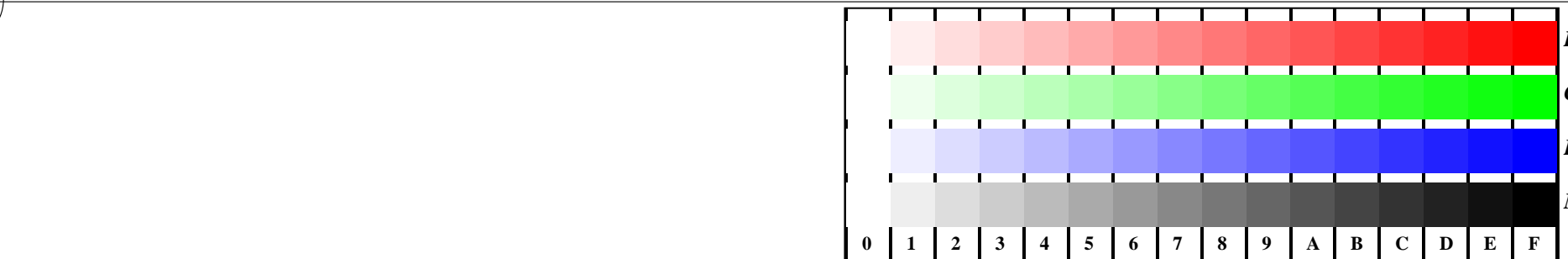
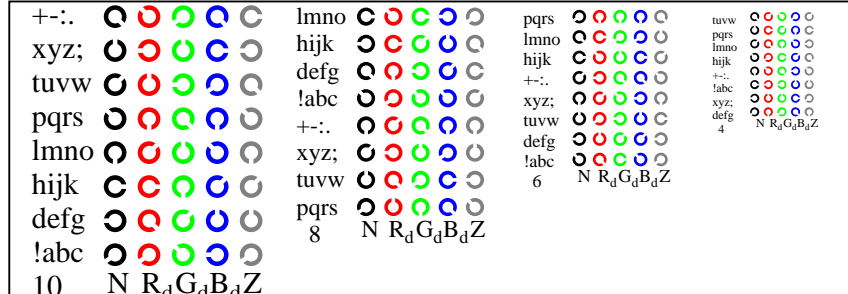


see similar files: <http://farbe.li.tu-berlin.de/AE14/AE14.HTM>  
 technical information: <http://130.149.60.45/~farbmetrik/Verfahren/Farblich.tul-berlin.de>

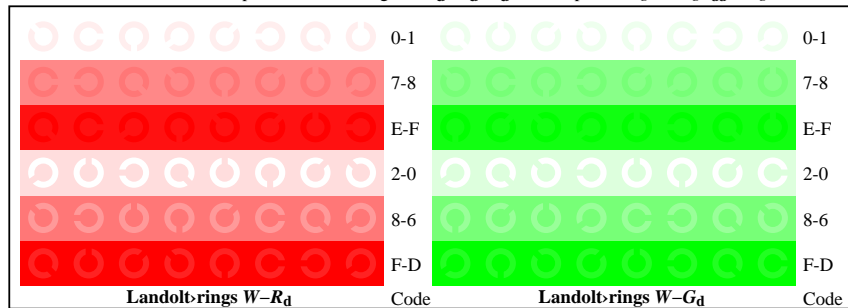
TUB registration: 20160101-AE14/AE14L0NP.PDF /.PS  
 application for measurement or viewing of display output  
 TUB material: code=rh4ta



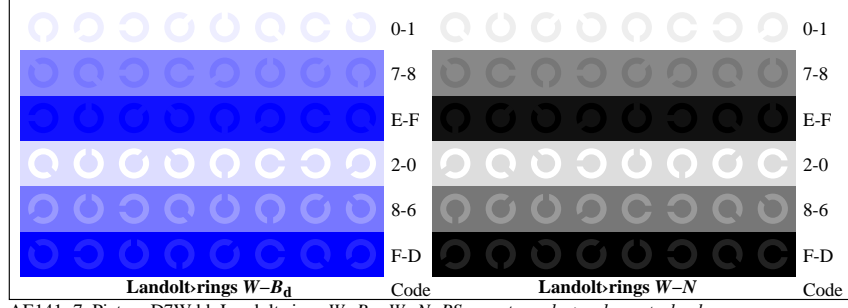
AE141-1, Picture D4Wdd: 16 equidistant steps  $W-R_d$ ;  $W-G_d$ ;  $W-B_d$ ;  $W-N$ ;  $rgb/cmy0 \rightarrow rgb_{dd}$  setrgbcolor



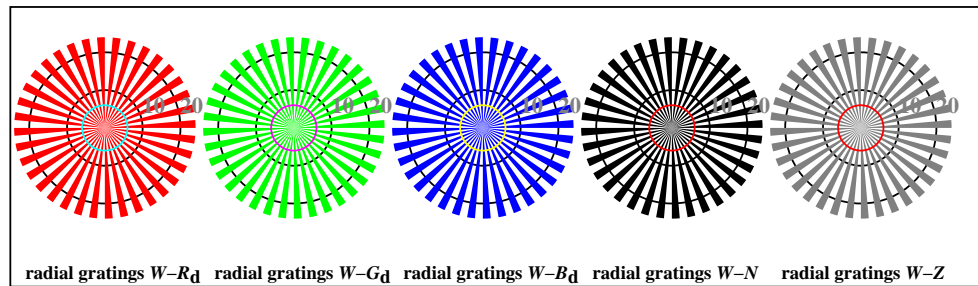
AE141-3, Picture D5Wdd: Sript and Landolt-rings  $N$ ;  $R_d$ ;  $G_d$ ;  $B_d$ ;  $Z$ ; PS operator  $rgb \rightarrow rgb_{dd}$  setrgbcolor



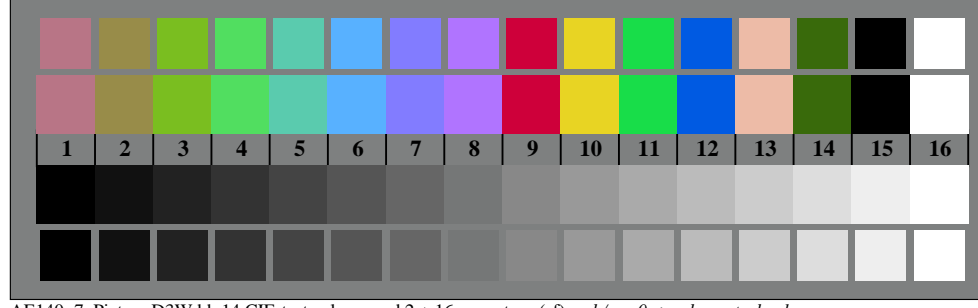
AE141-5, Picture D6Wdd: Landolt-rings  $W-R_d$ ;  $W-G_d$ ; PS operator  $rgb \rightarrow rgb_{dd}$  setrgbcolor



AE141-7, Picture D7Wdd: Landolt-rings  $W-B_d$ ;  $W-N$ ; PS operator  $rgb \rightarrow rgb_{dd}$  setrgbcolor



AE140-5, Picture D2Wdd: radial gratings  $W-R_d$ ;  $W-G_d$ ;  $W-B_d$ ;  $W-N$ ; PS operator  $rgb \rightarrow rgb_{dd}$  setrgbcolor



AE140-7, Picture D3Wdd: 14 CIE-test colours and 2 + 16 grey steps (sf);  $rgb/cmy0 \rightarrow rgb_{dd}$  setrgbcolor

**Test for the visual linearized output of Pictures D2W-030-0 to D7W-030-0**  
**Output test with the computer display ( ) or the external display ( )** please mark by (x)!

**Test of the resolution of radial gratings  $W-R_d$ ,  $W-G_d$ ,  $W-B_d$  according to picture D2W-030-0**

	$W-R_d$	$W-G_d$	$W-B_d$	$W-N$	$W-Z$
Is the resolution diameter < 6 mm?	Yes/No	Yes/No	Yes/No	Yes/No	Yes/No
Test with magnifying glass (6x), Resolution diameter:	..... mm	..... mm	..... mm	..... mm	..... mm

**Test of the 14 CIE-test colours according to picture D3W-030-0**  
 Are clear (immediately conspicuous) differences recognized between reproduction and test chart? **Yes/No**  
 If Yes: How many colours have clear differences? of the given 14 steps: **.... Steps**

**Test of 16 visual equidistant  $L^*$ -grey steps according to picture D3W-030-0**  
 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 AE140-3N-030-1

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

**PDF-File:** <http://farbe.li.tu-berlin.de/AE14/AE14L0NP.PDF> **underline Yes/No**

**PS-File:** <http://farbe.li.tu-berlin.de/AE14/AE14L0NA.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 AE14L0NP.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 AE14L0NA.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 AE140-7N-030-1

**Test of 16 visually equally spaced steps of the colour rows  $W-R_d$ ,  $W-G_d$ ,  $W-B_d$ , and  $W-N$  according to picture D4W-030-0**

**$W-R_d$  White - Orangered:** Are all the 16 steps distinguishable? **Yes/No**  
 If No: How many steps can be distinguished? of the given 16 steps: ..... Steps

**$W-G_d$  White - Leafgreen:** Are all the 16 steps distinguishable? **Yes/No**  
 If No: How many steps can be distinguished? of the given 16 steps: ..... Steps

**$W-B_d$  White - Violetblue:** 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 D5W-030-0**  
 Is the recognition frequency > 50% for letters (17 from 32 at least) and for Landolt-rings (minimum 5 of 8)?

Relative size	Letters	Ring $N$	Ring $R_d$	Ring $G_d$	Ring $B_d$
10	Yes/No	Yes/No	Yes/No	Yes/No	Yes/No
8	Yes/No	Yes/No	Yes/No	Yes/No	Yes/No
6	Yes/No	Yes/No	Yes/No	Yes/No	Yes/No
4	Yes/No	Yes/No	Yes/No	Yes/No	Yes/No

**Test of recognition frequency of Landolt-rings  $W-R_d$ ,  $W-G_d$ ,  $W-B_d$ , and  $W-N$  according to pictures D6W-030-0, and D7W-030-0**  
 Is the recognition frequency of the Landolt-rings > 50% (min. 5 of 8 at least)?

Colour row $W-R_d$ background - ring	Colour row $W-G_d$ background - ring	Colour row $W-B_d$ background - ring	Colour row $W-N$ background - ring
0 - 1 Yes/No	0 - 1 Yes/No	0 - 1 Yes/No	0 - 1 Yes/No
7 - 8 Yes/No	7 - 8 Yes/No	7 - 8 Yes/No	7 - 8 Yes/No
E - F Yes/No	E - F Yes/No	E - F Yes/No	E - F Yes/No
2 - 0 Yes/No	2 - 0 Yes/No	2 - 0 Yes/No	2 - 0 Yes/No
8 - 6 Yes/No	8 - 6 Yes/No	8 - 6 Yes/No	8 - 6 Yes/No
F - D Yes/No	F - D Yes/No	F - D Yes/No	F - D Yes/No

Part 1 AE140-3N-030-1

**Documentation of assessor colour vision properties for visual assessment**  
 The assessor has **normal** colour vision according to one test:  
 either according to DIN 6160:1996 with Anomaloskop of *Nagel* **underline Yes/No**  
 or with test charts using colour points according to *Ishihara* **underline Yes/unknown**  
 or tested with, please specify: ..... **underline Yes/unknown**

**For visual evaluation of the display (monitor, data projector) output**  
 Office workplace illumination is daylight (clouded/north sky) **underline Yes/No**  
**PDF file:** <http://farbe.li.tu-berlin.de/AE14/AE14F1P2.PDF> **underline Yes/No**  
**PS file:** <http://farbe.li.tu-berlin.de/AE14/AE14F1P2.PS> **underline Yes/No**  
**Picture A7-030-2: contrast range:** (>F:0) (F:0) (E:0) (D:0) (C:0) (A:0) (9:0) (7:0) (5:0) (3:0) (<3:0)  
 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/AE14/AE14F1P2.PDF> **underline Yes/No**  
**Picture A7-030-2** **underline Yes/No**  
**PS-File:** <http://farbe.li.tu-berlin.de/AE14/AE14F1P2.PS> **or underline Yes/No**  
**Picture A7-030-2** **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 with PS file for colours in the columns A to T**  
 Exchange of CIELAB data in file [www.ps.bam.de/De17/10L/L17e00NP.PS](http://www.ps.bam.de/De17/10L/L17e00NP.PS) and transfer  
 of the PS-file L17e00NP.PS in PDF-file L17e00NP.PDF **underline Yes/No**  
 If No, please describe other method: .....

Part 4 AE141-7N-030-1

see similar files: <http://farbe.li.tu-berlin.de/AE14/AE14L0NP.PDF> / .PS; start output, page 1/3  
[http://130.149.60.45/~farbmetrik Werkzeug/Farblich.tul-berlin.de](http://130.149.60.45/~farbmetrik/Werkzeug/Farblich.tul-berlin.de)

TUB registration: 20160101-AE14/AE14L0NP.PDF /.PS  
 application for measurement or viewing of display output  
 TUB material: code=rh4ta

see similar files: <http://farbe.li.tu-berlin.de/AE14/AE14.HTM>  
 technical information: <http://130.149.60.45/~farbmetrik/Verfahren/Farblich.tul-berlin.de>

TUB registration: 20160101-AE14/AE14L0NP.PDF /.PS  
 application for measurement or viewing of display output

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

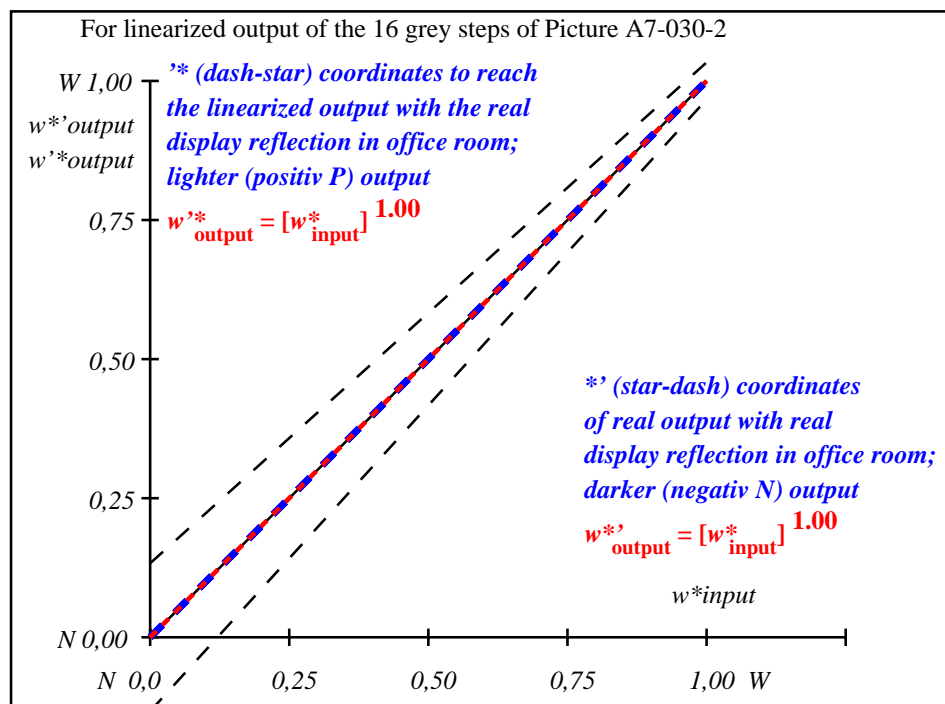
**Start output S1**  
**Specification according to ISO/IEC 15775 Annex G and DIN 33866-1 Annex G**

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

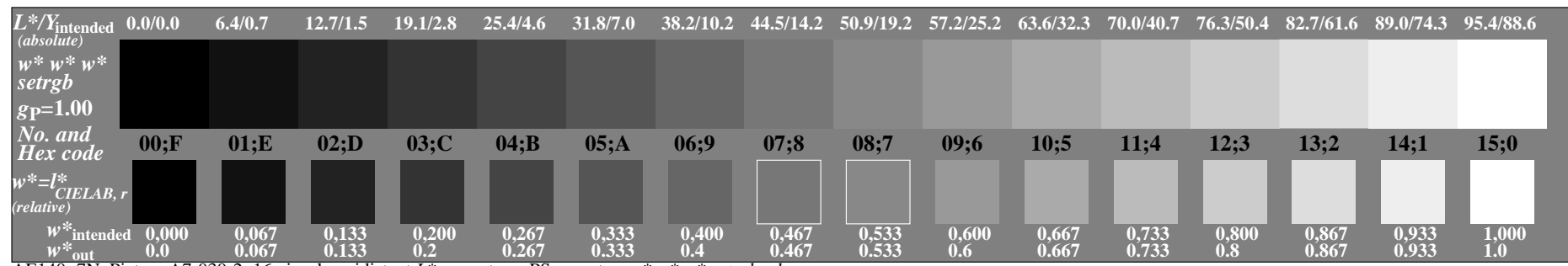
Mean lightness difference (5 steps)  
 $\Delta L^*_{CIELAB} = 0.0$

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

AE140-3N-030-2: File: Measure unknown; Device: Device unknown; Date: Date unknown



AE141-3N-030-2: File: Measure unknown; Device: Device unknown; Date: Date unknown



AE140-7N, Picture A7-030-2: 16 visual equidistant L\*-grey steps; PS operator:  $w^* w^* w^* setrgbcolor$

Input-output: Chart AE14(ISO 9241-306) & 2(ISO/IEC 15775)  
 Viewing  $Y$  contrast  $Y_W:Y_N=88,9:0,31$ ;  $Y_N$ -range 0,0 to <0,46

input:  $rgb (->rgb_{dd}) setrgbcolor$   
 output: no change

TUB material: code=rh4ta