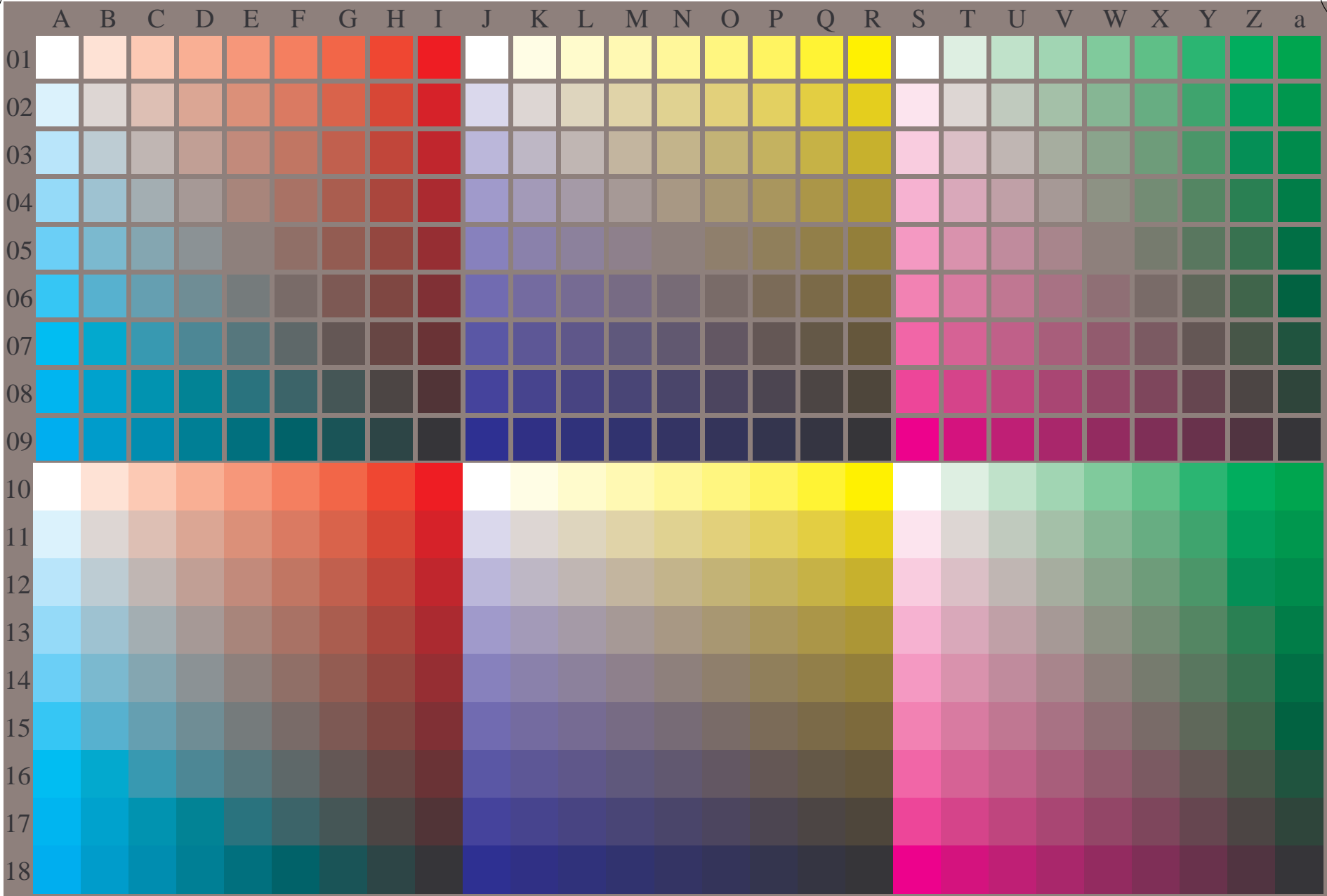


See similar ISO test charts: <http://www.ps.bam.de/24705TE>; <http://www.ps.bam.de/9241E>  
Technical information: <http://www.ps.bam.de/33872E> Version 2.1, io=1,1

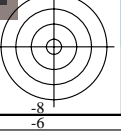
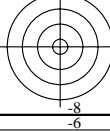
TUB registration: 20110801-OE89/OE89L0NP.PDF /.PS TUB material: code=rh4ta  
application for output of displays: monitor systems or data projector systems



OE890-7N-020-0: Test chart with 27x18=486 separate and adjacent colours; 9 step scales; compare ISO/IEC 15775:1999; cmyk colour data, patch sizes: 8mm x 8mm and 9mm x 9mm, Page 1/3

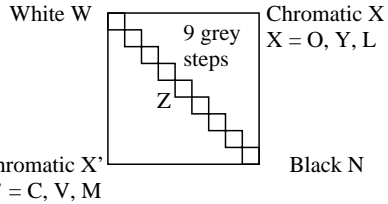
OE89: Test chart 2 according to DIN 33872-6; DH  
Equivalent and regular colour spacing of O-C, Y-V, L-M

input:  $cmy0 (->cmy0^*_D) setcmyk$   
output 020-0: no change



**Equivalent spacing for separate and adjacent colours (Yes/No decision)**

Layout example: hue plane O-C, Y-V oder L-M mit 9 grey steps



There are three opposite hue planes O-C, Y-V, and L-M. The colour steps are separate in the upper figure part and adjacent in the lower figure part. Between N and W there are 9 grey steps. Mean grey Z is the mean step of N-W.

All the stepings of the three hue planes O-L, Y-V and L-M should be equivalent for separate and adjacent colours.

**Is the spacing equivalent for separate and adjacent colours?** underline: Yes/No

Remark: The spacing is not equivalent if there is at least one Yes in one of the following cases; for example see Annex (X):

- Is there a continuous colour change for adjacent colours and not for separate colours? underline: Yes/No
- Are there maxima and minima in the colour change for adjacent colours and not for separate colours? underline: Yes/No

Remarks:.....

Part 1 OE890-3N-020-1

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

**PDF-File:** http://130.149.60.45/farbmetrik/OE89/OE89L0NP.PDF underline Yes/No

**PS-File:** http://130.149.60.45/farbmetrik/OE89/OE89L0NA.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 OE89L0NP.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 OE89L0NA.PS:**

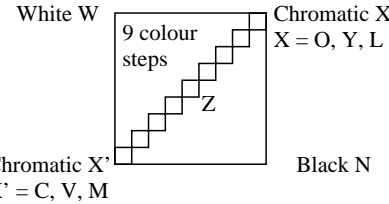
- either PS-file transfer "download, copy" to PS device.....
- or with computer system interpretation by "Display-PS":.....
- or with software e. g. Ghostscript and version:.....
- or with software e. g. Mac-Yap and version:.....

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

Part 3 OE890-7N-020-1

**Regular colour spacing between colours Z-X' and Z-X (Yes/No decision)**

Layout example: hue plane O-C, Y-V oder L-M mit 9 colour steps



There are three opposite hue planes O-C, Y-V, and L-M. The colour steps are separate in the upper figure part and adjacent in the lower figure part. Between X' and X there are 9 colour steps. Mean grey Z is the mean step of X'-X.

All colour steps of the three hue planes O-L, Y-V and L-M should be regular for separate and adjacent colours without large chromatic jumps at mean grey Z

**Is the colour spacing regular at mean grey Z?** underline: Yes/No

Remark: The colour spacing is not regular if there is at least one Yes in one of the following cases; for example see Annex (X):

- Are there colour jumps at the mean grey colour Z towards X or X' for adjacent colours? underline: Yes/No
- Are there colour jumps at the mean grey colour Z towards X or X' for separate colours? underline: Yes/No

Remarks: A colour jump has at least twice the colour change compared to the mean change.

Part 2 OE891-3N-020-1

**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/OE89/OE89F1P2.PDF

underline Yes/No

**PS file:** http://130.149.60.45/farbmetrik/OE89/OE89F1P2.PS

underline Yes/No

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

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/OE89/OE89F1P2.PDF

underline Yes/No

**picture A7-020-2**

underline Yes/No

**PS-File:** http://130.149.60.45/farbmetrik/OE89/OE89F1P2.PS

or underline Yes/No

**picture A7-020-2**

**colour measurement and specification for:**

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

underline Yes/No

If No, please give other parameters: .....

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

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

underline Yes/No

If No, please describe other method: .....

Part 4 OE891-7N-020-1

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

TUB registration: 20110801-OE89/OE89L0NP.PDF /.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

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

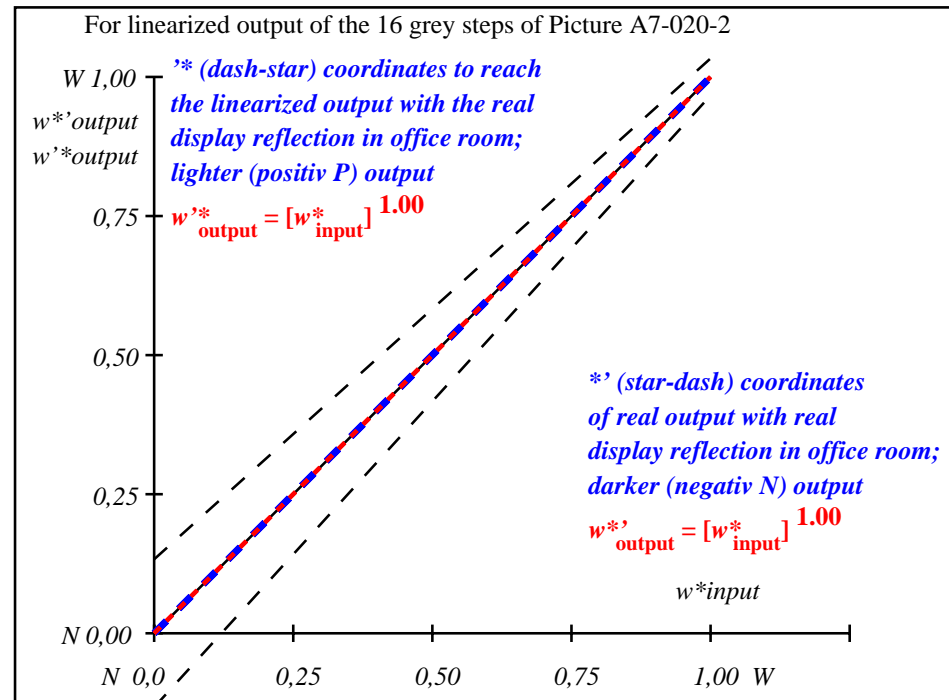
**Start output S1**  
**Specification according to ISO/IEC 15775 Annex G and DIN 33866-1 Annex G**

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

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

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

OE890-3N-020-2: File: Measure unknown; Device: Device unknown; Date: Date unknown



OE891-3N-020-2: File: Measure unknown; Device: Device unknown; Date: Date unknown

$L^*/Y_{intended}$ (absolute)	0.0/0.0	6.4/0.7	12.7/1.5	19.1/2.8	25.4/4.6	31.8/7.0	38.2/10.2	44.5/14.2	50.9/19.2	57.2/25.2	63.6/32.3	70.0/40.7	76.3/50.4	82.7/61.6	89.0/74.3	95.4/88.6
$n^* n^* n^* 0$ setcmyk $g_p=1.00$ No. and Hex code	00;F	01;E	02;D	03;C	04;B	05;A	06;9	07;8	08;7	09;6	10;5	11;4	12;3	13;2	14;1	15;0
$w^*=I^*_{CIELAB, r}$ (relative)	0,000	0,067	0,133	0,200	0,267	0,333	0,400	0,467	0,533	0,600	0,667	0,733	0,800	0,867	0,933	1,000
$w^*_{intended}$	0,000	0,067	0,133	0,200	0,267	0,333	0,400	0,467	0,533	0,600	0,667	0,733	0,800	0,867	0,933	1,000
$w^*_{out}$	0.0	0.067	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

OE890-7N, Picture A7-020-2: 16 visual equidistant  $L^*$ -grey steps; PS operator:  $n^* n^* n^* 0$  setcmykcolor

OE89: In-output relation according to ISO 9241-306; DH  
 Viewing  $Y$  contrast  $Y_W:Y_N=88,9:0,31$ ;  $Y_N$  range 0,0 to <0,46

input: cmy0 (->cmy0\*\_d) setcmyk  
 output 020-2: no change

TUB registration: 20110801-OE89/OE89L0NP.PDF /.PS  
 application for output of displays: monitor systems or data projector systems  
 TUB material: code=rh4ta