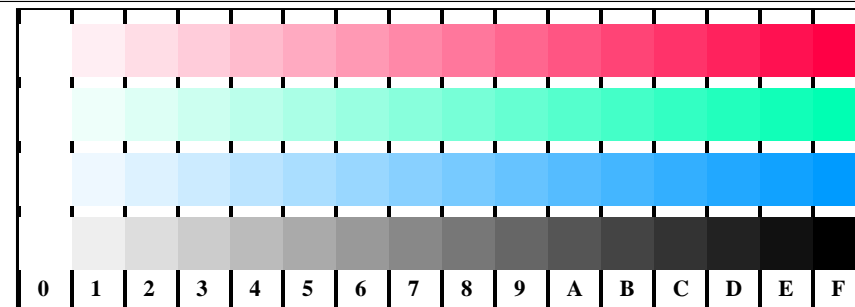
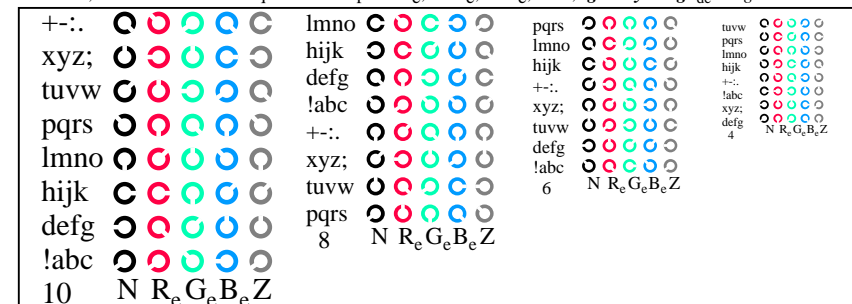


see similar files: <http://farbe.li.tu-berlin.de/AE16/AE16F0PX.PDF> / .PS; 3D-linearization, page 1/24
technical information: <http://farbe.li.tu-berlin.de/> or <http://farbe.li.tu-berlin.de/AE16F0PX.PDF>

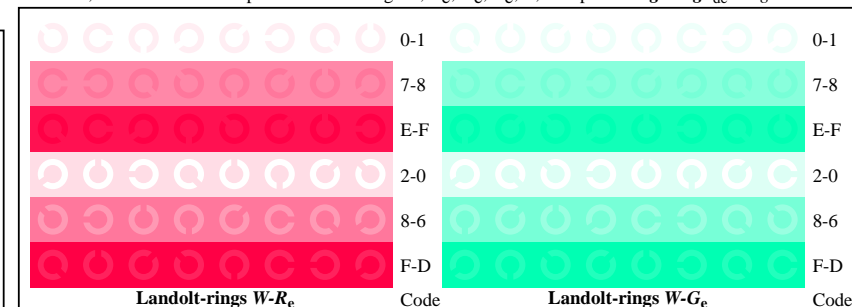
TUB Registration: 20190301-AE16/AE16L0FA.TXT /.PS
application for measurement or viewing of display and print output
TUB material: code=th4ta



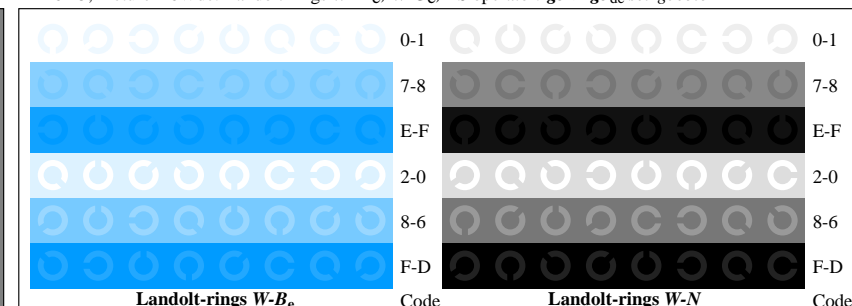
AE161-1, Picture D4Wde: 16 equidistant steps $W-R_e$; $W-G_e$; $W-B_e$; $W-N$; $rgb/cmy_0 \rightarrow rgb_{de}$ setrgbcolor



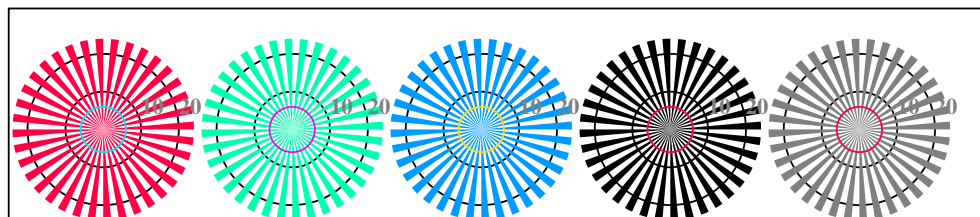
AE161-3, Picture D5Wde: Sript and Landolt-rings N ; R_e ; G_e ; B_e ; Z ; PS operator: $rgb \rightarrow rgb_{de}$ setrgbcolor



AE161-5, Picture D6Wde: Landolt-rings $W-R_e$; $W-G_e$; PS operator: $rgb \rightarrow rgb_{de}$ setrgbcolor



AE161-7, Picture D7Wde: Landolt-rings $W-B_e$; $W-N$; PS operator: $rgb \rightarrow rgb_{de}$ setrgbcolor

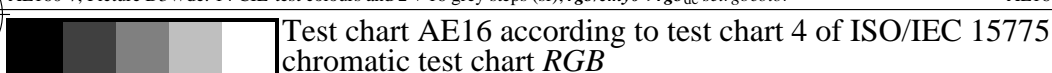


radial gratings $W-R_e$ radial gratings $W-G_e$ radial gratings $W-B_e$ radial gratings $W-N$ radial gratings $W-Z$

AE160-5, Picture D2Wde: radial gratings $W-R_e$; $W-G_e$; $W-B_e$; $W-N$; PS operator: $rgb \rightarrow rgb_{de}$ setrgbcolor



AE160-7, Picture D3Wde: 14 CIE-test colours and 2 + 16 grey steps (sf); $rgb/cmy_0 \rightarrow rgb_{de}$ setrgbcolor



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

input: $rgb/cmy_0/000n/w$ set...
output: $\rightarrow rgb_{de}$ setrgbcolor



Test of visual linearized output of pictures D2W_{de} to D3W_{de} 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_d, W-G_d, W-B_d according to picture D2W_{de}

	W-R _d	W-G _d	W-B _d	W-N	W-Z
Is the resolution diameter < 6 mm?	Yes/No	Yes/No	Yes/No	Yes/No	Yes/No
Test with magnifying glass (e.g. 6x) resolution diameter	..... mm	..... mm	..... mm	..... mm	..... mm

Test of the 14 CIE-test colours according to picture D3W_{de}
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_{de}
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, AE160-3de: 11001

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, AE160-7de: 11001

Form A: Test chart AE16 according to test chart 4 of ISO/IEC 15775 input: rgb/cmy0/000n/w set...
chromatic test chart RGB output: ->rgb_{de} setrgbcolor

Test of 16 visually equally spaced steps of the colour rows W-R_d, W-G_d, W-B_d, and W-N according to picture D4W_{de}

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

Test of characters and Landolt-rings in four sizes according to picture D5W_{de}
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 _d	Rings G _d	Rings B _d
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_d, W-G_d, W-B_d, and W-N according to picture D6W_{de}, and D7W_{de}

Is the recognition frequency of the Landolt rings > 50% (5 of 8 at least)?

Colour row W-R _d background - ring	Colour row W-G _d background - ring	Colour row W-B _d 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, AE161-3Nde: 11001

Documentation of assessor colour-vision properties for visual assessment

The assessor has normal colour vision according to one test: underline: Yes/No
either according to DIN 6160:1996 with Anomaloskop of Nagel underline: Yes/unknown
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_{de} 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: 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

PS file: http://farbe.li.tu-berlin.de/AE16/AE16F0PX_CY8_3.PS or underline: Yes/No

picture A7_{de} 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
of the PS file AE82L0NP.PS (= .TXT) to the PDF-file AE82L0NP.PDF underline: Yes/No
If No, please describe other method:

part 4, AE161-7de: 11001

see similar files: <http://farbe.li.tu-berlin.de/AE16/AE16L0FA.TXT /.PS>
technical information: <http://farbe.li.tu-berlin.de/> or <http://farbe.li.tu-berlin.de/AE16.HTM>

TUB Registration: 20190301-AE16/AE16L0FA.TXT /.PS
application for measurement or viewing of display and print output
TUB material: code=th4ta

i	LAB* _{ref}	L* _{out}	LAB* _{out}	LAB* _{out-ref}	ΔE*
1	0,00	0,00	0,00	0,00	0,01
2	6,36	0,00	0,06	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

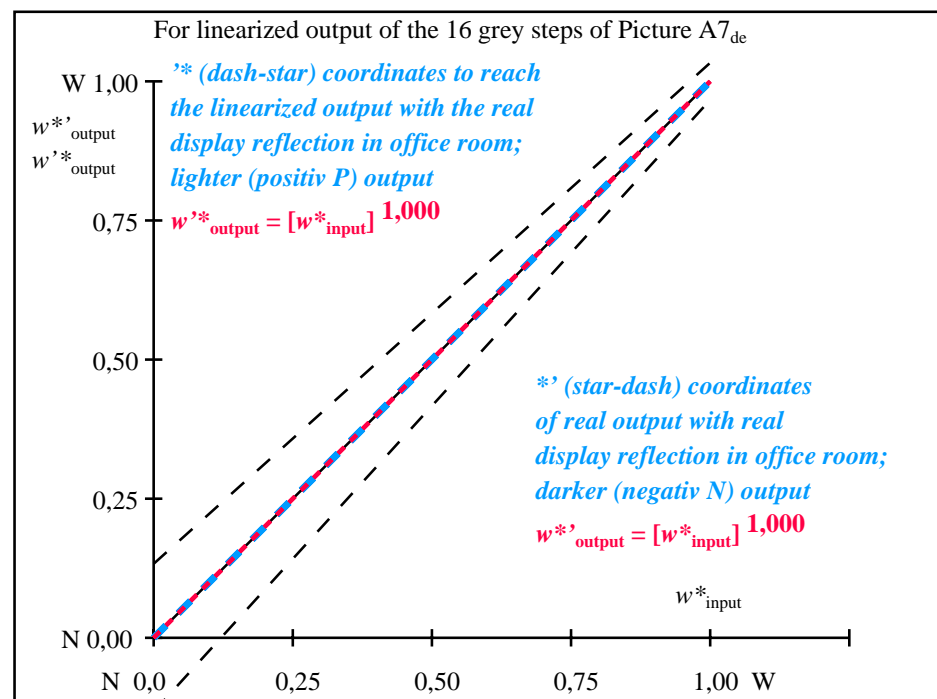
Mean lightness difference
(16 steps)
 $\Delta E^*_{\text{CIELAB}} = 0,0$

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

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

part 1,

AE160-3de: 11002



part 2,

AE161-3de: 11002

L^*/Y_{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
0 0 0 n* setcmyk 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
$w^* = l^*_{\text{CIELAB}, r}$ (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^*_{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 A7_{de}: 16 visual equidistant L^* -grey steps; PS operator: 0 0 0 n* setcmykcolor

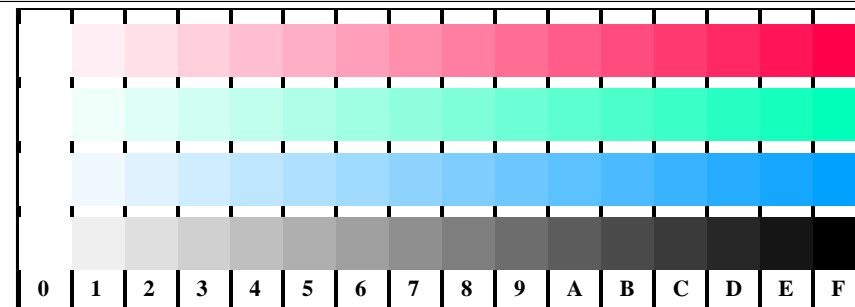
AE160-7de: 11002

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

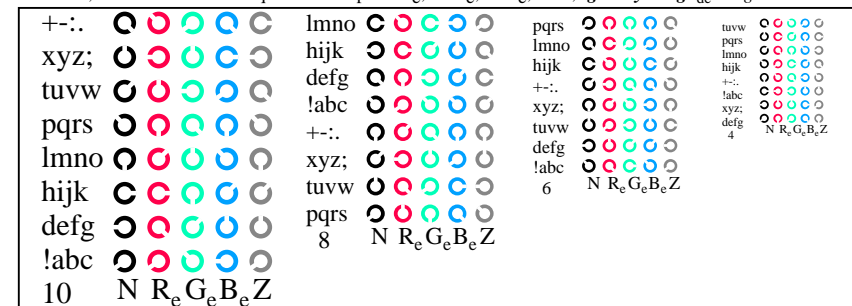
input: $rgb/cmy0/000n/w$ set...
output: $\rightarrow rgb_{\text{de}}$ setrgbcolor

see similar files: <http://farbe.li.tu-berlin.de/AE16/AE16F0PX.PDF> / .PS; 3D-linearization, page 4/24
technical information: <http://farbe.li.tu-berlin.de/> or <http://farbe.li.tu-berlin.de/AE16F0PX.PDF>

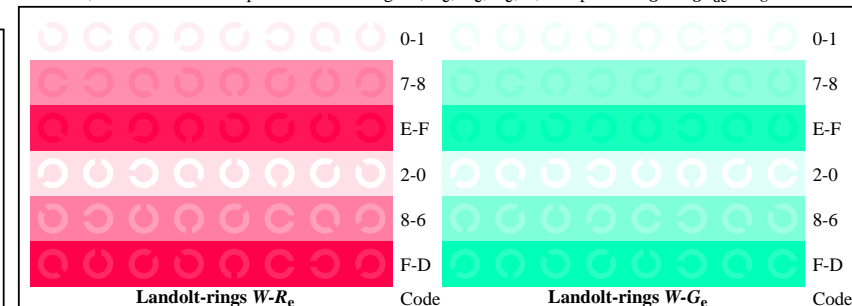
TUB Registration: 20190301-AE16/AE16L0FA.TXT /.PS
application for measurement or viewing of display and print output
TUB material: code=th4ta



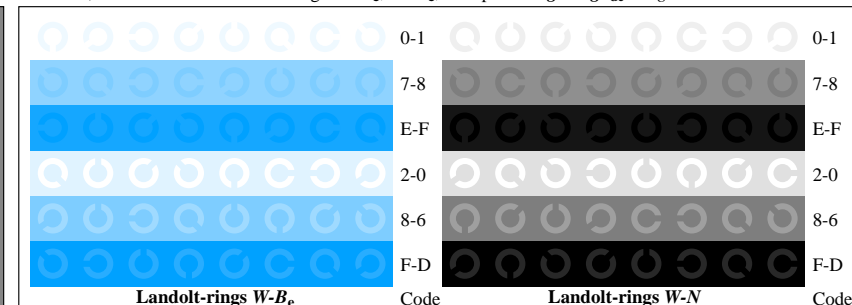
AE161-1, Picture D4Wde: 16 equidistant steps $W-R_e$; $W-G_e$; $W-B_e$; $W-N$; $rgb/cmy0 \rightarrow rgb_{de}$ setrgbcolor



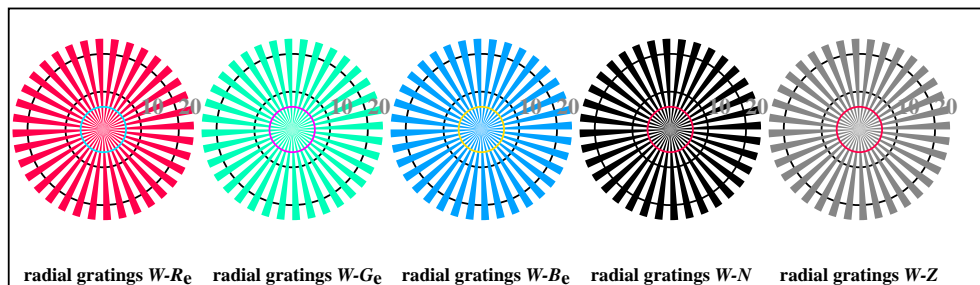
AE161-3, Picture D5Wde: Sript and Landolt-rings N ; R_e ; G_e ; B_e ; Z ; PS operator: $rgb \rightarrow rgb_{de}$ setrgbcolor



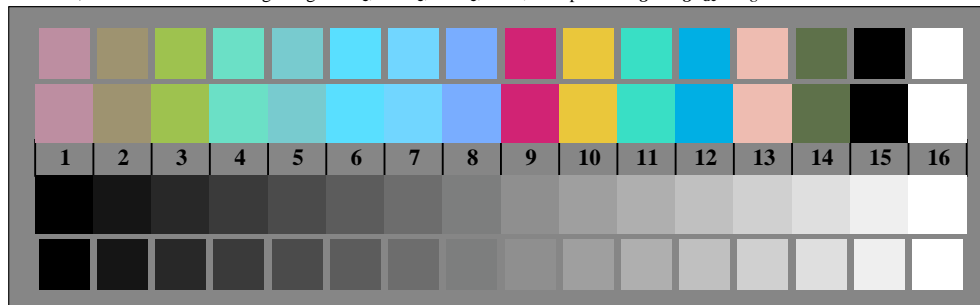
AE161-5, Picture D6Wde: Landolt-rings $W-R_e$; $W-G_e$; PS operator: $rgb \rightarrow rgb_{de}$ setrgbcolor



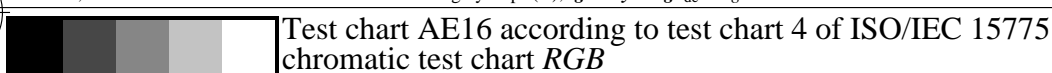
AE161-7, Picture D7Wde: Landolt-rings $W-B_e$; $W-N$; PS operator: $rgb \rightarrow rgb_{de}$ setrgbcolor



AE160-5, Picture D2Wde: radial gratings $W-R_e$; $W-G_e$; $W-B_e$; $W-N$; PS operator: $rgb \rightarrow rgb_{de}$ setrgbcolor



AE160-7, Picture D3Wde: 14 CIE-test colours and 2 + 16 grey steps (sf); $rgb/cmy0 \rightarrow rgb_{de}$ setrgbcolor



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

input: $rgb/cmy0/000n/w$ set...
output: $\rightarrow rgb_{de}$ setrgbcolor



Test of visual linearized output of pictures D2W_{de} to D3W_{de} 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_d, W-G_d, W-B_d according to picture D2W_{de}

	W-R _d	W-G _d	W-B _d	W-N	W-Z
Is the resolution diameter < 6 mm?	Yes/No	Yes/No	Yes/No	Yes/No	Yes/No
Test with magnifying glass (e.g. 6x) resolution diameter	..... mm	..... mm	..... mm	..... mm	..... mm

Test of the 14 CIE-test colours according to picture D3W_{de}

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_{de}

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, AE160-3de: 11011

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

PDF file: http://farbe.li.tu-berlin.de/AE16/AE16F0PX_CY7_1.PDF underline: Yes/No

PS file: http://farbe.li.tu-berlin.de/AE16/AE16F0PX_CY7_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_CY7_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_CY7_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, AE160-7de: 11011

Form A: Test chart AE16 according to test chart 4 of ISO/IEC 15775 input: rgb/cmy0/000n/w set...
chromatic test chart RGB output: ->rgb_{de} setrgbcolor

Test of 16 visually equally spaced steps of the colour rows W-R_d, W-G_d, W-B_d, and W-N according to picture D4W_{de}

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

Test of characters and Landolt-rings in four sizes according to picture D5W_{de}

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 _d	Rings G _d	Rings B _d
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_d, W-G_d, W-B_d, and W-N according to picture D6W_{de}, and D7W_{de}

Is the recognition frequency of the Landolt rings > 50% (5 of 8 at least)?

Colour row W-R _d background - ring	Colour row W-G _d background - ring	Colour row W-B _d 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, AE161-3Nde: 11011

Documentation of assessor colour-vision properties for visual assessment

The assessor has normal colour vision according to one test: underline: Yes/No
either according to DIN 6160:1996 with Anomaloskop of Nagel underline: Yes/unknown
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_CY7_3.PDF underline: Yes/No

PS file: http://farbe.li.tu-berlin.de/AE16/AE16F0PX_CY7_3.PS underline: Yes/No

picture A7_{de} 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: 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_CY7_3.PDF underline: Yes/No

PS file: http://farbe.li.tu-berlin.de/AE16/AE16F0PX_CY7_3.PS or underline: Yes/No

picture A7_{de} 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 of the PS file AE82L0NP.PS (= .TXT) to the PDF-file AE82L0NP.PDF underline: Yes/No

If No, please describe other method:

part 4, AE161-7de: 11011

see similar files: <http://farbe.li.tu-berlin.de/AE16/AE16L0FA.TXT> / .PS
technical information: <http://farbe.li.tu-berlin.de/> or <http://farbe.li.tu-berlin.de/AE.HTM>

TUB Registration: 20190301-AE16/AE16L0FA.TXT / .PS
application for measurement or viewing of display and print output
TUB material: code=th4ta

see similar files: <http://farbe.li.tu-berlin.de/AE16/AE16L0FA.TXT /.PS>
technical information: <http://farbe.li.tu-berlin.de/> or <http://farbe.li.tu-berlin.de/AE16.HTM>

i	LAB* _{ref}	L* _{out}	LAB* _{out}	LAB* _{out-ref}	ΔE*	Start output S1
1	5,69 0,00 0,00	0,00	5,69 0,00 0,00	0,00 0,00 0,00	0,01	Specification according to
2	11,67 0,00 0,00	0,10	14,73 0,00 0,00	3,05 0,00 0,00	3,05	ISO/IEC 15775 Annex G
3	17,65 0,00 0,00	0,18	21,95 0,00 0,00	4,30 0,00 0,00	4,30	and DIN 33866-1 Annex G
4	23,63 0,00 0,00	0,25	28,62 0,00 0,00	4,99 0,00 0,00	4,99	
5	29,61 0,00 0,00	0,32	34,96 0,00 0,00	5,34 0,00 0,00	5,34	
6	35,59 0,00 0,00	0,39	41,05 0,00 0,00	5,45 0,00 0,00	5,45	
7	41,57 0,00 0,00	0,46	46,96 0,00 0,00	5,38 0,00 0,00	5,38	
8	47,55 0,00 0,00	0,52	52,72 0,00 0,00	5,16 0,00 0,00	5,16	
9	53,54 0,00 0,00	0,58	58,35 0,00 0,00	4,81 0,00 0,00	4,81	
10	59,52 0,00 0,00	0,64	63,88 0,00 0,00	4,36 0,00 0,00	4,36	
11	65,50 0,00 0,00	0,70	69,31 0,00 0,00	3,81 0,00 0,00	3,81	
12	71,48 0,00 0,00	0,76	74,67 0,00 0,00	3,18 0,00 0,00	3,18	
13	77,46 0,00 0,00	0,82	79,95 0,00 0,00	2,48 0,00 0,00	2,48	
14	83,44 0,00 0,00	0,88	85,16 0,00 0,00	1,71 0,00 0,00	1,71	
15	89,42 0,00 0,00	0,94	90,31 0,00 0,00	0,88 0,00 0,00	0,88	
16	95,41 0,00 0,00	1,00	95,41 0,00 0,00	0,00 0,00 0,00	0,01	
17	5,69 0,00 0,00	0,00	5,69 0,00 0,00	0,00 0,00 0,00	0,01	
18	28,12 0,00 0,00	0,30	33,40 0,00 0,00	5,28 0,00 0,00	5,28	
19	50,55 0,00 0,00	0,55	55,55 0,00 0,00	5,00 0,00 0,00	5,00	
20	72,98 0,00 0,00	0,78	75,99 0,00 0,00	3,01 0,00 0,00	3,01	
21	95,41 0,00 0,00	1,00	95,41 0,00 0,00	0,00 0,00 0,00	0,01	

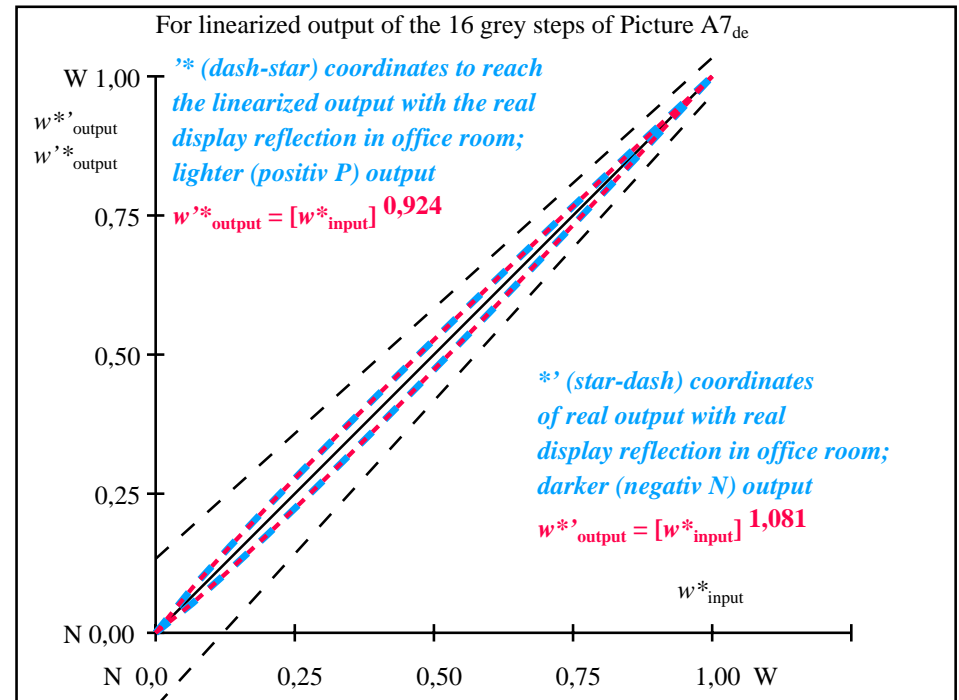
Mean lightness difference (16 steps)
 $\Delta E^*_{\text{CIELAB}} = 3,4$

Mean lightness difference (5 steps)
 $\Delta L^*_{\text{CIELAB}} = 2,6$

Mean colour reproduction index: $R^*_{\text{ab,m}} = 85,0$

part 1,

AE160-3de: 11012



part 2,

AE161-3de: 11012

L^*/Y_{intended} (absolute)	5,6/0,6	11,6/1,3	17,6/2,4	23,6/3,9	29,6/6,0	35,5/8,8	41,5/12,2	47,5/16,4	53,5/21,5	59,5/27,5	65,5/34,6	71,4/42,8	77,4/52,3	83,4/63,0	89,4/75,0	95,4/88,5
0 0 0 n* setcmyk gp=0,924 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)	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^*_{output}	0,000	0,082	0,154	0,225	0,294	0,361	0,428	0,494	0,558	0,623	0,687	0,750	0,813	0,876	0,937	1,000

part 3, picture A7_{de}: 16 visual equidistant L^* -grey steps; PS operator: 0 0 0 n* setcmykcolor

AE160-7de: 11012

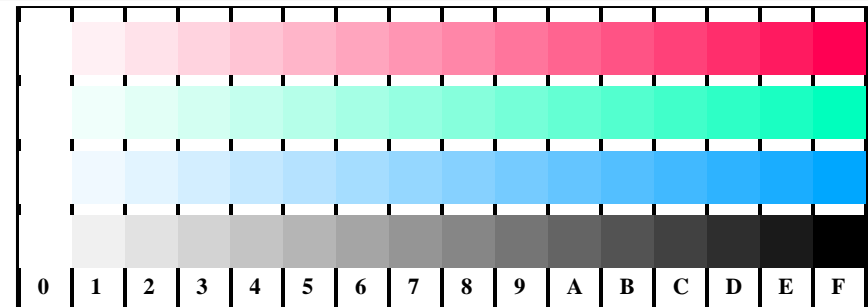
In-out: Test chart AE16 according to test chart 4 of ISO/IEC 15775
Viewing Y contrast $Y_W:Y_N=88,9:0,62$; Y_N -range 0,46 to <0,93

input: $rgb/cmy0/000n/w$ set...
output: $\rightarrow rgb_{\text{de}}$ setrgbcolor

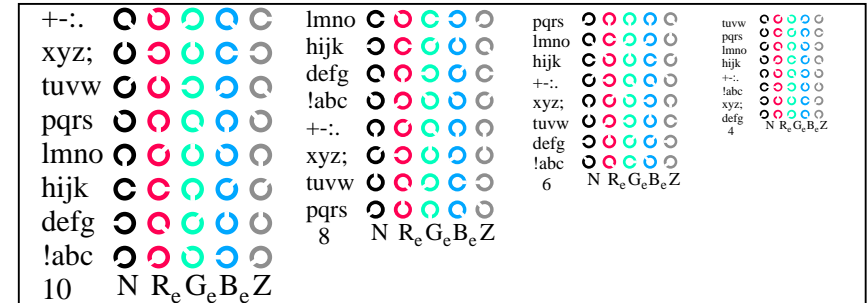
TUB Registration: 20190301-AE16/AE16L0FA.TXT /.PS
application for measurement or viewing of display and print output
TUB material: code=th4ta

see similar files: <http://farbe.li.tu-berlin.de/AE16/AE16F0PX.PDF> / .PS;
technical information: <http://farbe.li.tu-berlin.de/> or <http://farbe.li.tu-berlin.de/AE16F0PX.PDF> / .PS

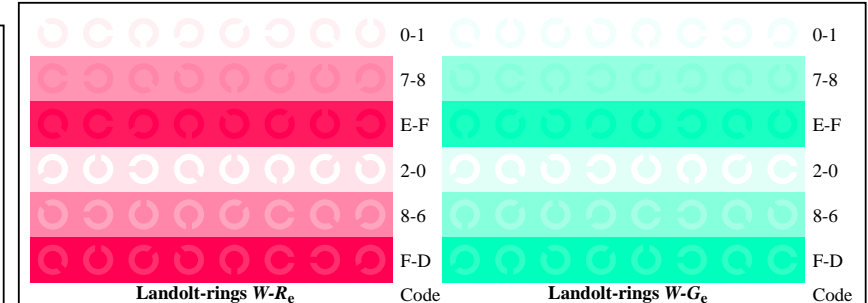
TUB Registration: 20190301-AE16/AE16L0FA.TXT /.PS
application for measurement or viewing of display and print output
TUB material: code=th4ta



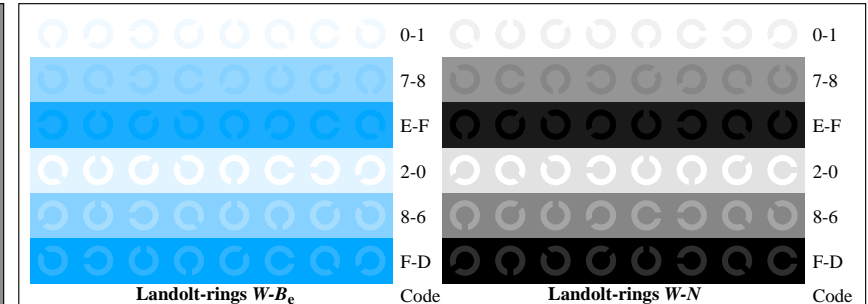
AE161-1, Picture D4Wde: 16 equidistant steps $W-R_e$; $W-G_e$; $W-B_e$; $W-N$; $rgb/cmy0 \rightarrow rgb_{de}$ setrgbcolor



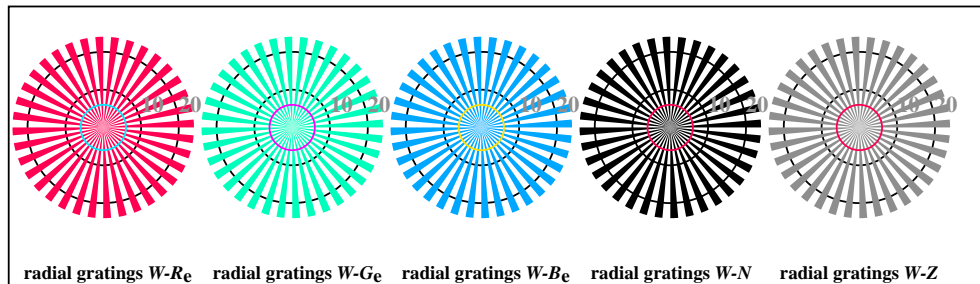
AE161-3, Picture D5Wde: Sript and Landolt-rings N ; R_e ; G_e ; B_e ; Z ; PS operator: $rgb \rightarrow rgb_{de}$ setrgbcolor



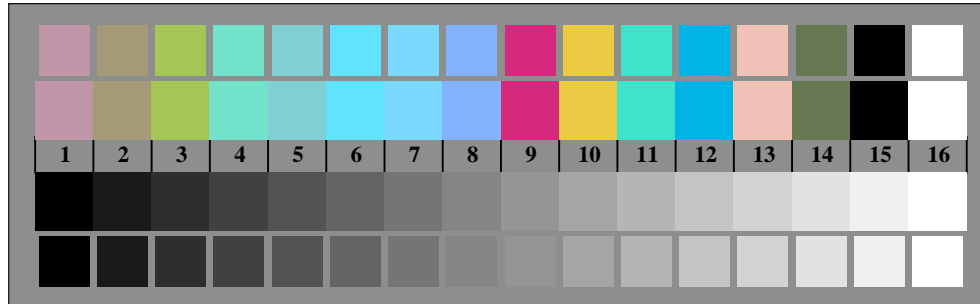
AE161-5, Picture D6Wde: Landolt-rings $W-R_e$; $W-G_e$; PS operator: $rgb \rightarrow rgb_{de}$ setrgbcolor



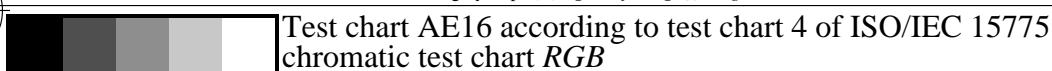
AE161-7, Picture D7Wde: Landolt-rings $W-B_e$; $W-N$; PS operator: $rgb \rightarrow rgb_{de}$ setrgbcolor



AE160-5, Picture D2Wde: radial gratings $W-R_e$; $W-G_e$; $W-B_e$; $W-N$; PS operator: $rgb \rightarrow rgb_{de}$ setrgbcolor



AE160-7, Picture D3Wde: 14 CIE-test colours and 2 + 16 grey steps (sf); $rgb/cmy0 \rightarrow rgb_{de}$ setrgbcolor



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

input: $rgb/cmy0/000n/w$ set...
output: $\rightarrow rgb_{de}$ setrgbcolor

Test of visual linearized output of pictures D2W_{de} to D3W_{de} 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_d, W-G_d, W-B_d according to picture D2W_{de}
Is the resolution diameter < 6 mm? Yes/No
Test with magnifying glass (e.g. 6x) resolution diameter mm

Test of the 14 CIE-test colours according to picture D3W_{de}
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_{de}
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, AE160-3de: 11021

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

PDF file: http://farbe.li.tu-berlin.de/AE16/AE16F0PX_CY6_1.PDF underline: Yes/No
PS file: http://farbe.li.tu-berlin.de/AE16/AE16F0PX_CY6_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_CY6_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_CY6_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, AE160-7de: 11021

Test of 16 visually equally spaced steps of the colour rows W-R_d, W-G_d, W-B_d, and W-N according to picture D4W_{de}

W-R_d 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_d 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_d 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_{de}
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 _d	Rings G _d	Rings B _d
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_d, W-G_d, W-B_d, and W-N according to picture D6W_{de}, and D7W_{de}

Is the recognition frequency of the Landolt rings > 50% (5 of 8 at least)?

Colour row W-R _d background - ring	Colour row W-G _d background - ring	Colour row W-B _d 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, AE161-3Nde: 11021

Documentation of assessor colour-vision properties for visual assessment

The assessor has normal colour vision according to one test: underline: Yes/No
either according to DIN 6160:1996 with Anomaloskop of Nagel underline: Yes/unknown
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_CY6_3.PDF underline: Yes/No

PS file: http://farbe.li.tu-berlin.de/AE16/AE16F0PX_CY6_3.PS underline: Yes/No

picture A7_{de} 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: 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_CY6_3.PDF

picture A7_{de} underline: Yes/No

PS file: http://farbe.li.tu-berlin.de/AE16/AE16F0PX_CY6_3.PS

picture A7_{de} 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

of the PS file AE82L0NP.PS (= .TXT) to the PDF-file AE82L0NP.PDF underline: Yes/No

If No, please describe other method:

part 4, AE161-7de: 11021

see similar files: <http://farbe.li.tu-berlin.de/AE16/AE16L0FA.TXT /.PS>
technical information: <http://farbe.li.tu-berlin.de/> or <http://farbe.li.tu-berlin.de/AE16.HTM>

i	LAB [*] _{ref}	L [*] _{out}	LAB [*] _{out}	LAB [*] _{out-ref}	ΔE [*]	Start output S1
1	10,99 0,00 0,00	0,00	10,99 0,00 0,00	0,00 0,00 0,00	0,01	Specification according to
2	16,62 0,00 0,00	0,13	22,51 0,00 0,00	5,89 0,00 0,00	5,89	ISO/IEC 15775 Annex G
3	22,24 0,00 0,00	0,22	30,17 0,00 0,00	7,93 0,00 0,00	7,93	and DIN 33866-1 Annex G
4	27,87 0,00 0,00	0,30	36,84 0,00 0,00	8,96 0,00 0,00	8,96	
5	33,50 0,00 0,00	0,37	42,93 0,00 0,00	9,42 0,00 0,00	9,42	
6	39,13 0,00 0,00	0,44	48,62 0,00 0,00	9,49 0,00 0,00	9,49	
7	44,75 0,00 0,00	0,50	54,02 0,00 0,00	9,26 0,00 0,00	9,26	
8	50,38 0,00 0,00	0,57	59,19 0,00 0,00	8,80 0,00 0,00	8,80	
9	56,01 0,00 0,00	0,62	64,16 0,00 0,00	8,15 0,00 0,00	8,15	
10	61,64 0,00 0,00	0,68	68,97 0,00 0,00	7,33 0,00 0,00	7,33	
11	67,27 0,00 0,00	0,74	73,64 0,00 0,00	6,37 0,00 0,00	6,37	
12	72,89 0,00 0,00	0,79	78,19 0,00 0,00	5,29 0,00 0,00	5,29	
13	78,52 0,00 0,00	0,84	82,63 0,00 0,00	4,10 0,00 0,00	4,10	
14	84,15 0,00 0,00	0,90	86,97 0,00 0,00	2,82 0,00 0,00	2,82	
15	89,78 0,00 0,00	0,95	91,23 0,00 0,00	1,45 0,00 0,00	1,45	
16	95,41 0,00 0,00	1,00	95,41 0,00 0,00	0,00 0,00 0,00	0,01	
17	10,99 0,00 0,00	0,00	10,99 0,00 0,00	0,00 0,00 0,00	0,01	
18	32,09 0,00 0,00	0,36	41,45 0,00 0,00	9,35 0,00 0,00	9,35	
19	53,20 0,00 0,00	0,60	61,70 0,00 0,00	8,50 0,00 0,00	8,50	
20	74,30 0,00 0,00	0,80	79,31 0,00 0,00	5,00 0,00 0,00	5,00	
21	95,41 0,00 0,00	1,00	95,41 0,00 0,00	0,00 0,00 0,00	0,01	

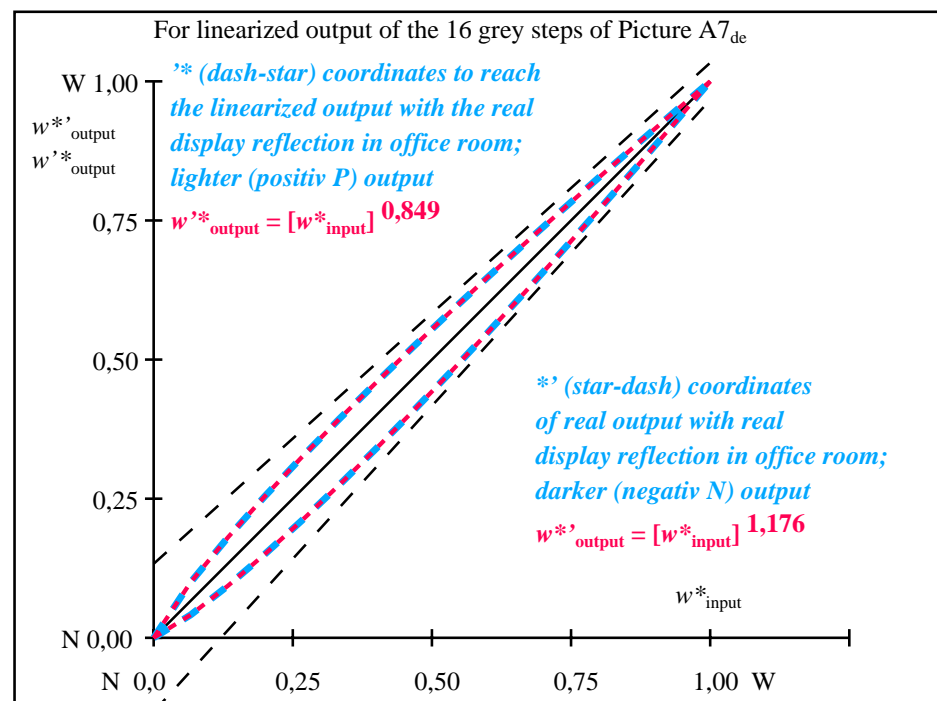
Mean lightness difference (16 steps)
 $\Delta E^*_{\text{CIELAB}} = 5,9$

Mean lightness difference (5 steps)
 $\Delta L^*_{\text{CIELAB}} = 4,5$

Mean colour reproduction index: $R^*_{\text{ab,m}} = 74,1$

part 1,

AE160-3de: 11022



part 2,

AE161-3de: 11022

L^*/Y_{intended} (absolute)	10,9/1,2	16,6/2,2	22,2/3,5	27,8/5,4	33,5/7,7	39,1/10,7	44,7/14,3	50,3/18,7	56,0/23,9	61,6/29,9	67,2/36,9	72,8/45,0	78,5/54,1	84,1/64,3	89,7/75,8	95,4/88,5
0 0 0 n [*] setcmyk gp=0,849 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)	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} w^*_{output}	0,000 0,000	0,067 0,100	0,133 0,180	0,200 0,254	0,267 0,325	0,333 0,392	0,400 0,458	0,467 0,523	0,533 0,585	0,600 0,647	0,667 0,708	0,733 0,767	0,800 0,827	0,867 0,885	0,933 0,942	1,000 1,000

part 3, picture A7_{de}: 16 visual equidistant L^{*}-grey steps; PS operator: 0 0 0 n^{*} setcmykcolor

AE160-7de: 11022

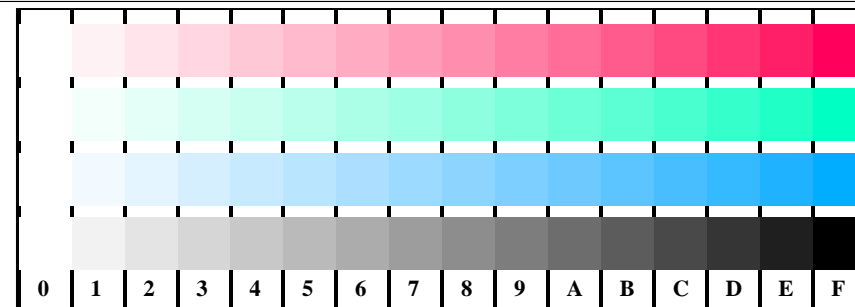
In-out: Test chart AE16 according to test chart 4 of ISO/IEC 15775
Viewing Y contrast $Y_W: Y_N = 88,9:1,25$; Y_N -range 0,93 to <1,87

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

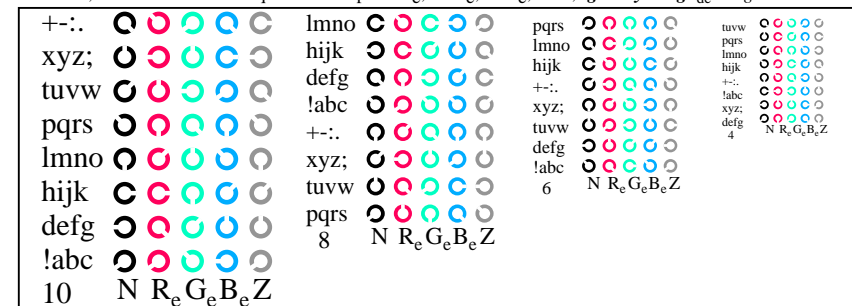
TUB Registration: 20190301-AE16/AE16L0FA.TXT /.PS
application for measurement or viewing of display and print output
TUB material: code=th4ta

see similar files: <http://farbe.li.tu-berlin.de/AE16/AE16F0PX.PDF> / .PS; 3D-linearization, page 10/24
technical information: <http://farbe.li.tu-berlin.de/> or <http://farbe.li.tu-berlin.de/AE16F0PX.PDF>

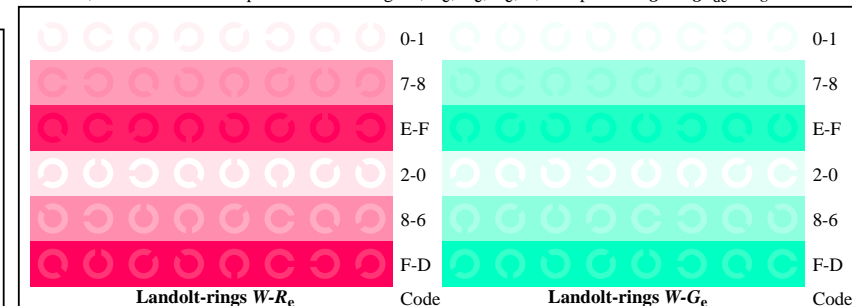
TUB Registration: 20190301-AE16/AE16L0FA.TXT /.PS
application for measurement or viewing of display and print output
TUB material: code=th4ta



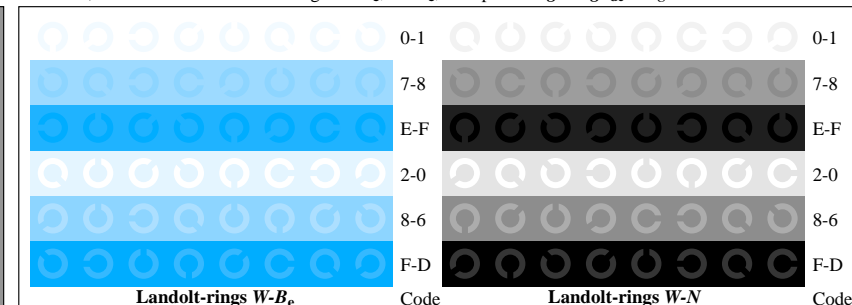
AE161-1, Picture D4Wde: 16 equidistant steps $W-R_e$; $W-G_e$; $W-B_e$; $W-N$; $rgb/cmy_0 \rightarrow rgb_{de}$ setrgbcolor



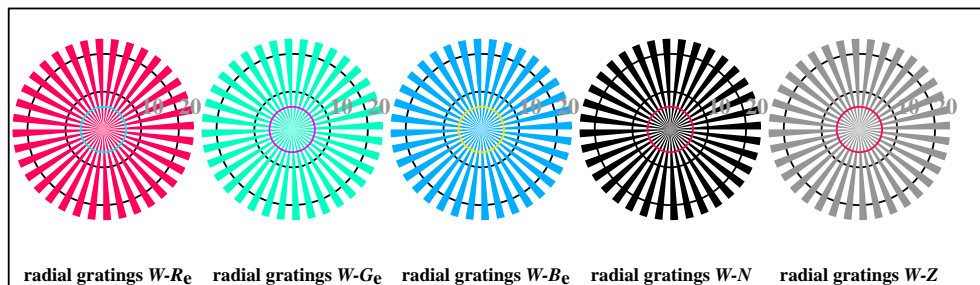
AE161-3, Picture D5Wde: Sript and Landolt-rings N ; R_e ; G_e ; B_e ; Z ; PS operator: $rgb \rightarrow rgb_{de}$ setrgbcolor



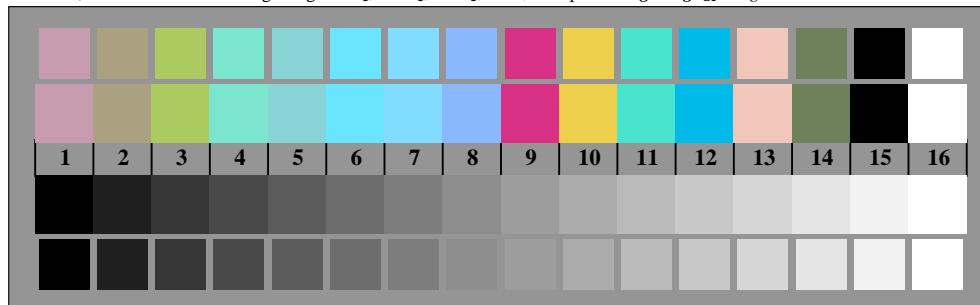
AE161-5, Picture D6Wde: Landolt-rings $W-R_e$; $W-G_e$; PS operator: $rgb \rightarrow rgb_{de}$ setrgbcolor



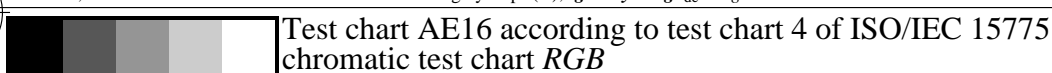
AE161-7, Picture D7Wde: Landolt-rings $W-B_e$; $W-N$; PS operator: $rgb \rightarrow rgb_{de}$ setrgbcolor



AE160-5, Picture D2Wde: radial gratings $W-R_e$; $W-G_e$; $W-B_e$; $W-N$; PS operator: $rgb \rightarrow rgb_{de}$ setrgbcolor



AE160-7, Picture D3Wde: 14 CIE-test colours and 2 + 16 grey steps (sf); $rgb/cmy_0 \rightarrow rgb_{de}$ setrgbcolor



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

input: $rgb/cmy_0/000n/w$ set...
output: $\rightarrow rgb_{de}$ setrgbcolor



Test of visual linearized output of pictures D2W_{de} to D3W_{de} 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_d, W-G_d, W-B_d according to picture D2W_{de}
Is the resolution diameter < 6 mm? Yes/No
Test with magnifying glass (e.g. 6x) resolution diameter mm

Test of the 14 CIE-test colours according to picture D3W_{de}
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_{de}
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, AE160-3de: 11031

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

PDF file: http://farbe.li.tu-berlin.de/AE16/AE16F0PX_CY5_1.PDF underline: Yes/No
PS file: http://farbe.li.tu-berlin.de/AE16/AE16F0PX_CY5_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_CY5_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_CY5_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, AE160-7de: 11031

Form A: Test chart AE16 according to test chart 4 of ISO/IEC 15775 input: rgb/cmy0/000n/w set...
chromatic test chart RGB output: ->rgb_{de} setrgbcolor

Test of 16 visually equally spaced steps of the colour rows W-R_d, W-G_d, W-B_d, and W-N according to picture D4W_{de}
W-R_d 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_d 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_d 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_{de}
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 _d	Rings G _d	Rings B _d
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_d, W-G_d, W-B_d, and W-N according to picture D6W_{de}, and D7W_{de}
Is the recognition frequency of the Landolt rings > 50% (5 of 8 at least)?

Colour row W-R _d background - ring	Colour row W-G _d background - ring	Colour row W-B _d 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, AE161-3Nde: 11031

Documentation of assessor colour-vision properties for visual assessment

The assessor has normal colour vision according to one test: underline: Yes/No
either according to DIN 6160:1996 with Anomaloskop of Nagel underline: Yes/unknown
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_CY5_3.PDF underline: Yes/No
PS file: http://farbe.li.tu-berlin.de/AE16/AE16F0PX_CY5_3.PS underline: Yes/No
picture A7_{de} 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: 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_CY5_3.PDF underline: Yes/No
picture A7_{de} underline: Yes/No
PS file: http://farbe.li.tu-berlin.de/AE16/AE16F0PX_CY5_3.PS or underline: Yes/No
picture A7_{de} 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 of the PS file AE82L0NP.PS (= .TXT) to the PDF-file AE82L0NP.PDF underline: Yes/No
If No, please describe other method:

part 4, AE161-7de: 11031

see similar files: <http://farbe.li.tu-berlin.de/AE16/AE16L0FA.TXT /.PS>
technical information: <http://farbe.li.tu-berlin.de/> or <http://farbe.li.tu-berlin.de/AE16.HTM>

i	LAB* _{ref}	L* _{out}	LAB* _{out}	LAB* _{out-ref}	ΔE*
1	18,00 0,00 0,00	0,00	18,00 0,00 0,00	0,00 0,00 0,00	0,01
2	23,16 0,00 0,00	0,17	31,34 0,00 0,00	8,17 0,00 0,00	8,17
3	28,32 0,00 0,00	0,27	38,92 0,00 0,00	10,59 0,00 0,00	10,59
4	33,48 0,00 0,00	0,35	45,22 0,00 0,00	11,73 0,00 0,00	11,73
5	38,64 0,00 0,00	0,42	50,81 0,00 0,00	12,16 0,00 0,00	12,16
6	43,80 0,00 0,00	0,48	55,93 0,00 0,00	12,12 0,00 0,00	12,12
7	48,96 0,00 0,00	0,55	60,70 0,00 0,00	11,73 0,00 0,00	11,73
8	54,12 0,00 0,00	0,60	65,19 0,00 0,00	11,06 0,00 0,00	11,06
9	59,28 0,00 0,00	0,66	69,46 0,00 0,00	10,17 0,00 0,00	10,17
10	64,44 0,00 0,00	0,71	73,55 0,00 0,00	9,11 0,00 0,00	9,11
11	69,60 0,00 0,00	0,76	77,49 0,00 0,00	7,88 0,00 0,00	7,88
12	74,76 0,00 0,00	0,81	81,29 0,00 0,00	6,52 0,00 0,00	6,52
13	79,92 0,00 0,00	0,86	84,96 0,00 0,00	5,03 0,00 0,00	5,03
14	85,08 0,00 0,00	0,91	88,54 0,00 0,00	3,45 0,00 0,00	3,45
15	90,24 0,00 0,00	0,95	92,01 0,00 0,00	1,76 0,00 0,00	1,76
16	95,41 0,00 0,00	1,00	95,41 0,00 0,00	0,00 0,00 0,00	0,01
17	18,00 0,00 0,00	0,00	18,00 0,00 0,00	0,00 0,00 0,00	0,01
18	37,35 0,00 0,00	0,40	49,47 0,00 0,00	12,11 0,00 0,00	12,11
19	56,70 0,00 0,00	0,63	67,35 0,00 0,00	10,64 0,00 0,00	10,64
20	76,05 0,00 0,00	0,82	82,22 0,00 0,00	6,16 0,00 0,00	6,16
21	95,41 0,00 0,00	1,00	95,41 0,00 0,00	0,00 0,00 0,00	0,01

Specification according to ISO/IEC 15775 Annex G and DIN 33866-1 Annex G

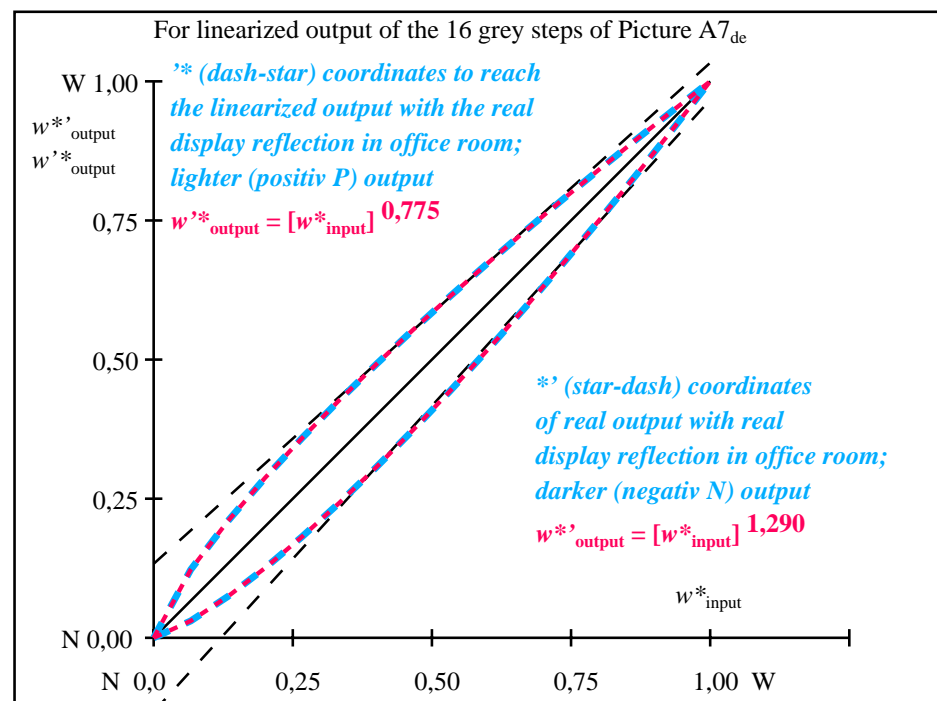
Mean lightness difference (16 steps)
 $\Delta E^*_{\text{CIELAB}} = 7,5$

Mean lightness difference (5 steps)
 $\Delta L^*_{\text{CIELAB}} = 5,7$

Mean colour reproduction index: $R^*_{\text{ab,m}} = 67,0$

part 1,

AE160-3de: 11032



part 2,

AE161-3de: 11032

L^*/Y_{intended} (absolute)	18,0/2,5	23,1/3,8	28,3/5,5	33,4/7,7	38,6/10,4	43,8/13,7	48,9/17,5	54,1/22,0	59,2/27,3	64,4/33,3	69,6/40,1	74,7/47,9	79,9/56,5	85,0/66,1	90,2/76,8	95,4/88,5
0 0 0 n* setcmyk gp=0,775 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)	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} w^*_{output}	0,000 0,000	0,067 0,123	0,133 0,209	0,200 0,287	0,267 0,359	0,333 0,426	0,400 0,491	0,467 0,554	0,533 0,614	0,600 0,673	0,667 0,730	0,733 0,786	0,800 0,841	0,867 0,895	0,933 0,947	1,000 1,000

part 3, picture A7_{de}: 16 visual equidistant L^* -grey steps; PS operator: 0 0 0 n* setcmykcolor

AE160-7de: 11032

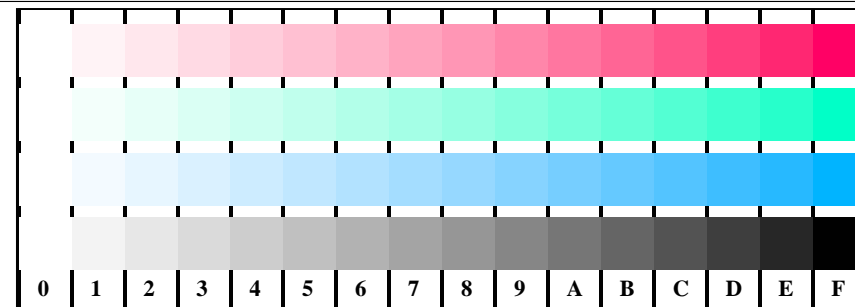
In-out: Test chart AE16 according to test chart 4 of ISO/IEC 15775
Viewing Y contrast $Y_W:Y_N=88,9:2,5$; Y_N -range 1,87 to <3,75

input: $rgb/cmy0/000n/w$ set...
output: $\rightarrow rgb_{\text{de}}$ setrgbcolor

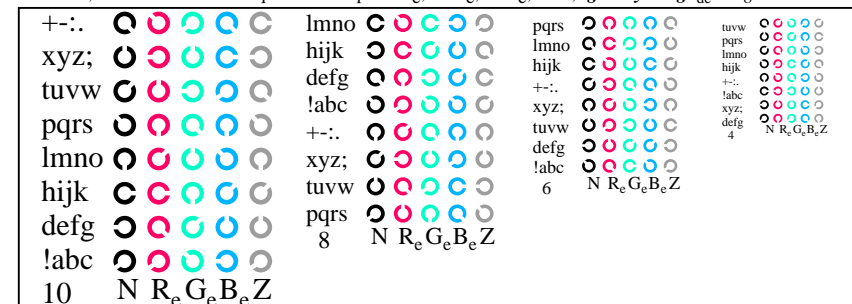
TUB Registration: 20190301-AE16/AE16L0FA.TXT /.PS
application for measurement or viewing of display and print output
TUB material: code=th4ta

see similar files: <http://farbe.li.tu-berlin.de/AE16/AE16F0PX.PDF> / .PS; 3D-linearization, page 13/24
F: 3D-linearization AE16/AE16LF0PX.PDF /.PS in file (F)

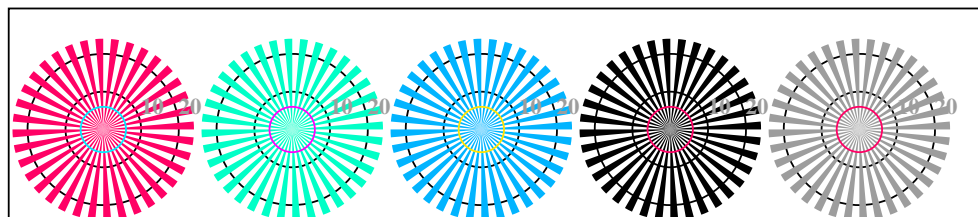
TUB Registration: 20190301-AE16/AE16L0FA.TXT /.PS
application for measurement or viewing of display and print output
TUB material: code=th4ta



AE161-1, Picture D4Wde: 16 equidistant steps $W-R_e$; $W-G_e$; $W-B_e$; $W-N$; $rgb/cmy_0 \rightarrow rgb_{de}$ setrgbcolor



AE161-3, Picture D5Wde: Sript and Landolt-rings N ; R_e ; G_e ; B_e ; Z ; PS operator: $rgb \rightarrow rgb_{de}$ setrgbcolor

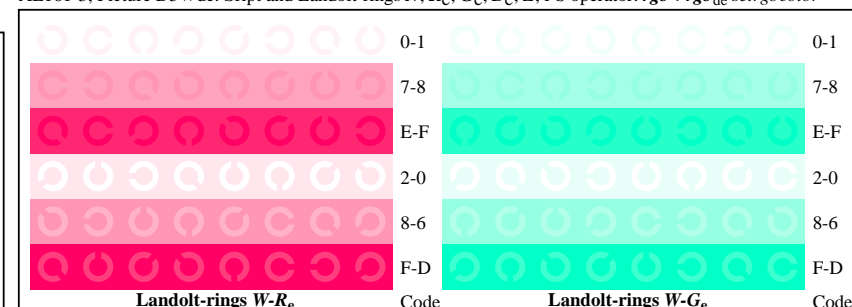


radial gratings $W-R_e$ radial gratings $W-G_e$ radial gratings $W-B_e$ radial gratings $W-N$ radial gratings $W-Z$

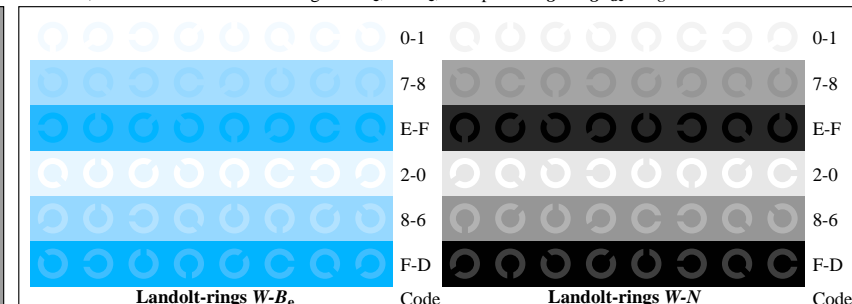
AE160-5, Picture D2Wde: radial gratings $W-R_e$; $W-G_e$; $W-B_e$; $W-N$; PS operator: $rgb \rightarrow rgb_{de}$ setrgbcolor



AE160-7, Picture D3Wde: 14 CIE-test colours and 2 + 16 grey steps (sf); $rgb/cmy_0 \rightarrow rgb_{de}$ setrgbcolor



AE161-5, Picture D6Wde: Landolt-rings $W-R_e$; $W-G_e$; PS operator: $rgb \rightarrow rgb_{de}$ setrgbcolor



AE161-7, Picture D7Wde: Landolt-rings $W-B_e$; $W-N$; PS operator: $rgb \rightarrow rgb_{de}$ setrgbcolor

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

input: $rgb/cmy_0/000n/w$ set...
output: $\rightarrow rgb_{de}$ setrgbcolor

Test of visual linearized output of pictures D2W_{de} to D3W_{de} 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_d, W-G_d, W-B_d according to picture D2W_{de}
Is the resolution diameter < 6 mm? Yes/No
Test with magnifying glass (e.g. 6x) resolution diameter mm

Test of the 14 CIE-test colours according to picture D3W_{de}
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_{de}
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, AE160-3de: 11041

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

PDF file: http://farbe.li.tu-berlin.de/AE16/AE16F0PX_CY4_1.PDF underline: Yes/No
PS file: http://farbe.li.tu-berlin.de/AE16/AE16F0PX_CY4_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_CY4_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_CY4_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, AE160-7de: 11041

Form A: Test chart AE16 according to test chart 4 of ISO/IEC 15775 input: rgb/cmy0/000n/w set...
chromatic test chart RGB output: ->rgb_{de} setrgbcolor

Test of 16 visually equally spaced steps of the colour rows W-R_d, W-G_d, W-B_d, and W-N according to picture D4W_{de}
W-R_d 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_d 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_d 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_{de}
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 _d	Rings G _d	Rings B _d
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_d, W-G_d, W-B_d, and W-N according to picture D6W_{de}, and D7W_{de}
Is the recognition frequency of the Landolt rings > 50% (5 of 8 at least)?

Colour row W-R _d background - ring	Colour row W-G _d background - ring	Colour row W-B _d 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, AE161-3Nde: 11041

Documentation of assessor colour-vision properties for visual assessment

The assessor has normal colour vision according to one test: underline: Yes/No
either according to DIN 6160:1996 with Anomaloskop of Nagel underline: Yes/unknown
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_CY4_3.PDF underline: Yes/No
PS file: http://farbe.li.tu-berlin.de/AE16/AE16F0PX_CY4_3.PS underline: Yes/No
picture A7_{de} 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: 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_CY4_3.PDF underline: Yes/No
picture A7_{de} underline: Yes/No
PS file: http://farbe.li.tu-berlin.de/AE16/AE16F0PX_CY4_3.PS or underline: Yes/No
picture A7_{de} 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
of the PS file AE82L0NP.PS (= .TXT) to the PDF-file AE82L0NP.PDF underline: Yes/No
If No, please describe other method:

part 4, AE161-7de: 11041

see similar files: <http://farbe.li.tu-berlin.de/AE16/AE16F0PX.PDF> / .PS; 3D-linearization, page 15/24
technical information: <http://farbe.li.tu-berlin.de/> or <http://farbe.li.tu-berlin.de/AE16.HTM>

i	LAB* _{ref}	L* _{out}	LAB* _{out}	LAB* _{out-ref}	ΔE*
1	26,84 0,00 0,00	0,00	26,84 0,00 0,00	0,00 0,00 0,00	0,01
2	31,41 0,00 0,00	0,20	41,04 0,00 0,00	9,62 0,00 0,00	9,62
3	35,98 0,00 0,00	0,30	48,09 0,00 0,00	12,10 0,00 0,00	12,10
4	40,56 0,00 0,00	0,39	53,74 0,00 0,00	13,18 0,00 0,00	13,18
5	45,13 0,00 0,00	0,46	58,64 0,00 0,00	13,51 0,00 0,00	13,51
6	49,70 0,00 0,00	0,52	63,04 0,00 0,00	13,34 0,00 0,00	13,34
7	54,27 0,00 0,00	0,58	67,09 0,00 0,00	12,82 0,00 0,00	12,82
8	58,84 0,00 0,00	0,64	70,86 0,00 0,00	12,02 0,00 0,00	12,02
9	63,41 0,00 0,00	0,69	74,42 0,00 0,00	11,00 0,00 0,00	11,00
10	67,98 0,00 0,00	0,74	77,79 0,00 0,00	9,80 0,00 0,00	9,80
11	72,55 0,00 0,00	0,78	81,01 0,00 0,00	8,45 0,00 0,00	8,45
12	77,12 0,00 0,00	0,83	84,09 0,00 0,00	6,97 0,00 0,00	6,97
13	81,69 0,00 0,00	0,87	87,06 0,00 0,00	5,37 0,00 0,00	5,37
14	86,26 0,00 0,00	0,92	89,93 0,00 0,00	3,66 0,00 0,00	3,66
15	90,83 0,00 0,00	0,96	92,71 0,00 0,00	1,87 0,00 0,00	1,87
16	95,41 0,00 0,00	1,00	95,41 0,00 0,00	0,00 0,00 0,00	0,01
17	26,84 0,00 0,00	0,00	26,84 0,00 0,00	0,00 0,00 0,00	0,01
18	43,98 0,00 0,00	0,44	57,47 0,00 0,00	13,48 0,00 0,00	13,48
19	61,12 0,00 0,00	0,66	72,66 0,00 0,00	11,54 0,00 0,00	11,54
20	78,26 0,00 0,00	0,84	84,85 0,00 0,00	6,58 0,00 0,00	6,58
21	95,41 0,00 0,00	1,00	95,41 0,00 0,00	0,00 0,00 0,00	0,01

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

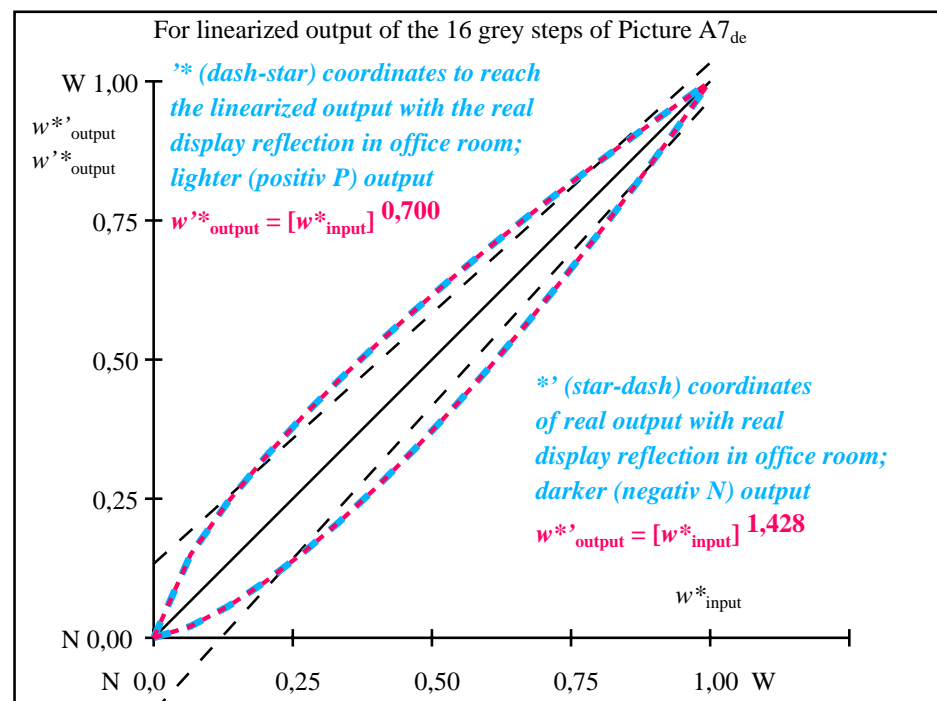
Mean lightness difference (16 steps)
 $\Delta E^*_{CIELAB} = 8,3$

Mean lightness difference (5 steps)
 $\Delta L^*_{CIELAB} = 6,3$

Mean colour reproduction index: $R^*_{ab,m} = 63,7$

part 1,

AE160-3de: 11042



part 2,

AE161-3de: 11042

$L^*/Y_{intended}$ (absolute)	26,8/5,0	31,4/6,8	35,9/9,0	40,5/11,5	45,1/14,6	49,7/18,1	54,2/22,2	58,8/26,8	63,4/32,0	67,9/37,9	72,5/44,4	77,1/51,7	81,6/59,7	86,2/68,5	90,8/78,1	95,4/88,5
0 0 0 n* setcmyk gp=0,700 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)	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
$w^*_{intended}$ w^*_{output}	0,000 0,000	0,067 0,150	0,133 0,243	0,200 0,324	0,267 0,396	0,333 0,463	0,400 0,526	0,467 0,586	0,533 0,643	0,600 0,699	0,667 0,753	0,733 0,804	0,800 0,855	0,867 0,904	0,933 0,952	1,000 1,000

part 3, picture A7_{de}: 16 visual equidistant L^* -grey steps; PS operator: 0 0 0 n* setcmykcolor

AE160-7de: 11042

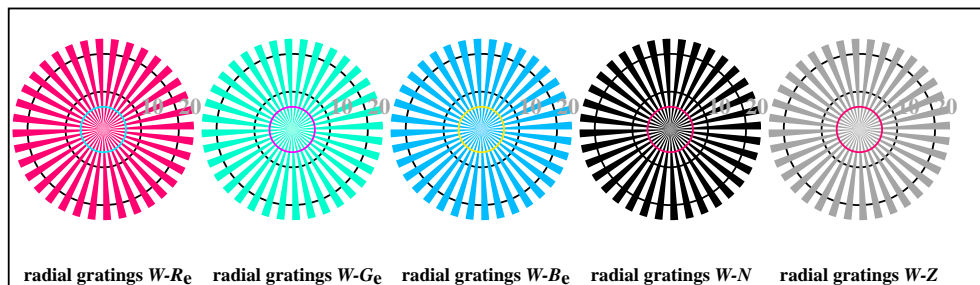
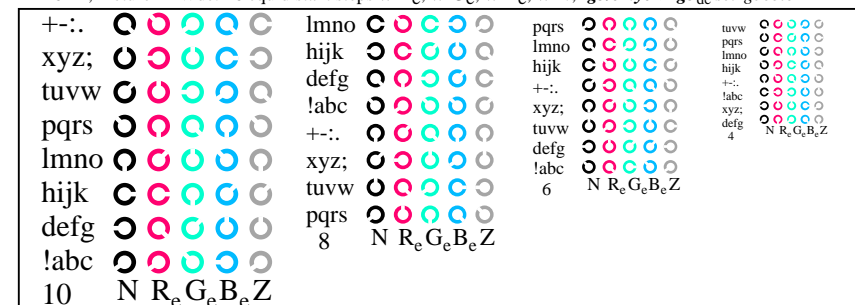
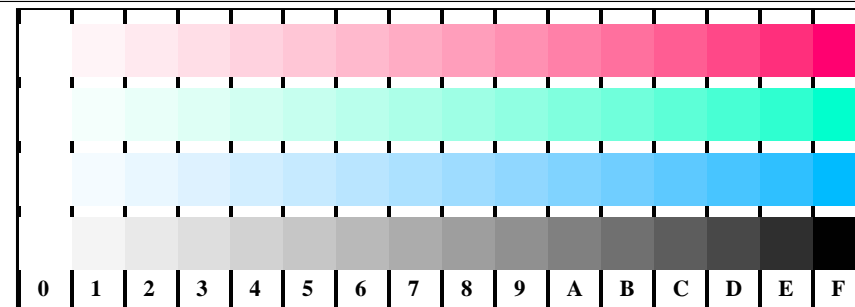
In-out: Test chart AE16 according to test chart 4 of ISO/IEC 15775
Viewing Y contrast $Y_W:Y_N=88,9:5$; Y_N -range 3,75 to <7,5

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

TUB Registration: 20190301-AE16/AE16L0FA.TXT /.PS
application for measurement or viewing of display and print output
TUB material: code=th4ta

see similar files: <http://farbe.li.tu-berlin.de/AE16/AE16F0PX.PDF> / .PS; 3D-linearization, page 16/24
F: 3D-linearization AE16/AE16LF0PX.PDF /.PS in file (F)

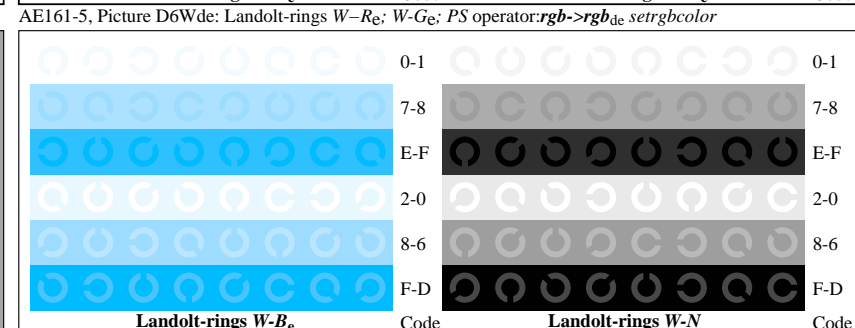
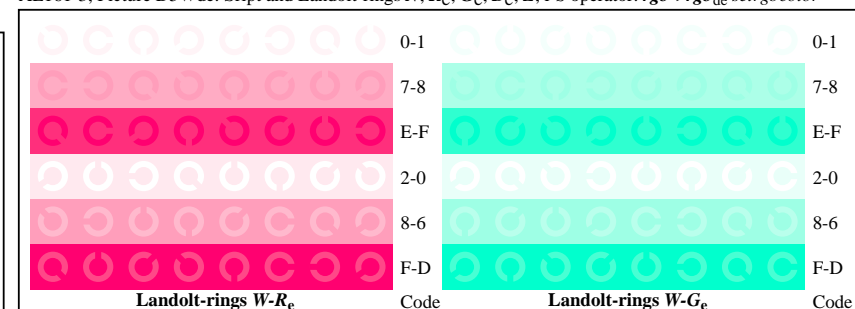
TUB Registration: 20190301-AE16/AE16L0FA.TXT /.PS
application for measurement or viewing of display and print output
TUB material: code=th4ta



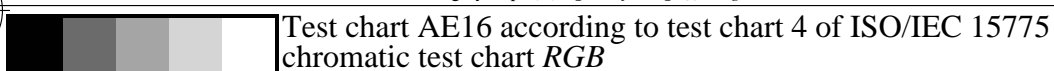
AE160-5, Picture D2Wde: radial gratings $W-R_e$; $W-G_e$; $W-B_e$; $W-N$; PS operator: $rgb \rightarrow rgb_{de}$ setrgbcolor



AE160-7, Picture D3Wde: 14 CIE-test colours and 2 + 16 grey steps (sf); $rgb/cmy_0 \rightarrow rgb_{de}$ setrgbcolor



AE161-7, Picture D7Wde: Landolt-rings $W-B_e$; $W-N$; PS operator: $rgb \rightarrow rgb_{de}$ setrgbcolor



input: $rgb/cmy_0/000n/w$ set...
output: $\rightarrow rgb_{de}$ setrgbcolor



Test of visual linearized output of pictures D2W_{de} to D3W_{de} 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_d, W-G_d, W-B_d according to picture D2W_{de}
Is the resolution diameter < 6 mm? Yes/No
Test with magnifying glass (e.g. 6x) resolution diameter mm mm mm mm mm

Test of the 14 CIE-test colours according to picture D3W_{de}
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_{de}
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, AE160-3de: 11051

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

PDF file: http://farbe.li.tu-berlin.de/AE16/AE16F0PX_CY3_1.PDF underline: Yes/No
PS file: http://farbe.li.tu-berlin.de/AE16/AE16F0PX_CY3_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_CY3_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_CY3_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, AE160-7de: 11051

Form A: Test chart AE16 according to test chart 4 of ISO/IEC 15775 input: rgb/cmy0/000n/w set...
chromatic test chart RGB output: ->rgb_{de} setrgbcolor

Test of 16 visually equally spaced steps of the colour rows W-R_d, W-G_d, W-B_d, and W-N according to picture D4W_{de}
W-R_d 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_d 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_d 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_{de}
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 _d	Rings G _d	Rings B _d
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_d, W-G_d, W-B_d, and W-N according to picture D6W_{de}, and D7W_{de}
Is the recognition frequency of the Landolt rings > 50% (5 of 8 at least)?

Colour row W-R _d background - ring	Colour row W-G _d background - ring	Colour row W-B _d 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, AE161-3Nde: 11051

Documentation of assessor colour-vision properties for visual assessment

The assessor has normal colour vision according to one test: underline: Yes/No
either according to DIN 6160:1996 with Anomaloskop of Nagel underline: Yes/unknown
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_CY3_3.PDF underline: Yes/No
PS file: http://farbe.li.tu-berlin.de/AE16/AE16F0PX_CY3_3.PS underline: Yes/No
picture A7_{de} 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: 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_CY3_3.PDF underline: Yes/No
picture A7_{de} underline: Yes/No
PS file: http://farbe.li.tu-berlin.de/AE16/AE16F0PX_CY3_3.PS or underline: Yes/No
picture A7_{de} 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 of the PS file AE82L0NP.PS (= .TXT) to the PDF-file AE82L0NP.PDF underline: Yes/No
If No, please describe other method:

part 4,

AE161-7de: 11051

see similar files: <http://farbe.li.tu-berlin.de/AE16/AE16L0FA.TXT /.PS>
technical information: <http://farbe.li.tu-berlin.de/> or <http://farbe.li.tu-berlin.de/AE16.HTM>

i	LAB* _{ref}	L* _{out}	LAB* _{out}	LAB* _{out-ref}	ΔE*
1	37,98 0,00 0,00	0,00	37,98 0,00 0,00	0,00 0,00 0,00	0,01
2	41,81 0,00 0,00	0,24	51,79 0,00 0,00	9,97 0,00 0,00	9,97
3	45,64 0,00 0,00	0,34	57,87 0,00 0,00	12,22 0,00 0,00	12,22
4	49,47 0,00 0,00	0,42	62,60 0,00 0,00	13,13 0,00 0,00	13,13
5	53,29 0,00 0,00	0,49	66,62 0,00 0,00	13,32 0,00 0,00	13,32
6	57,12 0,00 0,00	0,56	70,19 0,00 0,00	13,06 0,00 0,00	13,06
7	60,95 0,00 0,00	0,61	73,43 0,00 0,00	12,48 0,00 0,00	12,48
8	64,78 0,00 0,00	0,66	76,43 0,00 0,00	11,65 0,00 0,00	11,65
9	68,61 0,00 0,00	0,71	79,23 0,00 0,00	10,62 0,00 0,00	10,62
10	72,44 0,00 0,00	0,76	81,87 0,00 0,00	9,43 0,00 0,00	9,43
11	76,26 0,00 0,00	0,80	84,37 0,00 0,00	8,10 0,00 0,00	8,10
12	80,09 0,00 0,00	0,84	86,76 0,00 0,00	6,66 0,00 0,00	6,66
13	83,92 0,00 0,00	0,88	89,04 0,00 0,00	5,12 0,00 0,00	5,12
14	87,75 0,00 0,00	0,92	91,24 0,00 0,00	3,49 0,00 0,00	3,49
15	91,58 0,00 0,00	0,96	93,36 0,00 0,00	1,78 0,00 0,00	1,78
16	95,41 0,00 0,00	1,00	95,41 0,00 0,00	0,00 0,00 0,00	0,01
17	37,98 0,00 0,00	0,00	37,98 0,00 0,00	0,00 0,00 0,00	0,01
18	52,34 0,00 0,00	0,48	65,66 0,00 0,00	13,32 0,00 0,00	13,32
19	66,69 0,00 0,00	0,69	77,85 0,00 0,00	11,15 0,00 0,00	11,15
20	81,05 0,00 0,00	0,85	87,34 0,00 0,00	6,28 0,00 0,00	6,28
21	95,41 0,00 0,00	1,00	95,41 0,00 0,00	0,00 0,00 0,00	0,01

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

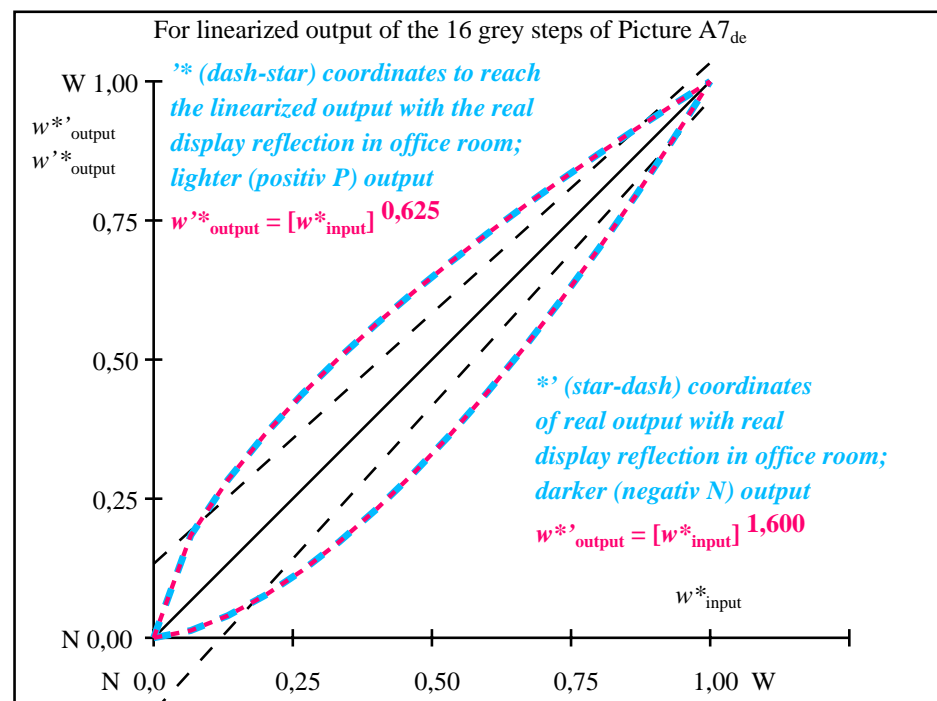
Mean lightness difference (16 steps)
 $\Delta E^*_{\text{CIELAB}} = 8,1$

Mean lightness difference (5 steps)
 $\Delta L^*_{\text{CIELAB}} = 6,1$

Mean colour reproduction index: $R^*_{\text{ab,m}} = 64,5$

part 1,

AE160-3de: 11052



part 2,

AE161-3de: 11052

L^*/Y_{intended} (absolute)	37,9/10,0	41,8/12,3	45,6/15,0	49,4/17,9	53,2/21,3	57,1/25,0	60,9/29,1	64,7/33,7	68,6/38,8	72,4/44,3	76,2/50,3	80,0/56,8	83,9/63,9	87,7/71,5	91,5/79,7	95,4/88,5
0 0 0 n* setcmyk gp=0,625 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)	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} w^*_{output}	0,000 0,000	0,067 0,184	0,133 0,283	0,200 0,365	0,267 0,438	0,333 0,502	0,400 0,564	0,467 0,621	0,533 0,674	0,600 0,726	0,667 0,776	0,733 0,823	0,800 0,869	0,867 0,914	0,933 0,957	1,000 1,000

part 3, picture A7_{de}: 16 visual equidistant L^* -grey steps; PS operator: 0 0 0 n* setcmykcolor

AE160-7de: 11052

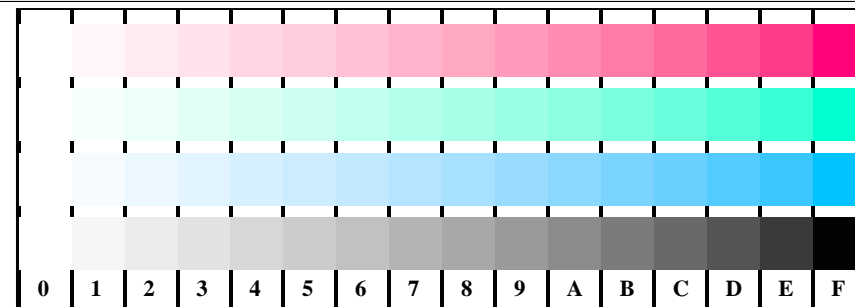
In-out: Test chart AE16 according to test chart 4 of ISO/IEC 15775
Viewing Y contrast $Y_W:Y_N=88,9:10$; Y_N -range 7,5 to <15

input: $rgb/cmy0/000n/w$ set...
output: $\rightarrow rgb_{\text{de}}$ setrgbcolor

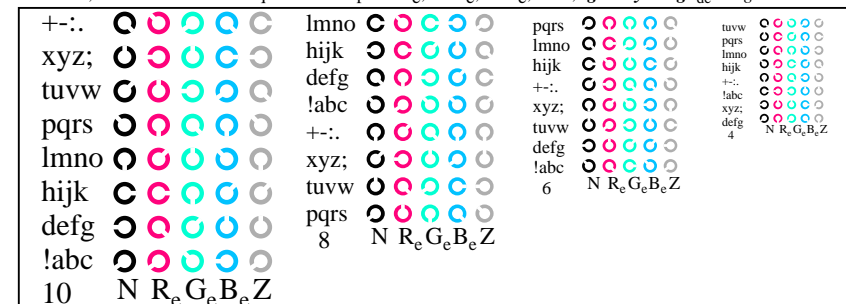
TUB Registration: 20190301-AE16/AE16L0FA.TXT /.PS
application for measurement or viewing of display and print output
TUB material: code=th4ta

see similar files: <http://farbe.li.tu-berlin.de/AE16/AE16F0PX.PDF> / .PS; 3D-linearization, page 19/24
technical information: <http://farbe.li.tu-berlin.de/> or <http://farbe.li.tu-berlin.de/AE16F0PX.PDF> / .PS in file (F)

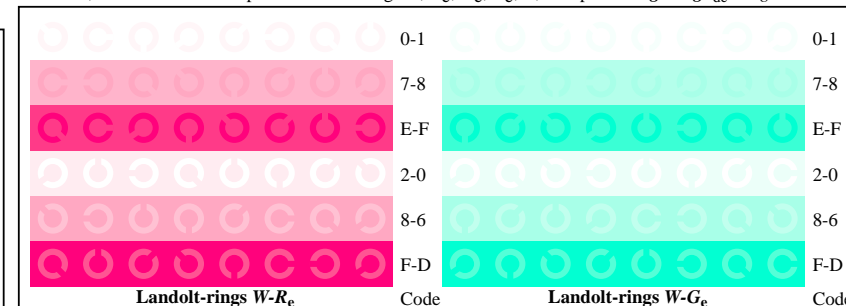
TUB Registration: 20190301-AE16/AE16L0FA.TXT /.PS
application for measurement or viewing of display and print output
TUB material: code=th4ta



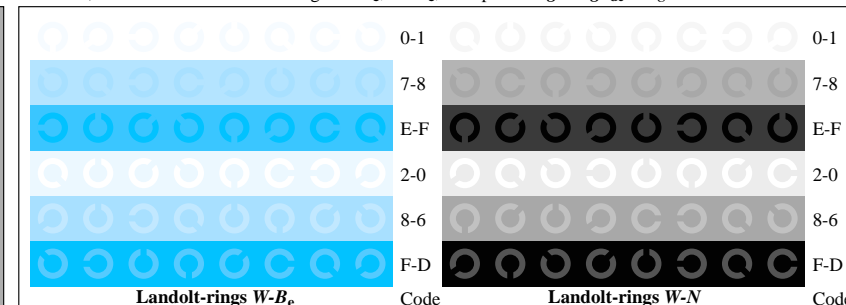
AE161-1, Picture D4Wde: 16 equidistant steps $W-R_e$; $W-G_e$; $W-B_e$; $W-N$; $rgb/cmy_0 \rightarrow rgb_{de}$ setrgbcolor



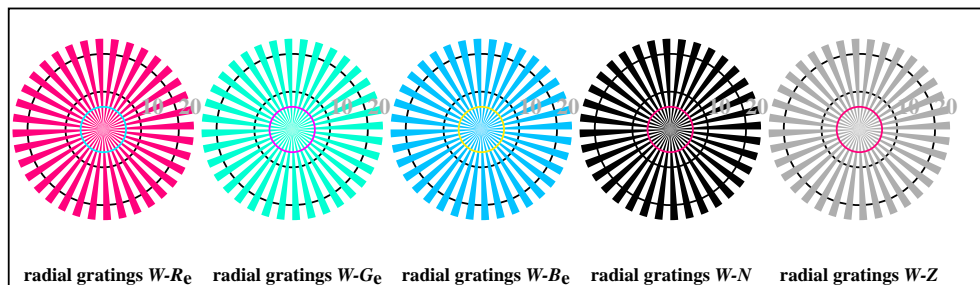
AE161-3, Picture D5Wde: Sript and Landolt-rings N ; R_e ; G_e ; B_e ; Z ; PS operator: $rgb \rightarrow rgb_{de}$ setrgbcolor



AE161-5, Picture D6Wde: Landolt-rings $W-R_e$; $W-G_e$; PS operator: $rgb \rightarrow rgb_{de}$ setrgbcolor



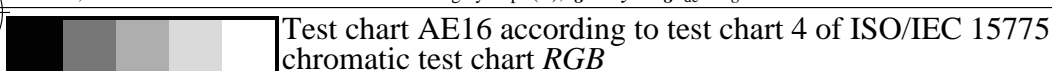
AE161-7, Picture D7Wde: Landolt-rings $W-B_e$; $W-N$; PS operator: $rgb \rightarrow rgb_{de}$ setrgbcolor



AE160-5, Picture D2Wde: radial gratings $W-R_e$; $W-G_e$; $W-B_e$; $W-N$; PS operator: $rgb \rightarrow rgb_{de}$ setrgbcolor



AE160-7, Picture D3Wde: 14 CIE-test colours and 2 + 16 grey steps (sf); $rgb/cmy_0 \rightarrow rgb_{de}$ setrgbcolor



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

input: $rgb/cmy_0/000n/w$ set...
output: $\rightarrow rgb_{de}$ setrgbcolor

Test of visual linearized output of pictures D2W_{de} to D3W_{de} 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_d, W-G_d, W-B_d according to picture D2W_{de}
Is the resolution diameter < 6 mm? Yes/No
Test with magnifying glass (e.g. 6x) resolution diameter mm mm mm mm mm

Test of the 14 CIE-test colours according to picture D3W_{de}
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_{de}
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, AE160-3de: 11061

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

PDF file: http://farbe.li.tu-berlin.de/AE16/AE16F0PX_CY2_1.PDF underline: Yes/No

PS file: http://farbe.li.tu-berlin.de/AE16/AE16F0PX_CY2_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_CY2_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_CY2_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, AE160-7de: 11061

Form A: Test chart AE16 according to test chart 4 of ISO/IEC 15775 input: rgb/cmy0/000n/w set...
chromatic test chart RGB output: ->rgb_{de} setrgbcolor

Test of 16 visually equally spaced steps of the colour rows W-R_d, W-G_d, W-B_d, and W-N according to picture D4W_{de}
W-R_d 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_d 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_d 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_{de}
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 _d	Rings G _d	Rings B _d
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_d, W-G_d, W-B_d, and W-N according to picture D6W_{de}, and D7W_{de}
Is the recognition frequency of the Landolt rings > 50% (5 of 8 at least)?

Colour row W-R _d background - ring	Colour row W-G _d background - ring	Colour row W-B _d 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, AE161-3Nde: 11061

Documentation of assessor colour-vision properties for visual assessment

The assessor has normal colour vision according to one test: underline: Yes/No
either according to DIN 6160:1996 with Anomaloskop of Nagel underline: Yes/unknown
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_CY2_3.PDF underline: Yes/No
PS file: http://farbe.li.tu-berlin.de/AE16/AE16F0PX_CY2_3.PS underline: Yes/No
picture A7_{de} 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: 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_CY2_3.PDF underline: Yes/No
picture A7_{de} underline: Yes/No
PS file: http://farbe.li.tu-berlin.de/AE16/AE16F0PX_CY2_3.PS or underline: Yes/No
picture A7_{de} 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
of the PS file AE82L0NP.PS (= .TXT) to the PDF-file AE82L0NP.PDF underline: Yes/No
If No, please describe other method:

part 4, AE161-7de: 11061

see similar files: <http://farbe.li.tu-berlin.de/AE16/AE16L0FA.TXT /.PS>
technical information: <http://farbe.li.tu-berlin.de/> or <http://farbe.li.tu-berlin.de/AE16.HTM>

TUB Registration: 20190301-AE16/AE16L0FA.TXT /.PS
application for measurement or viewing of display and print output
TUB material: code=th4ta

i	LAB* _{ref}	L* _{out}	LAB* _{out}	LAB* _{out-ref}	ΔE*
1	52,01 0,00 0,00	52,01 0,00 0,00	52,01 0,00 0,00	0,00 0,00 0,00	0,01
2	54,91 0,00 0,00	54,91 0,00 0,00	54,91 0,00 0,00	0,00 0,00 0,00	0,00
3	57,80 0,00 0,00	57,80 0,00 0,00	57,80 0,00 0,00	0,00 0,00 0,00	0,00
4	60,69 0,00 0,00	60,69 0,00 0,00	60,69 0,00 0,00	0,00 0,00 0,00	0,00
5	63,58 0,00 0,00	63,58 0,00 0,00	63,58 0,00 0,00	0,00 0,00 0,00	0,00
6	66,48 0,00 0,00	66,48 0,00 0,00	66,48 0,00 0,00	0,00 0,00 0,00	0,00
7	69,37 0,00 0,00	69,37 0,00 0,00	69,37 0,00 0,00	0,00 0,00 0,00	0,00
8	72,26 0,00 0,00	72,26 0,00 0,00	72,26 0,00 0,00	0,00 0,00 0,00	0,00
9	75,16 0,00 0,00	75,16 0,00 0,00	75,16 0,00 0,00	0,00 0,00 0,00	0,00
10	78,05 0,00 0,00	78,05 0,00 0,00	78,05 0,00 0,00	0,00 0,00 0,00	0,00
11	80,94 0,00 0,00	80,94 0,00 0,00	80,94 0,00 0,00	0,00 0,00 0,00	0,00
12	83,83 0,00 0,00	83,83 0,00 0,00	83,83 0,00 0,00	0,00 0,00 0,00	0,00
13	86,73 0,00 0,00	86,73 0,00 0,00	86,73 0,00 0,00	0,00 0,00 0,00	0,00
14	89,62 0,00 0,00	89,62 0,00 0,00	89,62 0,00 0,00	0,00 0,00 0,00	0,00
15	92,51 0,00 0,00	92,51 0,00 0,00	92,51 0,00 0,00	0,00 0,00 0,00	0,00
16	95,41 0,00 0,00	95,41 0,00 0,00	95,41 0,00 0,00	0,00 0,00 0,00	0,00
17	52,01 0,00 0,00	52,01 0,00 0,00	52,01 0,00 0,00	0,00 0,00 0,00	0,01
18	62,86 0,00 0,00	62,86 0,00 0,00	62,86 0,00 0,00	0,00 0,00 0,00	0,00
19	73,71 0,00 0,00	73,71 0,00 0,00	73,71 0,00 0,00	0,00 0,00 0,00	0,00
20	84,56 0,00 0,00	84,56 0,00 0,00	84,56 0,00 0,00	0,00 0,00 0,00	0,00
21	95,41 0,00 0,00	95,41 0,00 0,00	95,41 0,00 0,00	0,00 0,00 0,00	0,01

Specification according to ISO/IEC 15775 Annex G and DIN 33866-1 Annex G

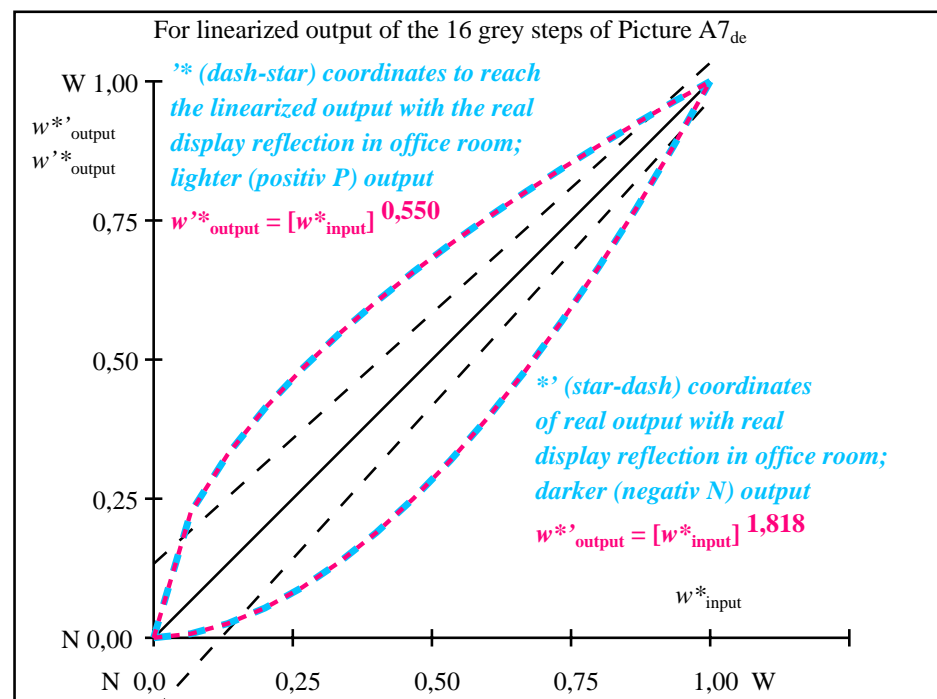
Mean lightness difference (16 steps)
 $\Delta E^*_{CIELAB} = 6,9$

Mean lightness difference (5 steps)
 $\Delta L^*_{CIELAB} = 5,2$

Mean colour reproduction index: $R^*_{ab,m} = 69,8$

part 1,

AE160-3de: 11062



part 2,

AE161-3de: 11062

L*/Y _{intended} (absolute)	52,0/20,1	54,9/22,8	57,8/25,7	60,6/28,9	63,5/32,2	66,4/35,9	69,3/39,8	72,2/44,0	75,1/48,5	78,0/53,3	80,9/58,3	83,8/63,7	86,7/69,4	89,6/75,4	92,5/81,8	95,4/88,5
0 0 0 n* setcmyk gp=0,550 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)	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* _{output}	0,000	0,226	0,329	0,412	0,483	0,546	0,604	0,657	0,707	0,755	0,800	0,842	0,884	0,924	0,962	1,000

part 3, picture A7_{de}: 16 visual equidistant L*-grey steps; PS operator: 0 0 0 n* setcmykcolor

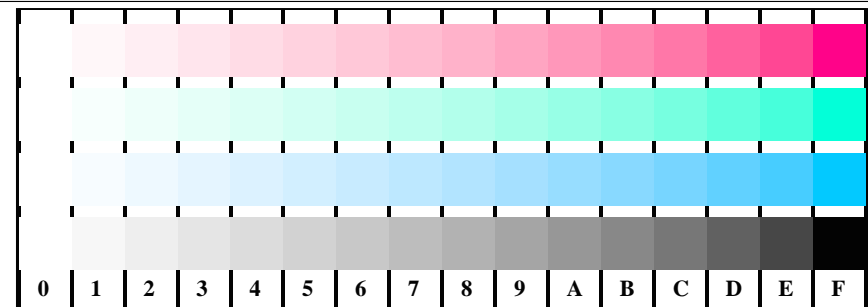
AE160-7de: 11062

In-out: Test chart AE16 according to test chart 4 of ISO/IEC 15775
Viewing Y contrast $Y_W:Y_N=88,9:20$; Y_N -range 15 to <30

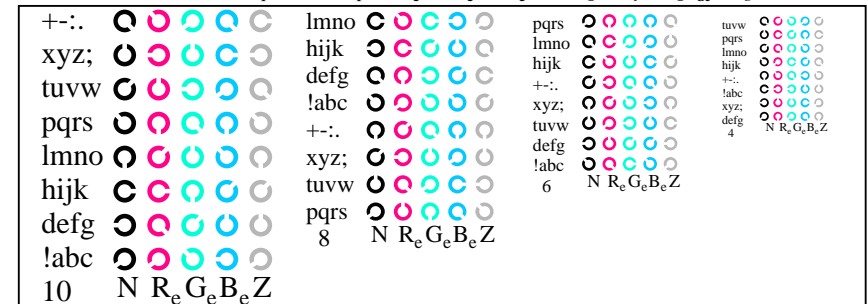
input: *rgb/cmy0/000n/w set...*
output: *->rgb_{de} setrgbcolor*

see similar files: <http://farbe.li.tu-berlin.de/AE16/AE16F0PX.PDF> / .PS; 3D-linearization, page 22/24
F: 3D-linearization AE16/AE16LF0PX.PDF /.PS in file (F)

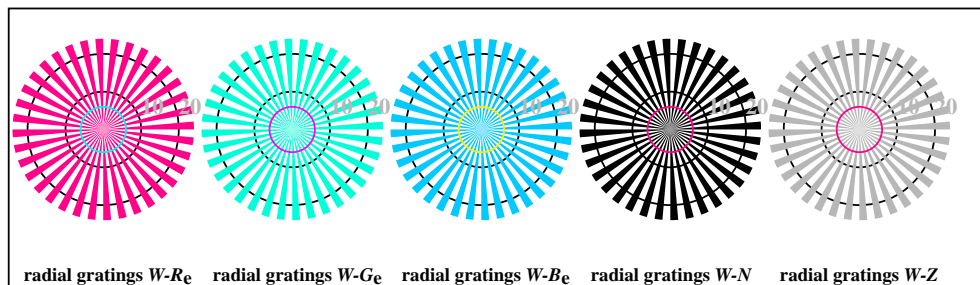
TUB Registration: 20190301-AE16/AE16L0FA.TXT /.PS
application for measurement or viewing of display and print output
TUB material: code=th4ta



AE161-1, Picture D4Wde: 16 equidistant steps $W-R_e$; $W-G_e$; $W-B_e$; $W-N$; $r_g/cmy0->r_gb_{de}$ setrgbcolor



AE161-3, Picture D5Wde: Sript and Landolt-rings N ; R_e ; G_e ; B_e ; Z ; PS operator: $r_gb->r_gb_{de}$ setrgbcolor

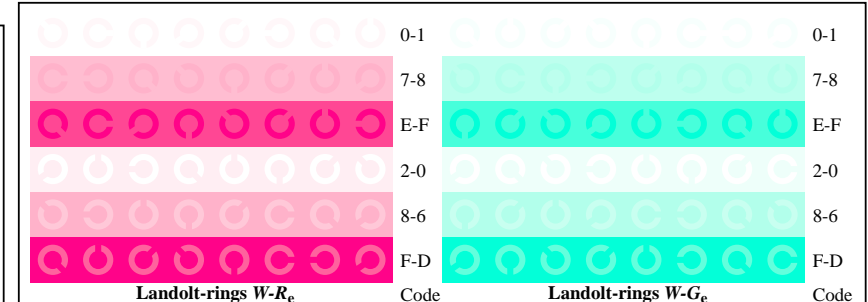


AE160-5, Picture D2Wde: radial gratings $W-R_e$; $W-G_e$; $W-B_e$; $W-N$; PS operator: $r_gb->r_gb_{de}$ setrgbcolor

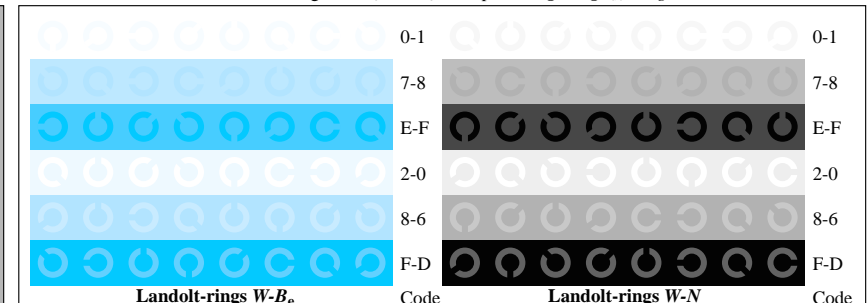


AE160-7, Picture D3Wde: 14 CIE-test colours and 2 + 16 grey steps (sf); $r_gb/cmy0->r_gb_{de}$ setrgbcolor

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



AE161-5, Picture D6Wde: Landolt-rings $W-R_e$; $W-G_e$; PS operator: $r_gb->r_gb_{de}$ setrgbcolor



AE161-7, Picture D7Wde: Landolt-rings $W-B_e$; $W-N$; PS operator: $r_gb->r_gb_{de}$ setrgbcolor

input: $r_gb/cmy0/000n/w$ set...
output: $->r_gb_{de}$ setrgbcolor

Test of visual linearized output of pictures D2W_{de} to D3W_{de} 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_d, W-G_d, W-B_d according to picture D2W_{de}

	W-R _d	W-G _d	W-B _d	W-N	W-Z
Is the resolution diameter < 6 mm?	Yes/No	Yes/No	Yes/No	Yes/No	Yes/No
Test with magnifying glass (e.g. 6x) resolution diameter	..... mm	..... mm	..... mm	..... mm	..... mm

Test of the 14 CIE-test colours according to picture D3W_{de}
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_{de}
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, AE160-3de: 11071

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

PDF file: http://farbe.li.tu-berlin.de/AE16/AE16F0PX_CY1_1.PDF underline: Yes/No

PS file: http://farbe.li.tu-berlin.de/AE16/AE16F0PX_CY1_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_CY1_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_CY1_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, AE160-7de: 11071

Form A: Test chart AE16 according to test chart 4 of ISO/IEC 15775 input: *rgb/cmy0/000n/w set...*
chromatic test chart RGB output: *->rgb_{de} setrgbcolor*

Test of 16 visually equally spaced steps of the colour rows W-R_d, W-G_d, W-B_d, and W-N according to picture D4W_{de}

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

Test of characters and Landolt-rings in four sizes according to picture D5W_{de}
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 _d	Rings G _d	Rings B _d
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_d, W-G_d, W-B_d, and W-N according to picture D6W_{de}, and D7W_{de}

Is the recognition frequency of the Landolt rings > 50% (5 of 8 at least)?

Colour row W-R _d background - ring	Colour row W-G _d background - ring	Colour row W-B _d 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, AE161-3Nde: 11071

Documentation of assessor colour-vision properties for visual assessment

The assessor has normal colour vision according to one test: underline: Yes/No
either according to DIN 6160:1996 with Anomaloskop of Nagel underline: Yes/unknown
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_CY1_3.PDF underline: Yes/No

PS file: http://farbe.li.tu-berlin.de/AE16/AE16F0PX_CY1_3.PS underline: Yes/No

picture A7_{de} 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: 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_CY1_3.PDF underline: Yes/No

PS file: http://farbe.li.tu-berlin.de/AE16/AE16F0PX_CY1_3.PS or underline: Yes/No

picture A7_{de} 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
of the PS file AE82L0NP.PS (= .TXT) to the PDF-file AE82L0NP.PDF underline: Yes/No

If No, please describe other method:

part 4,

AE161-7de: 11071

TUB Registration: 20190301-AE16/AE16L0FA.TXT /.PS
application for measurement or viewing of display and print output

TUB material: code=th4ta

see similar files: <http://farbe.li.tu-berlin.de/AE16/AE16L0FA.TXT /.PS>
technical information: <http://farbe.li.tu-berlin.de/> or <http://farbe.li.tu-berlin.de/AE16.HTM>

TUB Registration: 20190301-AE16/AE16L0FA.TXT /.PS
application for measurement or viewing of display and print output
TUB material: code=th4ta

i	LAB* _{ref}	L* _{out}	LAB* _{out}	LAB* _{out-ref}	ΔE*
1	69,69 0,00 0,00	0,00	69,69 0,00 0,00	0,00 0,00 0,00	0,01
2	71,41 0,00 0,00	0,30	77,45 0,00 0,00	6,04 0,00 0,00	6,04
3	73,12 0,00 0,00	0,41	80,23 0,00 0,00	7,11 0,00 0,00	7,11
4	74,83 0,00 0,00	0,49	82,31 0,00 0,00	7,47 0,00 0,00	7,47
5	76,55 0,00 0,00	0,55	84,02 0,00 0,00	7,47 0,00 0,00	7,47
6	78,26 0,00 0,00	0,61	85,51 0,00 0,00	7,24 0,00 0,00	7,24
7	79,98 0,00 0,00	0,66	86,83 0,00 0,00	6,85 0,00 0,00	6,85
8	81,69 0,00 0,00	0,71	88,04 0,00 0,00	6,35 0,00 0,00	6,35
9	83,41 0,00 0,00	0,75	89,16 0,00 0,00	5,75 0,00 0,00	5,75
10	85,12 0,00 0,00	0,79	90,20 0,00 0,00	5,08 0,00 0,00	5,08
11	86,83 0,00 0,00	0,83	91,18 0,00 0,00	4,34 0,00 0,00	4,34
12	88,55 0,00 0,00	0,87	92,11 0,00 0,00	3,55 0,00 0,00	3,55
13	90,26 0,00 0,00	0,90	92,99 0,00 0,00	2,72 0,00 0,00	2,72
14	91,98 0,00 0,00	0,93	93,83 0,00 0,00	1,85 0,00 0,00	1,85
15	93,69 0,00 0,00	0,96	94,63 0,00 0,00	0,94 0,00 0,00	0,94
16	95,41 0,00 0,00	1,00	95,41 0,00 0,00	0,00 0,00 0,00	0,01
17	69,69 0,00 0,00	0,00	69,69 0,00 0,00	0,00 0,00 0,00	0,01
18	76,12 0,00 0,00	0,54	83,62 0,00 0,00	7,49 0,00 0,00	7,49
19	82,55 0,00 0,00	0,73	88,61 0,00 0,00	6,06 0,00 0,00	6,06
20	88,98 0,00 0,00	0,88	92,33 0,00 0,00	3,35 0,00 0,00	3,35
21	95,41 0,00 0,00	1,00	95,41 0,00 0,00	0,00 0,00 0,00	0,01

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

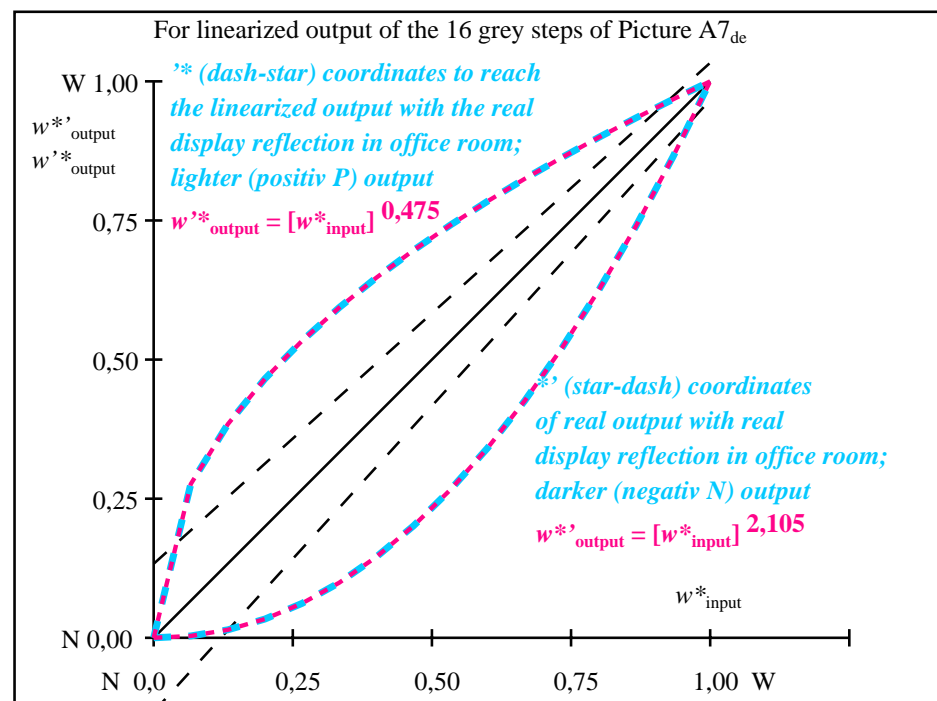
Mean lightness difference
(16 steps)
 $\Delta E^*_{CIELAB} = 4,5$

Mean lightness difference
(5 steps)
 $\Delta L^*_{CIELAB} = 3,3$

Mean colour reproduction index: $R^*_{ab,m} = 80,3$

part 1,

AE160-3de: 11072



$L^*/Y_{intended}$ (absolute)	69,6/40,3	71,4/42,7	73,1/45,3	74,8/48,0	76,5/50,7	78,2/53,6	79,9/56,6	81,6/59,7	83,4/62,9	85,1/66,2	86,8/69,6	88,5/73,2	90,2/76,8	91,9/80,6	93,6/84,5	95,4/88,5
0 0 0 n*																
setcmyk																
gp=0,475																
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^*_{output}	0,000	0,276	0,383	0,465	0,534	0,593	0,647	0,696	0,741	0,784	0,825	0,862	0,899	0,934	0,967	1,000

part 3, picture A7_{de}: 16 visual equidistant L^* -grey steps; PS operator: 0 0 0 n* setcmykcolor

AE160-7de: 11072

In-out: Test chart AE16 according to test chart 4 of ISO/IEC 15775
Viewing Y contrast $Y_W:Y_N=88,9:40$; Y_N -range 30 to <60

input: $rgb/cmy0/000n/w$ set...
output: $\rightarrow rgb_{de}$ setrgbcolor