

$n^* = 0,00$

$n^* = 0,25$

$n^* = 0,50$

$n^* = 0,75$

$n^* = 1,00$

chromaticness c^*

blackness n^*

$n^* = 0,00$

$n^* = 0,25$

$n^* = 0,50$

$n^* = 0,75$

$n^* = 1,00$

$n^* = 1,00$

5 step scales for constant CIELAB hue 22/360 = 0.061 (right)

input: $olv^* \text{ setrgbcolor}$
 output: $olv^* \text{ setrgbcolor} / w^* \text{ setgray}$

Input: Colorimetric Television Luminous System TLS00

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

lab^*tch and lab^*nch

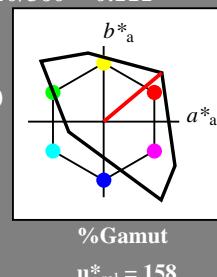
D65: hue O

LCH*Ma: 51 100 40

olv*Ma: 1.0 0.0 0.0

triangle lightness

1,00



TLS00; adapted (a) CIELAB data

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

%Regularity

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

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

Output: Colorimetric Television Luminous System TLS70

for hue $h^* = lab^*h = 22/360 = 0.061$

lab^*tch and lab^*nch

D65: hue O

LCH*Ma: 76 28 22

olv*Ma: 1.0 0.0 0.0

triangle lightness

1,00



TLS70; adapted (a) CIELAB data

	$L^* = L^*_a$	$a^* = a$	$b^* = b$	$C^*_{ab,a}$	$h^*_{ab,a}$
O _{Ma}	76.43	26.27	10.57	28.32	22
Y _{Ma}	93.93	-10.76	34.63	36.27	107
L _{Ma}	89.32	-35.8	27.64	45.24	142
C _{Ma}	90.93	-21.95	-7.07	23.07	198
V _{Ma}	72.1	15.76	-35.63	38.97	294
M _{Ma}	78.5	37.52	-25.23	45.22	326
N _{Ma}	69.7	0.0	0.0	0.0	0
W _{Ma}	95.41	0.0	0.0	0.0	0
R _{CIE}	39.92	58.74	27.99	65.07	25
J _{CIE}	81.26	-2.88	71.56	71.62	92
G _{CIE}	52.23	-42.41	13.6	44.55	162
B _{CIE}	30.57	1.41	-46.46	46.49	272

%Regularity

$g^*_{H,\text{rel}} = 34$

$g^*_{C,\text{rel}} = 51$

$n^* = 0,00$

$n^* = 0,25$

$n^* = 0,50$

$n^* = 0,75$

$n^* = 1,00$

chromaticness c^*

blackness n^*

$n^* = 1,00$

chromaticness c^*

$n^* = 0,00$

$n^* = 0,25$

$n^* = 0,50$

$n^* = 0,75$

$n^* = 1,00$

chromaticness c^*

blackness n^*

$n^* = 1,00$

chromaticness c^*

n* = 0,00

blackness n*

n* = 0,50

blackness n*

n* = 1,00

blackness n*

n* = 0,00

blackness n*

n* = 0,25

blackness n*

n* = 0,50

blackness n*

n* = 1,00

blackness n*

Output: Colorimetric Television Luminous System TLS70

for hue $h^* = lab^*h = 107/360 = 0.298$

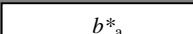
lab*tch and lab*nch

D65: hue Y

LCH*Ma: 94 36 107

olv*Ma: 1.0 1.0 0.0

triangle lightness



%Gamut

$u^*_{rel} = 16$

%Regularity

$g^*_{H,rel} = 34$

$g^*_{C,rel} = 51$

Input: Colorimetric Television Luminous System TLS00

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

lab*tch and lab*nch

D65: hue Y

LCH*Ma: 93 36 103

olv*Ma: 1.0 1.0 0.0

triangle lightness

TLS00; adapted (a) CIELAB data

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

%Regularity

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

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

TLS70; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O _{Ma}	76.43	26.27	10.57	28.32	22
Y _{Ma}	93.93	-10.76	34.63	36.27	107
L _{Ma}	89.32	-35.8	27.64	45.24	142
C _{Ma}	90.93	-21.95	-7.07	23.07	198
V _{Ma}	72.1	15.76	-35.63	38.97	294
M _{Ma}	78.5	37.52	-25.23	45.22	326
N _{Ma}	69.7	0.0	0.0	0.0	0
W _{Ma}	95.41	0.0	0.0	0.0	0
R _{CIE}	39.92	58.74	27.99	65.07	25
J _{CIE}	81.26	-2.88	71.56	71.62	92
G _{CIE}	52.23	-42.41	13.6	44.55	162
B _{CIE}	30.57	1.41	-46.46	46.49	272

%Regularity

$g^*_{H,rel} = 34$

$g^*_{C,rel} = 51$

standard and adapted CIELAB

relative Inform. Technology (IT)

olv3* 1.0 1.0 1.0 (1.0)

cmy3* 0.0 0.0 0.0 (0.0)

olv4* 1.0 1.0 1.0 (0.0)

cmy4* 0.0 0.0 0.0 (0.0)

standard and adapted CIELAB

LAB*LAB 95.04 -2.68 8.65

LAB*TCh 99.99 0.00

relative CIELAB lab*

lab*lab 0.0 0.0 0.0

lab*tch 1.0 1.0 1.0

lab*nch 0.0 0.0 0.0

relative Natural Colour (NC)

lab*irj 1.0 1.0 1.0

lab*ice 1.0 1.0 1.0

lab*nce 1.0 1.0 1.0

relative CIELAB lab*

olv3* 0.75 0.75 0.75 (1.0)

cmy3* 0.25 0.25 0.25 (0.0)

olv4* 1.0 1.0 1.0 (0.75)

cmy4* 0.0 0.0 0.0 (0.25)

standard and adapted CIELAB

LAB*LAB 88.98 0.00

LAB*TCh 75.00 0.00

relative CIELAB lab*

lab*lab 0.75 0.75 0.75

lab*tch 0.75 0.75 0.75

lab*nch 0.75 0.75 0.75

relative Natural Colour (NC)

lab*irj 0.75 0.75 0.75

lab*ice 0.75 0.75 0.75

lab*nce 0.75 0.75 0.75

relative CIELAB lab*

olv3* 0.5 0.5 0.5 (1.0)

cmy3* 0.5 0.5 0.5 (0.0)

olv4* 1.0 1.0 1.0 (0.75)

cmy4* 0.0 0.0 0.0 (0.25)

standard and adapted CIELAB

LAB*LAB 88.61 -2.68 8.65

LAB*TCh 82.18 -2.68 8.65

relative CIELAB lab*

olv3* 0.75 0.75 0.75 (1.0)

cmy3* 0.25 0.25 0.25 (0.0)

olv4* 1.0 1.0 1.0 (0.75)

cmy4* 0.0 0.0 0.0 (0.25)

relative CIELAB lab*

olv3* 0.75 0.75 0.75 (1.0)

cmy3* 0.25 0.25 0.25 (0.0)

olv4* 1.0 1.0 1.0 (0.75)

cmy4* 0.0 0.0 0.0 (0.25)

relative CIELAB lab*

olv3* 0.75 0.75 0.75 (1.0)

cmy3* 0.25 0.25 0.25 (0.0)

olv4* 1.0 1.0 1.0 (0.75)

cmy4* 0.0 0.0 0.0 (0.25)

relative CIELAB lab*

olv3* 0.75 0.75 0.75 (1.0)

cmy3* 0.25 0.25 0.25 (0.0)

olv4* 1.0 1.0 1.0 (0.75)

cmy4* 0.0 0.0 0.0 (0.25)

relative CIELAB lab*

olv3* 0.75 0.75 0.75 (1.0)

cmy3* 0.25 0.25 0.25 (0.0)

olv4* 1.0 1.0 1.0 (0.75)

cmy4* 0.0 0.0 0.0 (0.25)

relative CIELAB lab*

olv3* 0.75 0.75 0.75 (1.0)

cmy3* 0.25 0.25 0.25 (0.0)

olv4* 1.0 1.0 1.0 (0.75)

cmy4* 0.0 0.0 0.0 (0.25)

relative CIELAB lab*

olv3* 0.75 0.75 0.75 (1.0)

cmy3* 0.25 0.25 0.25 (0.0)

olv4* 1.0 1.0 1.0 (0.75)

cmy4* 0.0 0.0 0.0 (0.25)

relative CIELAB lab*

olv3* 0.75 0.75 0.75 (1.0)

cmy3* 0.25 0.25 0.25 (0.0)

olv4* 1.0 1.0 1.0 (0.75)

cmy4* 0.0 0.0 0.0 (0.25)

relative CIELAB lab*

olv3* 0.75 0.75 0.75 (1.0)

cmy3* 0.25 0.25 0.25 (0.0)

olv4* 1.0 1.0 1.0 (0.75)

cmy4* 0.0 0.0 0.0 (0.25)

relative CIELAB lab*

olv3* 0.75 0.75 0.75 (1.0)

cmy3* 0.25 0.25 0.25 (0.0)

olv4* 1.0 1.0 1.0 (0.75)

cmy4* 0.0 0.0 0.0 (0.25)

relative CIELAB lab*

olv3* 0.75 0.75 0.75 (1.0)

cmy3* 0.25 0.25 0.25 (0.0)

olv4* 1.0 1.0 1.0 (0.75)

cmy4* 0.0 0.0 0.0 (0.25)

relative CIELAB lab*

olv3* 0.75 0.75 0.75 (1.0)

cmy3* 0.25 0.25 0.25 (0.0)

olv4* 1.0 1.0 1.0 (0.75)

cmy4* 0.0 0.0 0.0 (0.25)

relative CIELAB lab*

olv3* 0.75 0.75 0.75 (1.0)

cmy3* 0.25 0.25 0.25 (0.0)

olv4* 1.0 1.0 1.0 (0.75)

cmy4* 0.0 0.0 0.0 (0.25)

relative CIELAB lab*

olv3* 0.75 0.75 0.75 (1.0)

cmy3* 0.25 0.25 0.25 (0.0)

olv4* 1.0 1.0 1.0 (0.75)

cmy4* 0.0 0.0 0.0 (0.25)

relative CIELAB lab*

olv3* 0.75 0.75 0.75 (1.0)

cmy3* 0.25 0.25 0.25 (0.0)

olv4* 1.0 1.0 1.0 (0.75)

cmy4* 0.0 0.0 0.0 (0.25)

relative CIELAB lab*

olv3* 0.75 0.75 0.75 (1.0)

cmy3* 0.25 0.25 0.25 (0.0)

olv4* 1.0 1.0 1.0 (0.75)

cmy4* 0.0 0.0 0.0 (0.25)

relative CIELAB lab*

olv3* 0.75 0.75 0.75 (1.0)

cmy3* 0.25 0.25 0.25 (0.0)

olv4* 1.0 1.0 1.0 (0.75)

cmy4* 0.0 0.0 0.0 (0.25)

relative CIELAB lab*

olv3* 0.75 0.75 0.75 (1.0)

cmy3* 0.25 0.25 0.25 (0.0)

olv4* 1.0 1.0 1.0 (0.75)

cmy4* 0.0 0.0 0.0 (0.25)

relative CIELAB lab*

olv3* 0.75 0.75 0.75 (1.0)

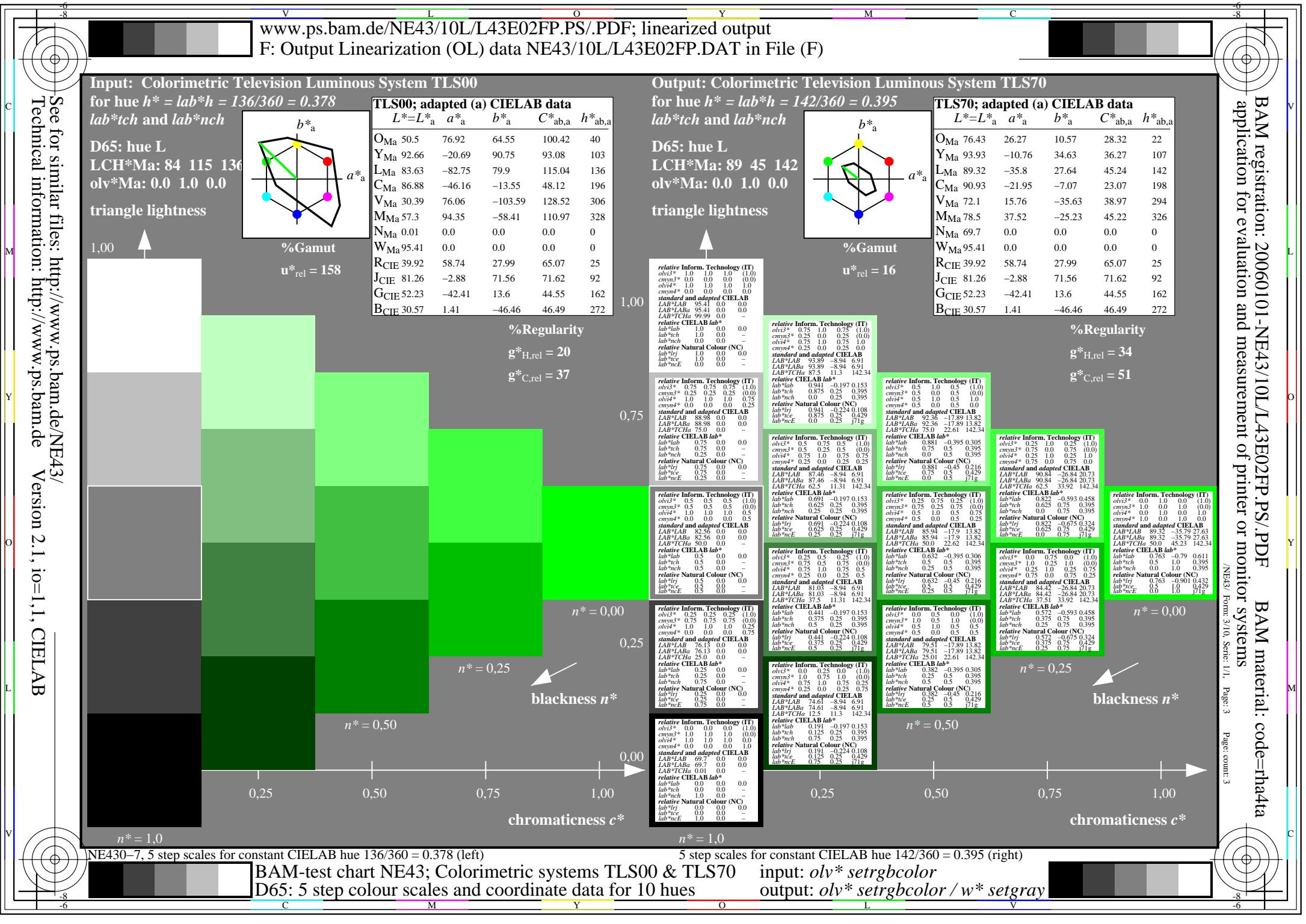
cmy3* 0.25 0.25 0.25 (0.0)

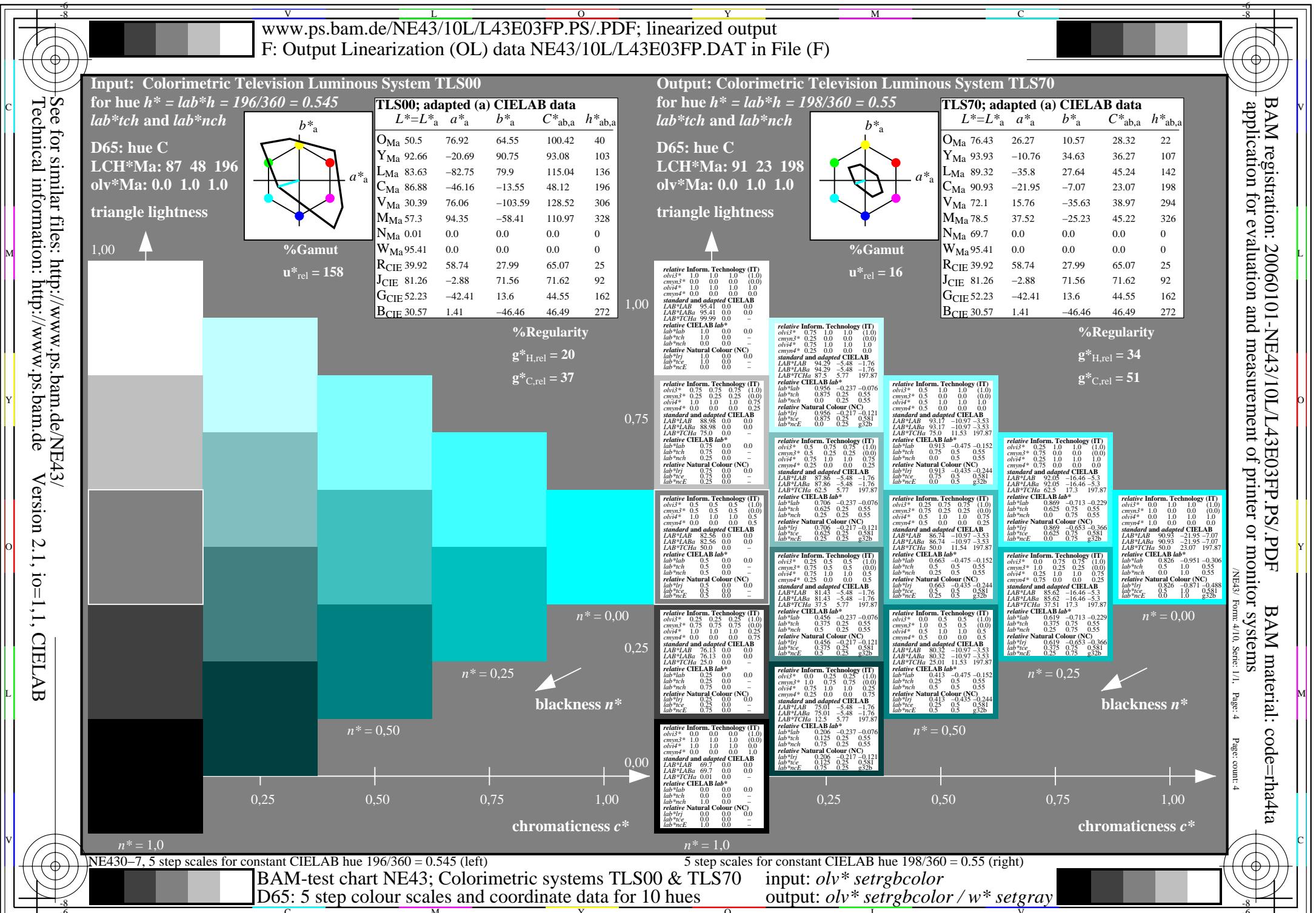
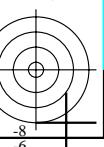
olv4* 1.0 1.0 1.0 (0.75)

cmy4* 0.0 0.0 0.0 (0.25)

relative CIELAB lab*

olv3* 0.75 0.75 0.75 (1.0)





$n^* = 0,00$

$n^* = 0,25$

$n^* = 0,50$

$n^* = 0,75$

$n^* = 1,00$

$c^* = 0,00$

$c^* = 0,25$

$c^* = 0,50$

$c^* = 0,75$

$c^* = 1,00$

Input: Colorimetric Television Luminous System TLS00

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

lab^*tch and lab^*nch

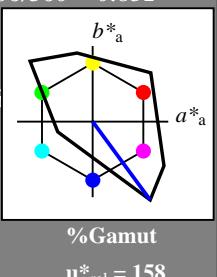
D65: hue V

LCH*Ma: 30 129 306

olv*Ma: 0.0 0.0 1.0

triangle lightness

1,00



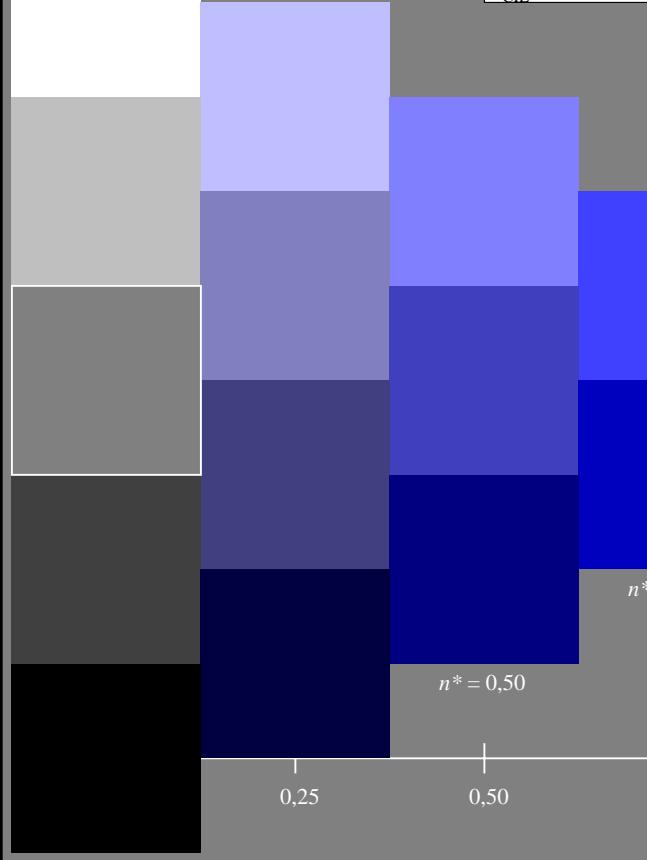
TLS00; adapted (a) CIELAB data

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

%Regularity

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

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



Output: Colorimetric Television Luminous System TLS70

for hue $h^* = lab^*h = 294/360 = 0.816$

lab^*tch and lab^*nch

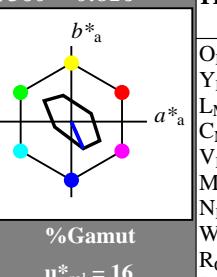
D65: hue V

LCH*Ma: 72 39 294

olv*Ma: 0.0 0.0 1.0

triangle lightness

1,00



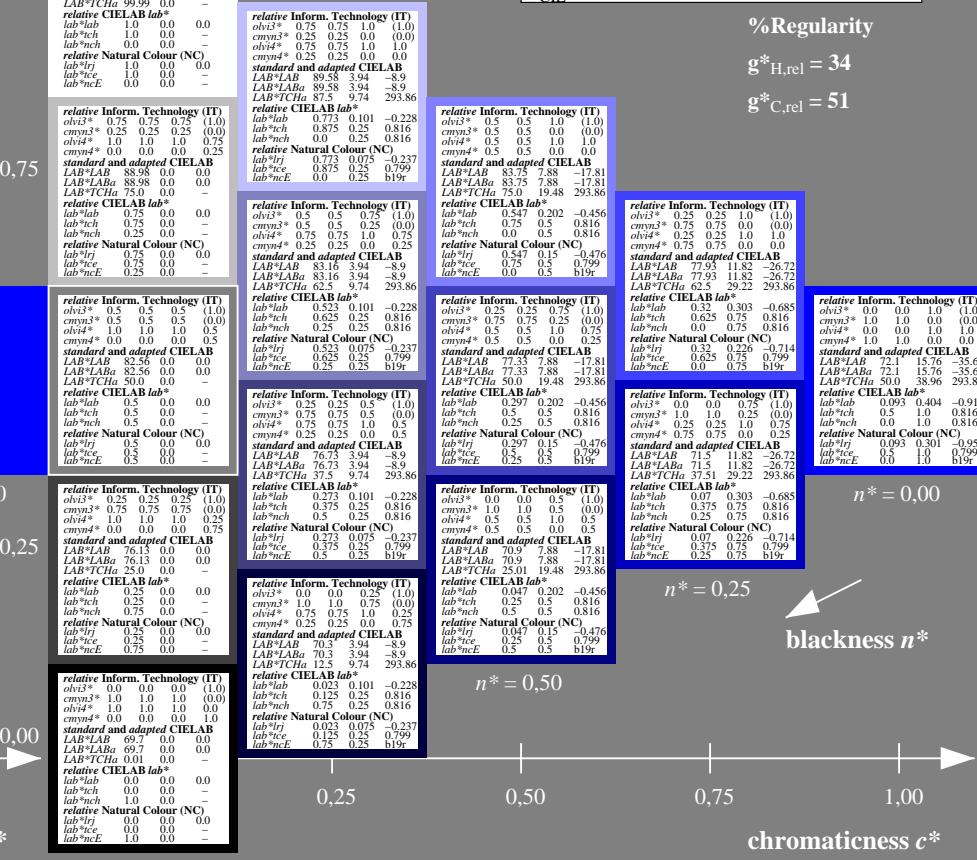
TLS70; adapted (a) CIELAB data

	$L^* = L^*_a$	a^*_{a}	b^*_{a}	$C^*_{ab,a}$	$h^*_{ab,a}$
O _{Ma}	76.43	26.27	10.57	28.32	22
Y _{Ma}	93.93	-10.76	34.63	36.27	107
L _{Ma}	89.32	-35.8	27.64	45.24	142
C _{Ma}	90.93	-21.95	-7.07	23.07	198
V _{Ma}	72.1	15.76	-35.63	38.97	294
M _{Ma}	78.5	37.52	-25.23	45.22	326
N _{Ma}	69.7	0.0	0.0	0.0	0
W _{Ma}	95.41	0.0	0.0	0.0	0
R _{CIE}	39.92	58.74	27.99	65.07	25
J _{CIE}	81.26	-2.88	71.56	71.62	92
G _{CIE}	52.23	-42.41	13.6	44.55	162
B _{CIE}	30.57	1.41	-46.46	46.49	272

%Regularity

$g^*_{H,rel} = 34$

$g^*_{C,rel} = 51$



NE430-7, 5 step scales for constant CIELAB hue 306/360 = 0.851 (left)

5 step scales for constant CIELAB hue 294/360 = 0.816 (right)

BAM-test chart NE43; Colorimetric systems TLS00 & TLS70
 D65: 5 step colour scales and coordinate data for 10 hues

input: $olv^* setrgbcolor$
 output: $olv^* setrgbcolor / w^* setgray$

c

m

y

o

l

v

u

w

x

z

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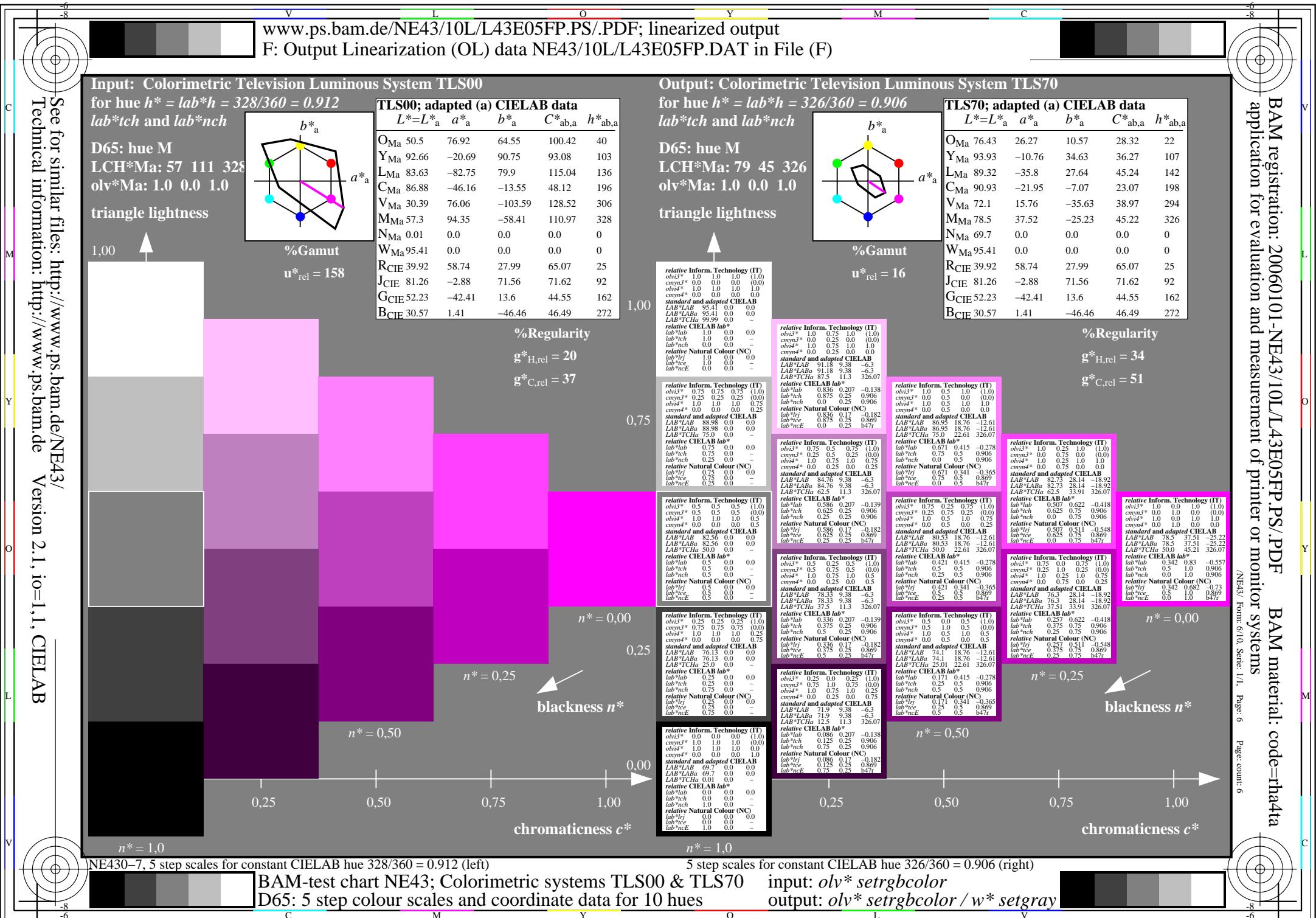
o

o

o

o

o





$n^* = 0,00$

$n^* = 0,25$

$n^* = 0,50$

$n^* = 0,00$

$n^* = 0,25$

$n^* = 0,50$

$g^*_{H,rel} = 34$

$g^*_{C,rel} = 51$

$%Regularity$

$u^*_{rel} = 16$

$TLS70; adapted (a) CIELAB data$

$L^* = L^*_{a,a}$ $a^*_{a,a}$ $b^*_{a,a}$ $C^*_{ab,a}$ $h^*_{ab,a}$

	O_{Ma}	76.43	26.27	10.57	28.32	22
Y_{Ma}	93.93	-10.76	34.63	36.27	107	
L_{Ma}	89.32	-35.8	27.64	45.24	142	
C_{Ma}	90.93	-21.95	-7.07	23.07	198	
V_{Ma}	72.1	15.76	-35.63	38.97	294	
M_{Ma}	78.5	37.52	-25.23	45.22	326	
N_{Ma}	69.7	0.0	0.0	0.0	0	
W_{Ma}	95.41	0.0	0.0	0.0	0	
R_{CIE}	39.92	58.74	27.99	65.07	25	
J_{CIE}	81.26	-2.88	71.56	71.62	92	
G_{CIE}	52.23	-42.41	13.6	44.55	162	
B_{CIE}	30.57	1.41	-46.46	46.49	272	

$TLS70; adapted (a) CIELAB data$

$L^* = L^*_{a,a}$ $a^*_{a,a}$ $b^*_{a,a}$ $C^*_{ab,a}$ $h^*_{ab,a}$

	O_{Ma}	76.43	26.27	10.57	28.32	22
Y_{Ma}	93.93	-10.76	34.63	36.27	107	
L_{Ma}	89.32	-35.8	27.64	45.24	142	
C_{Ma}	90.93	-21.95	-7.07	23.07	198	
V_{Ma}	72.1	15.76	-35.63	38.97	294	
M_{Ma}	78.5	37.52	-25.23	45.22	326	
N_{Ma}	69.7	0.0	0.0	0.0	0	
W_{Ma}	95.41	0.0	0.0	0.0	0	
R_{CIE}	39.92	58.74	27.99	65.07	25	
J_{CIE}	81.26	-2.88	71.56	71.62	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 TLS70

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

1,00 ↑

%Gamut

$u^*_{rel} = 16$

%Regularity

$g^*_{H,rel} = 34$

$g^*_{C,rel} = 51$

$n^* = 0,00$

$0,25$

$0,50$

$0,75$

$1,00$

chromaticness c^*

$n^* = 1,0$

$blackness n^*$

$n^* = 0,00$

$0,25$

$0,50$

$0,75$

$1,00$

chromaticness c^*

$n^* = 1,0$

$blackness n^*$

$n^* = 0,00$

$0,25$

$0,50$

$0,75$

$1,00$

chromaticness c^*

$n^* = 1,0$

$blackness n^*$

$n^* = 0,00$

$0,25$

$0,50$

$0,75$

$1,00$

chromaticness c^*

$n^* = 1,0$

$blackness n^*$

$n^* = 0,00$

$0,25$

$0,50$

$0,75$

$1,00$

chromaticness c^*

$n^* = 1,0$

$blackness n^*$

$n^* = 0,00$

$0,25$

$0,50$

$0,75$

$1,00$

chromaticness c^*

$n^* = 1,0$

$blackness n^*$

$n^* = 0,00$

$0,25$

$0,50$

$0,75$

$1,00$

chromaticness c^*

$n^* = 1,0$

$blackness n^*$

$n^* = 0,00$

$0,25$

$0,50$

$0,75$

$1,00$

chromaticness c^*

$n^* = 1,0$

$blackness n^*$

$n^* = 0,00$

$0,25$

$0,50$

$0,75$

$1,00$

chromaticness c^*

$n^* = 1,0$

$blackness n^*$

$n^* = 0,00$

$0,25$

$0,50$

$0,75$

$1,00$

chromaticness c^*

$n^* = 1,0$

$blackness n^*$

$n^* = 0,00$

$0,25$

$0,50$

$0,75$

$1,00$

chromaticness c^*

$n^* = 1,0$

$blackness n^*$

$n^* = 0,00$

$0,25$

$0,50$

$0,75$

$1,00$

chromaticness c^*

$n^* = 1,0$

$blackness n^*$

$n^* = 0,00$

$0,25$

$0,50$

$0,75$

$1,00$

chromaticness c^*

$n^* = 1,0$

$blackness n^*$

$n^* = 0,00$

$0,25$

$0,50$

$0,75$

$1,00$

chromaticness c^*

$n^* = 1,0$

$blackness n^*$

$n^* = 0,00$

$0,25$

$0,50$

$0,75$

$1,00$

chromaticness c^*

$n^* = 1,0$

$blackness n^*$

$n^* = 0,00$

$0,25$

$0,50$

$0,75$

$1,00$

chromaticness c^*

$n^* = 1,0$

$blackness n^*$

$n^* = 0,00$

$0,25$

$0,50$

$0,75$

$1,00$

chromaticness c^*

$n^* = 1,0$

$blackness n^*$

$n^* = 0,00$

$0,25$

$0,50$

$0,75$

$1,00$

chromaticness c^*

$n^* = 1,0$

$blackness n^*$

$n^* = 0,00$

$0,25$

$0,50$

$0,75$

$1,00$

chromaticness c^*

$n^* = 1,0$

$blackness n^*$

$n^* = 0,00$

$0,25$

$0,50$

$0,75$

$1,00$

chromaticness c^*

$n^* = 1,0$

$blackness n^*$

$n^* = 0,00$

$0,25$

$0,50$

$0,75$

$1,00$

chromaticness c^*

$n^* = 1,0$

$blackness n^*$

$n^* = 0,00$

$0,25$

$0,50$

$0,75$

$1,00$

$n^* = 0,00$

$n^* = 0,25$

$n^* = 0,50$

$g^*_{H,rel} = 34$

$g^*_{C,rel} = 51$

$n^* = 1,0$

$chromaticness c^*$

c

V

L

O

M

C

Y

I

V

U

W

X

Z

E

F

G

H

J

K

L

M

N

P

R

S

T

U

V

W

X

Y

Z

E

F

G

H

J

K

L

M

N

P

R

S

T

U

V

W

X

Y

Z

E

F

G

H

J

K

L

M

N

P

R

S

T

U

V

W

X

Y

Z

E

F

G

H

J

K

L

M

N

P

R

S

T

U

V

W

X

Y

Z

E

F

G

H

J

K

L

M

N

P

R

S

T

U

V

W

X

Y

Z

E

F

G

H

J

K

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N

P

R

S

T

U

V

W

X

Y

Z

E

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G

H

J

K

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M

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P

R

S

T

U

V

W

X

Y

Z

E

F

G

H

J

K

L

M

N

P

R

S

T

U

V

W

X

Y

Z

E

F

G

H

J

K

L

M

N

P

R

S

T

U

V

W

X

Y

Z

E

F

G

H

J

K

L

M

N

P

R

S

T

$blackness n^*$

$n^* = 0,00$

$n^* = 0,25$

$n^* = 0,50$

$n^* = 0,75$

$n^* = 1,00$

$chromaticness c^*$

c

V

L

O

M

C

Y

I

M

P

E

R

S

T

U

W

X

Z

E

F

G

H

J

K

L

M

N

P

R

S

T

U

V

W

X

Y

Z

E

F

G

H

J

K

L

M

N

P

R

S

T

U

V

W

X

Y

Z

E

F

G

H

J

K

L

M

N

$n^* = 0,00$

$n^* = 0,25$

$n^* = 0,50$

$g^*_{H,rel} = 34$

$g^*_{C,rel} = 51$

$g^*_{H,rel} = 16$

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

Output: Colorimetric Television Luminous System TLS70

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

lab^*tch and lab^*nch

D65: hue G

LCH*Ma: 90 30 162

olv*Ma: 0.0 1.0 0.53

triangle lightness

b^*_a

a^*_a

$%\text{Gamut}$

$u^*_{rel} = 16$

$relative \text{ Inform. Technology (IT)}$

$olv3^*$ 1.0 1.0 1.0 (1.0)

$cmy3^*$ 0.5 0.5 0.5 (0.0)

$olv4^*$ 1.0 1.0 1.0

$cmy4^*$ 0.0 0.0 0.0

$standard \text{ and } adapted \text{ CIELAB}$

LAB^{*LAB} 87.5 7.46 162.24

LAB^{*TCh} 87.5 7.46 162.24

$relative \text{ CIELAB } lab^*$

lab^{*lab} 0.949 -0.237 0.076

lab^{*tch} 0.875 0.25 0.451

lab^{*nch} 0.0 0.25 0.451

$relative \text{ Natural Colour (NC)}$

lab^{*lrc} 0.949 -0.249 0.0

lab^{*ncE} 0.875 0.25 0.5

lab^{*ncC} 0.0 0.25 g00b

$relative \text{ Inform. Technology (IT)}$

$olv3^*$ 0.5 0.5 0.5 (1.0)

$cmy3^*$ 0.5 0.5 0.5 (0.0)

$olv4^*$ 0.5 0.5 0.5

$cmy4^*$ 0.0 0.0 0.5

$standard \text{ and } adapted \text{ CIELAB}$

LAB^{*LAB} 86.37 -14.2 4.55

LAB^{*TCh} 86.37 -14.2 4.55

$relative \text{ CIELAB } lab^*$

lab^{*lab} 0.847 -0.475 0.153

lab^{*tch} 0.25 0.5 0.451

lab^{*nch} 0.0 0.25 0.451

$relative \text{ Natural Colour (NC)}$

lab^{*lrc} 0.847 -0.749 0.0

lab^{*ncE} 0.0 0.25 g00b

$relative \text{ Inform. Technology (IT)}$

$olv3^*$ 0.0 0.25 0.133 (1.0)

$cmy3^*$ 1.0 0.75 0.867 (0.0)

$olv4^*$ 0.75 1.0 0.867

$cmy4^*$ 0.5 0.0 0.177

$standard \text{ and } adapted \text{ CIELAB}$

LAB^{*LAB} 79.94 -14.2 4.55

LAB^{*TCh} 79.94 -14.2 4.55

$relative \text{ CIELAB } lab^*$

lab^{*lab} 0.398 -0.475 0.153

lab^{*tch} 0.25 0.5 0.451

lab^{*nch} 0.25 0.5 0.451

$relative \text{ Natural Colour (NC)}$

lab^{*lrc} 0.398 -0.499 0.0

lab^{*ncE} 0.25 0.5 0.99g

$relative \text{ Inform. Technology (IT)}$

$olv3^*$ 0.0 0.25 0.133 (1.0)

$cmy3^*$ 1.0 0.75 0.867 (0.0)

$olv4^*$ 0.75 1.0 0.867

$cmy4^*$ 0.5 0.0 0.177

$standard \text{ and } adapted \text{ CIELAB}$

LAB^{*LAB} 74.82 -7.09 2.28

LAB^{*TCh} 74.82 -7.09 2.28

$relative \text{ CIELAB } lab^*$

lab^{*lab} 0.199 -0.237 0.076

lab^{*tch} 0.25 0.25 0.451

lab^{*nch} 0.75 0.25 0.451

$relative \text{ Natural Colour (NC)}$

lab^{*lrc} 0.199 -0.249 0.0

lab^{*ncE} 0.75 0.25 0.99g

$relative \text{ Inform. Technology (IT)}$

$olv3^*$ 0.0 0.25 0.133 (1.0)

$cmy3^*$ 1.0 0.75 0.867 (0.0)

$olv4^*$ 0.75 1.0 0.867

$cmy4^*$ 0.5 0.0 0.177

$standard \text{ and } adapted \text{ CIELAB}$

LAB^{*LAB} 74.82 -7.09 2.28

LAB^{*TCh} 74.82 -7.09 2.28

$relative \text{ CIELAB } lab^*$

lab^{*lab} 0.199 -0.237 0.076

lab^{*tch} 0.25 0.25 0.451

lab^{*nch} 0.75 0.25 0.451

$relative \text{ Natural Colour (NC)}$

lab^{*lrc} 0.199 -0.249 0.0

lab^{*ncE} 0.75 0.25 0.99g

$relative \text{ Inform. Technology (IT)}$

$olv3^*$ 0.0 0.25 0.133 (1.0)

$cmy3^*$ 1.0 0.75 0.867 (0.0)

$olv4^*$ 0.75 1.0 0.867

$cmy4^*$ 0.5 0.0 0.177

$standard \text{ and } adapted \text{ CIELAB}$

LAB^{*LAB} 74.82 -7.09 2.28

LAB^{*TCh} 74.82 -7.09 2.28

$relative \text{ CIELAB } lab^*$

lab^{*lab} 0.199 -0.237 0.076

lab^{*tch} 0.25 0.25 0.451

lab^{*nch} 0.75 0.25 0.451

$relative \text{ Natural Colour (NC)}$

lab^{*lrc} 0.199 -0.249 0.0

lab^{*ncE} 0.75 0.25 0.99g

$relative \text{ Inform. Technology (IT)}$

$olv3^*$ 0.0 0.25 0.133 (1.0)

$cmy3^*$ 1.0 0.75 0.867 (0.0)

$olv4^*$ 0.75 1.0 0.867

$cmy4^*$ 0.5 0.0 0.177

$standard \text{ and } adapted \text{ CIELAB}$

LAB^{*LAB} 74.82 -7.09 2.28

LAB^{*TCh} 74.82 -7.09 2.28

$relative \text{ CIELAB } lab^*$

lab^{*lab} 0.199 -0.237 0.076

lab^{*tch} 0.25 0.25 0.451

lab^{*nch} 0.75 0.25 0.451

$relative \text{ Natural Colour (NC)}$

lab^{*lrc} 0.199 -0.249 0.0

lab^{*ncE} 0.75 0.25 0.99g

$relative \text{ Inform. Technology (IT)}$

$olv3^*$ 0.0 0.25 0.133 (1.0)

$cmy3^*$ 1.0 0.75 0.867 (0.0)

$olv4^*$ 0.75 1.0 0.867

$cmy4^*$ 0.5 0.0 0.177

$standard \text{ and } adapted \text{ CIELAB}$

LAB^{*LAB} 74.82 -7.09 2.28

LAB^{*TCh} 74.82 -7.09 2.28

$relative \text{ CIELAB } lab^*$

lab^{*lab} 0.199 -0.237 0.076

lab^{*tch} 0.25 0.25 0.451

lab^{*nch} 0.75 0.25 0.451

$relative \text{ Natural Colour (NC)}$

lab^{*lrc} 0.199 -0.249 0.0

lab^{*ncE} 0.75 0.25 0.99g

$relative \text{ Inform. Technology (IT)}$

$olv3^*$ 0.0 0.25 0.133 (1.0)

$cmy3^*$ 1.0 0.75 0.867 (0.0)

$olv4^*$ 0.75 1.0 0.867

$cmy4^*$ 0.5 0.0 0.177

$standard \text{ and } adapted \text{ CIELAB}$

LAB^{*LAB} 74.82 -7.09 2.28

LAB^{*TCh} 74.82 -7.09 2.28

$relative \text{ CIELAB } lab^*$

lab^{*lab} 0.199 -0.237 0.076

lab^{*tch} 0.25 0.25 0.451

lab^{*nch} 0.75 0.25 0.451

$relative \text{ Natural Colour (NC)}$

lab^{*lrc} 0.199 -0.249 0.0

lab^{*ncE} 0.75 0.25 0.99g

$relative \text{ Inform. Technology (IT)}$

$olv3^*$ 0.0 0.25 0.133 (1.0)

$cmy3^*$ 1.0 0.75 0.867 (0.0)

$olv4^*$ 0.75 1.0 0.867

$cmy4^*$ 0.5 0.0 0.177

$standard \text{ and } adapted \text{ CIELAB}$

LAB^{*LAB} 74.82 -7.09 2.28

LAB^{*TCh} 74.82 -7.09 2.28

$relative \text{ CIELAB } lab^*$

lab^{*lab} 0.199 -0.237 0.076

lab^{*tch} 0.25 0.25 0.451

lab^{*nch} 0.75 0.25 0.451

$relative \text{ Natural Colour (NC)}$

lab^{*lrc} 0.199 -0.249 0.0

lab^{*ncE} 0.75 0.25 0.99g

$relative \text{ Inform. Technology (IT)}$

$olv3^*$ 0.0 0.25 0.133 (1.0)

$cmy3^*$ 1.0 0.75 0.867 (0.0)

$olv4^*$ 0.75 1.0 0.867

$cmy4^*$ 0.5 0.0 0.177

$standard \text{ and } adapted \text{ CIELAB}$

LAB^{*LAB} 74.82 -7.09 2.28

LAB^{*TCh} 74.82 -7.09 2.28

$relative \text{ CIELAB } lab^*$

lab^{*lab} 0.199 -0.237 0.076

lab^{*tch} 0.25 0.25 0.451

lab^{*nch} 0.75 0.25 0.451

$relative \text{ Natural Colour (NC)}$

lab^{*lrc} 0.199 -0.249 0.0

lab^{*ncE} 0.75 0.25 0.99g

$relative \text{ Inform. Technology (IT)}$

$olv3^*$ 0.0 0.25 0.133 (1.0)

$cmy3^*$ 1.0 0.75 0.867 (0.0)

$olv4^*$ 0.75 1.0 0.867

$cmy4^*$ 0.5 0.0 0.177

$standard \text{ and } adapted \text{ CIELAB}$

LAB^{*LAB} 74.82 -7.09 2.28

LAB^{*TCh} 74.82 -7.09 2.28

$relative \text{ CIELAB } lab^*$

lab^{*lab} 0.199 -0.237 0.076

lab^{*tch} 0.25 0.25 0.451

lab^{*nch} 0.75 0.25 0.451

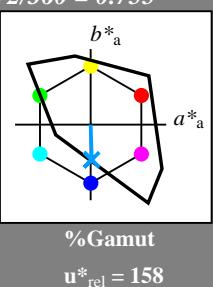
$relative \text{ Natural Colour (NC)}$

lab^{*lrc} 0.199 -0.249 0.0

Input: Colorimetric Television Luminous System TLS00

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



TLS00; adapted (a) CIELAB data

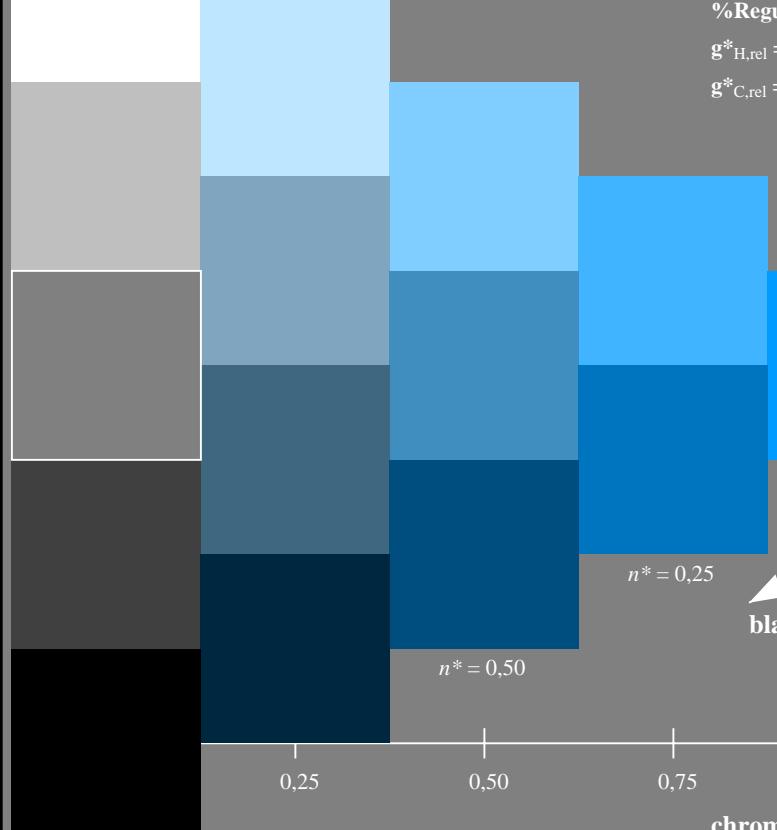
	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O _{Ma}	50.5	76.92	64.55	100.42	40
Y _{Ma}	92.66	-20.69	90.75	93.08	103
L _{Ma}	83.63	-82.75	79.9	115.04	136
C _{Ma}	86.88	-46.16	-13.55	48.12	196
V _{Ma}	30.39	76.06	-103.59	128.52	306
M _{Ma}	57.3	94.35	-58.41	110.97	328
N _{Ma}	0.01	0.0	0.0	0.0	0
W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



%Regularity

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

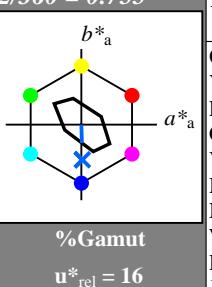
$$g^*_{C,rel} = 37$$



Output: Colorimetric Television Luminous System TLS70

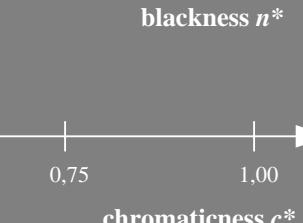
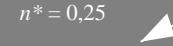
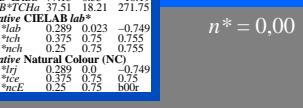
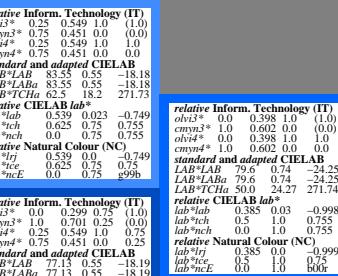
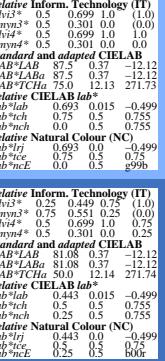
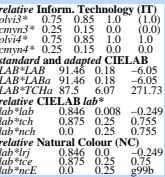
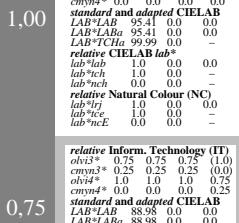
for hue $h^* = lab^*h = 272/360 = 0.755$
 lab^*tch and lab^*nch

D65: hue B
 LCH*Ma: 80 24 272
 $olv^*Ma: 0.0 \ 0.4 \ 1.0$
 triangle lightness



TLS70; adapted (a) CIELAB data

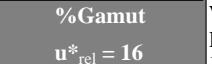
	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O _{Ma}	76.43	26.27	10.57	28.32	22
Y _{Ma}	93.93	-10.76	34.63	36.27	107
L _{Ma}	89.32	-35.8	27.64	45.24	142
C _{Ma}	90.93	-21.95	-7.07	23.07	198
V _{Ma}	72.1	15.76	-35.63	38.97	294
M _{Ma}	78.5	37.52	-25.23	45.22	326
N _{Ma}	69.7	0.0	0.0	0.0	0
W _{Ma}	95.41	0.0	0.0	0.0	0
R _{CIE}	39.92	58.74	27.99	65.07	25
J _{CIE}	81.26	-2.88	71.56	71.62	92
G _{CIE}	52.23	-42.41	13.6	44.55	162
B _{CIE}	30.57	1.41	-46.46	46.49	272



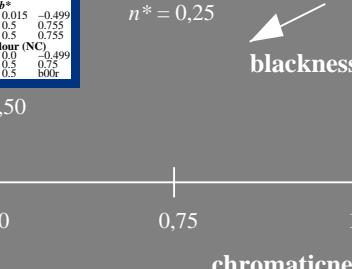
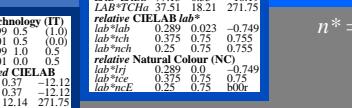
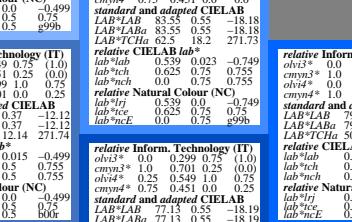
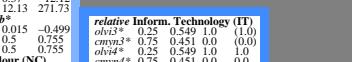
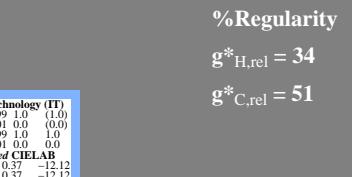
Output: Colorimetric Television Luminous System TLS70

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

D65: hue B
 LCH*Ma: 80 24 272
 $olv^*Ma: 0.0 \ 0.4 \ 1.0$
 triangle lightness



	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O _{Ma}	76.43	26.27	10.57	28.32	22
Y _{Ma}	93.93	-10.76	34.63	36.27	107
L _{Ma}	89.32	-35.8	27.64	45.24	142
C _{Ma}	90.93	-21.95	-7.07	23.07	198
V _{Ma}	72.1	15.76	-35.63	38.97	294
M _{Ma}	78.5	37.52	-25.23	45.22	326
N _{Ma}	69.7	0.0	0.0	0.0	0
W _{Ma}	95.41	0.0	0.0	0.0	0
R _{CIE}	39.92	58.74	27.99	65.07	25
J _{CIE}	81.26	-2.88	71.56	71.62	92
G _{CIE}	52.23	-42.41	13.6	44.55	162
B _{CIE}	30.57	1.41	-46.46	46.49	272



NE430-7, 5 step scales for constant CIELAB hue 272/360 = 0.755 (left)

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

BAM-test chart NE43; Colorimetric systems TLS00 & TLS70
 D65: 5 step colour scales and coordinate data for 10 hues

input: $olv^* setrgbcolor$
 output: $olv^* setrgbcolor / w^* setgray$