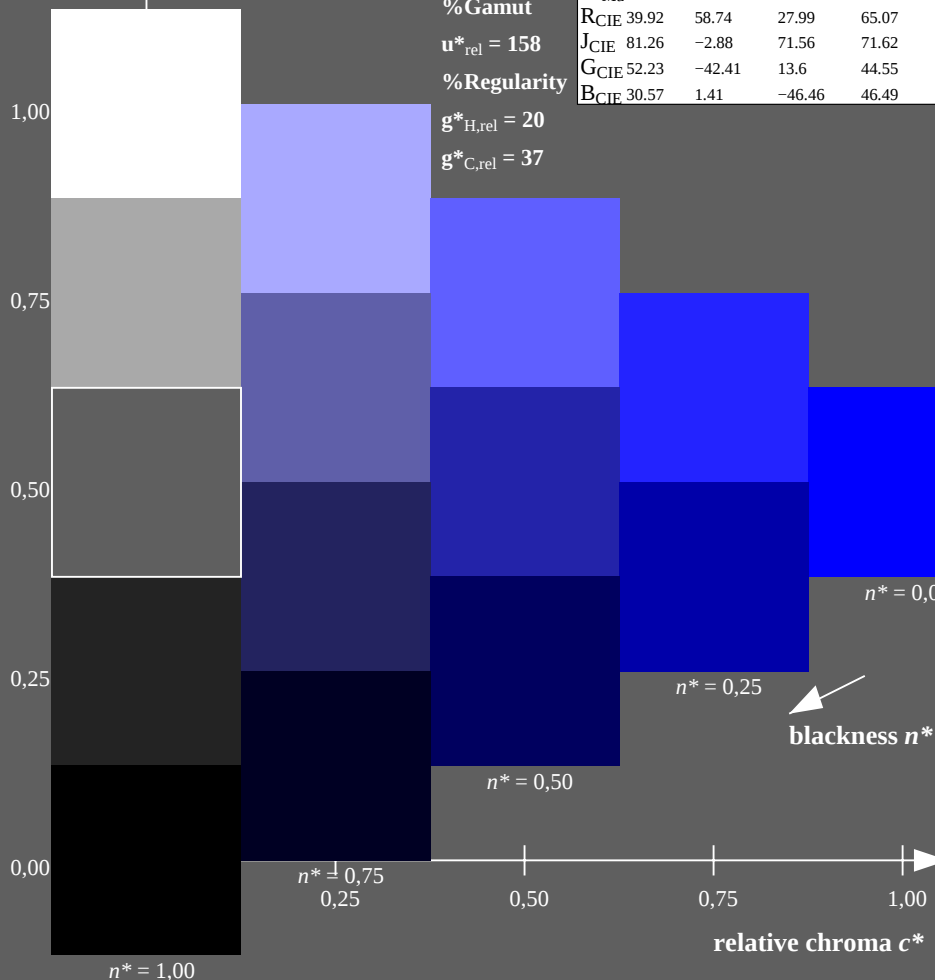
%Regularity

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

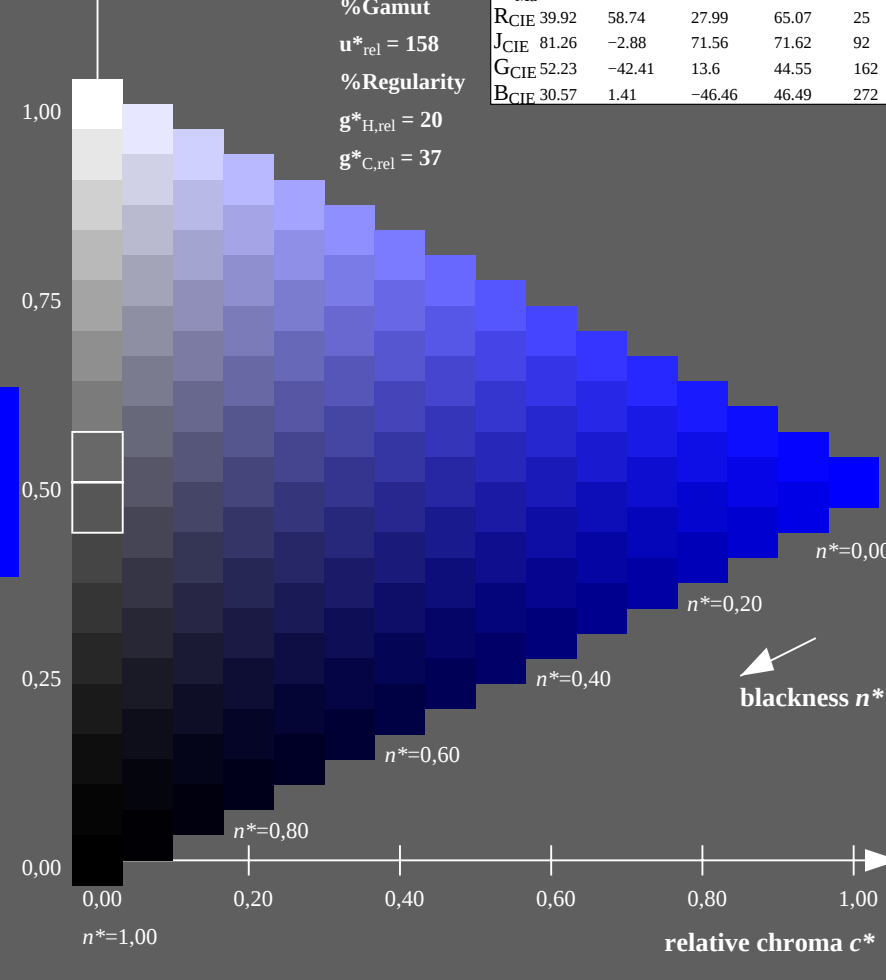
$g^*_{C,rel} = 37$

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



OE730-7N-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)

OE73: Test chart 2 according to DIN 33872-2, Hue V; 1MR, DH
Discrimination of 5 and 16 step colour scales

input: $cmy0$ ($\rightarrow cmy0^*_{\Delta}$) $setcmyk$
output 130-4: $g_P=1.0$; $g_N=1.42$

Input: Colorimetric Television Luminous System TLS00a

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

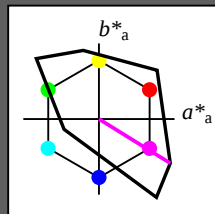
lab^*tch and lab^*nch

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

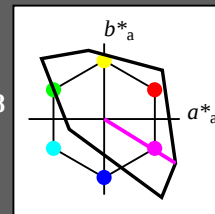
lab^*tch and lab^*nch

D65: hue M

LCH*Ma: 57 111 328

ol v^* Ma: 1.0 0.0 1.0

triangle lightness t^*



%Gamut

$u^*_{rel} = 158$

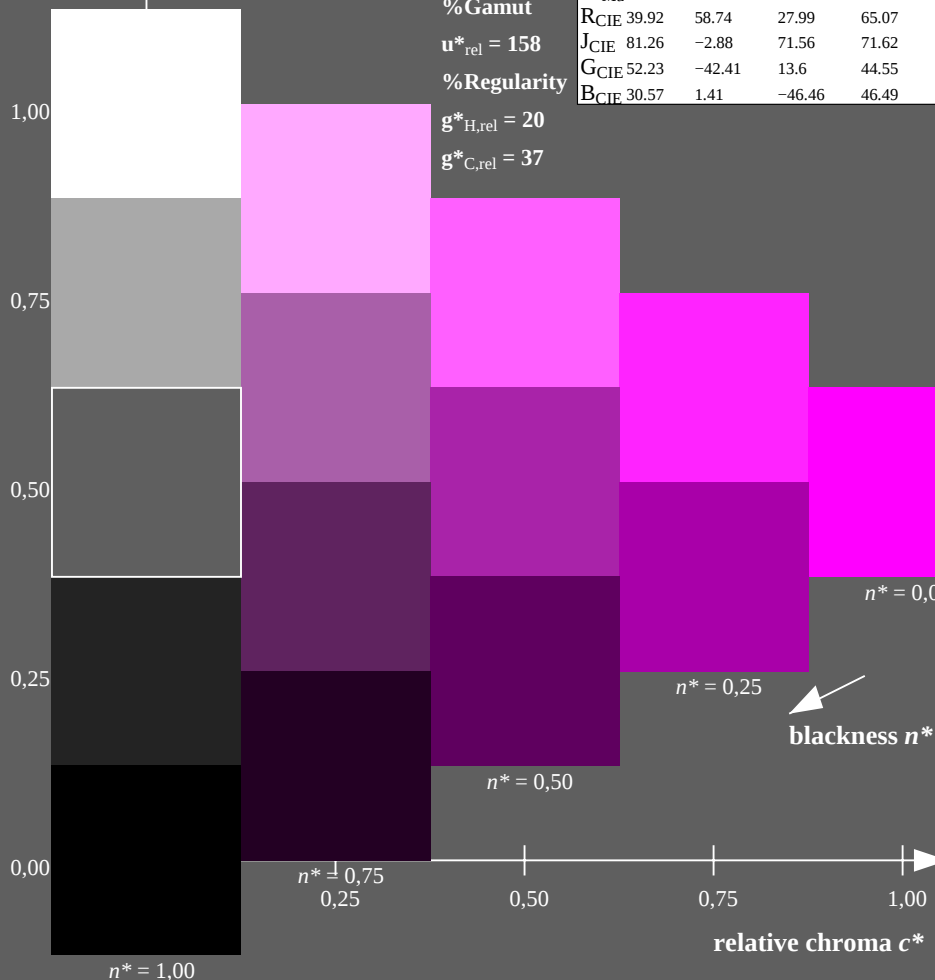
%Regularity

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

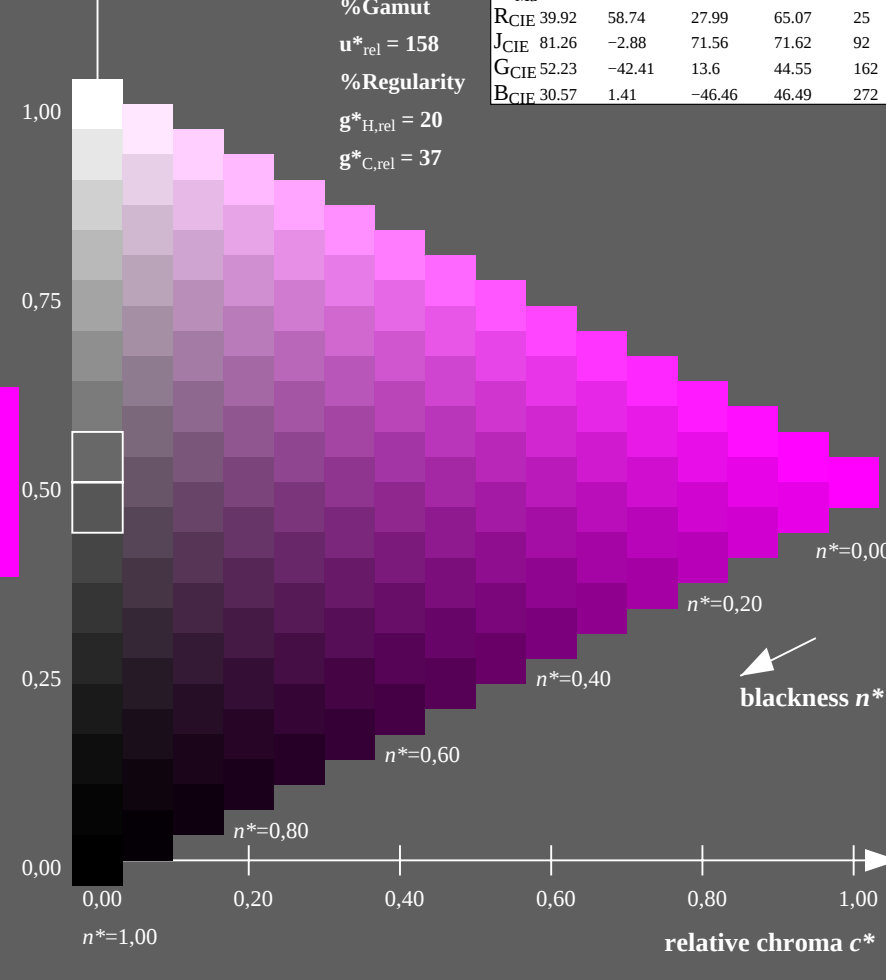
$g^*_{C,rel} = 37$

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



OE730-7N-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)

OE73: Test chart 2 according to DIN 33872-2, Hue M; 1MR, DH
Discrimination of 5 and 16 step colour scales

input: $cmy0$ ($\rightarrow cmy0^*_d$) $setcmyk$
output 130-5: $g_P=1.0$; $g_N=1.42$

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-OE73/OE73L0NA.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 $h^* = lab^*h = 25/360 = 0.071$

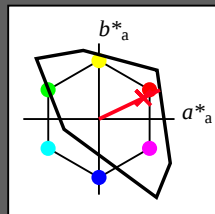
lab^*tch and lab^*nch

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

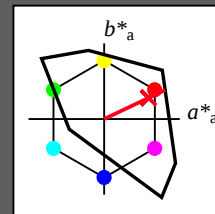
lab^*tch and lab^*nch

D65: hue R

LCH*Ma: 52 89 25

olv*Ma: 1.0 0.0 0.21

triangle lightness t^*



%Gamut

$u^*_{rel} = 158$

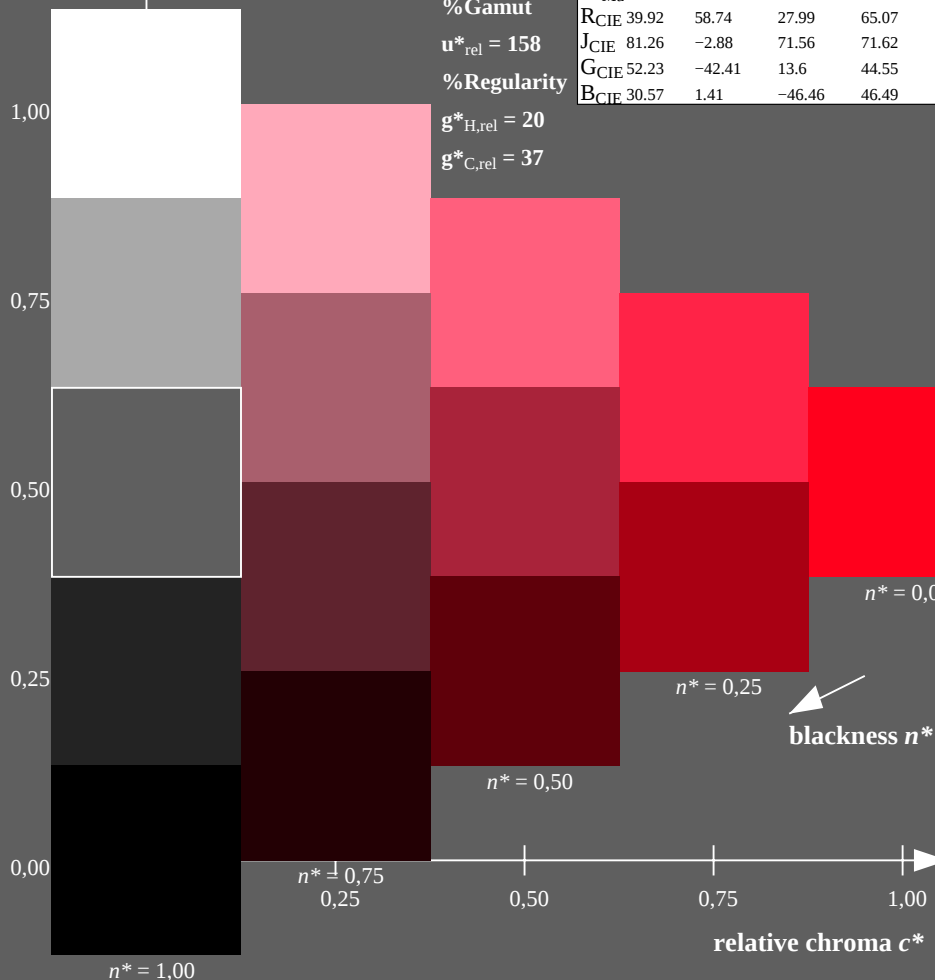
%Regularity

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

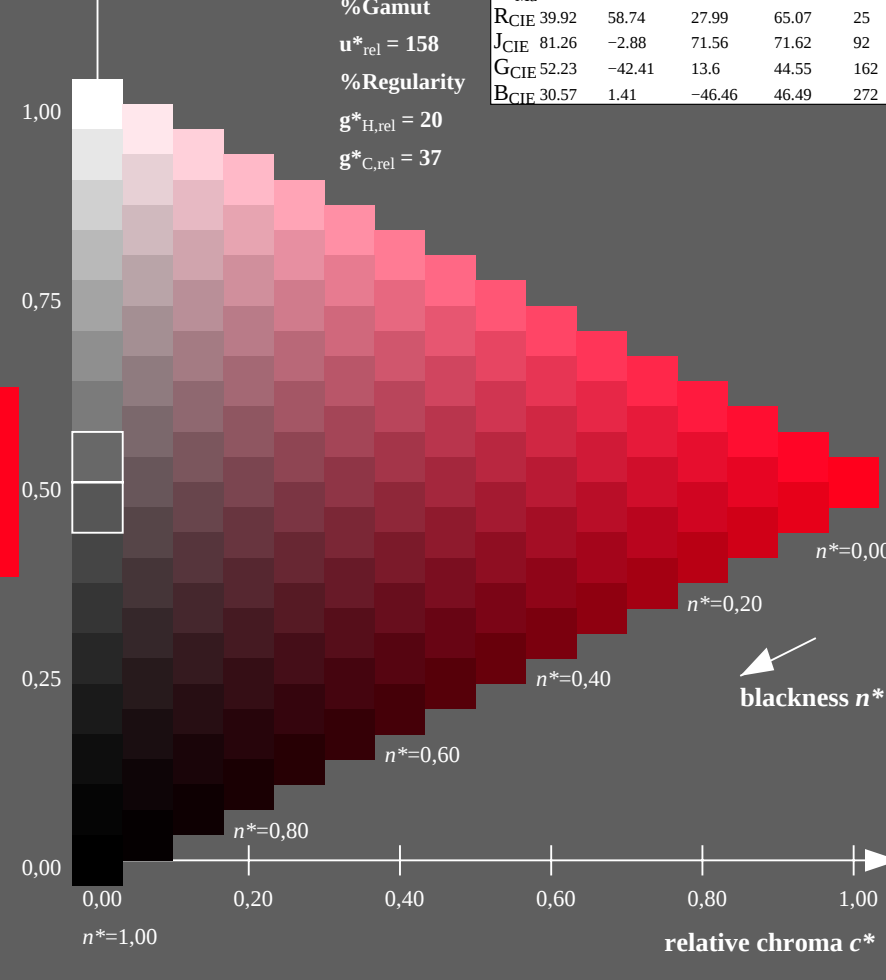
$g^*_{C,rel} = 37$

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



OE730-7N-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)

OE73: Test chart 2 according to DIN 33872-2, Hue R; 1MR, DH
Discrimination of 5 and 16 step colour scales

input: $cmy0$ ($\rightarrow cmy0^*_{de}$) $setcmyk$
output 130-6: $g_P=1.0$; $g_N=1.42$

Input: Colorimetric Television Luminous System TLS00a

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

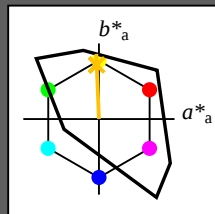
lab^*tch and lab^*nch

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

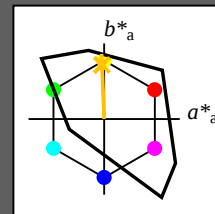
lab^*tch and lab^*nch

D65: hue J

LCH*Ma: 85 86 92

olv*Ma: 1.0 0.82 0.0

triangle lightness t^*



%Gamut

$u^*_{rel} = 158$

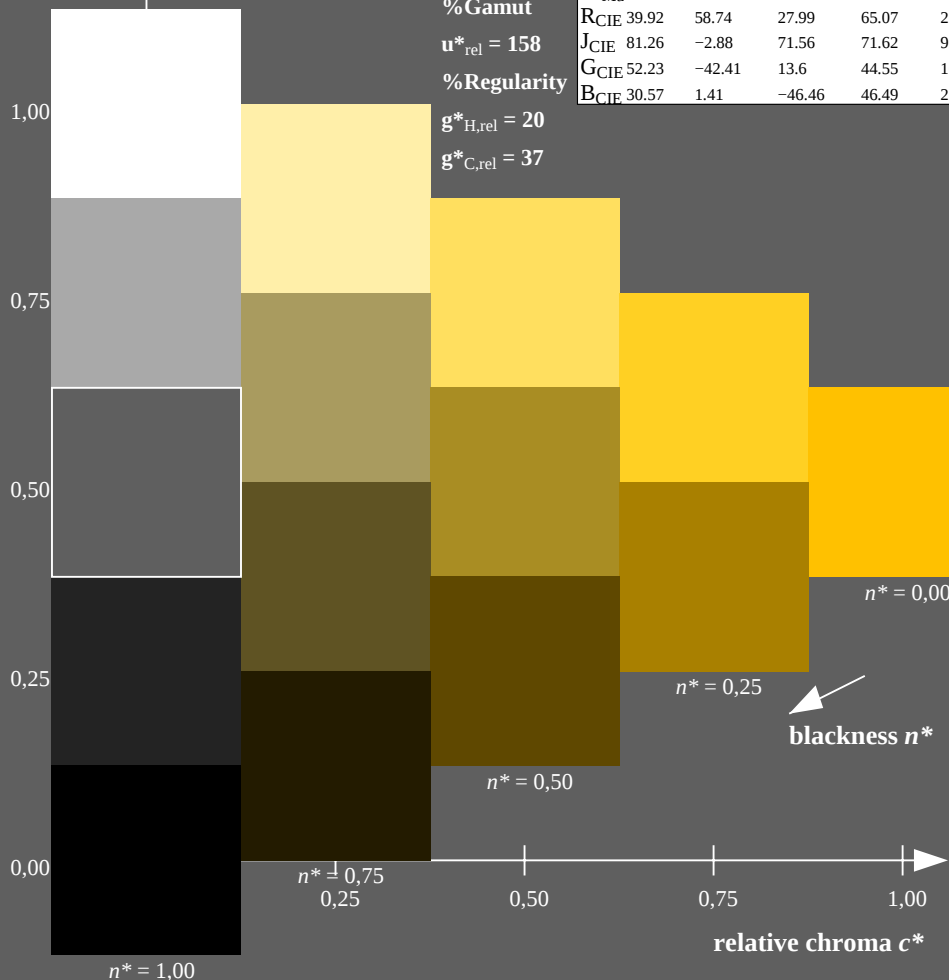
%Regularity

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

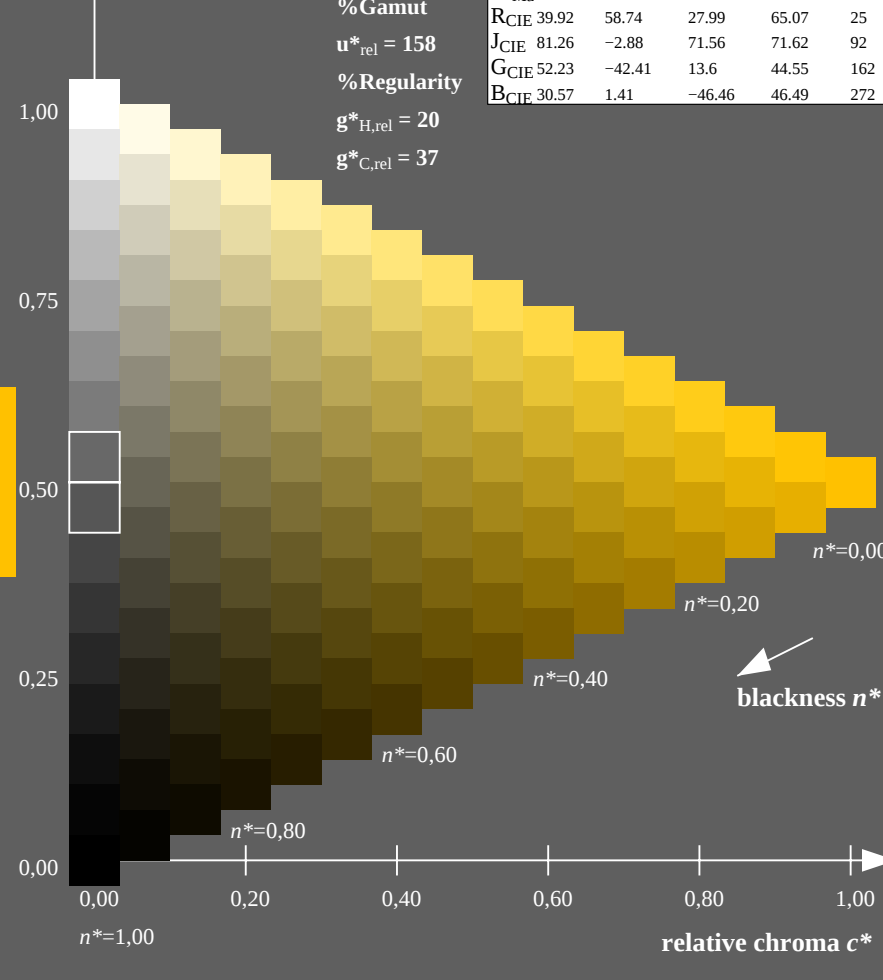
$g^*_{C,rel} = 37$

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



OE730-7N-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)

OE73: Test chart 2 according to DIN 33872-2, Hue J; 1MR, DH
Discrimination of 5 and 16 step colour scales

input: $cmy0$ ($\rightarrow cmy0^*_{de}$) $setcmyk$
output 130-7: $g_P=1.0$; $g_N=1.42$

Input: Colorimetric Television Luminous System TLS00a

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

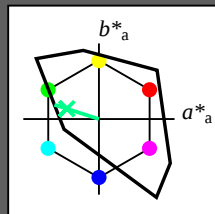
lab^*tch and lab^*nch

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

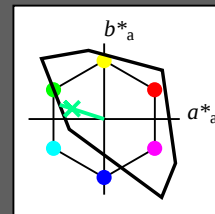
lab^*tch and lab^*nch

D65: hue G

LCH*Ma: 86 62 162

ol v^* Ma: 0.0 1.0 0.65

triangle lightness t^*



%Gamut

$u^*_{rel} = 158$

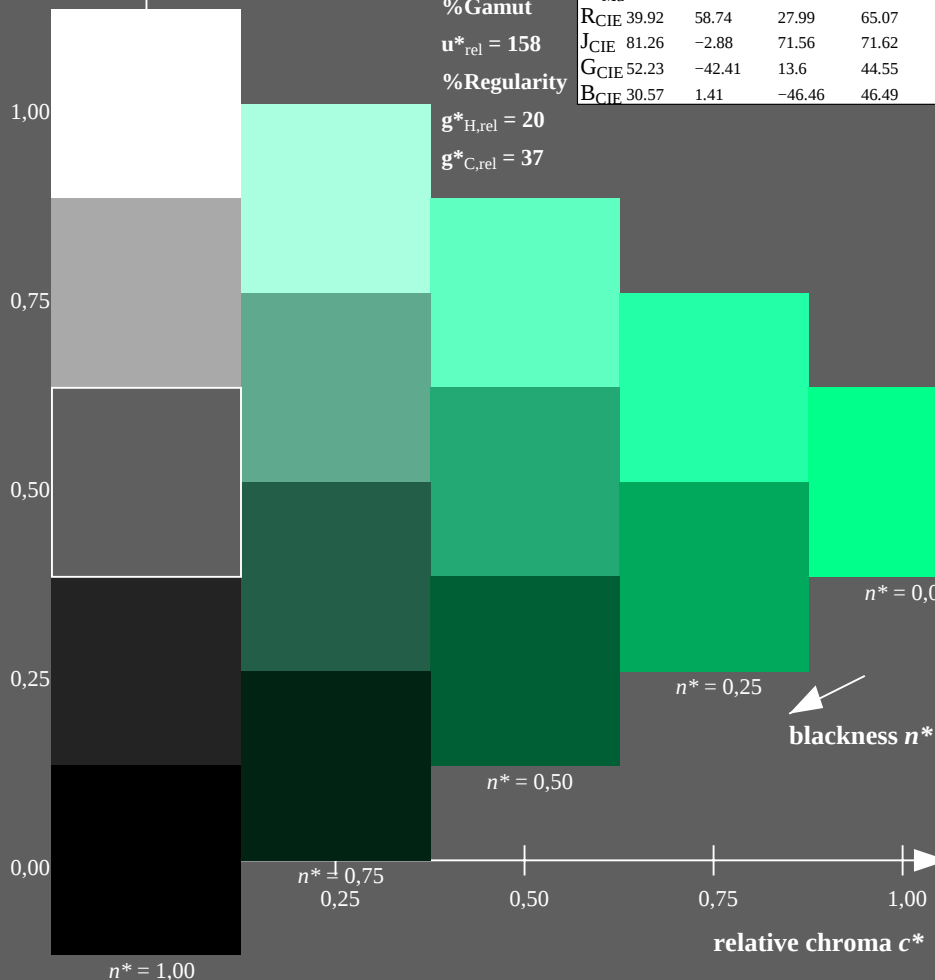
%Regularity

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

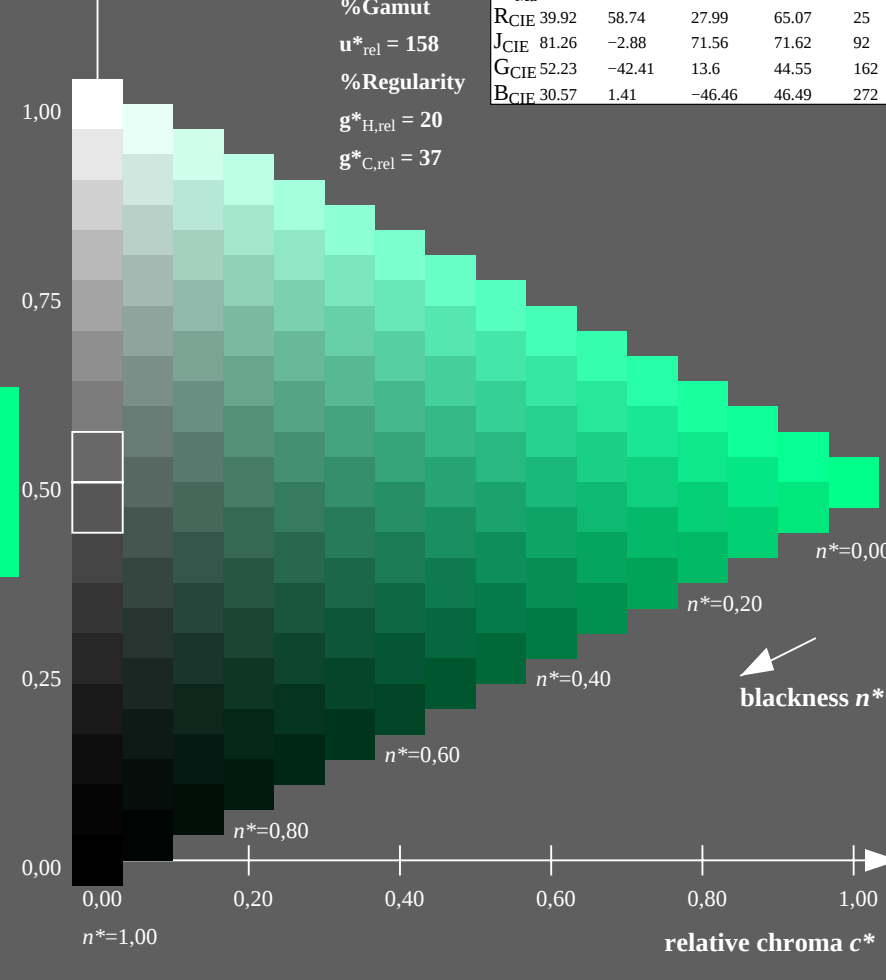
$g^*_{C,rel} = 37$

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



OE730-7N-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)

OE73: Test chart 2 according to DIN 33872-2, Hue G; 1MR, DH
Discrimination of 5 and 16 step colour scales

input: $cmy0$ ($\rightarrow cmy0^*_{de}$) $setcmyk$
output 130-8: $g_P=1.0$; $g_N=1.42$

Input: Colorimetric Television Luminous System TLS00a

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

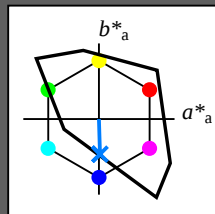
lab^*tch and lab^*nch

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

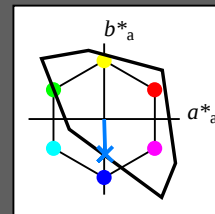
lab^*tch and lab^*nch

D65: hue B

LCH*Ma: 65 49 272

ol v^* Ma: 0.0 0.61 1.0

triangle lightness t^*



%Gamut

$u^*_{rel} = 158$

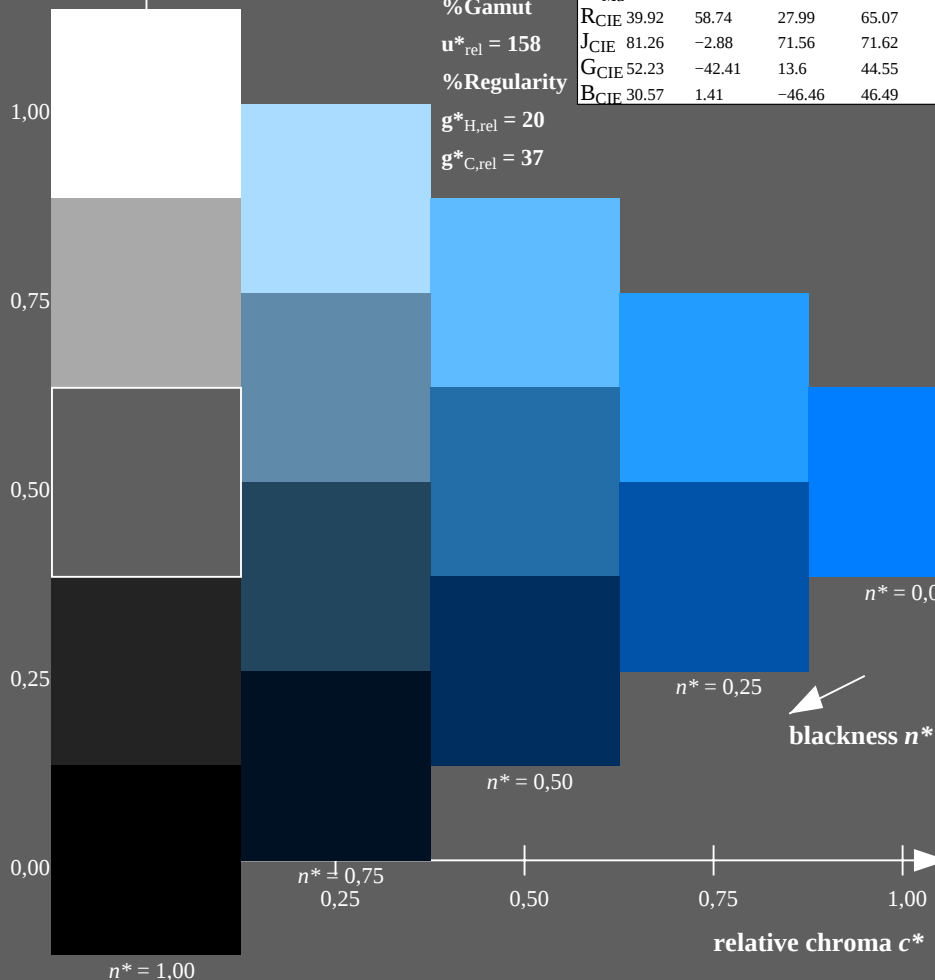
%Regularity

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

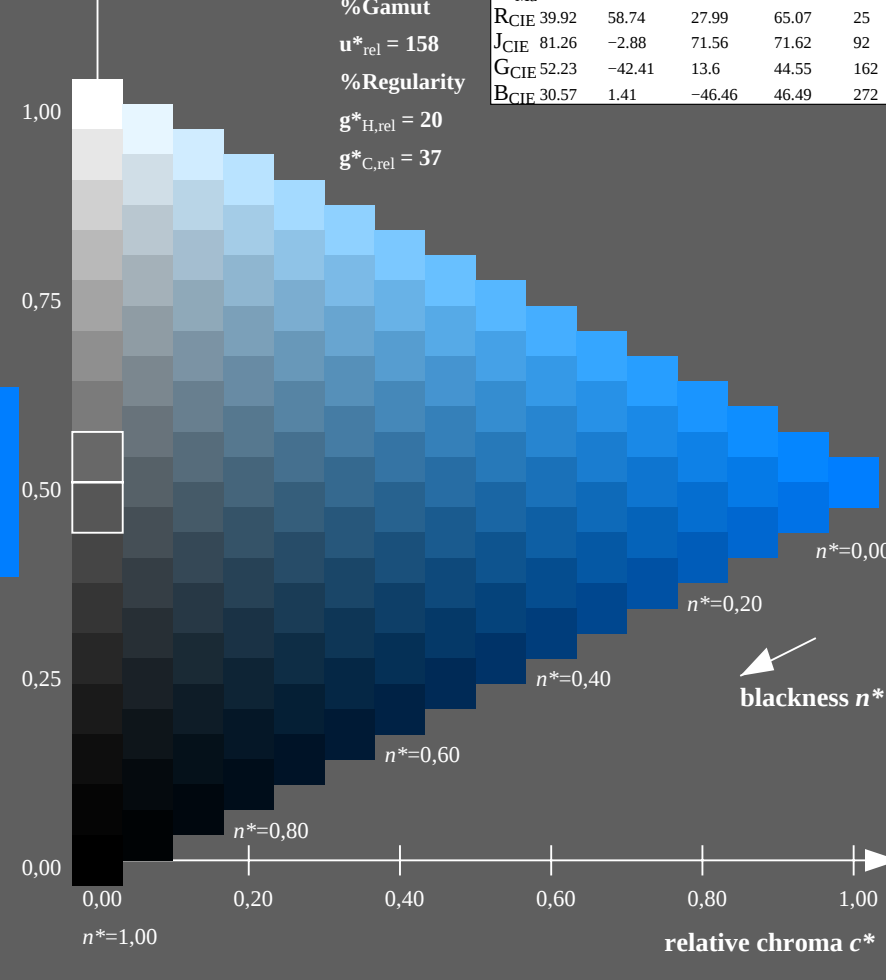
$g^*_{C,rel} = 37$

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



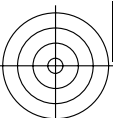
OE730-7N-134-9: 5 step scales for constant CIELAB hue 272/360 = 0.755 (left)



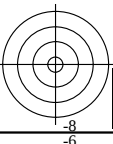
16 step scales for constant CIELAB hue 272/360 = 0.755 (right)

OE73: Test chart 2 according to DIN 33872-2, Hue B; 1MR, DH
Discrimination of 5 and 16 step colour scales

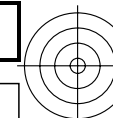
input: $cmy0$ ($\rightarrow cmy0^*_{de}$) $setcmyk$
output 130-9: $g_P=1.0$; $g_N=1.42$



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

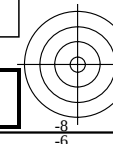


<http://130.149.60.45/~farbmetrik/OE73/OE73L0NA.TXT> /PS; linearized output, Page 11/12
 F: Output Linearization (OL) data OE73/OE73L0NA.TXT /PS in File (F)



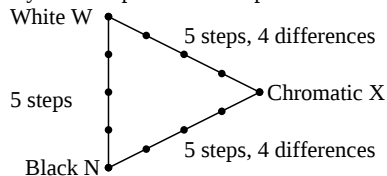
TUB registration: 20110801-OE73/OE73L0NA.TXT /PS
 application for output of displays: monitor systems or data projector systems

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

OE730-3N-134-10

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

PDF-File: <http://130.149.60.45/farbmetrik/OE73/OE73L0NP.PDF> underline Yes/No

PS-File: <http://130.149.60.45/farbmetrik/OE73/OE73L0NA.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 OE73L0NP.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 OE73L0NA.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

OE730-7N-134-10

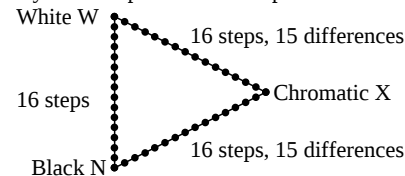


OE73: Form A for test chart 2 according to DIN 33872-2; 1MR, DHinput: *cmy0* (->*cmy0***g*) *setcmyk*
 Discrimination of colour scales (Yes/No decision) output 130-10: *g_P*=1.0; *g_N*=1.42



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

OE731-3N-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/OE73/OE73F1P2.PDF>

underline Yes/No

PS file: <http://130.149.60.45/farbmetrik/OE73/OE73F1P2.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/OE73/OE73F1P2.PDF>

picture A7-134-2 underline Yes/No

PS-File: <http://130.149.60.45/farbmetrik/OE73/OE73F1P2.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

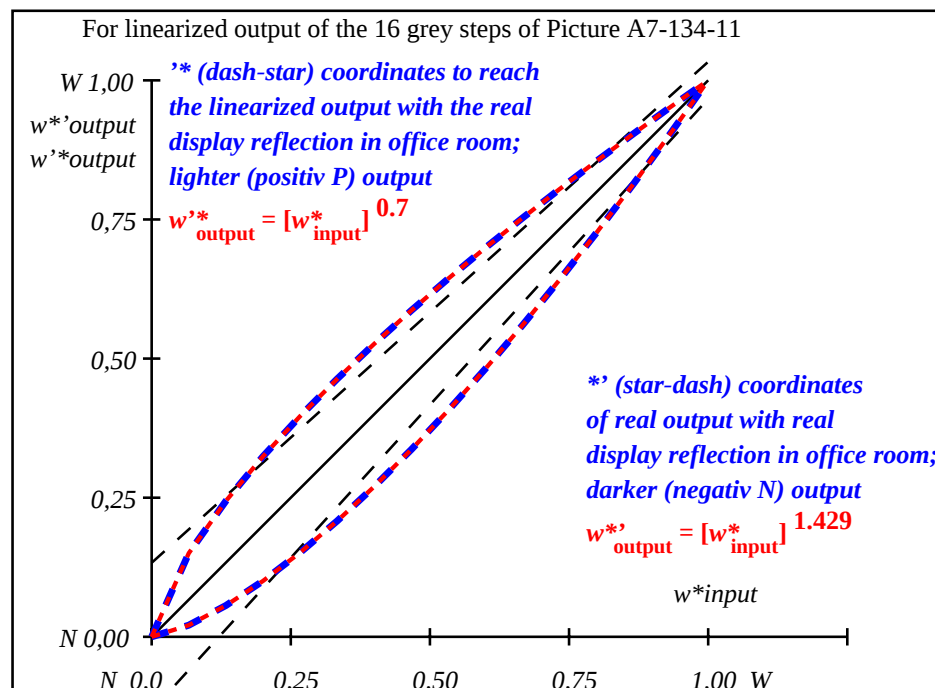
OE731-7N-134-10



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	0.02 28.28 0.0	0.0 0.0 -3.13	0.0 0.0 0.0	3.14
3	35.99 0.0 0.0	0.06 30.7 0.0	0.0 0.0 -5.28	0.0 0.0 0.0	5.29
4	40.56 0.0 0.0	0.1 33.73 0.0	0.0 0.0 -6.82	0.0 0.0 0.0	6.83
5	45.13 0.0 0.0	0.15 37.22 0.0	0.0 0.0 -7.9	0.0 0.0 0.0	7.91
6	49.7 0.0 0.0	0.21 41.12 0.0	0.0 0.0 -8.57	0.0 0.0 0.0	8.58
7	54.27 0.0 0.0	0.27 45.37 0.0	0.0 0.0 -8.9	0.0 0.0 0.0	8.91
8	58.84 0.0 0.0	0.34 49.93 0.0	0.0 0.0 -8.91	0.0 0.0 0.0	8.92
9	63.41 0.0 0.0	0.41 54.78 0.0	0.0 0.0 -8.63	0.0 0.0 0.0	8.64
10	67.99 0.0 0.0	0.48 59.9 0.0	0.0 0.0 -8.08	0.0 0.0 0.0	8.09
11	72.56 0.0 0.0	0.56 65.27 0.0	0.0 0.0 -7.28	0.0 0.0 0.0	7.29
12	77.13 0.0 0.0	0.64 70.87 0.0	0.0 0.0 -6.25	0.0 0.0 0.0	6.26
13	81.7 0.0 0.0	0.73 76.7 0.0	0.0 0.0 -4.99	0.0 0.0 0.0	5.0
14	86.27 0.0 0.0	0.82 82.73 0.0	0.0 0.0 -3.52	0.0 0.0 0.0	3.53
15	90.84 0.0 0.0	0.91 88.97 0.0	0.0 0.0 -1.85	0.0 0.0 0.0	1.86
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	0.14 36.31 0.0	0.0 0.0 -7.67	0.0 0.0 0.0	7.68
19	61.13 0.0 0.0	0.37 52.32 0.0	0.0 0.0 -8.8	0.0 0.0 0.0	8.81
20	78.27 0.0 0.0	0.66 72.31 0.0	0.0 0.0 -5.95	0.0 0.0 0.0	5.96
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} = 5.6
Mean lightness difference (5 steps)					ΔL* _{CIELAB} = 4.5
Mean colour reproduction index:					R* _{ab,m} = 75

OE730-3N-134-11: File: Measure unknown; Device: Device unknown; Date: Date unknown



OE731-3N-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																
$g_N=1.43$ 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	0,021	0,056	0,1	0,152	0,208	0,27	0,337	0,407	0,482	0,561	0,642	0,727	0,816	0,906	1,0

OE730-7N, Picture A7-134-11: 16 visual equidistant L^* -grey steps; PS operator: $w^* w^* w^*$ setrgbcolor

OE73: In-output relation according to ISO 9241-306; 1MR, DH
Viewing Y contrast $Y_W:Y_N=88,9:5$; Y_N range 3,75 to <7,5

input: $cmy0$ (-> $cmy0^*_d$) setcmyk
output 130-11: $g_P=1.0$; $g_N=1.42$

Input: Colorimetric Television Luminous System TLS00a

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

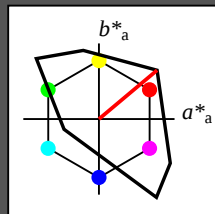
lab^*tch and lab^*nch

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

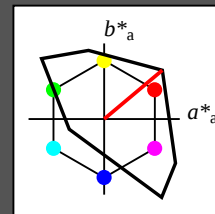
lab^*tch and lab^*nch

D65: hue O

LCH*Ma: 51 100 40

olv*Ma: 1.0 0.0 0.0

triangle lightness t^*



%Gamut

$u^*_{rel} = 158$

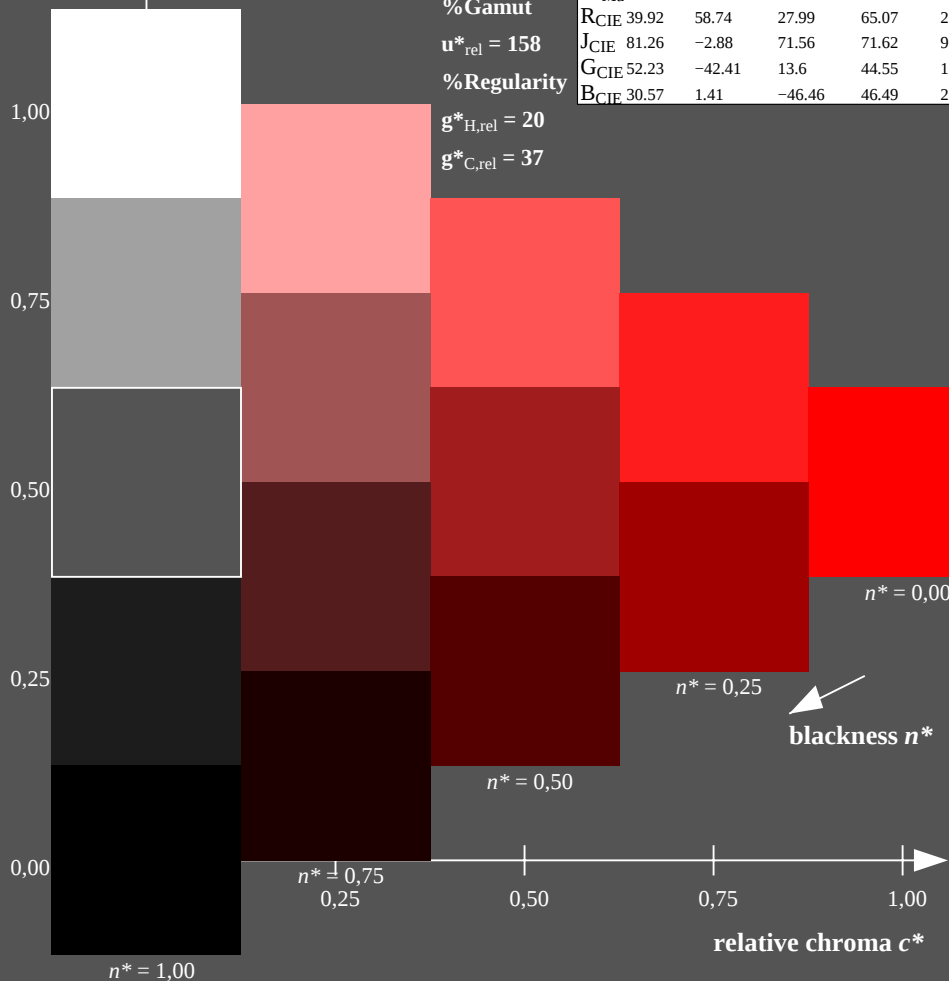
%Regularity

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

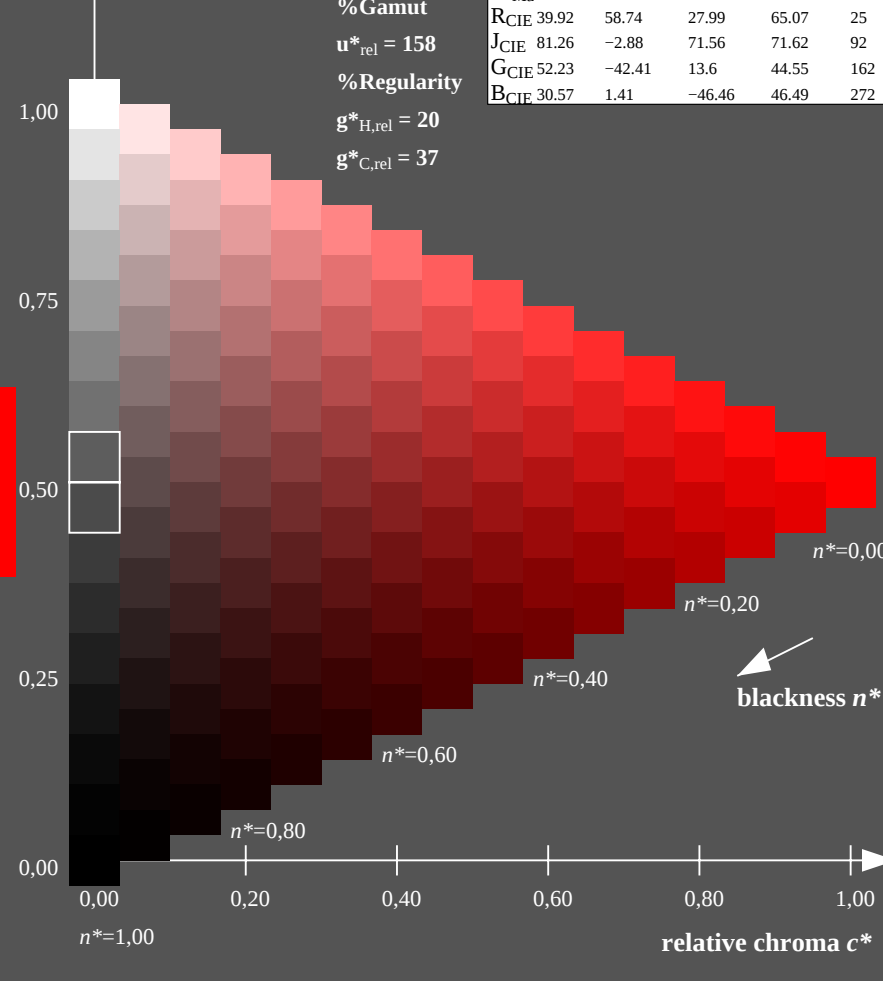
$g^*_{C,rel} = 37$

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



OE730-7N-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)

OE73: Test chart 2 according to DIN 33872-2, Hue O; 1MR, DH
Discrimination of 5 and 16 step colour scales

input: $cmy0$ ($\rightarrow cmy0^*_{\Delta}$) $setcmyk$
output 130-0: $g_P=1.0$; $g_N=1.6$

Input: Colorimetric Television Luminous System TLS00a

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

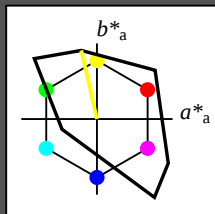
lab^*tch and lab^*nch

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

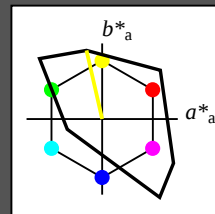
lab^*tch and lab^*nch

D65: hue Y

LCH*Ma: 93 93 103

olv*Ma: 1.0 1.0 0.0

triangle lightness t^*



%Gamut

$u^*_{rel} = 158$

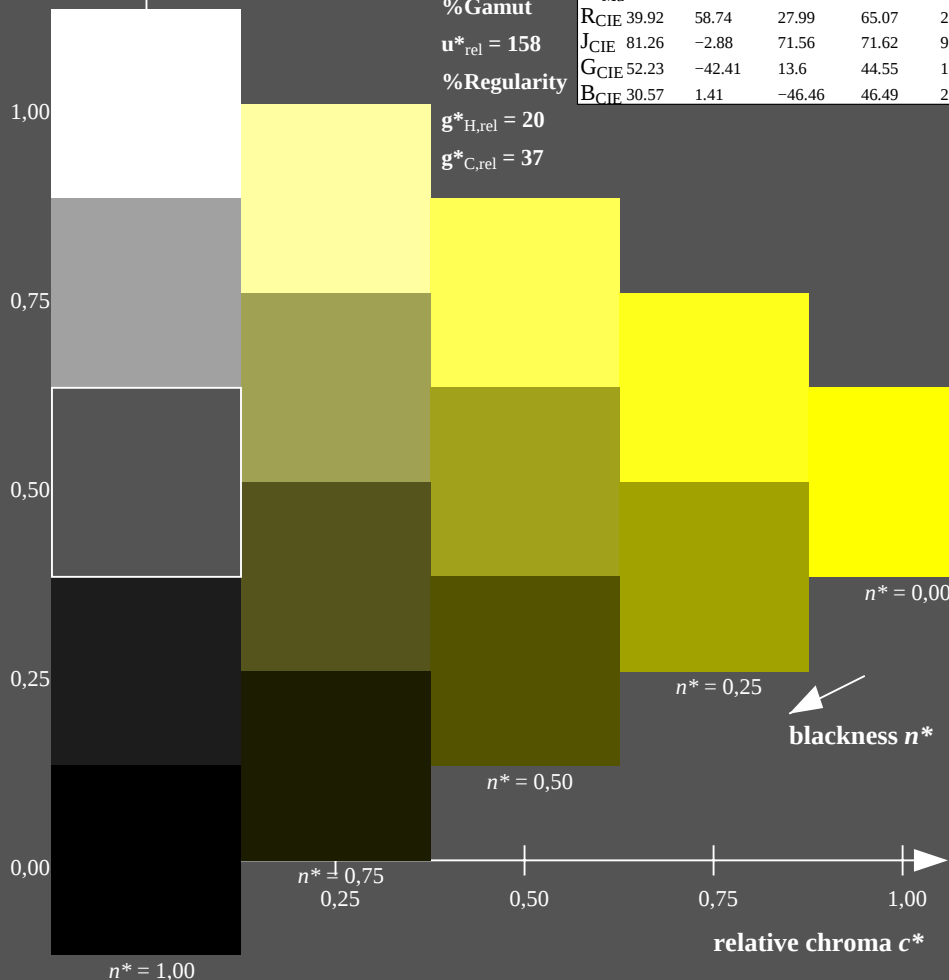
%Regularity

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

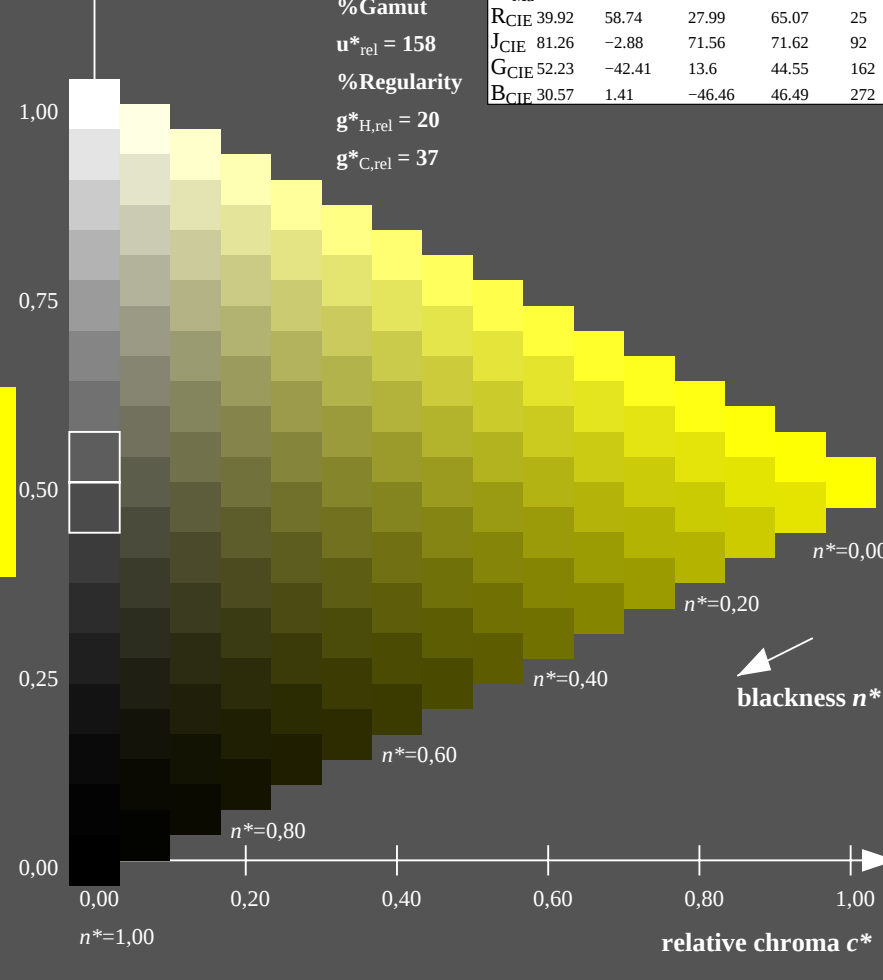
$g^*_{C,rel} = 37$

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



OE730-7N-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)

OE73: Test chart 2 according to DIN 33872-2, Hue Y; 1MR, DH
Discrimination of 5 and 16 step colour scales

input: $cmy0$ ($\rightarrow cmy0^*_{\Delta}$) $setcmyk$
output 130-1: $g_P=1.0$; $g_N=1.6$

TUB registration: 20110801-OE73/OE73L0NA.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 $h^* = lab^*h = 136/360 = 0.378$

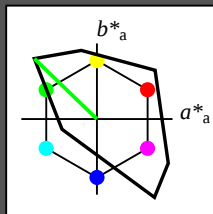
lab^*tch and lab^*nch

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

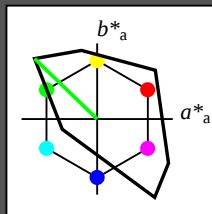
lab^*tch and lab^*nch

D65: hue L

LCH*Ma: 84 115 136

olv*Ma: 0.0 1.0 0.0

triangle lightness t^*



%Gamut

$u^*_{rel} = 158$

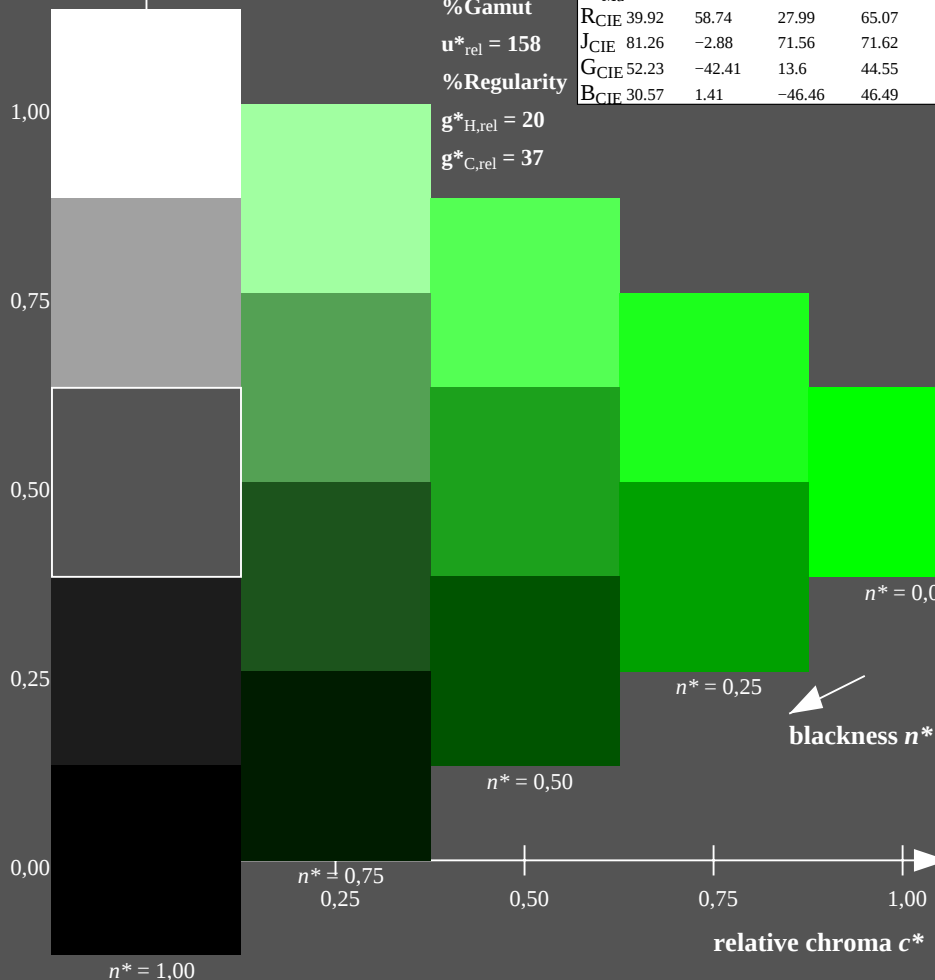
%Regularity

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

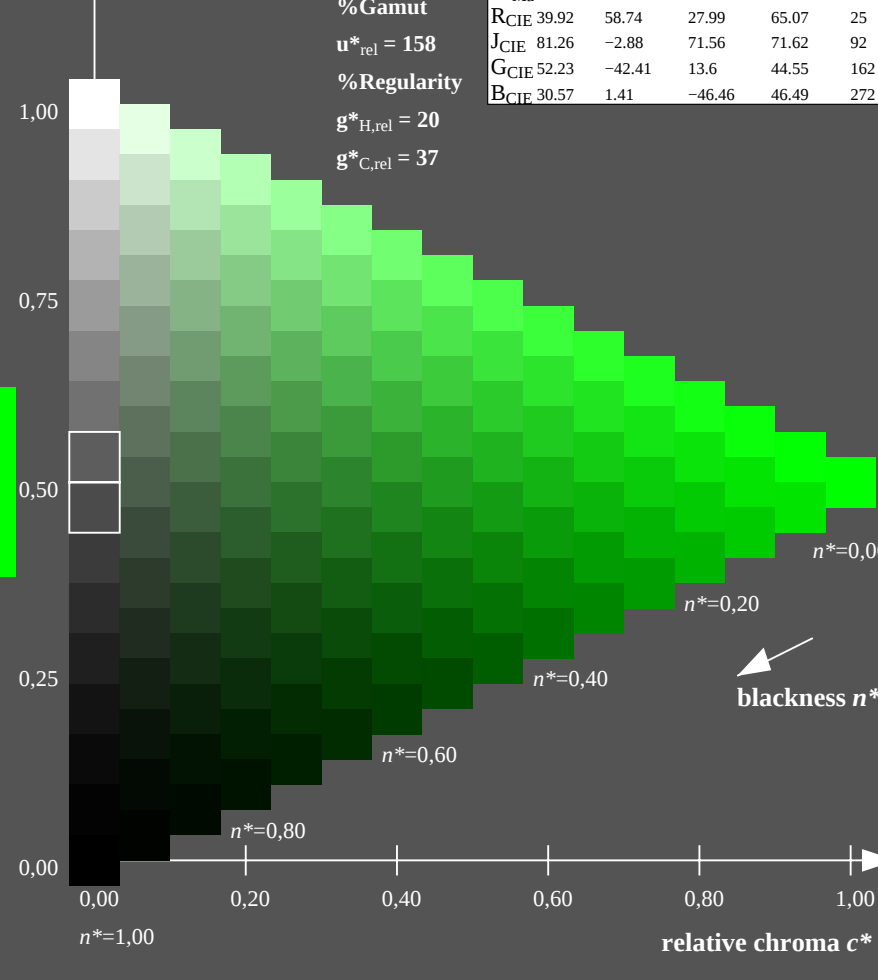
$g^*_{C,rel} = 37$

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



OE730-7N-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)

OE73: Test chart 2 according to DIN 33872-2, Hue L; 1MR, DH
Discrimination of 5 and 16 step colour scales

input: $cmy0$ ($\rightarrow cmy0^*_{d}$) $setcmyk$
output 130-2: $g_P=1.0$; $g_N=1.6$

TUB registration: 20110801-OE73/OE73L0NA.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 $h^* = lab^*h = 196/360 = 0.545$

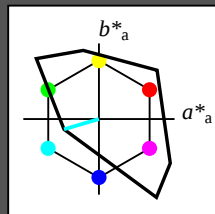
lab^*tch and lab^*nch

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

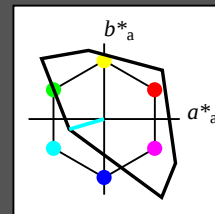
lab^*tch and lab^*nch

D65: hue C

LCH*Ma: 87 48 196

olv*Ma: 0.0 1.0 1.0

triangle lightness t^*



%Gamut

$u^*_{rel} = 158$

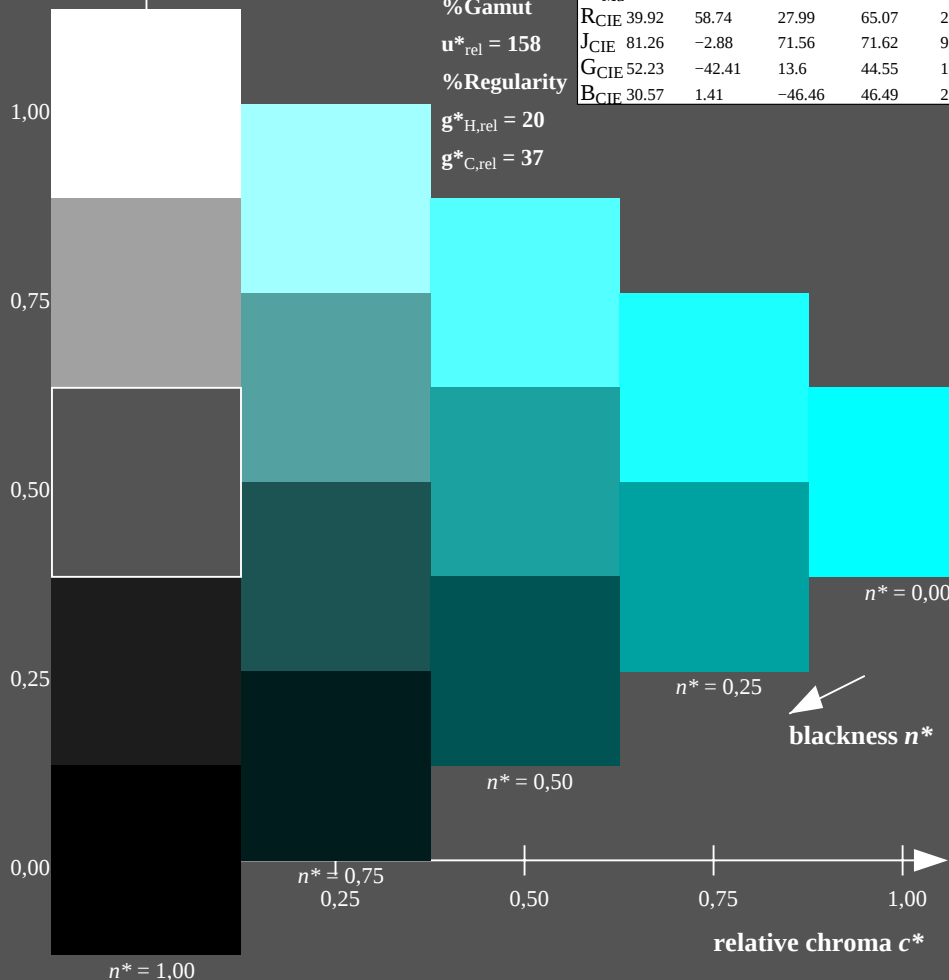
%Regularity

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

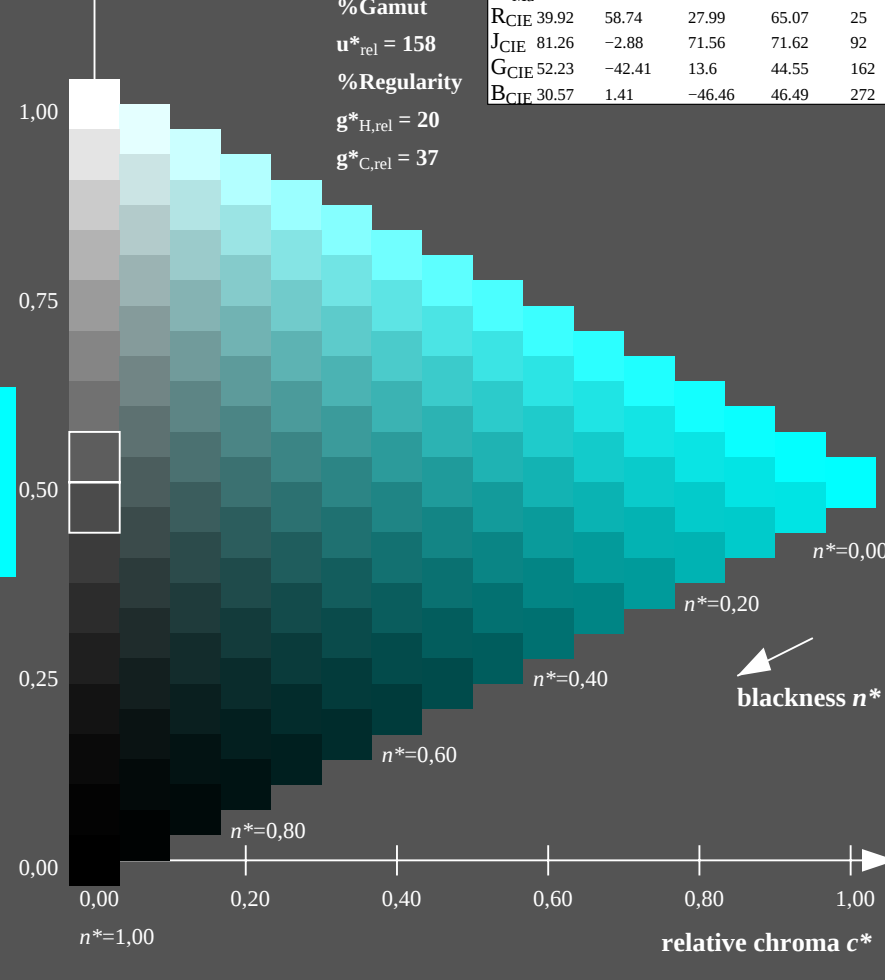
$g^*_{C,rel} = 37$

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



OE730-7N-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)

OE73: Test chart 2 according to DIN 33872-2, Hue C; 1MR, DH
Discrimination of 5 and 16 step colour scales

input: $cmy0$ ($\rightarrow cmy0^*_{\Delta}$) $setcmyk$
output 130-3: $g_P=1.0$; $g_N=1.6$

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-OE73/OE73L0NA.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 $h^* = lab^*h = 306/360 = 0.851$

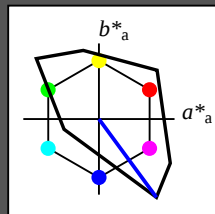
lab^*tch and lab^*nch

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

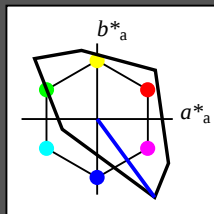
lab^*tch and lab^*nch

D65: hue V

LCH*Ma: 30 129 306

ol v^* Ma: 0.0 0.0 1.0

triangle lightness t^*



%Gamut

$u^*_{rel} = 158$

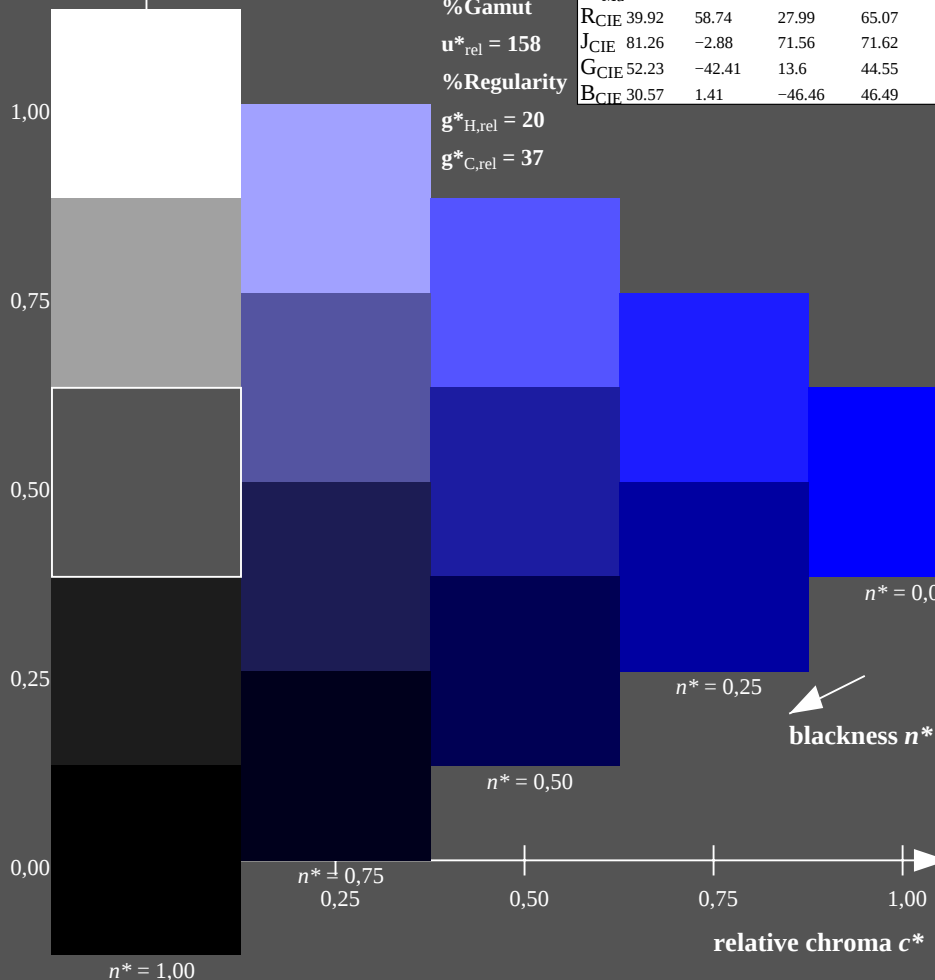
%Regularity

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

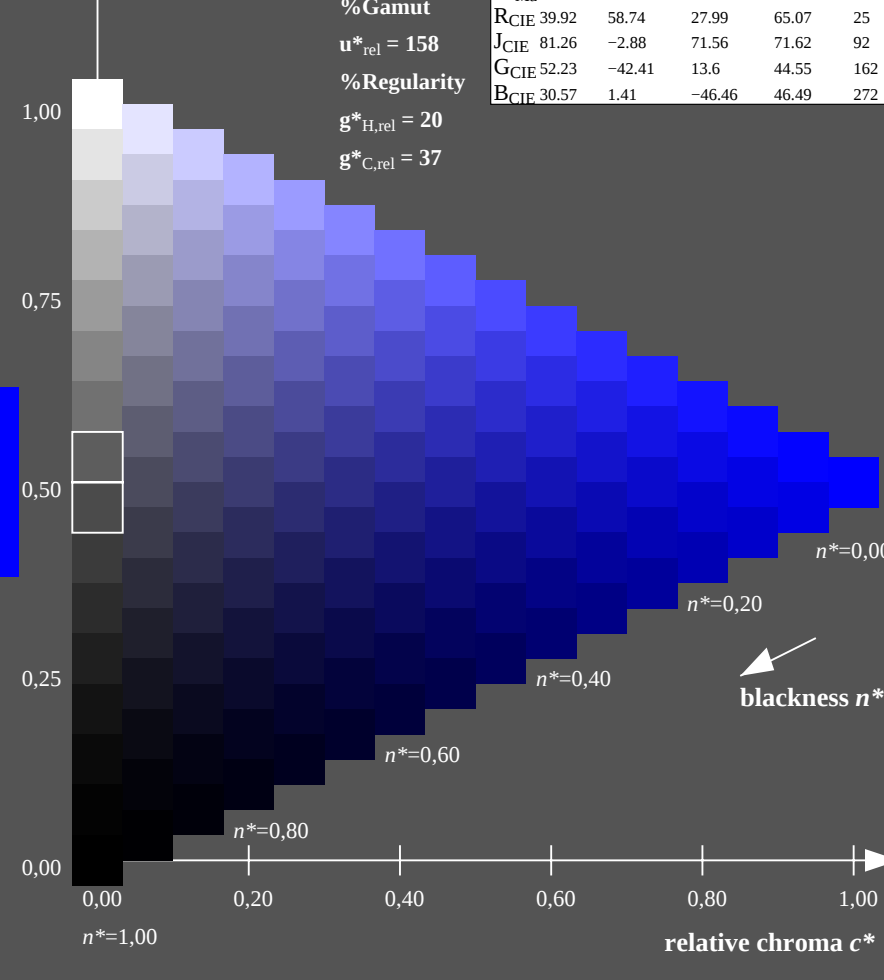
$g^*_{C,rel} = 37$

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



OE730-7N-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)

OE73: Test chart 2 according to DIN 33872-2, Hue V; 1MR, DH
Discrimination of 5 and 16 step colour scales

input: $cmy0$ ($\rightarrow cmy0^*_{\Delta}$) $setcmyk$
output 130-4: $g_P=1.0$; $g_N=1.6$

Input: Colorimetric Television Luminous System TLS00a

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

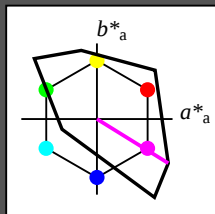
lab^*tch and lab^*nch

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

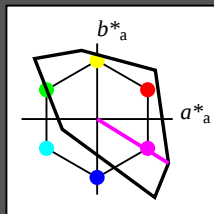
lab^*tch and lab^*nch

D65: hue M

LCH*Ma: 57 111 328

ol v^* Ma: 1.0 0.0 1.0

triangle lightness t^*



%Gamut

$u^*_{rel} = 158$

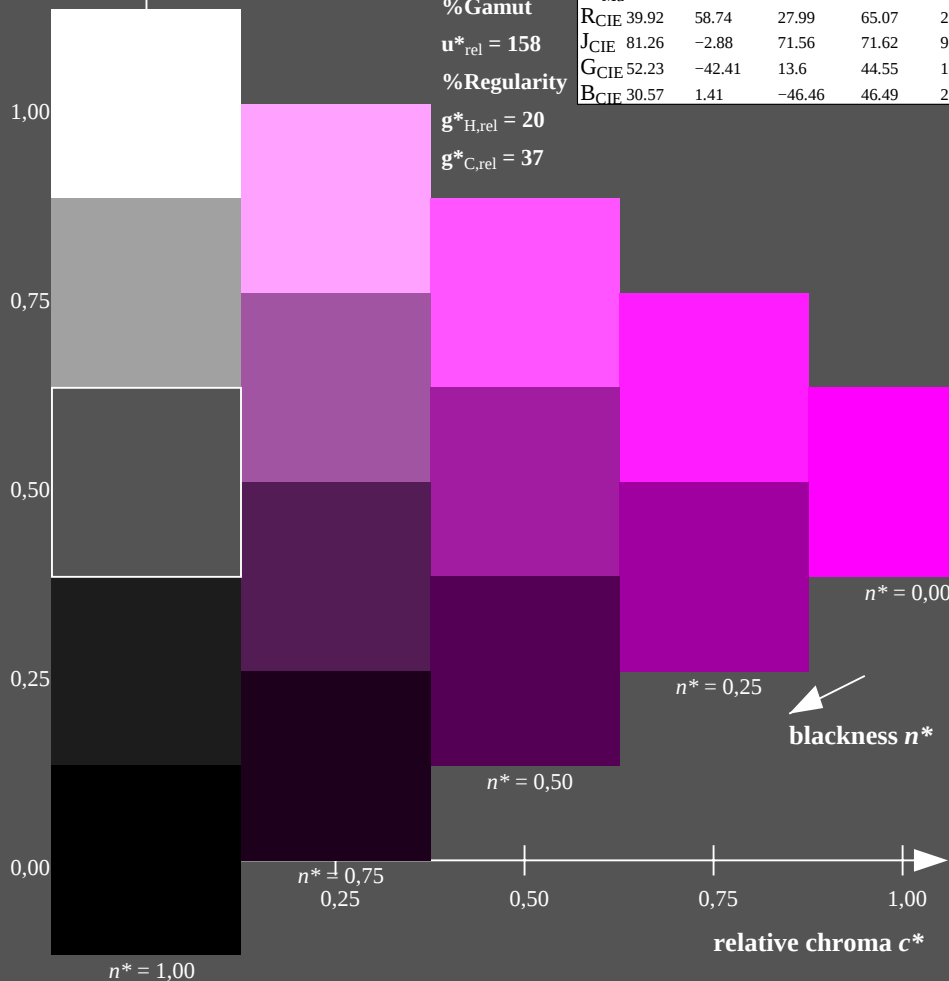
%Regularity

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

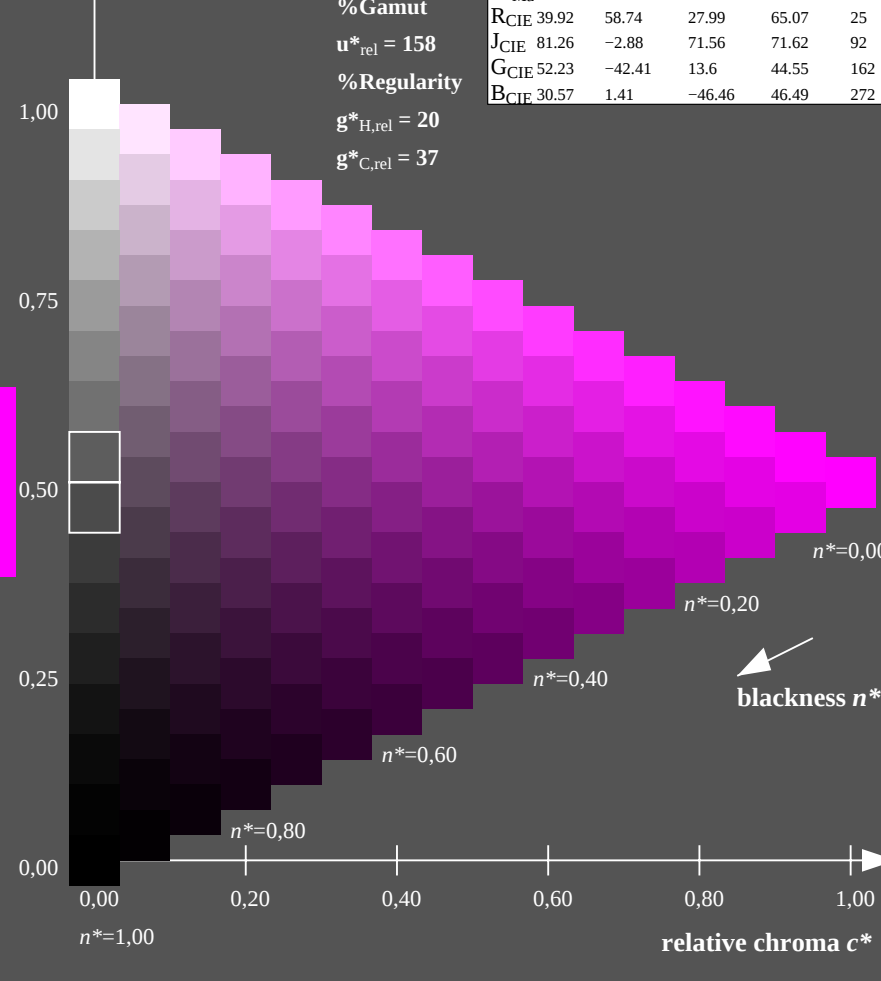
$g^*_{C,rel} = 37$

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



OE730-7N-135-5: 5 step scales for constant CIELAB hue 328/360 = 0.912 (left)



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

OE73: Test chart 2 according to DIN 33872-2, Hue M; 1MR, DH
Discrimination of 5 and 16 step colour scales

input: $cmy0$ ($\rightarrow cmy0^*_d$) $setcmyk$
output 130-5: $g_P=1.0$; $g_N=1.6$

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-OE73/OE73L0NA.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 $h^* = lab^*h = 25/360 = 0.071$

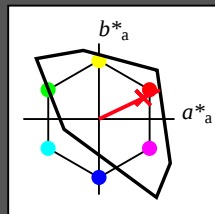
lab^*tch and lab^*nch

D65: hue R

LCH*Ma: 52 89 25

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

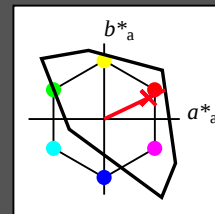
lab^*tch and lab^*nch

D65: hue R

LCH*Ma: 52 89 25

olv*Ma: 1.0 0.0 0.21

triangle lightness t^*



%Gamut

$u^*_{rel} = 158$

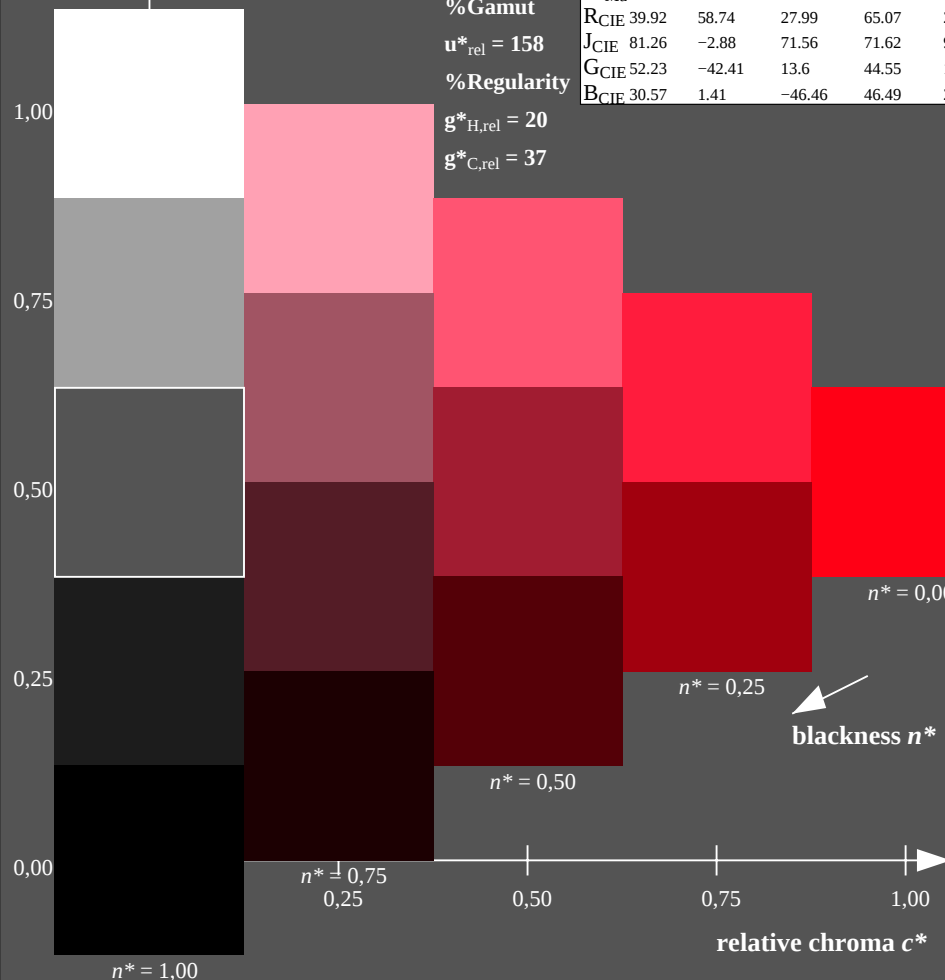
%Regularity

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

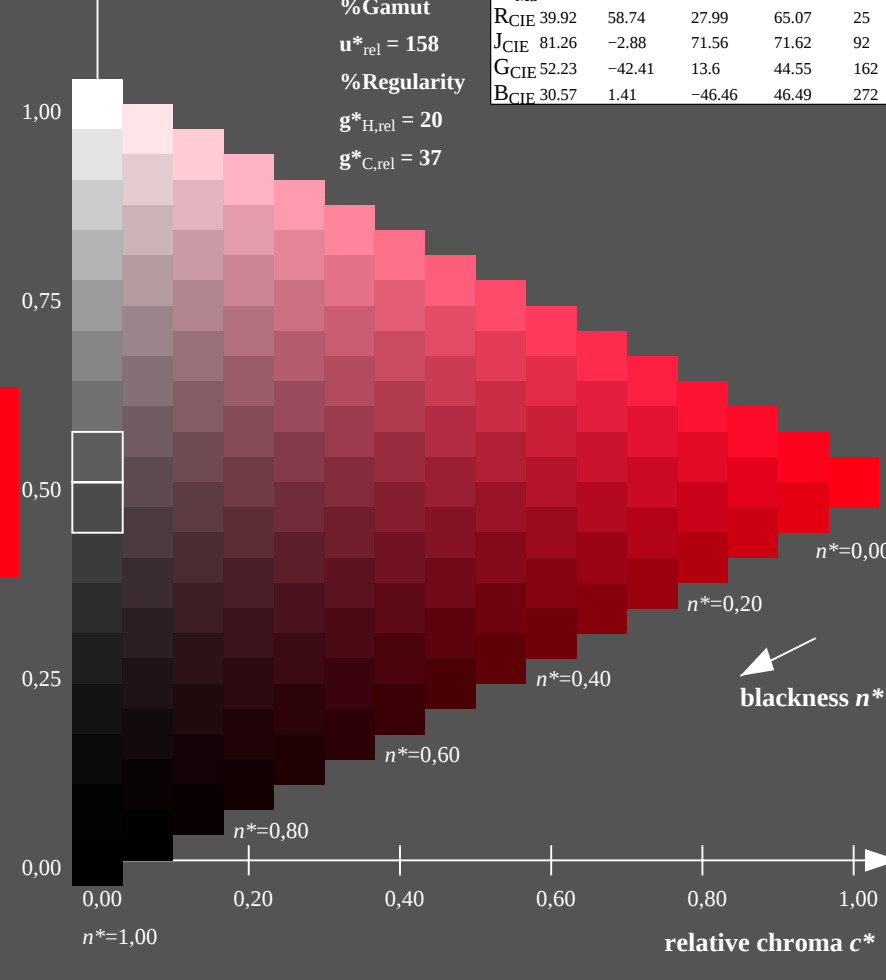
$g^*_{C,rel} = 37$

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



OE730-7N-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)

OE73: Test chart 2 according to DIN 33872-2, Hue R; 1MR, DH
Discrimination of 5 and 16 step colour scales

input: $cmy0$ ($\rightarrow cmy0^*_{de}$) $setcmyk$
output 130-6: $g_P=1.0$; $g_N=1.6$

TUB registration: 20110801-OE73/OE73L0NA.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 $h^* = lab^*h = 92/360 = 0.256$

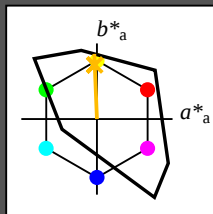
lab^*tch and lab^*nch

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

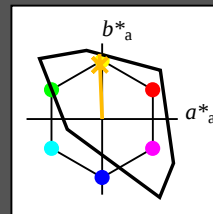
lab^*tch and lab^*nch

D65: hue J

LCH*Ma: 85 86 92

olv*Ma: 1.0 0.82 0.0

triangle lightness t^*



%Gamut

$u^*_{rel} = 158$

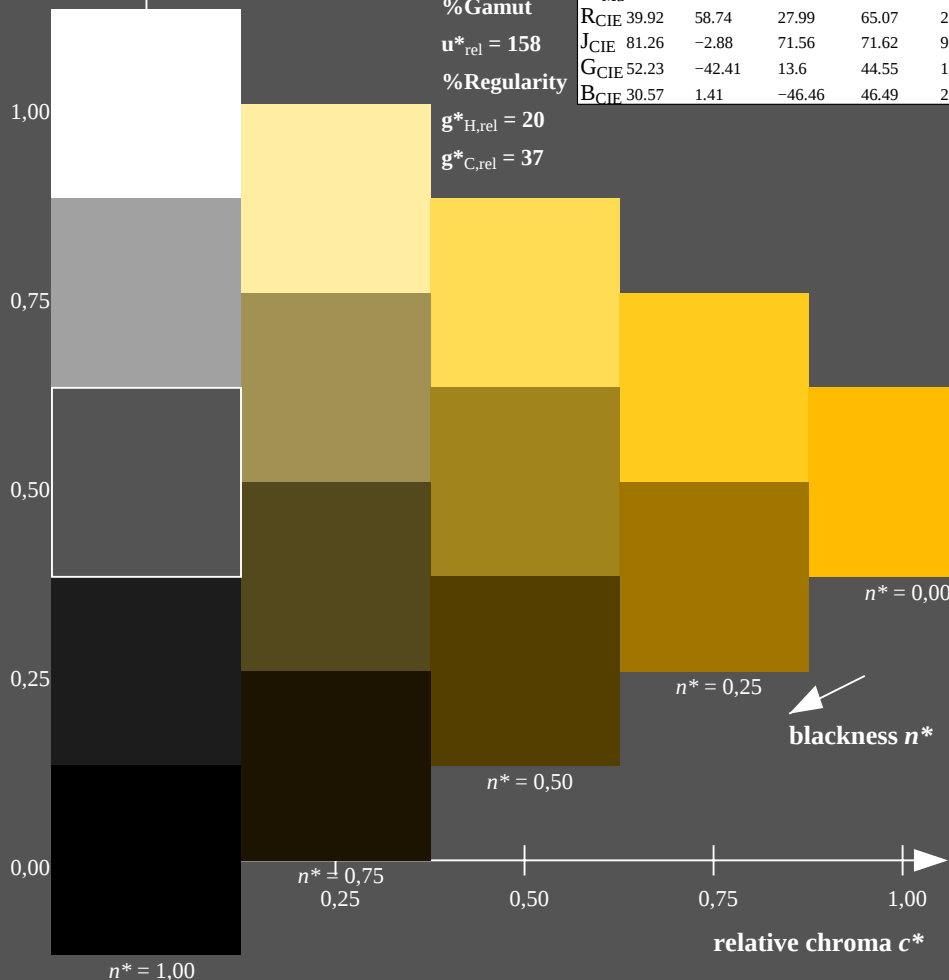
%Regularity

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

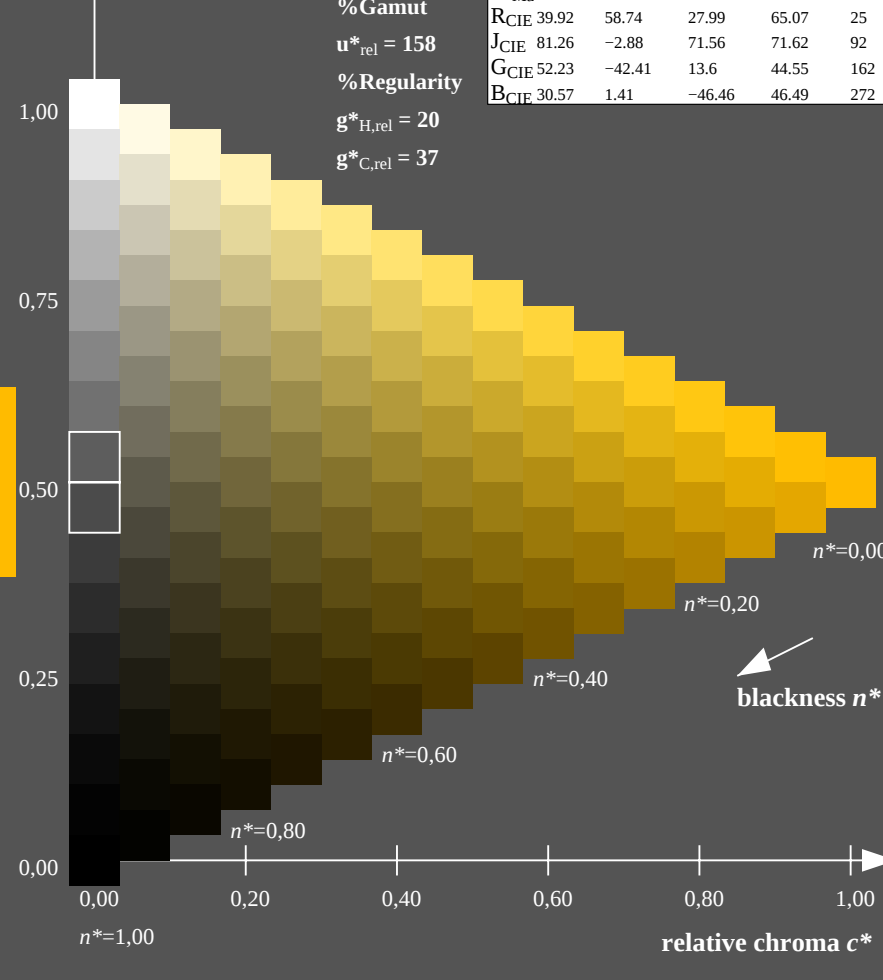
$g^*_{C,rel} = 37$

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



OE730-7N-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)

OE73: Test chart 2 according to DIN 33872-2, Hue J; 1MR, DH
Discrimination of 5 and 16 step colour scales

input: $cmy0$ ($\rightarrow cmy0^*_{de}$) $setcmyk$
output 130-7: $g_P=1.0$; $g_N=1.6$

Input: Colorimetric Television Luminous System TLS00a

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

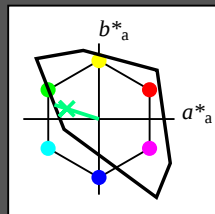
lab^*tch and lab^*nch

D65: hue G

LCH*Ma: 86 62 162

olv*Ma: 0.0 1.0 0.65

triangle lightness t^*



%Gamut

$u^*_{rel} = 158$

%Regularity

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

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

TLS00a; adapted (a) CIELAB data

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

Output: Colorimetric Television Luminous System TLS00a

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

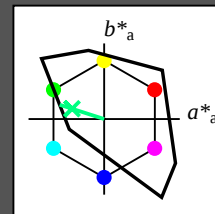
lab^*tch and lab^*nch

D65: hue G

LCH*Ma: 86 62 162

olv*Ma: 0.0 1.0 0.65

triangle lightness t^*



%Gamut

$u^*_{rel} = 158$

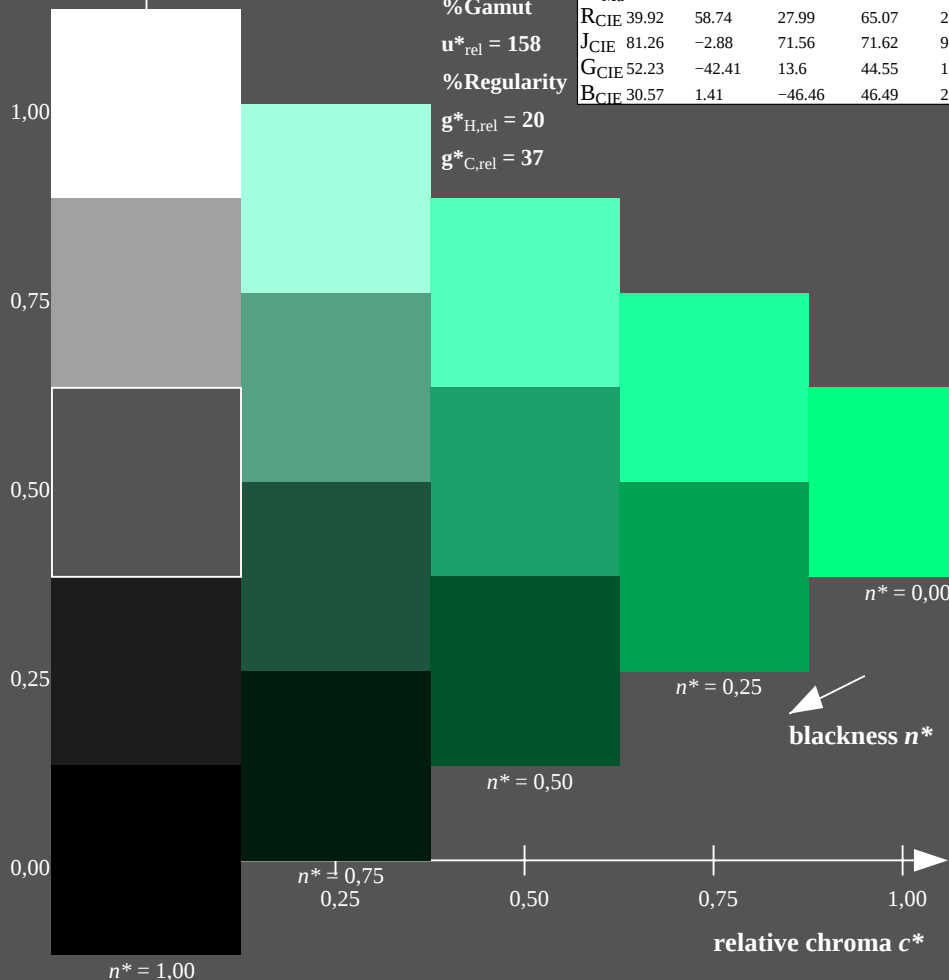
%Regularity

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

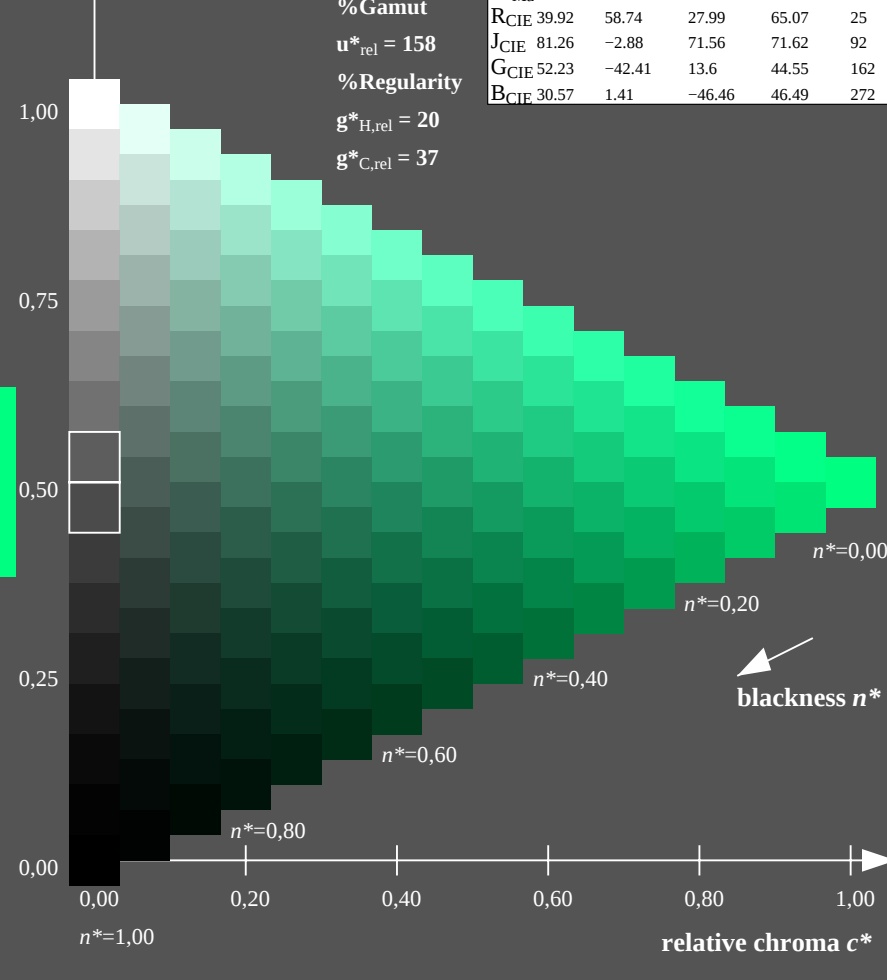
$g^*_{C,rel} = 37$

TLS00a; adapted (a) CIELAB data

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



OE730-7N-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)

OE73: Test chart 2 according to DIN 33872-2, Hue G; 1MR, DH
Discrimination of 5 and 16 step colour scales

input: $cmy0$ ($\rightarrow cmy0^*_{de}$) $setcmyk$
output 130-8: $g_P=1.0$; $g_N=1.6$

Input: Colorimetric Television Luminous System TLS00a

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

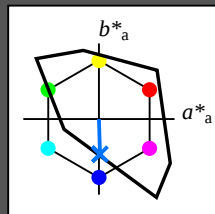
lab^*tch and lab^*nch

D65: hue B

LCH*Ma: 65 49 272

olv*Ma: 0.0 0.61 1.0

triangle lightness t^*



%Gamut

$u^*_{rel} = 158$

%Regularity

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

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

TLS00a; adapted (a) CIELAB data

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

Output: Colorimetric Television Luminous System TLS00a

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

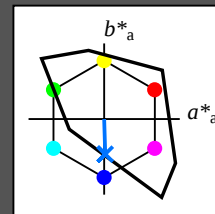
lab^*tch and lab^*nch

D65: hue B

LCH*Ma: 65 49 272

olv*Ma: 0.0 0.61 1.0

triangle lightness t^*



%Gamut

$u^*_{rel} = 158$

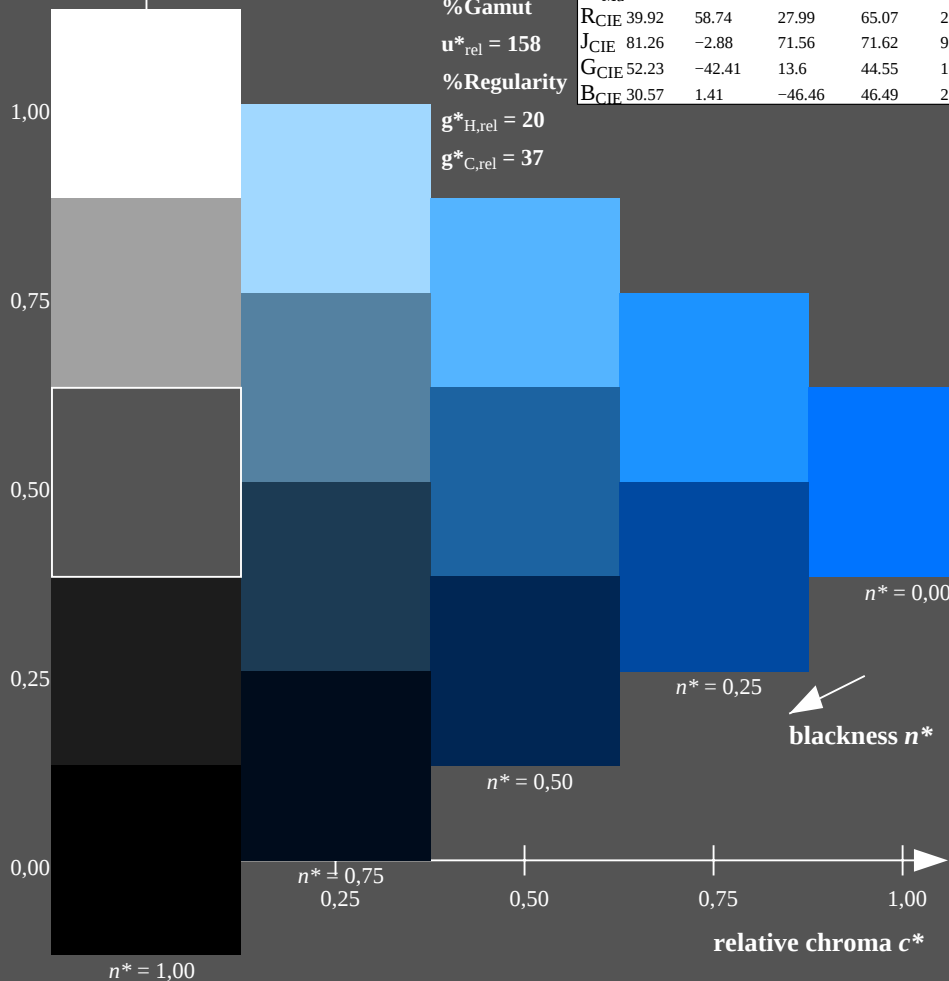
%Regularity

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

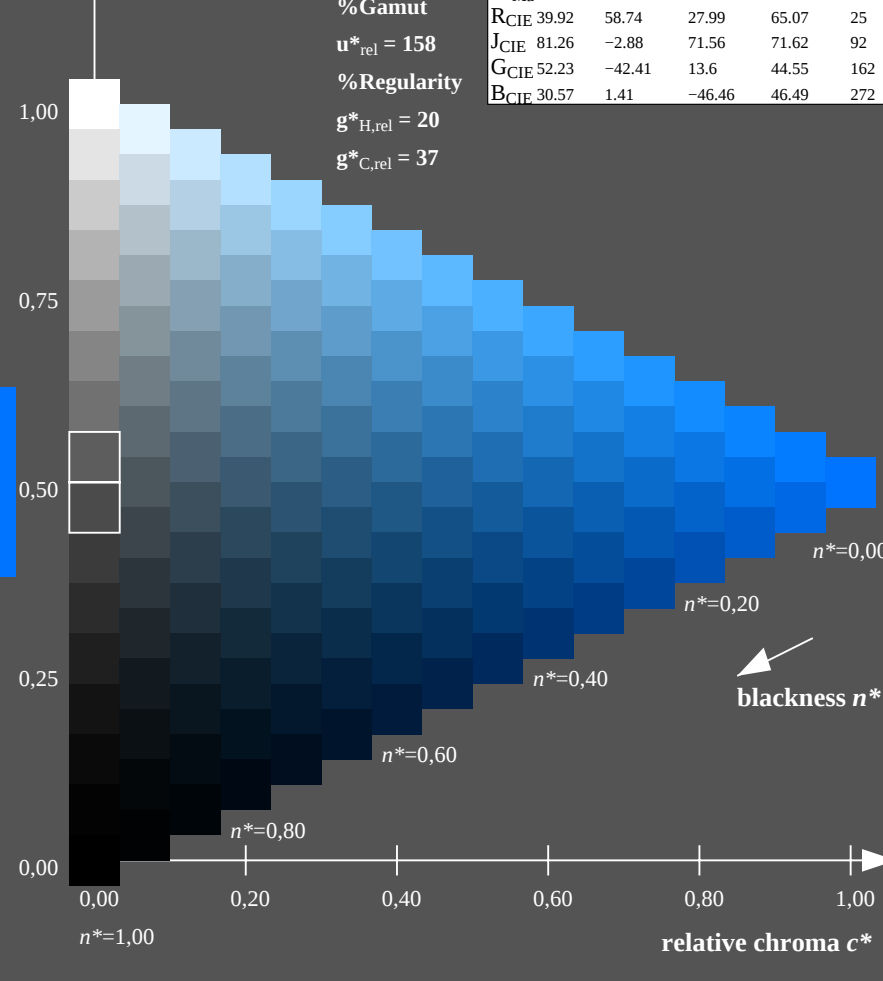
$g^*_{C,rel} = 37$

TLS00a; adapted (a) CIELAB data

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



OE730-7N-135-9: 5 step scales for constant CIE LAB hue 272/360 = 0.755 (left)



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

OE73: Test chart 2 according to DIN 33872-2, Hue B; 1MR, DH
Discrimination of 5 and 16 step colour scales

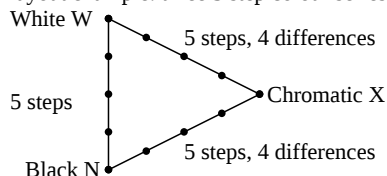
input: $cmy0$ ($\rightarrow cmy0^*_{de}$) $setcmyk$
output 130-9: $g_P=1.0$; $g_N=1.6$

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-OE73/OE73L0NA.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

OE730-3N-135-10

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

PDF-File: <http://130.149.60.45/farbmetrik/OE73/OE73L0NP.PDF> underline Yes/No

PS-File: <http://130.149.60.45/farbmetrik/OE73/OE73L0NA.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 OE73L0NP.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 OE73L0NA.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)

.....
.....
.....

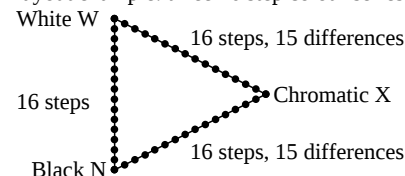
Part 3

OE730-7N-135-10

OE73: Form A for test chart 2 according to DIN 33872-2; 1MR, DHinput: *cmy0* (->*cmy0***1*) *setcmyk*
Discrimination of colour scales (Yes/No decision) output 130-10: *g_P*=1.0; *g_N*=1.6

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

OE731-3N-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/OE73/OE73F1P2.PDF>

underline Yes/No

PS file: <http://130.149.60.45/farbmetrik/OE73/OE73F1P2.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/OE73/OE73F1P2.PDF>

picture A7-135-2

underline Yes/No

PS-File: <http://130.149.60.45/farbmetrik/OE73/OE73F1P2.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:

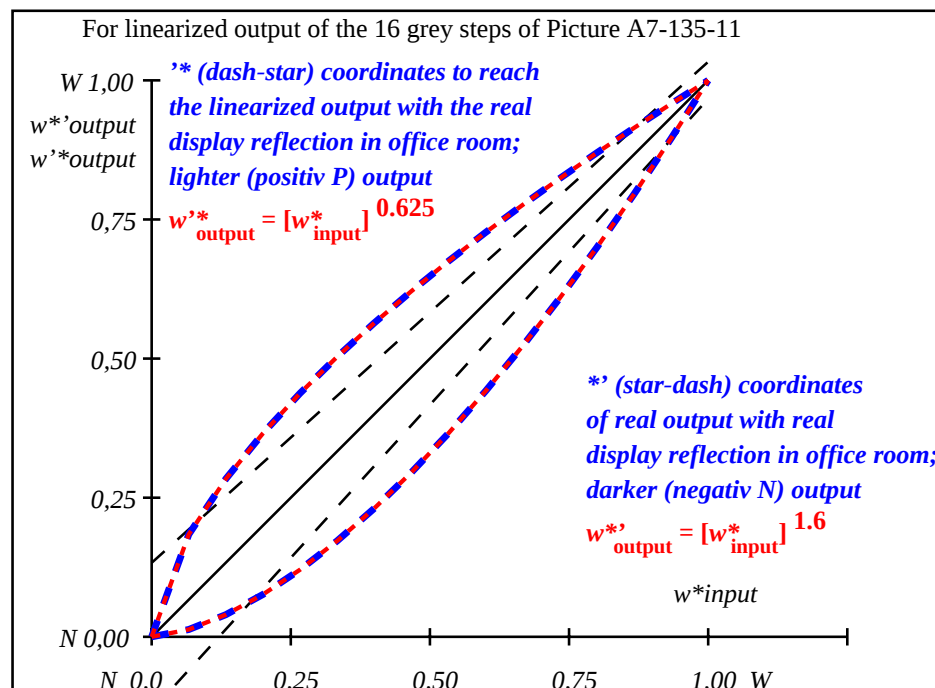
Part 4

OE731-7N-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*
1	37.99 0.0 0.0	0.0 37.99 0.0	0.0 0.0 0.0	0.0 0.0 0.0	0.01
2	41.81 0.0 0.0	0.01 38.74 0.0	0.0 0.0 -3.06	0.0 0.0 0.0	3.07
3	45.64 0.0 0.0	0.04 40.27 0.0	0.0 0.0 -5.36	0.0 0.0 0.0	5.37
4	49.47 0.0 0.0	0.08 42.36 0.0	0.0 0.0 -7.1	0.0 0.0 0.0	7.11
5	53.3 0.0 0.0	0.12 44.91 0.0	0.0 0.0 -8.37	0.0 0.0 0.0	8.38
6	57.13 0.0 0.0	0.17 47.89 0.0	0.0 0.0 -9.23	0.0 0.0 0.0	9.24
7	60.96 0.0 0.0	0.23 51.24 0.0	0.0 0.0 -9.7	0.0 0.0 0.0	9.71
8	64.78 0.0 0.0	0.3 54.95 0.0	0.0 0.0 -9.82	0.0 0.0 0.0	9.83
9	68.61 0.0 0.0	0.37 58.99 0.0	0.0 0.0 -9.61	0.0 0.0 0.0	9.62
10	72.44 0.0 0.0	0.44 63.34 0.0	0.0 0.0 -9.09	0.0 0.0 0.0	9.1
11	76.27 0.0 0.0	0.52 68.0 0.0	0.0 0.0 -8.26	0.0 0.0 0.0	8.27
12	80.1 0.0 0.0	0.61 72.95 0.0	0.0 0.0 -7.14	0.0 0.0 0.0	7.15
13	83.93 0.0 0.0	0.7 78.17 0.0	0.0 0.0 -5.75	0.0 0.0 0.0	5.76
14	87.75 0.0 0.0	0.8 83.66 0.0	0.0 0.0 -4.08	0.0 0.0 0.0	4.09
15	91.58 0.0 0.0	0.9 89.41 0.0	0.0 0.0 -2.16	0.0 0.0 0.0	2.17
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	37.99 0.0 0.0	0.0 37.99 0.0	0.0 0.0 0.0	0.0 0.0 0.0	0.01
18	52.34 0.0 0.0	0.11 44.23 0.0	0.0 0.0 -8.1	0.0 0.0 0.0	8.11
19	66.7 0.0 0.0	0.33 56.93 0.0	0.0 0.0 -9.76	0.0 0.0 0.0	9.77
20	81.05 0.0 0.0	0.63 74.23 0.0	0.0 0.0 -6.82	0.0 0.0 0.0	6.83
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)					$\Delta E^*_{\text{CIELAB}} = 6.2$
Mean lightness difference (5 steps)					$\Delta L^*_{\text{CIELAB}} = 4.9$
Mean colour reproduction index:					$R^*_{\text{ab,m}} = 73$

OE730-3N-135-11: File: Measure unknown; Device: Device unknown; Date: Date unknown



OE731-3N-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 $g_N=1.6$ 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	0.013	0.04	0.076	0.121	0.172	0.231	0.296	0.365	0.442	0.523	0.608	0.7	0.796	0.895	1.0

OE730-7N, Picture A7-135-11: 16 visual equidistant L^* -grey steps; PS operator: $w^* w^* w^*$ setrgbcolor

OE73: In-output relation according to ISO 9241-306; 1MR, DH
Viewing Y contrast $Y_W:Y_N=88,9:10$; Y_N range 7,5 to <15

input: cmy0 ($\rightarrow \text{cmy0}^*_d$) setcmyk
output 130-11: $g_P=1.0$; $g_N=1.6$

TUB registration: 20110801-OE73/OE73L0NA.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 $h^* = lab^*h = 40/360 = 0.111$

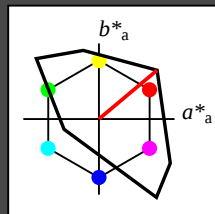
lab^*tch and lab^*nch

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

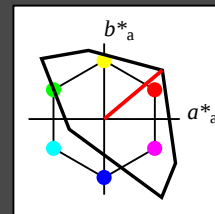
lab^*tch and lab^*nch

D65: hue O

LCH*Ma: 51 100 40

olv*Ma: 1.0 0.0 0.0

triangle lightness t^*



%Gamut

$u^*_{rel} = 158$

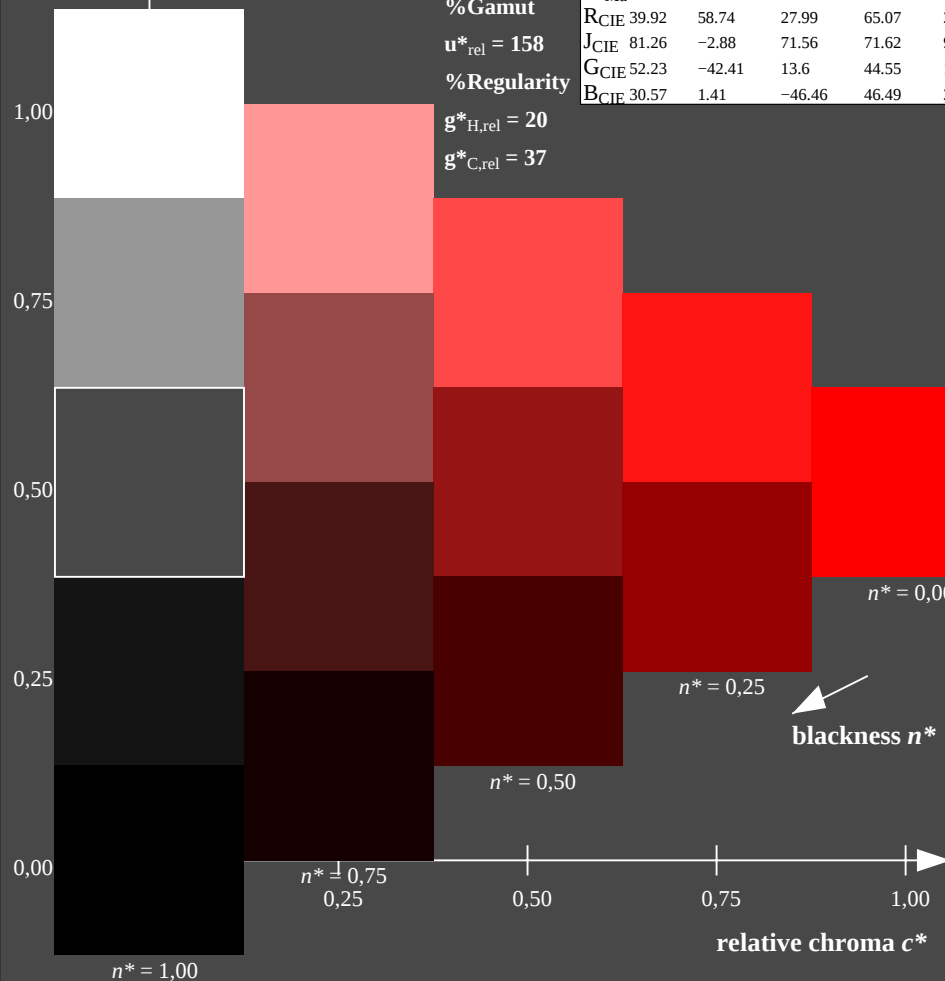
%Regularity

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

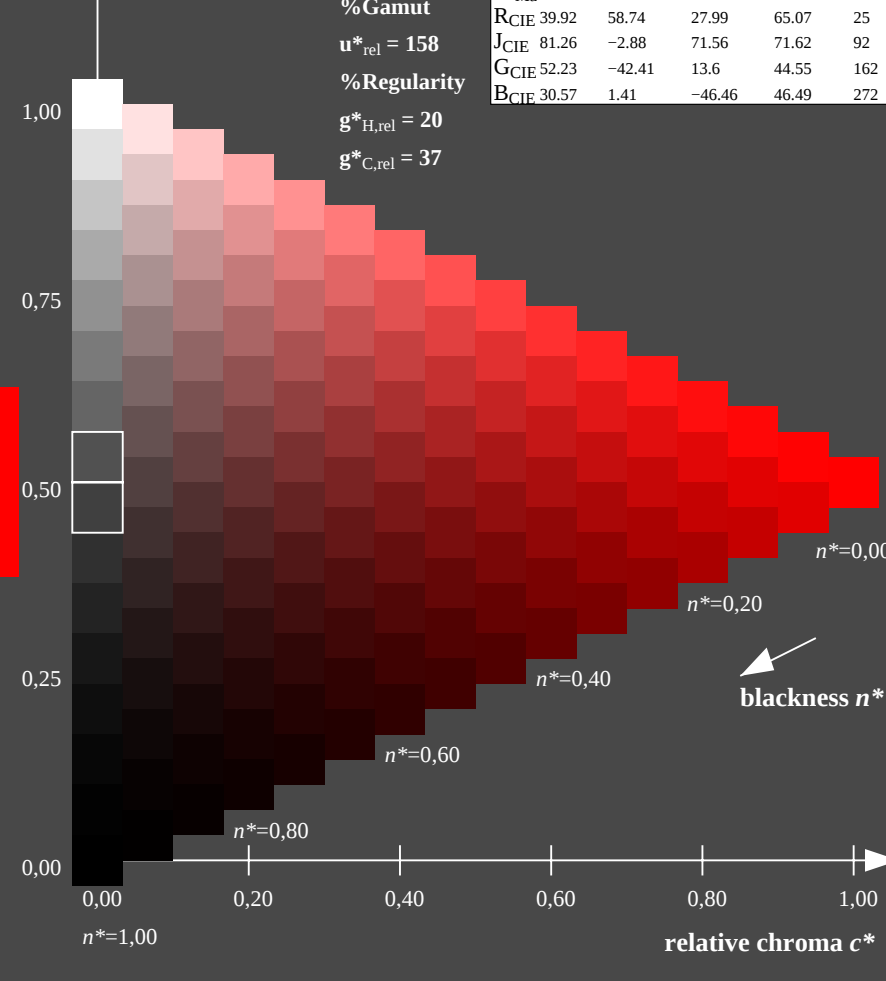
$g^*_{C,rel} = 37$

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



OE730-7N-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)

OE73: Test chart 2 according to DIN 33872-2, Hue O; 1MR, DH
Discrimination of 5 and 16 step colour scales

input: $cmy0$ ($\rightarrow cmy0^*_{\Delta}$) $setcmyk$
output 130-0: $g_P=1.0$; $g_N=1.81$

TUB registration: 20110801-OE73/OE73L0NA.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 $h^* = lab^*h = 103/360 = 0.286$

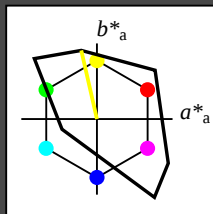
lab^*tch and lab^*nch

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

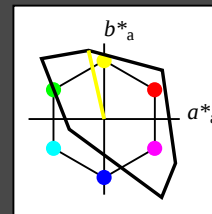
lab^*tch and lab^*nch

D65: hue Y

LCH*Ma: 93 93 103

ol v^* Ma: 1.0 1.0 0.0

triangle lightness t^*



%Gamut

$u^*_{rel} = 158$

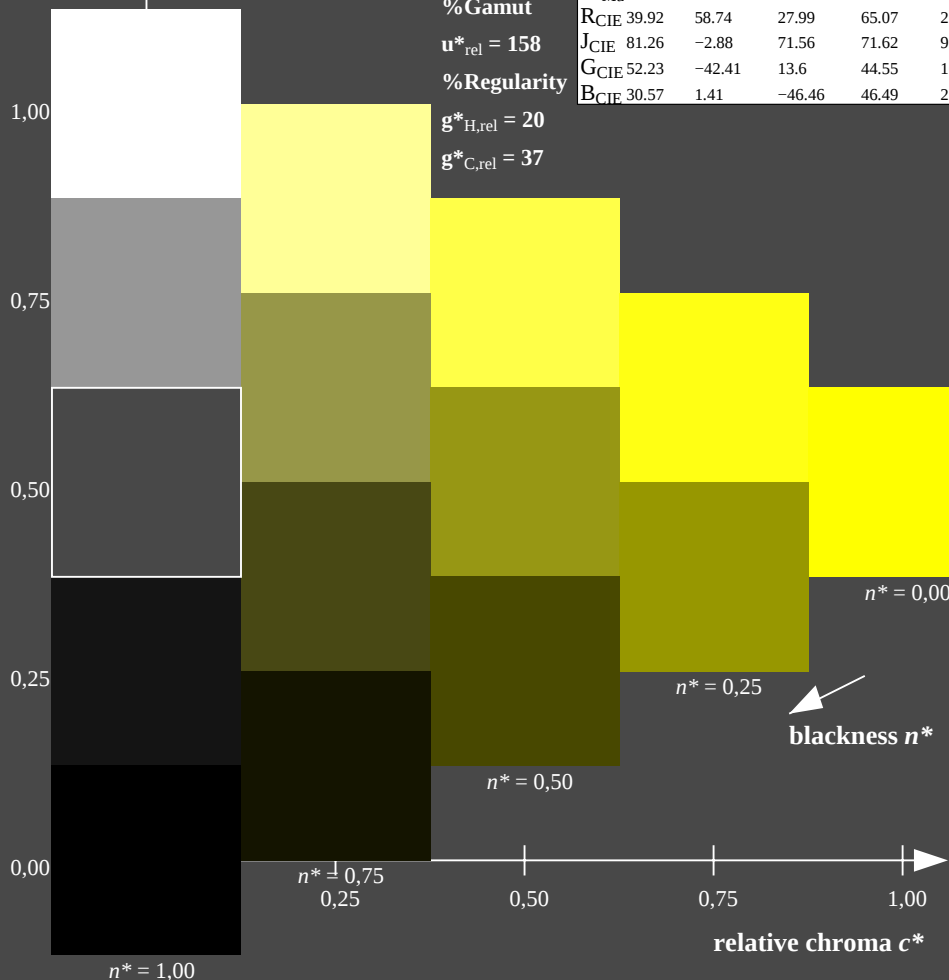
%Regularity

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

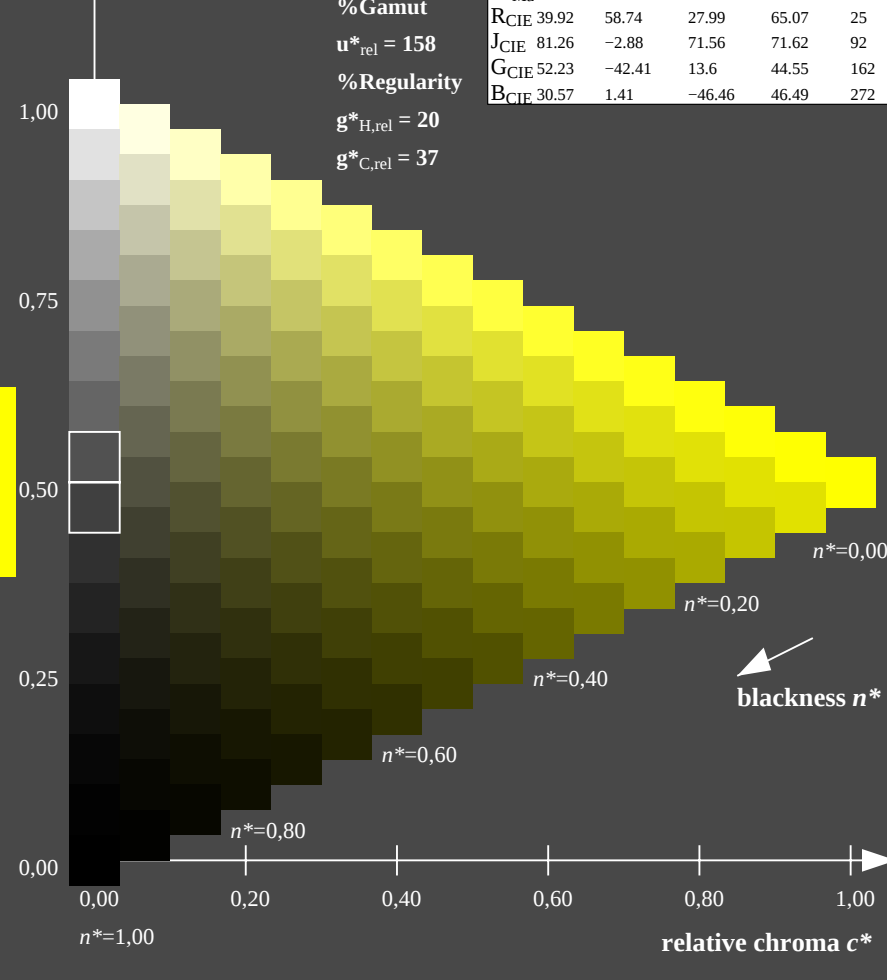
$g^*_{C,rel} = 37$

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



OE730-7N-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)

OE73: Test chart 2 according to DIN 33872-2, Hue Y; 1MR, DH
Discrimination of 5 and 16 step colour scales

input: $cmy0$ ($\rightarrow cmy0^*_{\Delta}$) $setcmyk$
output 130-1: $g_P=1.0$; $g_N=1.81$

TUB registration: 20110801-OE73/OE73L0NA.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 $h^* = lab^*h = 136/360 = 0.378$

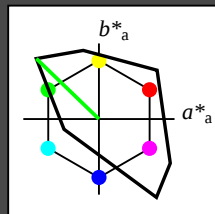
lab^*tch and lab^*nch

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

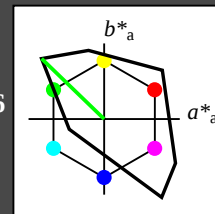
lab^*tch and lab^*nch

D65: hue L

LCH*Ma: 84 115 136

olv*Ma: 0.0 1.0 0.0

triangle lightness t^*



%Gamut

$u^*_{rel} = 158$

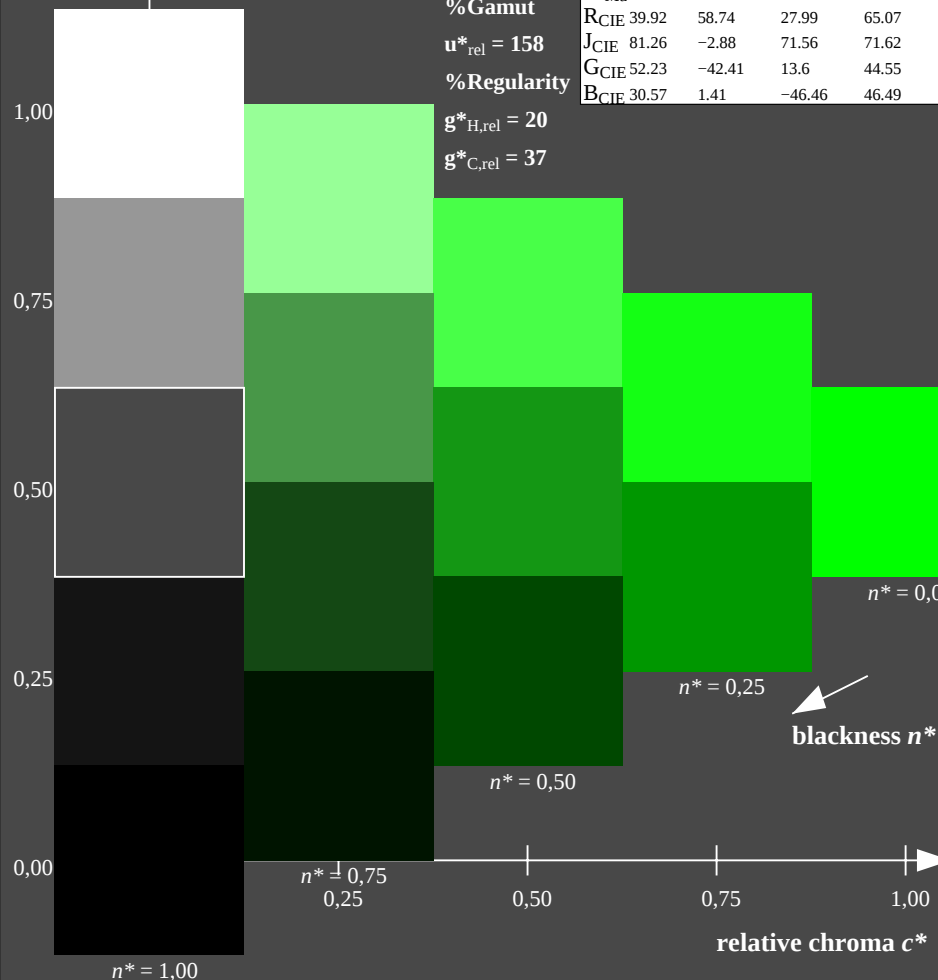
%Regularity

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

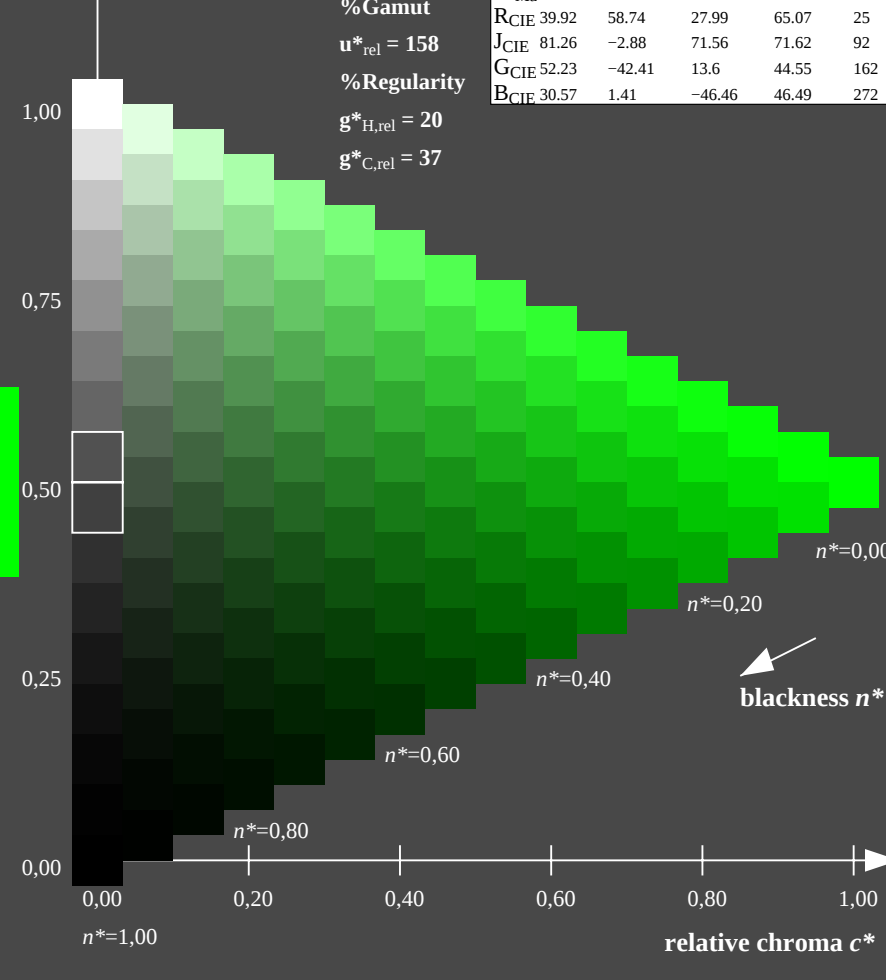
$g^*_{C,rel} = 37$

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



OE730-7N-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)

OE73: Test chart 2 according to DIN 33872-2, Hue L; 1MR, DH
Discrimination of 5 and 16 step colour scales

input: $cmy0$ ($\rightarrow cmy0^*_{d}$) $setcmyk$
output 130-2: $g_P=1.0$; $g_N=1.81$

Input: Colorimetric Television Luminous System TLS00a

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

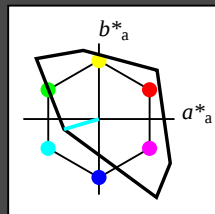
lab^*tch and lab^*nch

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

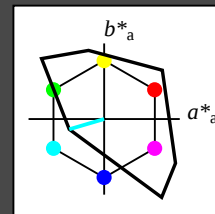
lab^*tch and lab^*nch

D65: hue C

LCH*Ma: 87 48 196

olv*Ma: 0.0 1.0 1.0

triangle lightness t^*



%Gamut

$u^*_{rel} = 158$

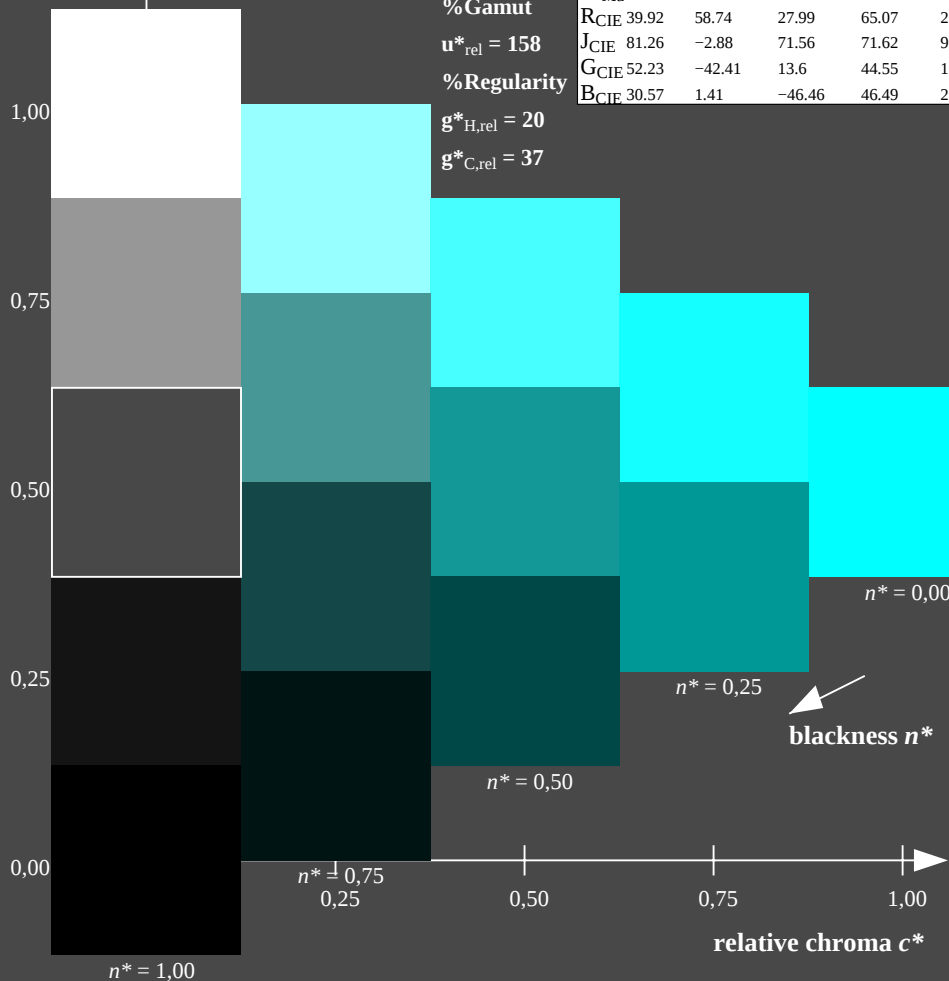
%Regularity

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

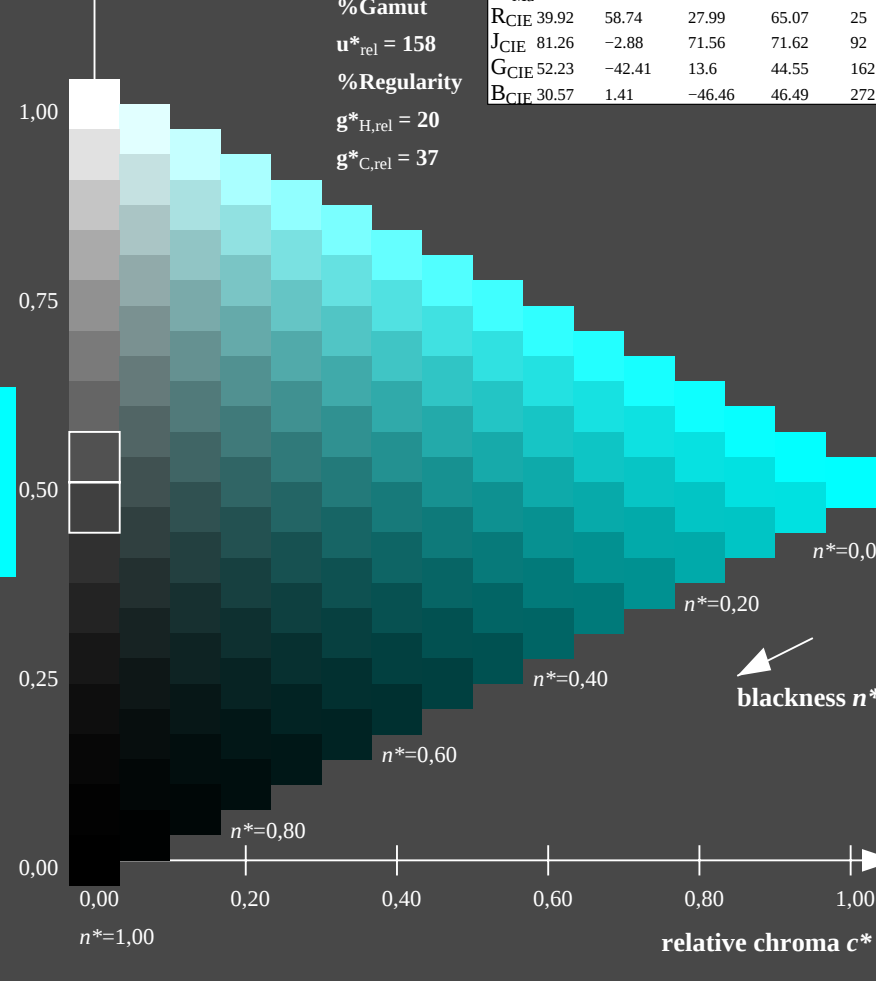
$g^*_{C,rel} = 37$

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



OE730-7N-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)

OE73: Test chart 2 according to DIN 33872-2, Hue C; 1MR, DH
Discrimination of 5 and 16 step colour scales

input: $cmy0$ ($\rightarrow cmy0^*_{\Delta}$) $setcmyk$
output 130-3: $g_P=1.0$; $g_N=1.81$

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-OE73/OE73L0NA.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 $h^* = lab^*h = 306/360 = 0.851$

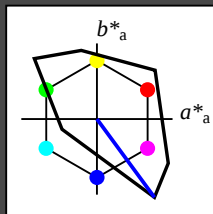
lab^*tch and lab^*nch

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

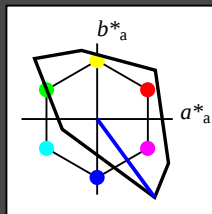
lab^*tch and lab^*nch

D65: hue V

LCH*Ma: 30 129 306

ol v^* Ma: 0.0 0.0 1.0

triangle lightness t^*



%Gamut

$u^*_{rel} = 158$

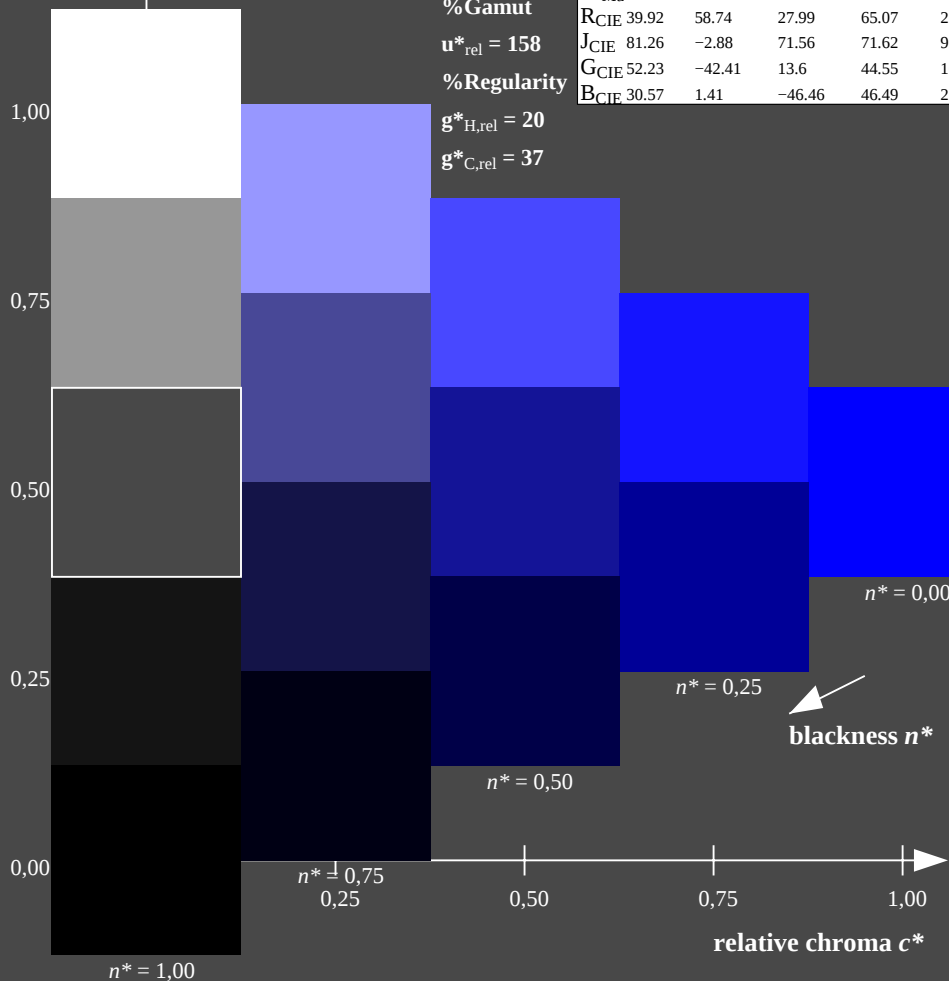
%Regularity

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

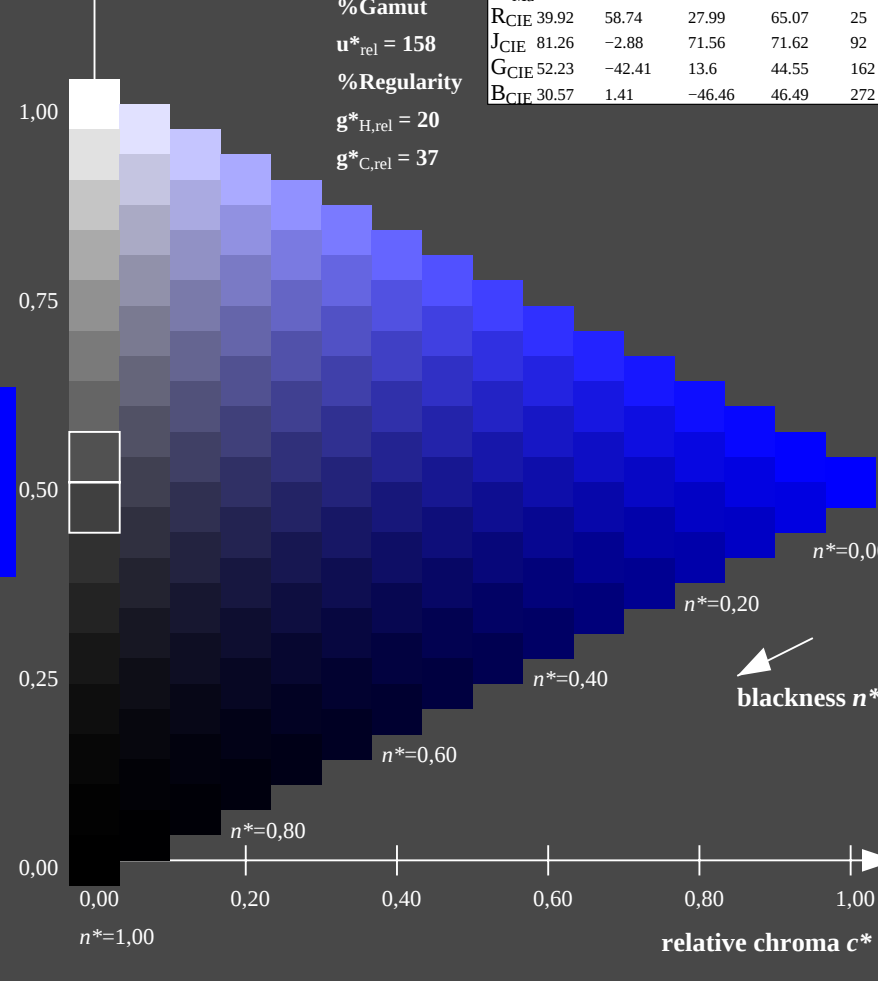
$g^*_{C,rel} = 37$

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



OE730-7N-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)

OE73: Test chart 2 according to DIN 33872-2, Hue V; 1MR, DH
Discrimination of 5 and 16 step colour scales

input: $cmy0$ ($\rightarrow cmy0^*_{\Delta}$) $setcmyk$
output 130-4: $g_P=1.0$; $g_N=1.81$

TUB registration: 20110801-OE73/OE73L0NA.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 $h^* = lab^*h = 328/360 = 0.912$

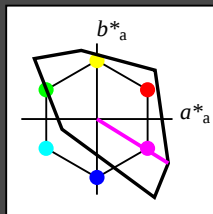
lab^*tch and lab^*nch

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

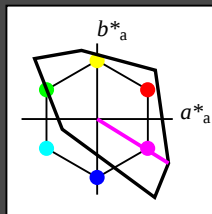
lab^*tch and lab^*nch

D65: hue M

LCH*Ma: 57 111 328

ol v^* Ma: 1.0 0.0 1.0

triangle lightness t^*



%Gamut

$u^*_{rel} = 158$

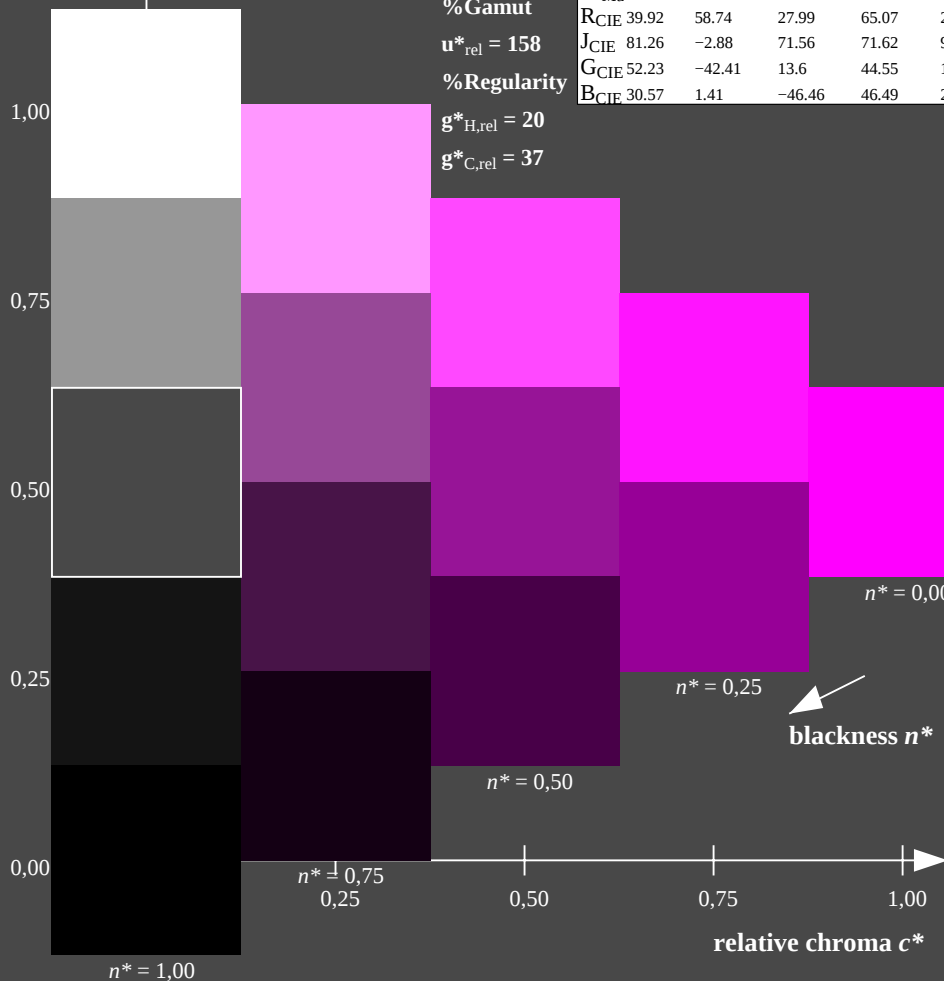
%Regularity

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

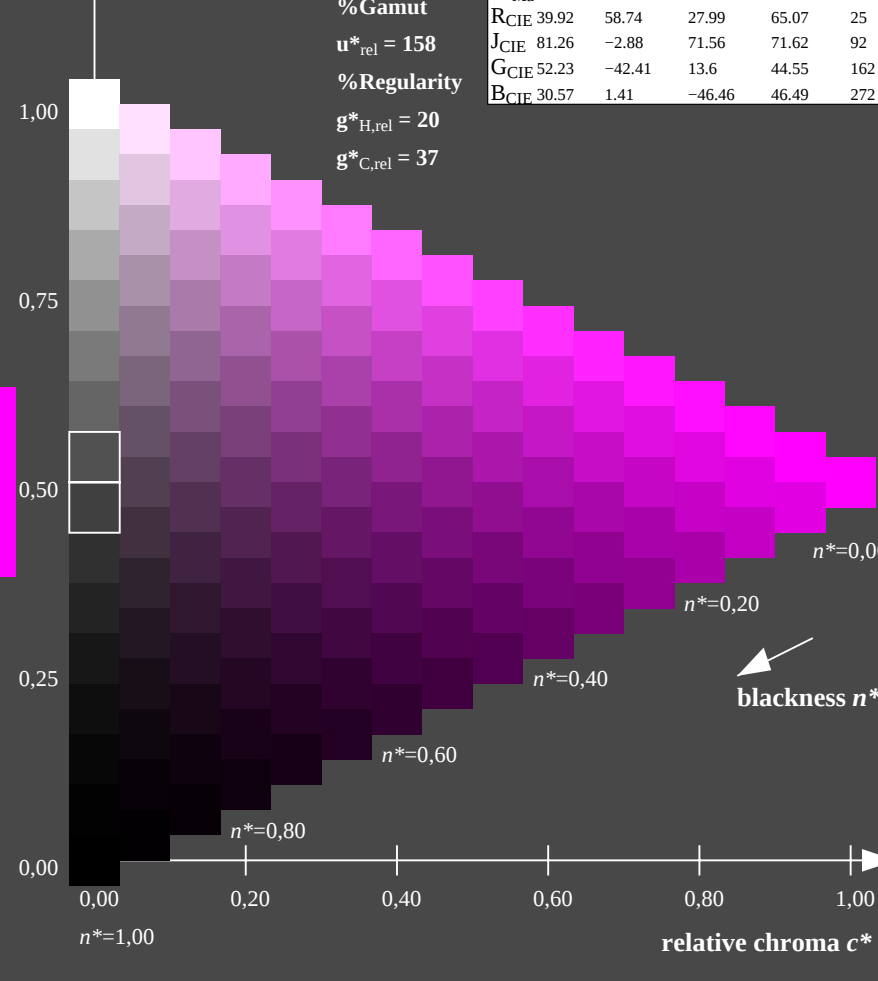
$g^*_{C,rel} = 37$

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



OE730-7N-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)

OE73: Test chart 2 according to DIN 33872-2, Hue M; 1MR, DH
Discrimination of 5 and 16 step colour scales

input: $cmy0$ ($\rightarrow cmy0^*_{\Delta}$) $setcmyk$
output 130-5: $g_P=1.0$; $g_N=1.81$

Input: Colorimetric Television Luminous System TLS00a

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

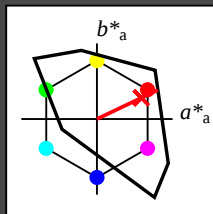
lab^*tch and lab^*nch

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

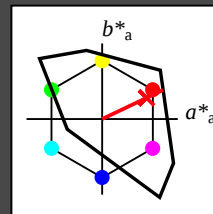
lab^*tch and lab^*nch

D65: hue R

LCH*Ma: 52 89 25

olv*Ma: 1.0 0.0 0.21

triangle lightness t^*



%Gamut

$u^*_{rel} = 158$

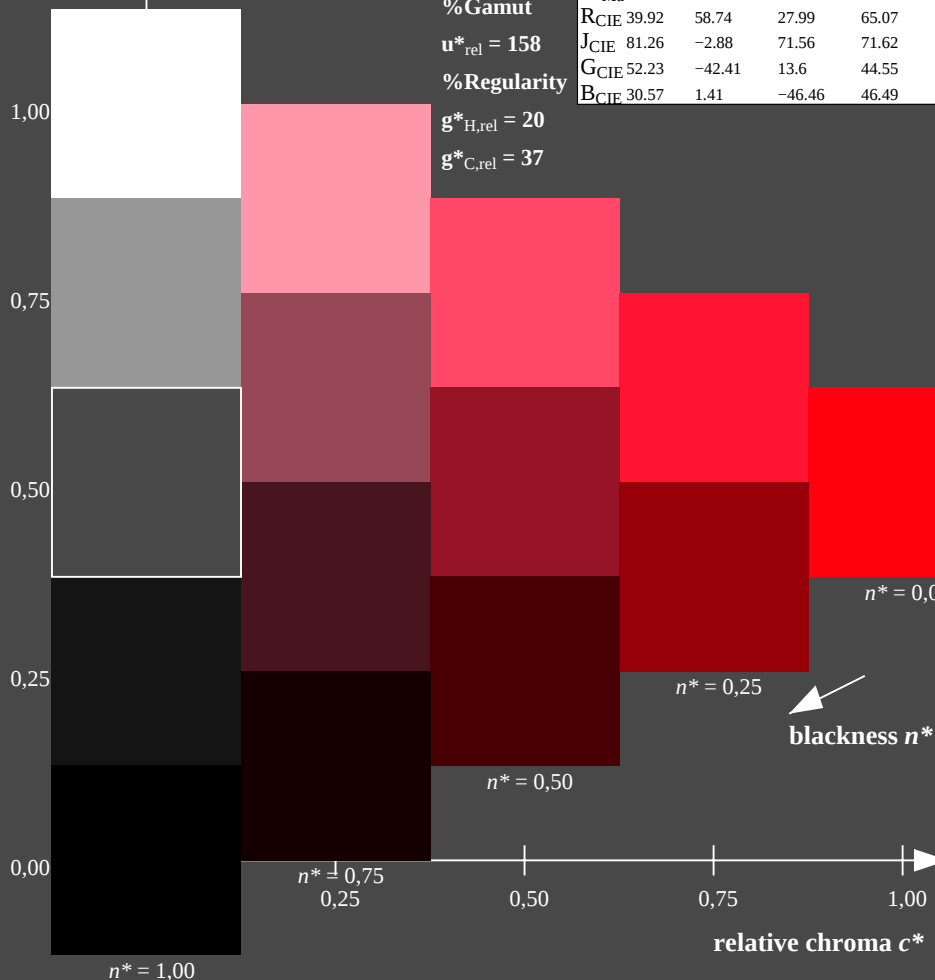
%Regularity

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

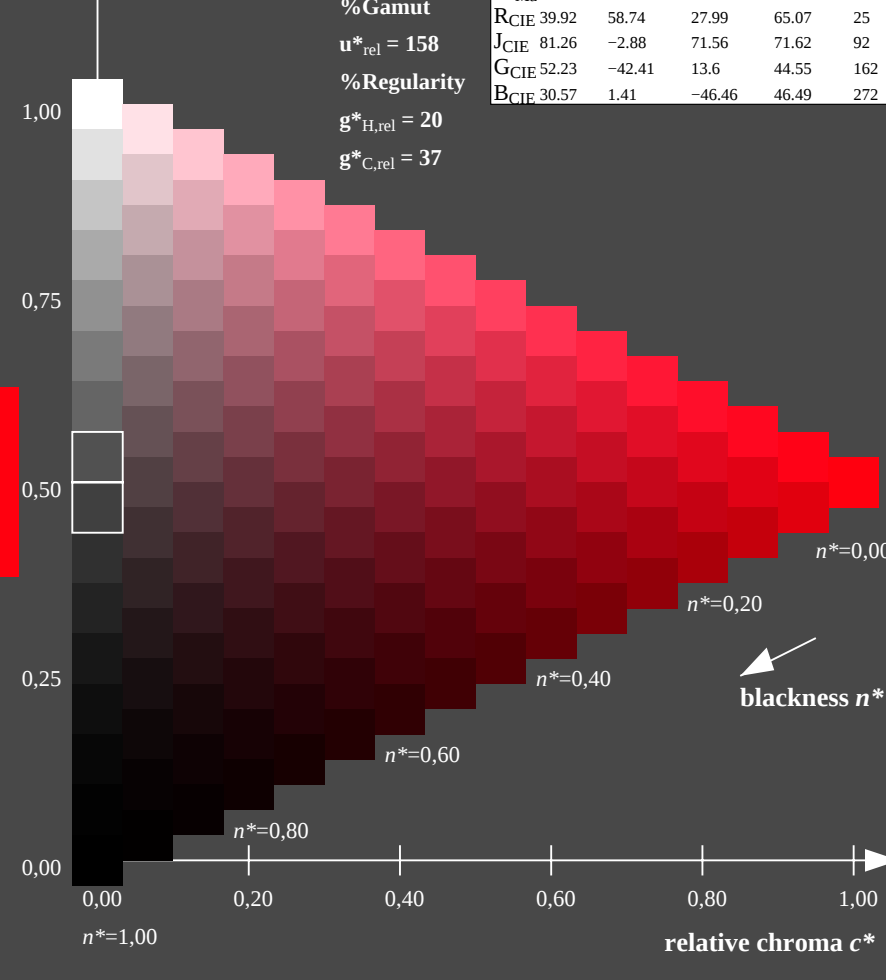
$g^*_{C,rel} = 37$

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



OE730-7N-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)

OE73: Test chart 2 according to DIN 33872-2, Hue R; 1MR, DH
Discrimination of 5 and 16 step colour scales

input: $cmy0$ ($\rightarrow cmy0^*_{de}$) $setcmyk$
output 130-6: $g_P=1.0$; $g_N=1.81$

Input: Colorimetric Television Luminous System TLS00a

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

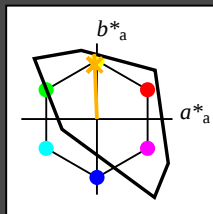
lab^*tch and lab^*nch

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

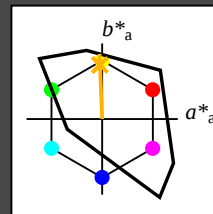
lab^*tch and lab^*nch

D65: hue J

LCH*Ma: 85 86 92

olv*Ma: 1.0 0.82 0.0

triangle lightness t^*



%Gamut

$u^*_{rel} = 158$

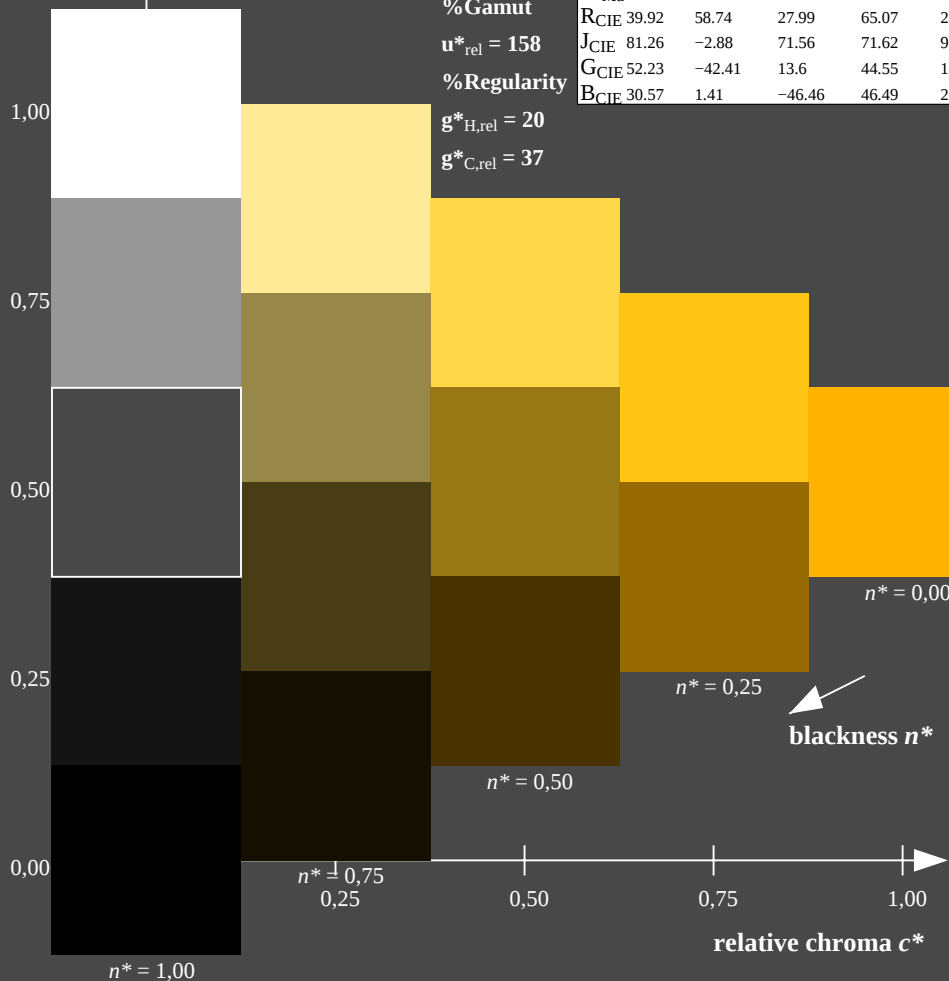
%Regularity

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

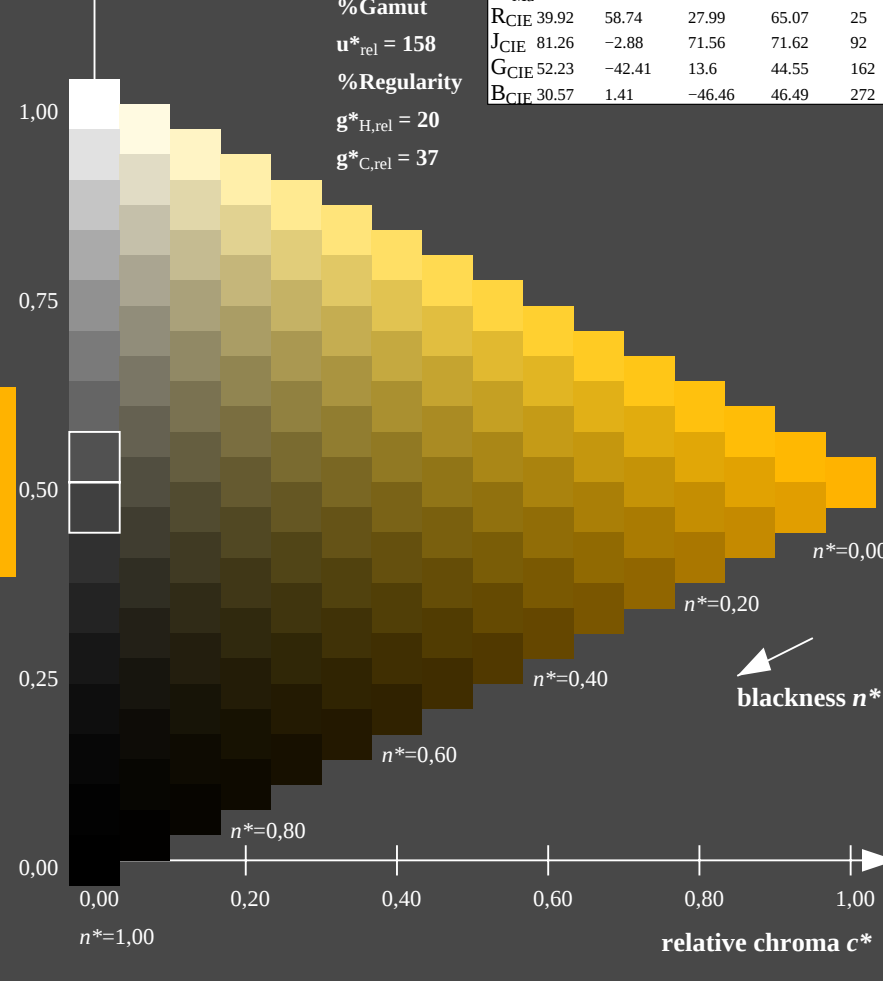
$g^*_{C,rel} = 37$

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



OE730-7N-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)

OE73: Test chart 2 according to DIN 33872-2, Hue J; 1MR, DH
Discrimination of 5 and 16 step colour scales

input: $cmy0$ ($\rightarrow cmy0^*_{de}$) $setcmyk$
output 130-7: $g_P=1.0$; $g_N=1.81$

Input: Colorimetric Television Luminous System TLS00a

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

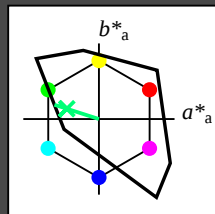
lab^*tch and lab^*nch

D65: hue G

LCH*Ma: 86 62 162

olv*Ma: 0.0 1.0 0.65

triangle lightness t^*



%Gamut

$u^*_{rel} = 158$

%Regularity

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

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

TLS00a; adapted (a) CIELAB data

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

Output: Colorimetric Television Luminous System TLS00a

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

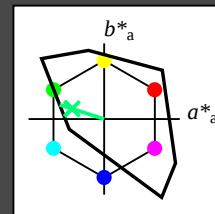
lab^*tch and lab^*nch

D65: hue G

LCH*Ma: 86 62 162

olv*Ma: 0.0 1.0 0.65

triangle lightness t^*



%Gamut

$u^*_{rel} = 158$

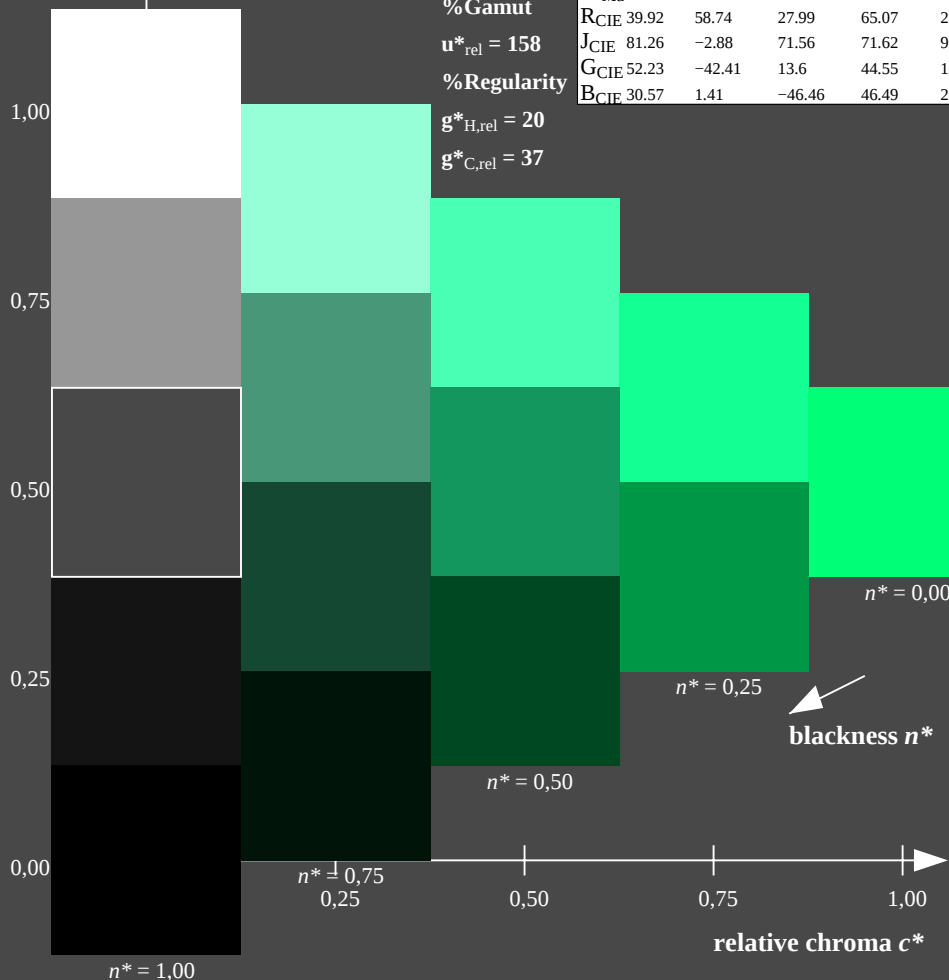
%Regularity

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

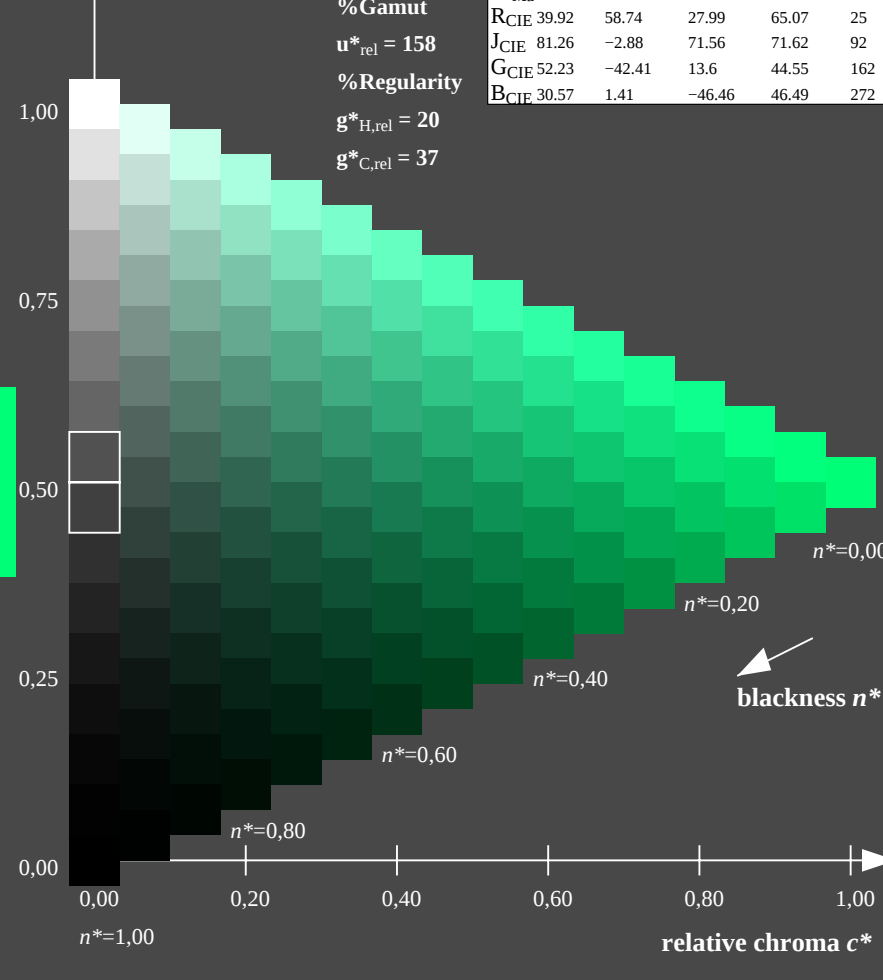
$g^*_{C,rel} = 37$

TLS00a; adapted (a) CIELAB data

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



OE730-7N-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)

OE73: Test chart 2 according to DIN 33872-2, Hue G; 1MR, DH
Discrimination of 5 and 16 step colour scales

input: $cmy0$ ($\rightarrow cmy0^*_{de}$) $setcmyk$
output 130-8: $g_P=1.0$; $g_N=1.81$

Input: Colorimetric Television Luminous System TLS00a

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

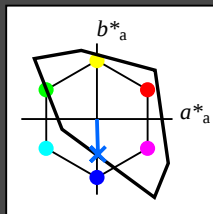
lab^*tch and lab^*nch

D65: hue B

LCH*Ma: 65 49 272

olv*Ma: 0.0 0.61 1.0

triangle lightness t^*



%Gamut

$u^*_{rel} = 158$

%Regularity

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

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

TLS00a; adapted (a) CIELAB data

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

Output: Colorimetric Television Luminous System TLS00a

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

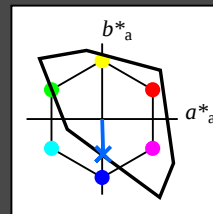
lab^*tch and lab^*nch

D65: hue B

LCH*Ma: 65 49 272

olv*Ma: 0.0 0.61 1.0

triangle lightness t^*



%Gamut

$u^*_{rel} = 158$

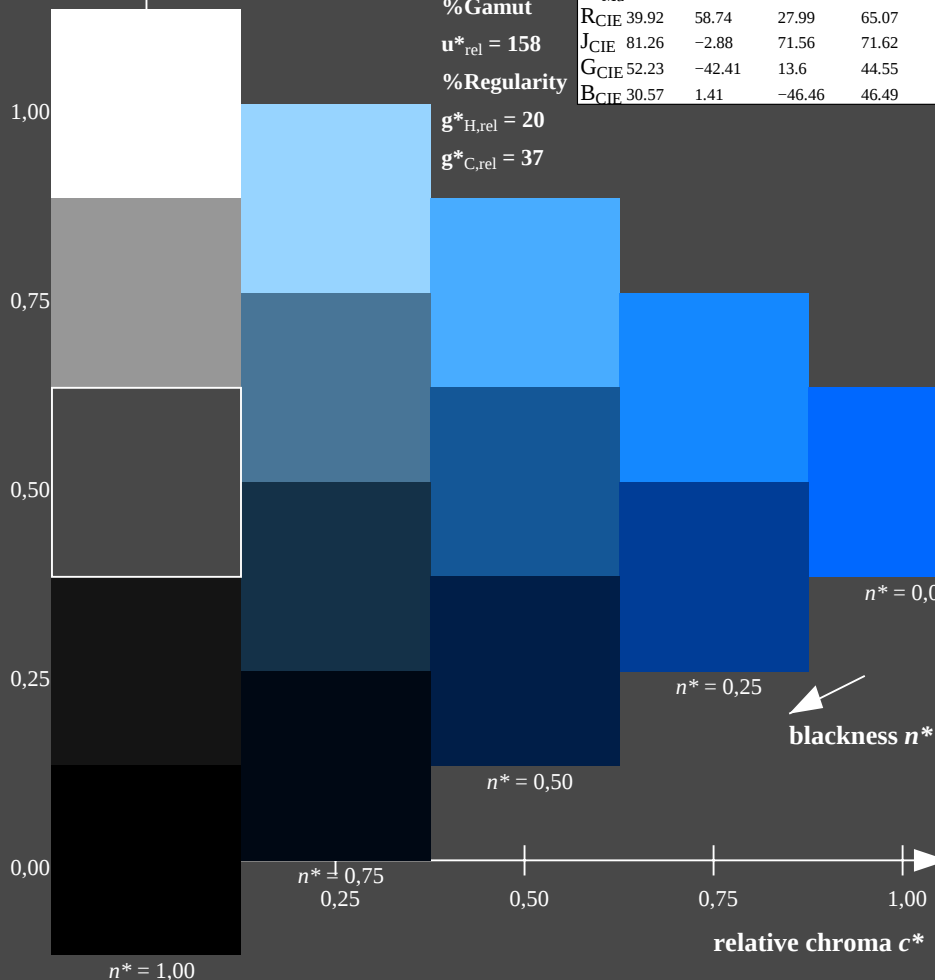
%Regularity

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

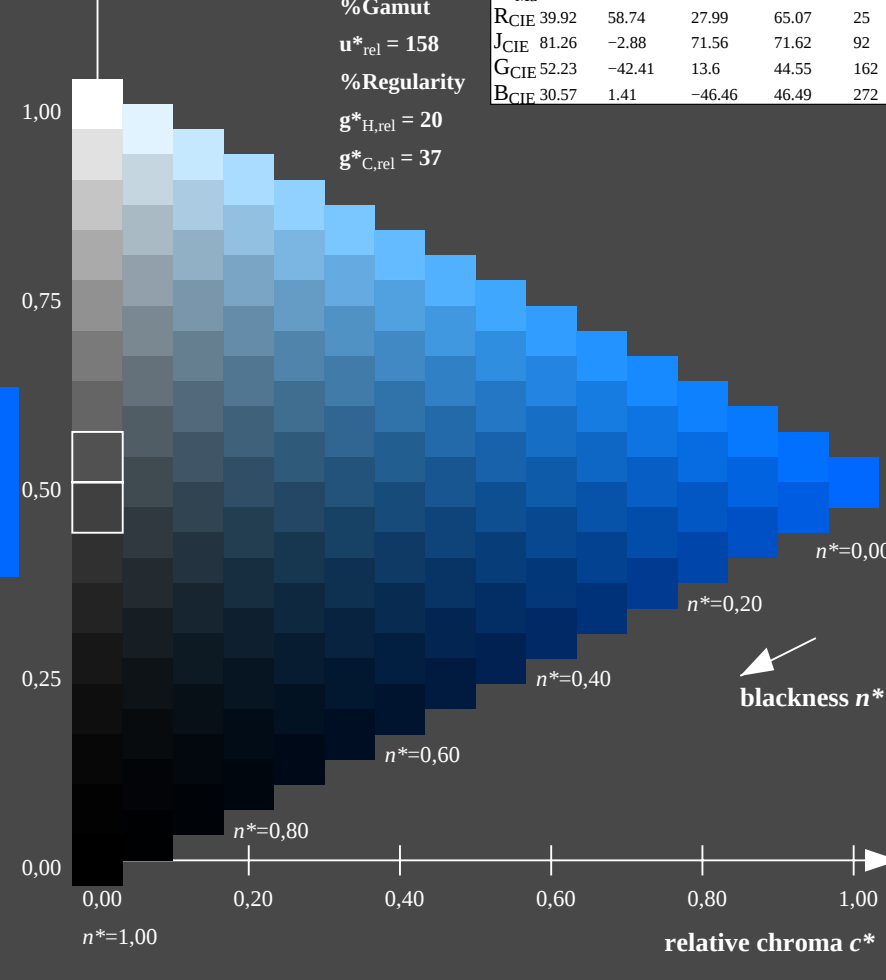
$g^*_{C,rel} = 37$

TLS00a; adapted (a) CIELAB data

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



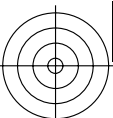
OE730-7N-136-9: 5 step scales for constant CIELAB hue 272/360 = 0.755 (left)



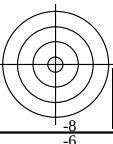
16 step scales for constant CIELAB hue 272/360 = 0.755 (right)

OE73: Test chart 2 according to DIN 33872-2, Hue B; 1MR, DH
Discrimination of 5 and 16 step colour scales

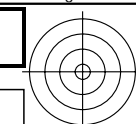
input: $cmy0$ ($\rightarrow cmy0^*_{de}$) $setcmyk$
output 130-9: $g_P=1.0$; $g_N=1.81$



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

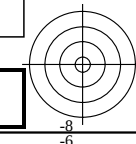


<http://130.149.60.45/~farbmetrik/OE73/OE73L0NA.TXT> /PS; linearized output, Page 11/12
 F: Output Linearization (OL) data OE73/OE73L0NA.TXT /PS in File (F)



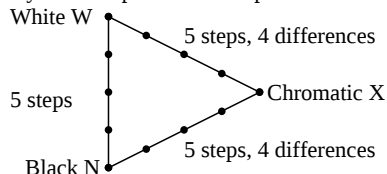
TUB registration: 20110801-OE73/OE73L0NA.TXT /PS
 application for output of displays: monitor systems or data projector systems

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

OE730-3N-136-10

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

PDF-File: <http://130.149.60.45/farbmetrik/OE73/OE73L0NP.PDF> underline Yes/No

PS-File: <http://130.149.60.45/farbmetrik/OE73/OE73L0NA.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 OE73L0NP.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 OE73L0NA.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

OE730-7N-136-10

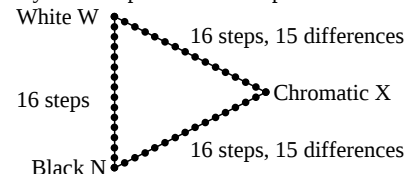


OE73: Form A for test chart 2 according to DIN 33872-2; 1MR, DHinput: *cmy0* (->*cmy0***Δ*) *setcmyk*
 Discrimination of colour scales (Yes/No decision) output 130-10: *g_P*=1.0; *g_N*=1.81



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

OE731-3N-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/OE73/OE73F1P2.PDF>

underline Yes/No

PS file: <http://130.149.60.45/farbmetrik/OE73/OE73F1P2.PS>

underline Yes/No

Picture A7-136-2: 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/OE73/OE73F1P2.PDF>

picture A7-136-2

underline Yes/No

PS-File: <http://130.149.60.45/farbmetrik/OE73/OE73F1P2.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

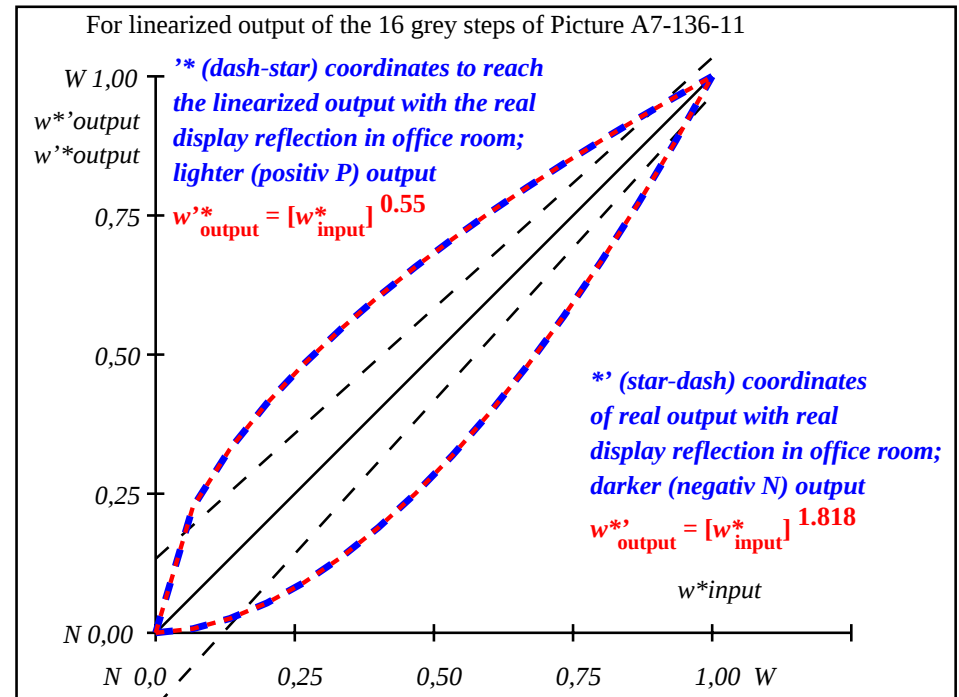
OE731-7N-136-10



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	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	0.01 52.33 0.0	0.0 0.0 -2.57	0.0 0.0 0.0	2.58
3	57.8 0.0 0.0	0.03 53.13 0.0	0.0 0.0 -4.66	0.0 0.0 0.0	4.67
4	60.7 0.0 0.0	0.05 54.34 0.0	0.0 0.0 -6.34	0.0 0.0 0.0	6.35
5	63.59 0.0 0.0	0.09 55.94 0.0	0.0 0.0 -7.64	0.0 0.0 0.0	7.65
6	66.48 0.0 0.0	0.14 57.9 0.0	0.0 0.0 -8.57	0.0 0.0 0.0	8.58
7	69.37 0.0 0.0	0.19 60.22 0.0	0.0 0.0 -9.15	0.0 0.0 0.0	9.16
8	72.27 0.0 0.0	0.25 62.87 0.0	0.0 0.0 -9.39	0.0 0.0 0.0	9.4
9	75.16 0.0 0.0	0.32 65.85 0.0	0.0 0.0 -9.3	0.0 0.0 0.0	9.31
10	78.05 0.0 0.0	0.4 69.16 0.0	0.0 0.0 -8.88	0.0 0.0 0.0	8.89
11	80.95 0.0 0.0	0.48 72.78 0.0	0.0 0.0 -8.16	0.0 0.0 0.0	8.17
12	83.84 0.0 0.0	0.57 76.71 0.0	0.0 0.0 -7.12	0.0 0.0 0.0	7.13
13	86.73 0.0 0.0	0.67 80.94 0.0	0.0 0.0 -5.78	0.0 0.0 0.0	5.79
14	89.62 0.0 0.0	0.77 85.47 0.0	0.0 0.0 -4.15	0.0 0.0 0.0	4.16
15	92.52 0.0 0.0	0.88 90.29 0.0	0.0 0.0 -2.21	0.0 0.0 0.0	2.22
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	0.08 55.51 0.0	0.0 0.0 -7.35	0.0 0.0 0.0	7.36
19	73.71 0.0 0.0	0.28 64.32 0.0	0.0 0.0 -9.38	0.0 0.0 0.0	9.39
20	84.56 0.0 0.0	0.59 77.74 0.0	0.0 0.0 -6.82	0.0 0.0 0.0	6.83
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} = 5.9
Mean lightness difference (5 steps)					ΔL* _{CIELAB} = 4.7
Mean colour reproduction index:					R* _{ab,m} = 74

OE730-3N-136-11: File: Measure unknown; Device: Device unknown; Date: Date unknown



OE731-3N-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																
$g_N=1.82$ 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)																
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	0.007	0.026	0.054	0.091	0.135	0.189	0.25	0.319	0.395	0.479	0.569	0.666	0.771	0.882	1.0

OE730-7N, Picture A7-136-11: 16 visual equidistant L^* -grey steps; PS operator: $w^* w^* w^*$ setrgbcolor

OE73: In-output relation according to ISO 9241-306; 1MR, DH
Viewing Y contrast $Y_W:Y_N=88,9:20$; Y_N range 15 to <30

input: $cmy0$ (-> $cmy0^*_d$) setcmyk
output 130-11: $g_P=1.0$; $g_N=1.81$

TUB registration: 20110801-OE73/OE73L0NA.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 $h^* = lab^*h = 40/360 = 0.111$

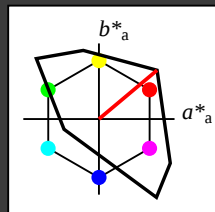
lab^*tch and lab^*nch

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

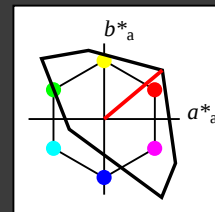
lab^*tch and lab^*nch

D65: hue O

LCH*Ma: 51 100 40

olv*Ma: 1.0 0.0 0.0

triangle lightness t^*



%Gamut

$u^*_{rel} = 158$

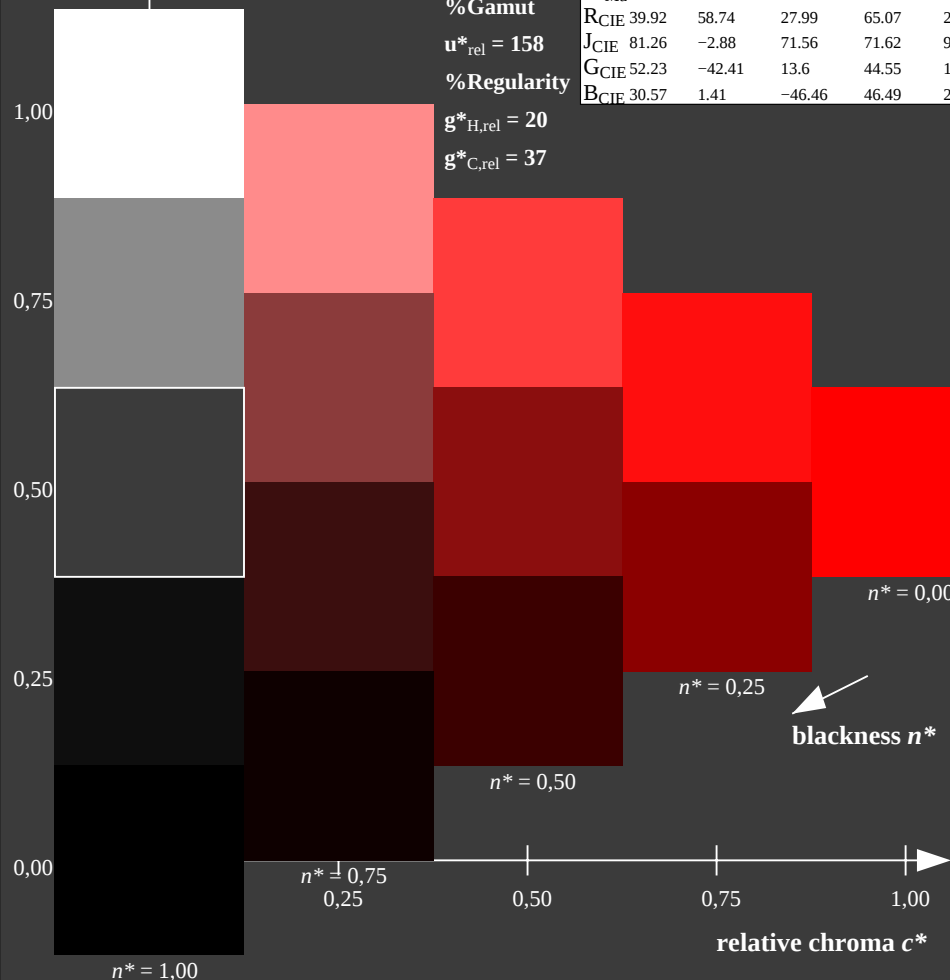
%Regularity

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

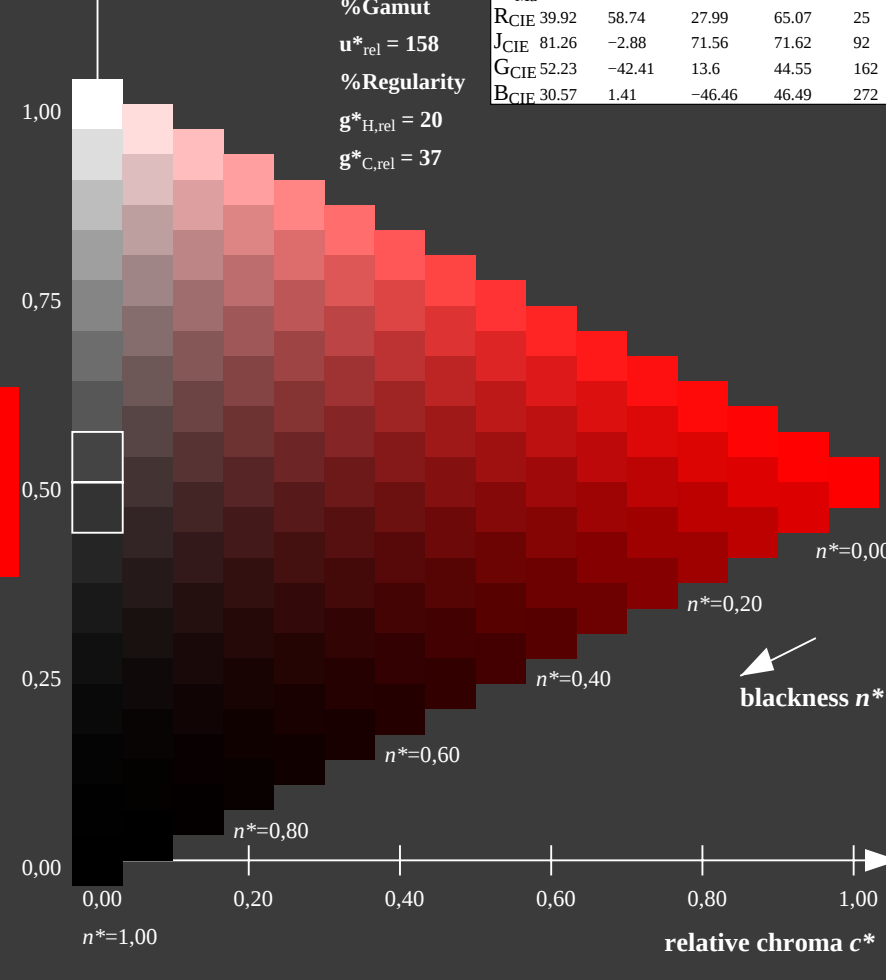
$g^*_{C,rel} = 37$

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



OE730-7N-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)

OE73: Test chart 2 according to DIN 33872-2, Hue O; 1MR, DH
Discrimination of 5 and 16 step colour scales

input: $cmy0$ ($\rightarrow cmy0^*_{\Delta}$) $setcmyk$
output 130-0: $g_P=1.0$; $g_N=2.1$

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-OE73/OE73L0NA.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 $h^* = lab^*h = 103/360 = 0.286$

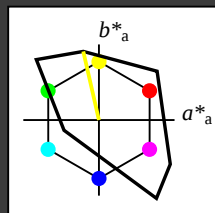
lab^*tch and lab^*nch

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

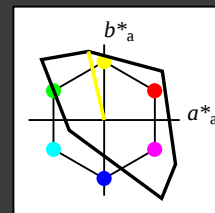
lab^*tch and lab^*nch

D65: hue Y

LCH*Ma: 93 93 103

ol v^* Ma: 1.0 1.0 0.0

triangle lightness t^*



%Gamut

$u^*_{rel} = 158$

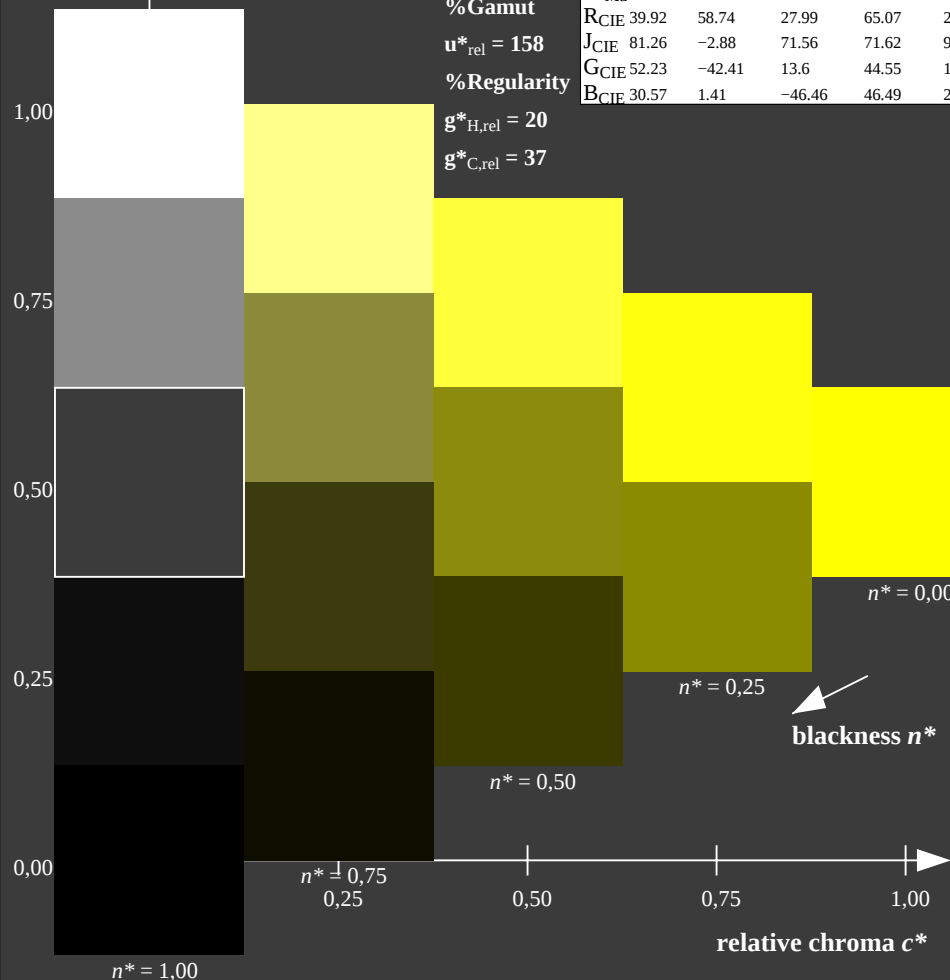
%Regularity

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

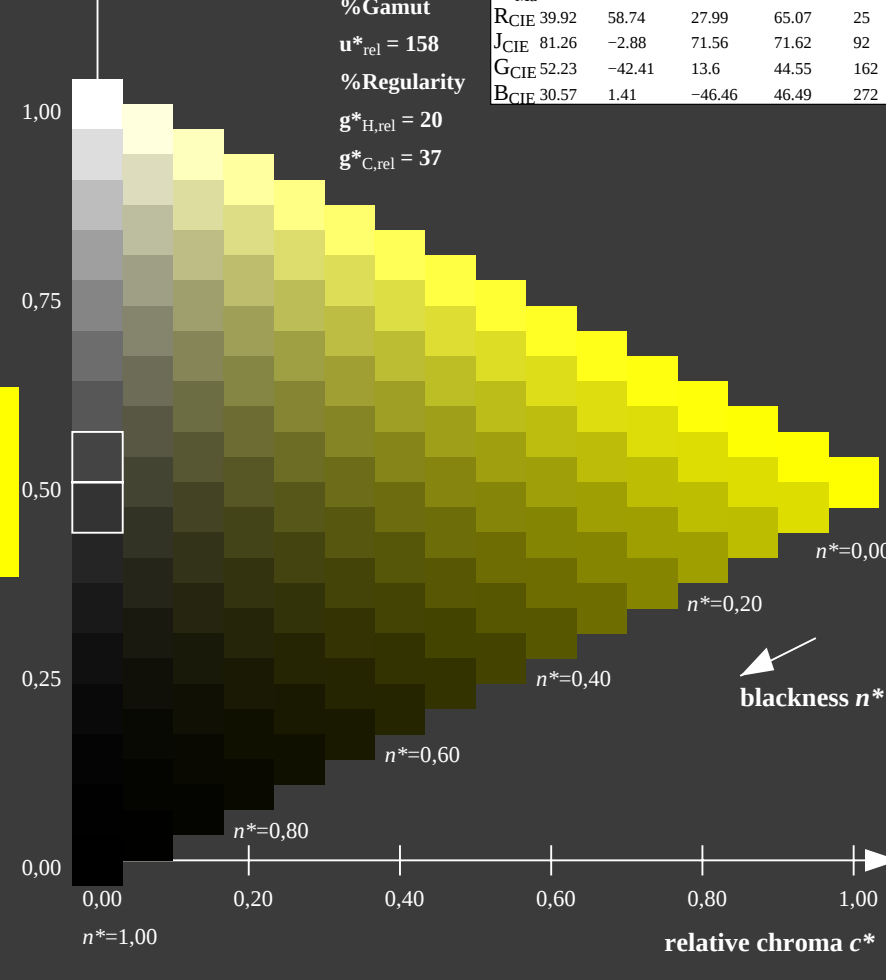
$g^*_{C,rel} = 37$

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



OE730-7N-137-1: 5 step scales for constant CIELAB hue 103/360 = 0.286 (left)



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

OE73: Test chart 2 according to DIN 33872-2, Hue Y; 1MR, DH
Discrimination of 5 and 16 step colour scales

input: $cmy0$ ($\rightarrow cmy0^*_{\Delta}$) $setcmyk$
output 130-1: $g_P=1.0$; $g_N=2.1$

Input: Colorimetric Television Luminous System TLS00a

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

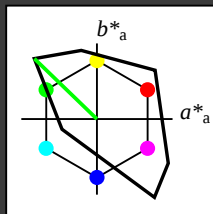
lab^*tch and lab^*nch

D65: hue L

LCH*Ma: 84 115 136

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

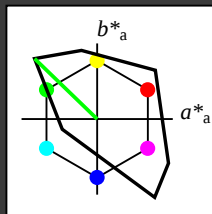
lab^*tch and lab^*nch

D65: hue L

LCH*Ma: 84 115 136

ol v^* Ma: 0.0 1.0 0.0

triangle lightness t^*



%Gamut

$u^*_{rel} = 158$

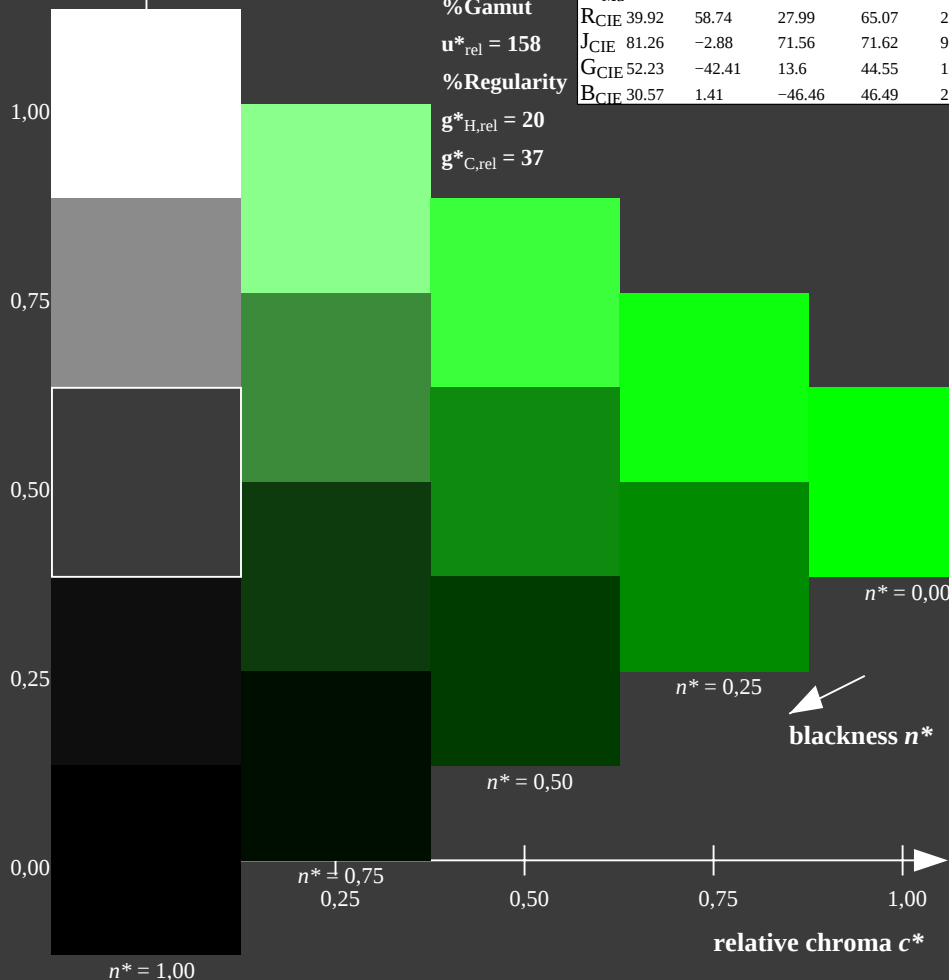
%Regularity

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

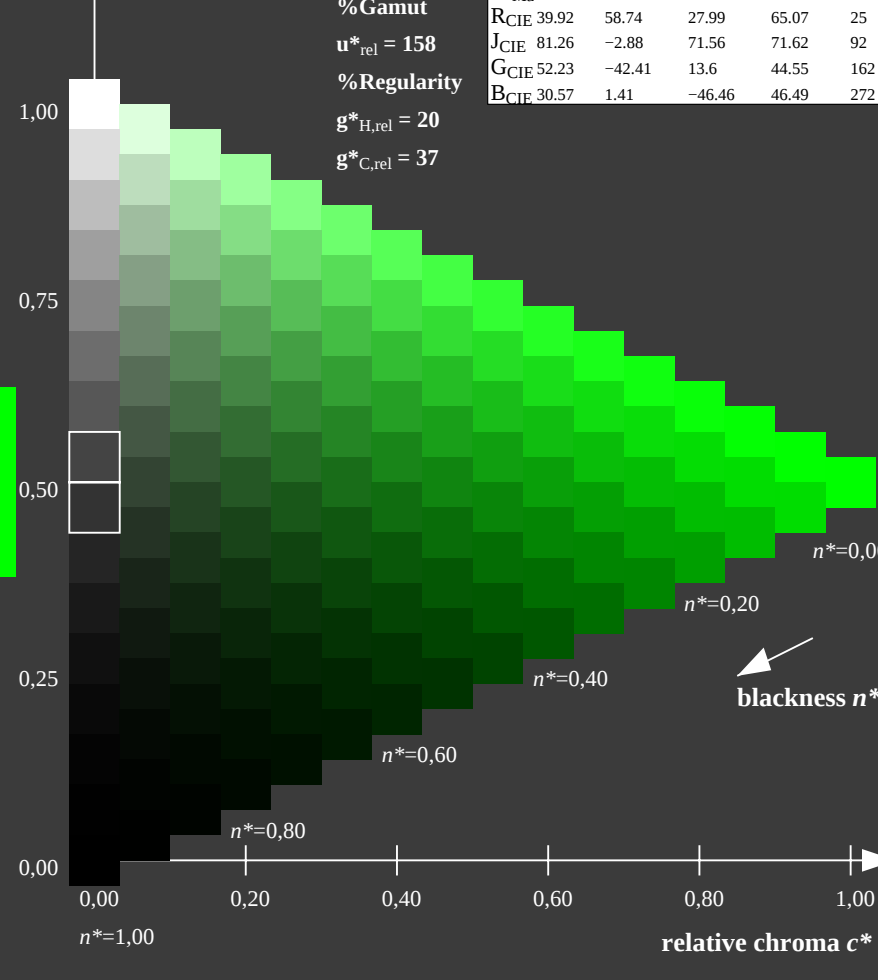
$g^*_{C,rel} = 37$

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



OE730-7N-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)

OE73: Test chart 2 according to DIN 33872-2, Hue L; 1MR, DH
Discrimination of 5 and 16 step colour scales

input: $cmy0$ ($\rightarrow cmy0^*_{\Delta}$) $setcmyk$
output 130-2: $g_P=1.0$; $g_N=2.1$

TUB registration: 20110801-OE73/OE73L0NA.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 $h^* = lab^*h = 196/360 = 0.545$

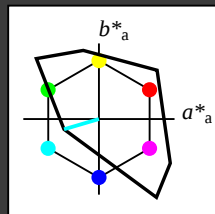
lab^*tch and lab^*nch

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

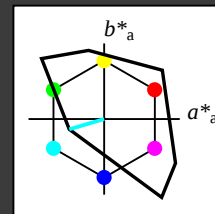
lab^*tch and lab^*nch

D65: hue C

LCH*Ma: 87 48 196

olv*Ma: 0.0 1.0 1.0

triangle lightness t^*



%Gamut

$u^*_{rel} = 158$

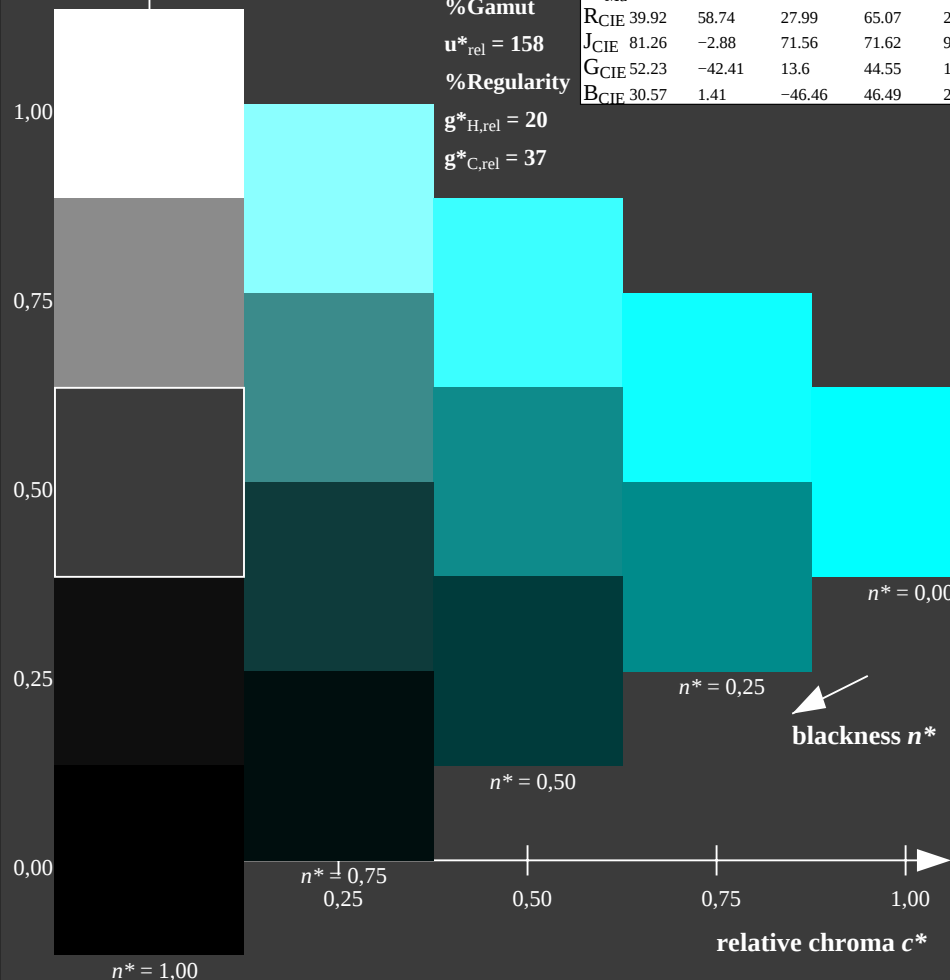
%Regularity

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

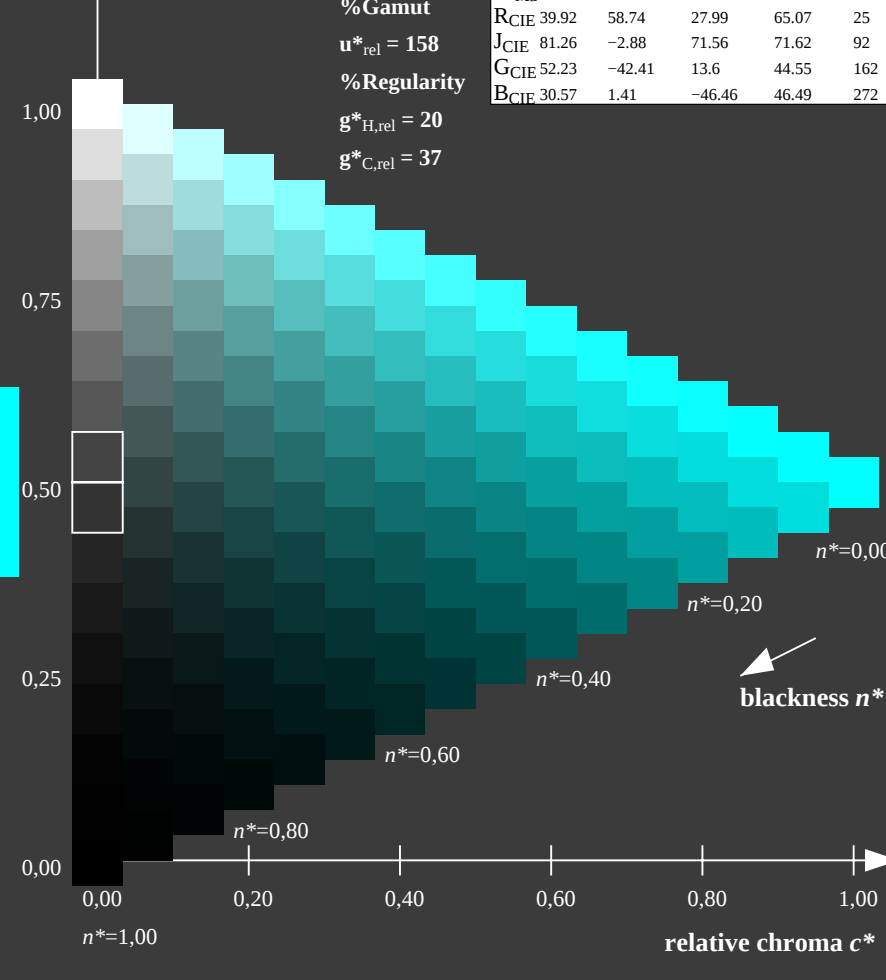
$g^*_{C,rel} = 37$

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



OE730-7N-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)

OE73: Test chart 2 according to DIN 33872-2, Hue C; 1MR, DH
Discrimination of 5 and 16 step colour scales

input: $cmy0$ ($\rightarrow cmy0^*_{\Delta}$) $setcmyk$
output 130-3: $g_P=1.0$; $g_N=2.1$

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-OE73/OE73L0NA.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 $h^* = lab^*h = 306/360 = 0.851$

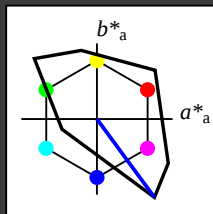
lab^*tch and lab^*nch

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

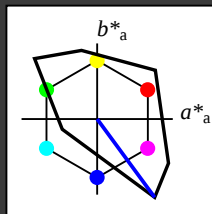
lab^*tch and lab^*nch

D65: hue V

LCH*Ma: 30 129 306

ol v^* Ma: 0.0 0.0 1.0

triangle lightness t^*



%Gamut

$u^*_{rel} = 158$

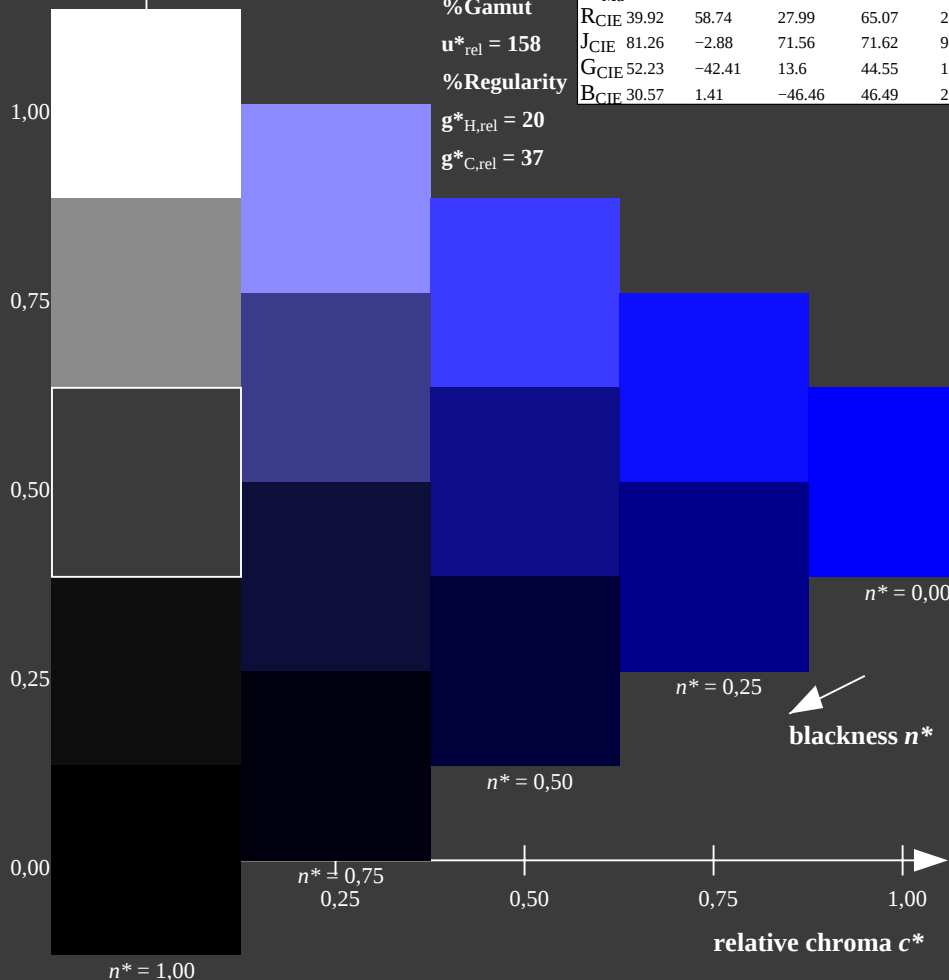
%Regularity

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

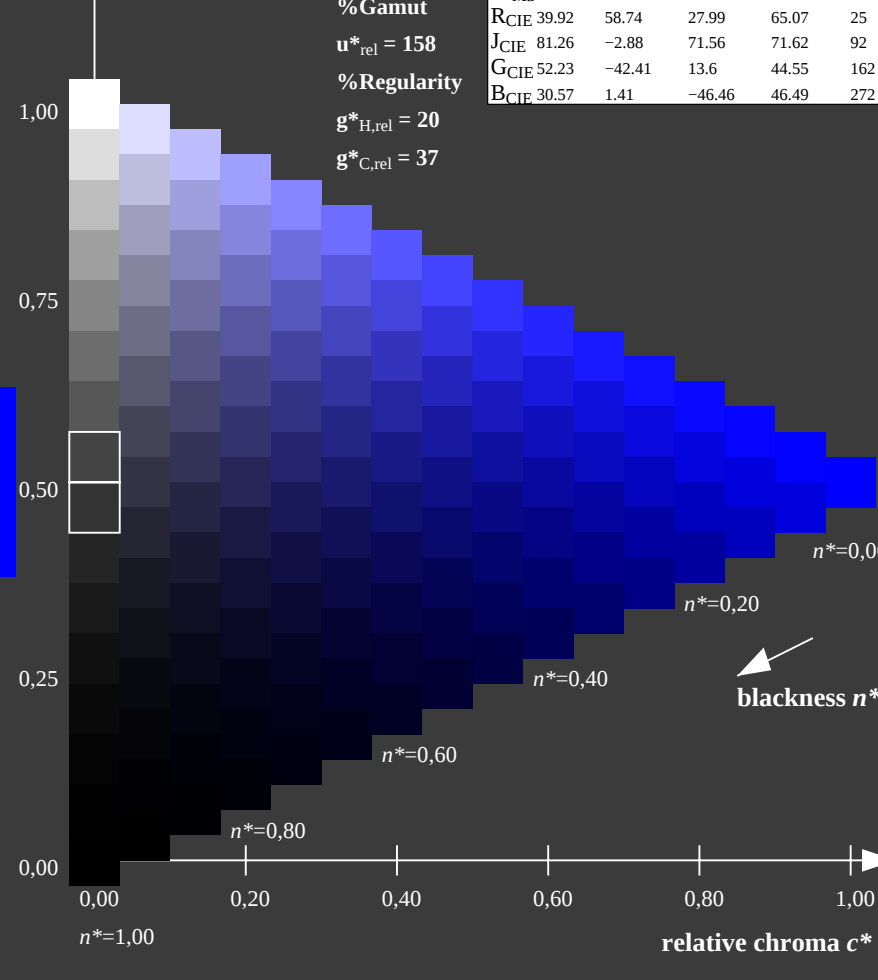
$g^*_{C,rel} = 37$

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



OE730-7N-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)

OE73: Test chart 2 according to DIN 33872-2, Hue V; 1MR, DH
Discrimination of 5 and 16 step colour scales

input: $cmy0$ ($\rightarrow cmy0^*_{d}$) $setcmyk$
output 130-4: $g_P=1.0$; $g_N=2.1$

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-OE73/OE73L0NA.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 $h^* = lab^*h = 328/360 = 0.912$

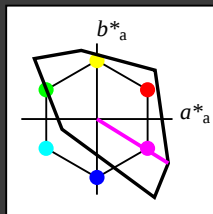
lab^*tch and lab^*nch

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

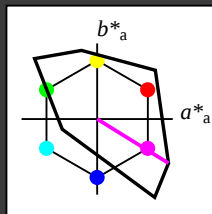
lab^*tch and lab^*nch

D65: hue M

LCH*Ma: 57 111 328

olv*Ma: 1.0 0.0 1.0

triangle lightness t^*



%Gamut

$u^*_{rel} = 158$

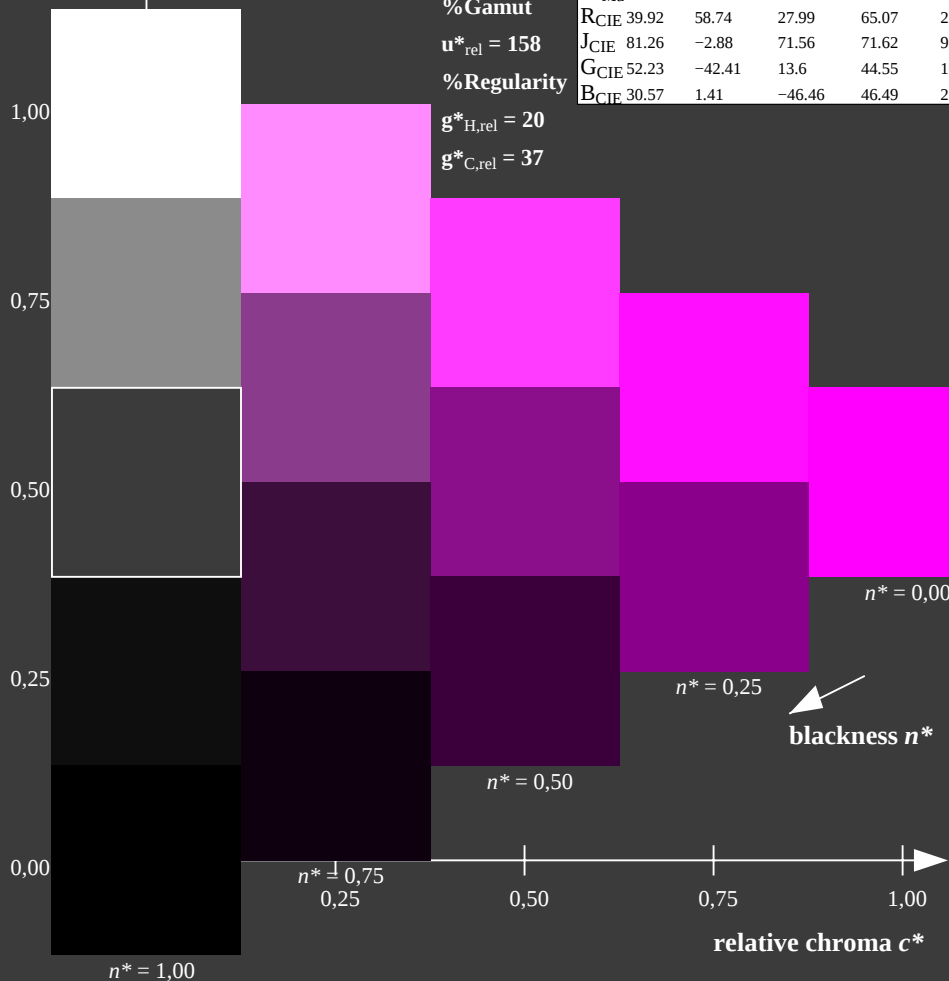
%Regularity

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

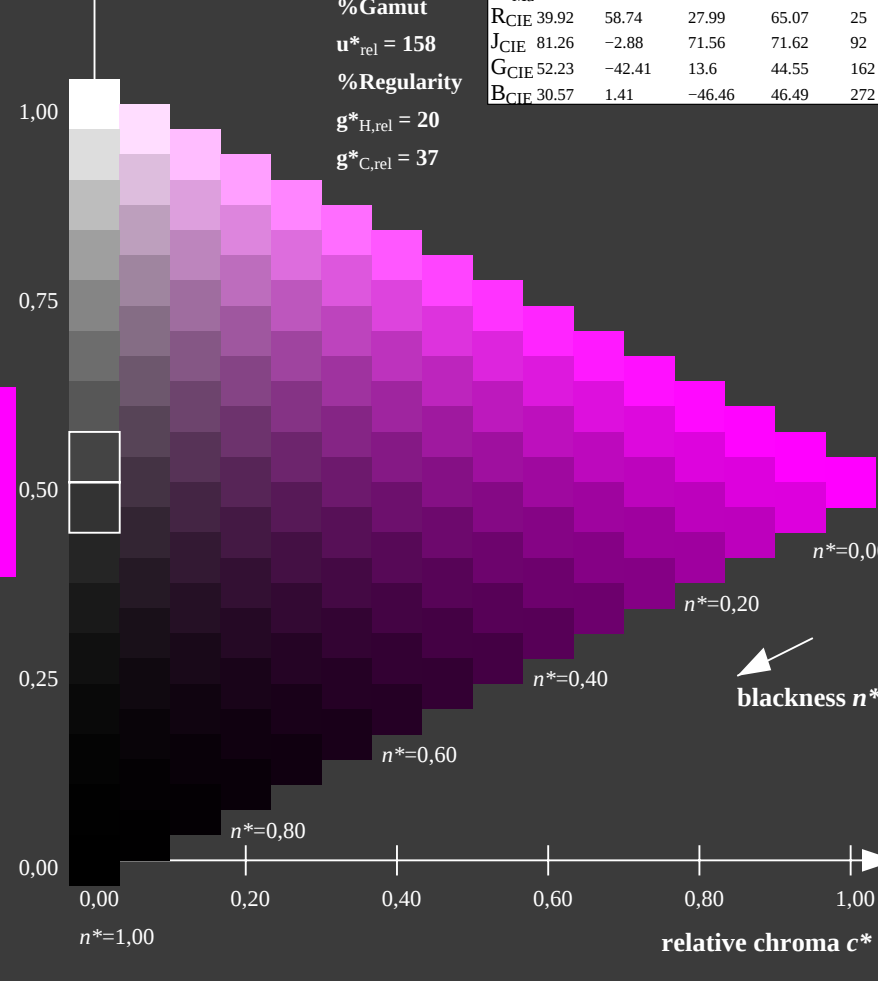
$g^*_{C,rel} = 37$

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



OE730-7N-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)

OE73: Test chart 2 according to DIN 33872-2, Hue M; 1MR, DH
Discrimination of 5 and 16 step colour scales

input: $cmy0$ ($\rightarrow cmy0^*_{\Delta}$) $setcmyk$
output 130-5: $g_P=1.0$; $g_N=2.1$

Input: Colorimetric Television Luminous System TLS00a

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

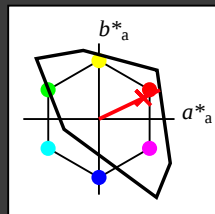
lab^*tch and lab^*nch

D65: hue R

LCH*Ma: 52 89 25

olv*Ma: 1.0 0.0 0.21

triangle lightness t^*



%Gamut

$u^*_{rel} = 158$

%Regularity

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

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

TLS00a; adapted (a) CIELAB data

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

Output: Colorimetric Television Luminous System TLS00a

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

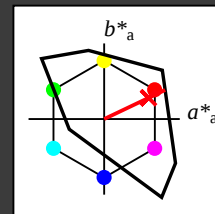
lab^*tch and lab^*nch

D65: hue R

LCH*Ma: 52 89 25

olv*Ma: 1.0 0.0 0.21

triangle lightness t^*



%Gamut

$u^*_{rel} = 158$

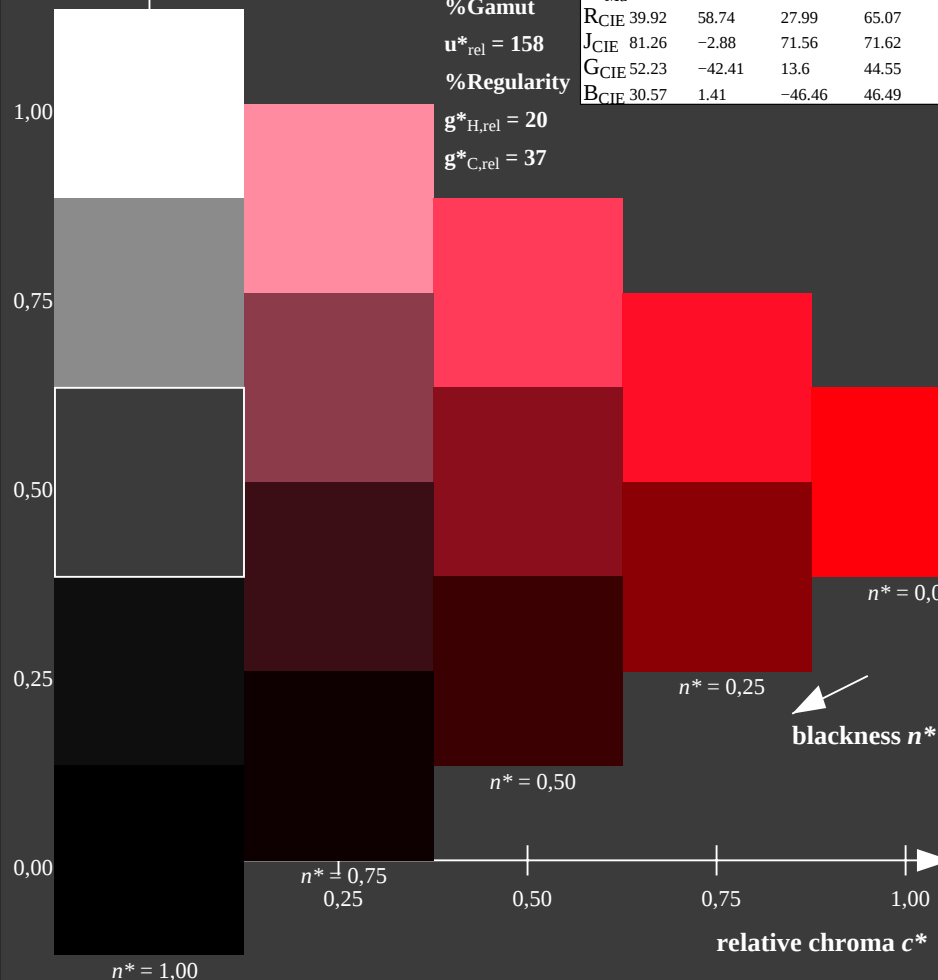
%Regularity

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

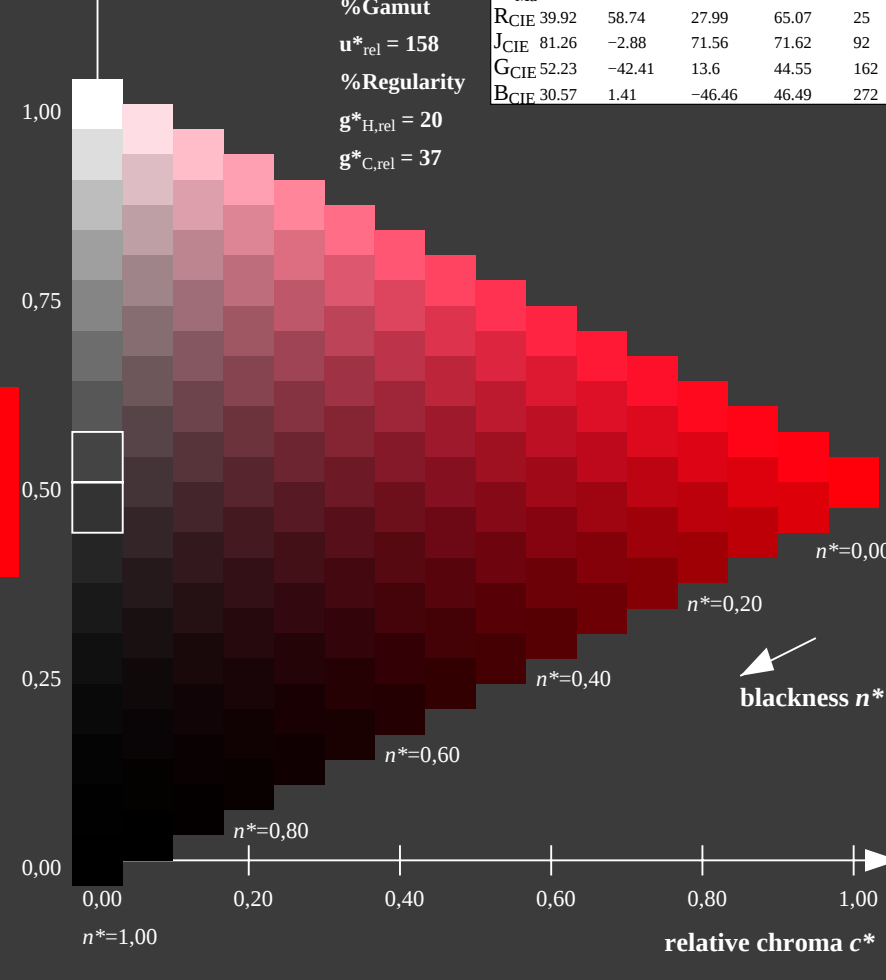
$g^*_{C,rel} = 37$

TLS00a; adapted (a) CIELAB data

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



OE730-7N-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)

OE73: Test chart 2 according to DIN 33872-2, Hue R; 1MR, DH
Discrimination of 5 and 16 step colour scales

input: $cmy0$ ($\rightarrow cmy0^*_{de}$) $setcmyk$
output 130-6: $g_P=1.0$; $g_N=2.1$

TUB registration: 20110801-OE73/OE73L0NA.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 $h^* = lab^*h = 92/360 = 0.256$

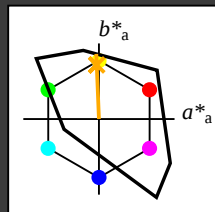
lab^*tch and lab^*nch

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

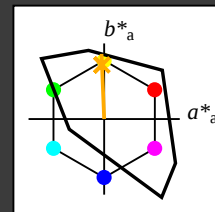
lab^*tch and lab^*nch

D65: hue J

LCH*Ma: 85 86 92

olv*Ma: 1.0 0.82 0.0

triangle lightness t^*



%Gamut

$u^*_{rel} = 158$

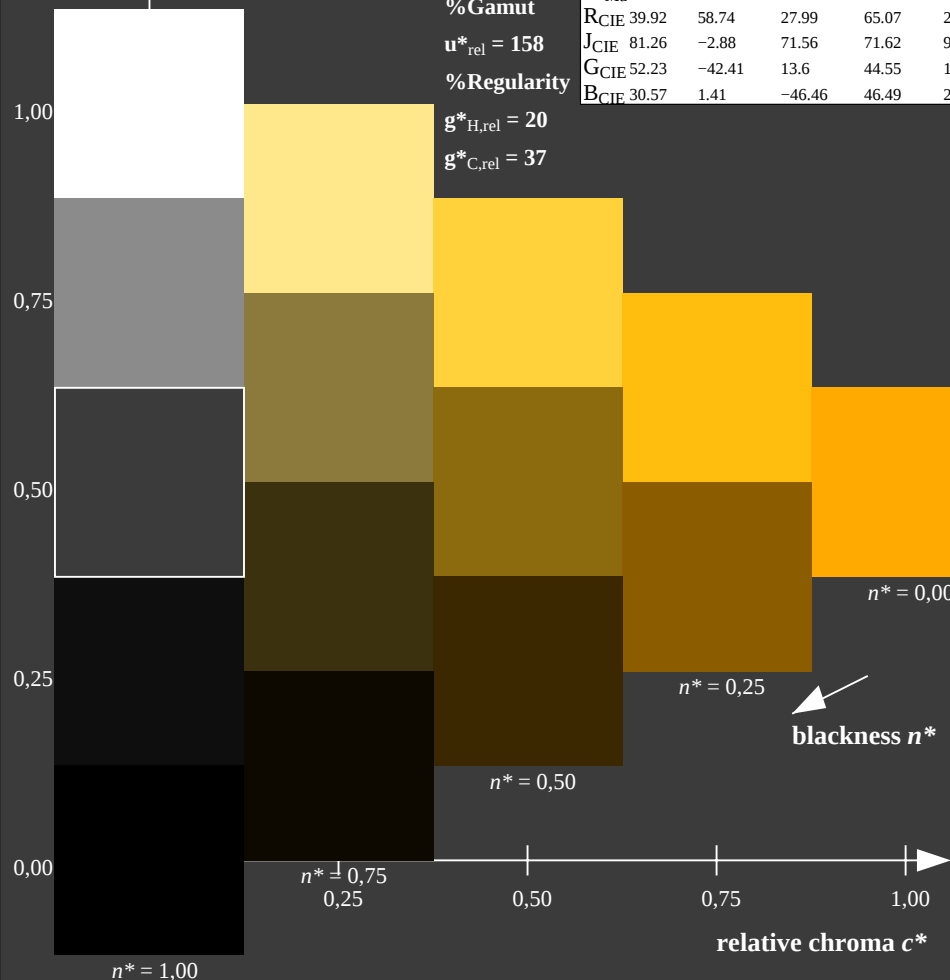
%Regularity

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

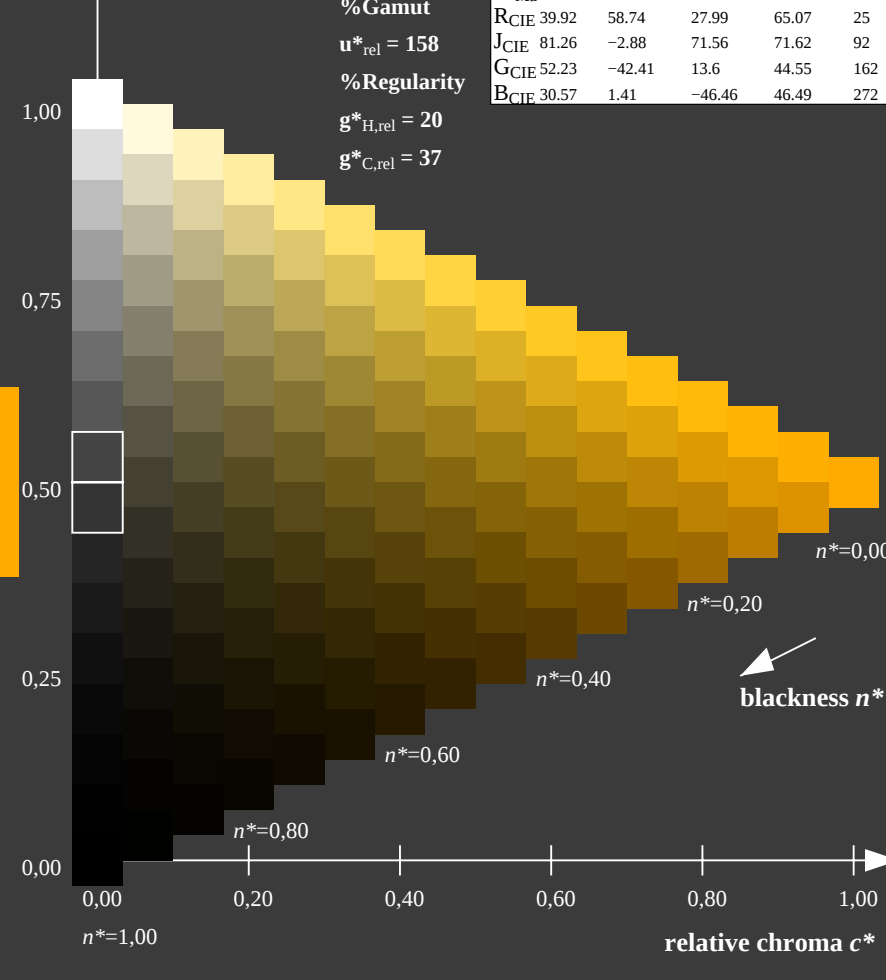
$g^*_{C,rel} = 37$

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



OE730-7N-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)

OE73: Test chart 2 according to DIN 33872-2, Hue J; 1MR, DH
Discrimination of 5 and 16 step colour scales

input: $cmy0$ ($\rightarrow cmy0^*_{de}$) $setcmyk$
output 130-7: $g_P=1.0$; $g_N=2.1$

Input: Colorimetric Television Luminous System TLS00a

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

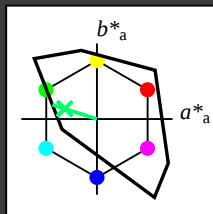
lab^*tch and lab^*nch

D65: hue G

LCH*Ma: 86 62 162

olv*Ma: 0.0 1.0 0.65

triangle lightness t^*



%Gamut

$u^*_{rel} = 158$

%Regularity

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

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

TLS00a; adapted (a) CIELAB data

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

Output: Colorimetric Television Luminous System TLS00a

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

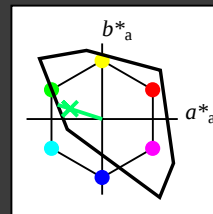
lab^*tch and lab^*nch

D65: hue G

LCH*Ma: 86 62 162

olv*Ma: 0.0 1.0 0.65

triangle lightness t^*



%Gamut

$u^*_{rel} = 158$

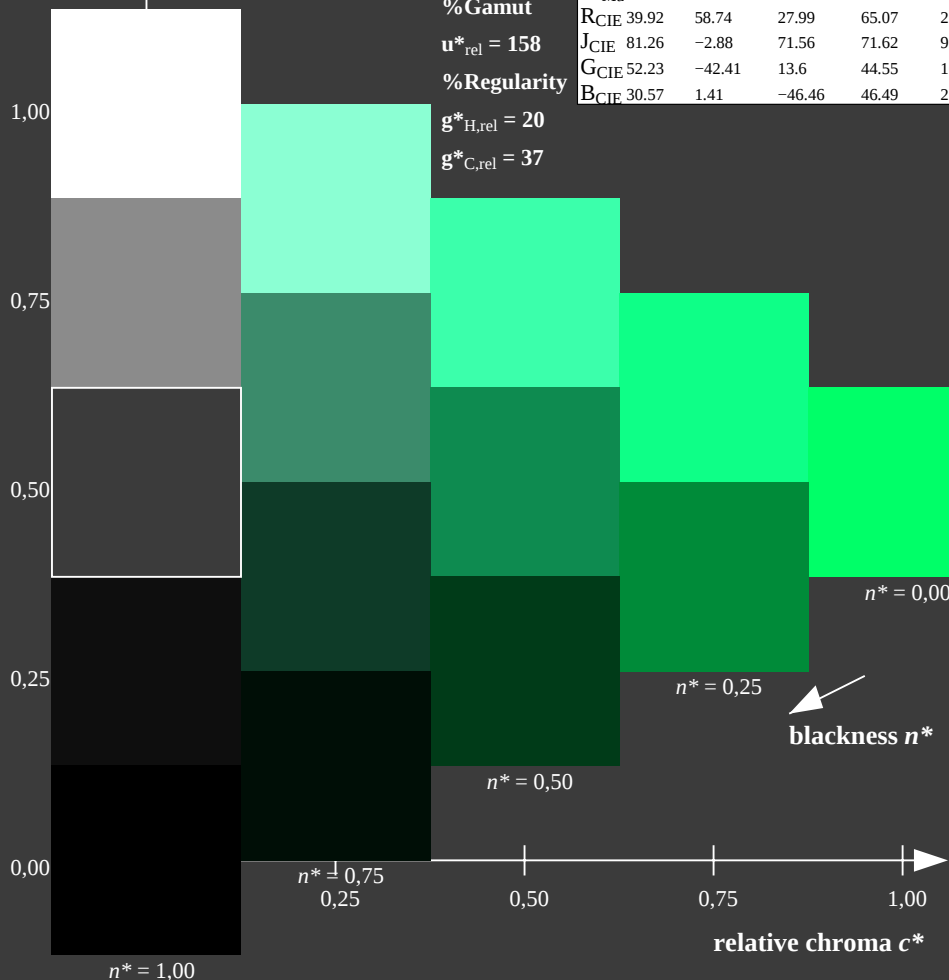
%Regularity

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

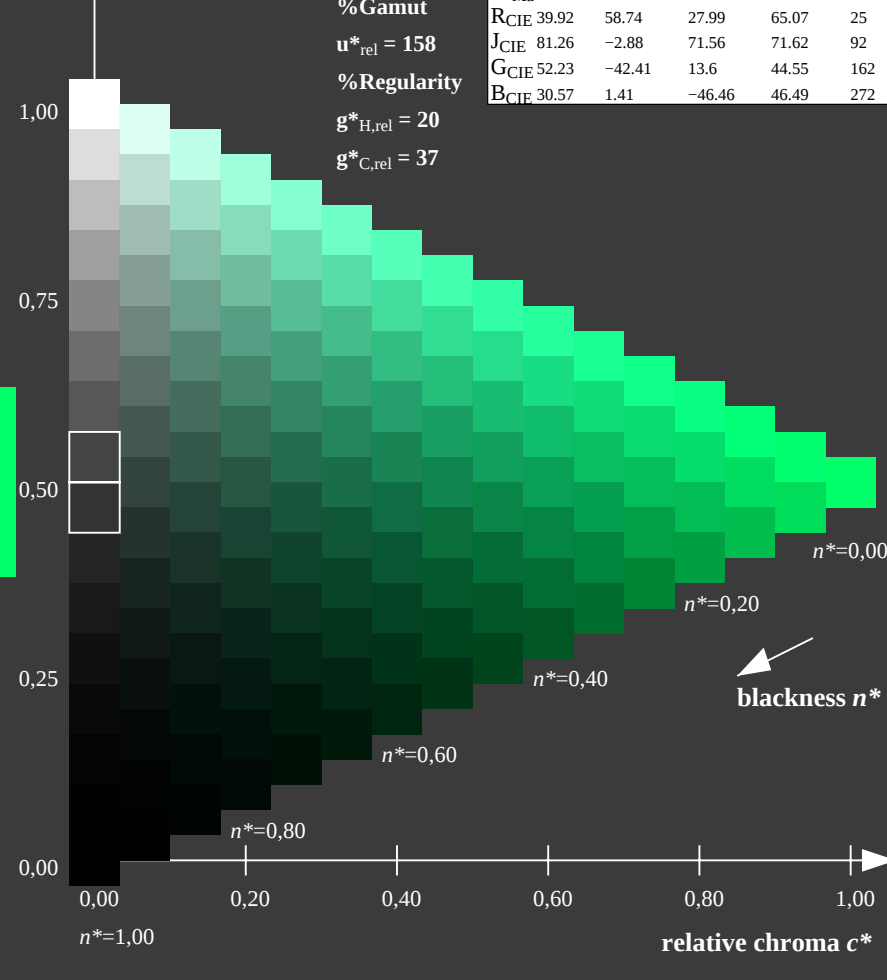
$g^*_{C,rel} = 37$

TLS00a; adapted (a) CIELAB data

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



OE730-7N-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)

OE73: Test chart 2 according to DIN 33872-2, Hue G; 1MR, DH
Discrimination of 5 and 16 step colour scales

input: $cmy0$ ($\rightarrow cmy0^*_{de}$) $setcmyk$
output 130-8: $g_P=1.0$; $g_N=2.1$

TUB registration: 20110801-OE73/OE73L0NA.TXT /.PS
application for output of displays: monitor systems or data projector systems

TUB material: code=rha4ta

Input: Colorimetric Television Luminous System TLS00a

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

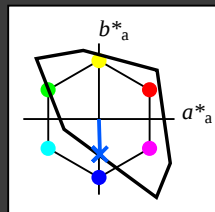
lab^*tch and lab^*nch

D65: hue B

LCH*Ma: 65 49 272

olv*Ma: 0.0 0.61 1.0

triangle lightness t^*



%Gamut

$u^*_{rel} = 158$

%Regularity

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

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

TLS00a; adapted (a) CIELAB data

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

Output: Colorimetric Television Luminous System TLS00a

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

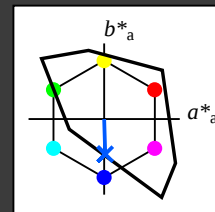
lab^*tch and lab^*nch

D65: hue B

LCH*Ma: 65 49 272

olv*Ma: 0.0 0.61 1.0

triangle lightness t^*



%Gamut

$u^*_{rel} = 158$

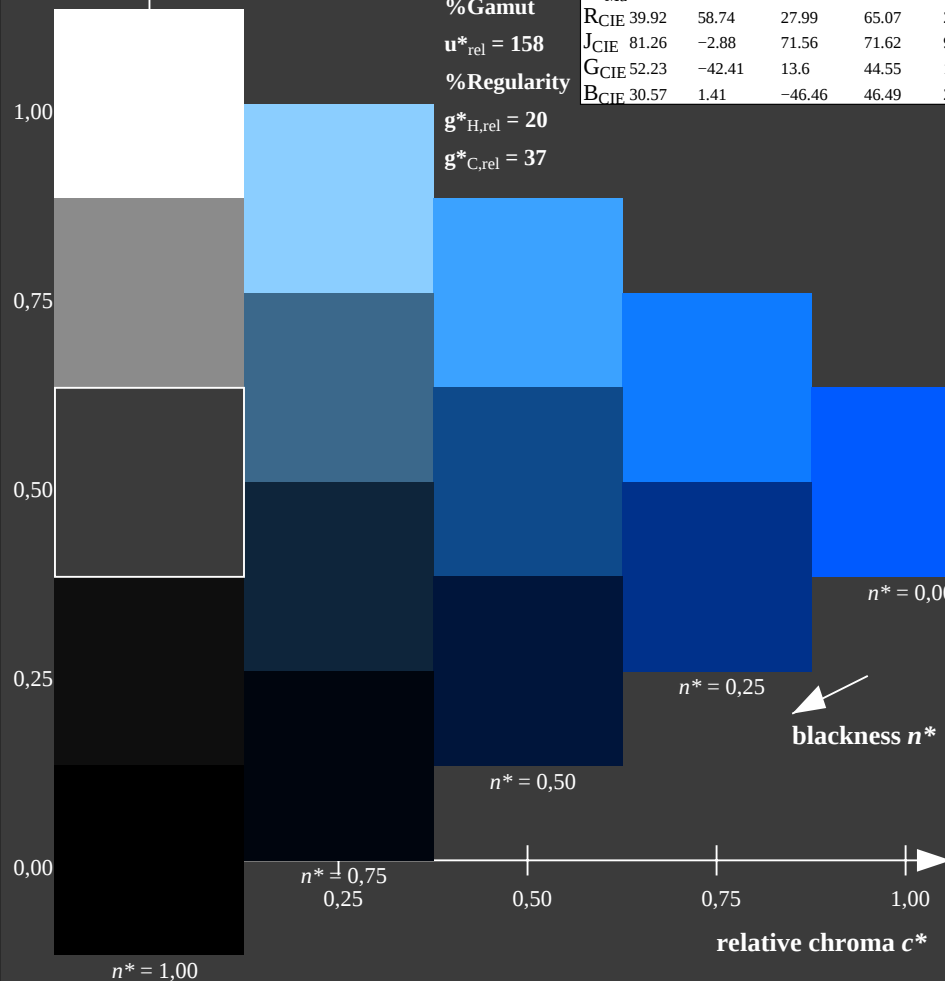
%Regularity

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

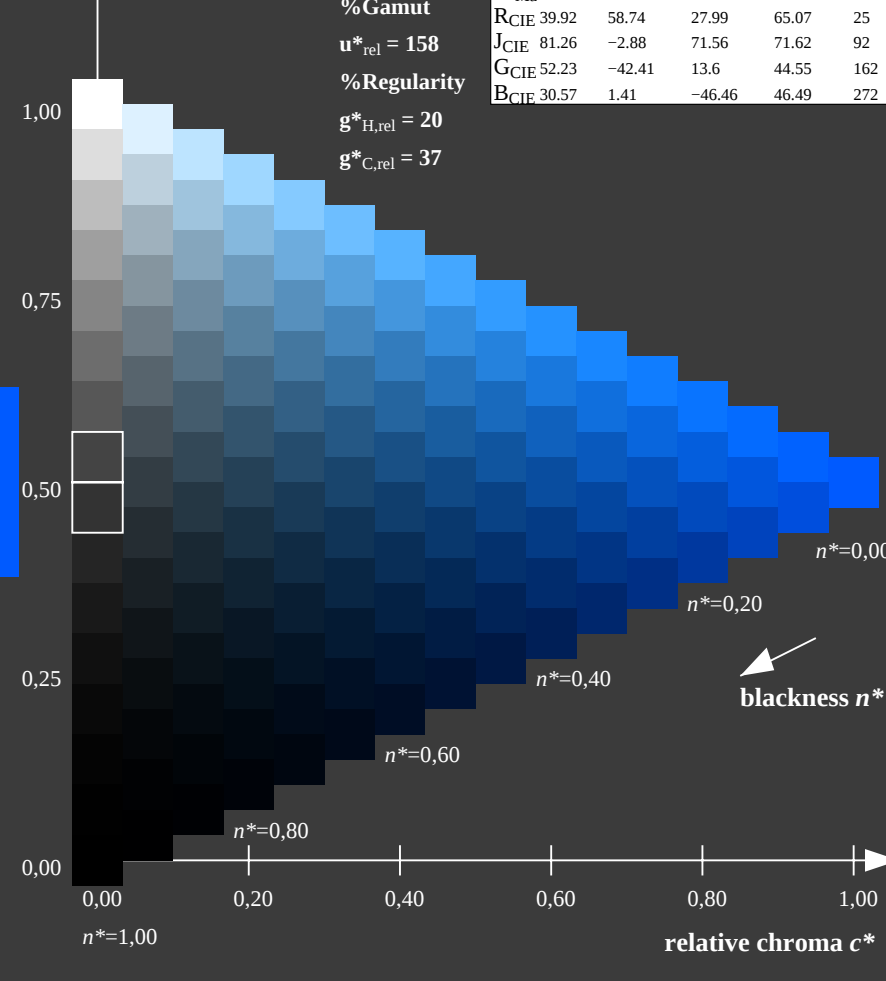
$g^*_{C,rel} = 37$

TLS00a; adapted (a) CIELAB data

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



OE730-7N-137-9: 5 step scales for constant CIELAB hue 272/360 = 0.755 (left)



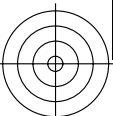
16 step scales for constant CIELAB hue 272/360 = 0.755 (right)

OE73: Test chart 2 according to DIN 33872-2, Hue B; 1MR, DH
Discrimination of 5 and 16 step colour scales

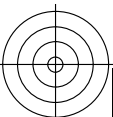
input: $cmy0$ ($\rightarrow cmy0^*_{de}$) $setcmyk$
output 130-9: $g_P=1.0$; $g_N=2.1$

TUB registration: 20110801-OE73/OE73L0NA.TXT /.PS
application for output of displays: monitor systems or data projector systems

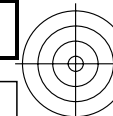
TUB material: code=rh4ta



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

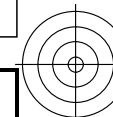


<http://130.149.60.45/~farbmetrik/OE73/OE73L0NA.TXT> /PS; linearized output, Page 11/12
 F: Output Linearization (OL) data OE73/OE73L0NA.TXT /PS in File (F)



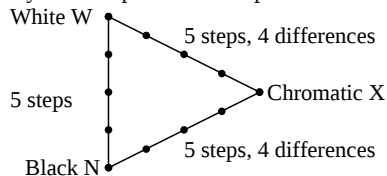
TUB registration: 20110801-OE73/OE73L0NA.TXT /PS
 application for output of displays: monitor systems or data projector systems

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

OE730-3N-137-10

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

PDF-File: <http://130.149.60.45/farbmetrik/OE73/OE73L0NP.PDF> underline Yes/No

PS-File: <http://130.149.60.45/farbmetrik/OE73/OE73L0NA.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 OE73L0NP.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 OE73L0NA.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

OE730-7N-137-10

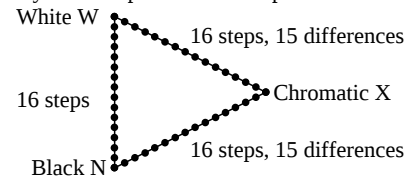


OE73: Form A for test chart 2 according to DIN 33872-2; 1MR, DHinput: *cmy0* (->*cmy0***1*) *setcmyk*
 Discrimination of colour scales (Yes/No decision) output 130-10: *g_P*=1.0; *g_N*=2.1



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

OE731-3N-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/OE73/OE73F1P2.PDF>

underline Yes/No

PS file: <http://130.149.60.45/farbmetrik/OE73/OE73F1P2.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/OE73/OE73F1P2.PDF>

picture A7-137-2

underline Yes/No

PS-File: <http://130.149.60.45/farbmetrik/OE73/OE73F1P2.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

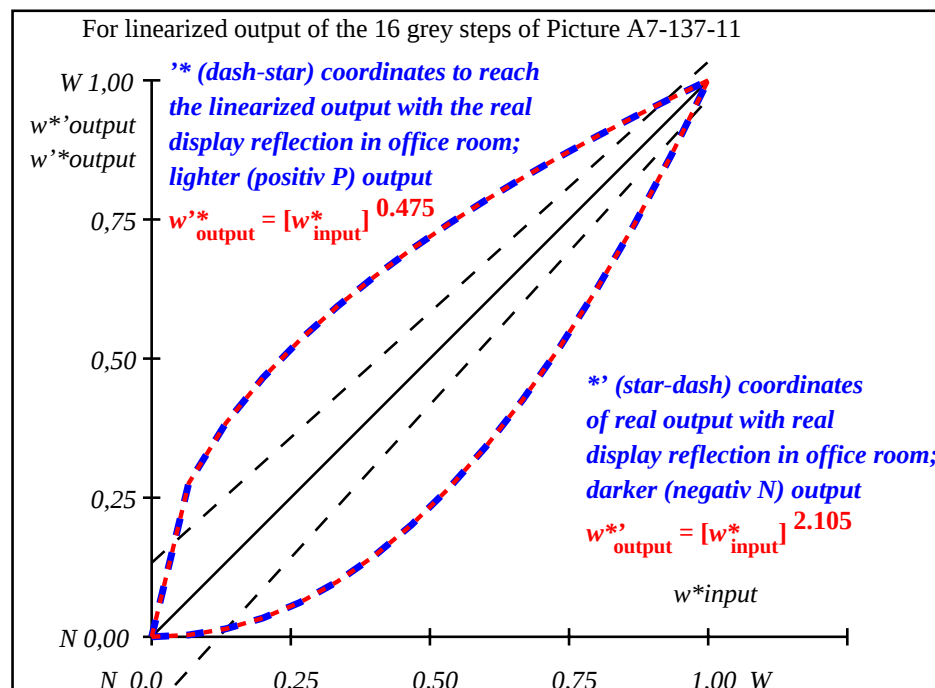
OE731-7N-137-10



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
1	69.7	0.0	0.0	0.0	69.7	0.0	0.0	0.0	0.0	0.0	0.0	0.01	Specification according to ISO/IEC 15775 Annex G and DIN 33866-1 Annex G	
2	71.41	0.0	0.0	0.0	69.78	0.0	0.0	-1.62	0.0	0.0	1.63			
3	73.13	0.0	0.0	0.01	70.07	0.0	0.0	-3.05	0.0	0.0	3.06			
4	74.84	0.0	0.0	0.03	70.57	0.0	0.0	-4.26	0.0	0.0	4.27			
5	76.55	0.0	0.0	0.06	71.29	0.0	0.0	-5.26	0.0	0.0	5.27			
6	78.27	0.0	0.0	0.1	72.24	0.0	0.0	-6.02	0.0	0.0	6.03			
7	79.98	0.0	0.0	0.15	73.43	0.0	0.0	-6.54	0.0	0.0	6.55			
8	81.7	0.0	0.0	0.2	74.86	0.0	0.0	-6.82	0.0	0.0	6.83			
9	83.41	0.0	0.0	0.27	76.54	0.0	0.0	-6.86	0.0	0.0	6.87			
10	85.12	0.0	0.0	0.34	78.47	0.0	0.0	-6.65	0.0	0.0	6.66			
11	86.84	0.0	0.0	0.43	80.65	0.0	0.0	-6.18	0.0	0.0	6.19			
12	88.55	0.0	0.0	0.52	83.08	0.0	0.0	-5.46	0.0	0.0	5.47			
13	90.27	0.0	0.0	0.63	85.77	0.0	0.0	-4.49	0.0	0.0	4.5			
14	91.98	0.0	0.0	0.74	88.72	0.0	0.0	-3.25	0.0	0.0	3.26			
15	93.7	0.0	0.0	0.86	91.93	0.0	0.0	-1.75	0.0	0.0	1.76	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 = 4.3		
17	69.7	0.0	0.0	0.0	69.7	0.0	0.0	0.0	0.0	0.0	0.01			
18	76.13	0.0	0.0	0.05	71.09	0.0	0.0	-5.03	0.0	0.0	5.04			
19	82.55	0.0	0.0	0.23	75.67	0.0	0.0	-6.87	0.0	0.0	6.88			
20	88.98	0.0	0.0	0.55	83.73	0.0	0.0	-5.24	0.0	0.0	5.25	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 = 3.4		
Mean colour reproduction index:												R*ab,m = 81		

OE730-3N-137-11: File: Measure unknown; Device: Device unknown; Date: Date unknown



OE731-3N-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																
$g_N=2.11$ 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	0.003	0.014	0.034	0.062	0.099	0.145	0.201	0.266	0.341	0.426	0.52	0.625	0.74	0.864	1.0

OE730-7N, Picture A7-137-11: 16 visual equidistant L^* -grey steps; PS operator: $w^* w^* w^*$ setrgbcolor

OE73: In-output relation according to ISO 9241-306; 1MR, DH
Viewing Y contrast $Y_W:Y_N=88,9:40$; Y_N range 30 to <60

input: $cmy0$ ($\rightarrow cmy0^*_d$) setcmyk
output 130-11: $g_P=1.0$; $g_N=2.1$