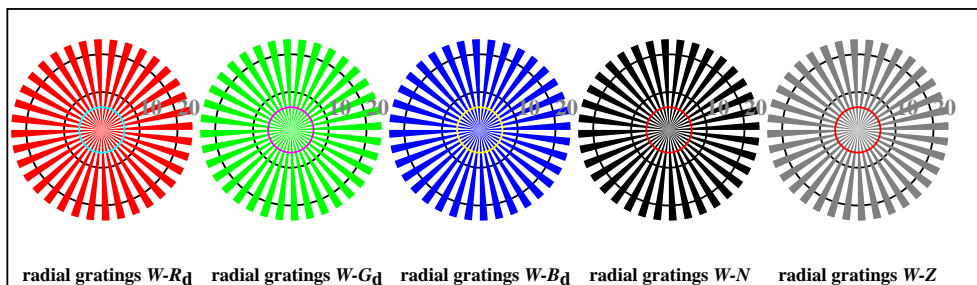


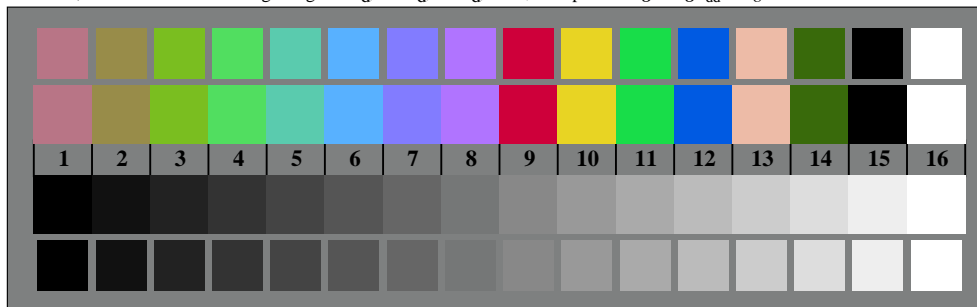
see similar files: <http://farbe.li.tu-berlin.de/AE16/AE16L0NP.PDF> /PS  
technical information: <http://farbe.li.tu-berlin.de/> or <http://farbe.li.tu-berlin.de/AE.HTM>

TUB Registration: 20190301-AE16/AE16L0NP.PDF /.PS  
application for measurement or viewing of display and print output

TUB material: code=rh4ta

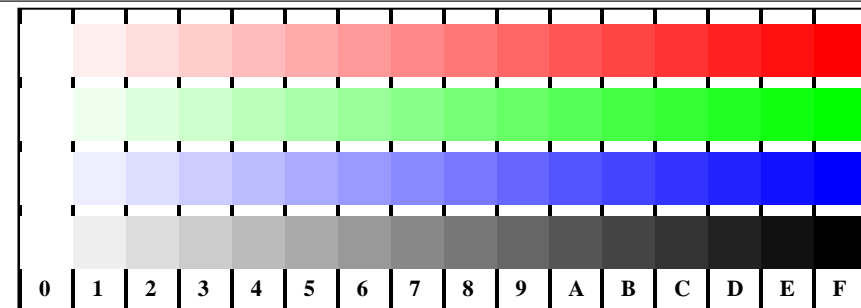


AE160-5, Picture D2Wdd: radial gratings W-R<sub>d</sub>; W-G<sub>d</sub>; W-B<sub>d</sub>; W-N; PS operator: *rgb->rgb<sub>dd</sub> setrgbcolor*

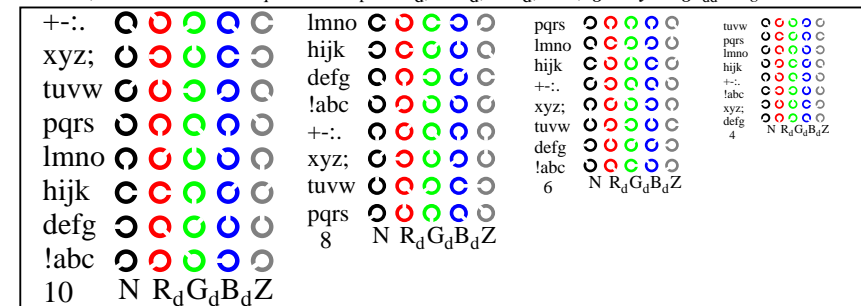


AE160-7, Picture D3Wdd: 14 CIE-test colours and 2 + 16 grey steps (sf); *rgb/cmy0->rgb<sub>dd</sub> setrgbcolor*

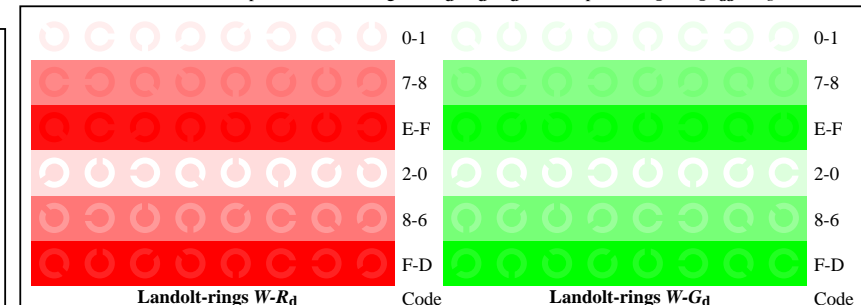
Test chart AE16 according to test chart 4 of ISO/IEC 15775  
chromatic test chart RGB



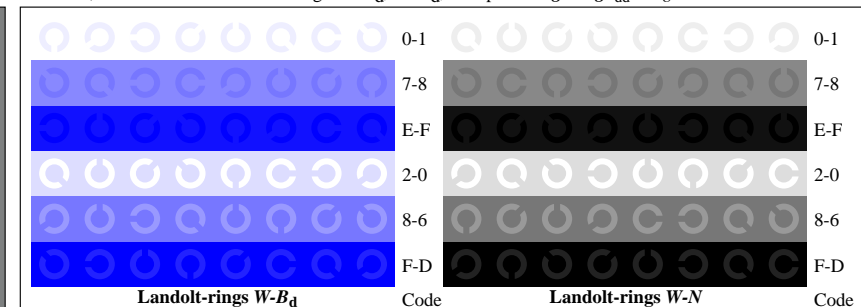
AE161-1, Picture D4Wdd: 16 equidistant steps W-R<sub>d</sub>; W-G<sub>d</sub>; W-B<sub>d</sub>; W-N; *rgb/cmy0->rgb<sub>dd</sub> setrgbcolor*



AE161-3, Picture D5Wdd: Sript and Landolt-rings N; R<sub>d</sub>; G<sub>d</sub>; B<sub>d</sub>; Z; PS operator: *rgb->rgb<sub>dd</sub> setrgbcolor*



AE161-5, Picture D6Wdd: Landolt-rings W-R<sub>d</sub>; W-G<sub>d</sub>; PS operator: *rgb->rgb<sub>dd</sub> setrgbcolor*



AE161-7, Picture D7Wdd: Landolt-rings W-B<sub>d</sub>; W-N; PS operator: *rgb->rgb<sub>dd</sub> setrgbcolor*

input: *rgb/cmy0/000n/w set...*  
output: *->rgb<sub>dd</sub> setrgbcolor*

Test of visual linearized output of pictures D2W<sub>dd</sub> to D3W<sub>dd</sub> please underline Yes/No  
Output test with computer display ( ) or the external display ( ) please mark by (x)!

Test of the resolution of radial gratings W-R<sub>d</sub>, W-G<sub>d</sub>, W-B<sub>d</sub> according to picture D2W<sub>dd</sub>  
Is the resolution diameter < 6 mm? W-R<sub>d</sub> W-G<sub>d</sub> W-B<sub>d</sub> W-N W-Z  
Test with magnifying glass (e.g. 6x) Yes/No Yes/No Yes/No Yes/No Yes/No  
resolution diameter ..... mm ..... mm ..... mm ..... mm ..... mm

Test of the 14 CIE-test colours according to picture D3W<sub>dd</sub>  
Are clear (immediately conspicuous) differences recognized between reproduction and test chart? Yes/No  
If Yes: How many colours have clear differences? of the given 14 steps: ..... Steps

Test of 16 visual equidistant L\*-grey steps according to picture D3W<sub>dd</sub>  
Are the 16 steps on the upper rows distinguishable? Yes/No  
If No: How many steps can be distinguished? of the given 16 steps: ..... Steps

part 1, AE160-3dd: 00301

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

PDF file: http://farbe.li.tu-berlin.de/AE16/AE16F0PX\_CY8\_1.PDF underline: Yes/No  
PS file: http://farbe.li.tu-berlin.de/AE16/AE16F0PX\_CY8\_1.PS underline: Yes/No

Used computer operating system: either one of Windows/Mac/Unix/other and version:.....  
This evaluation is for the output: underline: monitor/data projector/printer  
Device model, driver and version:.....

output with PDF/PS-file: underline: PDF/PS file

For output with PDF file AE16F0PX\_CY8\_1.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 output with PS file AE16F0PX\_CY8\_1.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: e. g. output of Landscape (L)

part 3, AE160-7dd: 00301

Test of 16 visually equally spaced steps of the colour rows W-R<sub>d</sub>, W-G<sub>d</sub>, W-B<sub>d</sub>, and W-N according to picture D4W<sub>dd</sub>

W-R <sub>d</sub>	Are all the 16 steps distinguishable?		Yes/No
White - Red:	If No: How many steps can be distinguished?	of the given 16 steps:	..... Steps
W-G <sub>d</sub>	Are all the 16 steps distinguishable?		Yes/No
White - Green:	If No: How many steps can be distinguished?	of the given 16 steps:	..... Steps
W-B <sub>d</sub>	Are all the 16 steps distinguishable?		Yes/No
White - Blue:	If No: How many steps can be distinguished?	of the given 16 steps:	..... Steps
W-N	Are all the 16 steps distinguishable?		Yes/No
White - Black:	If No: How many steps can be distinguished?	of the given 16 steps:	..... Steps

Test of characters and Landolt-rings in four sizes according to picture D5W<sub>dd</sub>  
Is the recognition > 50% for letters (17 of 32 at least)? , and for Landolt-rings (minimum 5 of 8)?

Relative size	Letters	Rings N	Rings R <sub>d</sub>	Rings G <sub>d</sub>	Rings B <sub>d</sub>
10	Yes/No	Yes/No	Yes/No	Yes/No	Yes/No
8	Yes/No	Yes/No	Yes/No	Yes/No	Yes/No
6	Yes/No	Yes/No	Yes/No	Yes/No	Yes/No
4	Yes/No	Yes/No	Yes/No	Yes/No	Yes/No

Test of the recognition frequency of the Landolt rings W-R<sub>d</sub>, W-G<sub>d</sub>, W-B<sub>d</sub>, and W-N according to picture D6W<sub>dd</sub>, and D7W<sub>dd</sub>  
Is the recognition frequency of the Landolt rings > 50% (5 of 8 at least)?

Colour row W-R <sub>d</sub> background - ring	Colour row W-G <sub>d</sub> background - ring	Colour row W-B <sub>d</sub> background - ring	Colour row W-N background - ring
0 - 1 Yes/No	0 - 1 Yes/No	0 - 1 Yes/No	0 - 1 Yes/No
7 - 8 Yes/No	7 - 8 Yes/No	7 - 8 Yes/No	7 - 8 Yes/No
E - F Yes/No	E - F Yes/No	E - F Yes/No	E - F Yes/No
2 - 0 Yes/No	2 - 0 Yes/No	2 - 0 Yes/No	2 - 0 Yes/No
8 - 6 Yes/No	8 - 6 Yes/No	8 - 6 Yes/No	8 - 6 Yes/No
F - D Yes/No	F - D Yes/No	F - D Yes/No	F - D Yes/No

part 2, AE161-3Ndd: 00301

#### 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 underline: Yes/No  
or with test charts using colour points according to Ishihara underline: Yes/unknown  
or tested with, please specify: ..... 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://farbe.li.tu-berlin.de/AE16/AE16F0PX\_CY8\_3.PDF underline: Yes/No

PS file: http://farbe.li.tu-berlin.de/AE16/AE16F0PX\_CY8\_3.PS underline: Yes/No

picture A7<sub>dd</sub> 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: Yes/No

compare standard print output according to ISO/IEC 15775 with range F:0 underline: Yes/No

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://farbe.li.tu-berlin.de/AE16/AE16F0PX\_CY8\_3.PDF underline: Yes/No

picture A7<sub>dd</sub> underline: Yes/No

PS file: http://farbe.li.tu-berlin.de/AE16/AE16F0PX\_CY8\_3.PS or underline: Yes/No

picture A7<sub>dd</sub> 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 for 17 step colours of http://farbe.li.tu-berlin.de/OE70/OE70L1NP.PDF

Exchange of CIELAB data in file http://farbe.li.tu-berlin.de/AE82/AE82L0NP.TXT and transfer underline: Yes/No

of the PS file AE82L0NP.PS (= .TXT) to the PDF-file AE82L0NP.PDF

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

part 4, AE161-7dd: 00301

see similar files: <http://farbe.li.tu-berlin.de/AE16/AE16L0NP.PDF> /.PS  
technical information: <http://farbe.li.tu-berlin.de/> or <http://farbe.li.tu-berlin.de/AE16L0NP.PDF> /.PS

TUB Registration: 20190301-AE16/AE16L0NP.PDF /.PS  
application for measurement or viewing of display and print output  
TUB material: code=rh4ta

i	LAB* <sub>ref</sub>	l* <sub>out</sub>	LAB* <sub>out</sub>	LAB* <sub>out-ref</sub>	ΔE*
1	0,00	0,00	0,00	0,00	0,01
2	6,36	0,00	0,00	0,00	0,01
3	12,72	0,00	0,13	0,00	0,01
4	19,08	0,00	0,20	0,00	0,01
5	25,44	0,00	0,26	0,00	0,01
6	31,80	0,00	0,33	0,00	0,01
7	38,16	0,00	0,40	0,00	0,01
8	44,52	0,00	0,46	0,00	0,01
9	50,88	0,00	0,53	0,00	0,01
10	57,24	0,00	0,60	0,00	0,01
11	63,60	0,00	0,66	0,00	0,01
12	69,96	0,00	0,73	0,00	0,01
13	76,32	0,00	0,80	0,00	0,01
14	82,68	0,00	0,86	0,00	0,01
15	89,04	0,00	0,93	0,00	0,01
16	95,41	0,00	1,00	0,00	0,01
17	0,00	0,00	0,00	0,00	0,01
18	23,85	0,00	0,25	0,00	0,01
19	47,70	0,00	0,50	0,00	0,01
20	71,55	0,00	0,75	0,00	0,01
21	95,41	0,00	1,00	0,00	0,01

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

Mean lightness difference (16 steps)  
 $\Delta E^*_{\text{CIELAB}} = 0,0$

Mean lightness difference (5 steps)  
 $\Delta L^*_{\text{CIELAB}} = 0,0$

Mean colour reproduction index:  $R^*_{\text{ab,m}} = 99,9$

part 1,

AE160-3dd: 00302



part 2,

AE161-3dd: 00302

$L^*/Y_{\text{intended}}$ (absolute)	0,0/0,0	6,3/0,7	12,7/1,5	19,0/2,7	25,4/4,5	31,8/6,9	38,1/10,1	44,5/14,2	50,8/19,1	57,2/25,1	63,6/32,3	69,9/40,7	76,3/50,4	82,6/61,5	89,0/74,2	95,4/88,5
$w^* w^* w^*$ setrgb gp=1,000 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)																
$w^*_{\text{intended}}$	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
$w^*_{\text{output}}$	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

part 3, picture A7dd: 16 visual equidistant  $L^*$ -grey steps; PS operator:  $w^* w^* w^*$  setrgbcolor

AE160-7dd: 00302

In-out: Test chart AE16 according to test chart 4 of ISO/IEC 15775  
Viewing  $Y$  contrast  $Y_W:Y_N=88,9:0,31$ ;  $Y_N$ -range 0,0 to <0,46

input:  $rgb/cmy0/000n/w$  set...  
output:  $->rgb_{dd}$  setrgbcolor