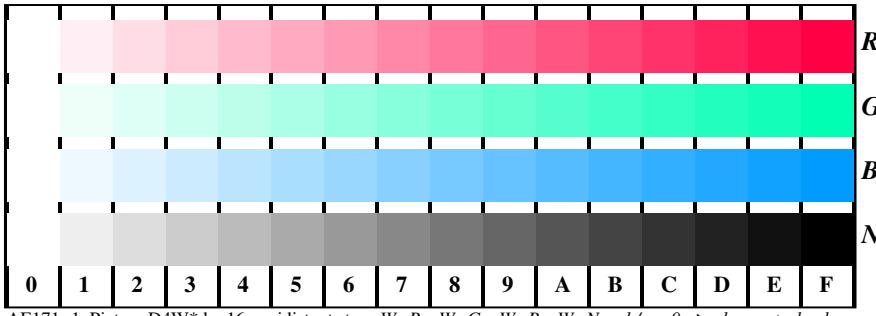
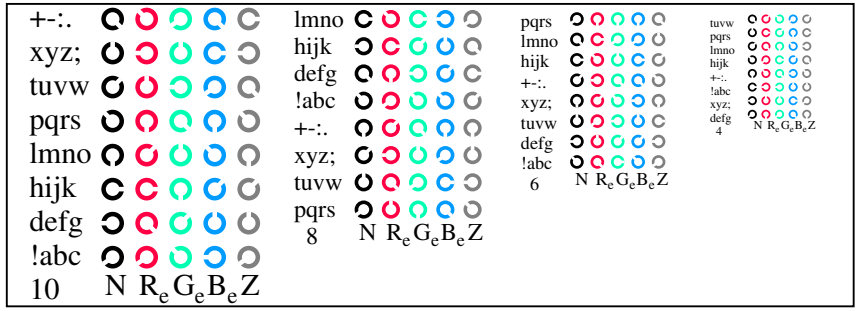
see similar files: http://farbe.li.tu-berlin.de/AE17/AE17.HTM
technical information: http://farbe.li.tu-berlin.de/ or http://farbe.li.tu-berlin.de/AE.HTM

TUB Registration: 20191001-AE17/AE17L0FA.TXT /.PS
application for measurement or viewing of the output on display and print
TUB material: code=rha4ta

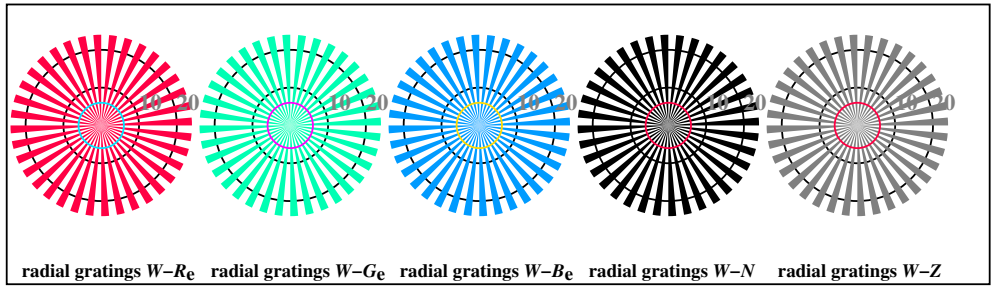
AE170–3, Picture D1W*de: Flower motif, 14 CIE-test colours and 2 + 16 grey steps (sf); *PS* operators *settransfer, 3 colorimage*



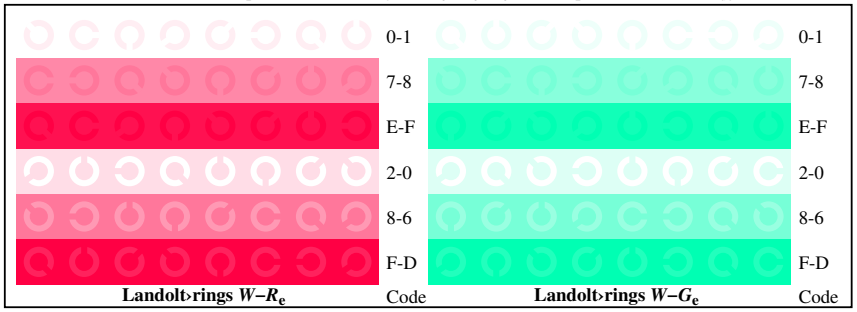
AE171–1, Picture D4W*de: 16 equidistant steps *W–Re; W–Ge; W–Be; W–N; rgb/cmy0–>rgb*de setrgbcolor*



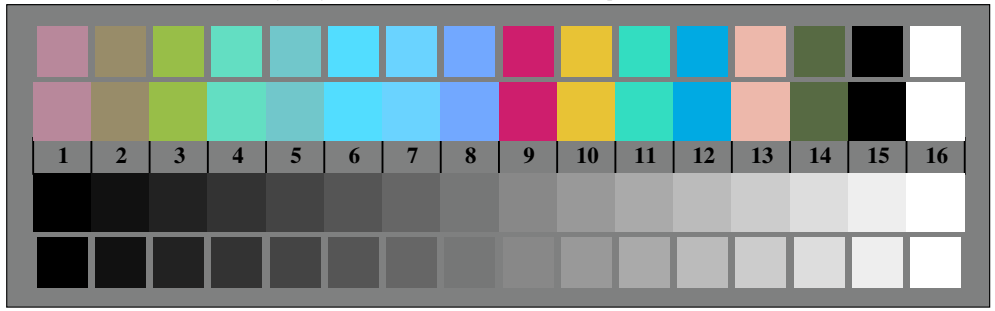
AE171–3, Picture D5W*de: Sript and Landolt-rings *N; Re; Ge; Be; Z; PS* operator *rgb–>rgb*de setrgbcolor*



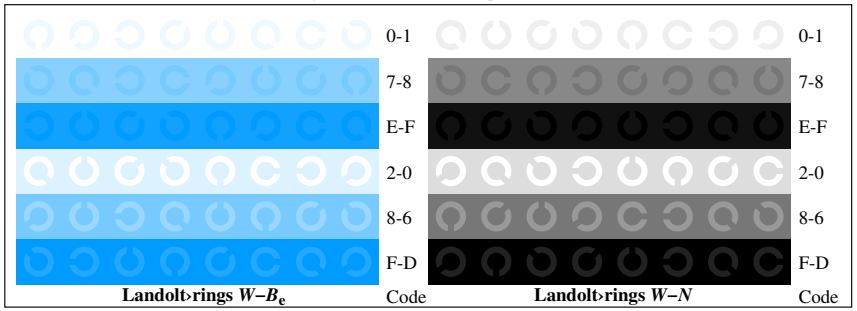
AE170–5, Picture D2W*de: radial gratings *W–Re; W–Ge; W–Be; W–N; PS* operator *rgb–>rgb*de setrgbcolor*



AE171–5, Picture D6W*de: Landolt-rings *W–Re; W–Ge; PS* operator *rgb–>rgb*de setrgbcolor*



AE170–7, Picture D3W*de: 14 CIE-test colours and 2 + 16 grey steps (sf); *rgb/cmy0–>rgb*de setrgbcolor*



AE171–7, Picture D7W*de: Landolt-rings *W–Be; W–N; PS* operator *rgb–>rgb*de setrgbcolor*

Test chart AE17 according to test chart 4 of ISO/IEC 15775
chromatic test chart *RGB*

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

see similar files: http://farbe.li.tu-berlin.de/AE17/AE17.HTM
technical information: http://farbe.li.tu-berlin.de/ or http://farbe.li.tu-berlin.de/AE.HTM

Test for the visual linearized output of pictures D1Wde **to D3W**de

Output test with the computer display ( ) or the external display ( ) please mark by (x)!

Test of the (flower) image according to picture D1Wde

Are clear (immediately conspicuous) differences recognized between reproduction and test chart? **Yes/No**

Subjective remarks about the colour reproduction of the (flower) image,
the CIE−test colours and the 16 grey steps within the image, for example "less contrast":

.....
.....
.....
.....
.....

Test of the resolution of radial gratings *W−R*$_d$, *W−G*$_d$, *W−B*$_d$ according to picture D2Wde

	***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 (6x), Resolution diameter:	..... mm	..... mm	..... mm	..... mm	..... mm

Test of the 14 CIE−test colours according to picture D3Wde

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 AE170−3de: 11001

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 D4Wde

***W−R*$_d$** White − Red:	Are all the 16 steps distinguishable?		**Yes/No**
	If No: How many steps can be distinguished?	of the given 16 steps	..... Steps
***W−G*$_d$** White − Green:	Are all the 16 steps distinguishable?		**Yes/No**
	If No: How many steps can be distinguished?	of the given 16 steps	..... Steps
***W−B*$_d$** White − Blue:	Are all the 16 steps distinguishable?		**Yes/No**
	If No: How many steps can be distinguished?	of the given 16 steps	..... Steps
W−N White − Black:	Are all the 16 steps distinguishable?		**Yes/No**
	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 D5Wde

Is the recognition frequency > 50% for letters (17 from 32 at least) and for Landolt−rings (minimum 5 of 8)?

Relative size	Letters	Ring ***N***	Ring ***R*$_d$**	Ring ***G*$_d$**	Ring ***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 recognition frequency of Landolt−rings *W−R*$_d$, *W−G*$_d$, *W−B*$_d$, and *W−N* according to pictures D6Wde**, and D7W**de

Is the recognition frequency of the Landolt−rings > 50% (min. 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 AE171−3Nde: 11001

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

PDF file: http://farbe.li.tu-berlin.de/AE17/AE17F0PX_CY8_1.PDF **underline Yes/No**

PS-File: http://farbe.li.tu-berlin.de/AE17/AE17F0PX_CY8_1.PS **or underline Yes/No**

Used computer operating system:
either one of Windows/Mac/Unix/other and version:.....

This evaluation is for the device output: **underline monitor/data projector/printer**
Device model, driver and version:.....

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

For device output with PDF-file AE17F0PX_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 device output with PS-file AE17F0PX_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:Special remarks, e. g. output of Landscape (L)
.....
.....
.....

part 3 AE170−7N*de-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/AE17/AE17F0PX_CY8_3.PDF **underline Yes/No**
PS file: http://farbe.li.tu-berlin.de/AE17/AE17F0PX_CY8_3.PS **underline Yes/No**
Picture A7de **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 range**
Remark: In daylighted offices the contrast range is in many cases:
on display between: >F:0 and E:0 (monitor), D:0 and 3:0 (data projector)

Only for optional colorimetric specification with PDF/PS file output

PDF file: http://farbe.li.tu-berlin.de/AE17/AE17F0PX_CY8_3.PDF
picture A7de **underline Yes/No**
PS file: http://farbe.li.tu-berlin.de/AE17/AE17F0PX_CY8_3.PS
picture A7de **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 AE171−7de: 11001

TUB Registration: 20191001-AE17/AE17L0FA.TXT /.PS TUB material: code=rha4ta
application for measurement or viewing of the output on display and print

see similar files: http://farbe.li.tu-berlin.de/AE17/AE17.HTM
technical information: http://farbe.li.tu-berlin.de/ or http://farbe.li.tu-berlin.de/AE.HTM

TUB Registration: 20191001-AE17/AE17L0FA.TXT /.PS
application for measurement or viewing of the output on display and print
TUB material: code=rha4ta

i	LAB*ref			l*out	LAB*out			LAB*out−ref			ΔE*
1	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,01
2	6,36	0,00	0,00	0,06	6,36	0,00	0,00	0,00	0,00	0,00	0,01
3	12,72	0,00	0,00	0,13	12,72	0,00	0,00	0,00	0,00	0,00	0,01
4	19,08	0,00	0,00	0,20	19,08	0,00	0,00	0,00	0,00	0,00	0,01
5	25,44	0,00	0,00	0,26	25,44	0,00	0,00	0,00	0,00	0,00	0,01
6	31,80	0,00	0,00	0,33	31,80	0,00	0,00	0,00	0,00	0,00	0,01
7	38,16	0,00	0,00	0,40	38,16	0,00	0,00	0,00	0,00	0,00	0,01
8	44,52	0,00	0,00	0,46	44,52	0,00	0,00	0,00	0,00	0,00	0,01
9	50,88	0,00	0,00	0,53	50,88	0,00	0,00	0,00	0,00	0,00	0,01
10	57,24	0,00	0,00	0,60	57,24	0,00	0,00	0,00	0,00	0,00	0,01
11	63,60	0,00	0,00	0,66	63,60	0,00	0,00	0,00	0,00	0,00	0,01
12	69,96	0,00	0,00	0,73	69,96	0,00	0,00	0,00	0,00	0,00	0,01
13	76,32	0,00	0,00	0,80	76,32	0,00	0,00	0,00	0,00	0,00	0,01
14	82,68	0,00	0,00	0,86	82,68	0,00	0,00	0,00	0,00	0,00	0,01
15	89,04	0,00	0,00	0,93	89,04	0,00	0,00	0,00	0,00	0,00	0,01
16	95,41	0,00	0,00	1,00	95,41	0,00	0,00	0,00	0,00	0,00	0,01
17	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,01
18	23,85	0,00	0,00	0,25	23,85	0,00	0,00	0,00	0,00	0,00	0,01
19	47,70	0,00	0,00	0,50	47,70	0,00	0,00	0,00	0,00	0,00	0,01
20	71,55	0,00	0,00	0,75	71,55	0,00	0,00	0,00	0,00	0,00	0,01
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

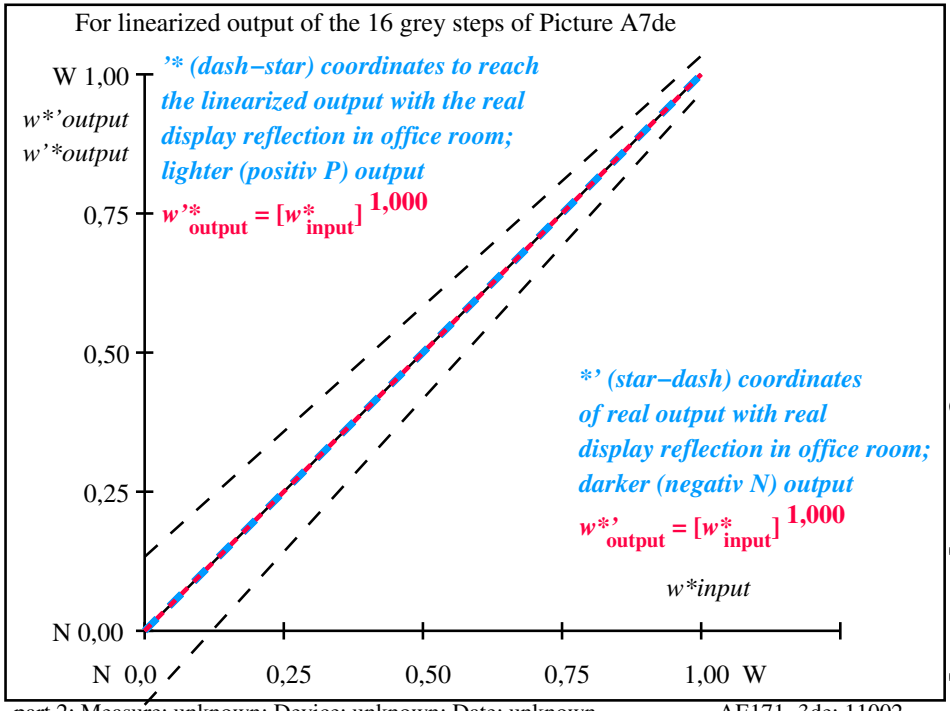
Mean lightness difference (16 steps)
ΔE^*_{CIELAB} = 0,0

Mean lightness difference (5 steps)
ΔL^*_{CIELAB} = 0,0

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

part 1; Measure: unknown; Device: unknown; Date: unknown AE170−3de: 11002

For linearized output of the 16 grey steps of Picture A7de



part 2; Measure: unknown; Device: unknown; Date: unknown AE171−3de: 11002

$L^*/Y_{intended}$ (absolute)	0.0/0.0	6.4/0.7	12.7/1.5	19.1/2.8	25.4/4.6	31.8/7.0	38.2/10.2	44.5/14.2	50.9/19.2	57.2/25.2	63.6/32.3	70.0/40.7	76.3/50.4	82.7/61.6	89.0/74.3	95.4/88.6
0 0 0 n setcmyk*																
g_P=1.0																
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^*_{out}	0.0	0.067	0.133	0.2	0.267	0.333	0.4	0.467	0.533	0.6	0.667	0.733	0.8	0.867	0.933	1.0

AE170−7N, Picture A7*de: 16 visual equidistant *L**-grey steps; PS operator: *0 0 0 n* setcmykcolor*

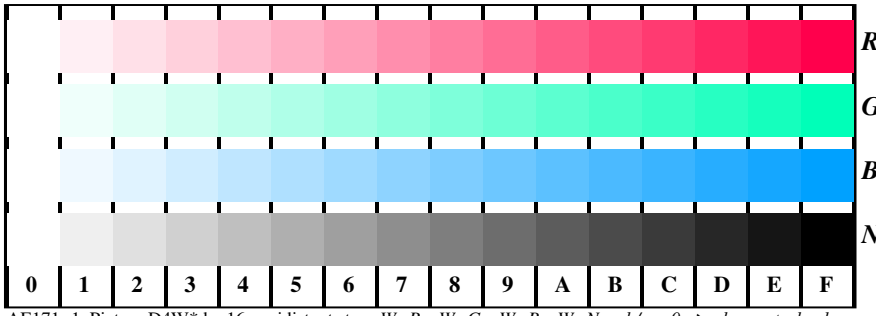
In-out: Test chart AE17 according to test chart 4 of ISO/IEC 15775
Viewing *Y* contrast Y_W:Y_N=88,9:0,31; Y_N-range 0,0 to <0,46

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

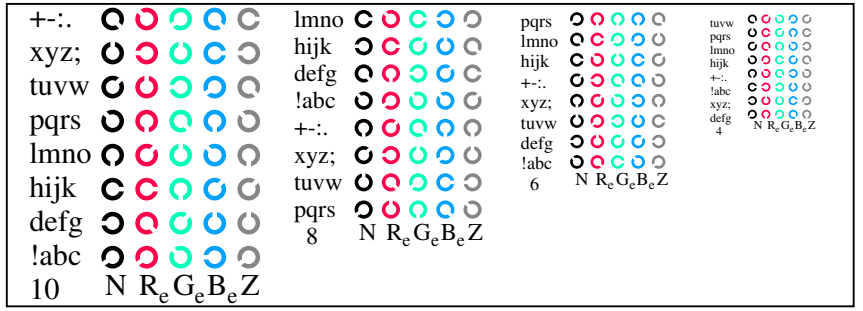
see similar files: http://farbe.li.tu-berlin.de/AE17/AE17.HTM
technical information: http://farbe.li.tu-berlin.de/ or http://farbe.li.tu-berlin.de/AE.HTM

TUB Registration: 20191001-AE17/AE17L0FA.TXT /.PS TUB material: code=rha4ta
application for measurement or viewing of the output on display and print

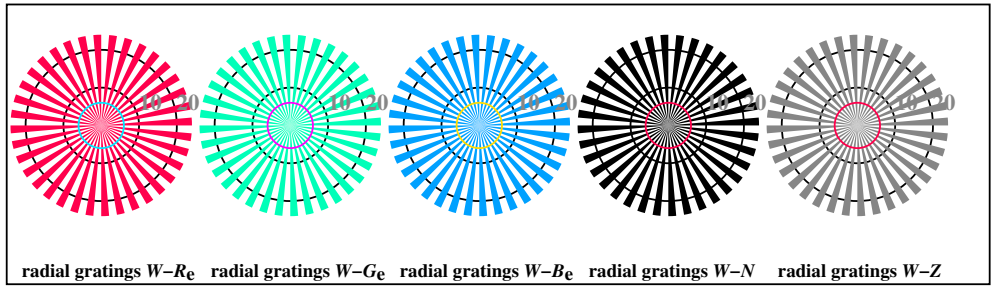
AE170–3, Picture D1W*de: Flower motif, 14 CIE-test colours and 2 + 16 grey steps (sf); *PS* operators *settransfer, 3 colorimage*



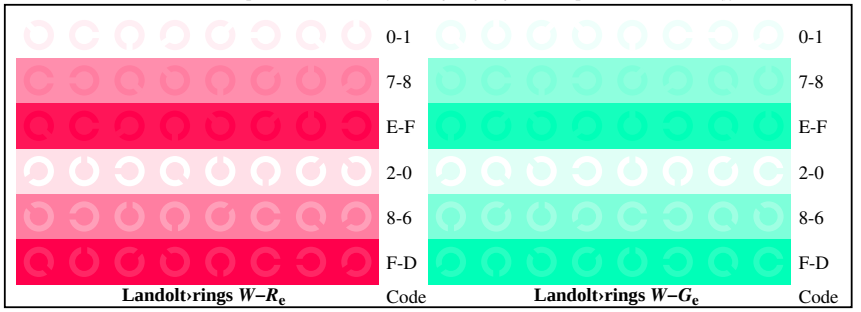
AE171–1, Picture D4W*de: 16 equidistant steps *W–Re; W–Ge; W–Be; W–N; rgb/cmy0–>rgb*de setrgbcolor*



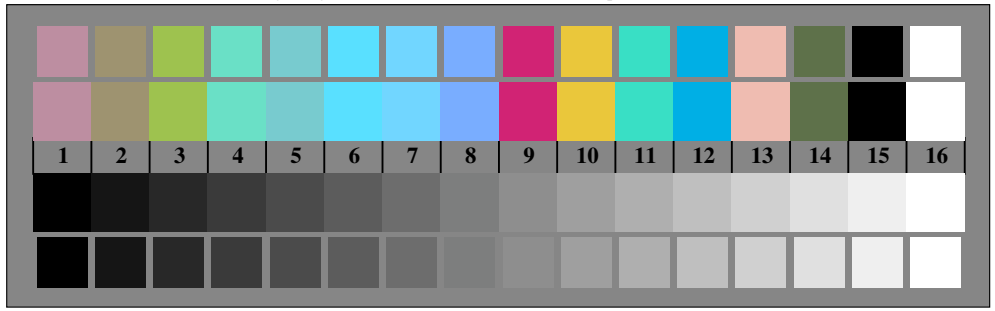
AE171–3, Picture D5W*de: Sript and Landolt-rings *N; Re; Ge; Be; Z; PS* operator *rgb–>rgb*de setrgbcolor*



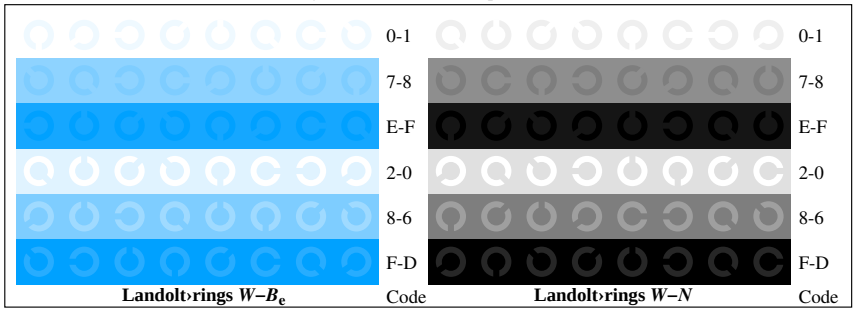
AE170–5, Picture D2W*de: radial gratings *W–Re; W–Ge; W–Be; W–N; PS* operator *rgb–>rgb*de setrgbcolor*



AE171–5, Picture D6W*de: Landolt-rings *W–Re; W–Ge; PS* operator *rgb–>rgb*de setrgbcolor*



AE170–7, Picture D3W*de: 14 CIE-test colours and 2 + 16 grey steps (sf); *rgb/cmy0–>rgb*de setrgbcolor*



AE171–7, Picture D7W*de: Landolt-rings *W–Be; W–N; PS* operator *rgb–>rgb*de setrgbcolor*

Test chart AE17 according to test chart 4 of ISO/IEC 15775
chromatic test chart *RGB*

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

see similar files: http://farbe.li.tu-berlin.de/AE17/AE17.HTM
technical information: http://farbe.li.tu-berlin.de/ or http://farbe.li.tu-berlin.de/AE.HTM

TUB Registration: 20191001-AE17/AE17L0FA.TXT /.PS TUB material: code=rha4ta
application for measurement or viewing of the output on display and print

Test for the visual linearized output of pictures D1Wde **to D3W**de

Output test with the computer display ( ) or the external display ( ) please mark by (x)!

Test of the (flower) image according to picture D1Wde

Are clear (immediately conspicuous) differences recognized between reproduction and test chart? **Yes/No**

Subjective remarks about the colour reproduction of the (flower) image,
the CIE−test colours and the 16 grey steps within the image, for example "less contrast":

.....
.....
.....
.....
.....

Test of the resolution of radial gratings *W−R*$_d$, *W−G*$_d$, *W−B*$_d$ according to picture D2Wde

	***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 (6x), Resolution diameter:	..... mm	..... mm	..... mm	..... mm	..... mm

Test of the 14 CIE−test colours according to picture D3Wde

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 AE170−3de: 11011

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 D4Wde

***W−R*$_d$** White − Red:	Are all the 16 steps distinguishable?		**Yes/No**
	If No: How many steps can be distinguished?	of the given 16 steps	..... Steps
***W−G*$_d$** White − Green:	Are all the 16 steps distinguishable?		**Yes/No**
	If No: How many steps can be distinguished?	of the given 16 steps	..... Steps
***W−B*$_d$** White − Blue:	Are all the 16 steps distinguishable?		**Yes/No**
	If No: How many steps can be distinguished?	of the given 16 steps	..... Steps
W−N White − Black:	Are all the 16 steps distinguishable?		**Yes/No**
	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 D5Wde

Is the recognition frequency > 50% for letters (17 from 32 at least) and for Landolt−rings (minimum 5 of 8)?

Relative size	Letters	Ring ***N***	Ring ***R*$_d$**	Ring ***G*$_d$**	Ring ***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 recognition frequency of Landolt−rings *W−R*$_d$, *W−G*$_d$, *W−B*$_d$, and *W−N* according to pictures D6Wde**, and D7W**de

Is the recognition frequency of the Landolt−rings > 50% (min. 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 AE171−3Nde: 11011

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

PDF file: http://farbe.li.tu-berlin.de/AE17/AE17F0PX_CY7_1.PDF **underline Yes/No**

PS-File: http://farbe.li.tu-berlin.de/AE17/AE17F0PX_CY7_1.PS **or underline Yes/No**

Used computer operating system:
either one of Windows/Mac/Unix/other and version:.....

This evaluation is for the device output: **underline monitor/data projector/printer**
Device model, driver and version:.....

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

For device output with PDF-file AE17F0PX_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 device output with PS-file AE17F0PX_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:Special remarks, e. g. output of Landscape (L)
.....
.....
.....

part 3 AE170−7N*de-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/AE17/AE17F0PX_CY7_3.PDF **underline Yes/No**
PS file: http://farbe.li.tu-berlin.de/AE17/AE17F0PX_CY7_3.PS **underline Yes/No**
Picture A7de **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 range**
Remark: In daylighted offices the contrast range is in many cases:
on display between: >F:0 and E:0 (monitor), D:0 and 3:0 (data projector)

Only for optional colorimetric specification with PDF/PS file output

PDF file: http://farbe.li.tu-berlin.de/AE17/AE17F0PX_CY7_3.PDF
picture A7de **underline Yes/No**
PS file: http://farbe.li.tu-berlin.de/AE17/AE17F0PX_CY7_3.PS
picture A7de **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 AE171−7de: 11011

Form A: Test chart AE17 according to test chart 4 of ISO/IEC 15775 input: *rgb/cmy0/000n/w set...*
chromatic test chart *RGB* output: *->rgb*$_{de}$ *setrgbcolor*

see similar files: http://farbe.li.tu-berlin.de/AE17/AE17.HTM
technical information: http://farbe.li.tu-berlin.de/ or http://farbe.li.tu-berlin.de/AE.HTM

TUB Registration: 20191001-AE17/AE17L0FA.TXT /.PS
application for measurement or viewing of the output on display and print
TUB material: code=rha4ta

i	LAB*ref			l*out	LAB*out			LAB*out−ref			ΔE*
1	5,69	0,00	0,00	0,00	5,69	0,00	0,00	0,00	0,00	0,00	0,01
2	11,67	0,00	0,00	0,10	14,73	0,00	0,00	3,05	0,00	0,00	3,05
3	17,65	0,00	0,00	0,18	21,95	0,00	0,00	4,30	0,00	0,00	4,30
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

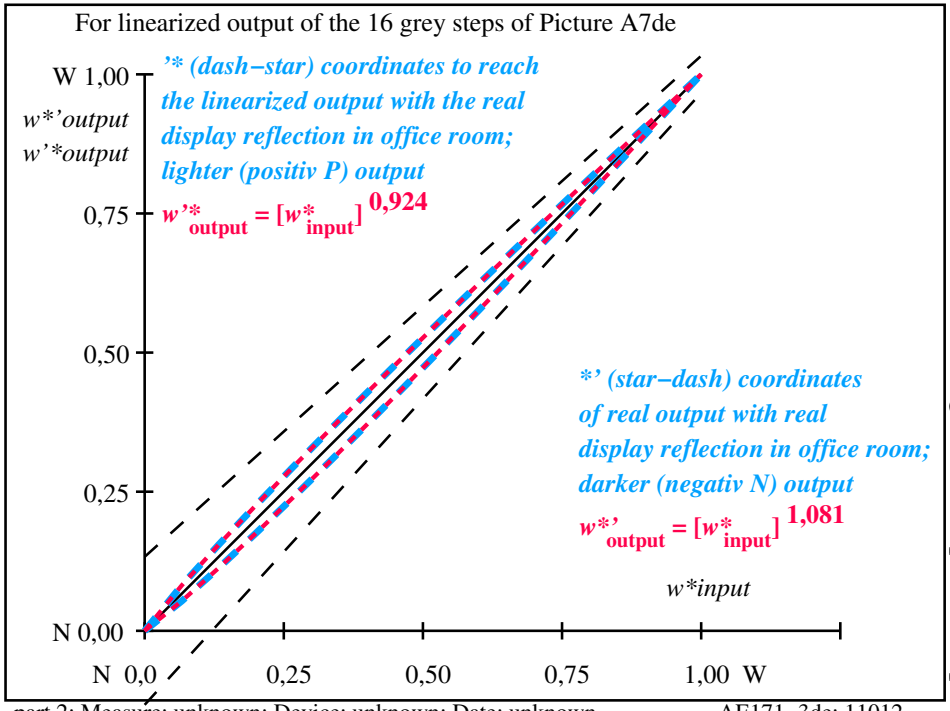
Start output S1
Specification according to ISO/IEC 15775 Annex G and DIN 33866-1 Annex G

Mean lightness difference (16 steps)
ΔE^*_{CIELAB} = 3,4

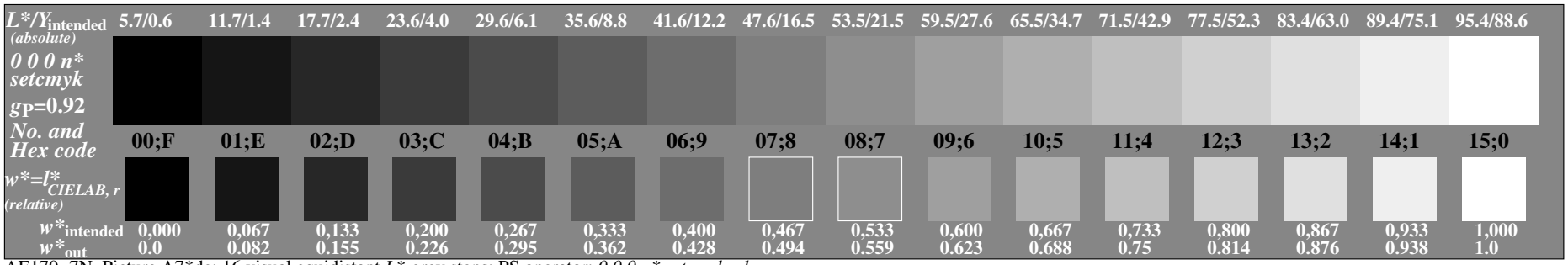
Mean lightness difference (5 steps)
ΔL^*_{CIELAB} = 2,6

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

part 1; Measure: unknown; Device: unknown; Date: unknown AE170−3de: 11012



part 2; Measure: unknown; Device: unknown; Date: unknown AE171−3de: 11012



AE170−7N, Picture A7*de: 16 visual equidistant *L**-grey steps; PS operator: *0 0 0 n* setcmykcolor*

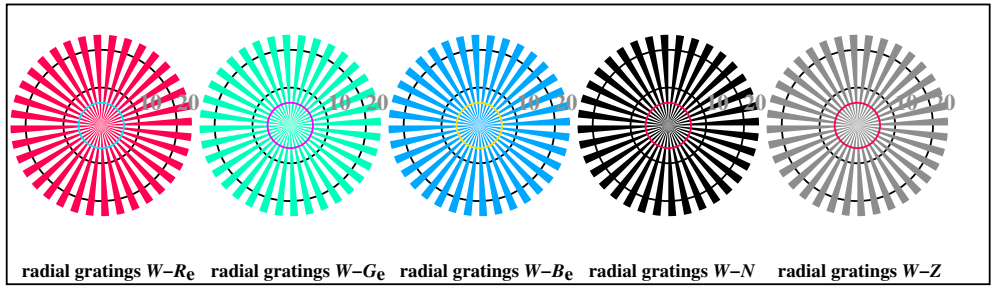
In-out: Test chart AE17 according to test chart 4 of ISO/IEC 15775
Viewing *Y* contrast Y_W:Y_N=88,9:0,62; Y_N-range 0,46 to <0,93

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

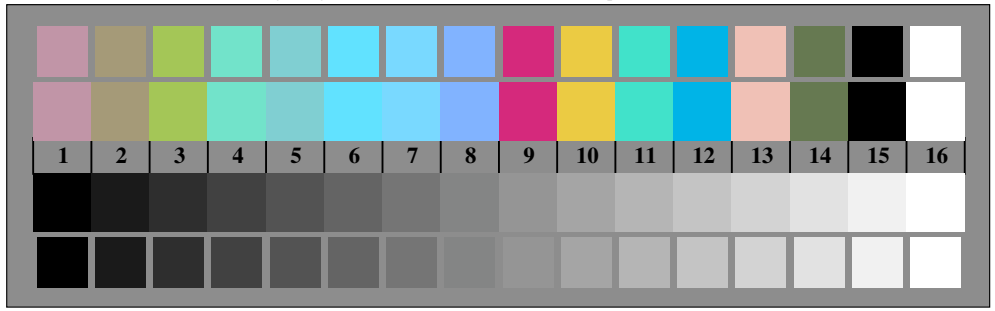
see similar files: http://farbe.li.tu-berlin.de/AE17/AE17.HTM
technical information: http://farbe.li.tu-berlin.de/ or http://farbe.li.tu-berlin.de/AE.HTM

TUB Registration: 20191001-AE17/AE17L0FA.TXT /.PS TUB material: code=rha4ta
application for measurement or viewing of the output on display and print

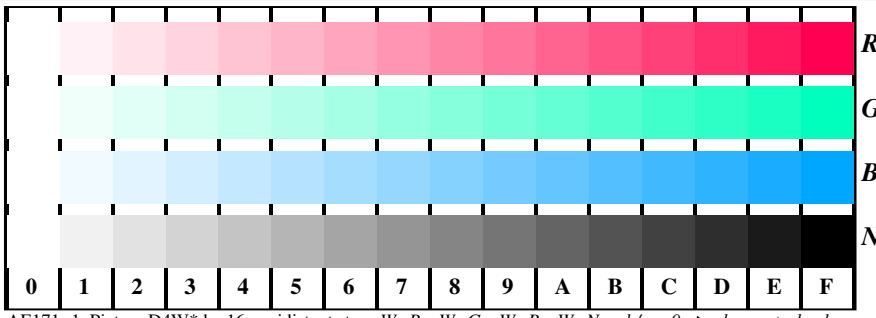
AE170–3, Picture D1W*de: Flower motif, 14 CIE-test colours and 2 + 16 grey steps (sf); *PS* operators *settransfer, 3 colorimage*



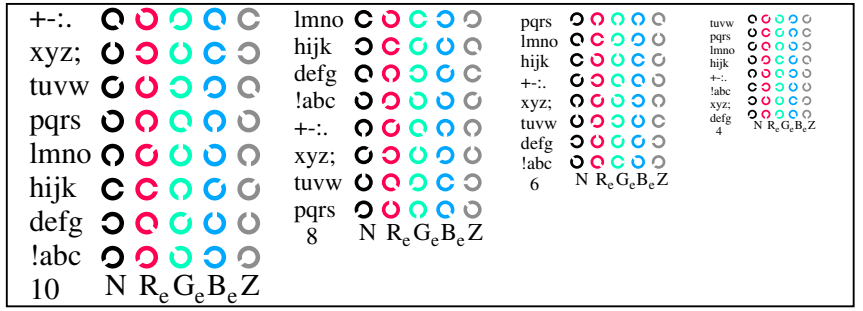
AE170–5, Picture D2W*de: radial gratings *W–Re; W–Ge; W–Be; W–N; PS* operator *rgb–>rgb*de setrgbcolor*



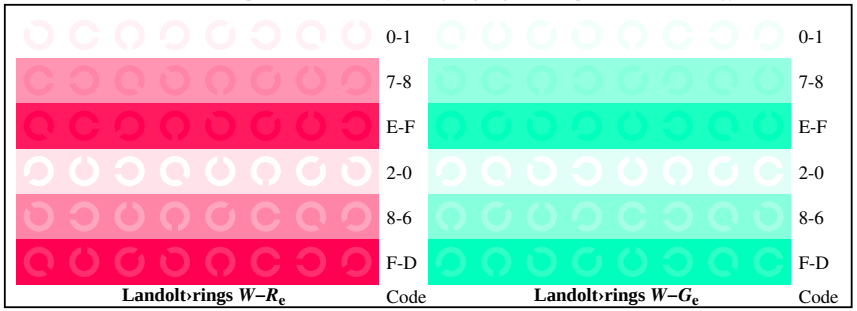
AE170–7, Picture D3W*de: 14 CIE-test colours and 2 + 16 grey steps (sf); *rgb/cmy0–>rgb*de setrgbcolor*



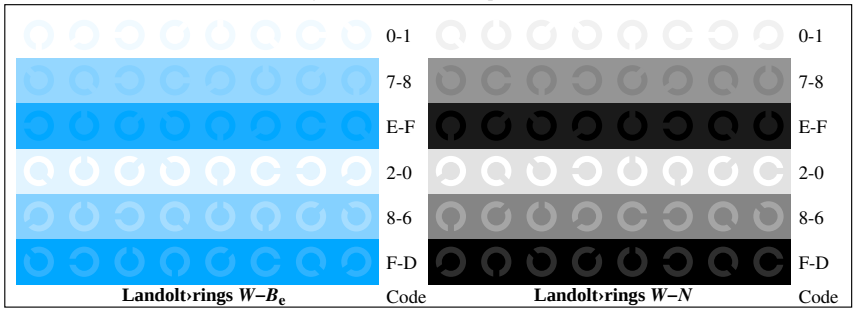
AE171–1, Picture D4W*de: 16 equidistant steps *W–Re; W–Ge; W–Be; W–N; rgb/cmy0–>rgb*de setrgbcolor*



AE171–3, Picture D5W*de: Sript and Landolt-rings *N; Re; Ge; Be; Z; PS* operator *rgb–>rgb*de setrgbcolor*



AE171–5, Picture D6W*de: Landolt-rings *W–Re; W–Ge; PS* operator *rgb–>rgb*de setrgbcolor*



AE171–7, Picture D7W*de: Landolt-rings *W–Be; W–N; PS* operator *rgb–>rgb*de setrgbcolor*

Test chart AE17 according to test chart 4 of ISO/IEC 15775
chromatic test chart *RGB*

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

see similar files: http://farbe.li.tu-berlin.de/AE17/AE17.HTM
technical information: http://farbe.li.tu-berlin.de/ or http://farbe.li.tu-berlin.de/AE.HTM

TUB Registration: 20191001-AE17/AE17L0FA.TXT /.PS TUB material: code=rha4ta
application for measurement or viewing of the output on display and print

Test for the visual linearized output of pictures D1Wde **to D3W**de

Output test with the computer display ( ) or the external display ( ) please mark by (x)!

Test of the (flower) image according to picture D1Wde

Are clear (immediately conspicuous) differences recognized between reproduction and test chart? **Yes/No**

Subjective remarks about the colour reproduction of the (flower) image,
the CIE−test colours and the 16 grey steps within the image, for example "less contrast":

.....
.....
.....
.....
.....

Test of the resolution of radial gratings *W−R*$_d$, *W−G*$_d$, *W−B*$_d$ according to picture D2Wde

	***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 (6x), Resolution diameter:	..... mm	..... mm	..... mm	..... mm	..... mm

Test of the 14 CIE−test colours according to picture D3Wde

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 AE170−3de: 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 D4Wde

***W−R*$_d$** White − Red:	Are all the 16 steps distinguishable?		**Yes/No**
	If No: How many steps can be distinguished?	of the given 16 steps	..... Steps
***W−G*$_d$** White − Green:	Are all the 16 steps distinguishable?		**Yes/No**
	If No: How many steps can be distinguished?	of the given 16 steps	..... Steps
***W−B*$_d$** White − Blue:	Are all the 16 steps distinguishable?		**Yes/No**
	If No: How many steps can be distinguished?	of the given 16 steps	..... Steps
W−N White − Black:	Are all the 16 steps distinguishable?		**Yes/No**
	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 D5Wde

Is the recognition frequency > 50% for letters (17 from 32 at least) and for Landolt−rings (minimum 5 of 8)?

Relative size	Letters	Ring ***N***	Ring ***R*$_d$**	Ring ***G*$_d$**	Ring ***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 recognition frequency of Landolt−rings *W−R*$_d$, *W−G*$_d$, *W−B*$_d$, and *W−N* according to pictures D6Wde**, and D7W**de

Is the recognition frequency of the Landolt−rings > 50% (min. 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 AE171−3Nde: 11021

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

PDF file: http://farbe.li.tu-berlin.de/AE17/AE17F0PX_CY6_1.PDF **underline Yes/No**

PS-File: http://farbe.li.tu-berlin.de/AE17/AE17F0PX_CY6_1.PS **or underline Yes/No**

Used computer operating system:
either one of Windows/Mac/Unix/other and version:.....

This evaluation is for the device output: **underline monitor/data projector/printer**
Device model, driver and version:.....

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

For device output with PDF-file AE17F0PX_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 device output with PS-file AE17F0PX_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:Special remarks, e. g. output of Landscape (L)
.....
.....
.....

part 3 AE170−7N*de-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/AE17/AE17F0PX_CY6_3.PDF **underline Yes/No**
PS file: http://farbe.li.tu-berlin.de/AE17/AE17F0PX_CY6_3.PS **underline Yes/No**
Picture A7de **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 range**
Remark: In daylighted offices the contrast range is in many cases:
on display between: >F:0 and E:0 (monitor), D:0 and 3:0 (data projector)

Only for optional colorimetric specification with PDF/PS file output

PDF file: http://farbe.li.tu-berlin.de/AE17/AE17F0PX_CY6_3.PDF
picture A7de **underline Yes/No**
PS file: http://farbe.li.tu-berlin.de/AE17/AE17F0PX_CY6_3.PS
picture A7de **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 AE171−7de: 11021

Form A: Test chart AE17 according to test chart 4 of ISO/IEC 15775 input: *rgb/cmy0/000n/w set...*
chromatic test chart *RGB* output: *->rgb*$_{de}$ *setrgbcolor*

see similar files: http://farbe.li.tu-berlin.de/AE17/AE17.HTM
technical information: http://farbe.li.tu-berlin.de/ or http://farbe.li.tu-berlin.de/AE.HTM

TUB Registration: 20191001-AE17/AE17L0FA.TXT /.PS
application for measurement or viewing of the output on display and print
TUB material: code=rha4ta

i	LAB*ref			l*out	LAB*out			LAB*out−ref			ΔE*
1	10,99	0,00	0,00	0,00	10,99	0,00	0,00	0,00	0,00	0,00	0,01
2	16,62	0,00	0,00	0,13	22,51	0,00	0,00	5,89	0,00	0,00	5,89
3	22,24	0,00	0,00	0,22	30,17	0,00	0,00	7,93	0,00	0,00	7,93
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

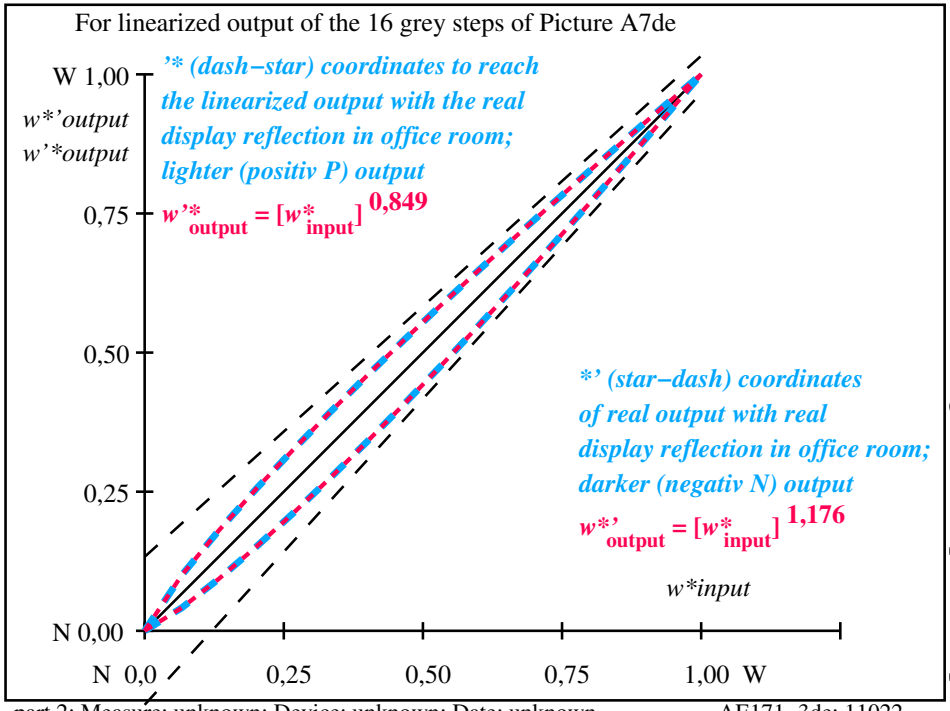
Start output S1
Specification according to ISO/IEC 15775 Annex G and DIN 33866-1 Annex G

Mean lightness difference (16 steps)
ΔE^*_{CIELAB} = 5,9

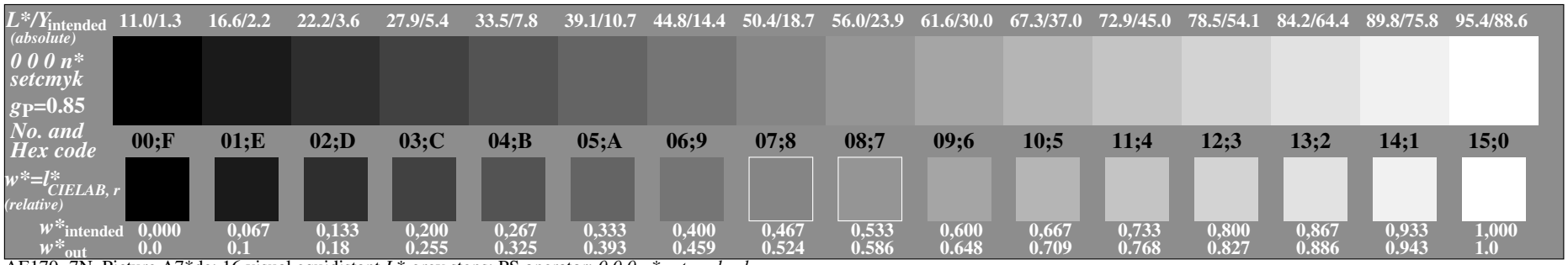
Mean lightness difference (5 steps)
ΔL^*_{CIELAB} = 4,5

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

part 1; Measure: unknown; Device: unknown; Date: unknown AE170−3de: 11022



part 2; Measure: unknown; Device: unknown; Date: unknown AE171−3de: 11022



AE170−7N, Picture A7*de: 16 visual equidistant *L**-grey steps; PS operator: *0 0 0 n* setcmykcolor*

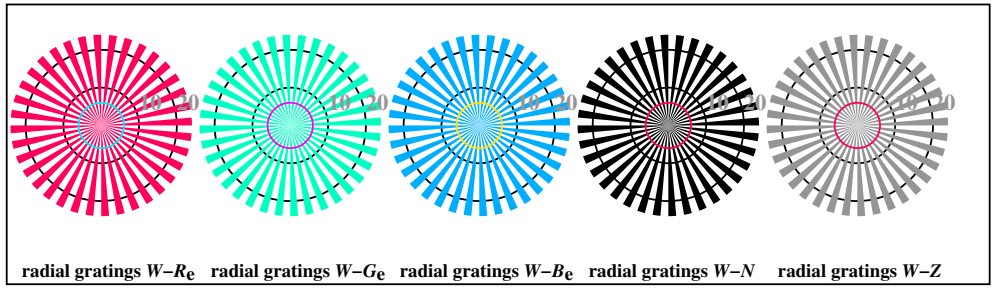
In-out: Test chart AE17 according to test chart 4 of ISO/IEC 15775
Viewing *Y* contrast Y_W:Y_N=88,9:1,25; Y_N-range 0,93 to <1,87

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

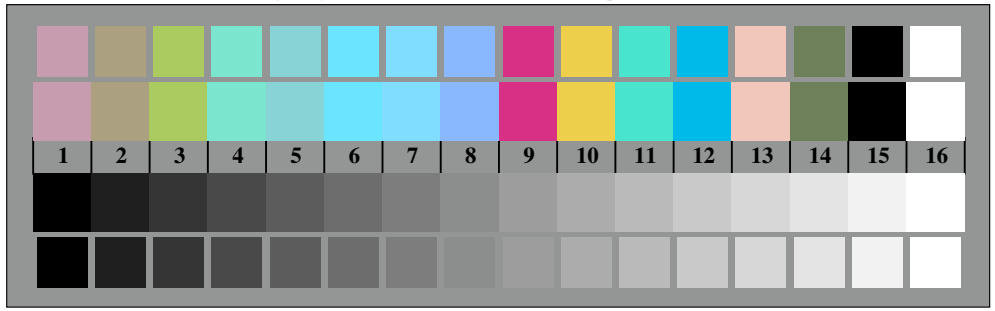
see similar files: http://farbe.li.tu-berlin.de/AE17/AE17.HTM
technical information: http://farbe.li.tu-berlin.de/ or http://farbe.li.tu-berlin.de/AE.HTM

TUB Registration: 20191001-AE17/AE17L0FA.TXT /.PS TUB material: code=rha4ta
application for measurement or viewing of the output on display and print

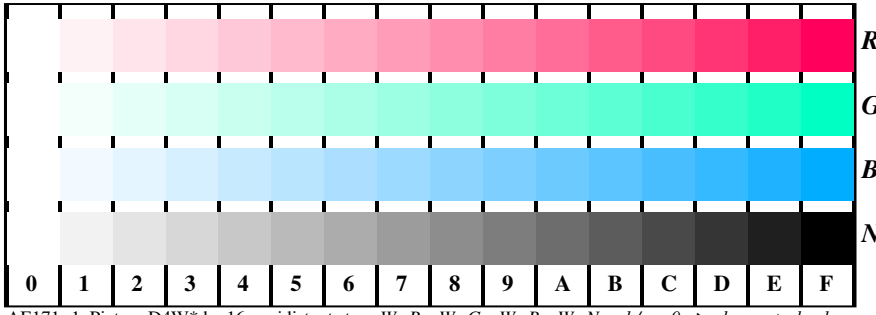
AE170–3, Picture D1W*de: Flower motif, 14 CIE-test colours and 2 + 16 grey steps (sf); *PS* operators *settransfer, 3 colorimage*



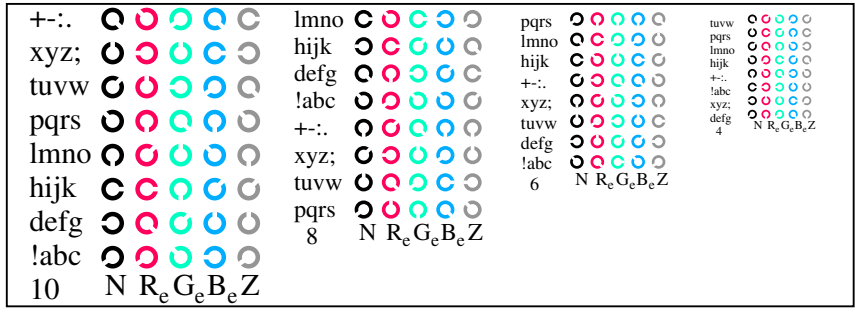
AE170–5, Picture D2W*de: radial gratings *W–R*e; *W–G*e; *W–B*e; *W–N; PS* operator *rgb–>rgb*de *setrgbcolor*



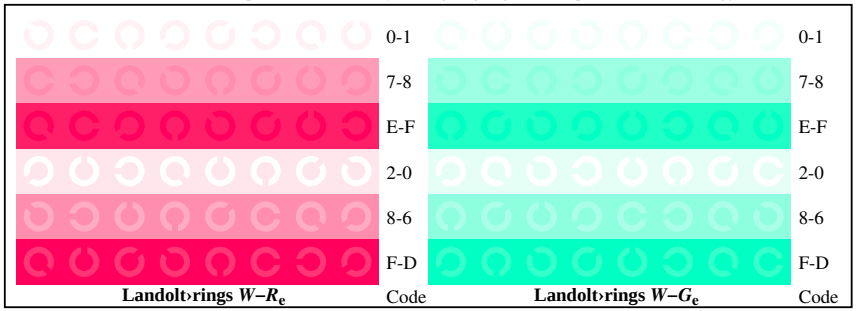
AE170–7, Picture D3W*de: 14 CIE-test colours and 2 + 16 grey steps (sf); *rgb/cmy0–>rgb*de *setrgbcolor*



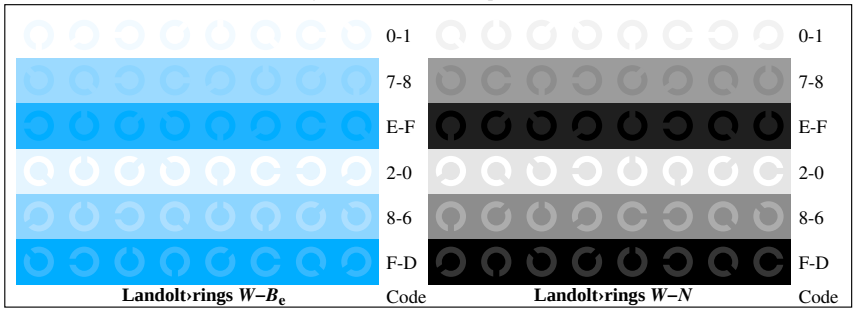
AE171–1, Picture D4W*de: 16 equidistant steps *W–R*e; *W–G*e; *W–B*e; *W–N*; *rgb/cmy0–>rgb*de *setrgbcolor*



AE171–3, Picture D5W*de: Sript and Landolt-rings *N*; *R*e; *G*e; *B*e; *Z*; *PS* operator *rgb–>rgb*de *setrgbcolor*



AE171–5, Picture D6W*de: Landolt-rings *W–R*e; *W–G*e; *PS* operator *rgb–>rgb*de *setrgbcolor*



AE171–7, Picture D7W*de: Landolt-rings *W–B*e; *W–N; PS* operator *rgb–>rgb*de *setrgbcolor*

Test chart AE17 according to test chart 4 of ISO/IEC 15775
chromatic test chart *RGB*

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

see similar files: http://farbe.li.tu-berlin.de/AE17/AE17.HTM
technical information: http://farbe.li.tu-berlin.de/ or http://farbe.li.tu-berlin.de/AE.HTM

TUB Registration: 20191001-AE17/AE17L0FA.TXT /.PS TUB material: code=rha4ta
application for measurement or viewing of the output on display and print

Test for the visual linearized output of pictures D1Wde **to D3W**de

Output test with the computer display ( ) or the external display ( ) please mark by (x)!

Test of the (flower) image according to picture D1Wde

Are clear (immediately conspicuous) differences recognized between reproduction and test chart? **Yes/No**

Subjective remarks about the colour reproduction of the (flower) image,
the CIE−test colours and the 16 grey steps within the image, for example "less contrast":

.....
.....
.....
.....
.....

Test of the resolution of radial gratings *W−R*$_d$, *W−G*$_d$, *W−B*$_d$ according to picture D2Wde

	***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 (6x), Resolution diameter:	..... mm	..... mm	..... mm	..... mm	..... mm

Test of the 14 CIE−test colours according to picture D3Wde

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 AE170−3de: 11031

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 D4Wde

***W−R*$_d$** White − Red:	Are all the 16 steps distinguishable?		**Yes/No**
	If No: How many steps can be distinguished?	of the given 16 steps	..... Steps
***W−G*$_d$** White − Green:	Are all the 16 steps distinguishable?		**Yes/No**
	If No: How many steps can be distinguished?	of the given 16 steps	..... Steps
***W−B*$_d$** White − Blue:	Are all the 16 steps distinguishable?		**Yes/No**
	If No: How many steps can be distinguished?	of the given 16 steps	..... Steps
W−N White − Black:	Are all the 16 steps distinguishable?		**Yes/No**
	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 D5Wde

Is the recognition frequency > 50% for letters (17 from 32 at least) and for Landolt−rings (minimum 5 of 8)?

Relative size	Letters	Ring ***N***	Ring ***R*$_d$**	Ring ***G*$_d$**	Ring ***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 recognition frequency of Landolt−rings *W−R*$_d$, *W−G*$_d$, *W−B*$_d$, and *W−N* according to pictures D6Wde**, and D7W**de

Is the recognition frequency of the Landolt−rings > 50% (min. 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 AE171−3Nde: 11031

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

PDF file: http://farbe.li.tu-berlin.de/AE17/AE17F0PX_CY5_1.PDF **underline Yes/No**

PS-File: http://farbe.li.tu-berlin.de/AE17/AE17F0PX_CY5_1.PS **or underline Yes/No**

Used computer operating system:
either one of Windows/Mac/Unix/other and version:.....

This evaluation is for the device output: **underline monitor/data projector/printer**
Device model, driver and version:.....

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

For device output with PDF-file AE17F0PX_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 device output with PS-file AE17F0PX_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:Special remarks, e. g. output of Landscape (L)
.....
.....
.....

part 3 AE170−7N*de-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/AE17/AE17F0PX_CY5_3.PDF **underline Yes/No**
PS file: http://farbe.li.tu-berlin.de/AE17/AE17F0PX_CY5_3.PS **underline Yes/No**
Picture A7de **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 range**
Remark: In daylighted offices the contrast range is in many cases:
on display between: >F:0 and E:0 (monitor), D:0 and 3:0 (data projector)

Only for optional colorimetric specification with PDF/PS file output

PDF file: http://farbe.li.tu-berlin.de/AE17/AE17F0PX_CY5_3.PDF
picture A7de **underline Yes/No**
PS file: http://farbe.li.tu-berlin.de/AE17/AE17F0PX_CY5_3.PS
picture A7de **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 AE171−7de: 11031

Form A: Test chart AE17 according to test chart 4 of ISO/IEC 15775 input: *rgb/cmy0/000n/w set...*
chromatic test chart *RGB* output: *->rgb*$_{de}$ *setrgbcolor*

see similar files: http://farbe.li.tu-berlin.de/AE17/AE17.HTM
technical information: http://farbe.li.tu-berlin.de/ or http://farbe.li.tu-berlin.de/AE.HTM

TUB Registration: 20191001-AE17/AE17L0FA.TXT /.PS
application for measurement or viewing of the output on display and print
TUB material: code=rha4ta

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

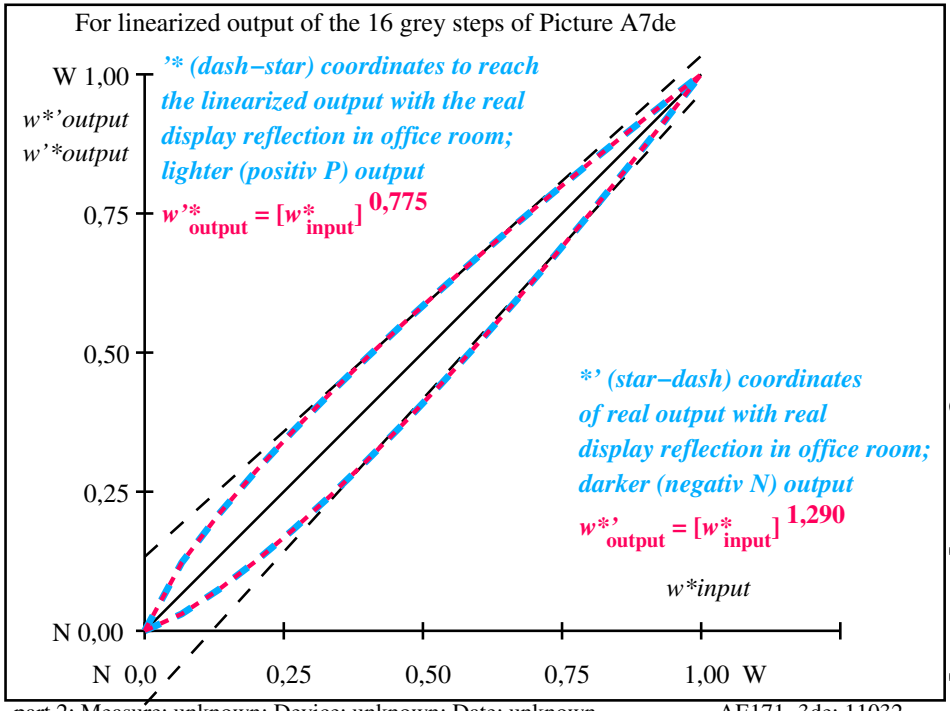
Start output S1
Specification according to ISO/IEC 15775 Annex G and DIN 33866-1 Annex G

Mean lightness difference (16 steps)
ΔE^*_{CIELAB} = 7,5

Mean lightness difference (5 steps)
ΔL^*_{CIELAB} = 5,7

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

part 1; Measure: unknown; Device: unknown; Date: unknown AE170−3de: 11032



part 2; Measure: unknown; Device: unknown; Date: unknown AE171−3de: 11032

$L^*/Y_{intended}$ (absolute)	18.0/2.5	23.2/3.8	28.3/5.6	33.5/7.8	38.6/10.5	43.8/13.7	49.0/17.6	54.1/22.1	59.3/27.3	64.4/33.4	69.6/40.2	74.8/47.9	79.9/56.6	85.1/66.2	90.2/76.8	95.4/88.6
0 0 0 n setcmyk*																
g_P=0.78																
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^*_{out}	0.0	0.123	0.209	0.287	0.359	0.426	0.492	0.554	0.614	0.673	0.731	0.786	0.841	0.895	0.948	1.0

AE170−7N, Picture A7*de: 16 visual equidistant *L**-grey steps; PS operator: *0 0 0 n* setcmykcolor*

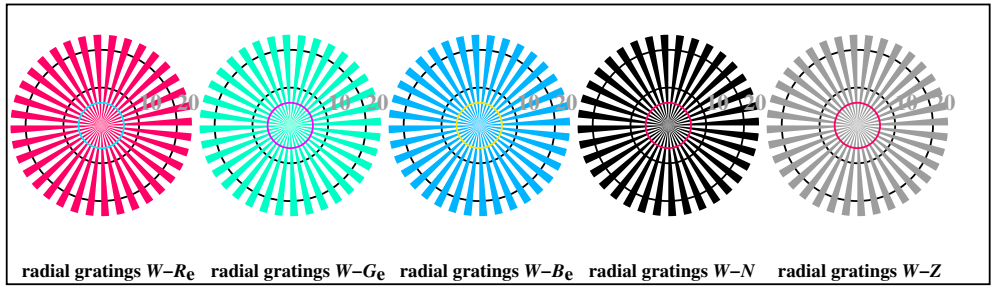
In-out: Test chart AE17 according to test chart 4 of ISO/IEC 15775
Viewing *Y* contrast Y_W:Y_N=88,9:2,5; Y_N-range 1,87 to <3,75

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

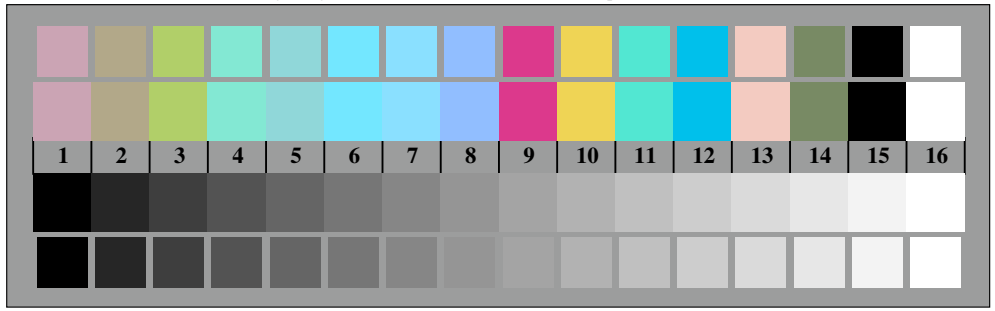
see similar files: http://farbe.li.tu-berlin.de/AE17/AE17.HTM
technical information: http://farbe.li.tu-berlin.de/ or http://farbe.li.tu-berlin.de/AE.HTM

TUB Registration: 20191001-AE17/AE17L0FA.TXT /.PS TUB material: code=rha4ta
application for measurement or viewing of the output on display and print

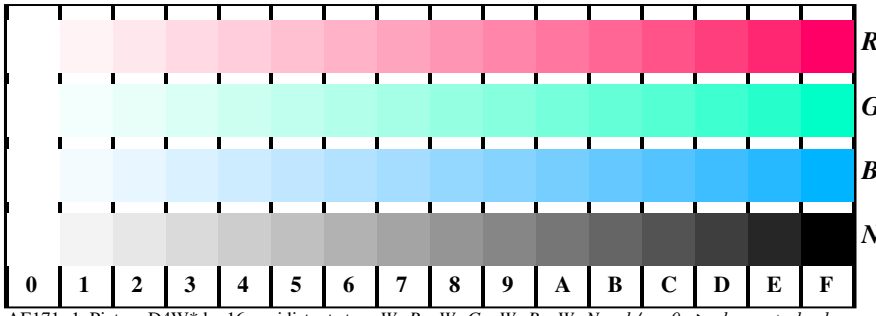
AE170–3, Picture D1W*de: Flower motif, 14 CIE-test colours and 2 + 16 grey steps (sf); *PS* operators *settransfer, 3 colorimage*



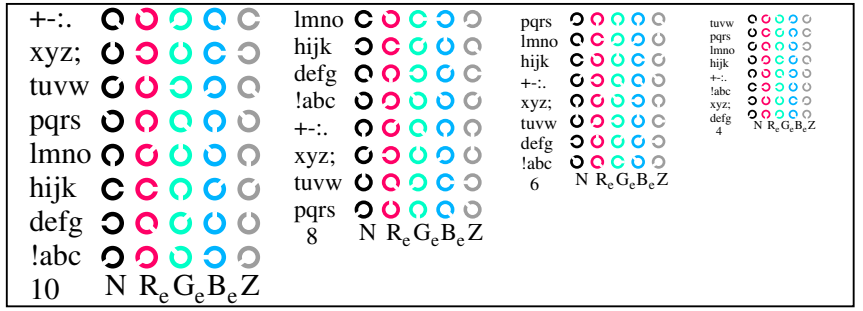
AE170–5, Picture D2W*de: radial gratings *W–Re; W–Ge; W–Be; W–N; PS* operator *rgb–>rgb*de setrgbcolor*



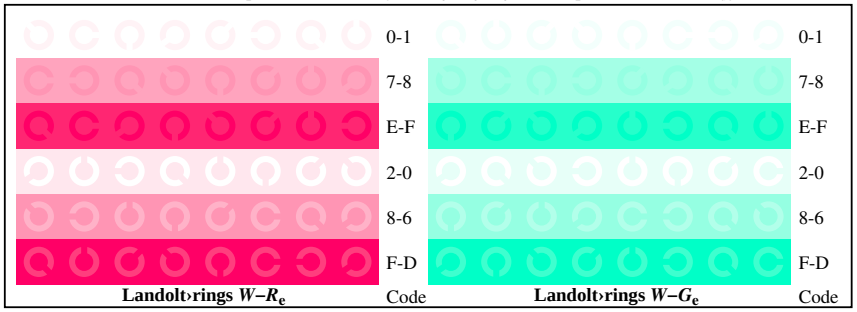
AE170–7, Picture D3W*de: 14 CIE-test colours and 2 + 16 grey steps (sf); *rgb/cmy0–>rgb*de setrgbcolor*



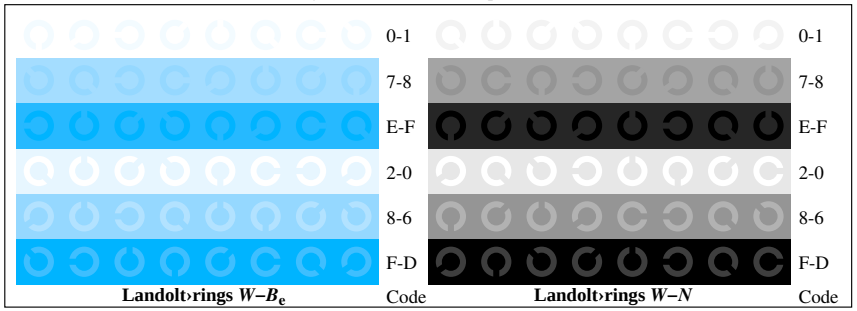
AE171–1, Picture D4W*de: 16 equidistant steps *W–Re; W–Ge; W–Be; W–N; rgb/cmy0–>rgb*de setrgbcolor*



AE171–3, Picture D5W*de: Sript and Landolt-rings *N; Re; Ge; Be; Z; PS* operator *rgb–>rgb*de setrgbcolor*



AE171–5, Picture D6W*de: Landolt-rings *W–Re; W–Ge; PS* operator *rgb–>rgb*de setrgbcolor*



AE171–7, Picture D7W*de: Landolt-rings *W–Be; W–N; PS* operator *rgb–>rgb*de setrgbcolor*

Test chart AE17 according to test chart 4 of ISO/IEC 15775
chromatic test chart *RGB*

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

see similar files: http://farbe.li.tu-berlin.de/AE17/AE17.HTM
technical information: http://farbe.li.tu-berlin.de/ or http://farbe.li.tu-berlin.de/AE.HTM

TUB Registration: 20191001-AE17/AE17L0FA.TXT /.PS TUB material: code=rha4ta
application for measurement or viewing of the output on display and print

Test for the visual linearized output of pictures D1Wde **to D3W**de

Output test with the computer display ( ) or the external display ( ) please mark by (x)!

Test of the (flower) image according to picture D1Wde

Are clear (immediately conspicuous) differences recognized between reproduction and test chart? **Yes/No**

Subjective remarks about the colour reproduction of the (flower) image,
the CIE−test colours and the 16 grey steps within the image, for example "less contrast":

.....
.....
.....
.....
.....

Test of the resolution of radial gratings *W−R*$_d$, *W−G*$_d$, *W−B*$_d$ according to picture D2Wde

	***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 (6x), Resolution diameter:	..... mm	..... mm	..... mm	..... mm	..... mm

Test of the 14 CIE−test colours according to picture D3Wde

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 AE170−3de: 11041

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 D4Wde

***W−R*$_d$** White − Red:	Are all the 16 steps distinguishable?		**Yes/No**
	If No: How many steps can be distinguished?	of the given 16 steps	..... Steps
***W−G*$_d$** White − Green:	Are all the 16 steps distinguishable?		**Yes/No**
	If No: How many steps can be distinguished?	of the given 16 steps	..... Steps
***W−B*$_d$** White − Blue:	Are all the 16 steps distinguishable?		**Yes/No**
	If No: How many steps can be distinguished?	of the given 16 steps	..... Steps
W−N White − Black:	Are all the 16 steps distinguishable?		**Yes/No**
	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 D5Wde

Is the recognition frequency > 50% for letters (17 from 32 at least) and for Landolt−rings (minimum 5 of 8)?

Relative size	Letters	Ring ***N***	Ring ***R*$_d$**	Ring ***G*$_d$**	Ring ***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 recognition frequency of Landolt−rings *W−R*$_d$, *W−G*$_d$, *W−B*$_d$, and *W−N* according to pictures D6Wde**, and D7W**de

Is the recognition frequency of the Landolt−rings > 50% (min. 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 AE171−3Nde: 11041

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

PDF file: http://farbe.li.tu-berlin.de/AE17/AE17F0PX_CY4_1.PDF **underline Yes/No**

PS-File: http://farbe.li.tu-berlin.de/AE17/AE17F0PX_CY4_1.PS **or underline Yes/No**

Used computer operating system:
either one of Windows/Mac/Unix/other and version:.....

This evaluation is for the device output: **underline monitor/data projector/printer**
Device model, driver and version:.....

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

For device output with PDF-file AE17F0PX_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 device output with PS-file AE17F0PX_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:Special remarks, e. g. output of Landscape (L)
.....
.....
.....

part 3 AE170−7N*de-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/AE17/AE17F0PX_CY4_3.PDF **underline Yes/No**
PS file: http://farbe.li.tu-berlin.de/AE17/AE17F0PX_CY4_3.PS **underline Yes/No**
Picture A7de **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 range**
Remark: In daylighted offices the contrast range is in many cases:
on display between: >F:0 and E:0 (monitor), D:0 and 3:0 (data projector)

Only for optional colorimetric specification with PDF/PS file output

PDF file: http://farbe.li.tu-berlin.de/AE17/AE17F0PX_CY4_3.PDF
picture A7de **underline Yes/No**
PS file: http://farbe.li.tu-berlin.de/AE17/AE17F0PX_CY4_3.PS
picture A7de **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 AE171−7de: 11041

Form A: Test chart AE17 according to test chart 4 of ISO/IEC 15775 input: *rgb/cmy0/000n/w set...*
chromatic test chart *RGB* output: *->rgb*$_{de}$ *setrgbcolor*

see similar files: http://farbe.li.tu-berlin.de/AE17/AE17.HTM
technical information: http://farbe.li.tu-berlin.de/ or http://farbe.li.tu-berlin.de/AE.HTM

TUB Registration: 20191001-AE17/AE17L0FA.TXT /.PS
application for measurement or viewing of the output on display and print
TUB material: code=rha4ta

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

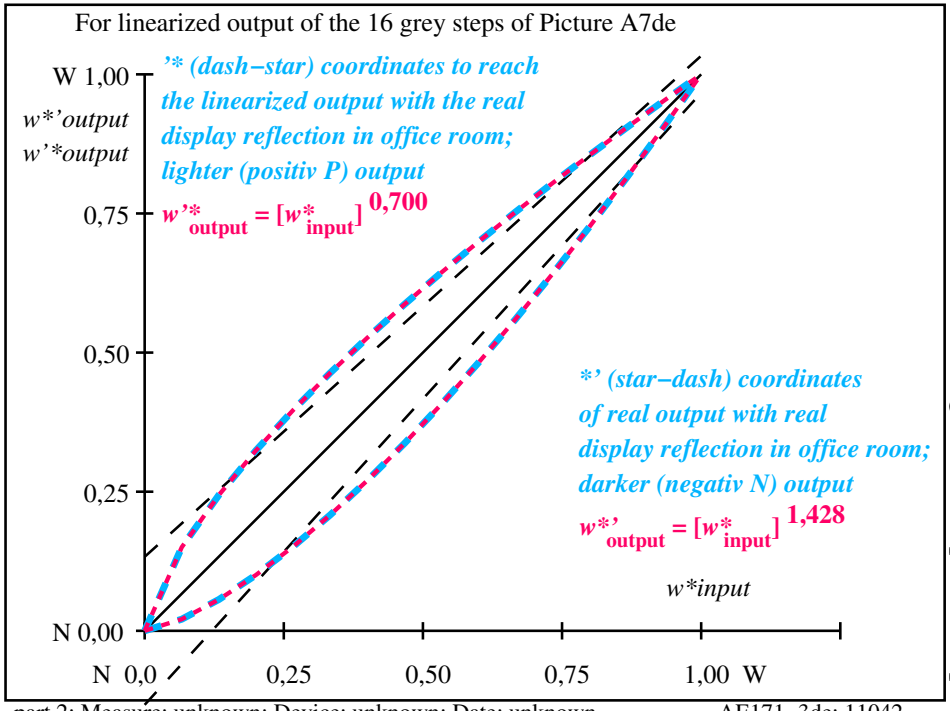
Mean lightness difference (16 steps)
ΔE^*_{CIELAB} = 8,3

Mean lightness difference (5 steps)
ΔL^*_{CIELAB} = 6,3

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

part 1; Measure: unknown; Device: unknown; Date: unknown AE170−3de: 11042

For linearized output of the 16 grey steps of Picture A7de



part 2; Measure: unknown; Device: unknown; Date: unknown AE171−3de: 11042

$L^*/Y_{intended}$ (absolute)	26.8/5.0	31.4/6.8	36.0/9.0	40.6/11.6	45.1/14.6	49.7/18.2	54.3/22.2	58.8/26.9	63.4/32.1	68.0/38.0	72.6/44.5	77.1/51.7	81.7/59.7	86.3/68.5	90.8/78.1	95.4/88.6
0 0 0 n setcmyk*																
g_P=0.7																
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^*_{out}	0.0	0.151	0.244	0.324	0.397	0.463	0.527	0.587	0.644	0.699	0.753	0.805	0.855	0.905	0.953	1.0

AE170−7N, Picture A7*de: 16 visual equidistant *L**-grey steps; PS operator: *0 0 0 n* setcmykcolor*

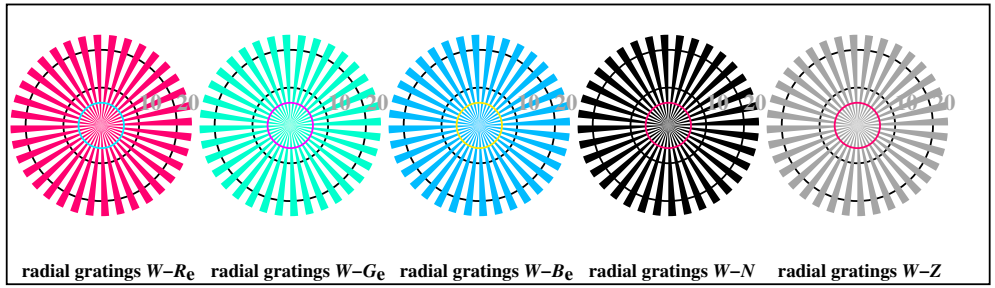
In-out: Test chart AE17 according to test chart 4 of ISO/IEC 15775
Viewing *Y* contrast Y_W:Y_N=88,9:5; Y_N-range 3,75 to <7,5

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

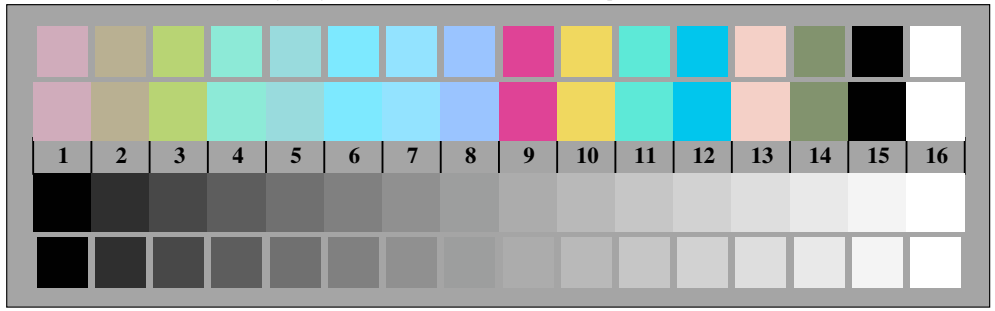
see similar files: http://farbe.li.tu-berlin.de/AE17/AE17.HTM
technical information: http://farbe.li.tu-berlin.de/ or http://farbe.li.tu-berlin.de/AE.HTM

TUB Registration: 20191001-AE17/AE17L0FA.TXT /.PS TUB material: code=rha4ta
application for measurement or viewing of the output on display and print

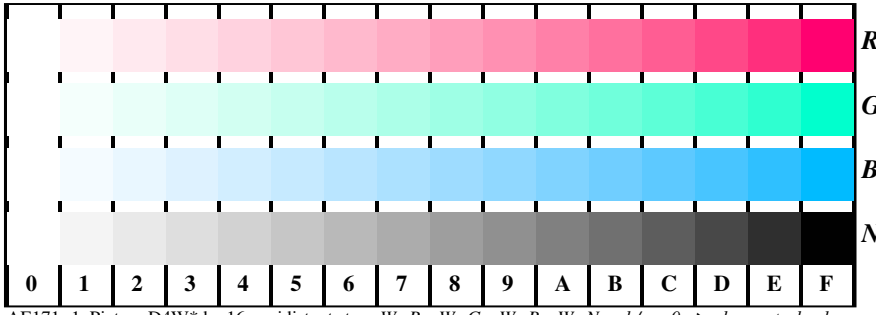
AE170–3, Picture D1W*de: Flower motif, 14 CIE-test colours and 2 + 16 grey steps (sf); *PS* operators *settransfer, 3 colorimage*



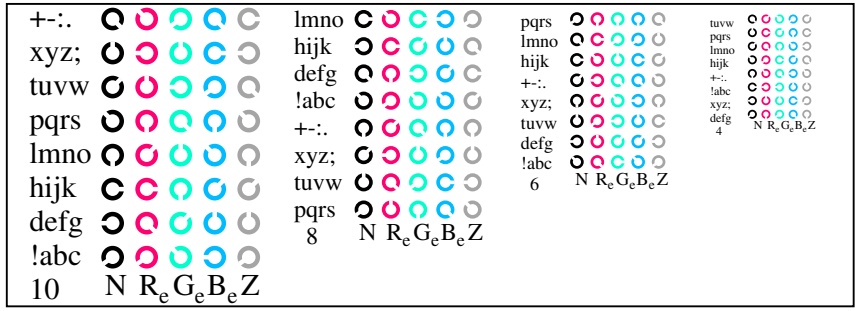
AE170–5, Picture D2W*de: radial gratings *W–R*e; *W–G*e; *W–B*e; *W–N; PS* operator *rgb–>rgb*de *setrgbcolor*



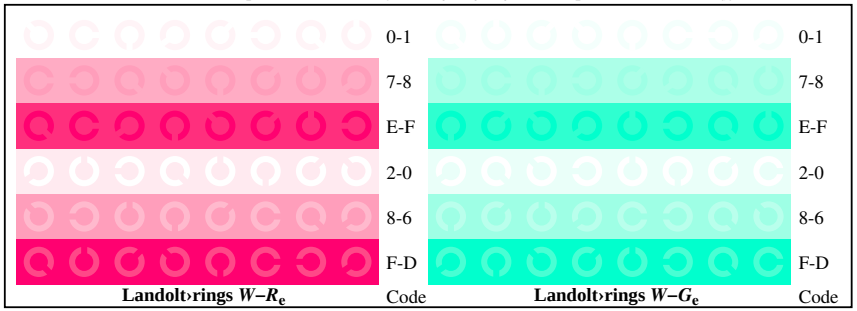
AE170–7, Picture D3W*de: 14 CIE-test colours and 2 + 16 grey steps (sf); *rgb/cmy0–>rgb*de *setrgbcolor*



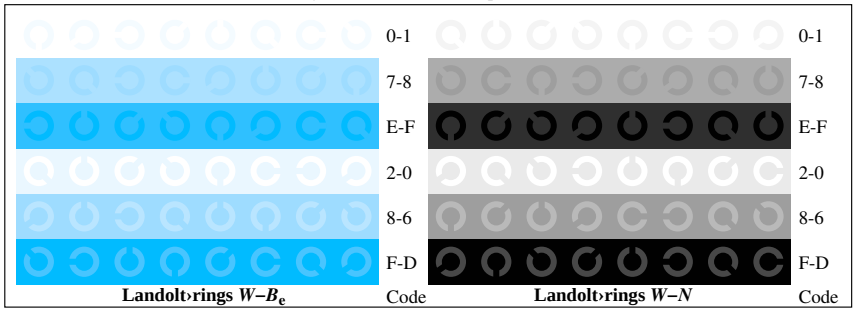
AE171–1, Picture D4W*de: 16 equidistant steps *W–R*e; *W–G*e; *W–B*e; *W–N*; *rgb/cmy0–>rgb*de *setrgbcolor*



AE171–3, Picture D5W*de: Sript and Landolt-rings *N*; *R*e; *G*e; *B*e; *Z*; *PS* operator *rgb–>rgb*de *setrgbcolor*



AE171–5, Picture D6W*de: Landolt-rings *W–R*e; *W–G*e; *PS* operator *rgb–>rgb*de *setrgbcolor*



AE171–7, Picture D7W*de: Landolt-rings *W–B*e; *W–N; PS* operator *rgb–>rgb*de *setrgbcolor*

Test chart AE17 according to test chart 4 of ISO/IEC 15775
chromatic test chart *RGB*

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

see similar files: http://farbe.li.tu-berlin.de/AE17/AE17.HTM
technical information: http://farbe.li.tu-berlin.de/ or http://farbe.li.tu-berlin.de/AE.HTM

Test for the visual linearized output of pictures D1Wde **to D3W**de

Output test with the computer display ( ) or the external display ( ) please mark by (x)!

Test of the (flower) image according to picture D1Wde

Are clear (immediately conspicuous) differences recognized between reproduction and test chart? **Yes/No**

Subjective remarks about the colour reproduction of the (flower) image,
the CIE−test colours and the 16 grey steps within the image, for example "less contrast":

.....
.....
.....
.....
.....

Test of the resolution of radial gratings *W−R*$_d$, *W−G*$_d$, *W−B*$_d$ according to picture D2Wde

	***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 (6x), Resolution diameter:	..... mm	..... mm	..... mm	..... mm	..... mm

Test of the 14 CIE−test colours according to picture D3Wde

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**

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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 D4Wde

***W−R*$_d$** White − Red:	Are all the 16 steps distinguishable?		**Yes/No**
	If No: How many steps can be distinguished?	of the given 16 steps	..... Steps
***W−G*$_d$** White − Green:	Are all the 16 steps distinguishable?		**Yes/No**
	If No: How many steps can be distinguished?	of the given 16 steps	..... Steps
***W−B*$_d$** White − Blue:	Are all the 16 steps distinguishable?		**Yes/No**
	If No: How many steps can be distinguished?	of the given 16 steps	..... Steps
W−N White − Black:	Are all the 16 steps distinguishable?		**Yes/No**
	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 D5Wde

Is the recognition frequency > 50% for letters (17 from 32 at least) and for Landolt−rings (minimum 5 of 8)?

Relative size	Letters	Ring ***N***	Ring ***R*$_d$**	Ring ***G*$_d$**	Ring ***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 recognition frequency of Landolt−rings *W−R*$_d$, *W−G*$_d$, *W−B*$_d$, and *W−N* according to pictures D6Wde**, and D7W**de

Is the recognition frequency of the Landolt−rings > 50% (min. 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 AE171−3Nde: 11051

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

PDF file: http://farbe.li.tu-berlin.de/AE17/AE17F0PX_CY3_1.PDF **underline Yes/No**

PS-File: http://farbe.li.tu-berlin.de/AE17/AE17F0PX_CY3_1.PS **or underline Yes/No**

Used computer operating system:
either one of Windows/Mac/Unix/other and version:.....

This evaluation is for the device output: underline monitor/data projector/printer
Device model, driver and version:.....

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

For device output with PDF-file AE17F0PX_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 device output with PS-file AE17F0PX_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:Special remarks, e. g. output of Landscape (L)
.....
.....
.....

part 3 AE170−7N*de-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/AE17/AE17F0PX_CY3_3.PDF **underline Yes/No**
PS file: http://farbe.li.tu-berlin.de/AE17/AE17F0PX_CY3_3.PS **underline Yes/No**
Picture A7de **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 range**
Remark: In daylighted offices the contrast range is in many cases:
on display between: >F:0 and E:0 (monitor), D:0 and 3:0 (data projector)

Only for optional colorimetric specification with PDF/PS file output

PDF file: http://farbe.li.tu-berlin.de/AE17/AE17F0PX_CY3_3.PDF
picture A7de **underline Yes/No**
PS file: http://farbe.li.tu-berlin.de/AE17/AE17F0PX_CY3_3.PS
picture A7de **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 AE171−7de: 11051

TUB Registration: 20191001-AE17/AE17L0FA.TXT /.PS TUB material: code=rha4ta
application for measurement or viewing of the output on display and print

Form A: Test chart AE17 according to test chart 4 of ISO/IEC 15775 input: *rgb/cmy0/000n/w set...*
chromatic test chart *RGB* output: *->rgb*$_{de}$ *setrgbcolor*

see similar files: http://farbe.li.tu-berlin.de/AE17/AE17.HTM
technical information: http://farbe.li.tu-berlin.de/ or http://farbe.li.tu-berlin.de/AE.HTM

TUB Registration: 20191001-AE17/AE17L0FA.TXT /.PS
application for measurement or viewing of the output on display and print
TUB material: code=rha4ta

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

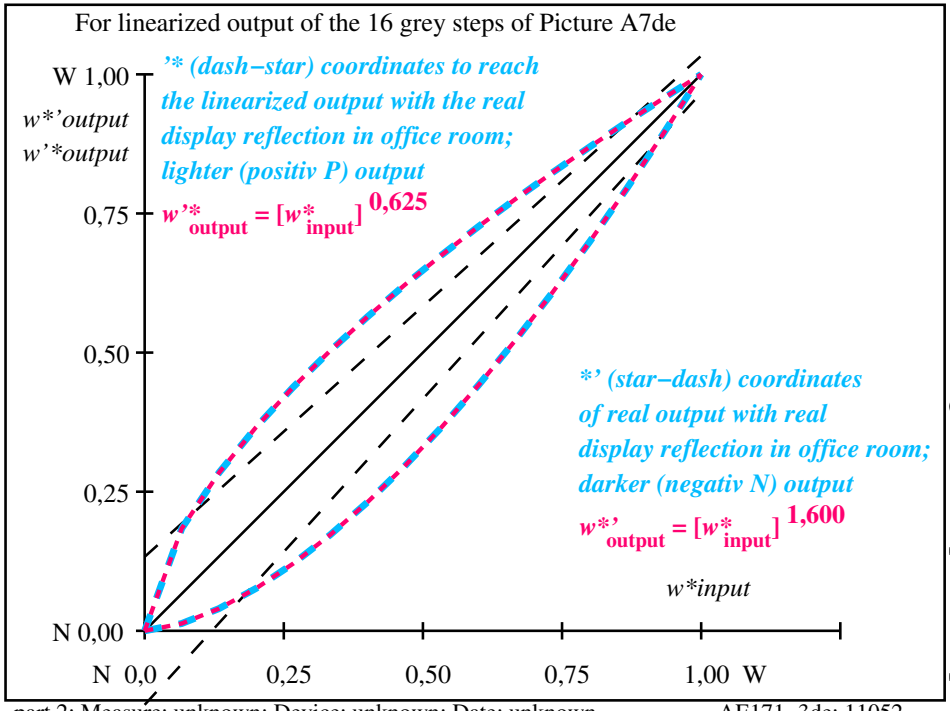
Mean lightness difference (16 steps)
ΔE^*_{CIELAB} = 8,1

Mean lightness difference (5 steps)
ΔL^*_{CIELAB} = 6,1

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

part 1; Measure: unknown; Device: unknown; Date: unknown AE170−3de: 11052

For linearized output of the 16 grey steps of Picture A7de



part 2; Measure: unknown; Device: unknown; Date: unknown AE171−3de: 11052

$L^*/Y_{intended}$ (absolute)	38.0/10.1	41.8/12.4	45.6/15.0	49.5/18.0	53.3/21.3	57.1/25.1	61.0/29.2	64.8/33.8	68.6/38.8	72.4/44.3	76.3/50.3	80.1/56.9	83.9/63.9	87.8/71.6	91.6/79.8	95.4/88.6
0 0 0 n setcmyk*																
g_P=0.63																
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^*_{out}	0.0	0.185	0.283	0.366	0.438	0.503	0.564	0.621	0.675	0.727	0.776	0.824	0.87	0.915	0.958	1.0

AE170−7N, Picture A7*de: 16 visual equidistant *L**-grey steps; PS operator: *0 0 0 n* setcmykcolor*

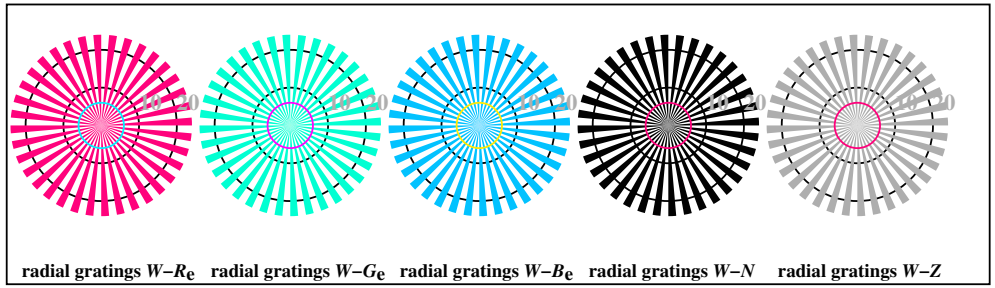
In-out: Test chart AE17 according to test chart 4 of ISO/IEC 15775
Viewing *Y* contrast Y_W:Y_N=88,9:10; Y_N-range 7,5 to <15

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

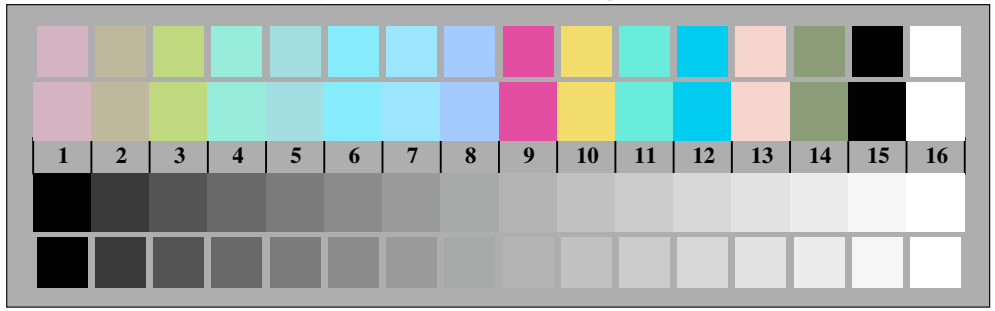
see similar files: http://farbe.li.tu-berlin.de/AE17/AE17.HTM
technical information: http://farbe.li.tu-berlin.de/ or http://farbe.li.tu-berlin.de/AE.HTM

TUB Registration: 20191001-AE17/AE17L0FA.TXT /.PS TUB material: code=rha4ta
application for measurement or viewing of the output on display and print

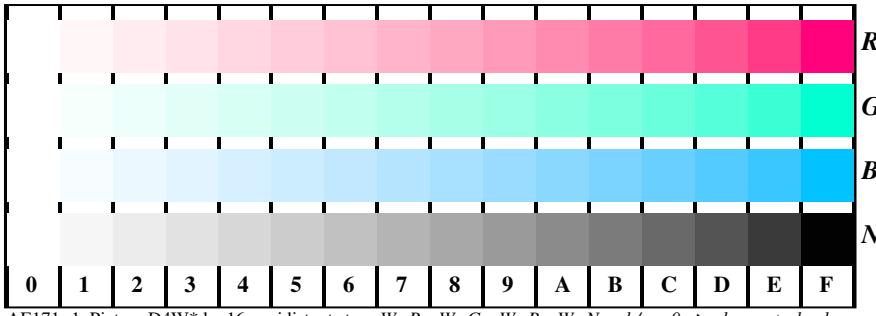
AE170–3, Picture D1W*de: Flower motif, 14 CIE-test colours and 2 + 16 grey steps (sf); *PS* operators *settransfer, 3 colorimage*



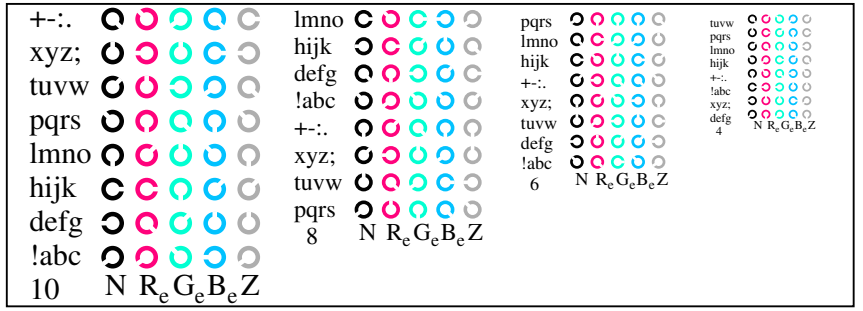
AE170–5, Picture D2W*de: radial gratings *W–Re; W–Ge; W–Be; W–N; PS* operator *rgb–>rgb*de setrgbcolor*



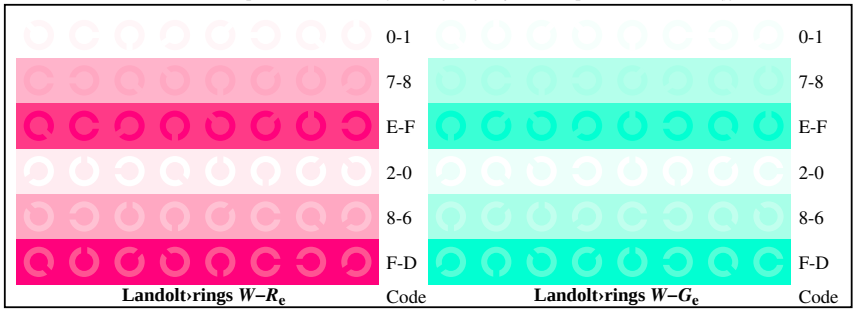
AE170–7, Picture D3W*de: 14 CIE-test colours and 2 + 16 grey steps (sf); *rgb/cmy0–>rgb*de setrgbcolor*



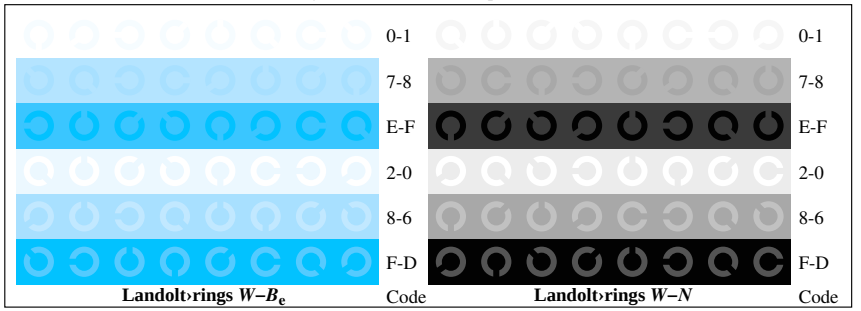
AE171–1, Picture D4W*de: 16 equidistant steps *W–Re; W–Ge; W–Be; W–N; rgb/cmy0–>rgb*de setrgbcolor*



AE171–3, Picture D5W*de: Sript and Landolt-rings *N; Re; Ge; Be; Z; PS* operator *rgb–>rgb*de setrgbcolor*



AE171–5, Picture D6W*de: Landolt-rings *W–Re; W–Ge; PS* operator *rgb–>rgb*de setrgbcolor*



AE171–7, Picture D7W*de: Landolt-rings *W–Be; W–N; PS* operator *rgb–>rgb*de setrgbcolor*

Test chart AE17 according to test chart 4 of ISO/IEC 15775
chromatic test chart *RGB*

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

see similar files: http://farbe.li.tu-berlin.de/AE17/AE17.HTM
technical information: http://farbe.li.tu-berlin.de/ or http://farbe.li.tu-berlin.de/AE.HTM

Test for the visual linearized output of pictures D1Wde **to D3W**de

Output test with the computer display ( ) or the external display ( ) please mark by (x)!

Test of the (flower) image according to picture D1Wde

Are clear (immediately conspicuous) differences recognized between reproduction and test chart? **Yes/No**

Subjective remarks about the colour reproduction of the (flower) image,
the CIE−test colours and the 16 grey steps within the image, for example "less contrast":

.....
.....
.....
.....
.....

Test of the resolution of radial gratings *W−R*$_d$, *W−G*$_d$, *W−B*$_d$ according to picture D2Wde

	***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 (6x), Resolution diameter:	..... mm	..... mm	..... mm	..... mm	..... mm

Test of the 14 CIE−test colours according to picture D3Wde

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 AE170−3de: 11061

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 D4Wde

***W−R*$_d$** White − Red:	Are all the 16 steps distinguishable?		**Yes/No**
	If No: How many steps can be distinguished?	of the given 16 steps	..... Steps
***W−G*$_d$** White − Green:	Are all the 16 steps distinguishable?		**Yes/No**
	If No: How many steps can be distinguished?	of the given 16 steps	..... Steps
***W−B*$_d$** White − Blue:	Are all the 16 steps distinguishable?		**Yes/No**
	If No: How many steps can be distinguished?	of the given 16 steps	..... Steps
W−N White − Black:	Are all the 16 steps distinguishable?		**Yes/No**
	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 D5Wde

Is the recognition frequency > 50% for letters (17 from 32 at least) and for Landolt−rings (minimum 5 of 8)?

Relative size	Letters	Ring ***N***	Ring ***R*$_d$**	Ring ***G*$_d$**	Ring ***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 recognition frequency of Landolt−rings *W−R*$_d$, *W−G*$_d$, *W−B*$_d$, and *W−N* according to pictures D6Wde**, and D7W**de

Is the recognition frequency of the Landolt−rings > 50% (min. 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 AE171−3Nde: 11061

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

PDF file: http://farbe.li.tu-berlin.de/AE17/AE17F0PX_CY2_1.PDF **underline Yes/No**

PS-File: http://farbe.li.tu-berlin.de/AE17/AE17F0PX_CY2_1.PS **or underline Yes/No**

Used computer operating system:
either one of Windows/Mac/Unix/other and version:.....

This evaluation is for the device output: **underline monitor/data projector/printer**
Device model, driver and version:.....

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

For device output with PDF-file AE17F0PX_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 device output with PS-file AE17F0PX_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:Special remarks, e. g. output of Landscape (L)
.....
.....
.....

part 3 AE170−7N*de-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/AE17/AE17F0PX_CY2_3.PDF **underline Yes/No**
PS file: http://farbe.li.tu-berlin.de/AE17/AE17F0PX_CY2_3.PS **underline Yes/No**
Picture A7de **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 range**
Remark: In daylighted offices the contrast range is in many cases:
on display between: >F:0 and E:0 (monitor), D:0 and 3:0 (data projector)

Only for optional colorimetric specification with PDF/PS file output

PDF file: http://farbe.li.tu-berlin.de/AE17/AE17F0PX_CY2_3.PDF
picture A7de **underline Yes/No**
PS file: http://farbe.li.tu-berlin.de/AE17/AE17F0PX_CY2_3.PS
picture A7de **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 AE171−7de: 11061

TUB Registration: 20191001-AE17/AE17L0FA.TXT /.PS TUB material: code=rha4ta
application for measurement or viewing of the output on display and print

see similar files: http://farbe.li.tu-berlin.de/AE17/AE17.HTM
technical information: http://farbe.li.tu-berlin.de/ or http://farbe.li.tu-berlin.de/AE.HTM

TUB Registration: 20191001-AE17/AE17L0FA.TXT /.PS
application for measurement or viewing of the output on display and print
TUB material: code=rha4ta

i	LAB*ref			l*out	LAB*out			LAB*out−ref			ΔE*
1	52,01	0,00	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	0,27	63,82	0,00	0,00	8,90	0,00	0,00	8,90
3	57,80	0,00	0,00	0,37	68,48	0,00	0,00	10,68	0,00	0,00	10,68
4	60,69	0,00	0,00	0,46	72,03	0,00	0,00	11,33	0,00	0,00	11,33
5	63,58	0,00	0,00	0,52	75,00	0,00	0,00	11,41	0,00	0,00	11,41
6	66,48	0,00	0,00	0,58	77,60	0,00	0,00	11,12	0,00	0,00	11,12
7	69,37	0,00	0,00	0,64	79,94	0,00	0,00	10,57	0,00	0,00	10,57
8	72,26	0,00	0,00	0,69	82,09	0,00	0,00	9,83	0,00	0,00	9,83
9	75,16	0,00	0,00	0,73	84,09	0,00	0,00	8,93	0,00	0,00	8,93
10	78,05	0,00	0,00	0,78	85,96	0,00	0,00	7,90	0,00	0,00	7,90
11	80,94	0,00	0,00	0,82	87,72	0,00	0,00	6,77	0,00	0,00	6,77
12	83,83	0,00	0,00	0,86	89,39	0,00	0,00	5,56	0,00	0,00	5,56
13	86,73	0,00	0,00	0,89	90,99	0,00	0,00	4,26	0,00	0,00	4,26
14	89,62	0,00	0,00	0,93	92,52	0,00	0,00	2,90	0,00	0,00	2,90
15	92,51	0,00	0,00	0,96	93,99	0,00	0,00	1,47	0,00	0,00	1,47
16	95,41	0,00	0,00	1,00	95,41	0,00	0,00	0,00	0,00	0,00	0,01
17	52,01	0,00	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	0,51	74,30	0,00	0,00	11,43	0,00	0,00	11,43
19	73,71	0,00	0,00	0,71	83,11	0,00	0,00	9,39	0,00	0,00	9,39
20	84,56	0,00	0,00	0,87	89,80	0,00	0,00	5,24	0,00	0,00	5,24
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

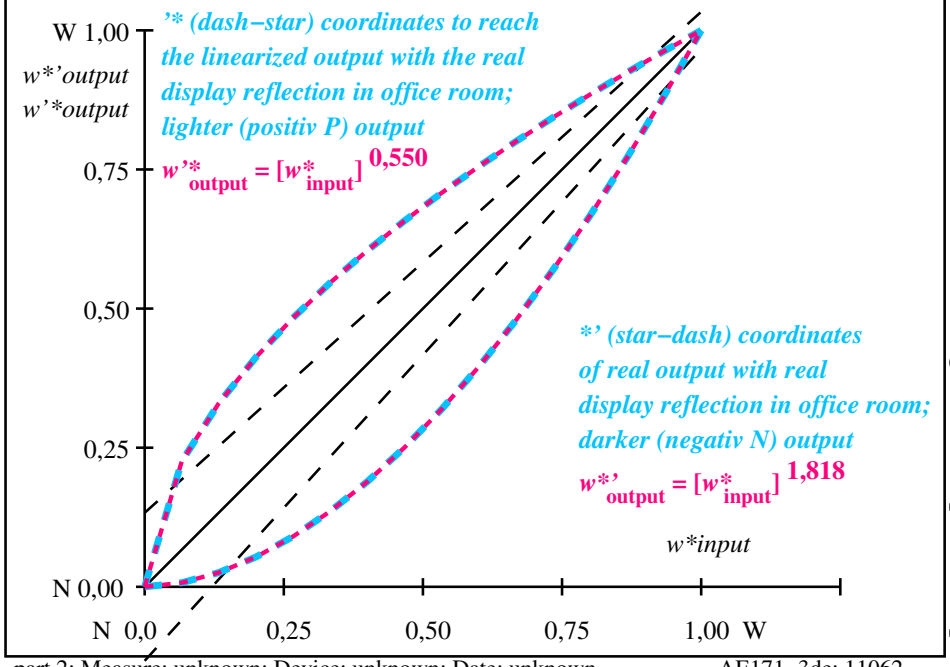
Mean lightness difference (16 steps)
ΔE^*_{CIELAB} = 6,9

Mean lightness difference (5 steps)
ΔL^*_{CIELAB} = 5,2

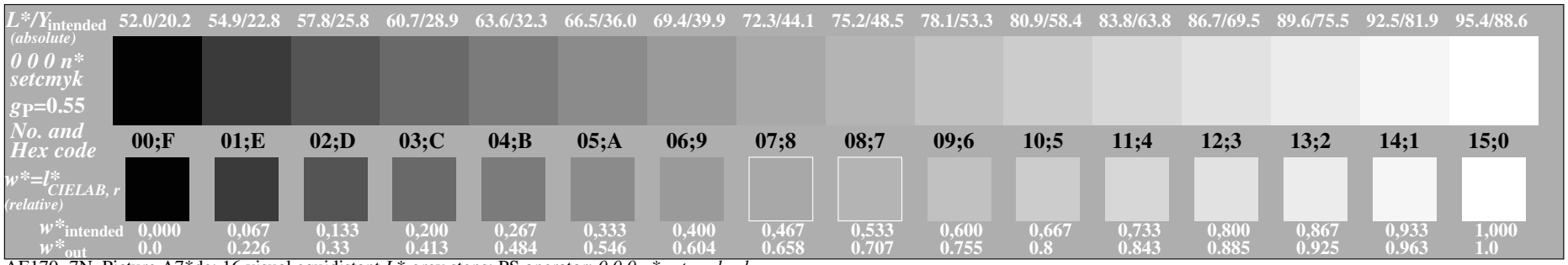
Mean colour reproduction index: $R^*_{ab,m}$ = 69,8

part 1; Measure: unknown; Device: unknown; Date: unknown AE170−3de: 11062

For linearized output of the 16 grey steps of Picture A7de



part 2; Measure: unknown; Device: unknown; Date: unknown AE171−3de: 11062



AE170−7N, Picture A7*de: 16 visual equidistant *L**-grey steps; PS operator: *0 0 0 n* setcmykcolor*

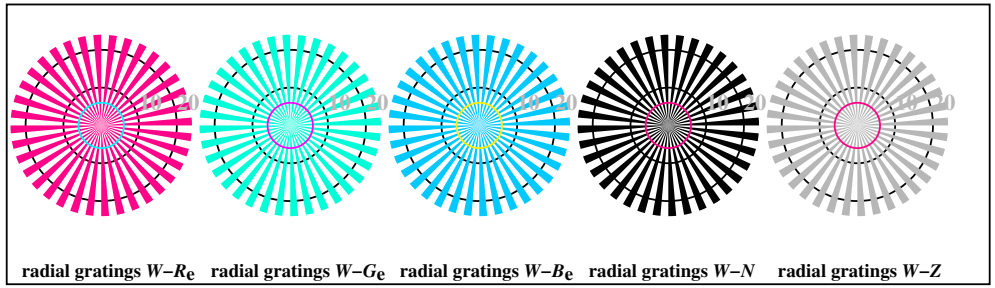
In-out: Test chart AE17 according to test chart 4 of ISO/IEC 15775
Viewing *Y* contrast Y_W:Y_N=88,9:20; Y_N-range 15 to <30

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

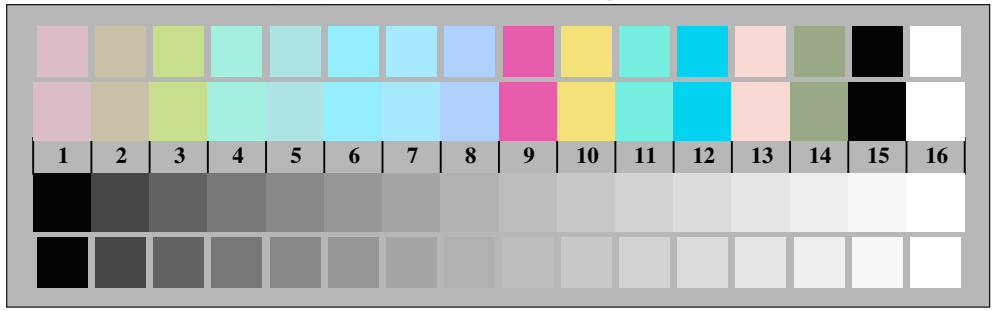
see similar files: http://farbe.li.tu-berlin.de/AE17/AE17.HTM
technical information: http://farbe.li.tu-berlin.de/ or http://farbe.li.tu-berlin.de/AE.HTM

TUB Registration: 20191001-AE17/AE17L0FA.TXT /.PS TUB material: code=rha4ta
application for measurement or viewing of the output on display and print

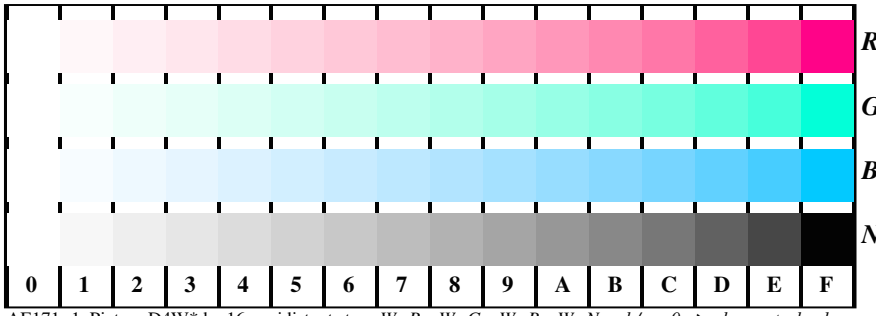
AE170–3, Picture D1W*de: Flower motif, 14 CIE-test colours and 2 + 16 grey steps (sf); *PS* operators *settransfer, 3 colorimage*



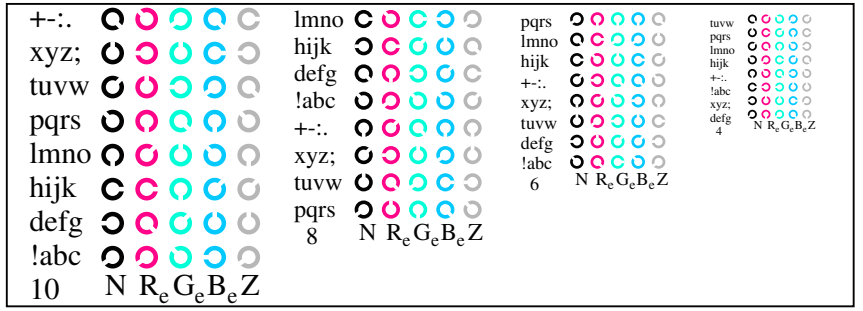
AE170–5, Picture D2W*de: radial gratings *W–Re; W–Ge; W–Be; W–N; PS* operator *rgb–>rgb*de setrgbcolor*



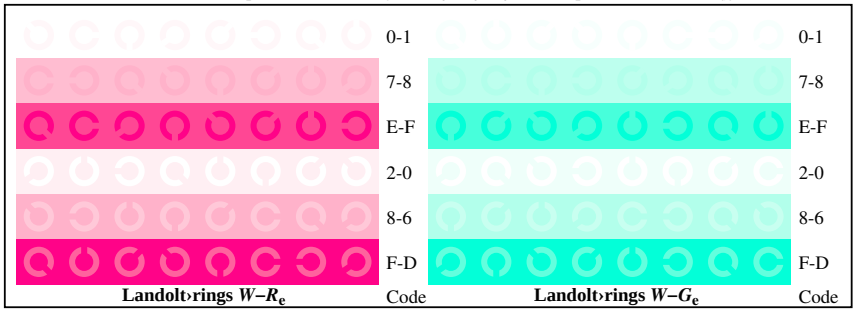
AE170–7, Picture D3W*de: 14 CIE-test colours and 2 + 16 grey steps (sf); *rgb/cmy0–>rgb*de setrgbcolor*



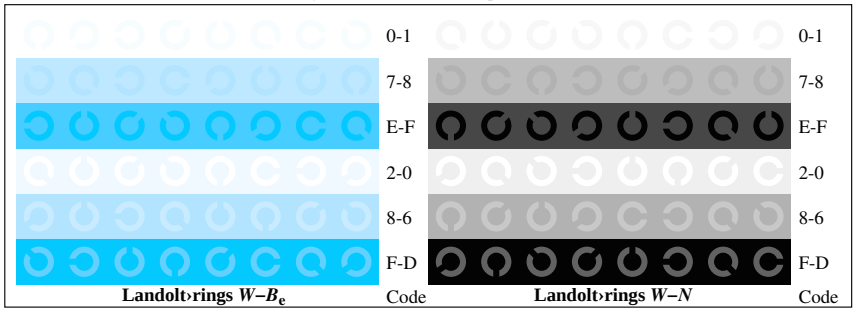
AE171–1, Picture D4W*de: 16 equidistant steps *W–Re; W–Ge; W–Be; W–N; rgb/cmy0–>rgb*de setrgbcolor*



AE171–3, Picture D5W*de: Sript and Landolt-rings *N; Re; Ge; Be; Z; PS* operator *rgb–>rgb*de setrgbcolor*



AE171–5, Picture D6W*de: Landolt-rings *W–Re; W–Ge; PS* operator *rgb–>rgb*de setrgbcolor*



AE171–7, Picture D7W*de: Landolt-rings *W–Be; W–N; PS* operator *rgb–>rgb*de setrgbcolor*

Test chart AE17 according to test chart 4 of ISO/IEC 15775
chromatic test chart *RGB*

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

see similar files: http://farbe.li.tu-berlin.de/AE17/AE17.HTM
technical information: http://farbe.li.tu-berlin.de/ or http://farbe.li.tu-berlin.de/AE.HTM

Test for the visual linearized output of pictures D1Wde **to D3W**de

Output test with the computer display ( ) or the external display ( ) please mark by (x)!

Test of the (flower) image according to picture D1Wde

Are clear (immediately conspicuous) differences recognized between reproduction and test chart? **Yes/No**

Subjective remarks about the colour reproduction of the (flower) image,
the CIE−test colours and the 16 grey steps within the image, for example "less contrast":

.....
.....
.....
.....
.....

Test of the resolution of radial gratings *W−R*$_d$, *W−G*$_d$, *W−B*$_d$ according to picture D2Wde

	***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 (6x), Resolution diameter:	..... mm	..... mm	..... mm	..... mm	..... mm

Test of the 14 CIE−test colours according to picture D3Wde

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**

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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 D4Wde

***W−R*$_d$** White − Red:	Are all the 16 steps distinguishable?		**Yes/No**
	If No: How many steps can be distinguished?	of the given 16 steps	..... Steps
***W−G*$_d$** White − Green:	Are all the 16 steps distinguishable?		**Yes/No**
	If No: How many steps can be distinguished?	of the given 16 steps	..... Steps
***W−B*$_d$** White − Blue:	Are all the 16 steps distinguishable?		**Yes/No**
	If No: How many steps can be distinguished?	of the given 16 steps	..... Steps
W−N White − Black:	Are all the 16 steps distinguishable?		**Yes/No**
	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 D5Wde

Is the recognition frequency > 50% for letters (17 from 32 at least) and for Landolt−rings (minimum 5 of 8)?

Relative size	Letters	Ring ***N***	Ring ***R*$_d$**	Ring ***G*$_d$**	Ring ***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 recognition frequency of Landolt−rings *W−R*$_d$, *W−G*$_d$, *W−B*$_d$, and *W−N* according to pictures D6Wde**, and D7W**de

Is the recognition frequency of the Landolt−rings > 50% (min. 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

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

PDF file: http://farbe.li.tu-berlin.de/AE17/AE17F0PX_CY1_1.PDF **underline Yes/No**

PS-File: http://farbe.li.tu-berlin.de/AE17/AE17F0PX_CY1_1.PS **or underline Yes/No**

Used computer operating system:
either one of Windows/Mac/Unix/other and version:.....

This evaluation is for the device output: **underline monitor/data projector/printer**
Device model, driver and version:.....

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

For device output with PDF-file AE17F0PX_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 device output with PS-file AE17F0PX_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:Special remarks, e. g. output of Landscape (L)
.....
.....
.....

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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/AE17/AE17F0PX_CY1_3.PDF **underline Yes/No**
PS file: http://farbe.li.tu-berlin.de/AE17/AE17F0PX_CY1_3.PS **underline Yes/No**
Picture A7de **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 range**
Remark: In daylighted offices the contrast range is in many cases:
on display between: >F:0 and E:0 (monitor), D:0 and 3:0 (data projector)

Only for optional colorimetric specification with PDF/PS file output

PDF file: http://farbe.li.tu-berlin.de/AE17/AE17F0PX_CY1_3.PDF
picture A7de **underline Yes/No**
PS file: http://farbe.li.tu-berlin.de/AE17/AE17F0PX_CY1_3.PS
picture A7de **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: .....

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TUB Registration: 20191001-AE17/AE17L0FA.TXT /.PS TUB material: code=rha4ta
application for measurement or viewing of the output on display and print

see similar files: http://farbe.li.tu-berlin.de/AE17/AE17.HTM
technical information: http://farbe.li.tu-berlin.de/ or http://farbe.li.tu-berlin.de/AE.HTM

TUB Registration: 20191001-AE17/AE17L0FA.TXT /.PS
application for measurement or viewing of the output on display and print
TUB material: code=rha4ta

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

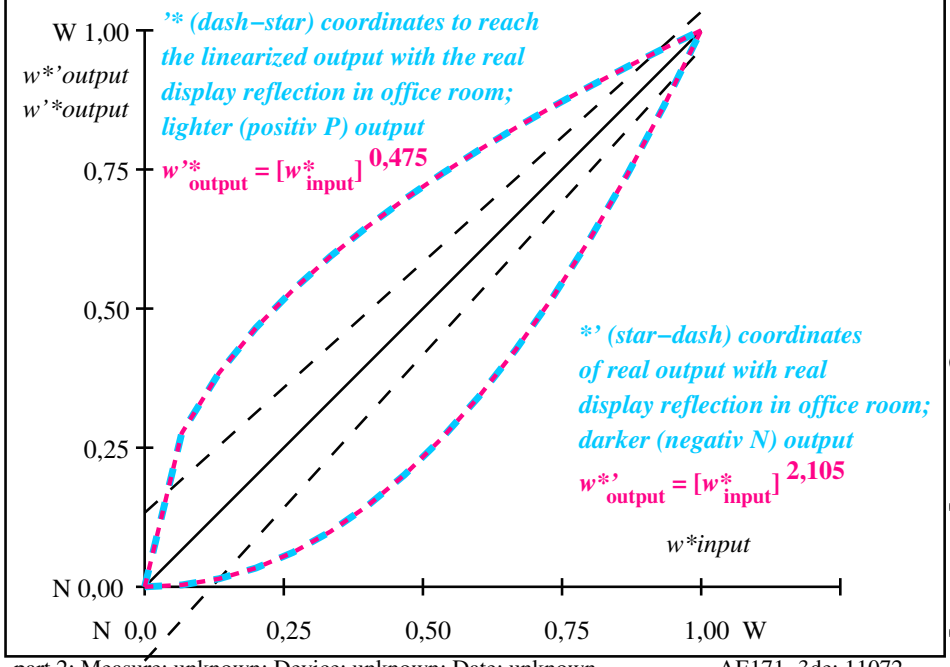
Mean lightness difference (16 steps)
ΔE^*_{CIELAB} = 4,5

Mean lightness difference (5 steps)
ΔL^*_{CIELAB} = 3,3

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

part 1; Measure: unknown; Device: unknown; Date: unknown AE170−3de: 11072

For linearized output of the 16 grey steps of Picture A7de



part 2; Measure: unknown; Device: unknown; Date: unknown AE171−3de: 11072

$L^*/Y_{intended}$ (absolute)	69.7/40.3	71.4/42.8	73.1/45.4	74.8/48.0	76.6/50.8	78.3/53.7	80.0/56.6	81.7/59.7	83.4/62.9	85.1/66.3	86.8/69.7	88.6/73.2	90.3/76.9	92.0/80.7	93.7/84.6	95.4/88.6
0 0 0 n setcmyk*																
g_P=0.48																
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^*_{out}	0.0	0.277	0.384	0.466	0.534	0.593	0.647	0.697	0.742	0.785	0.825	0.863	0.899	0.934	0.968	1.0

AE170−7N, Picture A7*de: 16 visual equidistant *L**-grey steps; PS operator: *0 0 0 n* setcmykcolor*

In-out: Test chart AE17 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: *->rgb_{de} setrgbcolor*