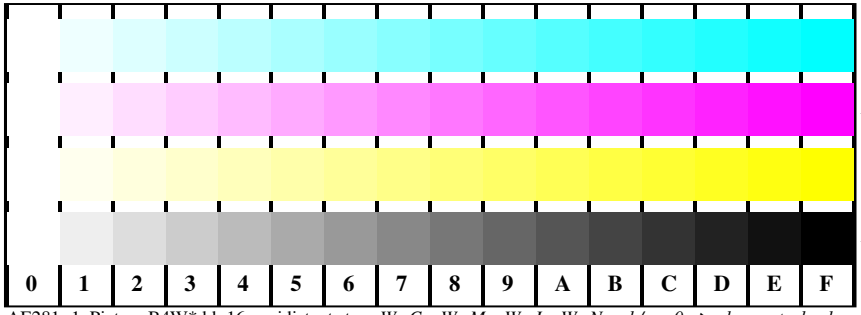
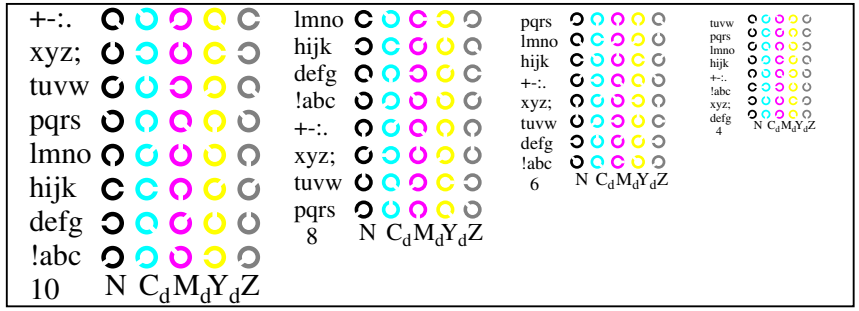
see similar files: http://farbe.li.tu-berlin.de/AE28/AE28.HTM
technical information: http://farbe.li.tu-berlin.de/ or http://farbe.li.tu-berlin.de/AE.HTM

TUB Registration: 20191001-AE28/AE28L0FA.TXT /.PS TUB material: code=rha4ta
application for measurement or viewing of the output on display and print

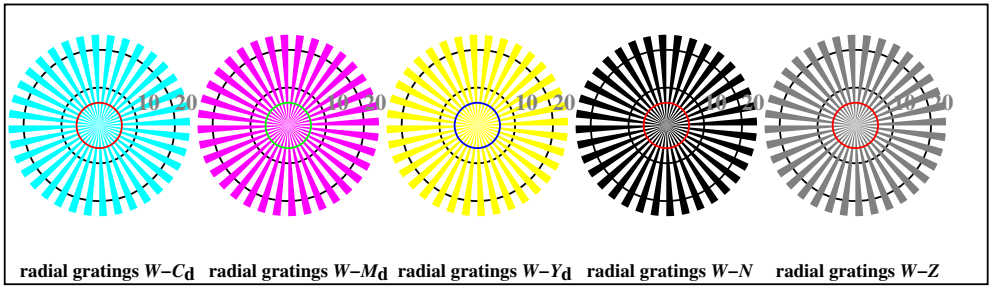
AE280–3, Picture B1W*dd: Flower motif, 14 CIE-test colours and 2 + 16 grey steps (nf); *PS* operators *settransfer, 3 colorimage*



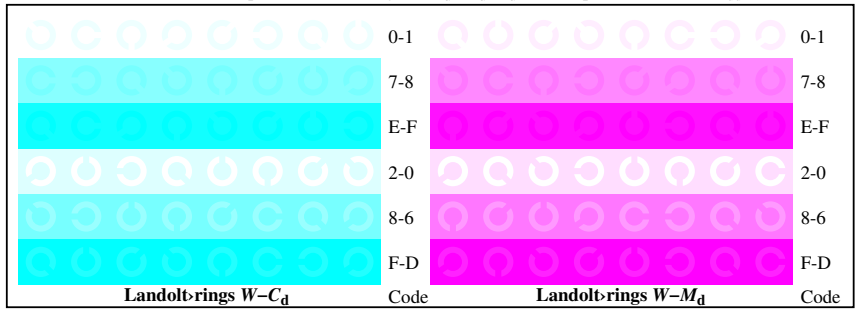
AE281–1, Picture B4W*dd: 16 equidistant steps $W–C_d$; $W–M_d$; $W–J_d$; $W–N$; *rgb/cmy0–>rgb*dd setrgbcolor*



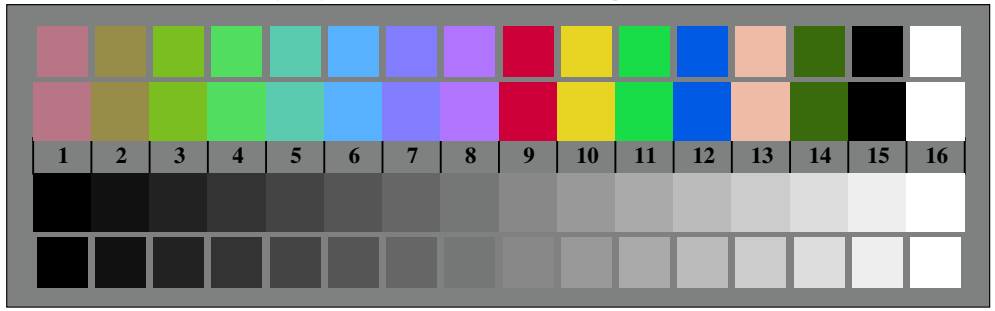
AE281–3, Picture B5W*dd: Sript and Landolt-rings *N*; C_d; M_d; Y_d; *Z*; *PS* operator *rgb–>rgb*dd setrgbcolor*



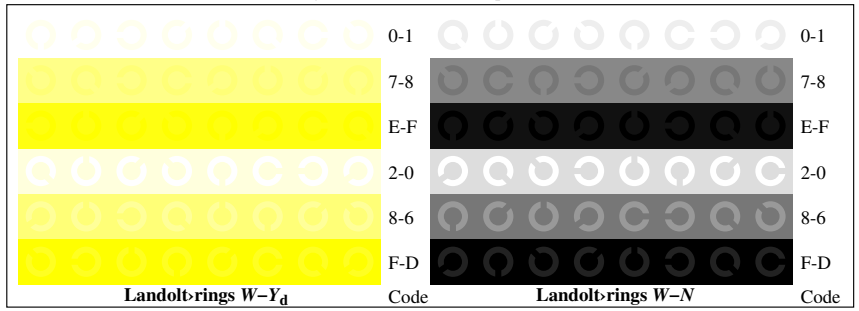
AE280–5, Picture B2W*dd: radial gratings $W–C_d$; $W–M_d$; $W–Y_d$; $W–N$; *PS* operator *rgb–>rgb*dd setrgbcolor*



AE281–5, Picture B6W*dd: Landolt-rings $W–C_d$; $W–M_d$; *PS* operator *rgb–>rgb*dd setrgbcolor*



AE280–7, Picture B3W*dd: 14 CIE-test colours and 2 + 16 grey steps (sf); *rgb/cmy0–>rgb*dd setrgbcolor*



AE281–7, Picture B7W*dd: Landolt-rings $W–Y_d$; $W–N$; *PS* operator *rgb–>rgb*dd setrgbcolor*

Test chart AE28 according to test chart 2 of ISO/IEC 15775
chromatic test chart *CMYK*

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

see similar files: http://farbe.li.tu-berlin.de/AE28/AE28.HTM
technical information: http://farbe.li.tu-berlin.de/ or http://farbe.li.tu-berlin.de/AE.HTM

TUB Registration: 20191001-AE28/AE28L0FA.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 B1Wdd **to B3W**dd

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

Test of the (flower) image according to picture B1Wdd

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−C*$_d$, *W−M*$_d$, *W−Y*$_d$ according to picture B2Wdd

	***W−C*$_d$**	***W−M*$_d$**	***W−Y*$_d$**	***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 B3Wdd

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 B3W**dd

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 AE280−3dd: 01001

Test of 16 visually equally spaced steps of the colour rows *W−C*$_d$, *W−M*$_d$, *W−Y*$_d$, and *W−N* according to picture B4Wdd

***W−C*$_d$** White − Cyanblue:	Are all the 16 steps distinguishable?		**Yes/No**
	If No: How many steps can be distinguished?	of the given 16 steps	..... Steps
***W−M*$_d$** White − Magentared:	Are all the 16 steps distinguishable?		**Yes/No**
	If No: How many steps can be distinguished?	of the given 16 steps	..... Steps
***W−Y*$_d$** White − Yellow:	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 B5Wdd

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 ***C*$_d$**	Ring ***M*$_d$**	Ring ***Y*$_d$**
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−C*$_d$, *W−M*$_d$, *W−Y*$_d$, and *W−N* according to pictures B6Wdd**, and B7W**dd

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

Colour row ***W−C*$_d$** background − ring		Colour row ***W−M*$_d$** background − ring		Colour row ***W−Y*$_d$** 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 AE281−3Ndd: 01001

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

PDF file: http://farbe.li.tu-berlin.de/AE28/AE28F0NX_CY8_1.PDF **underline Yes/No**

PS file: http://farbe.li.tu-berlin.de/AE28/AE28F0NX_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 AE28F0NX_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 AE28F0NX_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 AE280−7N*dd-01001

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/AE28/AE28F0PX_CY8_3.PDF **underline Yes/No**
PS file: http://farbe.li.tu-berlin.de/AE28/AE28F0PX_CY8_3.PS **underline Yes/No**
Picture A7dd **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/AE28/AE28F0PX_CY8_3.PDF
picture A7dd **underline Yes/No**
PS file: http://farbe.li.tu-berlin.de/AE28/AE28F0PX_CY8_3.PS
picture A7dd **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 AE281−7dd: 01001

Form A: Test chart AE28 according to test chart 2 of ISO/IEC 15775 input: *rgb/cmy0/000n/w set...*
chromatic test chart *CMYK* output: *->rgb*$_{dd}$ *setrgbcolor*

see similar files: http://farbe.li.tu-berlin.de/AE28/AE28.HTM
technical information: http://farbe.li.tu-berlin.de/ or http://farbe.li.tu-berlin.de/AE.HTM

TUB Registration: 20191001-AE28/AE28L0FA.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

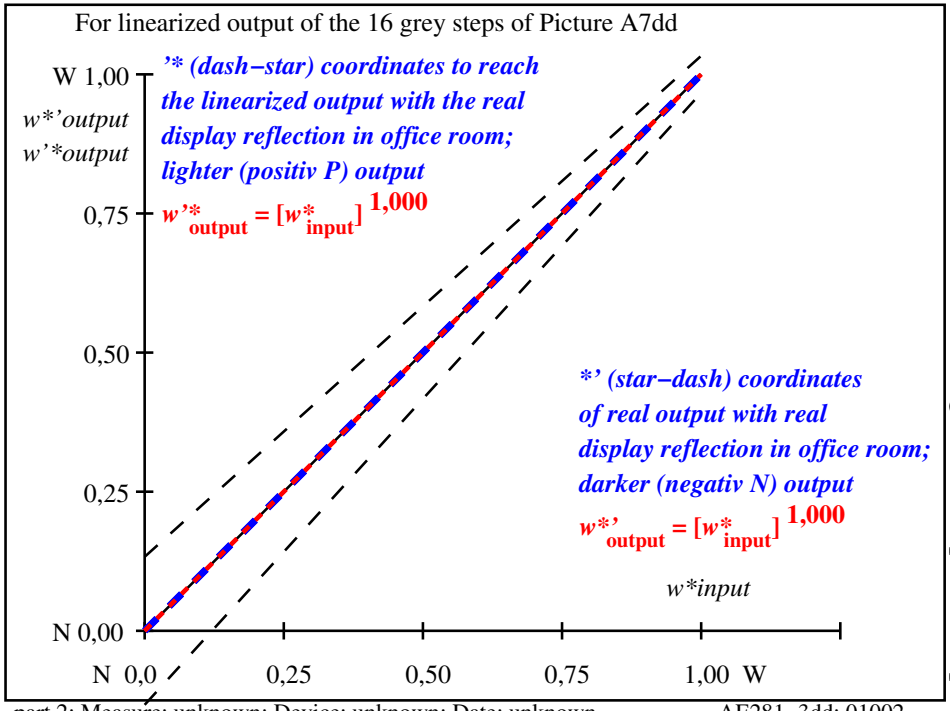
Mean lightness difference (16 steps)
ΔE^*_{CIELAB} = 0,0

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

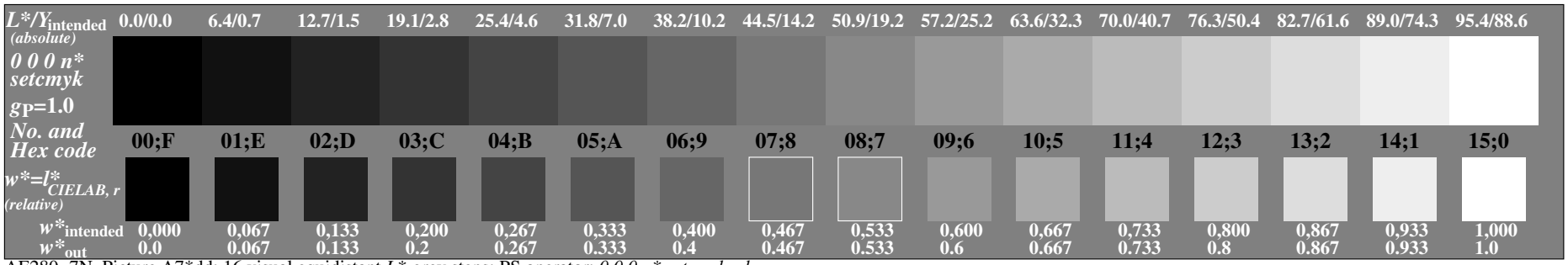
Mean colour reproduction index: $R^*_{ab,m}$ = 99,9

part 1; Measure: unknown; Device: unknown; Date: unknown AE280−3dd: 01002

For linearized output of the 16 grey steps of Picture A7dd



part 2; Measure: unknown; Device: unknown; Date: unknown AE281−3dd: 01002



AE280−7N, Picture A7*dd: 16 visual equidistant *L**-grey steps; PS operator: *0 0 0 n* setcmykcolor*

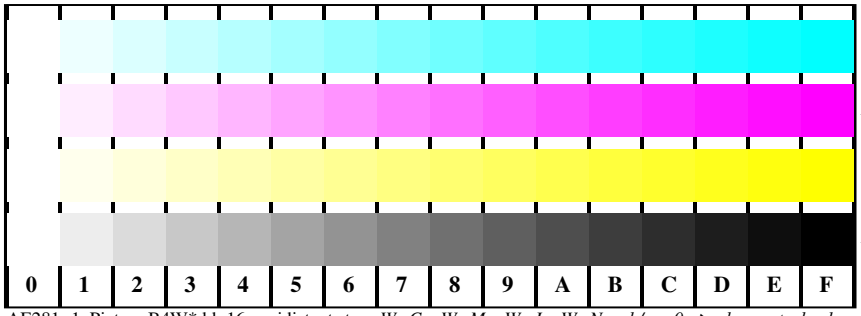
In-out: Test chart AE28 according to test chart 2 of ISO/IEC 15775
Viewing *Y* contrast Y_W:Y_N=88,9:0,31; Y_N-range 0,0 to <0,46

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

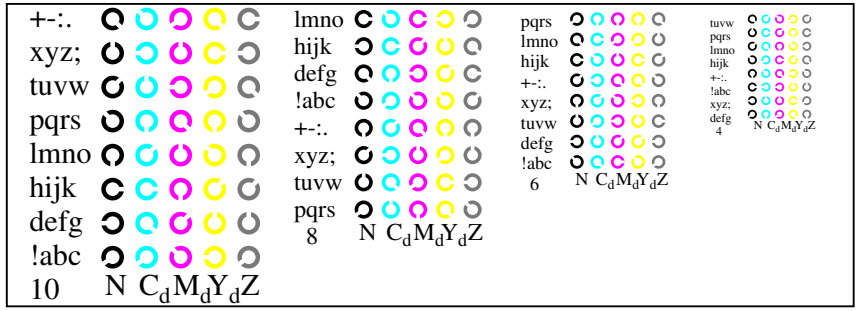
see similar files: http://farbe.li.tu-berlin.de/AE28/AE28.HTM
technical information: http://farbe.li.tu-berlin.de/ or http://farbe.li.tu-berlin.de/AE.HTM

TUB Registration: 20191001-AE28/AE28L0FA.TXT /.PS TUB material: code=rha4ta
application for measurement or viewing of the output on display and print

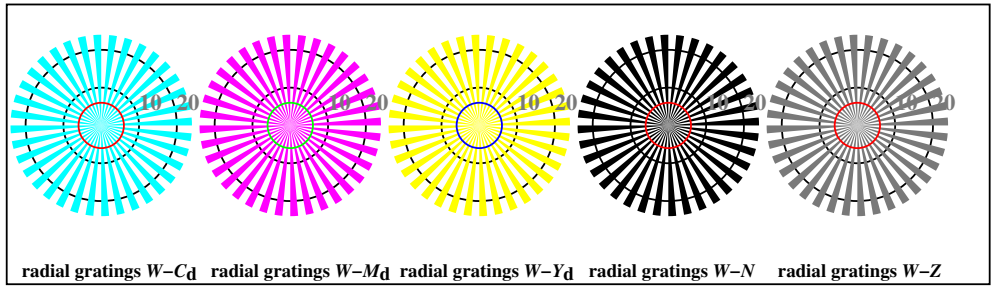
AE280–3, Picture B1W*dd: Flower motif, 14 CIE-test colours and 2 + 16 grey steps (nf); *PS* operators *settransfer, 3 colorimage*



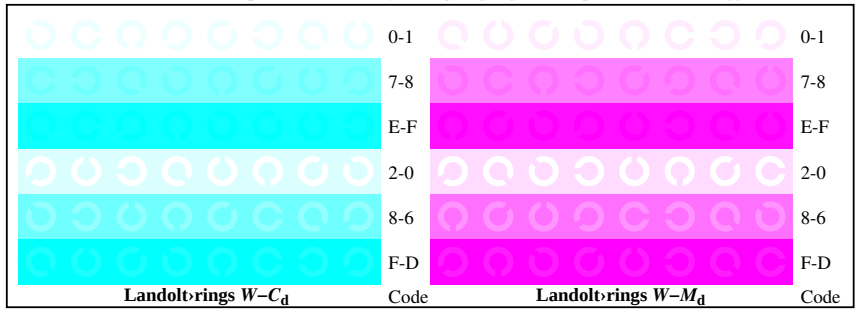
AE281–1, Picture B4W*dd: 16 equidistant steps $W–C_d$; $W–M_d$; $W–J_d$; $W–N$; *rgb/cmy0–>rgb*dd setrgbcolor*



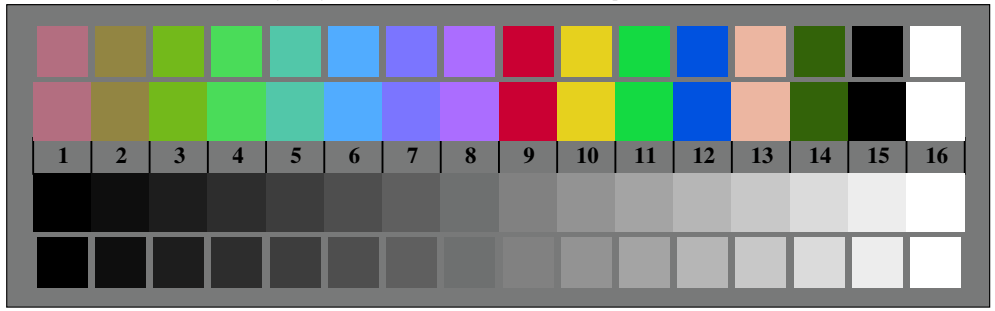
AE281–3, Picture B5W*dd: Sript and Landolt-rings *N*; C_d; M_d; Y_d; *Z*; *PS* operator *rgb–>rgb*dd setrgbcolor*



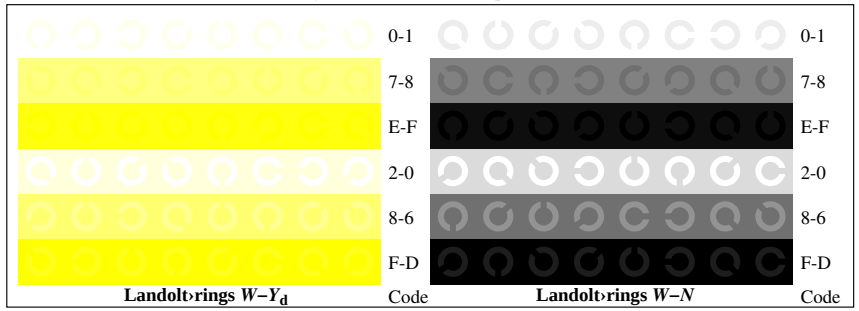
AE280–5, Picture B2W*dd: radial gratings $W–C_d$; $W–M_d$; $W–Y_d$; $W–N$; *PS* operator *rgb–>rgb*dd setrgbcolor*



AE281–5, Picture B6W*dd: Landolt-rings $W–C_d$; $W–M_d$; *PS* operator *rgb–>rgb*dd setrgbcolor*



AE280–7, Picture B3W*dd: 14 CIE-test colours and 2 + 16 grey steps (sf); *rgb/cmy0–>rgb*dd setrgbcolor*



AE281–7, Picture B7W*dd: Landolt-rings $W–Y_d$; $W–N$; *PS* operator *rgb–>rgb*dd setrgbcolor*

Test chart AE28 according to test chart 2 of ISO/IEC 15775
chromatic test chart *CMYK*

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

see similar files: http://farbe.li.tu-berlin.de/AE28/AE28.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 B1Wdd **to B3W**dd

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

Test of the (flower) image according to picture B1Wdd

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−C*$_d$, *W−M*$_d$, *W−Y*$_d$ according to picture B2Wdd

	***W−C*$_d$**	***W−M*$_d$**	***W−Y*$_d$**	***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 B3Wdd

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 B3W**dd

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 AE280−3dd: 01081

Test of 16 visually equally spaced steps of the colour rows *W−C*$_d$, *W−M*$_d$, *W−Y*$_d$, and *W−N* according to picture B4Wdd

***W−C*$_d$** White − Cyanblue:	Are all the 16 steps distinguishable?		**Yes/No**
	If No: How many steps can be distinguished?	of the given 16 steps	..... Steps
***W−M*$_d$** White − Magentared:	Are all the 16 steps distinguishable?		**Yes/No**
	If No: How many steps can be distinguished?	of the given 16 steps	..... Steps
***W−Y*$_d$** White − Yellow:	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 B5Wdd

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 ***C*$_d$**	Ring ***M*$_d$**	Ring ***Y*$_d$**
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−C*$_d$, *W−M*$_d$, *W−Y*$_d$, and *W−N* according to pictures B6Wdd**, and B7W**dd

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

Colour row ***W−C*$_d$** background − ring		Colour row ***W−M*$_d$** background − ring		Colour row ***W−Y*$_d$** 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 AE281−3Ndd: 01081

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

PDF file: http://farbe.li.tu-berlin.de/AE28/AE28F0NX_CY7_1.PDF **underline Yes/No**

PS file: http://farbe.li.tu-berlin.de/AE28/AE28F0NX_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 AE28F0NX_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 AE28F0NX_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 AE280−7N*dd-01081

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/AE28/AE28F0PX_CY7_3.PDF **underline Yes/No**
PS file: http://farbe.li.tu-berlin.de/AE28/AE28F0PX_CY7_3.PS **underline Yes/No**
Picture A7dd **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/AE28/AE28F0PX_CY7_3.PDF
picture A7dd **underline Yes/No**
PS file: http://farbe.li.tu-berlin.de/AE28/AE28F0PX_CY7_3.PS
picture A7dd **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 AE281−7dd: 01081

TUB Registration: 20191001-AE28/AE28L0FA.TXT /.PS TUB material: code=rha4ta
application for measurement or viewing of the output on display and print

Form A: Test chart AE28 according to test chart 2 of ISO/IEC 15775 input: *rgb/cmy0/000n/w set...*
chromatic test chart *CMYK* output: *->rgb*$_{dd}$ *setrgbcolor*

see similar files: http://farbe.li.tu-berlin.de/AE28/AE28.HTM
technical information: http://farbe.li.tu-berlin.de/ or http://farbe.li.tu-berlin.de/AE.HTM

TUB Registration: 20191001-AE28/AE28L0FA.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	0,04	9,36	0,00	0,00	-2,	0,00	0,00	2,30
3	17,65	0,00	0,00	0,09	14,01	0,00	0,00	-3,	0,00	0,00	3,63
4	23,63	0,00	0,00	0,14	19,12	0,00	0,00	-4,	0,00	0,00	4,51
5	29,61	0,00	0,00	0,21	24,55	0,00	0,00	-5,	0,00	0,00	5,06
6	35,59	0,00	0,00	0,27	30,23	0,00	0,00	-5,	0,00	0,00	5,36
7	41,57	0,00	0,00	0,33	36,12	0,00	0,00	-5,	0,00	0,00	5,45
8	47,55	0,00	0,00	0,40	42,19	0,00	0,00	-5,	0,00	0,00	5,36
9	53,54	0,00	0,00	0,47	48,42	0,00	0,00	-5,	0,00	0,00	5,11
10	59,52	0,00	0,00	0,54	54,79	0,00	0,00	-4,	0,00	0,00	4,72
11	65,50	0,00	0,00	0,61	61,29	0,00	0,00	-4,	0,00	0,00	4,20
12	71,48	0,00	0,00	0,69	67,91	0,00	0,00	-3,	0,00	0,00	3,57
13	77,46	0,00	0,00	0,76	74,64	0,00	0,00	-2,	0,00	0,00	2,82
14	83,44	0,00	0,00	0,84	81,47	0,00	0,00	-1,	0,00	0,00	1,97
15	89,42	0,00	0,00	0,92	88,39	0,00	0,00	-1,	0,00	0,00	1,03
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	0,19	23,16	0,00	0,00	-4,	0,00	0,00	4,95
19	50,55	0,00	0,00	0,44	45,28	0,00	0,00	-5,	0,00	0,00	5,26
20	72,98	0,00	0,00	0,71	69,58	0,00	0,00	-3,	0,00	0,00	3,39
21	95,41	0,00	0,00	1,00	95,41	0,00	0,00	0,00	0,00	0,00	0,01

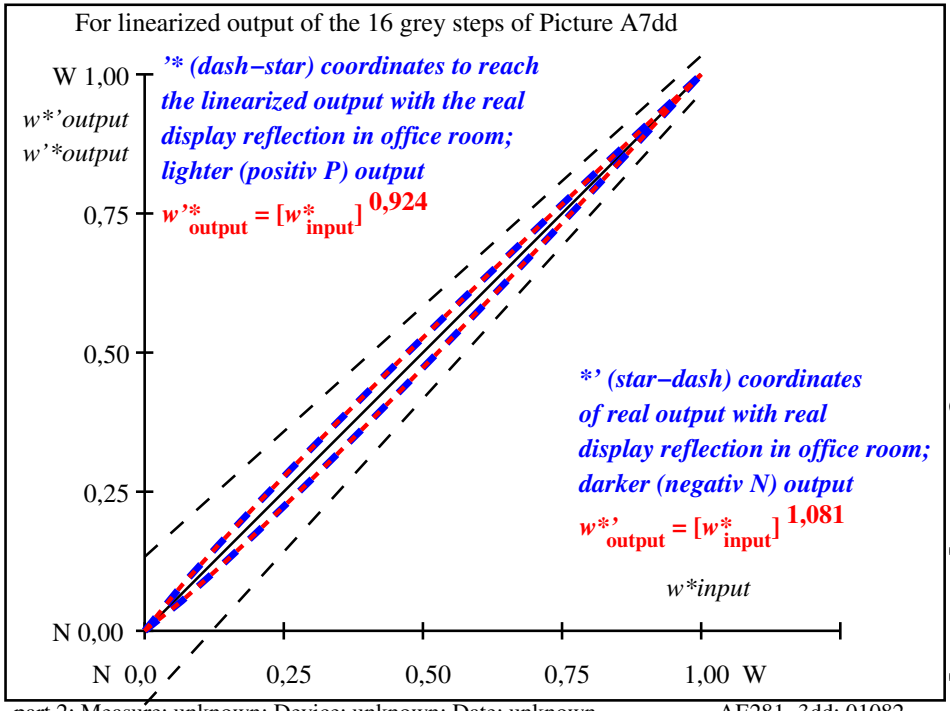
Start output S1
Specification according to ISO/IEC 15775 Annex G and DIN 33866-1 Annex G

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

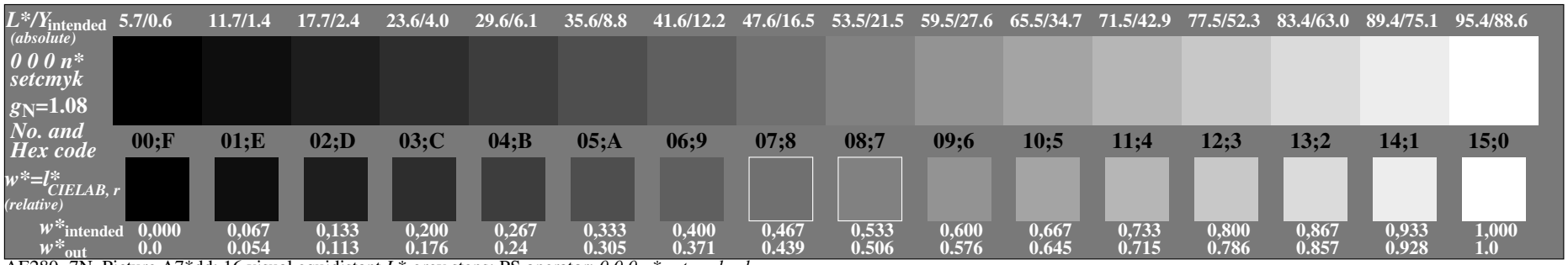
Mean lightness difference (5 steps)
ΔL^*_{CIELAB} = 2,7

Mean colour reproduction index: $R^*_{ab,m}$ = 84,9

part 1; Measure: unknown; Device: unknown; Date: unknown AE280−3dd: 01082



part 2; Measure: unknown; Device: unknown; Date: unknown AE281−3dd: 01082



AE280−7N, Picture A7*dd: 16 visual equidistant *L**-grey steps; PS operator: *0 0 0 n* setcmykcolor*

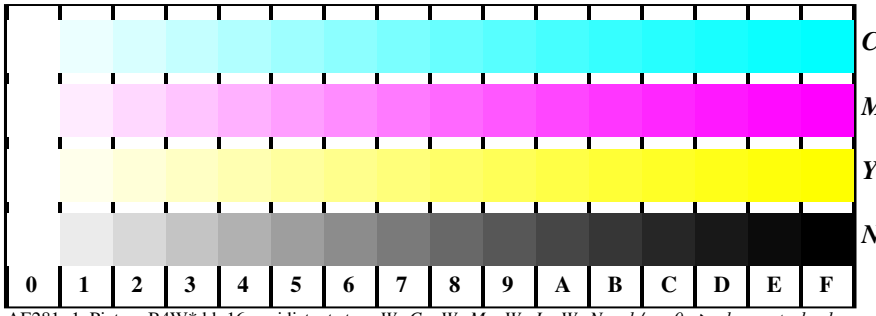
In-out: Test chart AE28 according to test chart 2 of ISO/IEC 15775
Viewing *Y* contrast Y_W:Y_N=88,9:0,62; Y_N-range 0,46 to <0,93

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

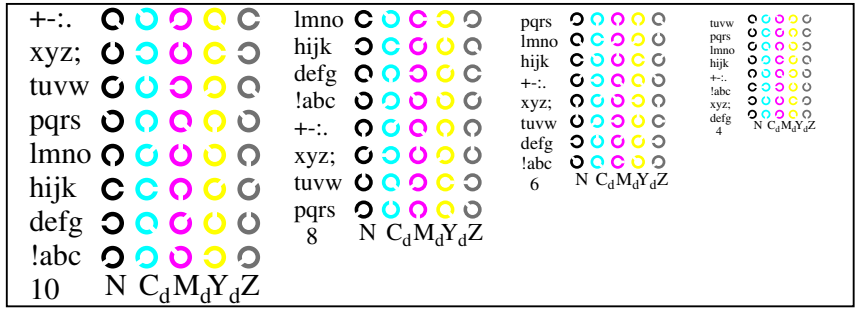
see similar files: http://farbe.li.tu-berlin.de/AE28/AE28.HTM
technical information: http://farbe.li.tu-berlin.de/ or http://farbe.li.tu-berlin.de/AE.HTM

TUB Registration: 20191001-AE28/AE28L0FA.TXT /.PS TUB material: code=rha4ta
application for measurement or viewing of the output on display and print

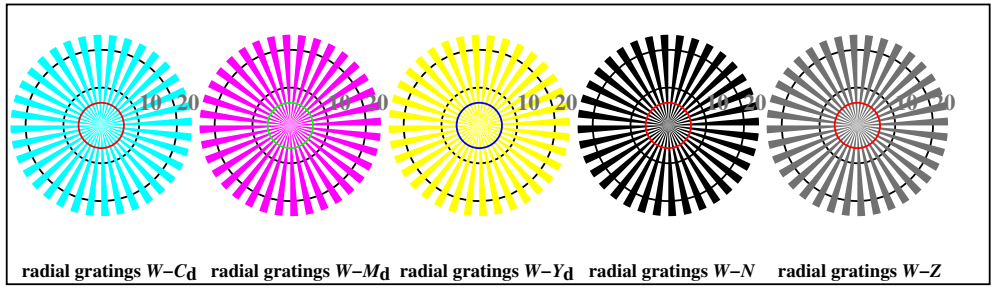
AE280–3, Picture B1W*dd: Flower motif, 14 CIE-test colours and 2 + 16 grey steps (nf); *PS* operators *settransfer, 3 colorimage*



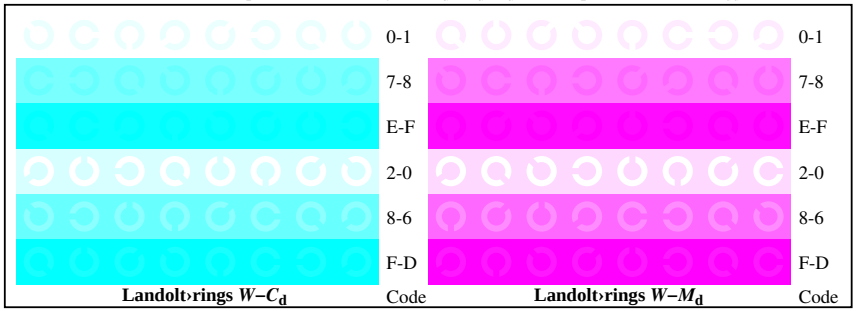
AE281–1, Picture B4W*dd: 16 equidistant steps $W–C_d$; $W–M_d$; $W–J_d$; $W–N$; *rgb/cmy0–>rgb*dd setrgbcolor*



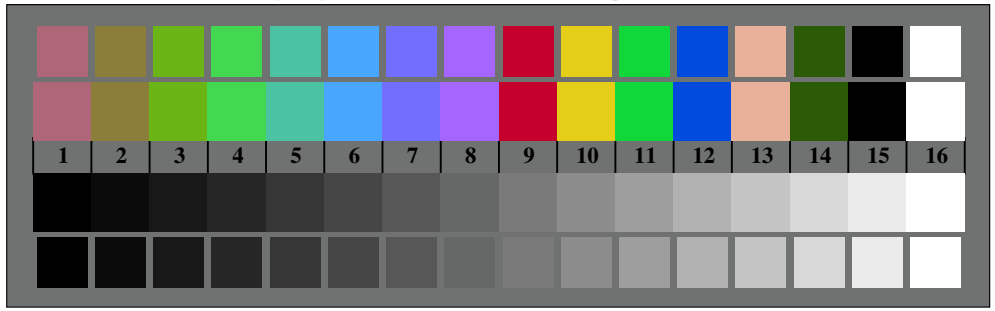
AE281–3, Picture B5W*dd: Sript and Landolt-rings *N*; C_d; M_d; Y_d; *Z*; *PS* operator *rgb–>rgb*dd setrgbcolor*



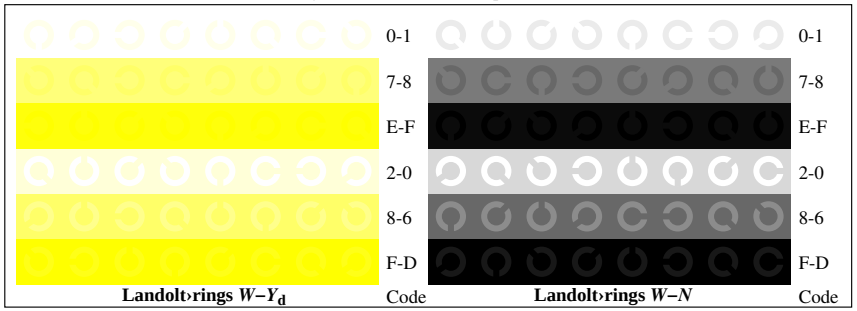
AE280–5, Picture B2W*dd: radial gratings $W–C_d$; $W–M_d$; $W–Y_d$; $W–N$; *PS* operator *rgb–>rgb*dd setrgbcolor*



AE281–5, Picture B6W*dd: Landolt-rings $W–C_d$; $W–M_d$; *PS* operator *rgb–>rgb*dd setrgbcolor*



AE280–7, Picture B3W*dd: 14 CIE-test colours and 2 + 16 grey steps (sf); *rgb/cmy0–>rgb*dd setrgbcolor*



AE281–7, Picture B7W*dd: Landolt-rings $W–Y_d$; $W–N$; *PS* operator *rgb–>rgb*dd setrgbcolor*

Test chart AE28 according to test chart 2 of ISO/IEC 15775
chromatic test chart *CMYK*

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

see similar files: http://farbe.li.tu-berlin.de/AE28/AE28.HTM
technical information: http://farbe.li.tu-berlin.de/ or http://farbe.li.tu-berlin.de/AE.HTM

TUB Registration: 20191001-AE28/AE28L0FA.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 B1Wdd **to B3W**dd

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

Test of the (flower) image according to picture B1Wdd

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−C*$_d$, *W−M*$_d$, *W−Y*$_d$ according to picture B2Wdd

	***W−C*$_d$**	***W−M*$_d$**	***W−Y*$_d$**	***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 B3Wdd

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 B3W**dd

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 AE280−3dd: 010161

Test of 16 visually equally spaced steps of the colour rows *W−C*$_d$, *W−M*$_d$, *W−Y*$_d$, and *W−N* according to picture B4Wdd

***W−C*$_d$** White − Cyanblue:	Are all the 16 steps distinguishable?		**Yes/No**
	If No: How many steps can be distinguished?	of the given 16 steps	..... Steps
***W−M*$_d$** White − Magentared:	Are all the 16 steps distinguishable?		**Yes/No**
	If No: How many steps can be distinguished?	of the given 16 steps	..... Steps
***W−Y*$_d$** White − Yellow:	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 B5Wdd

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 ***C*$_d$**	Ring ***M*$_d$**	Ring ***Y*$_d$**
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−C*$_d$, *W−M*$_d$, *W−Y*$_d$, and *W−N* according to pictures B6Wdd**, and B7W**dd

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

Colour row ***W−C*$_d$** background − ring		Colour row ***W−M*$_d$** background − ring		Colour row ***W−Y*$_d$** 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 AE281−3Ndd: 010161

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

PDF file: http://farbe.li.tu-berlin.de/AE28/AE28F0NX_CY6_1.PDF **underline Yes/No**

PS file: http://farbe.li.tu-berlin.de/AE28/AE28F0NX_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 AE28F0NX_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 AE28F0NX_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 AE280−7N*dd-010161

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/AE28/AE28F0PX_CY6_3.PDF **underline Yes/No**
PS file: http://farbe.li.tu-berlin.de/AE28/AE28F0PX_CY6_3.PS **underline Yes/No**
Picture A7dd **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/AE28/AE28F0PX_CY6_3.PDF
picture A7dd **underline Yes/No**
PS file: http://farbe.li.tu-berlin.de/AE28/AE28F0PX_CY6_3.PS
picture A7dd **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 AE281−7dd: 010161

Form A: Test chart AE28 according to test chart 2 of ISO/IEC 15775 input: *rgb/cmy0/000n/w set...*
chromatic test chart *CMYK* output: *->rgb*$_{dd}$ *setrgbcolor*

see similar files: http://farbe.li.tu-berlin.de/AE28/AE28.HTM
technical information: http://farbe.li.tu-berlin.de/ or http://farbe.li.tu-berlin.de/AE.HTM

TUB Registration: 20191001-AE28/AE28L0FA.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	0,02	13,11	0,00	0,00	-3,	0,00	0,00	3,50
3	22,24	0,00	0,00	0,06	16,44	0,00	0,00	-5,	0,00	0,00	5,80
4	27,87	0,00	0,00	0,11	20,45	0,00	0,00	-7,	0,00	0,00	7,42
5	33,50	0,00	0,00	0,16	24,98	0,00	0,00	-8,	0,00	0,00	8,52
6	39,13	0,00	0,00	0,22	29,94	0,00	0,00	-9,	0,00	0,00	9,19
7	44,75	0,00	0,00	0,28	35,27	0,00	0,00	-9,	0,00	0,00	9,48
8	50,38	0,00	0,00	0,35	40,93	0,00	0,00	-9,	0,00	0,00	9,45
9	56,01	0,00	0,00	0,42	46,89	0,00	0,00	-9,	0,00	0,00	9,11
10	61,64	0,00	0,00	0,49	53,13	0,00	0,00	-8,	0,00	0,00	8,50
11	67,27	0,00	0,00	0,57	59,62	0,00	0,00	-7,	0,00	0,00	7,64
12	72,89	0,00	0,00	0,65	66,35	0,00	0,00	-6,	0,00	0,00	6,54
13	78,52	0,00	0,00	0,73	73,31	0,00	0,00	-5,	0,00	0,00	5,21
14	84,15	0,00	0,00	0,82	80,48	0,00	0,00	-3,	0,00	0,00	3,67
15	89,78	0,00	0,00	0,91	87,84	0,00	0,00	-1,	0,00	0,00	1,93
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	0,15	23,80	0,00	0,00	-8,	0,00	0,00	8,29
19	53,20	0,00	0,00	0,38	43,88	0,00	0,00	-9,	0,00	0,00	9,32
20	74,30	0,00	0,00	0,67	68,07	0,00	0,00	-6,	0,00	0,00	6,22
21	95,41	0,00	0,00	1,00	95,41	0,00	0,00	0,00	0,00	0,00	0,01

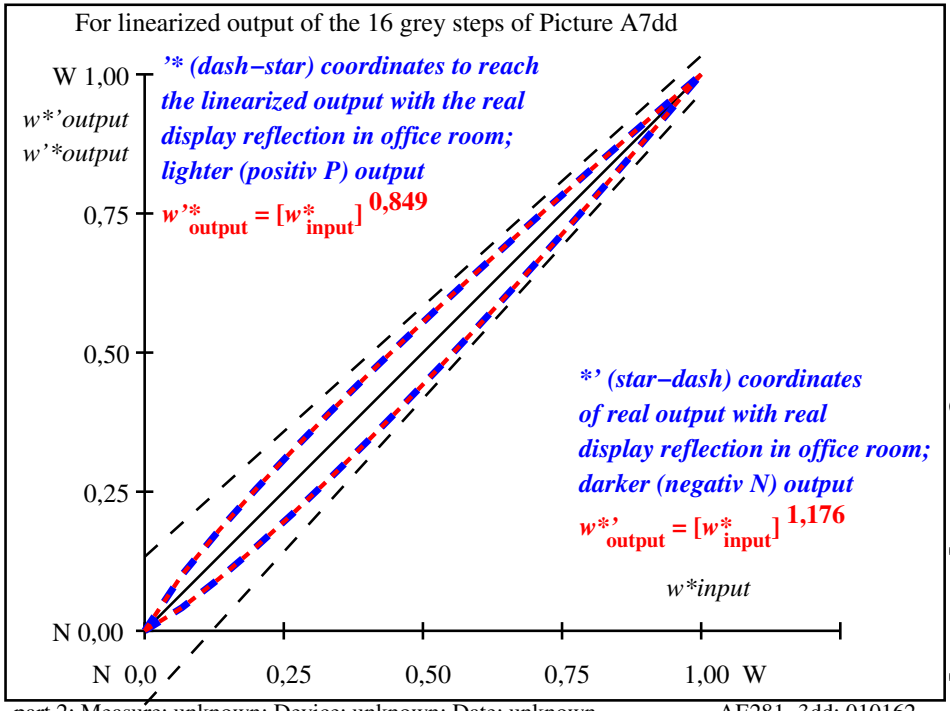
Start output S1
Specification according to ISO/IEC 15775 Annex G and DIN 33866-1 Annex G

Mean lightness difference (16 steps)
ΔE^*_{CIELAB} = 6,0

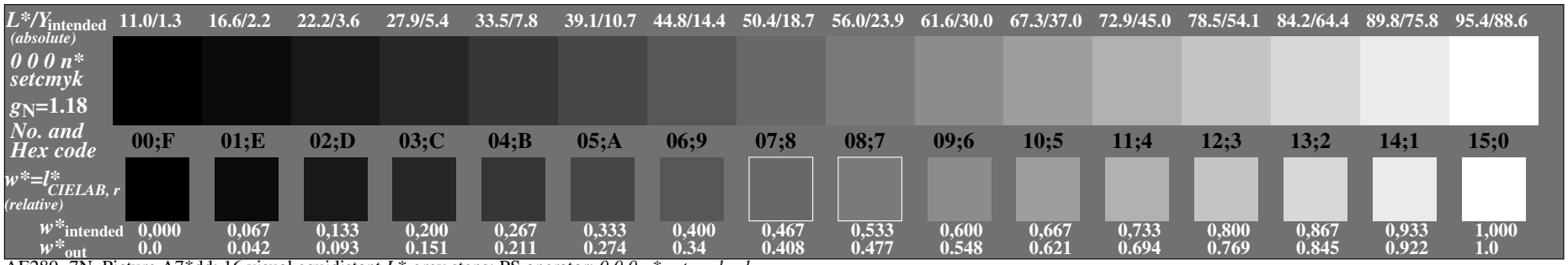
Mean lightness difference (5 steps)
ΔL^*_{CIELAB} = 4,7

Mean colour reproduction index: $R^*_{ab,m}$ = 73,7

part 1; Measure: unknown; Device: unknown; Date: unknown AE280−3dd: 010162



part 2; Measure: unknown; Device: unknown; Date: unknown AE281−3dd: 010162



AE280−7N, Picture A7*dd: 16 visual equidistant *L**-grey steps; PS operator: *0 0 0 n* setcmykcolor*

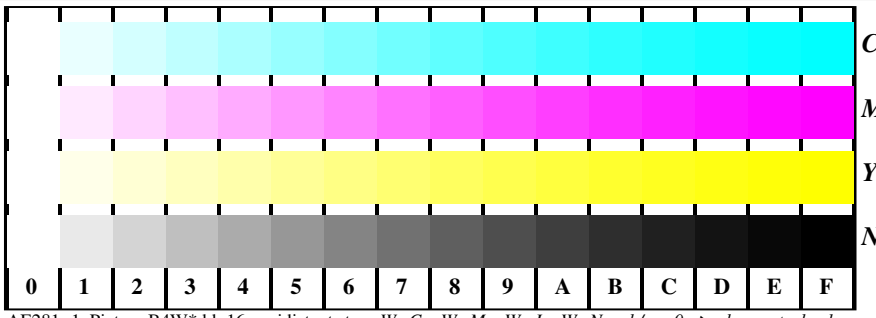
In-out: Test chart AE28 according to test chart 2 of ISO/IEC 15775
Viewing *Y* contrast Y_W:Y_N=88,9:1,25; Y_N-range 0,93 to <1,87

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

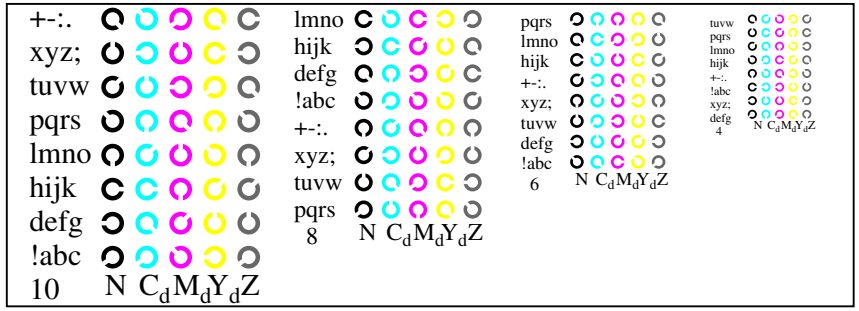
see similar files: http://farbe.li.tu-berlin.de/AE28/AE28.HTM
technical information: http://farbe.li.tu-berlin.de/ or http://farbe.li.tu-berlin.de/AE.HTM

TUB Registration: 20191001-AE28/AE28L0FA.TXT /.PS TUB material: code=rha4ta
application for measurement or viewing of the output on display and print

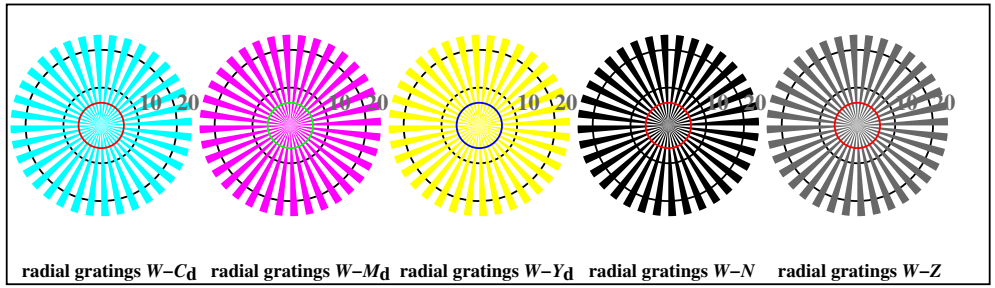
AE280–3, Picture B1W*dd: Flower motif, 14 CIE-test colours and 2 + 16 grey steps (nf); *PS* operators *settransfer, 3 colorimage*



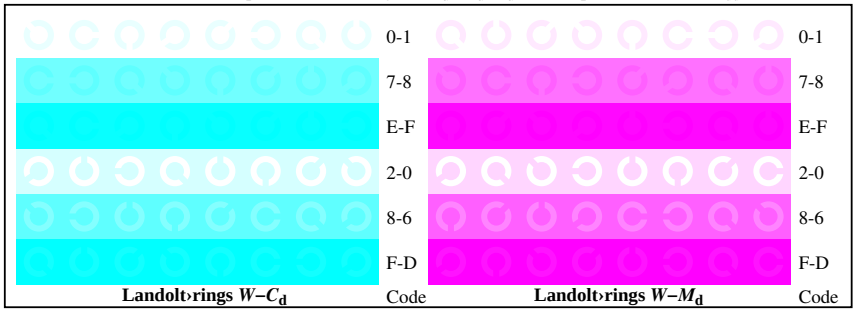
AE281–1, Picture B4W*dd: 16 equidistant steps $W–C_d$; $W–M_d$; $W–J_d$; $W–N$; *rgb/cmy0–>rgb*dd setrgbcolor*



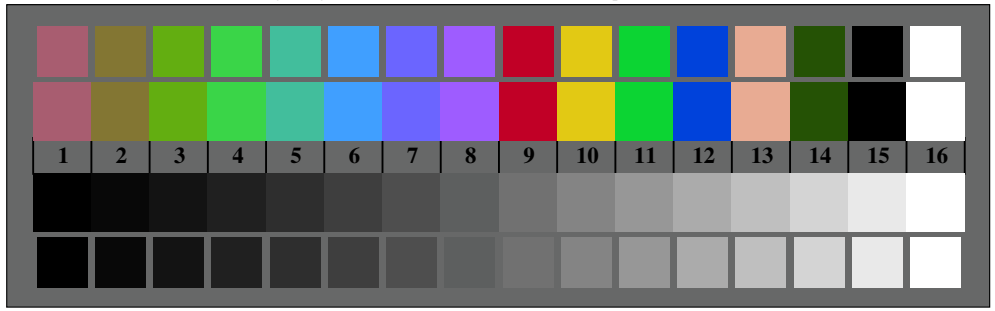
AE281–3, Picture B5W*dd: Sript and Landolt-rings *N*; C_d; M_d; Y_d; *Z*; *PS* operator *rgb–>rgb*dd setrgbcolor*



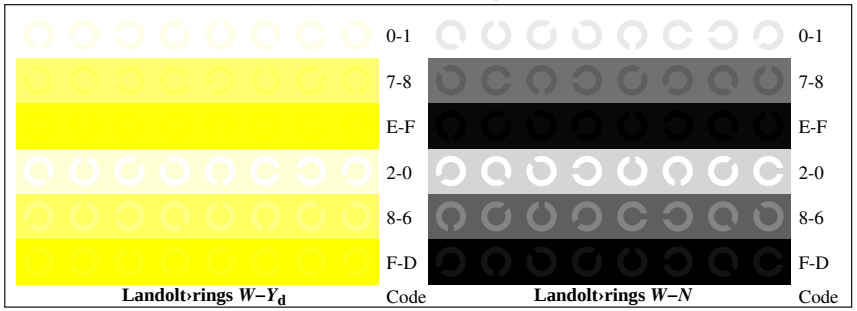
AE280–5, Picture B2W*dd: radial gratings $W–C_d$; $W–M_d$; $W–Y_d$; $W–N$; *PS* operator *rgb–>rgb*dd setrgbcolor*



AE281–5, Picture B6W*dd: Landolt-rings $W–C_d$; $W–M_d$; *PS* operator *rgb–>rgb*dd setrgbcolor*



AE280–7, Picture B3W*dd: 14 CIE-test colours and 2 + 16 grey steps (sf); *rgb/cmy0–>rgb*dd setrgbcolor*



AE281–7, Picture B7W*dd: Landolt-rings $W–Y_d$; $W–N$; *PS* operator *rgb–>rgb*dd setrgbcolor*

Test chart AE28 according to test chart 2 of ISO/IEC 15775
chromatic test chart *CMYK*

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

see similar files: http://farbe.li.tu-berlin.de/AE28/AE28.HTM
technical information: http://farbe.li.tu-berlin.de/ or http://farbe.li.tu-berlin.de/AE.HTM

TUB Registration: 20191001-AE28/AE28L0FA.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 B1Wdd **to B3W**dd

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

Test of the (flower) image according to picture B1Wdd

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−C*$_d$, *W−M*$_d$, *W−Y*$_d$ according to picture B2Wdd

	***W−C*$_d$**	***W−M*$_d$**	***W−Y*$_d$**	***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 B3Wdd

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 B3W**dd

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 AE280−3dd: 010241

Test of 16 visually equally spaced steps of the colour rows *W−C*$_d$, *W−M*$_d$, *W−Y*$_d$, and *W−N* according to picture B4Wdd

***W−C*$_d$** White − Cyanblue:	Are all the 16 steps distinguishable?		**Yes/No**
	If No: How many steps can be distinguished?	of the given 16 steps	..... Steps
***W−M*$_d$** White − Magentared:	Are all the 16 steps distinguishable?		**Yes/No**
	If No: How many steps can be distinguished?	of the given 16 steps	..... Steps
***W−Y*$_d$** White − Yellow:	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 B5Wdd

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 ***C*$_d$**	Ring ***M*$_d$**	Ring ***Y*$_d$**
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−C*$_d$, *W−M*$_d$, *W−Y*$_d$, and *W−N* according to pictures B6Wdd**, and B7W**dd

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

Colour row ***W−C*$_d$** background − ring		Colour row ***W−M*$_d$** background − ring		Colour row ***W−Y*$_d$** 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 AE281−3Ndd: 010241

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

PDF file: http://farbe.li.tu-berlin.de/AE28/AE28F0NX_CY5_1.PDF **underline Yes/No**

PS file: http://farbe.li.tu-berlin.de/AE28/AE28F0NX_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 AE28F0NX_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 AE28F0NX_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 AE280−7N*dd-010241

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/AE28/AE28F0PX_CY5_3.PDF **underline Yes/No**
PS file: http://farbe.li.tu-berlin.de/AE28/AE28F0PX_CY5_3.PS **underline Yes/No**
Picture A7dd **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/AE28/AE28F0PX_CY5_3.PDF
picture A7dd **underline Yes/No**
PS file: http://farbe.li.tu-berlin.de/AE28/AE28F0PX_CY5_3.PS
picture A7dd **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 AE281−7dd: 010241

Form A: Test chart AE28 according to test chart 2 of ISO/IEC 15775 input: *rgb/cmy0/000n/w set...*
chromatic test chart *CMYK* output: *->rgb*$_{dd}$ *setrgbcolor*

see similar files: http://farbe.li.tu-berlin.de/AE28/AE28.HTM
technical information: http://farbe.li.tu-berlin.de/ or http://farbe.li.tu-berlin.de/AE.HTM

TUB Registration: 20191001-AE28/AE28L0FA.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	0,01	19,20	0,00	0,00	-3,	0,00	0,00	3,96
3	28,32	0,00	0,00	0,04	21,48	0,00	0,00	-6,	0,00	0,00	6,84
4	33,48	0,00	0,00	0,08	24,50	0,00	0,00	-8,	0,00	0,00	8,98
5	38,64	0,00	0,00	0,13	28,11	0,00	0,00	-10,	0,00	0,00	10,53
6	43,80	0,00	0,00	0,18	32,26	0,00	0,00	-11,	0,00	0,00	11,54
7	48,96	0,00	0,00	0,24	36,88	0,00	0,00	-12,	0,00	0,00	12,08
8	54,12	0,00	0,00	0,30	41,94	0,00	0,00	-12,	0,00	0,00	12,18
9	59,28	0,00	0,00	0,37	47,40	0,00	0,00	-11,	0,00	0,00	11,88
10	64,44	0,00	0,00	0,45	53,25	0,00	0,00	-11,	0,00	0,00	11,19
11	69,60	0,00	0,00	0,53	59,46	0,00	0,00	-10,	0,00	0,00	10,14
12	74,76	0,00	0,00	0,62	66,01	0,00	0,00	-8,	0,00	0,00	8,75
13	79,92	0,00	0,00	0,70	72,90	0,00	0,00	-7,	0,00	0,00	7,02
14	85,08	0,00	0,00	0,80	80,10	0,00	0,00	-4,	0,00	0,00	4,98
15	90,24	0,00	0,00	0,89	87,60	0,00	0,00	-2,	0,00	0,00	2,64
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	0,11	27,16	0,00	0,00	-10,	0,00	0,00	10,19
19	56,70	0,00	0,00	0,34	44,62	0,00	0,00	-12,	0,00	0,00	12,08
20	76,05	0,00	0,00	0,64	67,70	0,00	0,00	-8,	0,00	0,00	8,35
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

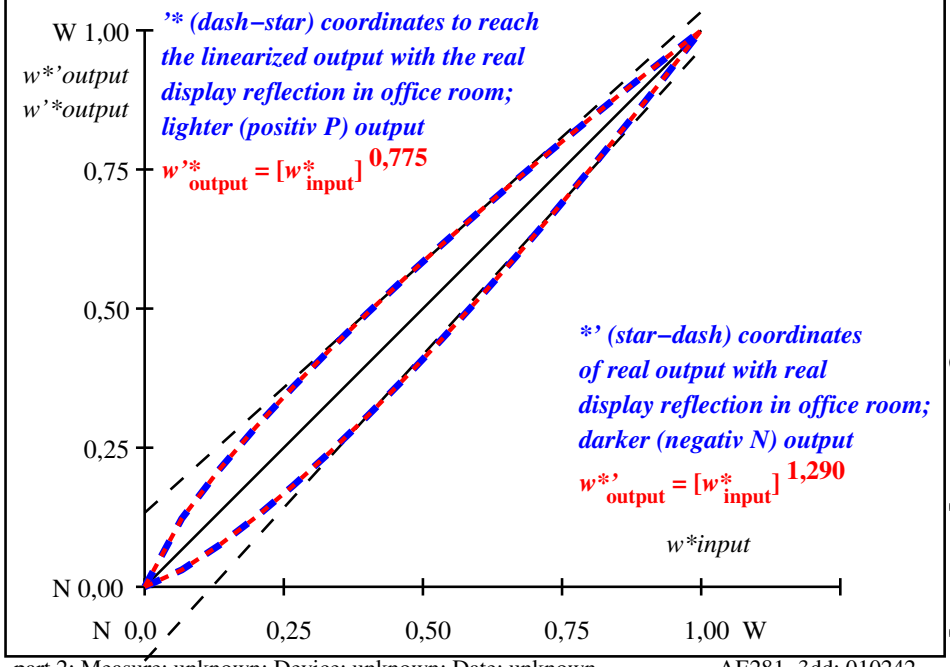
Mean lightness difference (16 steps)
ΔE^*_{CIELAB} = 7,6

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

Mean colour reproduction index: $R^*_{ab,m}$ = 66,3

part 1; Measure: unknown; Device: unknown; Date: unknown AE280−3dd: 010242

For linearized output of the 16 grey steps of Picture A7dd



part 2; Measure: unknown; Device: unknown; Date: unknown AE281−3dd: 010242

$L^*/Y_{intended}$ (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_N=1.29																
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	0.031	0.074	0.125	0.182	0.242	0.307	0.374	0.444	0.517	0.593	0.67	0.75	0.832	0.914	1.0

AE280−7N, Picture A7*dd: 16 visual equidistant *L**-grey steps; PS operator: *0 0 0 n* setcmykcolor*

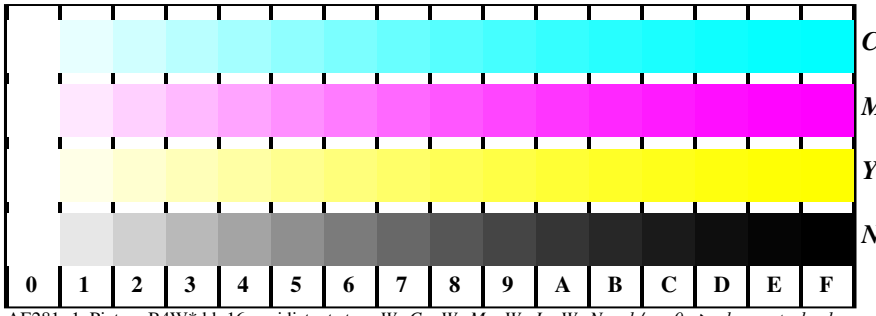
In-out: Test chart AE28 according to test chart 2 of ISO/IEC 15775
Viewing *Y* contrast Y_W:Y_N=88,9:2,5; Y_N-range 1,87 to <3,75

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

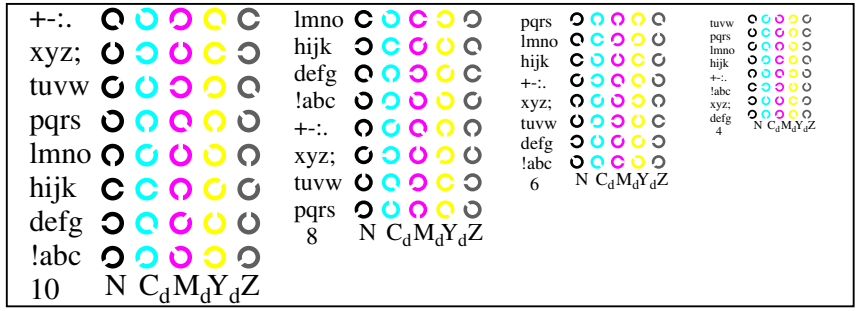
see similar files: http://farbe.li.tu-berlin.de/AE28/AE28.HTM
technical information: http://farbe.li.tu-berlin.de/ or http://farbe.li.tu-berlin.de/AE.HTM

TUB Registration: 20191001-AE28/AE28L0FA.TXT /.PS TUB material: code=rha4ta
application for measurement or viewing of the output on display and print

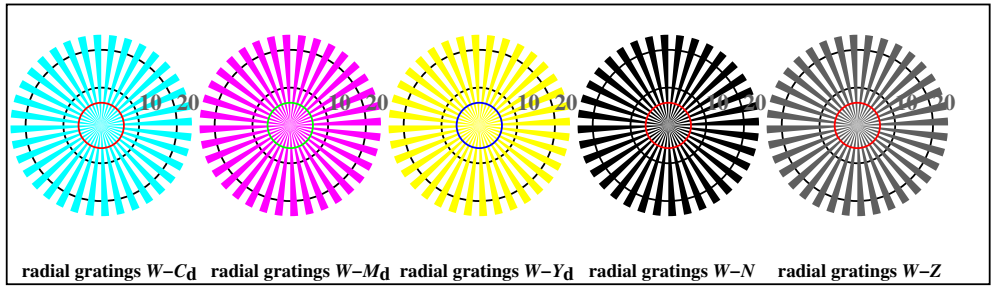
AE280–3, Picture B1W*dd: Flower motif, 14 CIE-test colours and 2 + 16 grey steps (nf); *PS* operators *settransfer, 3 colorimage*



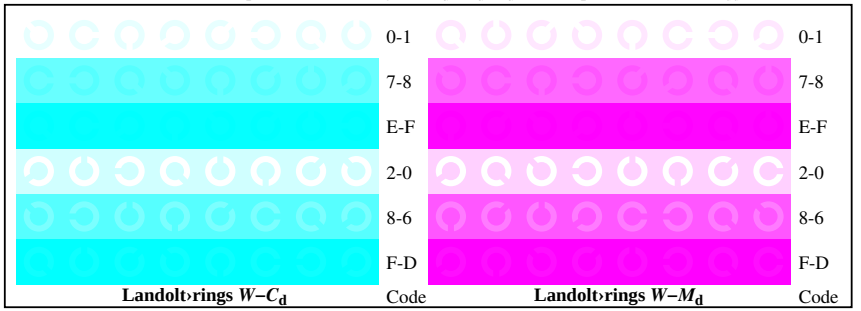
AE281–1, Picture B4W*dd: 16 equidistant steps $W–C_d$; $W–M_d$; $W–J_d$; $W–N$; *rgb/cmy0–>rgb*dd setrgbcolor*



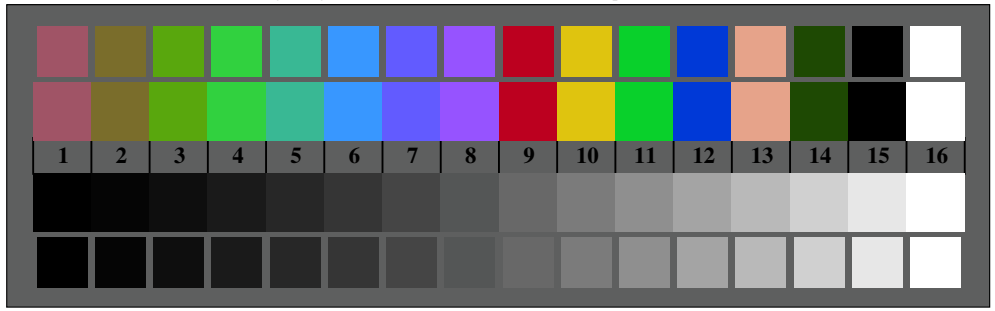
AE281–3, Picture B5W*dd: Sript and Landolt-rings *N*; C_d; M_d; Y_d; *Z*; *PS* operator *rgb–>rgb*dd setrgbcolor*



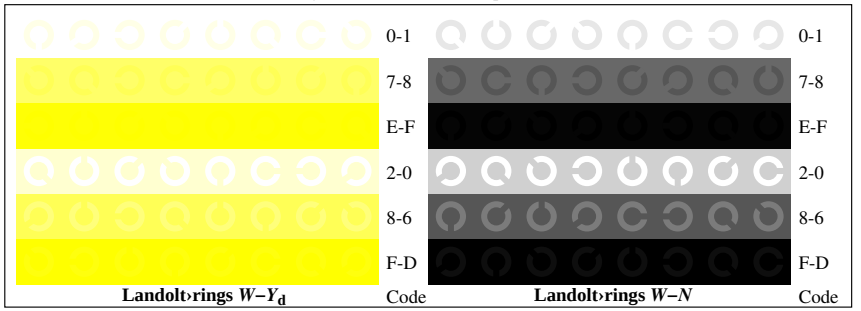
AE280–5, Picture B2W*dd: radial gratings $W–C_d$; $W–M_d$; $W–Y_d$; $W–N$; *PS* operator *rgb–>rgb*dd setrgbcolor*



AE281–5, Picture B6W*dd: Landolt-rings $W–C_d$; $W–M_d$; *PS* operator *rgb–>rgb*dd setrgbcolor*



AE280–7, Picture B3W*dd: 14 CIE-test colours and 2 + 16 grey steps (sf); *rgb/cmy0–>rgb*dd setrgbcolor*



AE281–7, Picture B7W*dd: Landolt-rings $W–Y_d$; $W–N$; *PS* operator *rgb–>rgb*dd setrgbcolor*

Test chart AE28 according to test chart 2 of ISO/IEC 15775
chromatic test chart *CMYK*

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

see similar files: http://farbe.li.tu-berlin.de/AE28/AE28.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 B1Wdd **to B3W**dd

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

Test of the (flower) image according to picture B1Wdd

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−C*$_d$, *W−M*$_d$, *W−Y*$_d$ according to picture B2Wdd

	***W−C*$_d$**	***W−M*$_d$**	***W−Y*$_d$**	***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 B3Wdd

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 B3W**dd

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 AE280−3dd: 010321

Test of 16 visually equally spaced steps of the colour rows *W−C*$_d$, *W−M*$_d$, *W−Y*$_d$, and *W−N* according to picture B4Wdd

***W−C*$_d$** White − Cyanblue:	Are all the 16 steps distinguishable?		**Yes/No**
	If No: How many steps can be distinguished?	of the given 16 steps	..... Steps
***W−M*$_d$** White − Magentared:	Are all the 16 steps distinguishable?		**Yes/No**
	If No: How many steps can be distinguished?	of the given 16 steps	..... Steps
***W−Y*$_d$** White − Yellow:	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 B5Wdd

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 ***C*$_d$**	Ring ***M*$_d$**	Ring ***Y*$_d$**
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−C*$_d$, *W−M*$_d$, *W−Y*$_d$, and *W−N* according to pictures B6Wdd**, and B7W**dd

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

Colour row ***W−C*$_d$** background − ring		Colour row ***W−M*$_d$** background − ring		Colour row ***W−Y*$_d$** 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 AE281−3Ndd: 010321

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

PDF file: http://farbe.li.tu-berlin.de/AE28/AE28F0NX_CY4_1.PDF **underline Yes/No**

PS file: http://farbe.li.tu-berlin.de/AE28/AE28F0NX_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 AE28F0NX_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 AE28F0NX_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 AE280−7N*dd-010321

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/AE28/AE28F0PX_CY4_3.PDF **underline Yes/No**
PS file: http://farbe.li.tu-berlin.de/AE28/AE28F0PX_CY4_3.PS **underline Yes/No**
Picture A7dd **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/AE28/AE28F0PX_CY4_3.PDF
picture A7dd **underline Yes/No**
PS file: http://farbe.li.tu-berlin.de/AE28/AE28F0PX_CY4_3.PS
picture A7dd **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 AE281−7dd: 010321

TUB Registration: 20191001-AE28/AE28L0FA.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/AE28/AE28.HTM
technical information: http://farbe.li.tu-berlin.de/ or http://farbe.li.tu-berlin.de/AE.HTM

TUB Registration: 20191001-AE28/AE28L0FA.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	0,00	27,49	0,00	0,00	-3,	0,00	0,00	3,92
3	35,98	0,00	0,00	0,03	28,99	0,00	0,00	-6,	0,00	0,00	6,99
4	40,56	0,00	0,00	0,06	31,15	0,00	0,00	-9,	0,00	0,00	9,40
5	45,13	0,00	0,00	0,10	33,90	0,00	0,00	-11,	0,00	0,00	11,22
6	49,70	0,00	0,00	0,15	37,21	0,00	0,00	-12,	0,00	0,00	12,49
7	54,27	0,00	0,00	0,20	41,02	0,00	0,00	-13,	0,00	0,00	13,24
8	58,84	0,00	0,00	0,26	45,33	0,00	0,00	-13,	0,00	0,00	13,51
9	63,41	0,00	0,00	0,33	50,10	0,00	0,00	-13,	0,00	0,00	13,31
10	67,98	0,00	0,00	0,41	55,32	0,00	0,00	-12,	0,00	0,00	12,65
11	72,55	0,00	0,00	0,49	60,98	0,00	0,00	-11,	0,00	0,00	11,57
12	77,12	0,00	0,00	0,58	67,06	0,00	0,00	-10,	0,00	0,00	10,06
13	81,69	0,00	0,00	0,68	73,55	0,00	0,00	-8,	0,00	0,00	8,14
14	86,26	0,00	0,00	0,78	80,45	0,00	0,00	-5,	0,00	0,00	5,81
15	90,83	0,00	0,00	0,88	87,73	0,00	0,00	-3,	0,00	0,00	3,10
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	0,09	33,16	0,00	0,00	-10,	0,00	0,00	10,82
19	61,12	0,00	0,00	0,30	47,66	0,00	0,00	-13,	0,00	0,00	13,46
20	78,26	0,00	0,00	0,60	68,64	0,00	0,00	-9,	0,00	0,00	9,62
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

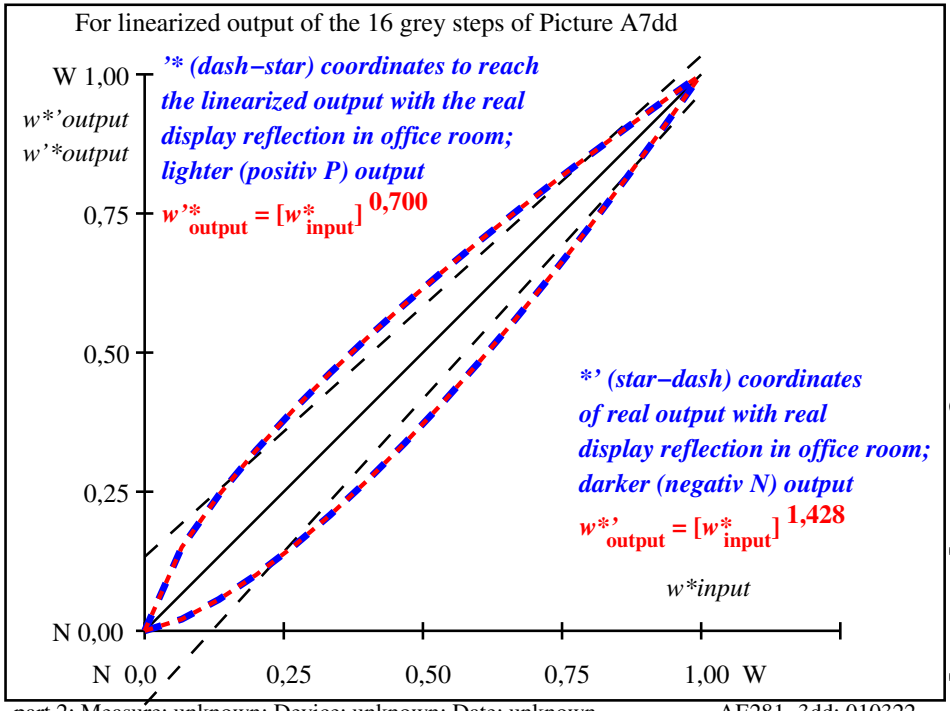
Specification according to ISO/IEC 15775 Annex G and DIN 33866-1 Annex G

Mean lightness difference (16 steps)
ΔE^*_{CIELAB} = 8,4

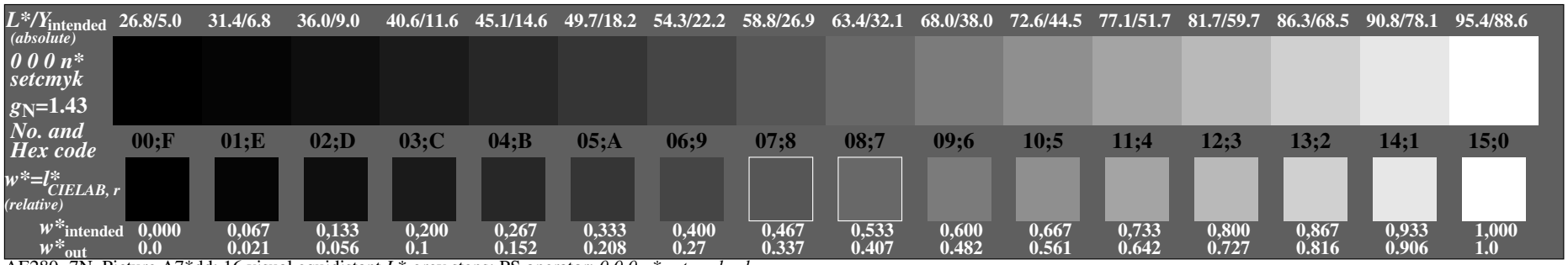
Mean lightness difference (5 steps)
ΔL^*_{CIELAB} = 6,7

Mean colour reproduction index: $R^*_{ab,m}$ = 62,8

part 1; Measure: unknown; Device: unknown; Date: unknown AE280−3dd: 010322



part 2; Measure: unknown; Device: unknown; Date: unknown AE281−3dd: 010322



AE280−7N, Picture A7*dd: 16 visual equidistant *L**-grey steps; PS operator: *0 0 0 n* setcmykcolor*

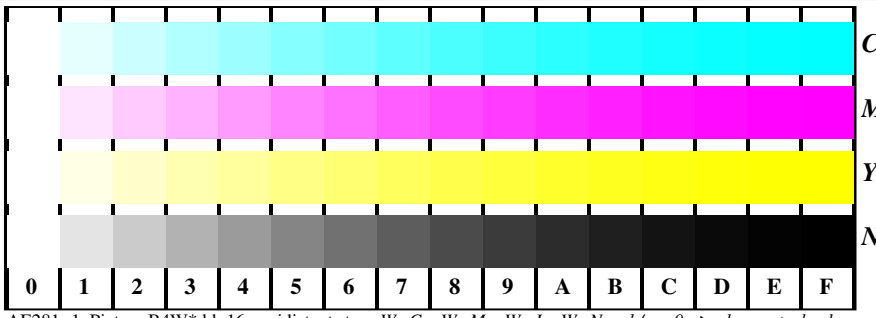
In-out: Test chart AE28 according to test chart 2 of ISO/IEC 15775
Viewing *Y* contrast Y_W:Y_N=88,9:5; Y_N-range 3,75 to <7,5

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

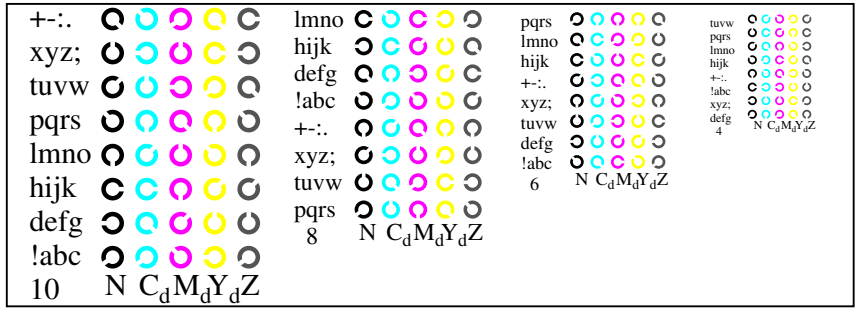
see similar files: http://farbe.li.tu-berlin.de/AE28/AE28.HTM
technical information: http://farbe.li.tu-berlin.de/ or http://farbe.li.tu-berlin.de/AE.HTM

TUB Registration: 20191001-AE28/AE28L0FA.TXT /.PS TUB material: code=rha4ta
application for measurement or viewing of the output on display and print

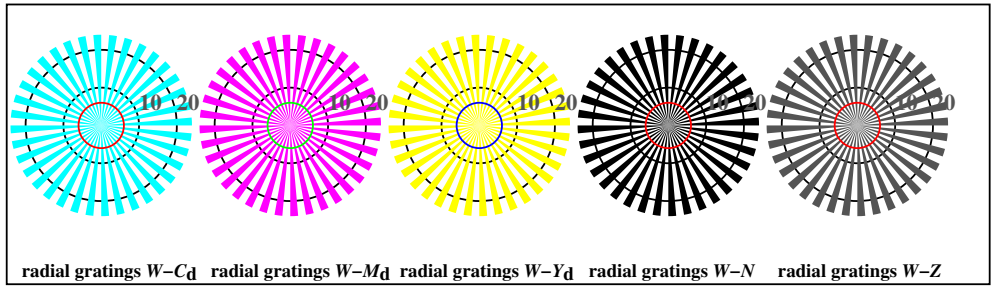
AE280–3, Picture B1W*dd: Flower motif, 14 CIE-test colours and 2 + 16 grey steps (nf); *PS* operators *settransfer, 3 colorimage*



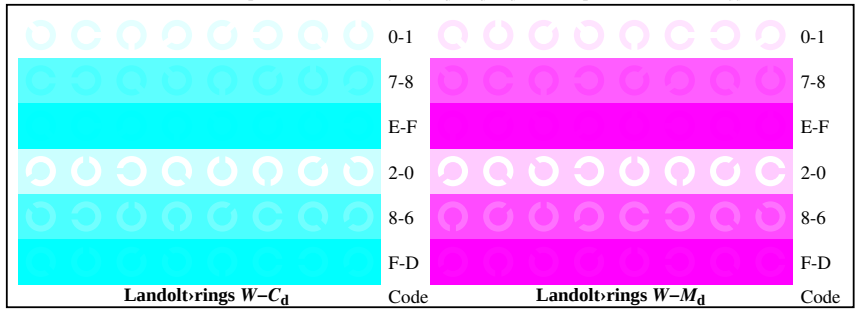
AE281–1, Picture B4W*dd: 16 equidistant steps $W–C_d$; $W–M_d$; $W–J_d$; $W–N$; *rgb/cmy0–>rgb*dd setrgbcolor*



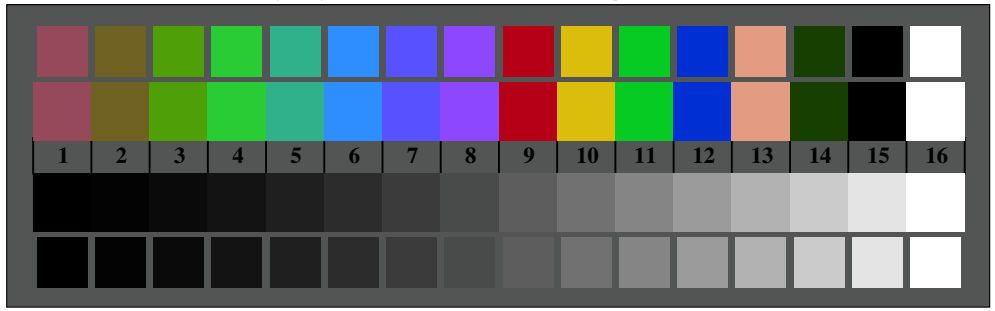
AE281–3, Picture B5W*dd: Sript and Landolt-rings *N*; C_d; M_d; Y_d; *Z*; *PS* operator *rgb–>rgb*dd setrgbcolor*



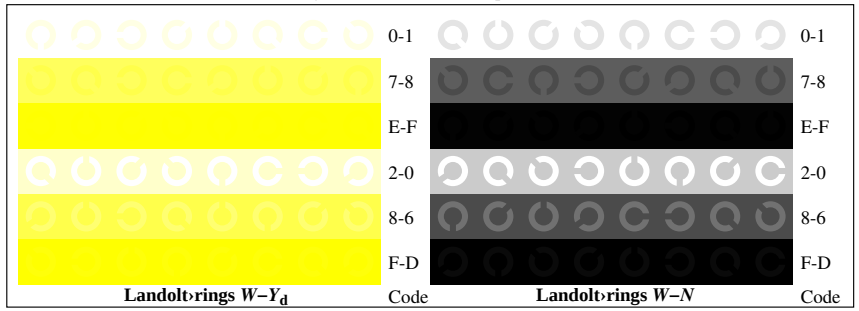
AE280–5, Picture B2W*dd: radial gratings $W–C_d$; $W–M_d$; $W–Y_d$; $W–N$; *PS* operator *rgb–>rgb*dd setrgbcolor*



AE281–5, Picture B6W*dd: Landolt-rings $W–C_d$; $W–M_d$; *PS* operator *rgb–>rgb*dd setrgbcolor*



AE280–7, Picture B3W*dd: 14 CIE-test colours and 2 + 16 grey steps (sf); *rgb/cmy0–>rgb*dd setrgbcolor*



AE281–7, Picture B7W*dd: Landolt-rings $W–Y_d$; $W–N$; *PS* operator *rgb–>rgb*dd setrgbcolor*

Test chart AE28 according to test chart 2 of ISO/IEC 15775
chromatic test chart *CMYK*

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

see similar files: http://farbe.li.tu-berlin.de/AE28/AE28.HTM
technical information: http://farbe.li.tu-berlin.de/ or http://farbe.li.tu-berlin.de/AE.HTM

TUB Registration: 20191001-AE28/AE28L0FA.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 B1Wdd **to B3W**dd

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

Test of the (flower) image according to picture B1Wdd

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−C*$_d$, *W−M*$_d$, *W−Y*$_d$ according to picture B2Wdd

	***W−C*$_d$**	***W−M*$_d$**	***W−Y*$_d$**	***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 B3Wdd

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 B3W**dd

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 AE280−3dd: 010401

Test of 16 visually equally spaced steps of the colour rows *W−C*$_d$, *W−M*$_d$, *W−Y*$_d$, and *W−N* according to picture B4Wdd

***W−C*$_d$** White − Cyanblue:	Are all the 16 steps distinguishable?		**Yes/No**
	If No: How many steps can be distinguished?	of the given 16 steps	..... Steps
***W−M*$_d$** White − Magentared:	Are all the 16 steps distinguishable?		**Yes/No**
	If No: How many steps can be distinguished?	of the given 16 steps	..... Steps
***W−Y*$_d$** White − Yellow:	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 B5Wdd

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 ***C*$_d$**	Ring ***M*$_d$**	Ring ***Y*$_d$**
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−C*$_d$, *W−M*$_d$, *W−Y*$_d$, and *W−N* according to pictures B6Wdd**, and B7W**dd

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

Colour row ***W−C*$_d$** background − ring		Colour row ***W−M*$_d$** background − ring		Colour row ***W−Y*$_d$** 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 AE281−3Ndd: 010401

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

PDF file: http://farbe.li.tu-berlin.de/AE28/AE28F0NX_CY3_1.PDF **underline Yes/No**

PS file: http://farbe.li.tu-berlin.de/AE28/AE28F0NX_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 AE28F0NX_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 AE28F0NX_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 AE280−7N*dd-010401

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/AE28/AE28F0PX_CY3_3.PDF **underline Yes/No**
PS file: http://farbe.li.tu-berlin.de/AE28/AE28F0PX_CY3_3.PS **underline Yes/No**
Picture A7dd **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/AE28/AE28F0PX_CY3_3.PDF
picture A7dd **underline Yes/No**
PS file: http://farbe.li.tu-berlin.de/AE28/AE28F0PX_CY3_3.PS
picture A7dd **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 AE281−7dd: 010401

Form A: Test chart AE28 according to test chart 2 of ISO/IEC 15775 input: *rgb/cmy0/000n/w set...*
chromatic test chart *CMYK* output: *->rgb*$_{dd}$ *setrgbcolor*

see similar files: http://farbe.li.tu-berlin.de/AE28/AE28.HTM
technical information: http://farbe.li.tu-berlin.de/ or http://farbe.li.tu-berlin.de/AE.HTM

TUB Registration: 20191001-AE28/AE28L0FA.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	0,00	38,32	0,00	0,00	-3,	0,00	0,00	3,49
3	45,64	0,00	0,00	0,02	39,23	0,00	0,00	-6,	0,00	0,00	6,40
4	49,47	0,00	0,00	0,04	40,68	0,00	0,00	-8,	0,00	0,00	8,78
5	53,29	0,00	0,00	0,08	42,64	0,00	0,00	-10,	0,00	0,00	10,65
6	57,12	0,00	0,00	0,12	45,10	0,00	0,00	-12,	0,00	0,00	12,02
7	60,95	0,00	0,00	0,17	48,05	0,00	0,00	-12,	0,00	0,00	12,90
8	64,78	0,00	0,00	0,23	51,48	0,00	0,00	-13,	0,00	0,00	13,30
9	68,61	0,00	0,00	0,30	55,37	0,00	0,00	-13,	0,00	0,00	13,23
10	72,44	0,00	0,00	0,37	59,74	0,00	0,00	-12,	0,00	0,00	12,69
11	76,26	0,00	0,00	0,46	64,56	0,00	0,00	-11,	0,00	0,00	11,70
12	80,09	0,00	0,00	0,55	69,83	0,00	0,00	-10,	0,00	0,00	10,25
13	83,92	0,00	0,00	0,65	75,56	0,00	0,00	-8,	0,00	0,00	8,35
14	87,75	0,00	0,00	0,76	81,73	0,00	0,00	-6,	0,00	0,00	6,01
15	91,58	0,00	0,00	0,87	88,35	0,00	0,00	-3,	0,00	0,00	3,22
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	0,07	42,10	0,00	0,00	-10,	0,00	0,00	10,23
19	66,69	0,00	0,00	0,26	53,37	0,00	0,00	-13,	0,00	0,00	13,32
20	81,05	0,00	0,00	0,57	71,22	0,00	0,00	-9,	0,00	0,00	9,82
21	95,41	0,00	0,00	1,00	95,41	0,00	0,00	0,00	0,00	0,00	0,01

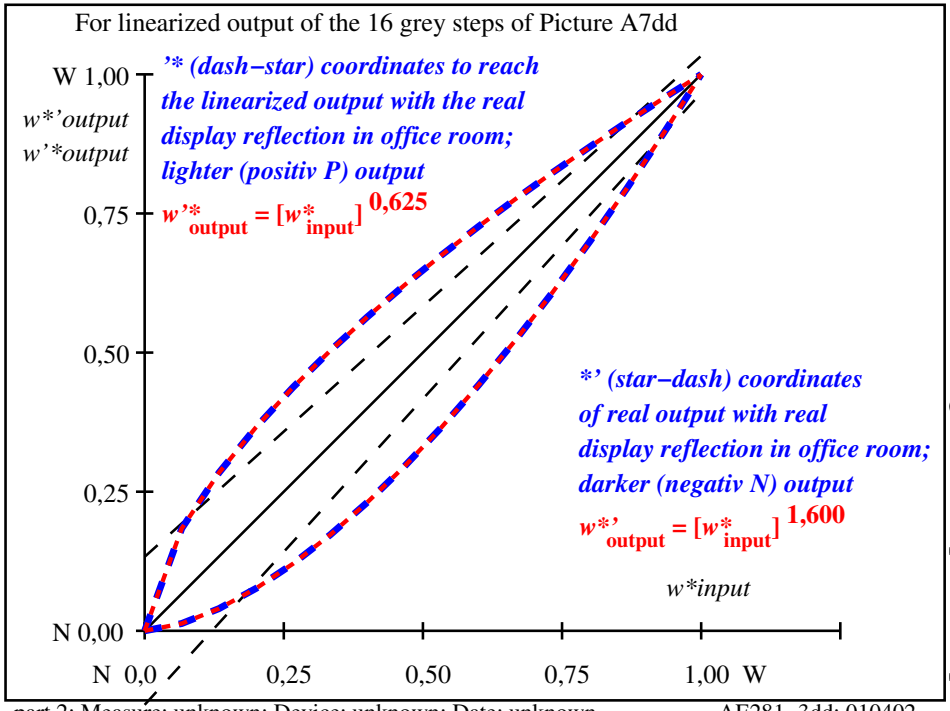
Start output S1
Specification according to ISO/IEC 15775 Annex G and DIN 33866-1 Annex G

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

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

Mean colour reproduction index: $R^*_{ab,m}$ = 63,5

part 1; Measure: unknown; Device: unknown; Date: unknown AE280−3dd: 010402



part 2; Measure: unknown; Device: unknown; Date: unknown AE281−3dd: 010402

$L^*/Y_{intended}$ (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_N=1.6																
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	0.013	0.04	0.076	0.121	0.172	0.231	0.296	0.365	0.442	0.523	0.608	0.7	0.796	0.895	1.0

AE280−7N, Picture A7*dd: 16 visual equidistant *L**-grey steps; PS operator: *0 0 0 n* setcmykcolor*

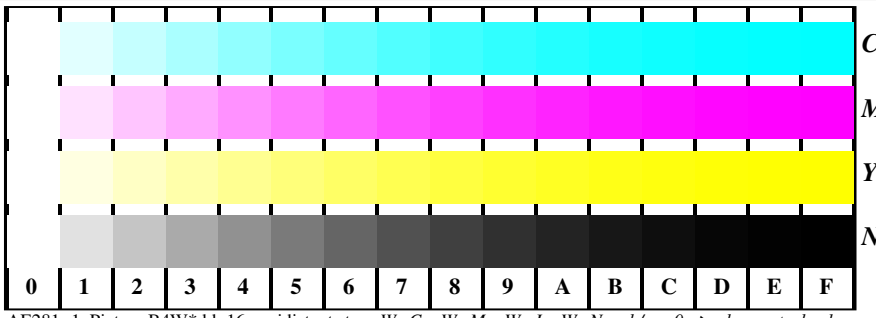
In-out: Test chart AE28 according to test chart 2 of ISO/IEC 15775
Viewing *Y* contrast Y_W:Y_N=88,9:10; Y_N-range 7,5 to <15

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

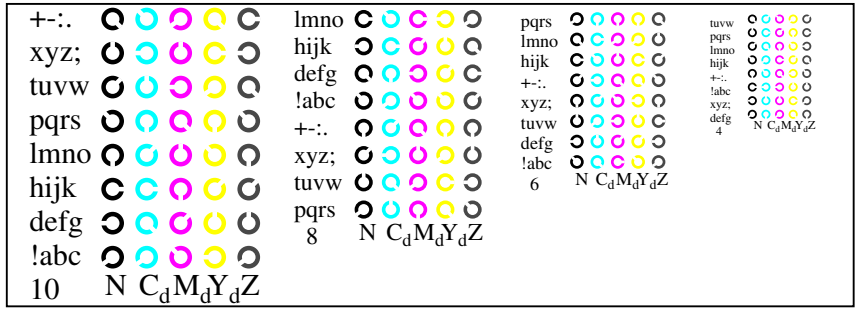
see similar files: http://farbe.li.tu-berlin.de/AE28/AE28.HTM
technical information: http://farbe.li.tu-berlin.de/ or http://farbe.li.tu-berlin.de/AE.HTM

TUB Registration: 20191001-AE28/AE28L0FA.TXT /.PS
application for measurement or viewing of the output on display and print
TUB material: code=rha4ta

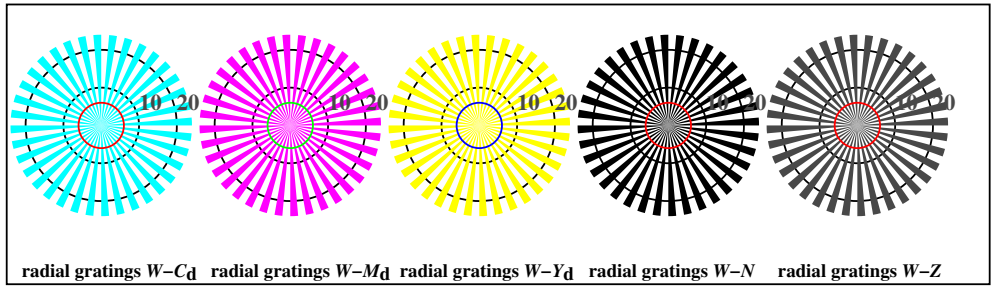
AE280–3, Picture B1W*dd: Flower motif, 14 CIE-test colours and 2 + 16 grey steps (nf); *PS* operators *settransfer, 3 colorimage*



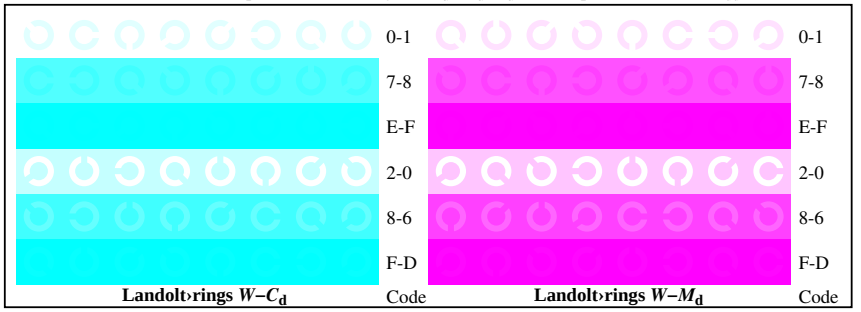
AE281–1, Picture B4W*dd: 16 equidistant steps $W–C_d$; $W–M_d$; $W–J_d$; $W–N$; *rgb/cmy0–>rgb*dd setrgbcolor*



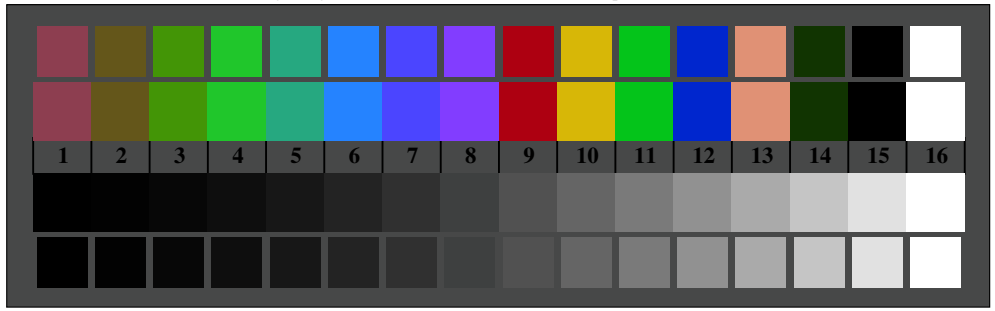
AE281–3, Picture B5W*dd: Sript and Landolt-rings *N*; C_d; M_d; Y_d; *Z*; *PS* operator *rgb–>rgb*dd setrgbcolor*



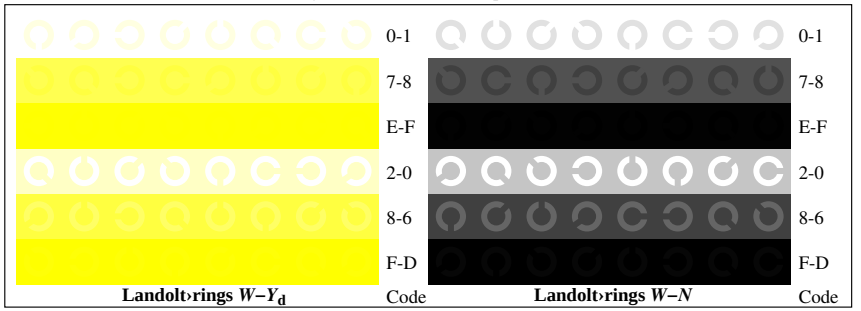
AE280–5, Picture B2W*dd: radial gratings $W–C_d$; $W–M_d$; $W–Y_d$; $W–N$; *PS* operator *rgb–>rgb*dd setrgbcolor*



AE281–5, Picture B6W*dd: Landolt-rings $W–C_d$; $W–M_d$; *PS* operator *rgb–>rgb*dd setrgbcolor*



AE280–7, Picture B3W*dd: 14 CIE-test colours and 2 + 16 grey steps (sf); *rgb/cmy0–>rgb*dd setrgbcolor*



AE281–7, Picture B7W*dd: Landolt-rings $W–Y_d$; $W–N$; *PS* operator *rgb–>rgb*dd setrgbcolor*

Test chart AE28 according to test chart 2 of ISO/IEC 15775
chromatic test chart *CMYK*

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

see similar files: http://farbe.li.tu-berlin.de/AE28/AE28.HTM
technical information: http://farbe.li.tu-berlin.de/ or http://farbe.li.tu-berlin.de/AE.HTM

TUB Registration: 20191001-AE28/AE28L0FA.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 B1Wdd **to B3W**dd

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

Test of the (flower) image according to picture B1Wdd

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−C*$_d$, *W−M*$_d$, *W−Y*$_d$ according to picture B2Wdd

	***W−C*$_d$**	***W−M*$_d$**	***W−Y*$_d$**	***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 B3Wdd

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 B3W**dd

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 AE280−3dd: 010481

Test of 16 visually equally spaced steps of the colour rows *W−C*$_d$, *W−M*$_d$, *W−Y*$_d$, and *W−N* according to picture B4Wdd

***W−C*$_d$** White − Cyanblue:	Are all the 16 steps distinguishable?		**Yes/No**
	If No: How many steps can be distinguished?	of the given 16 steps	..... Steps
***W−M*$_d$** White − Magentared:	Are all the 16 steps distinguishable?		**Yes/No**
	If No: How many steps can be distinguished?	of the given 16 steps	..... Steps
***W−Y*$_d$** White − Yellow:	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 B5Wdd

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 ***C*$_d$**	Ring ***M*$_d$**	Ring ***Y*$_d$**
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−C*$_d$, *W−M*$_d$, *W−Y*$_d$, and *W−N* according to pictures B6Wdd**, and B7W**dd

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

Colour row ***W−C*$_d$** background − ring		Colour row ***W−M*$_d$** background − ring		Colour row ***W−Y*$_d$** 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 AE281−3Ndd: 010481

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

PDF file: http://farbe.li.tu-berlin.de/AE28/AE28F0NX_CY2_1.PDF **underline Yes/No**

PS file: http://farbe.li.tu-berlin.de/AE28/AE28F0NX_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 AE28F0NX_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 AE28F0NX_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 AE280−7N*dd-010481

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/AE28/AE28F0PX_CY2_3.PDF **underline Yes/No**
PS file: http://farbe.li.tu-berlin.de/AE28/AE28F0PX_CY2_3.PS **underline Yes/No**
Picture A7dd **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/AE28/AE28F0PX_CY2_3.PDF
picture A7dd **underline Yes/No**
PS file: http://farbe.li.tu-berlin.de/AE28/AE28F0PX_CY2_3.PS
picture A7dd **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 AE281−7dd: 010481

Form A: Test chart AE28 according to test chart 2 of ISO/IEC 15775 input: *rgb/cmy0/000n/w set...*
chromatic test chart *CMYK* output: *->rgb*$_{dd}$ *setrgbcolor*

see similar files: http://farbe.li.tu-berlin.de/AE28/AE28.HTM
technical information: http://farbe.li.tu-berlin.de/ or http://farbe.li.tu-berlin.de/AE.HTM

TUB Registration: 20191001-AE28/AE28L0FA.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	0,00	52,17	0,00	0,00	-2,	0,00	0,00	2,73
3	57,80	0,00	0,00	0,01	52,67	0,00	0,00	-5,	0,00	0,00	5,12
4	60,69	0,00	0,00	0,03	53,54	0,00	0,00	-7,	0,00	0,00	7,15
5	63,58	0,00	0,00	0,06	54,79	0,00	0,00	-8,	0,00	0,00	8,79
6	66,48	0,00	0,00	0,10	56,43	0,00	0,00	-10,	0,00	0,00	10,04
7	69,37	0,00	0,00	0,14	58,46	0,00	0,00	-10,	0,00	0,00	10,90
8	72,26	0,00	0,00	0,20	60,90	0,00	0,00	-11,	0,00	0,00	11,35
9	75,16	0,00	0,00	0,27	63,75	0,00	0,00	-11,	0,00	0,00	11,40
10	78,05	0,00	0,00	0,34	67,01	0,00	0,00	-11,	0,00	0,00	11,03
11	80,94	0,00	0,00	0,43	70,68	0,00	0,00	-10,	0,00	0,00	10,25
12	83,83	0,00	0,00	0,52	74,78	0,00	0,00	-9,	0,00	0,00	9,05
13	86,73	0,00	0,00	0,62	79,29	0,00	0,00	-7,	0,00	0,00	7,43
14	89,62	0,00	0,00	0,74	84,23	0,00	0,00	-5,	0,00	0,00	5,38
15	92,51	0,00	0,00	0,86	89,60	0,00	0,00	-2,	0,00	0,00	2,90
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	0,05	54,44	0,00	0,00	-8,	0,00	0,00	8,42
19	73,71	0,00	0,00	0,23	62,28	0,00	0,00	-11,	0,00	0,00	11,43
20	84,56	0,00	0,00	0,54	75,87	0,00	0,00	-8,	0,00	0,00	8,69
21	95,41	0,00	0,00	1,00	95,41	0,00	0,00	0,00	0,00	0,00	0,01

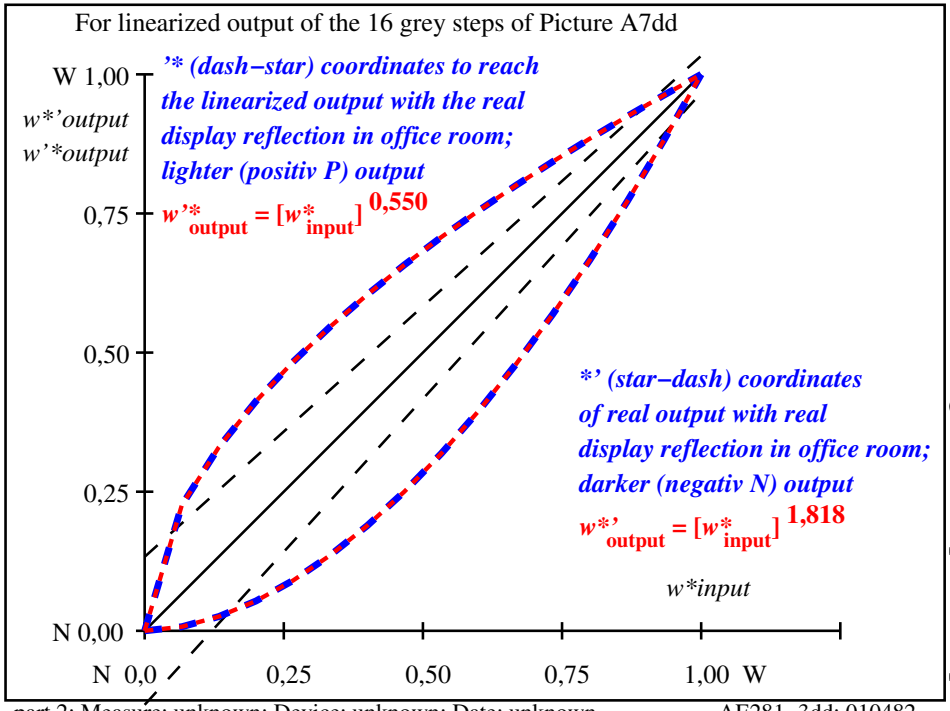
Start output S1
Specification according to ISO/IEC 15775 Annex G and DIN 33866-1 Annex G

Mean lightness difference (16 steps)
ΔE^*_{CIELAB} = 7,1

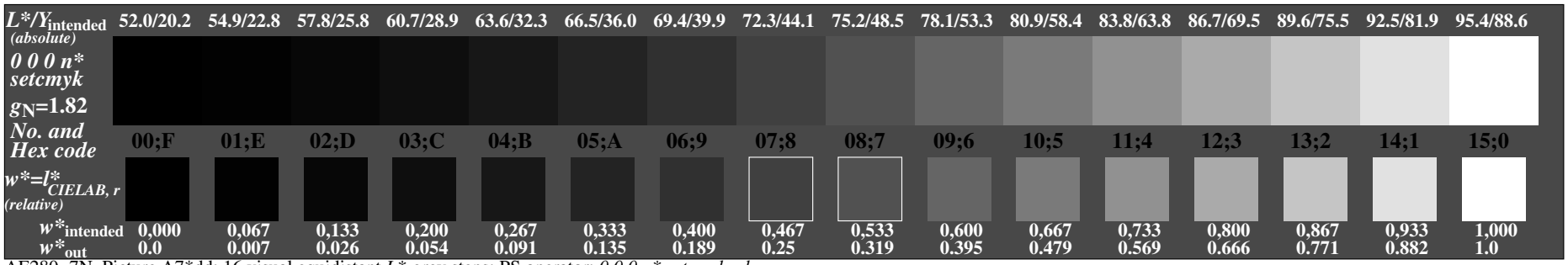
Mean lightness difference (5 steps)
ΔL^*_{CIELAB} = 5,7

Mean colour reproduction index: $R^*_{ab,m}$ = 68,8

part 1; Measure: unknown; Device: unknown; Date: unknown AE280−3dd: 010482



part 2; Measure: unknown; Device: unknown; Date: unknown AE281−3dd: 010482



AE280−7N, Picture A7*dd: 16 visual equidistant *L**-grey steps; PS operator: *0 0 0 n* setcmykcolor*

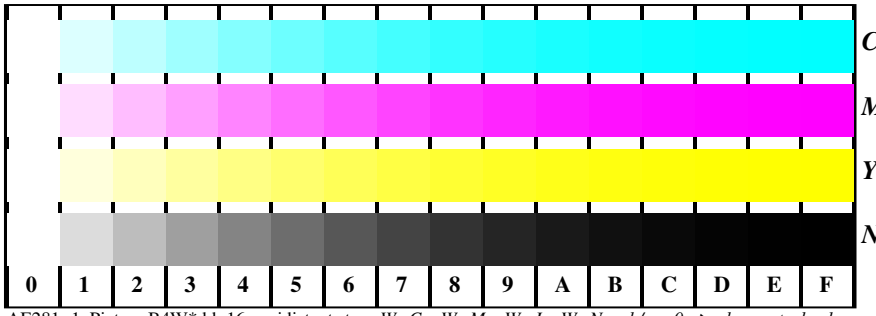
In-out: Test chart AE28 according to test chart 2 of ISO/IEC 15775
Viewing *Y* contrast Y_W:Y_N=88,9:20; Y_N-range 15 to <30

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

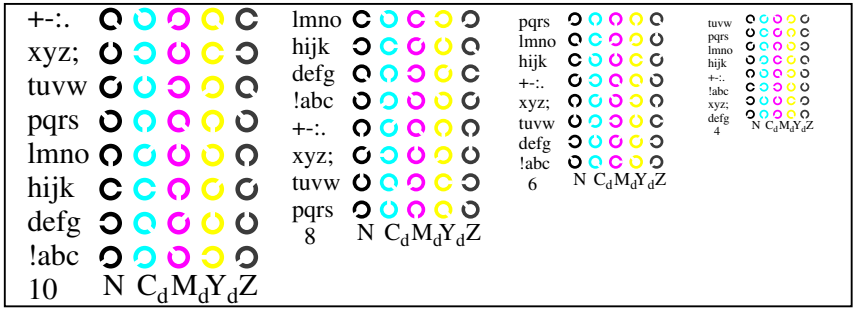
see similar files: http://farbe.li.tu-berlin.de/AE28/AE28.HTM
technical information: http://farbe.li.tu-berlin.de/ or http://farbe.li.tu-berlin.de/AE.HTM

TUB Registration: 20191001-AE28/AE28L0FA.TXT /.PS TUB material: code=rha4ta
application for measurement or viewing of the output on display and print

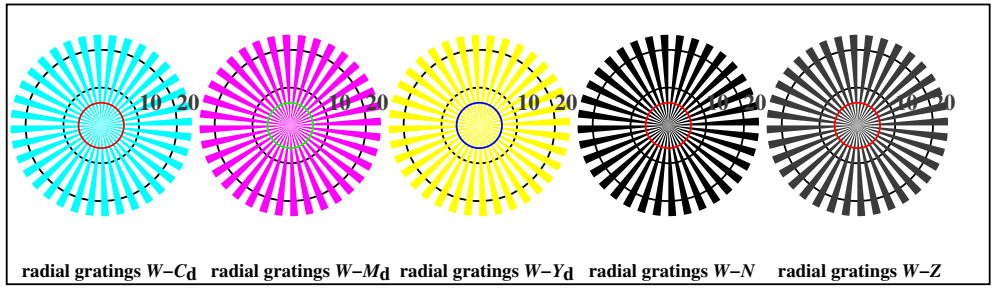
AE280–3, Picture B1W*dd: Flower motif, 14 CIE-test colours and 2 + 16 grey steps (nf); *PS* operators *settransfer, 3 colorimage*



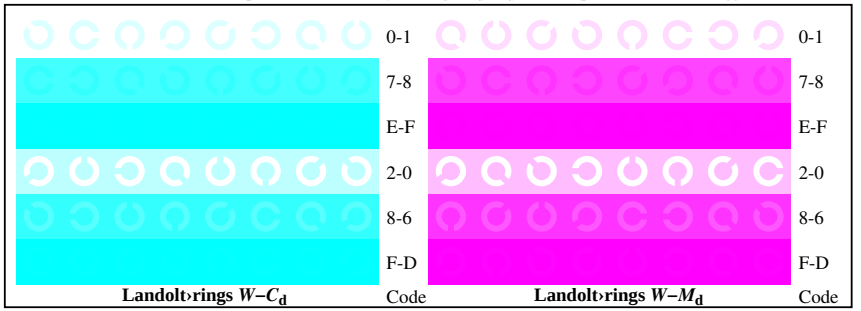
AE281–1, Picture B4W*dd: 16 equidistant steps $W–C_d$; $W–M_d$; $W–J_d$; $W–N$; *rgb/cmy0–>rgb*dd setrgbcolor*



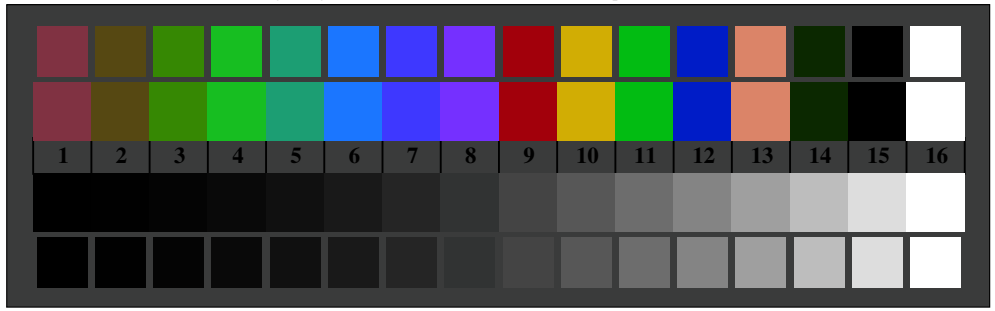
AE281–3, Picture B5W*dd: Sript and Landolt-rings *N*; C_d; M_d; Y_d; *Z*; *PS* operator *rgb–>rgb*dd setrgbcolor*



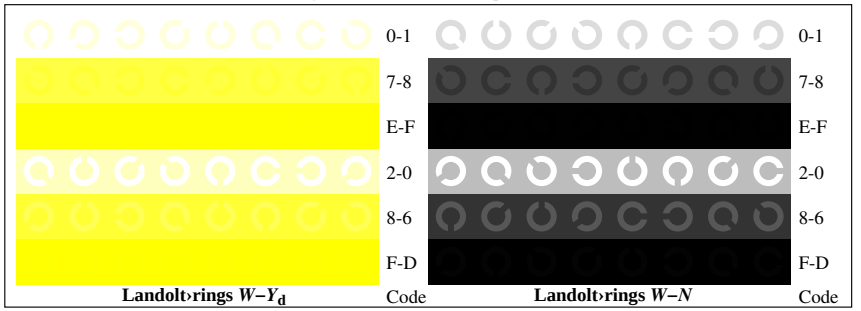
AE280–5, Picture B2W*dd: radial gratings $W–C_d$; $W–M_d$; $W–Y_d$; $W–N$; *PS* operator *rgb–>rgb*dd setrgbcolor*



AE281–5, Picture B6W*dd: Landolt-rings $W–C_d$; $W–M_d$; *PS* operator *rgb–>rgb*dd setrgbcolor*



AE280–7, Picture B3W*dd: 14 CIE-test colours and 2 + 16 grey steps (sf); *rgb/cmy0–>rgb*dd setrgbcolor*



AE281–7, Picture B7W*dd: Landolt-rings $W–Y_d$; $W–N$; *PS* operator *rgb–>rgb*dd setrgbcolor*

Test chart AE28 according to test chart 2 of ISO/IEC 15775
chromatic test chart *CMYK*

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

see similar files: http://farbe.li.tu-berlin.de/AE28/AE28.HTM
technical information: http://farbe.li.tu-berlin.de/ or http://farbe.li.tu-berlin.de/AE.HTM

TUB Registration: 20191001-AE28/AE28L0FA.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 B1Wdd **to B3W**dd

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

Test of the (flower) image according to picture B1Wdd

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−C*$_d$, *W−M*$_d$, *W−Y*$_d$ according to picture B2Wdd

	***W−C*$_d$**	***W−M*$_d$**	***W−Y*$_d$**	***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 B3Wdd

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 B3W**dd

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 AE280−3dd: 010561

Test of 16 visually equally spaced steps of the colour rows *W−C*$_d$, *W−M*$_d$, *W−Y*$_d$, and *W−N* according to picture B4Wdd

***W−C*$_d$** White − Cyanblue:	Are all the 16 steps distinguishable?		**Yes/No**
	If No: How many steps can be distinguished?	of the given 16 steps	..... Steps
***W−M*$_d$** White − Magentared:	Are all the 16 steps distinguishable?		**Yes/No**
	If No: How many steps can be distinguished?	of the given 16 steps	..... Steps
***W−Y*$_d$** White − Yellow:	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 B5Wdd

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 ***C*$_d$**	Ring ***M*$_d$**	Ring ***Y*$_d$**
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−C*$_d$, *W−M*$_d$, *W−Y*$_d$, and *W−N* according to pictures B6Wdd**, and B7W**dd

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

Colour row ***W−C*$_d$** background − ring		Colour row ***W−M*$_d$** background − ring		Colour row ***W−Y*$_d$** 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 AE281−3Ndd: 010561

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

PDF file: http://farbe.li.tu-berlin.de/AE28/AE28F0NX_CY1_1.PDF **underline Yes/No**

PS file: http://farbe.li.tu-berlin.de/AE28/AE28F0NX_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 AE28F0NX_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 AE28F0NX_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)
.....
.....
.....

part 3 AE280−7N*dd-010561

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/AE28/AE28F0PX_CY1_3.PDF **underline Yes/No**
PS file: http://farbe.li.tu-berlin.de/AE28/AE28F0PX_CY1_3.PS **underline Yes/No**
Picture A7dd **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/AE28/AE28F0PX_CY1_3.PDF
picture A7dd **underline Yes/No**
PS file: http://farbe.li.tu-berlin.de/AE28/AE28F0PX_CY1_3.PS
picture A7dd **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 AE281−7dd: 010561

Form A: Test chart AE28 according to test chart 2 of ISO/IEC 15775 input: *rgb/cmy0/000n/w set...*
chromatic test chart *CMYK* output: *->rgb*$_{dd}$ *setrgbcolor*

see similar files: http://farbe.li.tu-berlin.de/AE28/AE28.HTM
technical information: http://farbe.li.tu-berlin.de/ or http://farbe.li.tu-berlin.de/AE.HTM

TUB Registration: 20191001-AE28/AE28L0FA.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	0,00	69,75	0,00	0,00	-1,	0,00	0,00	1,65
3	73,12	0,00	0,00	0,01	69,96	0,00	0,00	-3,	0,00	0,00	3,15
4	74,83	0,00	0,00	0,02	70,37	0,00	0,00	-4,	0,00	0,00	4,46
5	76,55	0,00	0,00	0,05	70,99	0,00	0,00	-5,	0,00	0,00	5,56
6	78,26	0,00	0,00	0,08	71,84	0,00	0,00	-6,	0,00	0,00	6,42
7	79,98	0,00	0,00	0,12	72,93	0,00	0,00	-7,	0,00	0,00	7,04
8	81,69	0,00	0,00	0,17	74,28	0,00	0,00	-7,	0,00	0,00	7,40
9	83,41	0,00	0,00	0,24	75,90	0,00	0,00	-7,	0,00	0,00	7,50
10	85,12	0,00	0,00	0,31	77,80	0,00	0,00	-7,	0,00	0,00	7,32
11	86,83	0,00	0,00	0,39	79,98	0,00	0,00	-6,	0,00	0,00	6,85
12	88,55	0,00	0,00	0,49	82,45	0,00	0,00	-6,	0,00	0,00	6,09
13	90,26	0,00	0,00	0,60	85,22	0,00	0,00	-5,	0,00	0,00	5,04
14	91,98	0,00	0,00	0,72	88,30	0,00	0,00	-3,	0,00	0,00	3,67
15	93,69	0,00	0,00	0,85	91,69	0,00	0,00	-1,	0,00	0,00	1,99
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	0,04	70,81	0,00	0,00	-5,	0,00	0,00	5,30
19	82,55	0,00	0,00	0,20	75,06	0,00	0,00	-7,	0,00	0,00	7,48
20	88,98	0,00	0,00	0,52	83,11	0,00	0,00	-5,	0,00	0,00	5,86
21	95,41	0,00	0,00	1,00	95,41	0,00	0,00	0,00	0,00	0,00	0,01

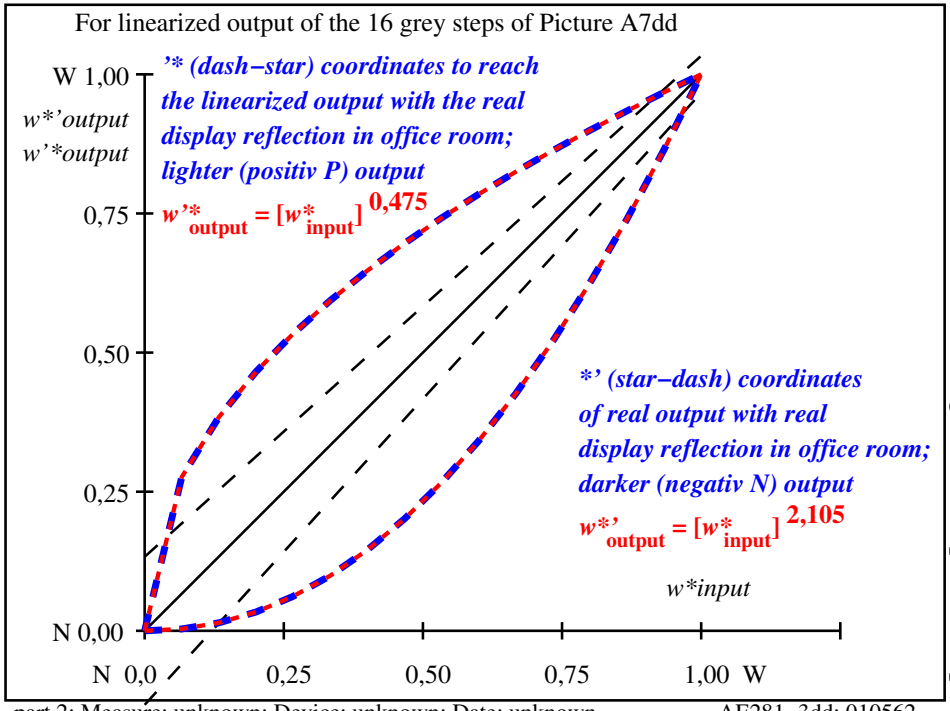
Start output S1
Specification according to ISO/IEC 15775 Annex G and DIN 33866-1 Annex G

Mean lightness difference (16 steps)
ΔE^*_{CIELAB} = 4,6

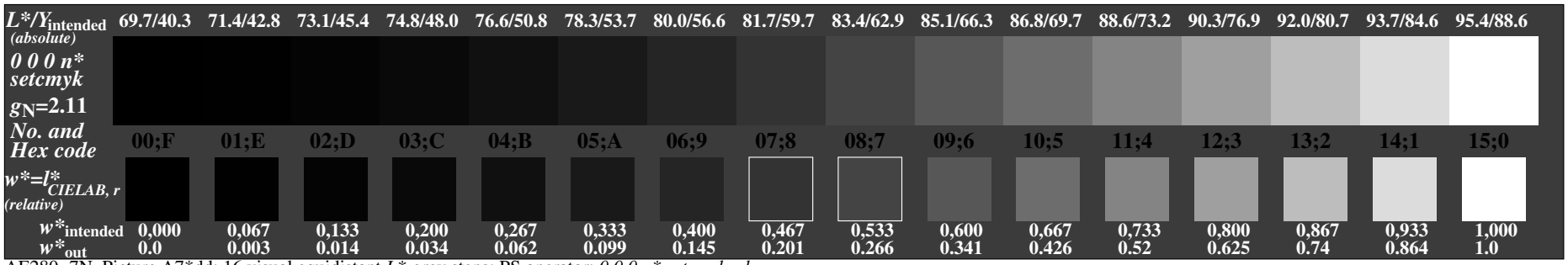
Mean lightness difference (5 steps)
ΔL^*_{CIELAB} = 3,7

Mean colour reproduction index: $R^*_{ab,m}$ = 79,6

part 1; Measure: unknown; Device: unknown; Date: unknown AE280−3dd: 010562



part 2; Measure: unknown; Device: unknown; Date: unknown AE281−3dd: 010562



AE280−7N, Picture A7*dd: 16 visual equidistant *L**-grey steps; PS operator: *0 0 0 n* setcmykcolor*

In-out: Test chart AE28 according to test chart 2 of ISO/IEC 15775 input: *rgb/cmy0/000n/w set...*
Viewing *Y* contrast Y_W:Y_N=88,9:40; Y_N-range 30 to <60 output: *->rgb*$_{dd}$ *setrgbcolor*