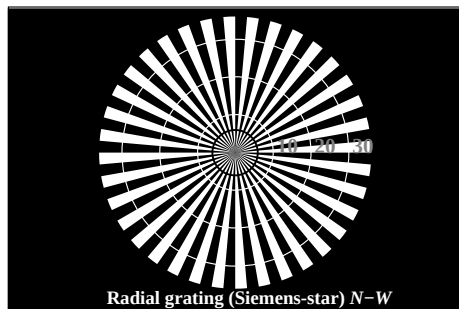
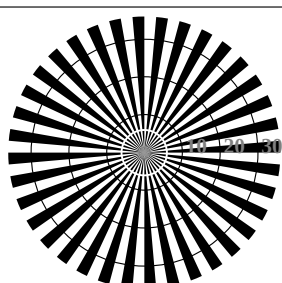


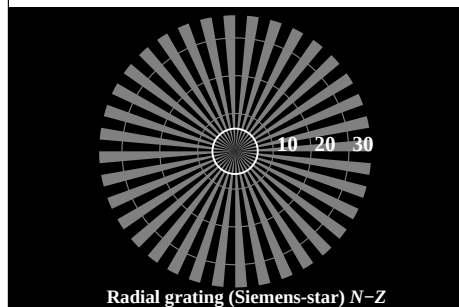
See similar ISO test charts: <http://www.ps.bam.de/24705TE>, <http://www.ps.bam.de/9241E>
Technical information: <http://www.ps.bam.de/33872E> Version 2.1, io=1,1, CIELAB



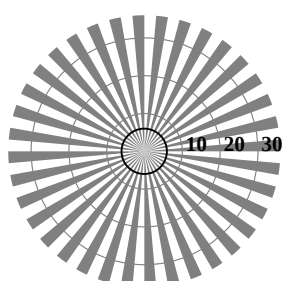
Radial grating (Siemens-star) N-W



Radial grating (Siemens-star) W-N

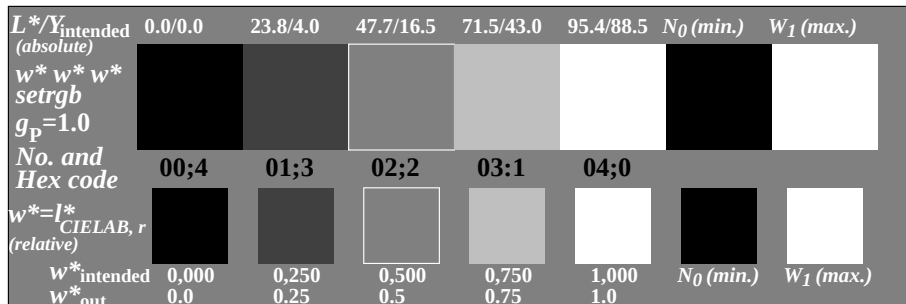


Radial grating (Siemens-star) N-Z

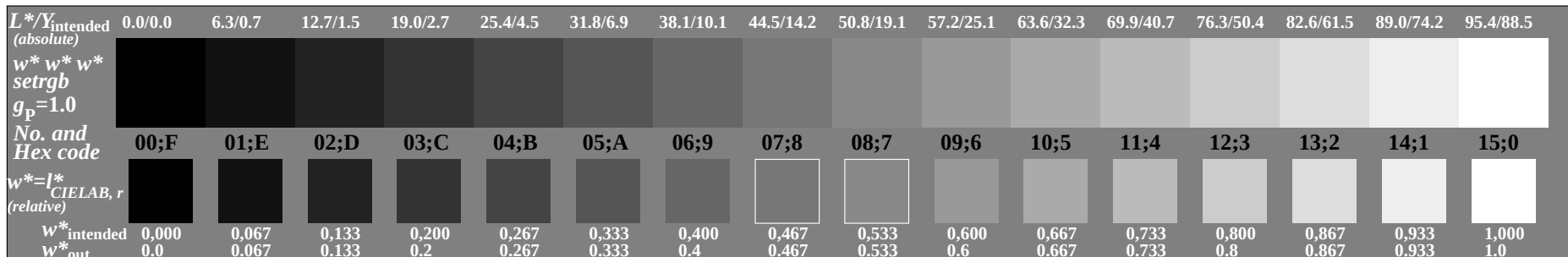


Radial grating (Siemens-star) W-Z

OE500-3N, Picture A1-130-0: Radial grating N-W, W-N, N-Z, W-Z; PS operator: $w^* w^* w^* \text{setrgbcolor}$



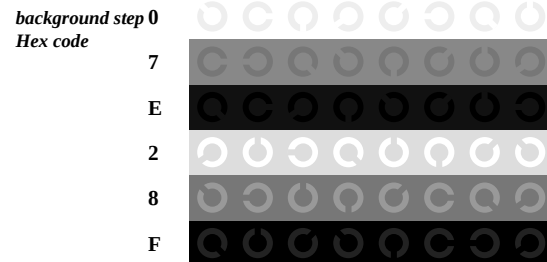
OE500-5N, Picture A2-130-0: 5 equidistant L^* -grey steps+ N_0 + W_1 ; PS operator: $w^* w^* w^* \text{setrgbcolor}$



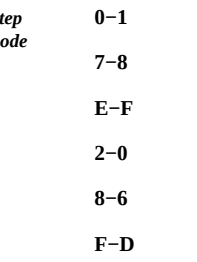
OE500-7N, Picture A3-130-0: 16 visual equidistant L^* -grey steps; PS operator: $w^* w^* w^* \text{setrgbcolor}$

OE50: similar ME16 according to ISO 9241-306; 1MR, DH
Viewing Y contrast $Y_W:Y_N=88,9:0,31$; Y_N range 0,0 to <0,46

input: $000n (->rgb^*_d) \text{setcmyk}$
output 130-0: $g_p=1.0$; $g_N=1.0$

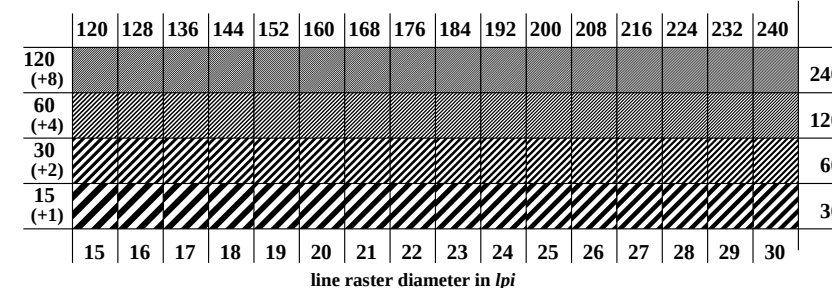


Landolt-rings W-N



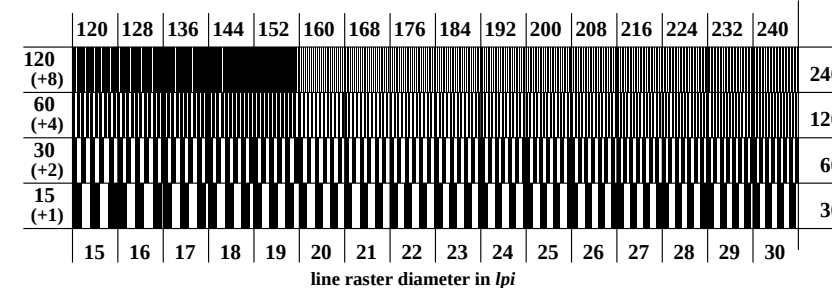
code: background-ring

OE501-1N, Picture A4-130-0: Landolt-rings W-N; PS operator: $w^* w^* w^* \text{setrgbcolor}$



line raster diameter in lpi

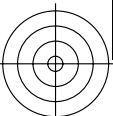
OE501-3N, Picture A5-130-0: Line raster under 45° (or 135°); PS operator: $w^* w^* w^* \text{setrgbcolor}$



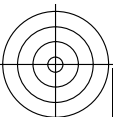
line raster diameter in lpi

OE501-5N, Picture A6-130-0: Line raster under 90° (or 0°); PS operator: $w^* w^* w^* \text{setrgbcolor}$

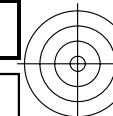
TUB registration: 20110801-OE50/OE50L0NA.TXT /.PS
application for output of displays: monitor systems or data projector systems
TUB material: code=rh4ta



See similar ISO test charts: <http://www.ps.bam.de/24705TE>, <http://www.ps.bam.de/9241E>
 Technical information: <http://www.ps.bam.de/33872E> Version 2.1, io=1,1, CIELAB

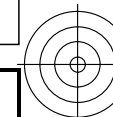


<http://130.149.60.45/~farbmetrik/OE50/OE50L0NA.TXT> /PS; linearized output, Page 2/3
 F: Output Linearization (OL) data OE50/OE50L0NA.TXT /PS in File (F)



TUB registration: 20110801-OE50/OE50L0NA.TXT /PS
 application for output of displays: monitor systems or data projector systems

TUB material: code=rh4ta



Test for the best visual linearized output of Picture A7-130-0 Yes/No
Output test with the computer display () or the external display ()

Test of the radial grating according to picture A1-130-0
 N-W-radial grating: Is the resolution diameter < 6 mm? Yes/No
 Test with magnifying glass (e.g. 6x) resolution diameter mm
 W-N-radial grating: Is the resolution diameter < 6 mm? Yes/No
 Test with magnifying glass (e.g. 6x) resolution diameter mm
 N-Z-radial grating: Is the resolution diameter < 6 mm? Yes/No
 Test with magnifying glass (e.g. 6x) resolution diameter mm
 W-Z-radial grating: Is the resolution diameter < 6 mm? Yes/No
 Test with magnifying glass (e.g. 6x) resolution diameter mm

Test of 5 visual equidistant L*-grey steps according to picture A2-130-0
 Are the 5 steps on the upper rows distinguishable? Yes/No
 If No: How many steps can be distinguished? Steps
 of the given 5 steps:

Test of 16 visual equidistant L*-grey steps according to picture A3-130-0
 Are the 16 steps on the upper rows distinguishable? Yes/No
 If No: How many steps can be distinguished? Steps
 of the given 16 steps:

Part 1 OE500-3N-130-1

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

PDF-File: <http://130.149.60.45/farbmetrik/OE50/OE50L0NP.PDF> underline Yes/No

PS-File: <http://130.149.60.45/farbmetrik/OE50/OE50L0NA.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 OE50L0NP.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 OE50L0NA.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 OE500-7N-130-1



OE50: Form A for test chart according to ISO 9241-306; 1MR, DH input: 000n (->rgb*d) setcmyp
 Viewing Y contrast $Y_W:Y_N=88,9:0,31$; Y_N range 0,0 to <0,46 output 130-1: $g_P=1.0$; $g_N=1.0$

Test for the best visual linearized output of Picture A7-130-0 Yes/No
Output test with the computer display () or the external display ()

Test of the Landolt-rings N-W according to picture A4-130-0
 N-W-radial grating:
 Is the recognition frequency of the Landolt-rings > 50% (5 of 8 at least)?
 background - ring
 0 - 1 Yes/No
 7 - 8 Yes/No
 E - F Yes/No
 2 - 0 Yes/No
 8 - 6 Yes/No
 F - D Yes/No

Test of the radial grating under 45° according to picture A5-130-0
 Can equally spaced lines be seen?
 Visual testing: for radial diameter from 15 to 60 lpi Yes/No
 Test with a magnifying glass (e.g. 6x): - from 15 lpi: to lpi

Test of the radial grating under 90° according to picture A6-130-0
 Can equally spaced lines be seen?
 Visual testing: for radial diameter from 15 to 60 lpi Yes/No
 Test with a magnifying glass (e.g. 6x): - from 15 lpi: to lpi

Part 2 OE501-3N-130-1

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://130.149.60.45/farbmetrik/OE50/OE50F1P2.PDF> underline Yes/No
PS file: <http://130.149.60.45/farbmetrik/OE50/OE50F1P2.PS> underline Yes/No
Picture A7-130-2: 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://130.149.60.45/farbmetrik/OE50/OE50F1P2.PDF> underline Yes/No
picture A7-130-2
PS-File: <http://130.149.60.45/farbmetrik/OE50/OE50F1P2.PS> or underline Yes/No
picture A7-130-2

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 and transfer
 of the PS-file L17e00NP.PS in PDF-file L17e00NP.PDF underline Yes/No
 If No, please describe other method:

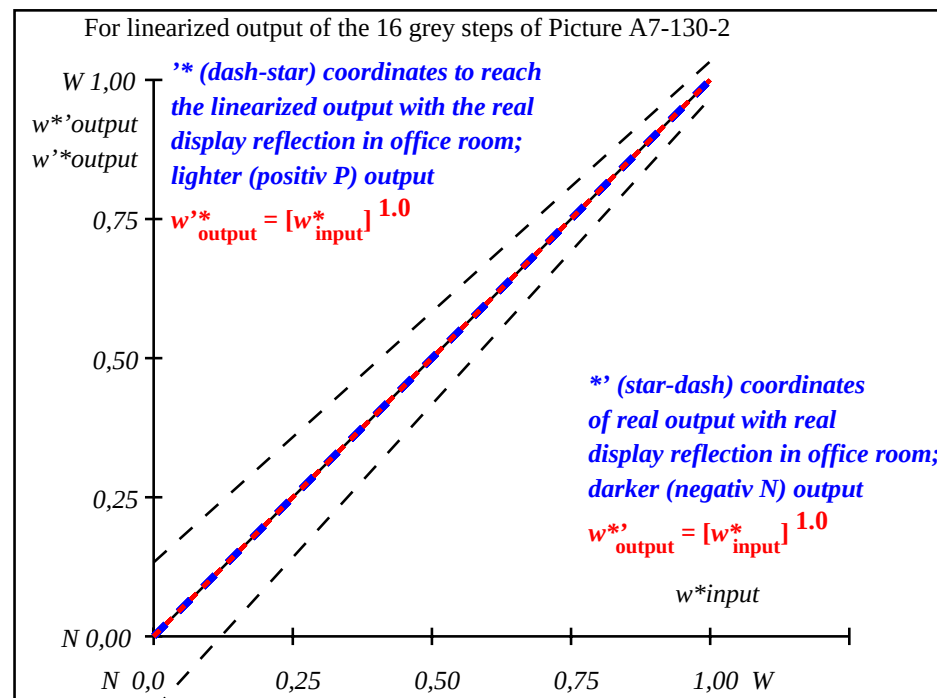
Part 4 OE501-7N-130-1



See similar ISO test charts: <http://www.ps.bam.de/24705TE>, <http://www.ps.bam.de/9241E>
Technical information: <http://www.ps.bam.de/33872E> Version 2.1, io=1,1, CIELAB

i	LAB*ref	L*out	LAB*out	LAB*out/c-ref	ΔE*	Start output S1
1	0.0	0.0	0.0	0.0	0.0	0.01
2	6.36	0.0	0.07	6.36	0.0	0.01
3	12.72	0.0	0.13	12.72	0.0	0.01
4	19.08	0.0	0.2	19.08	0.0	0.01
5	25.44	0.0	0.27	25.44	0.0	0.01
6	31.8	0.0	0.33	31.8	0.0	0.01
7	38.16	0.0	0.4	38.16	0.0	0.01
8	44.52	0.0	0.47	44.52	0.0	0.01
9	50.89	0.0	0.53	50.89	0.0	0.01
10	57.25	0.0	0.6	57.25	0.0	0.01
11	63.61	0.0	0.67	63.61	0.0	0.01
12	69.97	0.0	0.73	69.97	0.0	0.01
13	76.33	0.0	0.8	76.33	0.0	0.01
14	82.69	0.0	0.87	82.69	0.0	0.01
15	89.05	0.0	0.93	89.05	0.0	0.01
16	95.41	0.0	1.0	95.41	0.0	0.01
17	0.0	0.0	0.0	0.0	0.0	0.01
18	23.85	0.0	0.25	23.85	0.0	0.01
19	47.71	0.0	0.5	47.71	0.0	0.01
20	71.56	0.0	0.75	71.56	0.0	0.01
21	95.41	0.0	1.0	95.41	0.0	0.01
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} = 100

OE500-3N-130-2: File: Measure unknown; Device: Device unknown; Date: Date unknown



OE501-3N-130-2: File: Measure unknown; Device: Device unknown; Date: Date unknown

$L^*/Y^*_{\text{intended}}$ (absolute)	0.0/0.0	6.4/0.7	12.7/1.5	19.1/2.8	25.4/4.6	31.8/7.0	38.2/10.2	44.5/14.2	50.9/19.2	57.2/25.2	63.6/32.3	70.0/40.7	76.3/50.4	82.7/61.6	89.0/74.3	95.4/88.6
$w^* w^* w^*$ setrgb $g_P=1.0$ No. and Hex code	00;F	01;E	02;D	03;C	04;B	05;A	06;9	07;8	08;7	09;6	10;5	11;4	12;3	13;2	14;1	15;0
$w^* = [L^*_{\text{CIELAB}, r}]$ (relative)	0.000	0.067	0.133	0.200	0.267	0.333	0.400	0.467	0.533	0.600	0.667	0.733	0.800	0.867	0.933	1.000
w^*_{intended} w^*_{out}	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

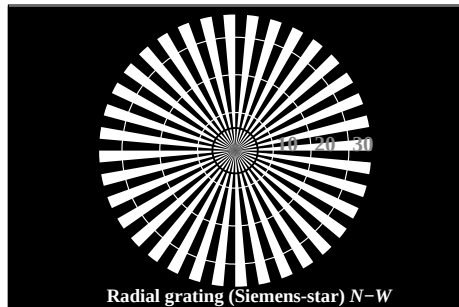
OE500-7N, Picture A7-130-2: 16 visual equidistant L^* -grey steps; PS operator: $w^* w^* w^*$ setrgbcolor

OE50: In-output relation according to ISO 9241-306; 1MR, DH
Viewing Y contrast $Y_W:Y_N=88,9:0,31$; Y_N range 0,0 to <0,46

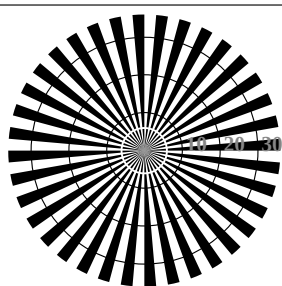
input: 000n ($\rightarrow rgb^*_d$) setcmyk
output 130-2: $g_P=1.0$; $g_N=1.0$

TUB registration: 20110801-OE50/OE50L0NA.TXT /.PS
application for output of displays: monitor systems or data projector systems
TUB material: code=rha4ta

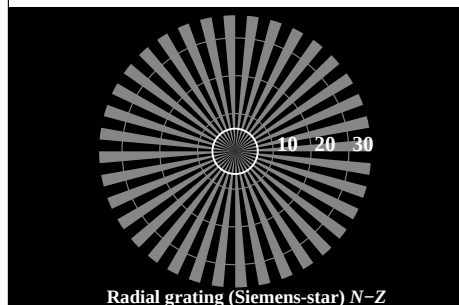
See similar ISO test charts: <http://www.ps.bam.de/24705TE>, <http://www.ps.bam.de/9241E>
Technical information: <http://www.ps.bam.de/33872E> Version 2.1, io=1,1, CIELAB



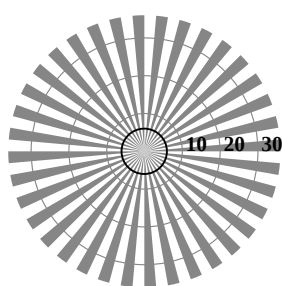
Radial grating (Siemens-star) N-W



Radial grating (Siemens-star) W-N

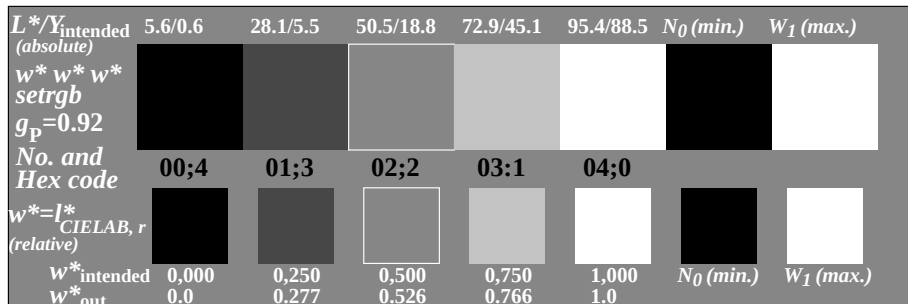


Radial grating (Siemens-star) N-Z

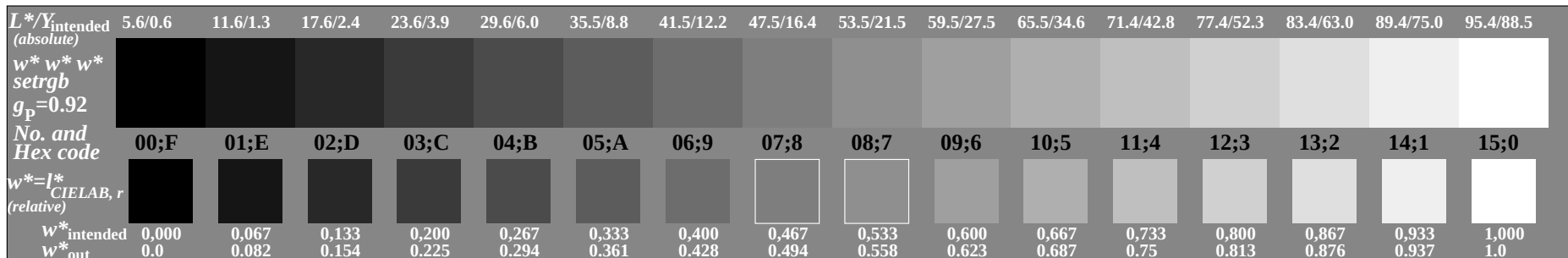


Radial grating (Siemens-star) W-Z

OE500-3N, Picture A1-131-0: Radial grating N-W, W-N, N-Z, W-Z; PS operator: $w^* w^* w^* \text{setrgbcolor}$



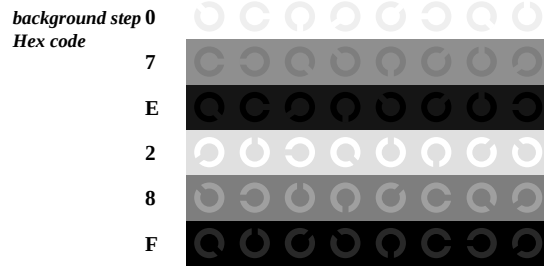
OE500-5N, Picture A2-131-0: 5 equidistant L^* -grey steps+ N_0 + W_1 ; PS operator: $w^* w^* w^* \text{setrgbcolor}$



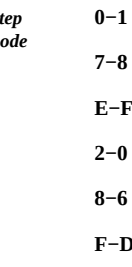
OE500-7N, Picture A3-131-0: 16 visual equidistant L^* -grey steps; PS operator: $w^* w^* w^* \text{setrgbcolor}$

OE50: similar ME16 according to ISO 9241-306; 1MR, DH
Viewing Y contrast $Y_W:Y_N=88,9:0,62$; Y_N range 0,46 to <0,93

input: 000n ($\rightarrow \text{rgb}^*_d$) setcmyk
output 131-0: $g_p=0.92$; $g_N=1.0$

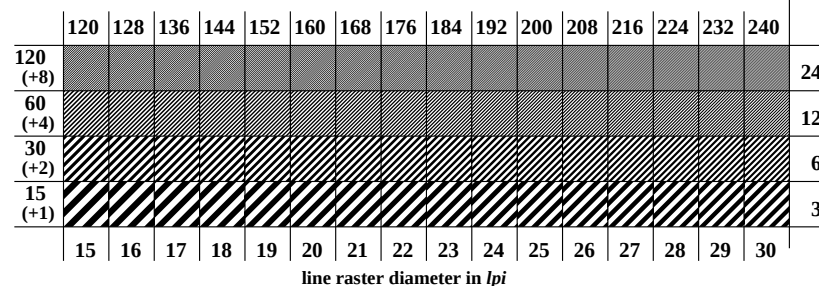


Landolt-rings W-N



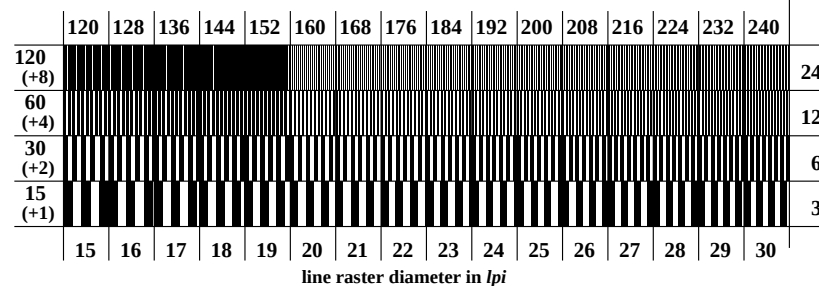
code: background-ring

OE501-1N, Picture A4-131-0: Landolt-rings W-N; PS operator: $w^* w^* w^* \text{setrgbcolor}$



line raster diameter in lpi

OE501-3N, Picture A5-131-0: Line raster under 45° (or 135°); PS operator: $w^* w^* w^* \text{setrgbcolor}$



line raster diameter in lpi

OE501-5N, Picture A6-131-0: Line raster under 90° (or 0°); PS operator: $w^* w^* w^* \text{setrgbcolor}$

TUB registration: 20110801-OE50/OE50L0NA.TXT /.PS
application for output of displays: monitor systems or data projector systems
TUB material: code=rh4ta

Test for the best visual linearized output of Picture A7-131-0	Yes/No
Output test with the computer display () or the external display ()	
Test of the <i>Landolt</i>-rings <i>N-W</i> according to picture A4-131-0	
<i>N-W</i> -radial grating:	
Is the recognition frequency of the <i>Landolt</i> -rings > 50% (5 of 8 at least)?	
background – ring	
0 – 1	Yes/No
7 – 8	Yes/No
E – F	Yes/No
2 – 0	Yes/No
8 – 6	Yes/No
F – D	Yes/No
Test of the radial grating under 45° according to picture A5-131-0	
Can equally spaced lines be seen?	
Visual testing: for radial diameter from 15 to 60 lpi	Yes/No
Test with a magnifying glass (e.g. 6x): – from 15 lpi:	to lpi
Test of the radial grating under 90° according to picture A6-131-0	
Can equally spaced lines be seen?	
Visual testing: for radial diameter from 15 to 60 lpi	Yes/No
Test with a magnifying glass (e.g. 6x): – from 15 lpi:	to lpi

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://130.149.60.45/farbmatrik/OE50/OE50F1P2.PDF> underline Yes/No
PS file: <http://130.149.60.45/farbmatrik/OE50/OE50F1P2.PS> underline Yes/No
Picture A7-131-2: contrast range: (>F:0) (F:0) (E:0) (D:0) (C:0) (A:0) (9:0) (7:0) (5:0) (3:0) (<3:0) underline range
compare standard print output according to ISO/IEC 15775 with range F:0
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://130.149.60.45/farbmatrik/OE50/OE50F1P2.PDF> underline Yes/No
picture A7-131-2
PS-File: <http://130.149.60.45/farbmatrik/OE50/OE50F1P2.PS> underline Yes/No
picture A7-131-2 or underline Yes/No

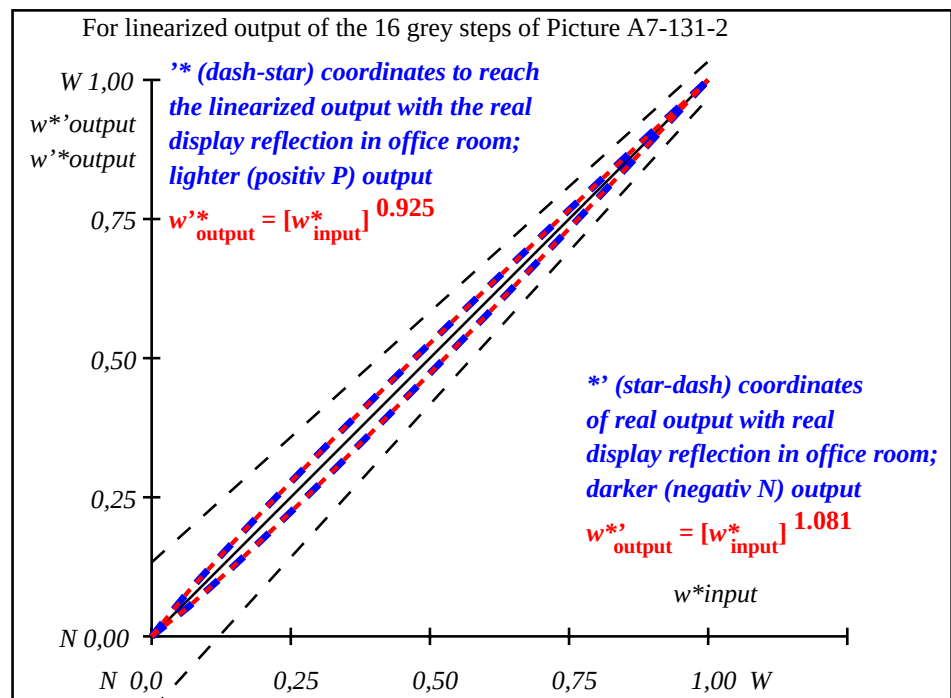
colour measurement and specification for:
CIE standard illuminant D65, 2 degree observer, CIE 45/0 geometry: underline Yes/No
If No, please give other parameters:

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 and transfer
of the PS-file L17e00NP.PS in PDF-file L17e00NP.PDF underline Yes/No
If No, please describe other method:

See similar ISO test charts: <http://www.ps.bam.de/24705TE>, <http://www.ps.bam.de/9241E>
Technical information: <http://www.ps.bam.de/33872E> Version 2.1, io=1,1, CIELAB

i	LAB*ref	L*out	LAB*out	LAB*out/c-ref	ΔE*	Start output S1
1	5.69 0.0 0.0	0.0 0.0 0.0	5.69 0.0 0.0	0.0 0.0 0.0	0.01	Specification according to ISO/IEC 15775 Annex G and DIN 33866-1 Annex G
2	11.67 0.0 0.0	0.08 13.02 0.0 0.0	13.02 0.0 0.0	1.35 0.0 0.0	1.35	
3	17.65 0.0 0.0	0.16 19.6 0.0 0.0	19.6 0.0 0.0	1.95 0.0 0.0	1.95	
4	23.63 0.0 0.0	0.23 25.94 0.0 0.0	25.94 0.0 0.0	2.3 0.0 0.0	2.3	
5	29.62 0.0 0.0	0.29 32.11 0.0 0.0	32.11 0.0 0.0	2.49 0.0 0.0	2.49	
6	35.6 0.0 0.0	0.36 38.17 0.0 0.0	38.17 0.0 0.0	2.57 0.0 0.0	2.57	
7	41.58 0.0 0.0	0.43 44.13 0.0 0.0	44.13 0.0 0.0	2.55 0.0 0.0	2.55	
8	47.56 0.0 0.0	0.49 50.02 0.0 0.0	50.02 0.0 0.0	2.46 0.0 0.0	2.46	
9	53.54 0.0 0.0	0.56 55.85 0.0 0.0	55.85 0.0 0.0	2.31 0.0 0.0	2.31	
10	59.52 0.0 0.0	0.62 61.62 0.0 0.0	61.62 0.0 0.0	2.1 0.0 0.0	2.1	
11	65.5 0.0 0.0	0.69 67.35 0.0 0.0	67.35 0.0 0.0	1.85 0.0 0.0	1.85	
12	71.48 0.0 0.0	0.75 73.03 0.0 0.0	73.03 0.0 0.0	1.55 0.0 0.0	1.55	
13	77.47 0.0 0.0	0.81 78.68 0.0 0.0	78.68 0.0 0.0	1.21 0.0 0.0	1.21	
14	83.45 0.0 0.0	0.88 84.29 0.0 0.0	84.29 0.0 0.0	0.84 0.0 0.0	0.84	
15	89.43 0.0 0.0	0.94 89.86 0.0 0.0	89.86 0.0 0.0	0.43 0.0 0.0	0.43	Mean lightness difference (16 steps)
16	95.41 0.0 0.0	1.0 95.41 0.0 0.0	95.41 0.0 0.0	0.0 0.0 0.0	0.01	ΔE*CIELAB = 1.6
17	5.69 0.0 0.0	0.0 0.0 0.0	5.69 0.0 0.0	0.0 0.0 0.0	0.01	
18	28.12 0.0 0.0	0.28 30.58 0.0 0.0	30.58 0.0 0.0	2.46 0.0 0.0	2.46	
19	50.55 0.0 0.0	0.53 52.94 0.0 0.0	52.94 0.0 0.0	2.39 0.0 0.0	2.39	
20	72.98 0.0 0.0	0.77 74.45 0.0 0.0	74.45 0.0 0.0	1.47 0.0 0.0	1.47	Mean lightness difference (5 steps)
21	95.41 0.0 0.0	1.0 95.41 0.0 0.0	95.41 0.0 0.0	0.0 0.0 0.0	0.01	ΔL*CIELAB = 1.3
Mean colour reproduction index:					R* _{ab,m} = 93	

OE500-3N-131-2: File: Measure unknown; Device: Device unknown; Date: Date unknown



OE501-3N-131-2: File: Measure unknown; Device: Device unknown; Date: Date unknown

$L^*/Y^*_{intended}$ (absolute)	5.7/0.6	11.7/1.4	17.7/2.4	23.6/4.0	29.6/6.1	35.6/8.8	41.6/12.2	47.6/16.5	53.5/21.5	59.5/27.6	65.5/34.7	71.5/42.9	77.5/52.3	83.4/63.0	89.4/75.1	95.4/88.6
$w^* w^* w^*$ setrgb $g_p=0.92$ 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	0.082	0.155	0.226	0.295	0.362	0.428	0.494	0.559	0.623	0.688	0.75	0.814	0.876	0.938	1.0

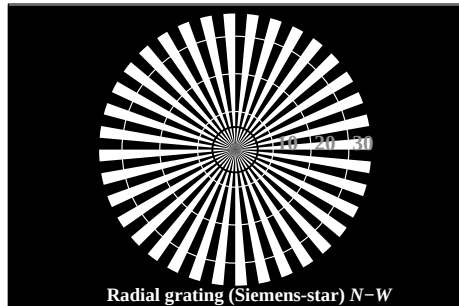
OE500-7N, Picture A7-131-2: 16 visual equidistant L^* -grey steps; PS operator: $w^* w^* w^*$ setrgbcolor

OE50: In-output relation according to ISO 9241-306; 1MR, DH
Viewing Y contrast $Y_W:Y_N=88,9:0,62$; Y_N range 0,46 to <0,93

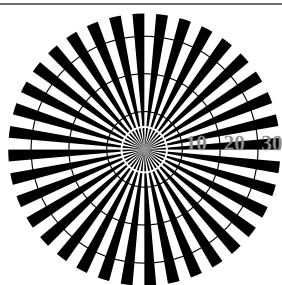
input: 000n ($\rightarrow rgb^*_d$) setcmyk
output 131-2: $g_p=0.92$; $g_N=1.0$

TUB registration: 20110801-OE50/OE50L0NA.TXT /.PS
application for output of displays: monitor systems or data projector systems
TUB material: code=rh4ta

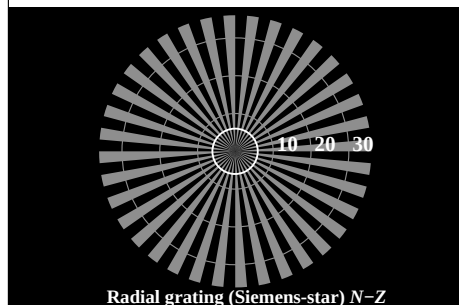
See similar ISO test charts: <http://www.ps.bam.de/24705TE>, <http://www.ps.bam.de/9241E>
Technical information: <http://www.ps.bam.de/33872E> Version 2.1, io=1,1, CIELAB



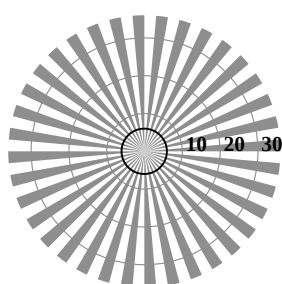
Radial grating (Siemens-star) N-W



Radial grating (Siemens-star) W-N

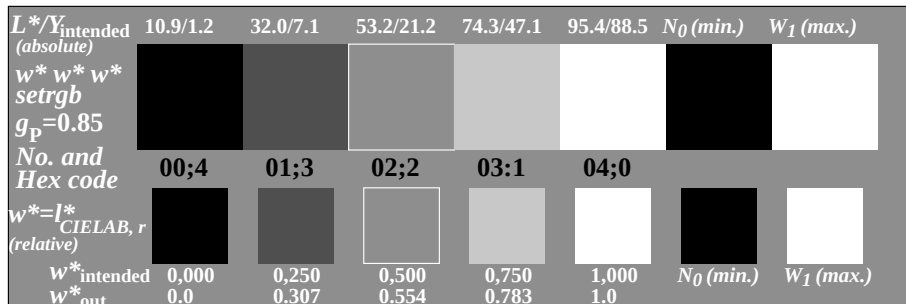


Radial grating (Siemens-star) N-Z

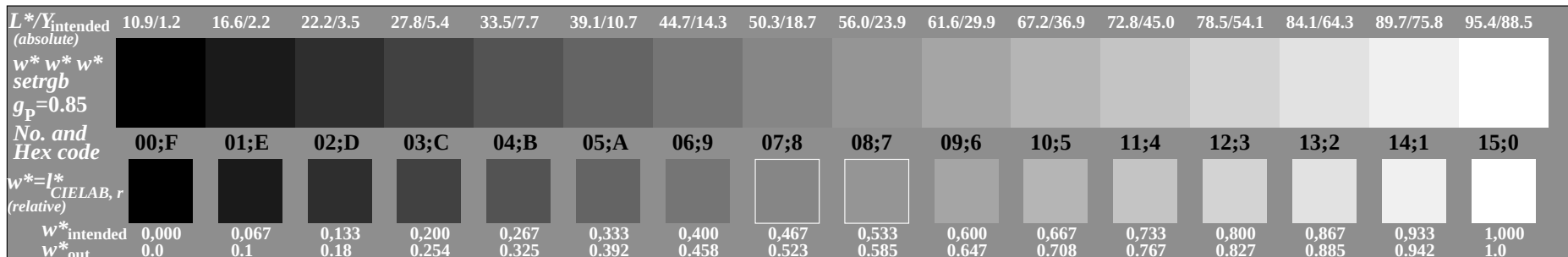


Radial grating (Siemens-star) W-Z

OE500-3N, Picture A1-132-0: Radial grating N-W, W-N, N-Z, W-Z; PS operator: $w^* w^* w^* \text{setrgbcolor}$

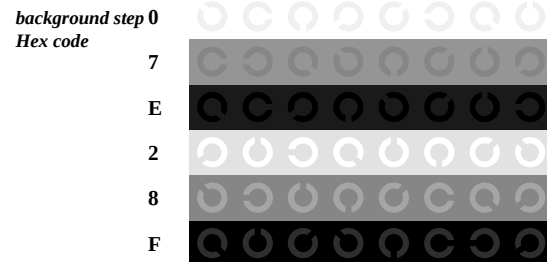


OE500-5N, Picture A2-132-0: 5 equidistant L^* -grey steps+ N_0 + W_1 ; PS operator: $w^* w^* w^* \text{setrgbcolor}$

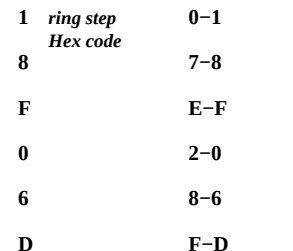


OE500-7N, Picture A3-132-0: 16 visual equidistant L^* -grey steps; PS operator: $w^* w^* w^* \text{setrgbcolor}$

OE50: similar ME16 according to ISO 9241-306; 1MR, DH
Viewing Y contrast $Y_W:Y_N=88,9:1,25$; Y_N range 0,93 to <1,87

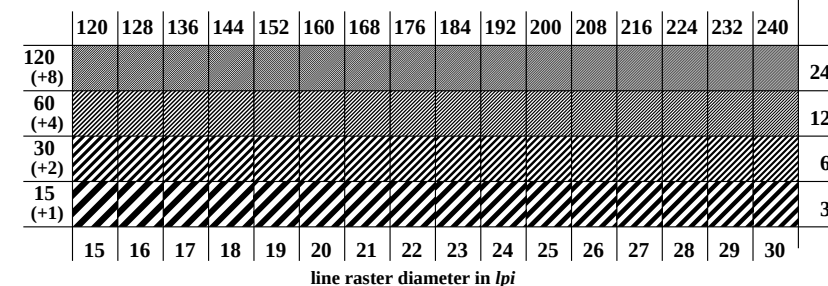


Landolt-rings W-N



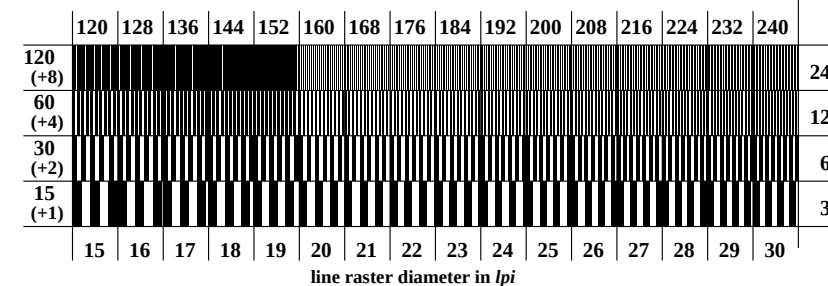
code: background-ring

OE501-1N, Picture A4-132-0: Landolt-rings W-N; PS operator: $w^* w^* w^* \text{setrgbcolor}$



line raster diameter in lpi

OE501-3N, Picture A5-132-0: Line raster under 45° (or 135°); PS operator: $w^* w^* w^* \text{setrgbcolor}$



line raster diameter in lpi

OE501-5N, Picture A6-132-0: Line raster under 90° (or 0°); PS operator: $w^* w^* w^* \text{setrgbcolor}$

input: 000n ($\rightarrow \text{rgb}^*_d$) setcmyk
output 132-0: $g_p=0.85$; $g_N=1.0$

TUB registration: 20110801-OE50/OE50L0NA.TXT /.PS
application for output of displays: monitor systems or data projector systems
TUB material: code=rh4ta

Test for the best visual linearized output of Picture A7-132-0		Yes/No
Output test with the computer display () or the external display ()		
Test of the radial grating according to picture A1-132-0		
N-W-radial grating:	Is the resolution diameter < 6 mm?	Yes/No
	Test with magnifying glass (e.g. 6x)	 mm
W-N-radial grating:	Is the resolution diameter < 6 mm?	Yes/No
	Test with magnifying glass (e.g. 6x)	 mm
N-Z-radial grating:	Is the resolution diameter < 6 mm?	Yes/No
	Test with magnifying glass (e.g. 6x)	 mm
W-Z-radial grating:	Is the resolution diameter < 6 mm?	Yes/No
	Test with magnifying glass (e.g. 6x)	 mm
Test of 5 visual equidistant L*-grey steps according to picture A2-132-0		
Are the 5 steps on the upper rows distinguishable?		Yes/No
If No: How many steps can be distinguished?		 Steps
Test of 16 visual equidistant L*-grey steps according to picture A3-132-0		
Are the 16 steps on the upper rows distinguishable?		Yes/No
If No: How many steps can be distinguished?		 Steps

Part 1

OE500-3N-132-1

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

PDF-File: http://130.149.60.45/farbmetrik/OE50/OE50L0NP.PDF underline Yes/No

PS-File: http://130.149.60.45/farbmetrik/OE50/OE50L0NA.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 OE50L0NP.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 OE50L0NA.PS:

either PS-file transfer "download, copy" to PS device.....
or with computer system interpretation by "Display-PS":.....
or with software e. g. Ghostscript and version:.....
or with software e. g. Mac-Yap and version:.....

Special remarks:Special remarks, e. g. output of Landscape (L)

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.....
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Part 3

OE500-7N-132-1

OE50: Form A for test chart according to ISO 9241-306; 1MR, DH input: 000n (->rgb*d) setcmyp
Viewing Y contrast $Y_W:Y_N=88,9:1,25$; Y_N range 0,93 to <1,87 output 132-1: $g_P=0,85$; $g_N=1,0$

Test for the best visual linearized output of Picture A7-132-0		Yes/No
Output test with the computer display () or the external display ()		
Test of the Landolt-rings N-W according to picture A4-132-0		
N-W-radial grating:		
Is the recognition frequency of the Landolt-rings > 50% (5 of 8 at least)?		
	background - ring	Yes/No
	0 - 1	Yes/No
	7 - 8	Yes/No
	E - F	Yes/No
	2 - 0	Yes/No
	8 - 6	Yes/No
	F - D	Yes/No
Test of the radial grating under 45° according to picture A5-132-0		
Can equally spaced lines be seen?		
Visual testing: for radial diameter from 15 to 60 lpi		Yes/No
Test with a magnifying glass (e.g. 6x): - from 15 lpi:		to lpi
Test of the radial grating under 90° according to picture A6-132-0		
Can equally spaced lines be seen?		
Visual testing: for radial diameter from 15 to 60 lpi		Yes/No
Test with a magnifying glass (e.g. 6x): - from 15 lpi:		to lpi

Part 2

OE501-3N-132-1

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

or with test charts using colour points according to Ishihara

or tested with, please specify:

underline Yes/No

underline Yes/unknown

underline Yes/unknown

underline Yes/unknown

For visual evaluation of the display (monitor, data projector) output

Office workplace illumination is daylight (clouded/north sky)

PDF file: http://130.149.60.45/farbmetrik/OE50/OE50F1P2.PDF

PS file: http://130.149.60.45/farbmetrik/OE50/OE50F1P2.PS

Picture A7-132-2: 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://130.149.60.45/farbmetrik/OE50/OE50F1P2.PDF

picture A7-132-2

underline Yes/No

PS-File: http://130.149.60.45/farbmetrik/OE50/OE50F1P2.PS

picture A7-132-2

or underline Yes/No

colour measurement and specification for:

CIE standard illuminant D65, 2 degree observer, CIE 45/0 geometry:

If No, please give other parameters:

underline Yes/No

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 and transfer

of the PS-file L17e00NP.PS in PDF-file L17e00NP.PDF

If No, please describe other method:

underline Yes/No

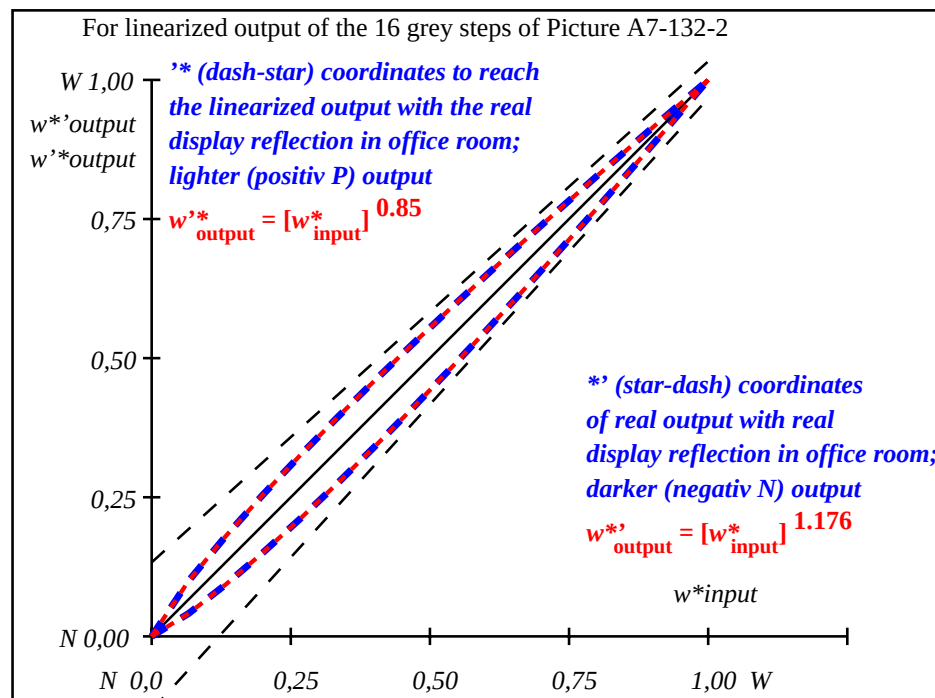
Part 4

OE501-7N-132-1

See similar ISO test charts: <http://www.ps.bam.de/24705TE>, <http://www.ps.bam.de/9241E>
Technical information: <http://www.ps.bam.de/33872E> Version 2.1, io=1,1, CIELAB

i	LAB*ref	L*out	LAB*out	LAB*out/c-ref	ΔE*	Start output S1
1	10.99	0.0	0.0	0.0	0.0	0.01
2	16.62	0.0	0.1	19.44	0.0	2.82
3	22.25	0.0	0.18	26.22	0.0	3.97
4	27.88	0.0	0.25	32.49	0.0	4.61
5	33.5	0.0	0.33	38.44	0.0	4.94
6	39.13	0.0	0.39	44.17	0.0	5.04
7	44.76	0.0	0.46	49.73	0.0	4.98
8	50.39	0.0	0.52	55.16	0.0	4.77
9	56.02	0.0	0.59	60.47	0.0	4.45
10	61.64	0.0	0.65	65.68	0.0	4.03
11	67.27	0.0	0.71	70.8	0.0	3.53
12	72.9	0.0	0.77	75.85	0.0	2.95
13	78.53	0.0	0.83	80.83	0.0	2.3
14	84.15	0.0	0.89	85.74	0.0	1.59
15	89.78	0.0	0.94	90.6	0.0	0.82
16	95.41	0.0	1.0	95.41	0.0	0.01
17	10.99	0.0	0.0	10.99	0.0	0.01
18	32.1	0.0	0.31	36.98	0.0	4.88
19	53.2	0.0	0.55	57.83	0.0	4.62
20	74.31	0.0	0.78	77.1	0.0	2.79
21	95.41	0.0	1.0	95.41	0.0	0.01
Mean lightness difference (16 steps)					ΔE* _{CIELAB} = 3.2	
Mean lightness difference (5 steps)					ΔL* _{CIELAB} = 2.5	
Mean colour reproduction index:					R* _{ab,m} = 86	

OE500-3N-132-2: File: Measure unknown; Device: Device unknown; Date: Date unknown



OE501-3N-132-2: File: Measure unknown; Device: Device unknown; Date: Date unknown

L*/Y _{intended} (absolute)	11.0/1.3	16.6/2.2	22.2/3.6	27.9/5.4	33.5/7.8	39.1/10.7	44.8/14.4	50.4/18.7	56.0/23.9	61.6/30.0	67.3/37.0	72.9/45.0	78.5/54.1	84.2/64.4	89.8/75.8	95.4/88.6
w* w* w* setrgb																
g _p =0.85																
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	0.1	0.18	0.255	0.325	0.393	0.459	0.524	0.586	0.648	0.709	0.768	0.827	0.886	0.943	1.0

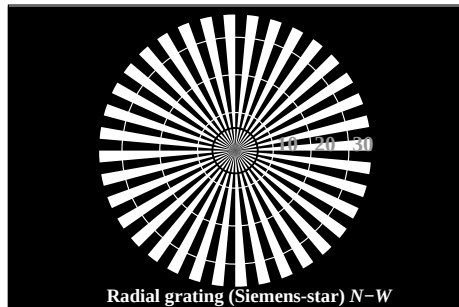
OE500-7N, Picture A7-132-2: 16 visual equidistant L*-grey steps; PS operator: w* w* w* setrgbcolor

OE50: In-output relation according to ISO 9241-306; 1MR, DH
Viewing Y contrast Y_W:Y_N=88,9:1,25; Y_N range 0,93 to <1,87

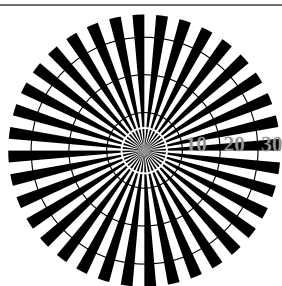
input: 000n (->rgb*d) setcmyk
output 132-2: g_p=0.85; g_N=1.0

TUB registration: 20110801-OE50/OE50L0NA.TXT /.PS
application for output of displays: monitor systems or data projector systems
TUB material: code=rh4ta

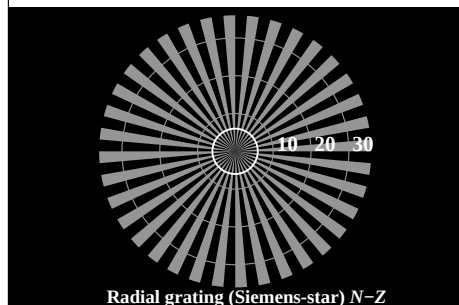
See similar ISO test charts: <http://www.ps.bam.de/24705TE>, <http://www.ps.bam.de/9241E>
Technical information: <http://www.ps.bam.de/33872E> Version 2.1, io=1,1, CIELAB



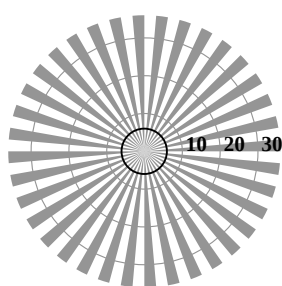
Radial grating (Siemens-star) N-W



Radial grating (Siemens-star) W-N

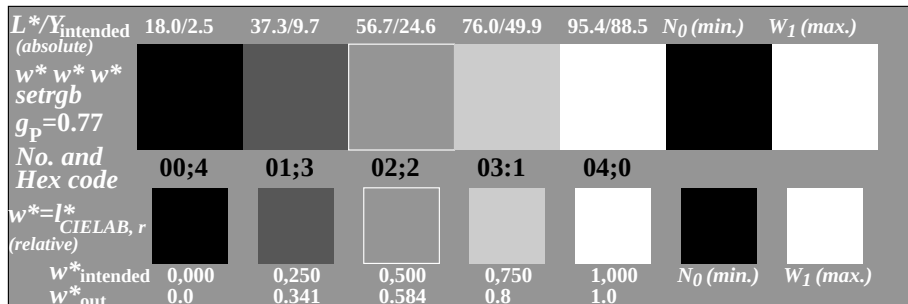


Radial grating (Siemens-star) N-Z

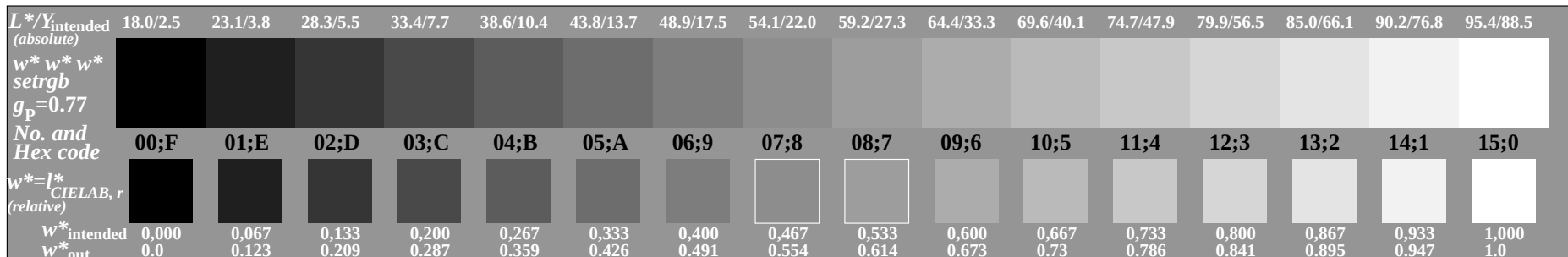


Radial grating (Siemens-star) W-Z

OE500-3N, Picture A1-133-0: Radial grating N-W, W-N, N-Z, W-Z; PS operator: $w^* w^* w^* \text{setrgbcolor}$



OE500-5N, Picture A2-133-0: 5 equidistant L^* -grey steps+ N_0 + W_1 ; PS operator: $w^* w^* w^* \text{setrgbcolor}$



OE500-7N, Picture A3-133-0: 16 visual equidistant L^* -grey steps; PS operator: $w^* w^* w^* \text{setrgbcolor}$

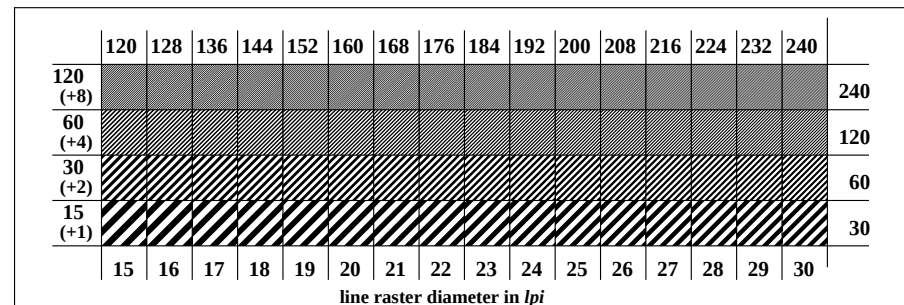
OE50: similar ME16 according to ISO 9241-306; 1MR, DH
Viewing Y contrast $Y_W:Y_N=88,9:2,5$; Y_N range 1,87 to <3,75

background step 0		1	ring step	0-1
Hex code		8	Hex code	7-8
7		F		E-F
E		0		2-0
2		6		8-6
8		D		F-D
F				

Landolt-rings W-N

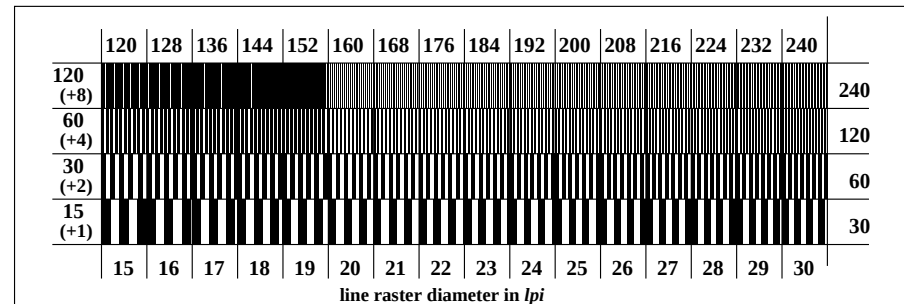
code: background-ring

OE501-1N, Picture A4-133-0: Landolt-rings W-N; PS operator: $w^* w^* w^* \text{setrgbcolor}$



line raster diameter in lpi

OE501-3N, Picture A5-133-0: Line raster under 45° (or 135°); PS operator: $w^* w^* w^* \text{setrgbcolor}$



line raster diameter in lpi

OE501-5N, Picture A6-133-0: Line raster under 90° (or 0°); PS operator: $w^* w^* w^* \text{setrgbcolor}$

input: $000n (->rgb^*_d) \text{setcmyk}$
output 133-0: $g_p=0.77$; $g_N=1.0$

TUB registration: 20110801-OE50/OE50L0NA.TXT /.PS
application for output of displays: monitor systems or data projector systems
TUB material: code=rh4ta

Test for the best visual linearized output of Picture A7-133-0		Yes/No
Output test with the computer display () or the external display ()		
Test of the radial grating according to picture A1-133-0		
N-W-radial grating:	Is the resolution diameter < 6 mm?	Yes/No
	Test with magnifying glass (e.g. 6x)	 mm
W-N-radial grating:	Is the resolution diameter < 6 mm?	Yes/No
	Test with magnifying glass (e.g. 6x)	 mm
N-Z-radial grating:	Is the resolution diameter < 6 mm?	Yes/No
	Test with magnifying glass (e.g. 6x)	 mm
W-Z-radial grating:	Is the resolution diameter < 6 mm?	Yes/No
	Test with magnifying glass (e.g. 6x)	 mm
Test of 5 visual equidistant L*-grey steps according to picture A2-133-0		
Are the 5 steps on the upper rows distinguishable?		Yes/No
If No: How many steps can be distinguished?		 Steps
Test of 16 visual equidistant L*-grey steps according to picture A3-133-0		
Are the 16 steps on the upper rows distinguishable?		Yes/No
If No: How many steps can be distinguished?		 Steps

Part 1

OE500-3N-133-1

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

PDF-File: <http://130.149.60.45/farbmetrik/OE50/OE50L0NP.PDF> underline Yes/No

PS-File: <http://130.149.60.45/farbmetrik/OE50/OE50L0NA.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 OE50L0NP.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 OE50L0NA.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

OE500-7N-133-1

OE50: Form A for test chart according to ISO 9241-306; 1MR, DH input: 000n (->rgb*d) setcmyp
Viewing Y contrast $Y_W:Y_N=88,9:2,5$; Y_N range 1,87 to <3,75

Test for the best visual linearized output of Picture A7-133-0		Yes/No
Output test with the computer display () or the external display ()		
Test of the Landolt-rings N-W according to picture A4-133-0		
N-W-radial grating:		
Is the recognition frequency of the Landolt-rings > 50% (5 of 8 at least)?		
	background - ring	Yes/No
	0 - 1	Yes/No
	7 - 8	Yes/No
	E - F	Yes/No
	2 - 0	Yes/No
	8 - 6	Yes/No
	F - D	Yes/No
Test of the radial grating under 45° according to picture A5-133-0		
Can equally spaced lines be seen?		
Visual testing: for radial diameter from 15 to 60 lpi		Yes/No
Test with a magnifying glass (e.g. 6x): - from 15 lpi:		to lpi
Test of the radial grating under 90° according to picture A6-133-0		
Can equally spaced lines be seen?		
Visual testing: for radial diameter from 15 to 60 lpi		Yes/No
Test with a magnifying glass (e.g. 6x): - from 15 lpi:		to lpi

Part 2

OE501-3N-133-1

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
- or with test charts using colour points according to Ishihara
- or tested with, please specify:

underline Yes/No
underline Yes/unknown
underline Yes/unknown
underline Yes/unknown

For visual evaluation of the display (monitor, data projector) output

Office workplace illumination is daylight (clouded/north sky)

PDF file: <http://130.149.60.45/farbmetrik/OE50/OE50F1P2.PDF>

PS file: <http://130.149.60.45/farbmetrik/OE50/OE50F1P2.PS>

Picture A7-133-2: 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

*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://130.149.60.45/farbmetrik/OE50/OE50F1P2.PDF>

picture A7-133-2

PS-File: <http://130.149.60.45/farbmetrik/OE50/OE50F1P2.PS>

picture A7-133-2

colour measurement and specification for:

CIE standard illuminant D65, 2 degree observer, CIE 45/0 geometry:

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 and transfer
of the PS-file L17e00NP.PS in PDF-file L17e00NP.PDF

If No, please describe other method:

Part 4

OE501-7N-133-1

output 133-1: $g_P=0,77$; $g_N=1,0$

See similar ISO test charts: <http://www.ps.bam.de/24705TE>, <http://www.ps.bam.de/9241E>
Technical information: <http://www.ps.bam.de/33872E> Version 2.1, io=1,1, CIELAB

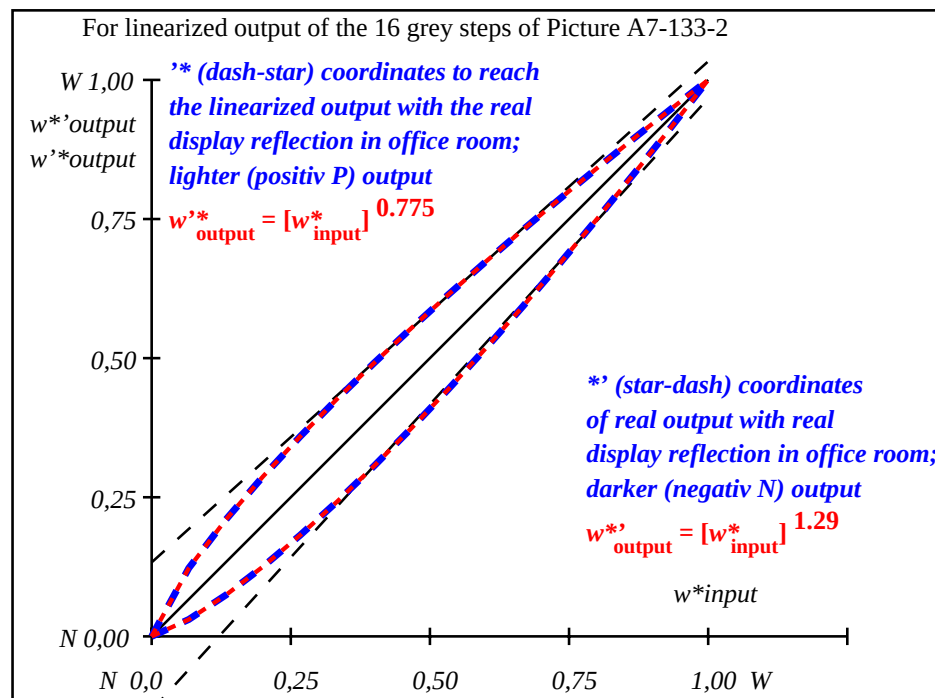
i	LAB*ref	L*out	LAB*out	LAB*out/c-ref	ΔE*	Start output S1
1	18.01	0.0	0.0	18.01	0.0	0.0
2	23.17	0.0	0.12	27.5	0.0	0.0
3	28.33	0.0	0.21	34.25	0.0	0.0
4	33.49	0.0	0.29	40.24	0.0	0.0
5	38.65	0.0	0.36	45.8	0.0	0.0
6	43.81	0.0	0.43	51.04	0.0	0.0
7	48.97	0.0	0.49	56.06	0.0	0.0
8	54.13	0.0	0.55	60.89	0.0	0.0
9	59.29	0.0	0.61	65.56	0.0	0.0
10	64.45	0.0	0.67	70.11	0.0	0.0
11	69.61	0.0	0.73	74.54	0.0	0.0
12	74.77	0.0	0.79	78.87	0.0	0.0
13	79.93	0.0	0.84	83.12	0.0	0.0
14	85.09	0.0	0.9	87.28	0.0	0.0
15	90.25	0.0	0.95	91.38	0.0	0.0
16	95.41	0.0	1.0	95.41	0.0	0.0
17	18.01	0.0	0.0	18.01	0.0	0.0
18	37.36	0.0	0.34	44.44	0.0	0.0
19	56.71	0.0	0.58	63.24	0.0	0.0
20	76.06	0.0	0.8	79.94	0.0	0.0
21	95.41	0.0	1.0	95.41	0.0	0.0

Mean lightness difference (16 steps) $\Delta E^*_{\text{CIELAB}} = 4.5$

Mean lightness difference (5 steps) $\Delta E^*_{\text{CIELAB}} = 3.5$

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

OE500-3N-133-2: File: Measure unknown; Device: Device unknown; Date: Date unknown



OE501-3N-133-2: File: Measure unknown; Device: Device unknown; Date: Date unknown

$L^*/Y^*_{\text{intended}}$ (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
$w^* w^* w^*$ setrgb $g_p=0.78$ No. and Hex code	00;F	01;E	02;D	03;C	04;B	05;A	06;9	07;8	08;7	09;6	10;5	11;4	12;3	13;2	14;1	15;0
$w^* = [L^*_{\text{CIELAB}, r}]$ (relative)	0.000	0.067	0.133	0.200	0.267	0.333	0.400	0.467	0.533	0.600	0.667	0.733	0.800	0.867	0.933	1.000
w^*_{intended} w^*_{out}	0.000	0.123	0.209	0.287	0.359	0.426	0.492	0.554	0.614	0.673	0.731	0.786	0.841	0.895	0.948	1.0

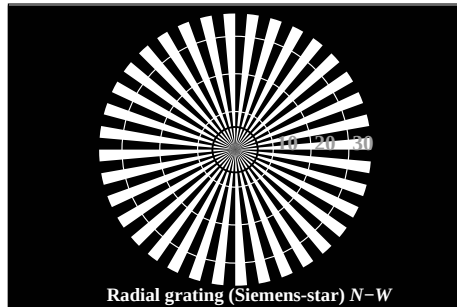
OE500-7N, Picture A7-133-2: 16 visual equidistant L^* -grey steps; PS operator: $w^* w^* w^* \text{setrgbcolor}$

OE50: In-output relation according to ISO 9241-306; 1MR, DH
Viewing Y contrast $Y_W:Y_N=88,9:2,5$; Y_N range 1,87 to <3,75

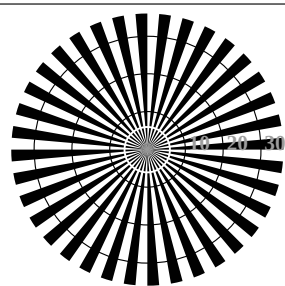
input: 000n ($\rightarrow \text{rgb}^*_d$) setcmk
output 133-2: $g_p=0.77$; $g_N=1.0$

TUB registration: 20110801-OE50/OE50L0NA.TXT /.PS
application for output of displays: monitor systems or data projector systems
TUB material: code=rh4ta

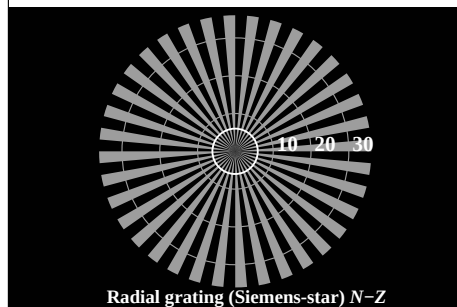
See similar ISO test charts: <http://www.ps.bam.de/24705TE>, <http://www.ps.bam.de/9241E>
Technical information: <http://www.ps.bam.de/33872E> Version 2.1, io=1,1, CIELAB



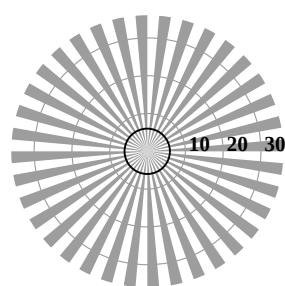
Radial grating (Siemens-star) N-W



Radial grating (Siemens-star) W-N

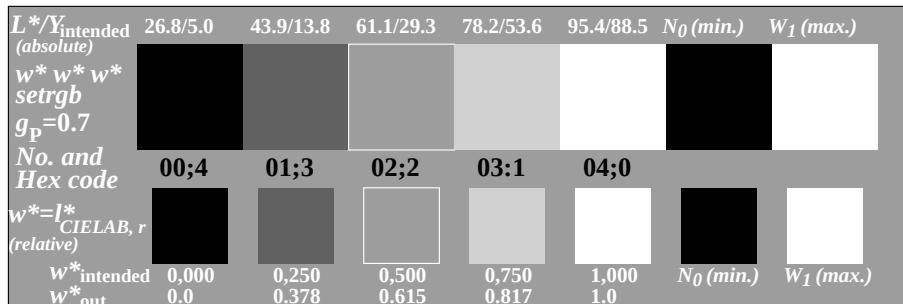


Radial grating (Siemens-star) N-Z

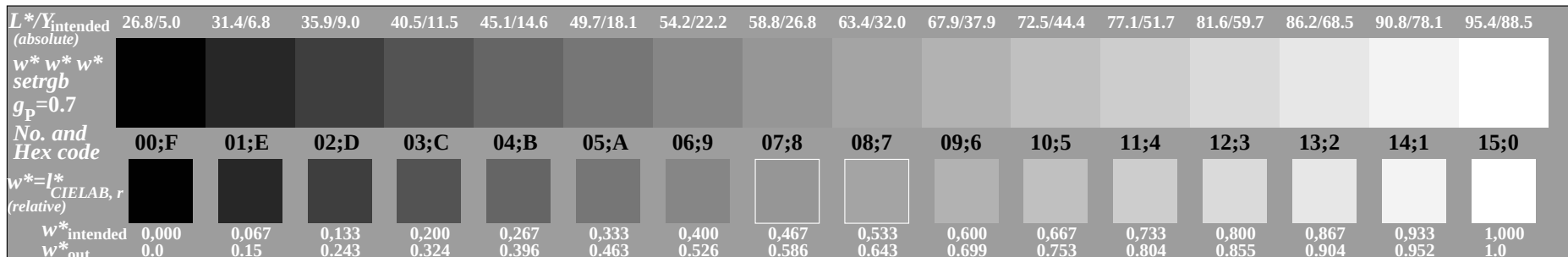


Radial grating (Siemens-star) W-Z

OE500-3N, Picture A1-134-0: Radial grating N-W, W-N, N-Z, W-Z; PS operator: $w^* w^* w^* \text{setrgbcolor}$



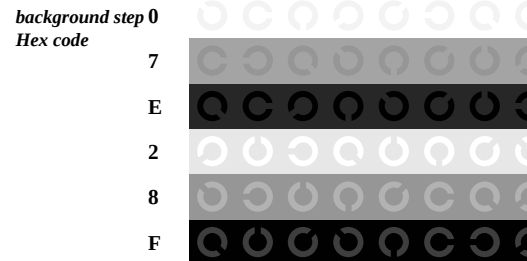
OE500-5N, Picture A2-134-0: 5 equidistant L^* -grey steps+ N_0 + W_1 ; PS operator: $w^* w^* w^* \text{setrgbcolor}$



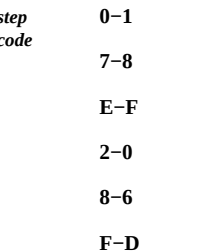
OE500-7N, Picture A3-134-0: 16 visual equidistant L^* -grey steps; PS operator: $w^* w^* w^* \text{setrgbcolor}$

OE50: similar ME16 according to ISO 9241-306; 1MR, DH
Viewing Y contrast $Y_W:Y_N=88,9:5$; Y_N range 3,75 to <7,5

input: 000n ($\rightarrow \text{rgb}^*_d$) setcmyk
output 134-0: $g_p=0.7$; $g_N=1.0$

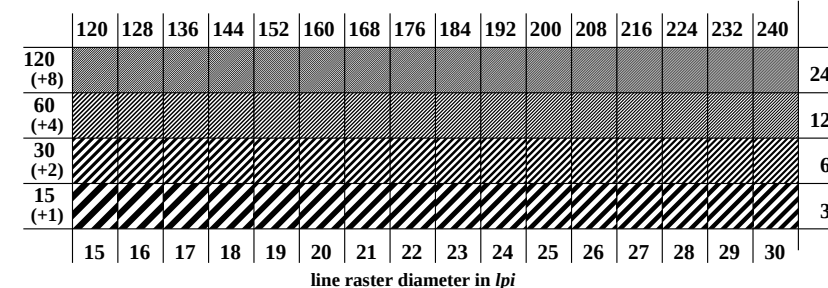


Landolt-rings W-N



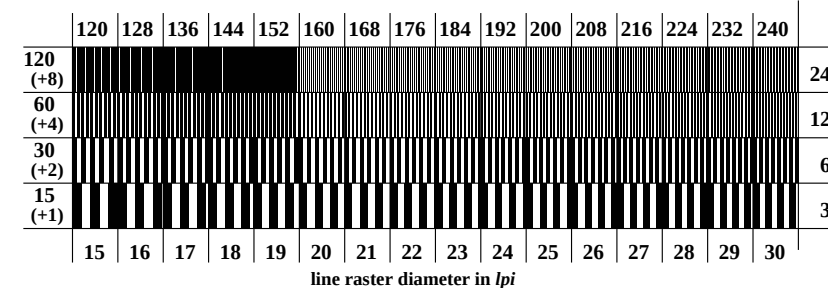
code: background-ring

OE501-1N, Picture A4-134-0: Landolt-rings W-N; PS operator: $w^* w^* w^* \text{setrgbcolor}$



line raster diameter in lpi

OE501-3N, Picture A5-134-0: Line raster under 45° (or 135°); PS operator: $w^* w^* w^* \text{setrgbcolor}$



line raster diameter in lpi

OE501-5N, Picture A6-134-0: Line raster under 90° (or 0°); PS operator: $w^* w^* w^* \text{setrgbcolor}$

TUB registration: 20110801-OE50/OE50L0NA.TXT /.PS
application for output of displays: monitor systems or data projector systems
TUB material: code=rh4ta

Test for the best visual linearized output of Picture A7-134-0		Yes/No
Output test with the computer display () or the external display ()		
Test of the radial grating according to picture A1-134-0		
N-W-radial grating:	Is the resolution diameter < 6 mm?	Yes/No
	Test with magnifying glass (e.g. 6x)	 mm
	resolution diameter	 mm
W-N-radial grating:	Is the resolution diameter < 6 mm?	Yes/No
	Test with magnifying glass (e.g. 6x)	 mm
	resolution diameter	 mm
N-Z-radial grating:	Is the resolution diameter < 6 mm?	Yes/No
	Test with magnifying glass (e.g. 6x)	 mm
	resolution diameter	 mm
W-Z-radial grating:	Is the resolution diameter < 6 mm?	Yes/No
	Test with magnifying glass (e.g. 6x)	 mm
	resolution diameter	 mm
Test of 5 visual equidistant L*-grey steps according to picture A2-134-0		
Are the 5 steps on the upper rows distinguishable?		Yes/No
If No: How many steps can be distinguished?		 Steps
of the given 5 steps:		 Steps
Test of 16 visual equidistant L*-grey steps according to picture A3-134-0		
Are the 16 steps on the upper rows distinguishable?		Yes/No
If No: How many steps can be distinguished?		 Steps
of the given 16 steps:		 Steps

Part 1

OE500-3N-134-1

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

PDF-File: <http://130.149.60.45/farbmetrik/OE50/OE50L0NP.PDF> underline Yes/No

PS-File: <http://130.149.60.45/farbmetrik/OE50/OE50L0NA.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 OE50L0NP.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 OE50L0NA.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

OE500-7N-134-1

OE50: Form A for test chart according to ISO 9241-306; 1MR, DH input: 000n (->rgb*d) setcmyp
Viewing Y contrast $Y_W:Y_N=88,9:5$; Y_N range 3,75 to <7,5
output 134-1: $g_P=0.7$; $g_N=1.0$

Test for the best visual linearized output of Picture A7-134-0		Yes/No
Output test with the computer display () or the external display ()		
Test of the Landolt-rings N-W according to picture A4-134-0		
N-W-radial grating:		
Is the recognition frequency of the Landolt-rings > 50% (5 of 8 at least)?		
	background - ring	Yes/No
	0 - 1	Yes/No
	7 - 8	Yes/No
	E - F	Yes/No
	2 - 0	Yes/No
	8 - 6	Yes/No
	F - D	Yes/No
Test of the radial grating under 45° according to picture A5-134-0		
Can equally spaced lines be seen?		
Visual testing: for radial diameter from 15 to 60 lpi		Yes/No
Test with a magnifying glass (e.g. 6x): - from 15 lpi:		to lpi
Test of the radial grating under 90° according to picture A6-134-0		
Can equally spaced lines be seen?		
Visual testing: for radial diameter from 15 to 60 lpi		Yes/No
Test with a magnifying glass (e.g. 6x): - from 15 lpi:		to lpi

Part 2

OE501-3N-134-1

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

or with test charts using colour points according to Ishihara

or tested with, please specify:

underline Yes/No

underline Yes/unknown

underline Yes/unknown

underline Yes/unknown

For visual evaluation of the display (monitor, data projector) output

Office workplace illumination is daylight (clouded/north sky)

PDF file: <http://130.149.60.45/farbmetrik/OE50/OE50F1P2.PDF>

PS file: <http://130.149.60.45/farbmetrik/OE50/OE50F1P2.PS>

Picture A7-134-2: 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://130.149.60.45/farbmetrik/OE50/OE50F1P2.PDF>

picture A7-134-2

underline Yes/No

PS-File: <http://130.149.60.45/farbmetrik/OE50/OE50F1P2.PS>

picture A7-134-2

or underline Yes/No

colour measurement and specification for:

CIE standard illuminant D65, 2 degree observer, CIE 45/0 geometry:

If No, please give other parameters:

underline Yes/No

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 and transfer

of the PS-file L17e00NP.PS in PDF-file L17e00NP.PDF

If No, please describe other method:

underline Yes/No

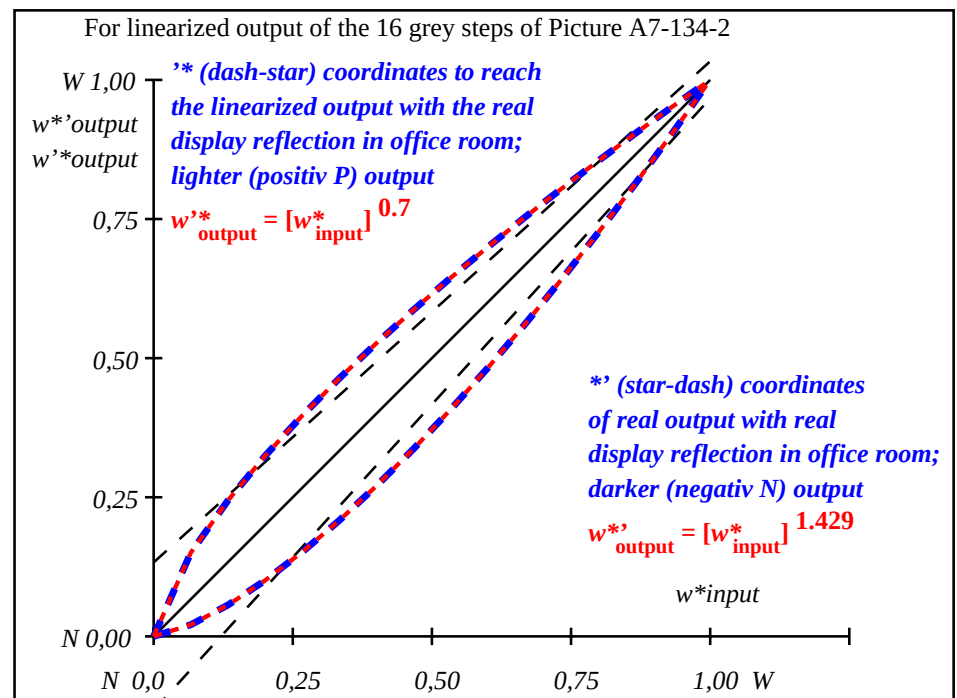
Part 4

OE501-7N-134-1

See similar ISO test charts: <http://www.ps.bam.de/24705TE>, <http://www.ps.bam.de/9241E>
Technical information: <http://www.ps.bam.de/33872E> Version 2.1, io=1,1, CIELAB

i	LAB*ref	L*out	LAB*out	LAB*out/c-ref	ΔE*	Start output S1
1	26.85 0.0 0.0	0.0	26.85 0.0 0.0	0.0 0.0 0.0	0.01	Specification according to
2	31.42 0.0 0.0	0.15	37.15 0.0 0.0	5.73 0.0 0.0	5.73	ISO/IEC 15775 Annex G
3	35.99 0.0 0.0	0.24	43.58 0.0 0.0	7.59 0.0 0.0	7.59	and DIN 33866-1 Annex G
4	40.56 0.0 0.0	0.32	49.07 0.0 0.0	8.51 0.0 0.0	8.51	
5	45.13 0.0 0.0	0.4	54.03 0.0 0.0	8.9 0.0 0.0	8.9	
6	49.7 0.0 0.0	0.46	58.62 0.0 0.0	8.92 0.0 0.0	8.92	
7	54.27 0.0 0.0	0.53	62.95 0.0 0.0	8.68 0.0 0.0	8.68	
8	58.84 0.0 0.0	0.59	67.06 0.0 0.0	8.22 0.0 0.0	8.22	
9	63.41 0.0 0.0	0.64	71.0 0.0 0.0	7.59 0.0 0.0	7.59	
10	67.99 0.0 0.0	0.7	74.8 0.0 0.0	6.81 0.0 0.0	6.81	
11	72.56 0.0 0.0	0.75	78.47 0.0 0.0	5.91 0.0 0.0	5.91	
12	77.13 0.0 0.0	0.8	82.03 0.0 0.0	4.9 0.0 0.0	4.9	
13	81.7 0.0 0.0	0.86	85.5 0.0 0.0	3.8 0.0 0.0	3.8	
14	86.27 0.0 0.0	0.9	88.87 0.0 0.0	2.61 0.0 0.0	2.61	
15	90.84 0.0 0.0	0.95	92.18 0.0 0.0	1.34 0.0 0.0	1.34	Mean lightness difference (16 steps)
16	95.41 0.0 0.0	1.0	95.41 0.0 0.0	0.0 0.0 0.0	0.01	ΔE*CIELAB = 5.6
17	26.85 0.0 0.0	0.0	26.85 0.0 0.0	0.0 0.0 0.0	0.01	
18	43.99 0.0 0.0	0.38	52.83 0.0 0.0	8.84 0.0 0.0	8.84	
19	61.13 0.0 0.0	0.62	69.05 0.0 0.0	7.92 0.0 0.0	7.92	
20	78.27 0.0 0.0	0.82	82.9 0.0 0.0	4.64 0.0 0.0	4.64	Mean lightness difference (5 steps)
21	95.41 0.0 0.0	1.0	95.41 0.0 0.0	0.0 0.0 0.0	0.01	ΔL*CIELAB = 4.3
Mean colour reproduction index:					R* _{ab,m} = 76	

OE500-3N-134-2: File: Measure unknown; Device: Device unknown; Date: Date unknown



OE501-3N-134-2: File: Measure unknown; Device: Device unknown; Date: Date unknown

$L^*/Y^*_{\text{intended}}$ (absolute)	26.8/5.0	31.4/6.8	36.0/9.0	40.6/11.6	45.1/14.6	49.7/18.2	54.3/22.2	58.8/26.9	63.4/32.1	68.0/38.0	72.6/44.5	77.1/51.7	81.7/59.7	86.3/68.5	90.8/78.1	95.4/88.6
$w^* w^* w^*$ setrgb $g_p=0.7$																
No. and Hex code	00;F	01;E	02;D	03;C	04;B	05;A	06;9	07;8	08;7	09;6	10;5	11;4	12;3	13;2	14;1	15;0
$w^* = [L^*_{\text{intended}}]^{1/r}$ (relative)																
w^*_{intended}	0.000	0.067	0.133	0.200	0.267	0.333	0.400	0.467	0.533	0.600	0.667	0.733	0.800	0.867	0.933	1.000
w^*_{out}	0.0	0.151	0.244	0.324	0.397	0.463	0.527	0.587	0.644	0.699	0.753	0.805	0.855	0.905	0.953	1.0

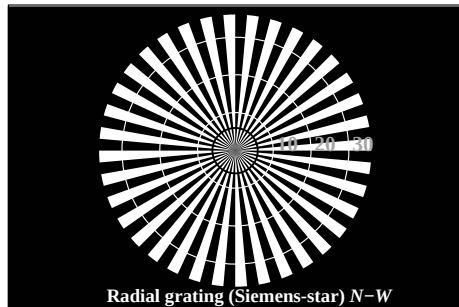
OE500-7N, Picture A7-134-2: 16 visual equidistant L^* -grey steps; PS operator: $w^* w^* w^* \text{setrgbcolor}$

OE50: In-output relation according to ISO 9241-306; 1MR, DH
Viewing Y contrast $Y_W:Y_N=88,9:5$; Y_N range 3,75 to <7,5

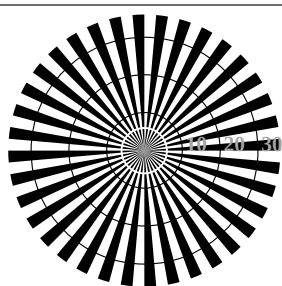
input: 000n ($\rightarrow \text{rgb}^*_d$) setcmyk
output 134-2: $g_p=0.7$; $g_N=1.0$

TUB registration: 20110801-OE50/OE50L0NA.TXT /.PS
application for output of displays: monitor systems or data projector systems
TUB material: code=rh4ta

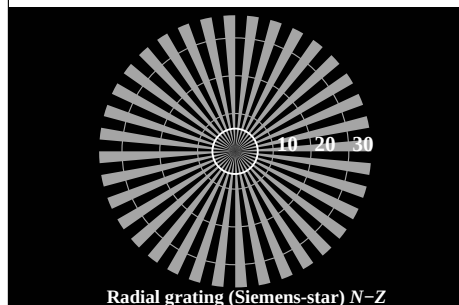
See similar ISO test charts: <http://www.ps.bam.de/24705TE>, <http://www.ps.bam.de/9241E>
Technical information: <http://www.ps.bam.de/33872E> Version 2.1, io=1,1, CIELAB



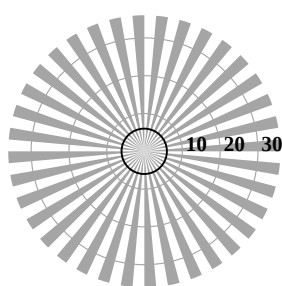
Radial grating (Siemens-star) N-W



Radial grating (Siemens-star) W-N

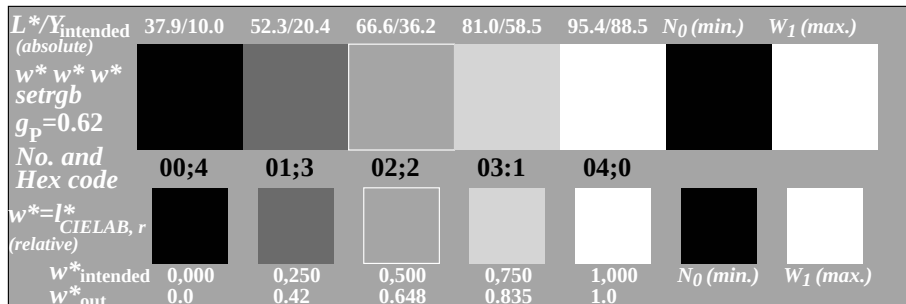


Radial grating (Siemens-star) N-Z

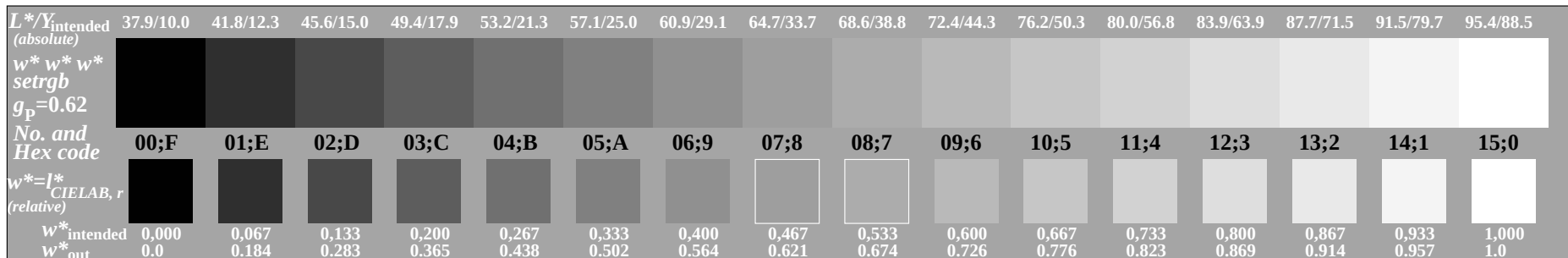


Radial grating (Siemens-star) W-Z

OE500-3N, Picture A1-135-0: Radial grating N-W, W-N, N-Z, W-Z; PS operator: $w^* w^* w^* \text{setrgbcolor}$



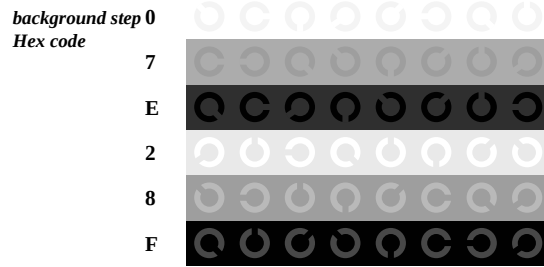
OE500-5N, Picture A2-135-0: 5 equidistant L^* -grey steps+ N_0 + W_1 ; PS operator: $w^* w^* w^* \text{setrgbcolor}$



OE500-7N, Picture A3-135-0: 16 visual equidistant L^* -grey steps; PS operator: $w^* w^* w^* \text{setrgbcolor}$

OE50: similar ME16 according to ISO 9241-306; 1MR, DH
Viewing Y contrast $Y_W:Y_N=88,9:10$; Y_N range 7,5 to <15

input: 000n ($\rightarrow \text{rgb}^*_d$) setcmyk
output 135-0: $g_p=0.62$; $g_N=1.0$

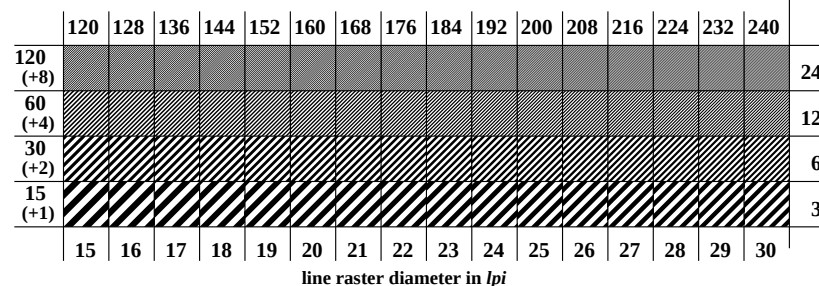


Landolt-rings W-N

background step 0		1 ring step	0-1
Hex code		Hex code	
7		8	7-8
E		F	E-F
2		0	2-0
8		6	8-6
F		D	F-D

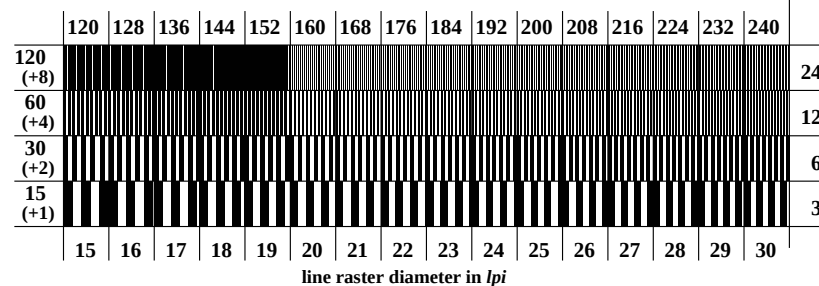
code: background-ring

OE501-1N, Picture A4-135-0: Landolt-rings W-N; PS operator: $w^* w^* w^* \text{setrgbcolor}$



line raster diameter in lpi

OE501-3N, Picture A5-135-0: Line raster under 45° (or 135°); PS operator: $w^* w^* w^* \text{setrgbcolor}$



line raster diameter in lpi

OE501-5N, Picture A6-135-0: Line raster under 90° (or 0°); PS operator: $w^* w^* w^* \text{setrgbcolor}$

TUB registration: 20110801-OE50/OE50L0NA.TXT /.PS
application for output of displays: monitor systems or data projector systems
TUB material: code=rh4ta

Test for the best visual linearized output of Picture A7-135-0		Yes/No
Output test with the computer display () or the external display ()		
Test of the radial grating according to picture A1-135-0		
N-W-radial grating:	Is the resolution diameter < 6 mm?	Yes/No
	Test with magnifying glass (e.g. 6x)	 mm
W-N-radial grating:	Is the resolution diameter < 6 mm?	Yes/No
	Test with magnifying glass (e.g. 6x)	 mm
N-Z-radial grating:	Is the resolution diameter < 6 mm?	Yes/No
	Test with magnifying glass (e.g. 6x)	 mm
W-Z-radial grating:	Is the resolution diameter < 6 mm?	Yes/No
	Test with magnifying glass (e.g. 6x)	 mm
Test of 5 visual equidistant L*-grey steps according to picture A2-135-0		
Are the 5 steps on the upper rows distinguishable?		Yes/No
If No: How many steps can be distinguished?		 Steps
Test of 16 visual equidistant L*-grey steps according to picture A3-135-0		
Are the 16 steps on the upper rows distinguishable?		Yes/No
If No: How many steps can be distinguished?		 Steps

Part 1

OE500-3N-135-1

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

PDF-File: http://130.149.60.45/farbmetrik/OE50/OE50L0NP.PDF underline Yes/No

PS-File: http://130.149.60.45/farbmetrik/OE50/OE50L0NA.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 OE50L0NP.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 OE50L0NA.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

OE500-7N-135-1

OE50: Form A for test chart according to ISO 9241-306; 1MR, DH input: 000n (->rgb*d) setcmyp
Viewing Y contrast $Y_W:Y_N=88,9:10$; Y_N range 7,5 to <15
output 135-1: $g_P=0.62$; $g_N=1.0$

Test for the best visual linearized output of Picture A7-135-0		Yes/No
Output test with the computer display () or the external display ()		
Test of the Landolt-rings N-W according to picture A4-135-0		
N-W-radial grating:		
Is the recognition frequency of the Landolt-rings > 50% (5 of 8 at least)?		
	background - ring	Yes/No
	0 - 1	Yes/No
	7 - 8	Yes/No
	E - F	Yes/No
	2 - 0	Yes/No
	8 - 6	Yes/No
	F - D	Yes/No
Test of the radial grating under 45° according to picture A5-135-0		
Can equally spaced lines be seen?		
Visual testing: for radial diameter from 15 to 60 lpi		Yes/No
Test with a magnifying glass (e.g. 6x): - from 15 lpi:		to lpi
Test of the radial grating under 90° according to picture A6-135-0		
Can equally spaced lines be seen?		
Visual testing: for radial diameter from 15 to 60 lpi		Yes/No
Test with a magnifying glass (e.g. 6x): - from 15 lpi:		to lpi

Part 2

OE501-3N-135-1

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

or with test charts using colour points according to Ishihara

or tested with, please specify:

underline Yes/No

underline Yes/unknown

underline Yes/unknown

underline Yes/unknown

For visual evaluation of the display (monitor, data projector) output

Office workplace illumination is daylight (clouded/north sky)

PDF file: http://130.149.60.45/farbmetrik/OE50/OE50F1P2.PDF

PS file: http://130.149.60.45/farbmetrik/OE50/OE50F1P2.PS

Picture A7-135-2: 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://130.149.60.45/farbmetrik/OE50/OE50F1P2.PDF

picture A7-135-2

underline Yes/No

PS-File: http://130.149.60.45/farbmetrik/OE50/OE50F1P2.PS

picture A7-135-2

or underline Yes/No

colour measurement and specification for:

CIE standard illuminant D65, 2 degree observer, CIE 45/0 geometry:

If No, please give other parameters:

underline Yes/No

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 and transfer

of the PS-file L17e00NP.PS in PDF-file L17e00NP.PDF

If No, please describe other method:

underline Yes/No

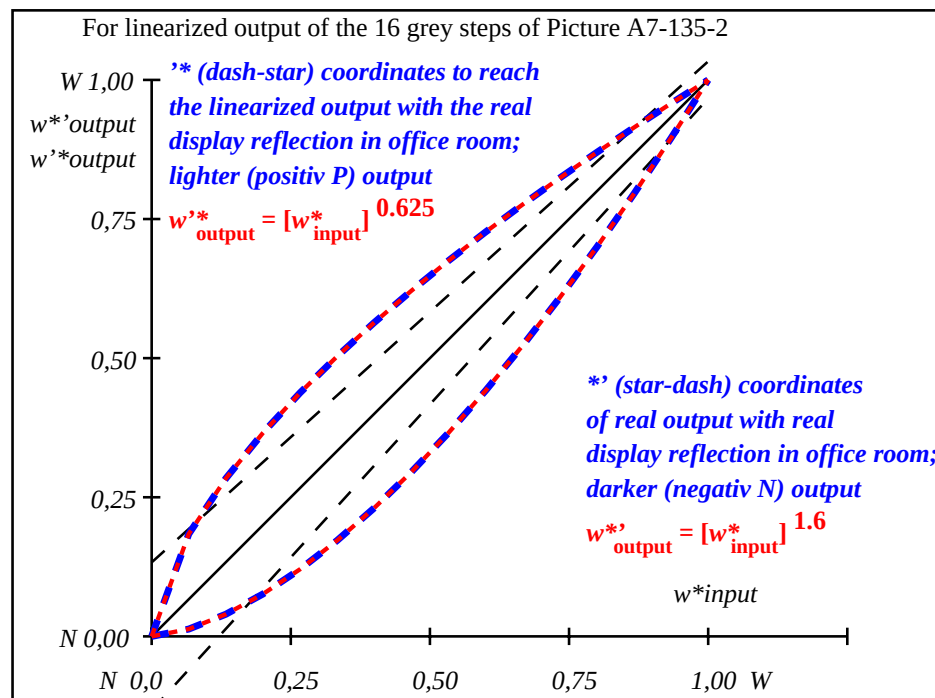
Part 4

OE501-7N-135-1

See similar ISO test charts: <http://www.ps.bam.de/24705TE>, <http://www.ps.bam.de/9241E>
Technical information: <http://www.ps.bam.de/33872E> Version 2.1, io=1,1, CIELAB

i	LAB*ref	L*out	LAB*out	LAB*out/c-ref	ΔE*	Start output S1
1	37.99 0.0 0.0	0.0 0.0 0.0	37.99 0.0 0.0	0.0 0.0 0.0	0.01	Specification according to ISO/IEC 15775 Annex G and DIN 33866-1 Annex G
2	41.81 0.0 0.0	0.18 48.55 0.0 0.0	6.74 0.0 0.0	6.74		
3	45.64 0.0 0.0	0.28 54.29 0.0 0.0	8.64 0.0 0.0	8.64		
4	49.47 0.0 0.0	0.37 58.99 0.0 0.0	9.52 0.0 0.0	9.52		
5	53.3 0.0 0.0	0.44 63.12 0.0 0.0	9.82 0.0 0.0	9.82		
6	57.13 0.0 0.0	0.5 66.89 0.0 0.0	9.76 0.0 0.0	9.76		
7	60.96 0.0 0.0	0.56 70.37 0.0 0.0	9.42 0.0 0.0	9.42		
8	64.78 0.0 0.0	0.62 73.65 0.0 0.0	8.87 0.0 0.0	8.87		
9	68.61 0.0 0.0	0.68 76.75 0.0 0.0	8.14 0.0 0.0	8.14		
10	72.44 0.0 0.0	0.73 79.71 0.0 0.0	7.27 0.0 0.0	7.27		
11	76.27 0.0 0.0	0.78 82.56 0.0 0.0	6.29 0.0 0.0	6.29		
12	80.1 0.0 0.0	0.82 85.29 0.0 0.0	5.19 0.0 0.0	5.19		
13	83.93 0.0 0.0	0.87 87.93 0.0 0.0	4.01 0.0 0.0	4.01		
14	87.75 0.0 0.0	0.91 90.5 0.0 0.0	2.74 0.0 0.0	2.74		
15	91.58 0.0 0.0	0.96 92.99 0.0 0.0	1.4 0.0 0.0	1.4	Mean lightness difference (16 steps)	
16	95.41 0.0 0.0	1.0 95.41 0.0 0.0	0.0 0.0 0.0	0.01	ΔE* _{CIELAB} = 6.1	
17	37.99 0.0 0.0	0.0 37.99 0.0 0.0	0.0 0.0 0.0	0.01		
18	52.34 0.0 0.0	0.42 62.13 0.0 0.0	9.79 0.0 0.0	9.79		
19	66.7 0.0 0.0	0.65 75.22 0.0 0.0	8.52 0.0 0.0	8.52		
20	81.05 0.0 0.0	0.84 85.96 0.0 0.0	4.91 0.0 0.0	4.91	Mean lightness difference (5 steps)	
21	95.41 0.0 0.0	1.0 95.41 0.0 0.0	0.0 0.0 0.0	0.01	ΔL* _{CIELAB} = 4.6	
Mean colour reproduction index:					R* _{ab,m} = 73	

OE500-3N-135-2: File: Measure unknown; Device: Device unknown; Date: Date unknown



OE501-3N-135-2: File: Measure unknown; Device: Device unknown; Date: Date unknown

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
$w^* w^* w^*$ setrgb																
$g_p=0.63$																
No. and Hex code	00;F	01;E	02;D	03;C	04;B	05;A	06;9	07;8	08;7	09;6	10;5	11;4	12;3	13;2	14;1	15;0
$w^*=L^*_{\text{CIELAB},r}$ (relative)																
w^*_{intended}	0.000	0.067	0.133	0.200	0.267	0.333	0.400	0.467	0.533	0.600	0.667	0.733	0.800	0.867	0.933	1.000
w^*_{out}	0.0	0.185	0.283	0.366	0.438	0.503	0.564	0.621	0.675	0.727	0.776	0.824	0.87	0.915	0.958	1.0

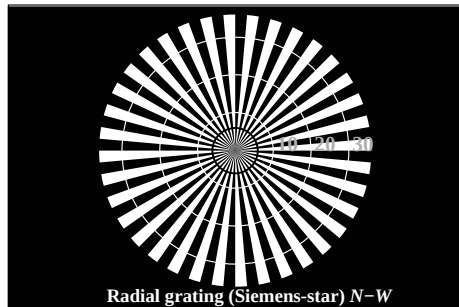
OE500-7N, Picture A7-135-2: 16 visual equidistant L^* -grey steps; PS operator: $w^* w^* w^*$ setrgbcolor

OE50: In-output relation according to ISO 9241-306; 1MR, DH
Viewing Y contrast $Y_W:Y_N=88,9:10$; Y_N range 7,5 to <15

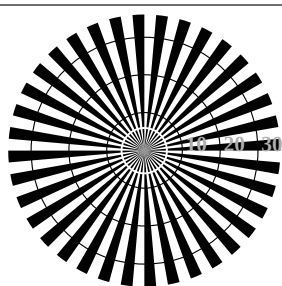
input: 000n ($\rightarrow rgb^*_d$) setcmyk
output 135-2: $g_p=0.62$; $g_N=1.0$

TUB registration: 20110801-OE50/OE50L0NA.TXT /.PS
application for output of displays: monitor systems or data projector systems
TUB material: code=rh4ta

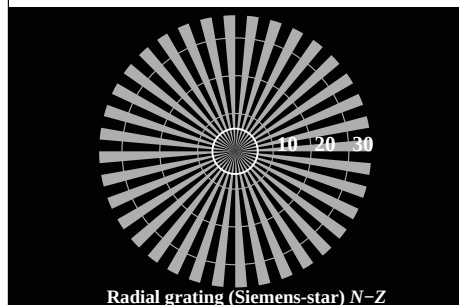
See similar ISO test charts: <http://www.ps.bam.de/24705TE>, <http://www.ps.bam.de/9241E>
Technical information: <http://www.ps.bam.de/33872E> Version 2.1, io=1,1, CIELAB



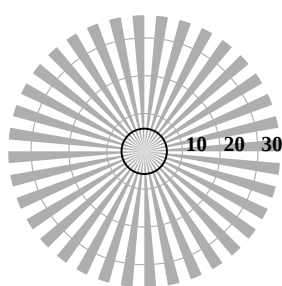
Radial grating (Siemens-star) N-W



Radial grating (Siemens-star) W-N

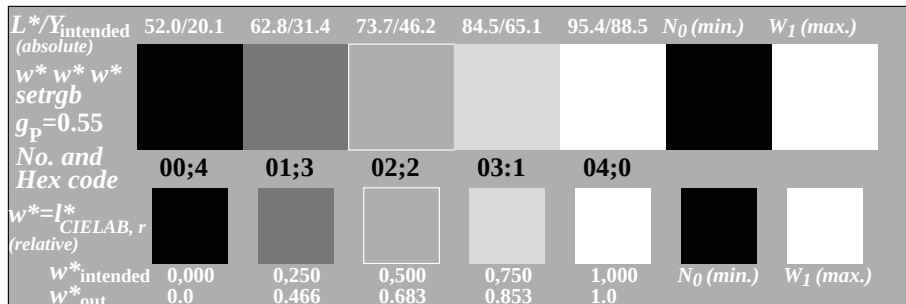


Radial grating (Siemens-star) N-Z

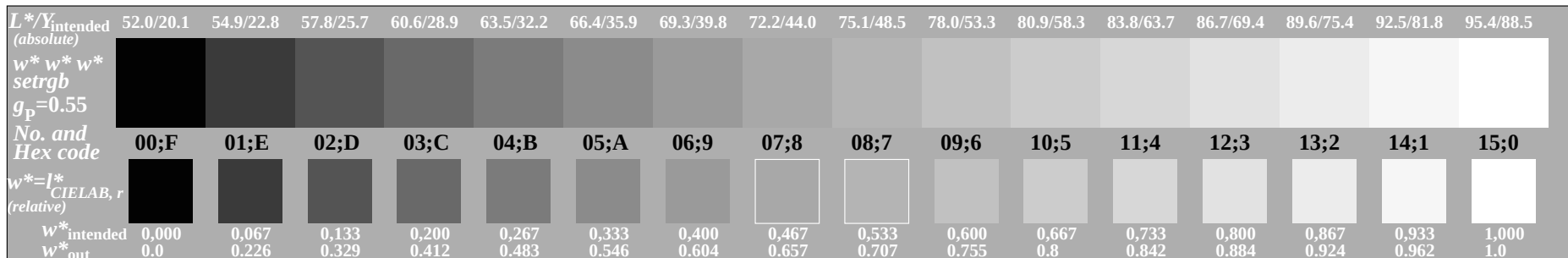


Radial grating (Siemens-star) W-Z

OE500-3N, Picture A1-136-0: Radial grating N-W, W-N, N-Z, W-Z; PS operator: $w^* w^* w^* \text{setrgbcolor}$



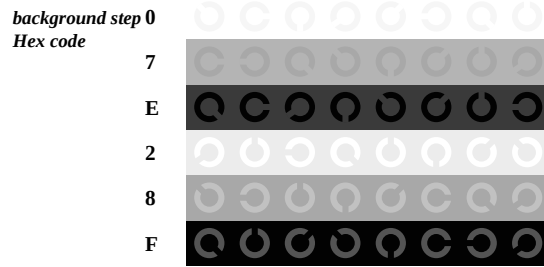
OE500-5N, Picture A2-136-0: 5 equidistant L^* -grey steps+ N_0 + W_1 ; PS operator: $w^* w^* w^* \text{setrgbcolor}$



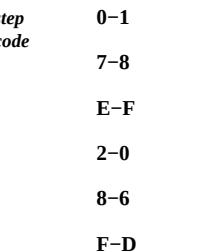
OE500-7N, Picture A3-136-0: 16 visual equidistant L^* -grey steps; PS operator: $w^* w^* w^* \text{setrgbcolor}$

OE50: similar ME16 according to ISO 9241-306; 1MR, DH
Viewing Y contrast $Y_W:Y_N=88,9:20$; Y_N range 15 to <30

input: $000n (->rgb^*_d) \text{setcmk}$
output 136-0: $g_p=0.55$; $g_N=1.0$

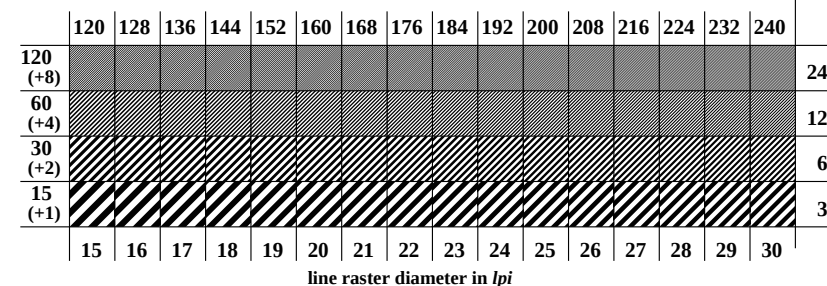


Landolt-rings W-N

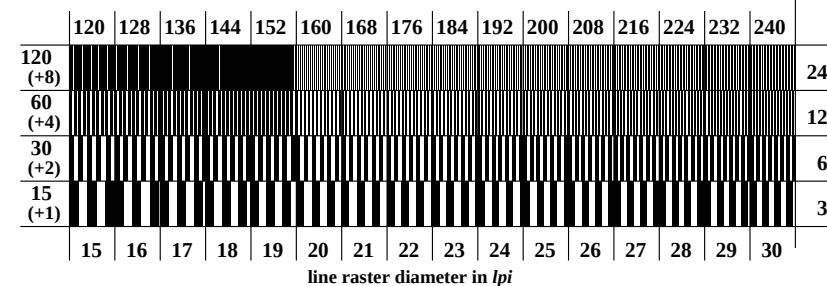


code: background-ring

OE501-1N, Picture A4-136-0: Landolt-rings W-N; PS operator: $w^* w^* w^* \text{setrgbcolor}$



OE501-3N, Picture A5-136-0: Line raster under 45° (or 135°); PS operator: $w^* w^* w^* \text{setrgbcolor}$



OE501-5N, Picture A6-136-0: Line raster under 90° (or 0°); PS operator: $w^* w^* w^* \text{setrgbcolor}$

TUB registration: 20110801-OE50/OE50L0NA.TXT /.PS
application for output of displays: monitor systems or data projector systems
TUB material: code=rh4ta

Test for the best visual linearized output of Picture A7-136-0		Yes/No
Output test with the computer display () or the external display ()		
Test of the radial grating according to picture A1-136-0		
N-W-radial grating:	Is the resolution diameter < 6 mm?	Yes/No
	Test with magnifying glass (e.g. 6x)	 mm
	resolution diameter	Yes/No
W-N-radial grating:	Is the resolution diameter < 6 mm?	Yes/No
	Test with magnifying glass (e.g. 6x)	 mm
	resolution diameter	Yes/No
N-Z-radial grating:	Is the resolution diameter < 6 mm?	Yes/No
	Test with magnifying glass (e.g. 6x)	 mm
	resolution diameter	Yes/No
W-Z-radial grating:	Is the resolution diameter < 6 mm?	Yes/No
	Test with magnifying glass (e.g. 6x)	 mm
	resolution diameter	 mm
Test of 5 visual equidistant L*-grey steps according to picture A2-136-0		
Are the 5 steps on the upper rows distinguishable?		Yes/No
If No: How many steps can be distinguished?		 Steps
of the given 5 steps:		 Steps
Test of 16 visual equidistant L*-grey steps according to picture A3-136-0		
Are the 16 steps on the upper rows distinguishable?		Yes/No
If No: How many steps can be distinguished?		 Steps
of the given 16 steps:		 Steps

Part 1

OE500-3N-136-1

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

PDF-File: <http://130.149.60.45/farbmetrik/OE50/OE50L0NP.PDF> underline Yes/No

PS-File: <http://130.149.60.45/farbmetrik/OE50/OE50L0NA.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 OE50L0NP.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 OE50L0NA.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

OE500-7N-136-1

OE50: Form A for test chart according to ISO 9241-306; 1MR, DH input: 000n (->rgb*d) setcmk
Viewing Y contrast $Y_W:Y_N=88,9:20$; Y_N range 15 to <30
output 136-1: $g_P=0.55$; $g_N=1.0$

Test for the best visual linearized output of Picture A7-136-0		Yes/No
Output test with the computer display () or the external display ()		
Test of the Landolt-rings N-W according to picture A4-136-0		
N-W-radial grating:		
Is the recognition frequency of the Landolt-rings > 50% (5 of 8 at least)?		
	background - ring	Yes/No
	0 - 1	Yes/No
	7 - 8	Yes/No
	E - F	Yes/No
	2 - 0	Yes/No
	8 - 6	Yes/No
	F - D	Yes/No
Test of the radial grating under 45° according to picture A5-136-0		
Can equally spaced lines be seen?		
Visual testing: for radial diameter from 15 to 60 lpi		Yes/No
Test with a magnifying glass (e.g. 6x): - from 15 lpi:		to lpi
Test of the radial grating under 90° according to picture A6-136-0		
Can equally spaced lines be seen?		
Visual testing: for radial diameter from 15 to 60 lpi		Yes/No
Test with a magnifying glass (e.g. 6x): - from 15 lpi:		to lpi

Part 2

OE501-3N-136-1

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
- or with test charts using colour points according to Ishihara
- or tested with, please specify:

underline Yes/No
underline Yes/unknown
underline Yes/unknown
underline Yes/unknown

For visual evaluation of the display (monitor, data projector) output

Office workplace illumination is daylight (clouded/north sky)

PDF file: <http://130.149.60.45/farbmetrik/OE50/OE50F1P2.PDF>

PS file: <http://130.149.60.45/farbmetrik/OE50/OE50F1P2.PS>

Picture A7-136-2: 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

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://130.149.60.45/farbmetrik/OE50/OE50F1P2.PDF>

picture A7-136-2

PS-File: <http://130.149.60.45/farbmetrik/OE50/OE50F1P2.PS>

picture A7-136-2

colour measurement and specification for:

CIE standard illuminant D65, 2 degree observer, CIE 45/0 geometry:

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 and transfer
of the PS-file L17e00NP.PS in PDF-file L17e00NP.PDF

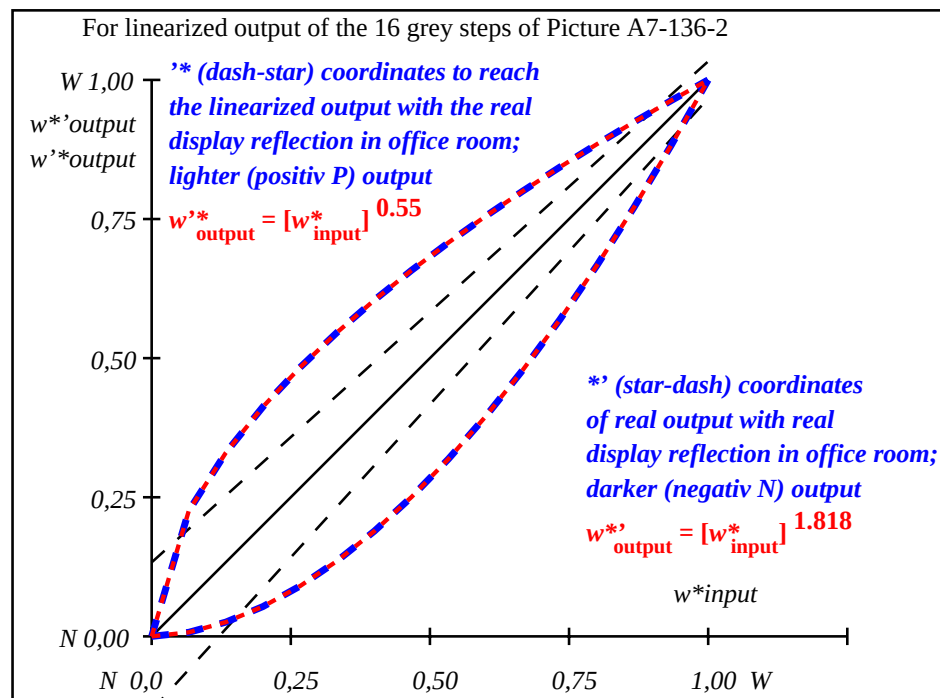
If No, please describe other method:

OE501-7N-136-1

See similar ISO test charts: <http://www.ps.bam.de/24705TE>, <http://www.ps.bam.de/9241E>
Technical information: <http://www.ps.bam.de/33872E> Version 2.1, io=1,1, CIELAB

i	LAB*ref	L*out	LAB*out	LAB*out/c-ref	ΔE*	Start output S1
1	52.02 0.0 0.0	0.0 52.02 0.0	0.0 0.0 0.0	0.0 0.0 0.0	0.01	Specification according to
2	54.91 0.0 0.0	0.23 61.8 0.0	0.0 0.0 0.0	6.89 0.0 0.0	6.89	ISO/IEC 15775 Annex G
3	57.8 0.0 0.0	0.33 66.34 0.0	0.0 0.0 0.0	8.54 0.0 0.0	8.54	and DIN 33866-1 Annex G
4	60.7 0.0 0.0	0.41 69.92 0.0	0.0 0.0 0.0	9.23 0.0 0.0	9.23	
5	63.59 0.0 0.0	0.48 72.99 0.0	0.0 0.0 0.0	9.4 0.0 0.0	9.4	
6	66.48 0.0 0.0	0.55 75.73 0.0	0.0 0.0 0.0	9.25 0.0 0.0	9.25	
7	69.37 0.0 0.0	0.6 78.23 0.0	0.0 0.0 0.0	8.86 0.0 0.0	8.86	
8	72.27 0.0 0.0	0.66 80.55 0.0	0.0 0.0 0.0	8.28 0.0 0.0	8.28	
9	75.16 0.0 0.0	0.71 82.73 0.0	0.0 0.0 0.0	7.57 0.0 0.0	7.57	
10	78.05 0.0 0.0	0.76 84.78 0.0	0.0 0.0 0.0	6.73 0.0 0.0	6.73	
11	80.95 0.0 0.0	0.8 86.74 0.0	0.0 0.0 0.0	5.79 0.0 0.0	5.79	
12	83.84 0.0 0.0	0.84 88.6 0.0	0.0 0.0 0.0	4.77 0.0 0.0	4.77	
13	86.73 0.0 0.0	0.88 90.4 0.0	0.0 0.0 0.0	3.67 0.0 0.0	3.67	
14	89.62 0.0 0.0	0.92 92.13 0.0	0.0 0.0 0.0	2.5 0.0 0.0	2.5	
15	92.52 0.0 0.0	0.96 93.79 0.0	0.0 0.0 0.0	1.28 0.0 0.0	1.28	Mean lightness difference (16 steps)
16	95.41 0.0 0.0	1.0 95.41 0.0	0.0 0.0 0.0	0.0 0.0 0.0	0.01	ΔE*CIELAB = 5.8
17	52.02 0.0 0.0	0.0 52.02 0.0	0.0 0.0 0.0	0.0 0.0 0.0	0.01	
18	62.87 0.0 0.0	0.47 72.26 0.0	0.0 0.0 0.0	9.4 0.0 0.0	9.4	
19	73.71 0.0 0.0	0.68 81.66 0.0	0.0 0.0 0.0	7.94 0.0 0.0	7.94	
20	84.56 0.0 0.0	0.85 89.06 0.0	0.0 0.0 0.0	4.5 0.0 0.0	4.5	Mean lightness difference (5 steps)
21	95.41 0.0 0.0	1.0 95.41 0.0	0.0 0.0 0.0	0.0 0.0 0.0	0.01	ΔL*CIELAB = 4.4
Mean colour reproduction index:					R* _{ab,m} = 75	

OE500-3N-136-2: File: Measure unknown; Device: Device unknown; Date: Date unknown



OE501-3N-136-2: File: Measure unknown; Device: Device unknown; Date: Date unknown

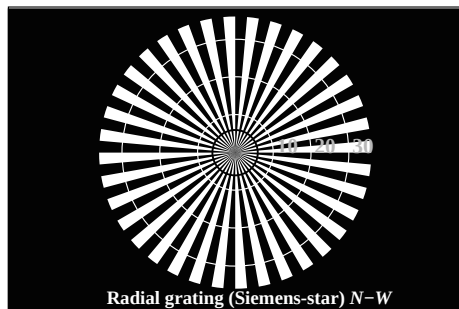
L*/Y _{intended} (absolute)	52.0/20.2	54.9/22.8	57.8/25.8	60.7/28.9	63.6/32.3	66.5/36.0	69.4/39.9	72.3/44.1	75.2/48.5	78.1/53.3	80.9/58.4	83.8/63.8	86.7/69.5	89.6/75.5	92.5/81.9	95.4/88.6
w* w* w* setrgb																
g _p =0.55																
No. and Hex code	00;F	01;E	02;D	03;C	04;B	05;A	06;9	07;8	08;7	09;6	10;5	11;4	12;3	13;2	14;1	15;0
w*=[*] 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	0,226	0,33	0,413	0,484	0,546	0,604	0,658	0,707	0,755	0,8	0,843	0,885	0,925	0,963	1,0

OE500-7N, Picture A7-136-2: 16 visual equidistant L*-grey steps; PS operator: w* w* w* setrgbcolor

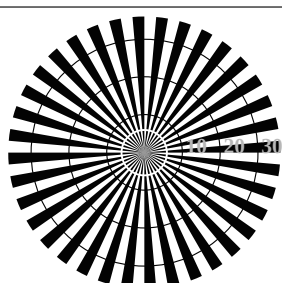
OE50: In-output relation according to ISO 9241-306; 1MR, DH
Viewing Y contrast Y_W:Y_N=88,9:20; Y_N range 15 to <30

input: 000n (->rgb*_d) setcmyk
output 136-2: g_p=0.55; g_N=1.0

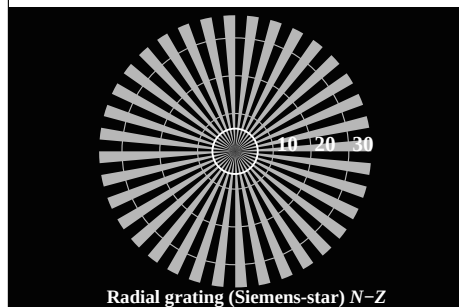
TUB registration: 20110801-OE50/OE50L0NA.TXT /.PS
application for output of displays: monitor systems or data projector systems
TUB material: code=rh4ta



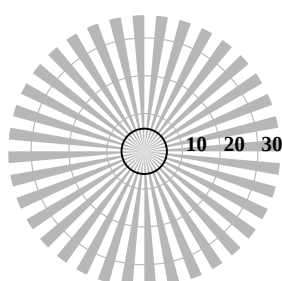
Radial grating (Siemens-star) N-W



Radial grating (Siemens-star) W-N

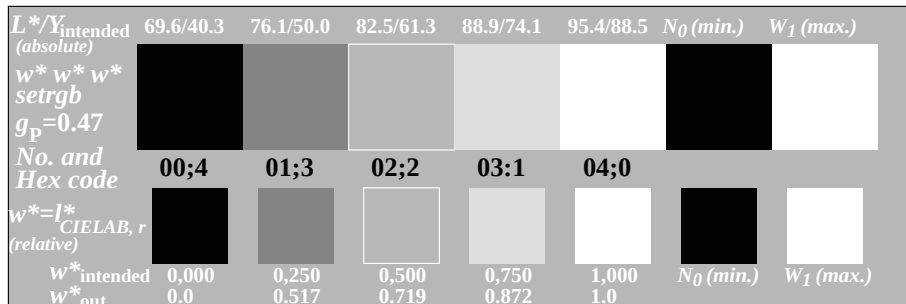


Radial grating (Siemens-star) N-Z

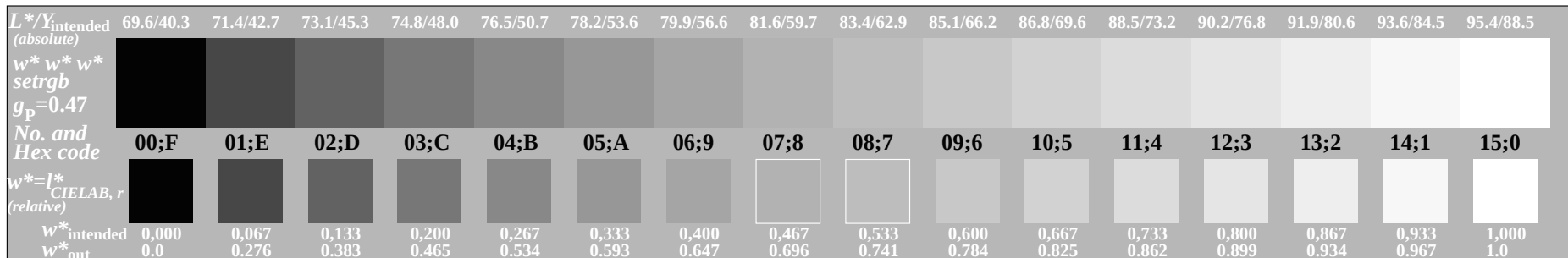


Radial grating (Siemens-star) W-Z

OE500-3N, Picture A1-137-0: Radial grating N-W, W-N, N-Z, W-Z; PS operator: $w^* w^* w^* \text{setrgbcolor}$



OE500-5N, Picture A2-137-0: 5 equidistant L^* -grey steps+ N_0 + W_1 ; PS operator: $w^* w^* w^* \text{setrgbcolor}$



OE500-7N, Picture A3-137-0: 16 visual equidistant L^* -grey steps; PS operator: $w^* w^* w^* \text{setrgbcolor}$

OE50: similar ME16 according to ISO 9241-306; 1MR, DH
Viewing Y contrast $Y_W:Y_N=88,9:40$; Y_N range 30 to <60

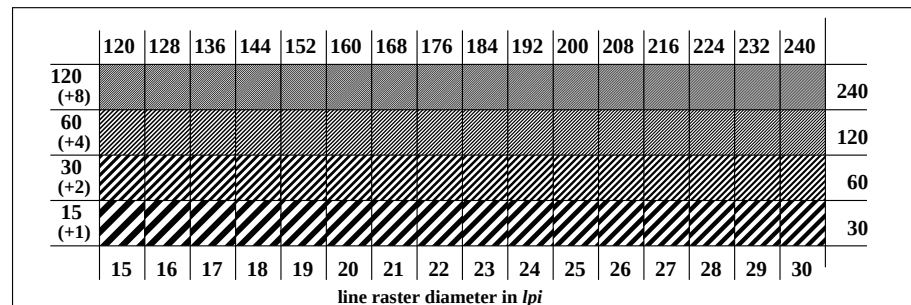
input: 000n ($\rightarrow \text{rgb}^*_d$) $\text{setcm}y\text{k}$
output 137-0: $g_p=0.47$; $g_N=1.0$

background step 0		1	ring step	0-1
Hex code		8	Hex code	7-8
7		F		E-F
E		0		2-0
2		6		8-6
8		D		F-D
F				

Landolt-rings W-N

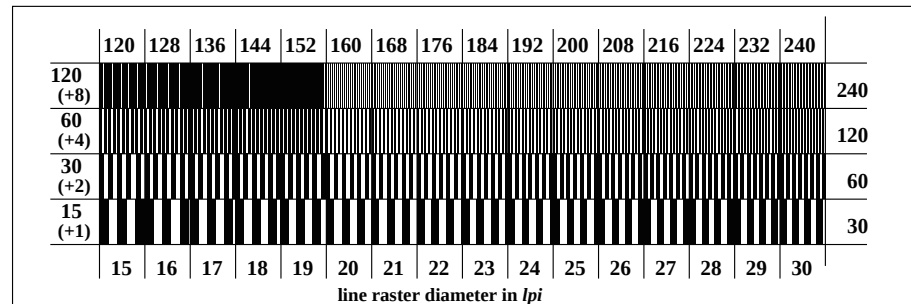
code: background-ring

OE501-1N, Picture A4-137-0: Landolt-rings W-N; PS operator: $w^* w^* w^* \text{setrgbcolor}$



line raster diameter in lpi

OE501-3N, Picture A5-137-0: Line raster under 45° (or 135°); PS operator: $w^* w^* w^* \text{setrgbcolor}$



line raster diameter in lpi

OE501-5N, Picture A6-137-0: Line raster under 90° (or 0°); PS operator: $w^* w^* w^* \text{setrgbcolor}$

Test for the best visual linearized output of Picture A7-137-0 Yes/No
Output test with the computer display () or the external display ()

Test of the radial grating according to picture A1-137-0

N-W-radial grating: Is the resolution diameter < 6 mm? Yes/No
Test with magnifying glass (e.g. 6x) resolution diameter mm

W-N-radial grating: Is the resolution diameter < 6 mm? Yes/No
Test with magnifying glass (e.g. 6x) resolution diameter mm

N-Z-radial grating: Is the resolution diameter < 6 mm? Yes/No
Test with magnifying glass (e.g. 6x) resolution diameter mm

W-Z-radial grating: Is the resolution diameter < 6 mm? Yes/No
Test with magnifying glass (e.g. 6x) resolution diameter mm

Test of 5 visual equidistant L*-grey steps according to picture A2-137-0

Are the 5 steps on the upper rows distinguishable? Yes/No
If No: How many steps can be distinguished? of the given 5 steps: Steps

Test of 16 visual equidistant L*-grey steps according to picture A3-137-0

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

OE500-3N-137-1

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

PDF-File: <http://130.149.60.45/farbmetrik/OE50/OE50L0NP.PDF> underline Yes/No

PS-File: <http://130.149.60.45/farbmetrik/OE50/OE50L0NA.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 OE50L0NP.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 OE50L0NA.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

OE500-7N-137-1

OE50: Form A for test chart according to ISO 9241-306; 1MR, DH input: 000n (->rgb*d) setcmk
Viewing Y contrast $Y_W:Y_N=88,9:40$; Y_N range 30 to <60
output 137-1: $g_P=0,47$; $g_N=1,0$

Test for the best visual linearized output of Picture A7-137-0 Yes/No
Output test with the computer display () or the external display ()

Test of the Landolt-rings N-W according to picture A4-137-0

N-W-radial grating:
Is the recognition frequency of the Landolt-rings > 50% (5 of 8 at least)?
background - ring
0 - 1 Yes/No
7 - 8 Yes/No
E - F Yes/No
2 - 0 Yes/No
8 - 6 Yes/No
F - D Yes/No

Test of the radial grating under 45° according to picture A5-137-0

Can equally spaced lines be seen?
Visual testing: for radial diameter from 15 to 60 lpi Yes/No
Test with a magnifying glass (e.g. 6x): - from 15 lpi: to lpi

Test of the radial grating under 90° according to picture A6-137-0

Can equally spaced lines be seen?
Visual testing: for radial diameter from 15 to 60 lpi Yes/No
Test with a magnifying glass (e.g. 6x): - from 15 lpi: to lpi

Part 2

OE501-3N-137-1

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

or with test charts using colour points according to Ishihara

or tested with, please specify:

underline Yes/No

underline Yes/unknown

underline Yes/unknown

underline Yes/unknown

For visual evaluation of the display (monitor, data projector) output

Office workplace illumination is daylight (clouded/north sky)

PDF file: <http://130.149.60.45/farbmetrik/OE50/OE50F1P2.PDF>

PS file: <http://130.149.60.45/farbmetrik/OE50/OE50F1P2.PS>

Picture A7-137-2: 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://130.149.60.45/farbmetrik/OE50/OE50F1P2.PDF>

picture A7-137-2

underline Yes/No

PS-File: <http://130.149.60.45/farbmetrik/OE50/OE50F1P2.PS>

picture A7-137-2

or underline Yes/No

colour measurement and specification for:

CIE standard illuminant D65, 2 degree observer, CIE 45/0 geometry:

If No, please give other parameters:

underline Yes/No

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 and transfer

of the PS-file L17e00NP.PS in PDF-file L17e00NP.PDF

If No, please describe other method:

underline Yes/No

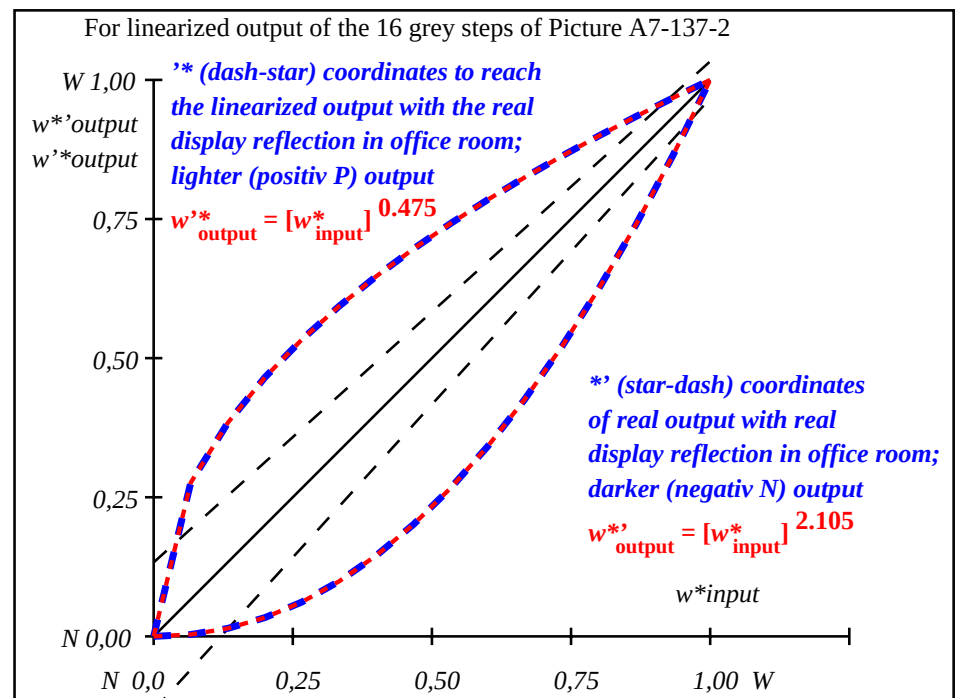
Part 4

OE501-7N-137-1

See similar ISO test charts: <http://www.ps.bam.de/24705TE>, <http://www.ps.bam.de/9241E>
Technical information: <http://www.ps.bam.de/33872E> Version 2.1, io=1,1, CIELAB

i	LAB*ref	L*out	LAB*out	LAB*out/c-ref	ΔE*	Start output S1
1	69.7 0.0 0.0	0.0 0.0 0.0	69.7 0.0 0.0	0.0 0.0 0.0	0.01	Specification according to ISO/IEC 15775 Annex G and DIN 33866-1 Annex G
2	71.41 0.0 0.0	0.28 76.8 0.0 0.0	5.39 0.0 0.0	5.39		
3	73.13 0.0 0.0	0.38 79.57 0.0 0.0	6.45 0.0 0.0	6.45		
4	74.84 0.0 0.0	0.47 81.67 0.0 0.0	6.83 0.0 0.0	6.83		
5	76.55 0.0 0.0	0.53 83.42 0.0 0.0	6.87 0.0 0.0	6.87		
6	78.27 0.0 0.0	0.59 84.96 0.0 0.0	6.69 0.0 0.0	6.69		
7	79.98 0.0 0.0	0.65 86.34 0.0 0.0	6.35 0.0 0.0	6.35		
8	81.7 0.0 0.0	0.7 87.6 0.0 0.0	5.9 0.0 0.0	5.9		
9	83.41 0.0 0.0	0.74 88.77 0.0 0.0	5.36 0.0 0.0	5.36		
10	85.12 0.0 0.0	0.78 89.87 0.0 0.0	4.75 0.0 0.0	4.75		
11	86.84 0.0 0.0	0.82 90.91 0.0 0.0	4.07 0.0 0.0	4.07		
12	88.55 0.0 0.0	0.86 91.89 0.0 0.0	3.33 0.0 0.0	3.33		
13	90.27 0.0 0.0	0.9 92.82 0.0 0.0	2.56 0.0 0.0	2.56		
14	91.98 0.0 0.0	0.93 93.72 0.0 0.0	1.74 0.0 0.0	1.74		
15	93.7 0.0 0.0	0.97 94.58 0.0 0.0	0.89 0.0 0.0	0.89	Mean lightness difference (16 steps)	
16	95.41 0.0 0.0	1.0 95.41 0.0 0.0	0.0 0.0 0.0	0.01	ΔE* _{CIELAB} = 4.2	
17	69.7 0.0 0.0	0.0 69.7 0.0 0.0	0.0 0.0 0.0	0.01		
18	76.13 0.0 0.0	0.52 83.01 0.0 0.0	6.88 0.0 0.0	6.88		
19	82.55 0.0 0.0	0.72 88.2 0.0 0.0	5.64 0.0 0.0	5.64		
20	88.98 0.0 0.0	0.87 92.13 0.0 0.0	3.14 0.0 0.0	3.14	Mean lightness difference (5 steps)	
21	95.41 0.0 0.0	1.0 95.41 0.0 0.0	0.0 0.0 0.0	0.01	ΔL* _{CIELAB} = 3.1	
Mean colour reproduction index:					R* _{ab,m} = 82	

OE500-3N-137-2: File: Measure unknown; Device: Device unknown; Date: Date unknown



OE501-3N-137-2: File: Measure unknown; Device: Device unknown; Date: Date unknown

$L^*/Y_{intended}$ (absolute)	69.7/40.3	71.4/42.8	73.1/45.4	74.8/48.0	76.6/50.8	78.3/53.7	80.0/56.6	81.7/59.7	83.4/62.9	85.1/66.3	86.8/69.7	88.6/73.2	90.3/76.9	92.0/80.7	93.7/84.6	95.4/88.6
$w^* w^* w^*$ setrgb $g_p=0.48$																
No. and Hex code	00;F	01;E	02;D	03;C	04;B	05;A	06;9	07;8	08;7	09;6	10;5	11;4	12;3	13;2	14;1	15;0
$w^*=L^*_{CIELAB, r}$ (relative)																
$w^*_{intended}$	0.000	0.067	0.133	0.200	0.267	0.333	0.400	0.467	0.533	0.600	0.667	0.733	0.800	0.867	0.933	1.000
w^*_{out}	0.0	0.277	0.384	0.466	0.534	0.593	0.647	0.697	0.742	0.785	0.825	0.863	0.899	0.934	0.968	1.0

OE500-7N, Picture A7-137-2: 16 visual equidistant L^* -grey steps; PS operator: $w^* w^* w^* setrgbcolor$

OE50: In-output relation according to ISO 9241-306; 1MR, DH
Viewing Y contrast $Y_W:Y_N=88,9:40$; Y_N range 30 to <60

input: 000n (->rgb*_d) setcmyk
output 137-2: $g_p=0.47$; $g_N=1.0$

TUB registration: 20110801-OE50/OE50L0NA.TXT /.PS
application for output of displays: monitor systems or data projector systems
TUB material: code=rh4ta