



Input: Colorimetric Offset Reflective System ORS18

for hue  $h^* = lab^*h = 38/360 = 0.105$

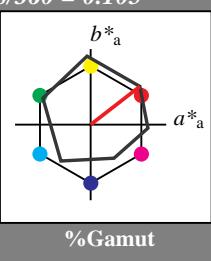
$lab^*tch$  and  $lab^*nch$

D50: hue O

LCH\*Ma: 48 82 38

olv\*Ma: 1.0 0.0 0.0

triangle lightness



ORS18; adapted (a) CIELAB data

	$L^*=L^*_a$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
O <sub>Ma</sub>	47.94	65.05	50.54	82.38	38
Y <sub>Ma</sub>	91.0	-4.72	90.58	90.7	93
L <sub>Ma</sub>	50.9	-63.18	34.98	72.22	151
C <sub>Ma</sub>	56.99	-39.34	-48.1	62.16	231
V <sub>Ma</sub>	25.72	30.89	-44.4	54.09	305
M <sub>Ma</sub>	49.99	75.76	-4.64	75.9	356
N <sub>Ma</sub>	18.09	0.0	0.0	0.0	0
W <sub>Ma</sub>	95.46	0.0	0.0	0.0	0
R <sub>CIE</sub>	41.88	61.66	30.69	68.88	26
J <sub>CIE</sub>	81.97	2.02	67.79	67.82	88
G <sub>CIE</sub>	51.62	-41.32	9.74	42.46	167
B <sub>CIE</sub>	29.2	-5.79	-49.61	49.96	263

See for similar files: <http://www.ps.bam.de/QE40/>

Technical information:

<http://www.ps.bam.de>

Version 2.1, io=0

Output: Colorimetric Television Luminous System TLS00

for hue  $h^* = lab^*h = 38/360 = 0.107$

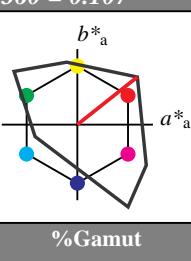
$lab^*tch$  and  $lab^*nch$

D50: hue O

LCH\*Ma: 54 101 38

olv\*Ma: 1.0 0.0 0.0

triangle lightness



TLS00; adapted (a) CIELAB data

	$L^*=L^*_a$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
O <sub>Ma</sub>	54.19	79.36	63.0	101.33	38
Y <sub>Ma</sub>	93.44	-14.18	82.59	83.8	100
L <sub>Ma</sub>	82.82	-83.73	70.41	109.41	140
C <sub>Ma</sub>	85.22	-55.9	-15.78	58.1	196
V <sub>Ma</sub>	25.61	67.05	-108.87	127.87	302
M <sub>Ma</sub>	58.76	91.18	-53.69	105.82	330
N <sub>Ma</sub>	0.01	0.0	0.0	0.0	0
W <sub>Ma</sub>	95.41	0.0	0.0	0.0	0
R <sub>CIE</sub>	41.88	62.0	31.82	69.69	27
J <sub>CIE</sub>	81.97	1.81	71.59	71.61	89
G <sub>CIE</sub>	51.62	-41.11	11.52	42.7	164
B <sub>CIE</sub>	29.2	-5.27	-49.33	49.62	264

%Regularity

$g^*_{H,rel} = 26$

$g^*_{C,rel} = 45$

%Regularity

$g^*_{H,rel} = 65$

$g^*_{C,rel} = 60$

%Regularity

$g^*_{H,rel} = 65$

$g^*_{C,rel} = 60$

%Regularity

$g^*_{H,rel} = 75$

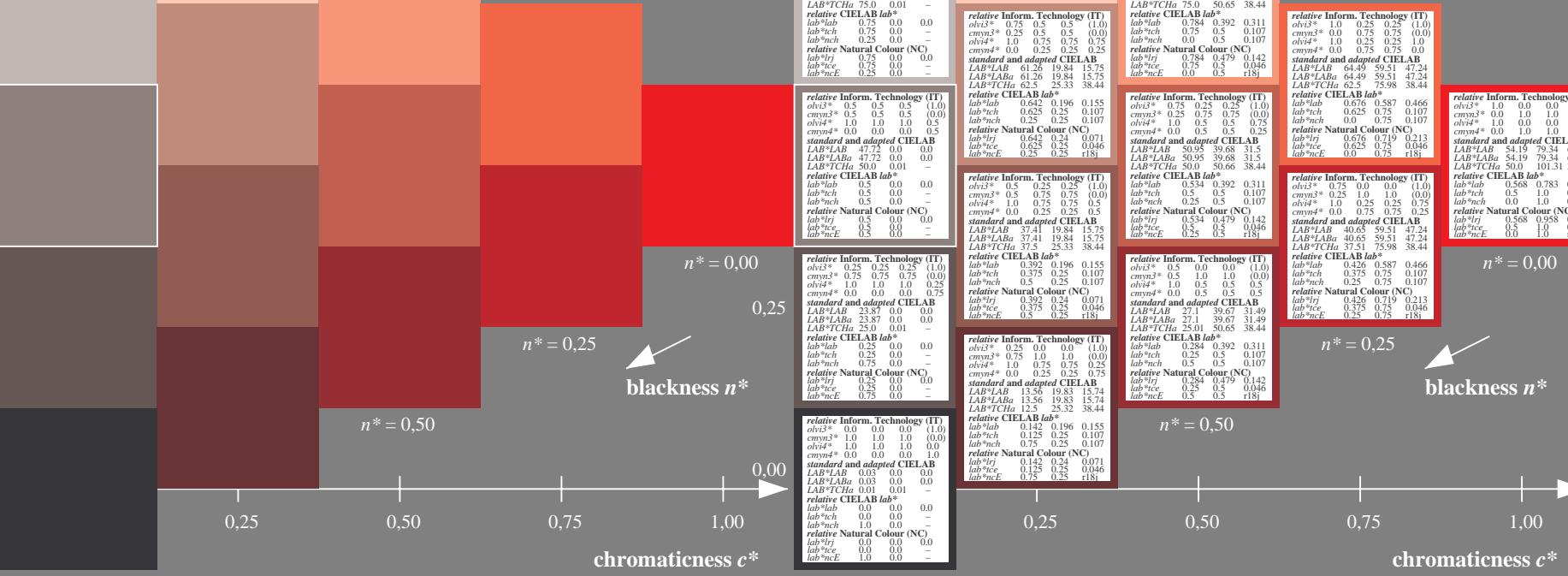
$g^*_{C,rel} = 75$

BAM registration: 20060101-QE40/10L/L40E00NP.PS./PDF  
application for evaluation and measurement of printer or monitor systems

/QE40 Form: 1/1, Serie: 1/1, Page: 1  
Page: count: 1

relative Inform. Technology (IT)  
relative Natural Colour (NC)

relative Inform. Technology (IT)  
relative Natural Colour (NC)

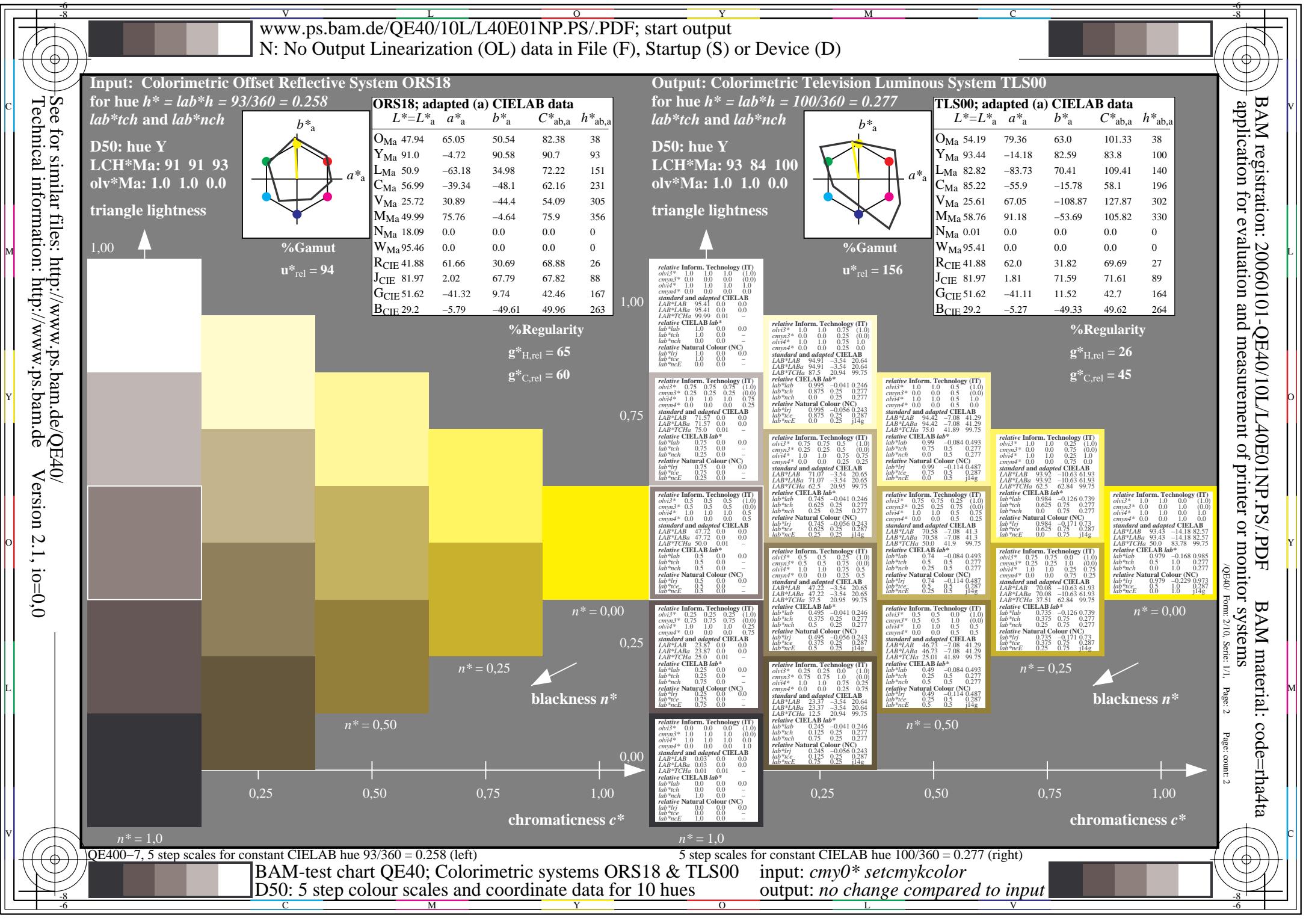


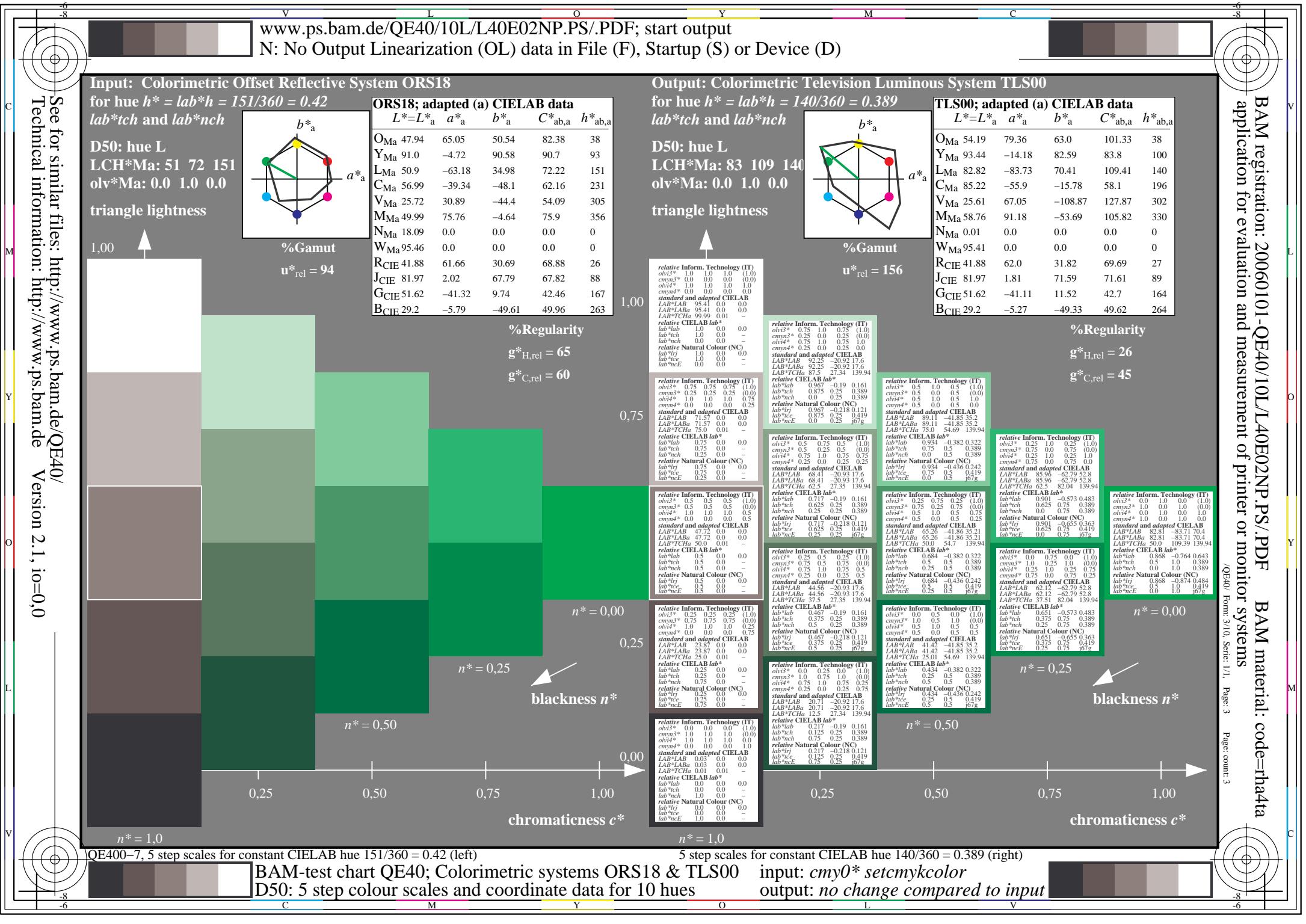
QE40-7, 5 step scales for constant CIELAB hue 38/360 = 0.105 (left)

5 step scales for constant CIELAB hue 38/360 = 0.107 (right)

BAM-test chart QE40; Colorimetric systems ORS18 & TLS00  
D50: 5 step colour scales and coordinate data for 10 hues

input:  $cmy0*$  setcmykcolor  
output: no change compared to input







Input: Colorimetric Offset Reflective System ORS18

for hue  $h^* = lab^*h = 231/360 = 0.641$

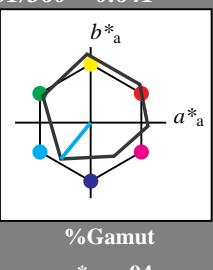
$lab^*tch$  and  $lab^*nch$

D50: hue C

LCH\*Ma: 57 62 231

olv\*Ma: 0.0 1.0 1.0

triangle lightness



ORS18; adapted (a) CIELAB data

	$L^*=L^*_a$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
O <sub>Ma</sub>	47.94	65.05	50.54	82.38	38
Y <sub>Ma</sub>	91.0	-4.72	90.58	90.7	93
L <sub>Ma</sub>	50.9	-63.18	34.98	72.22	151
C <sub>Ma</sub>	56.99	-39.34	-48.1	62.16	231
V <sub>Ma</sub>	25.72	30.89	-44.4	54.09	305
M <sub>Ma</sub>	49.99	75.76	-4.64	75.9	356
N <sub>Ma</sub>	18.09	0.0	0.0	0.0	0
W <sub>Ma</sub>	95.46	0.0	0.0	0.0	0
R <sub>CIE</sub>	41.88	61.66	30.69	68.88	26
J <sub>CIE</sub>	81.97	2.02	67.79	67.82	88
G <sub>CIE</sub>	51.62	-41.32	9.74	42.46	167
B <sub>CIE</sub>	29.2	-5.79	-49.61	49.96	263

%Gamut

$u^*_{rel} = 94$

1,00



%Regularity

$g^*_{H,rel} = 65$

$g^*_{C,rel} = 60$

1,00

0.75

0,00

0,25

0,50

0,75

1,00

blackness  $n^*$

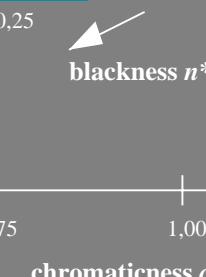
0,00

0,25

0,50

0,75

1,00



Output: Colorimetric Television Luminous System TLS00

for hue  $h^* = lab^*h = 196/360 = 0.544$

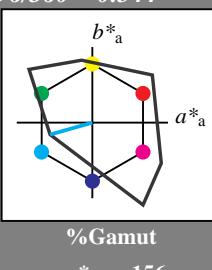
$lab^*tch$  and  $lab^*nch$

D50: hue C

LCH\*Ma: 85 58 196

olv\*Ma: 0.0 1.0 1.0

triangle lightness



%Gamut

$u^*_{rel} = 156$

1,00



%Regularity

$g^*_{H,rel} = 26$

$g^*_{C,rel} = 45$

0,00

0,25

0,50

0,75

1,00

blackness  $n^*$

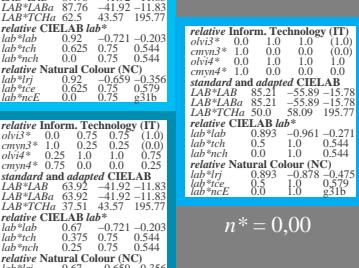
0,00

0,25

0,50

0,75

1,00



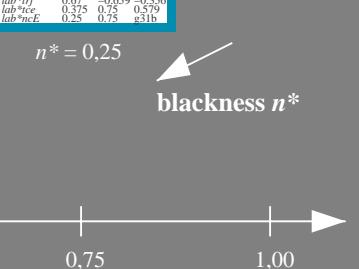
$n^* = 0,00$

$n^* = 0,25$

$n^* = 0,50$

$n^* = 0,75$

$n^* = 1,00$



$n^* = 0,00$

$n^* = 0,25$

$n^* = 0,50$

$n^* = 0,75$

$n^* = 1,00$

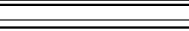
chromaticness  $c^*$

QE40-7, 5 step scales for constant CIELAB hue 231/360 = 0.641 (left)

BAM-test chart QE40; Colorimetric systems ORS18 & TLS00

D50: 5 step colour scales and coordinate data for 10 hues

$n^* = 1,00$



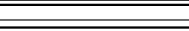
C M Y

5 step scales for constant CIELAB hue 196/360 = 0.544 (right)

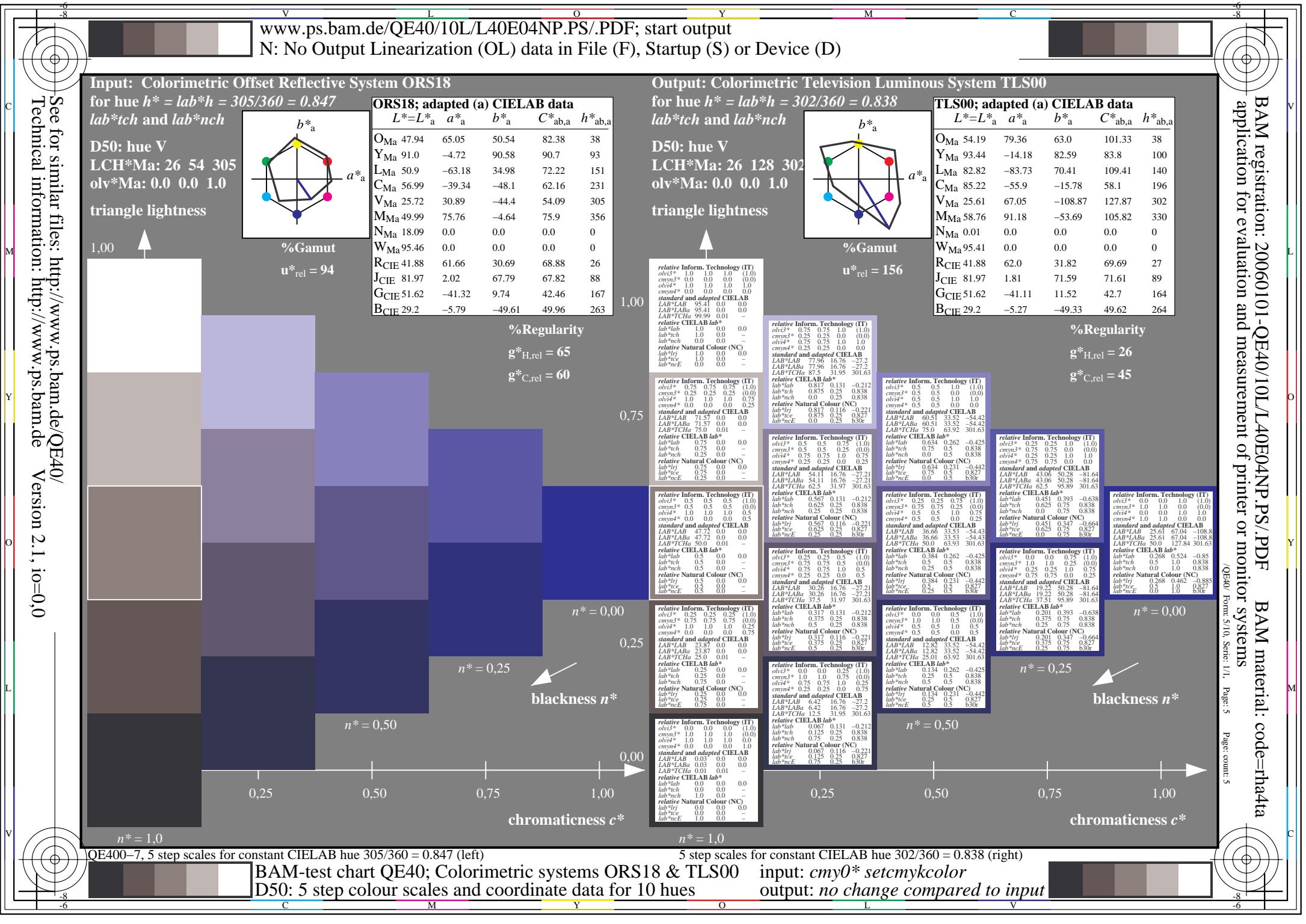
input:  $cmy0^*$  setcmykcolor

output: no change compared to input

L C V



C M Y



**Input: Colorimetric Offset Reflective System ORS18**

for hue  $h^* = lab^*h = 356/360 = 0.99$

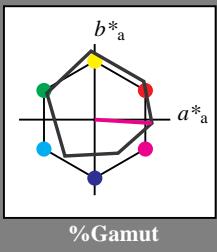
$lab^*tch$  and  $lab^*nch$

D50: hue M

LCH\*Ma: 50 76 356

olv\*Ma: 1.0 0.0 1.0

triangle lightness



**ORS18; adapted (a) CIELAB data**

	$L^* = L^*_a$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
O <sub>Ma</sub>	47.94	65.05	50.54	82.38	38
Y <sub>Ma</sub>	91.0	-4.72	90.58	90.7	93
L <sub>Ma</sub>	50.9	-63.18	34.98	72.22	151
C <sub>Ma</sub>	56.99	-39.34	-48.1	62.16	231
V <sub>Ma</sub>	25.72	30.89	-44.4	54.09	305
M <sub>Ma</sub>	49.99	75.76	-4.64	75.9	356
N <sub>Ma</sub>	18.09	0.0	0.0	0.0	0
W <sub>Ma</sub>	95.46	0.0	0.0	0.0	0
R <sub>CIE</sub>	41.88	61.66	30.69	68.88	26
J <sub>CIE</sub>	81.97	2.02	67.79	67.82	88
G <sub>CIE</sub>	51.62	-41.32	9.74	42.46	167
B <sub>CIE</sub>	29.2	-5.79	-49.61	49.96	263

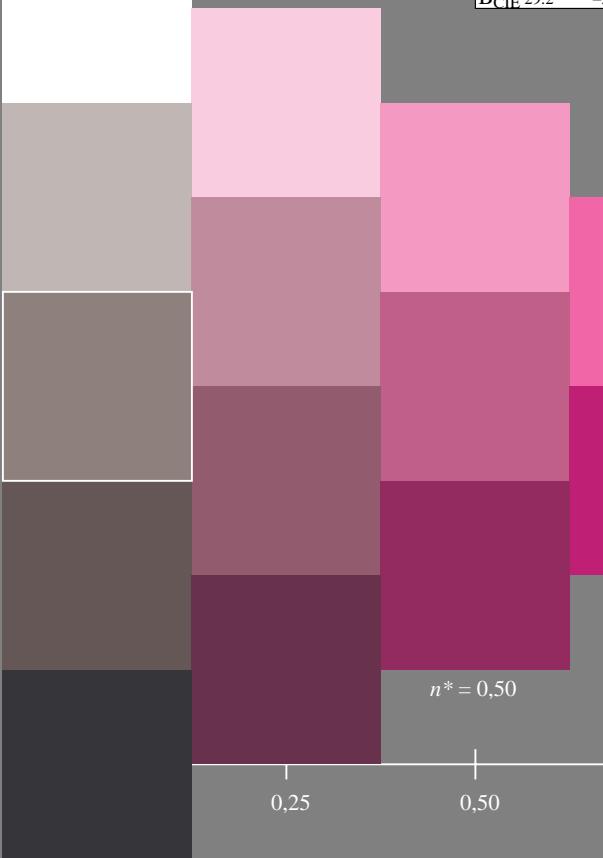
%Gamut

$u^*_{rel} = 94$

**%Regularity**

$g^*_{H,rel} = 65$

$g^*_{C,rel} = 60$



**Output: Colorimetric Television Luminous System TLS00**

for hue  $h^* = lab^*h = 330/360 = 0.915$

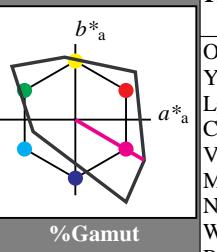
$lab^*tch$  and  $lab^*nch$

D50: hue M

LCH\*Ma: 59 106 330

olv\*Ma: 1.0 0.0 1.0

triangle lightness



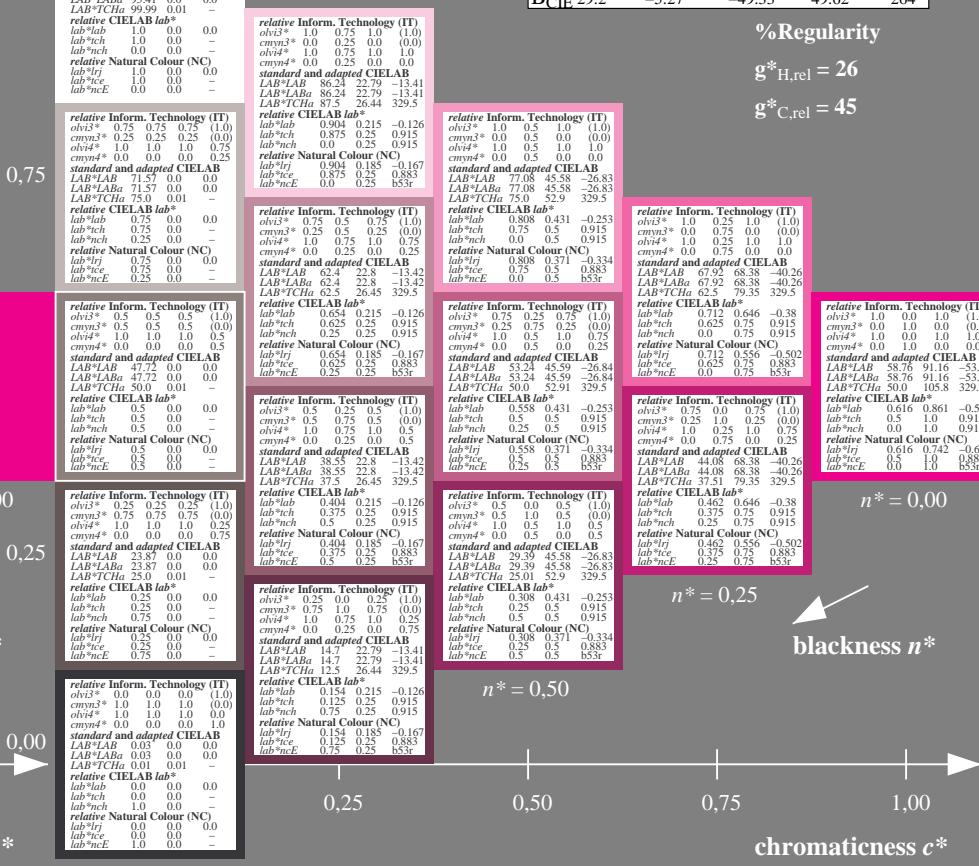
%Gamut

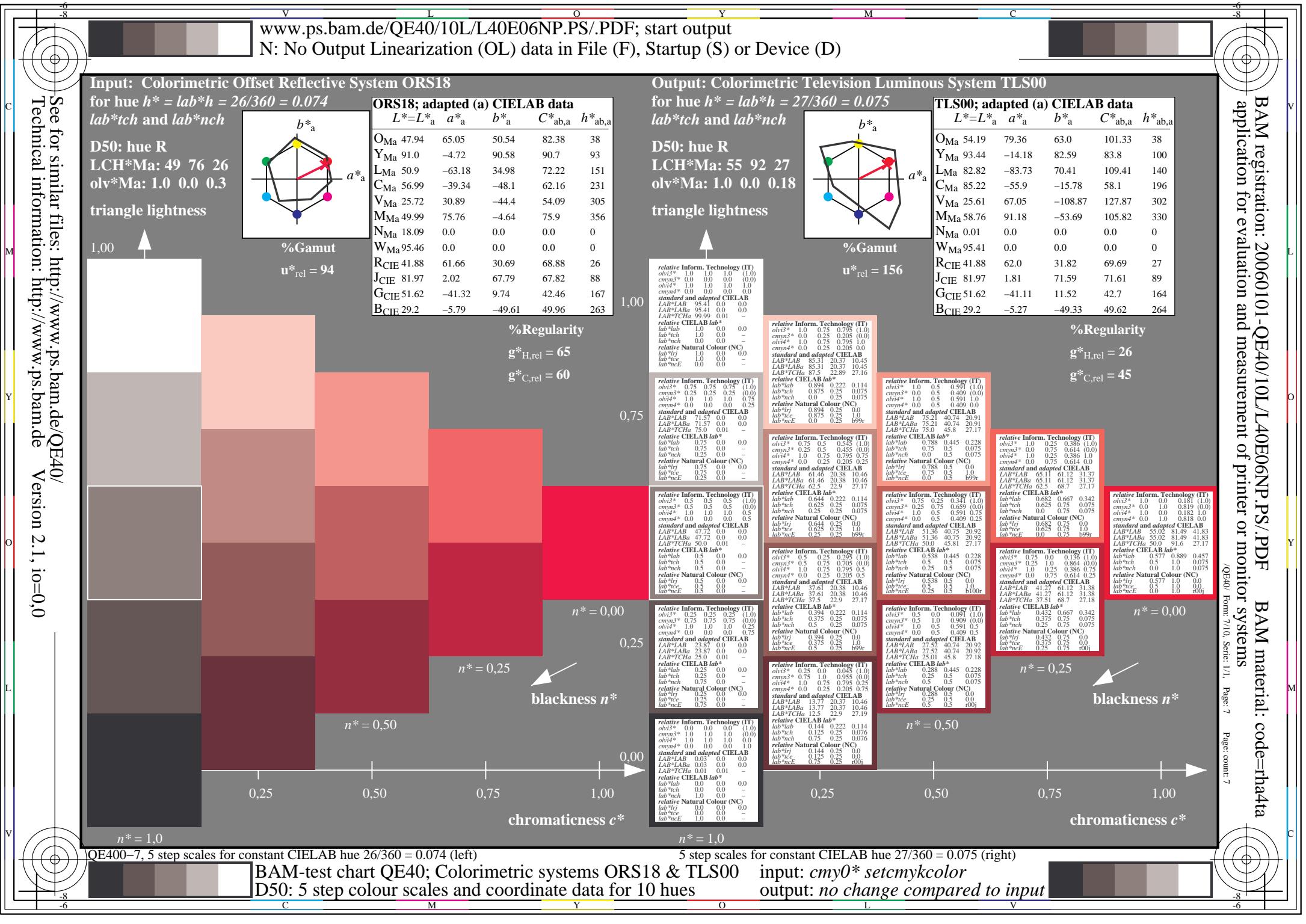
$u^*_{rel} = 156$

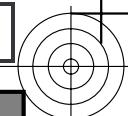
**%Regularity**

$g^*_{H,rel} = 26$

$g^*_{C,rel} = 45$





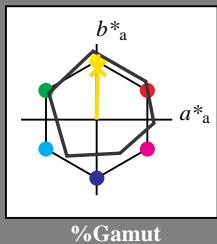
**Input: Colorimetric Offset Reflective System ORS18**for hue  $h^* = lab^*h = 88/360 = 0.245$  $lab^*tch$  and  $lab^*nch$ 

D50: hue J

LCH\*Ma: 86 86 88

olv\*Ma: 1.0 0.9 0.0

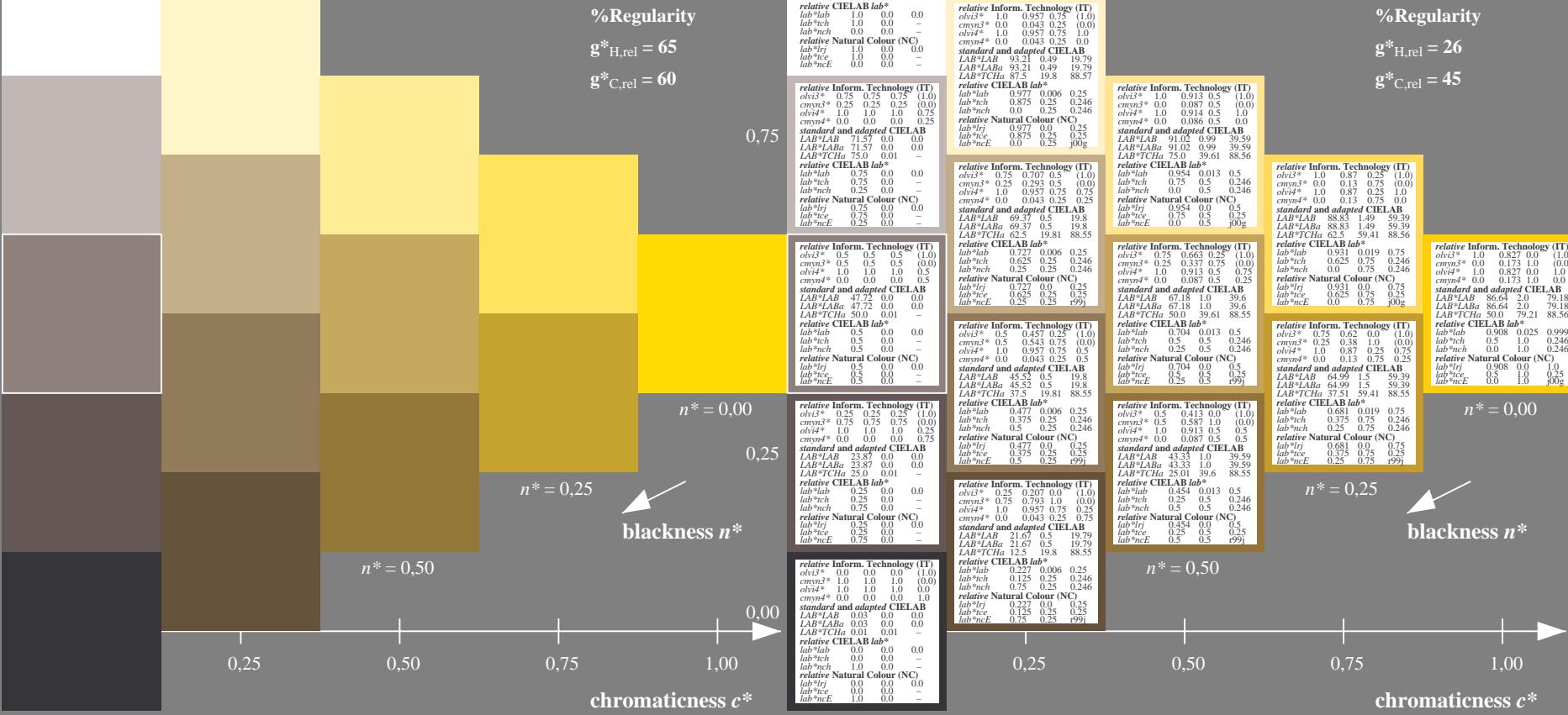
triangle lightness

**ORS18; adapted (a) CIELAB data**

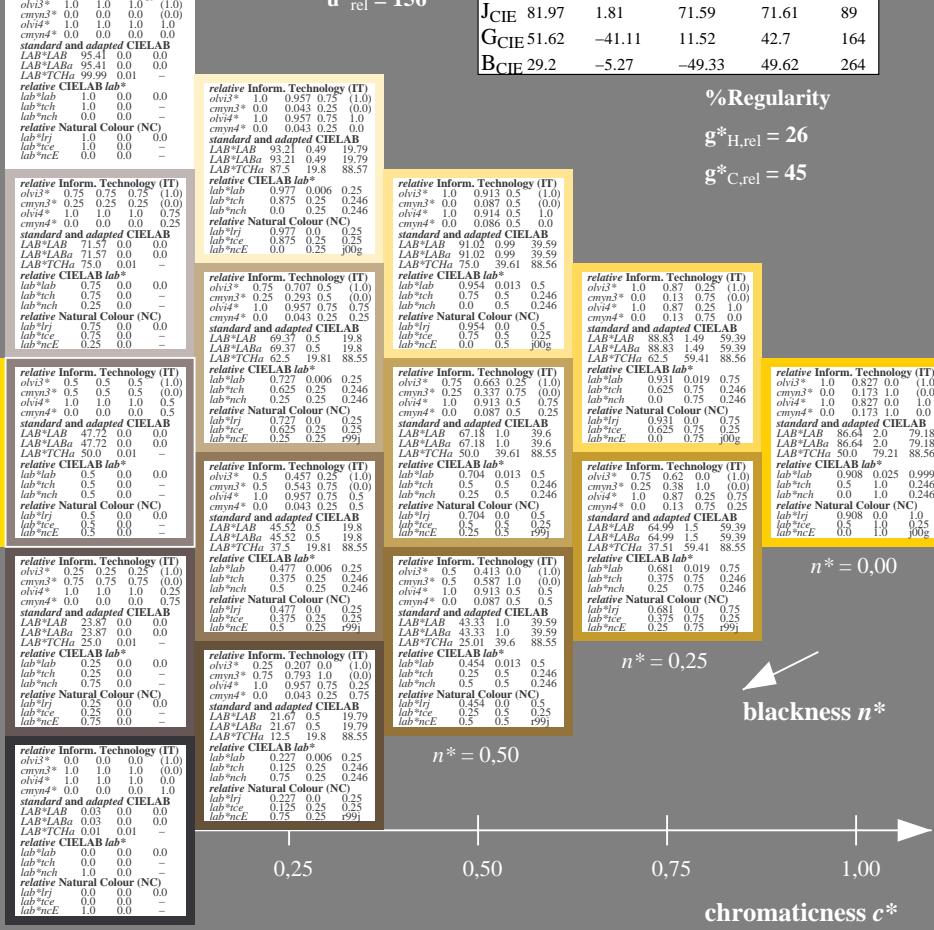
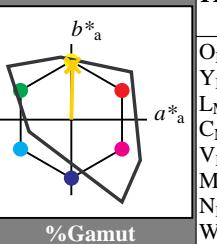
	$L^*=L^*_a$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
O <sub>Ma</sub>	47.94	65.05	50.54	82.38	38
Y <sub>Ma</sub>	91.0	-4.72	90.58	90.7	93
L <sub>Ma</sub>	50.9	-63.18	34.98	72.22	151
C <sub>Ma</sub>	56.99	-39.34	-48.1	62.16	231
V <sub>Ma</sub>	25.72	30.89	-44.4	54.09	305
M <sub>Ma</sub>	49.99	75.76	-4.64	75.9	356
N <sub>Ma</sub>	18.09	0.0	0.0	0.0	0
W <sub>Ma</sub>	95.46	0.0	0.0	0.0	0
R <sub>CIE</sub>	41.88	61.66	30.69	68.88	26
J <sub>CIE</sub>	81.97	2.02	67.79	67.82	88
G <sub>CIE</sub>	51.62	-41.32	9.74	42.46	167
B <sub>CIE</sub>	29.2	-5.79	-49.61	49.96	263

**%Regularity**

$$g^*_{C,rel} = 60$$



QE40-7, 5 step scales for constant CIELAB hue 88/360 = 0.245 (left)

BAM-test chart QE40; Colorimetric systems ORS18 & TLS00  
D50: 5 step colour scales and coordinate data for 10 hues**Output: Colorimetric Television Luminous System TLS00**for hue  $h^* = lab^*h = 89/360 = 0.246$  $lab^*tch$  and  $lab^*nch$ 

5 step scales for constant CIELAB hue 89/360 = 0.246 (right)

input:  $cmy0^*$  setcmykcolor  
output: no change compared to input



### Input: Colorimetric Offset Reflective System ORS18

for hue  $h^* = lab^*h = 167/360 = 0.463$

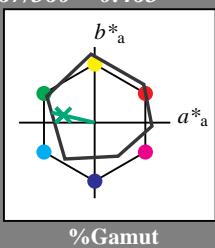
$lab^*tch$  and  $lab^*nch$

D50: hue G

LCH\*Ma: 52 59 167

olv\*Ma: 0.0 1.0 0.26

triangle lightness



### ORS18; adapted (a) CIELAB data

	$L^* = L^*_a$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
O <sub>Ma</sub>	47.94	65.05	50.54	82.38	38
Y <sub>Ma</sub>	91.0	-4.72	90.58	90.7	93
L <sub>Ma</sub>	50.9	-63.18	34.98	72.22	151
C <sub>Ma</sub>	56.99	-39.34	-48.1	62.16	231
V <sub>Ma</sub>	25.72	30.89	-44.4	54.09	305
M <sub>Ma</sub>	49.99	75.76	-4.64	75.9	356
N <sub>Ma</sub>	18.09	0.0	0.0	0.0	0
W <sub>Ma</sub>	95.46	0.0	0.0	0.0	0
R <sub>CIE</sub>	41.88	61.66	30.69	68.88	26
J <sub>CIE</sub>	81.97	2.02	67.79	67.82	88
G <sub>CIE</sub>	51.62	-41.32	9.74	42.46	167
B <sub>CIE</sub>	29.2	-5.79	-49.61	49.96	263

1,00

↑

%Gamut

u\*<sub>rel</sub> = 94

### %Regularity

g\*<sub>H,rel</sub> = 65

g\*<sub>C,rel</sub> = 60

1,00

↑

%Regularity

### %Regularity

g\*<sub>H,rel</sub> = 26

g\*<sub>C,rel</sub> = 45

n\* = 0,00

↑

n\* = 0,00

0,25

↑

n\* = 0,25

0,50

↑

n\* = 0,50

0,75

↑

n\* = 0,75

1,00

chromaticness c\*

↑

n\* = 1,0

### Output: Colorimetric Television Luminous System TLS00

for hue  $h^* = lab^*h = 164/360 = 0.457$

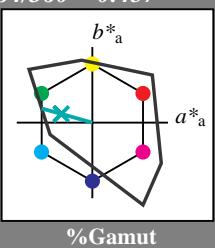
$lab^*tch$  and  $lab^*nch$

D50: hue G

LCH\*Ma: 84 70 164

olv\*Ma: 0.0 1.0 0.6

triangle lightness



1,00

↑

%Gamut

u\*<sub>rel</sub> = 156

1,00

↑

%Regularity

g\*<sub>H,rel</sub> = 26

g\*<sub>C,rel</sub> = 45

n\* = 0,00

↑

n\* = 0,00

0,25

↑

n\* = 0,25

0,50

↑

n\* = 0,50

0,75

↑

n\* = 0,75

1,00

chromaticness c\*

1,00

↑

n\* = 1,0

QE40-7, 5 step scales for constant CIELAB hue 167/360 = 0.463 (left)

BAM-test chart QE40; Colorimetric systems ORS18 & TLS00

D50: 5 step colour scales and coordinate data for 10 hues

5 step scales for constant CIELAB hue 164/360 = 0.457 (right)

input: cmy0\* setcmykcolor

output: no change compared to input

### Input: Colorimetric Offset Reflective System ORS18

for hue  $h^* = lab^*h = 263/360 = 0.731$

$lab^*tch$  and  $lab^*nch$

D50: hue B

LCH\*Ma: 42 47 263

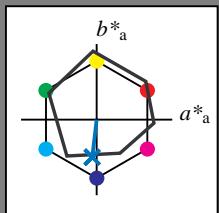
olv\*Ma: 0.0 0.52 1.0

triangle lightness

1,00

%Gamut

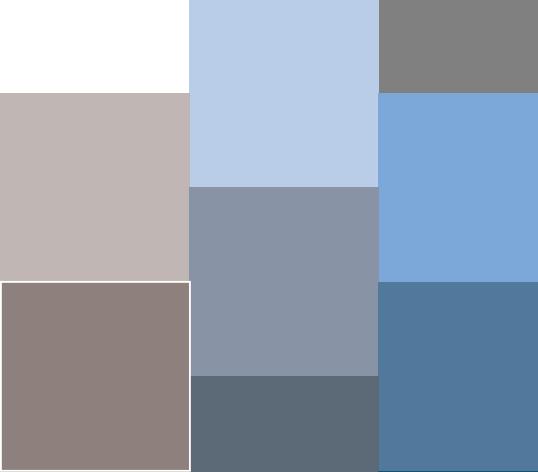
$u^*_{rel} = 94$



%Regularity

$g^*_{H,rel} = 65$

$g^*_{C,rel} = 60$



$n^* = 0,00$

$n^* = 0,25$

$n^* = 0,50$

$n^* = 0,75$

$n^* = 1,00$

chromaticness  $c^*$

0,25

0,50

0,75

1,00

0,00

0,25

0,50

0,75

1,00

chromaticness  $c^*$

$n^* = 1,00$

QE40-7, 5 step scales for constant CIELAB hue 263/360 = 0.731 (left)

BAM-test chart QE40; Colorimetric systems ORS18 & TLS00

D50: 5 step colour scales and coordinate data for 10 hues

### Output: Colorimetric Television Luminous System TLS00

for hue  $h^* = lab^*h = 264/360 = 0.733$

$lab^*tch$  and  $lab^*nch$

D50: hue B

LCH\*Ma: 61 54 264

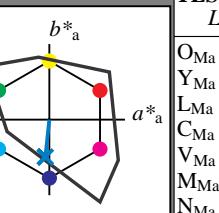
olv\*Ma: 0.0 0.59 1.0

triangle lightness

1,00

%Gamut

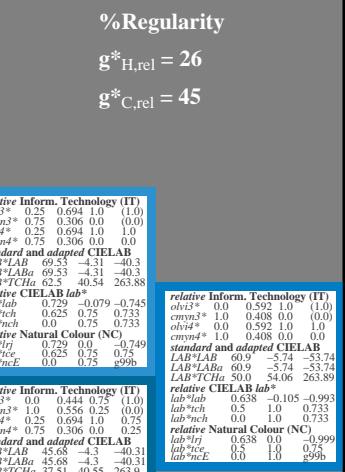
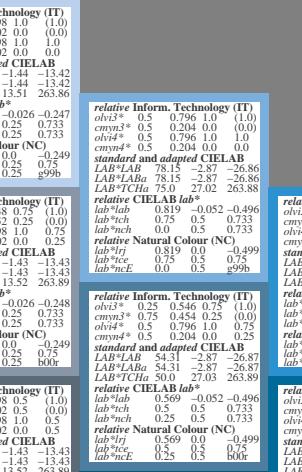
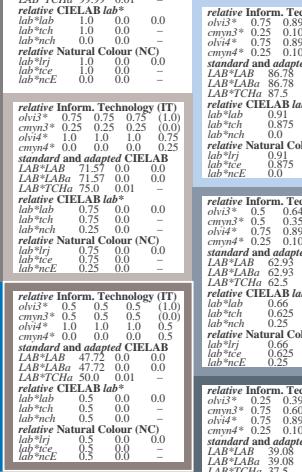
$u^*_{rel} = 156$



%Regularity

$g^*_{H,rel} = 26$

$g^*_{C,rel} = 45$



$n^* = 0,00$

$n^* = 0,25$

$n^* = 0,50$

$n^* = 0,75$

$n^* = 1,00$

chromaticness  $c^*$

0,25

0,50

0,75

1,00

chromaticness  $c^*$

$n^* = 0,25$

$n^* = 0,00$

blackness  $n^*$

$n^* = 1,00$

5 step scales for constant CIELAB hue 264/360 = 0.733 (right)

input:  $cmy0^* setcmykcolor$

output: no change compared to input