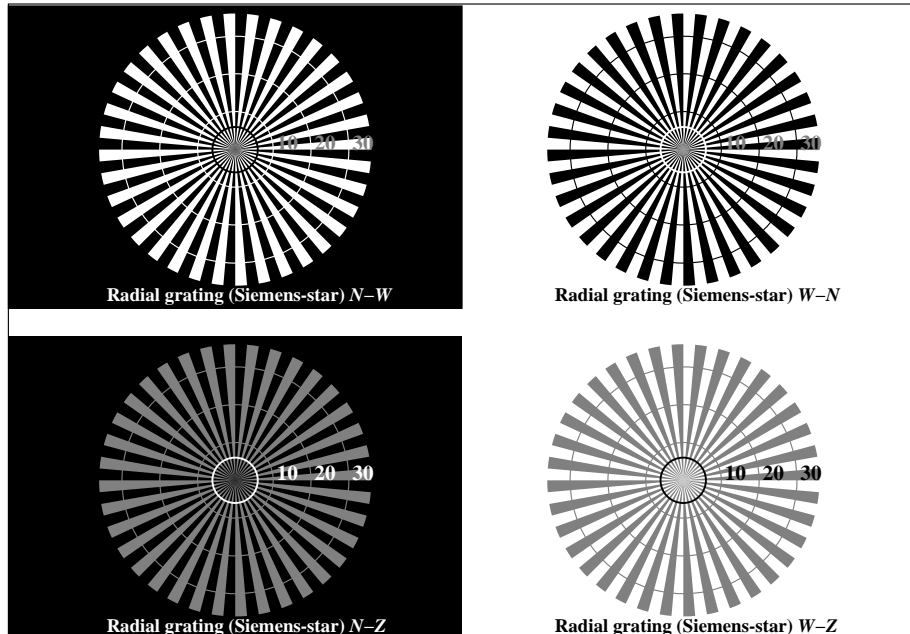
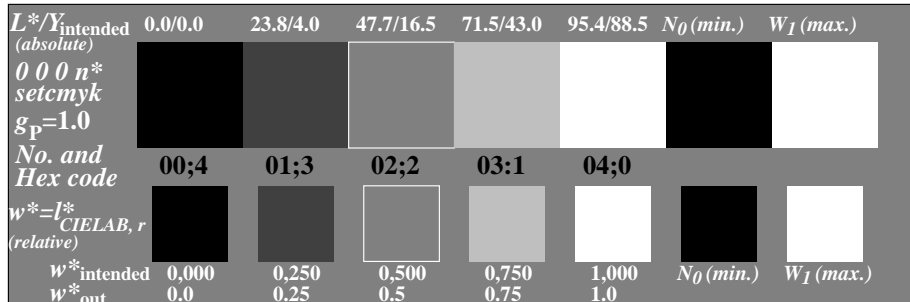


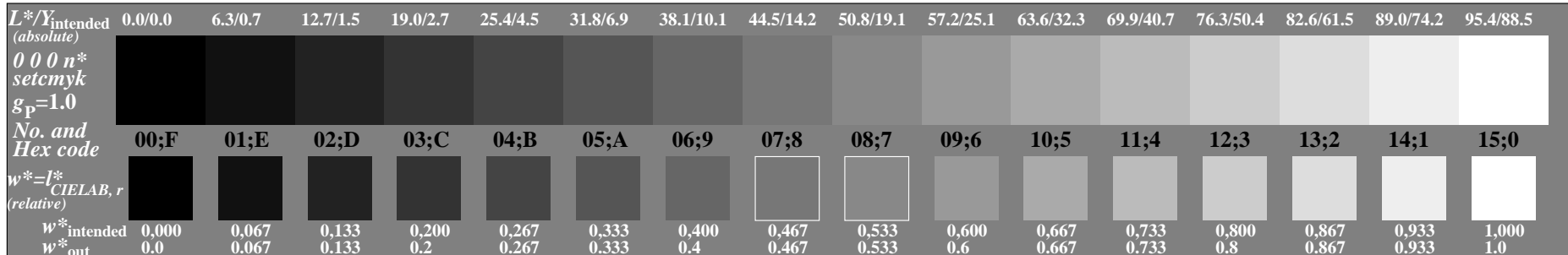
See similar ISO test charts: <http://www.ps.bam.de/24705TE>, <http://www.ps.bam.de/9241E>
Technical information: <http://www.ps.bam.de/33872E> Version 2.1, io=1,1, CIELAB



OE540-3N, Picture A1-100-0: Radial grating N-W, W-N, N-Z, W-Z; PS operator: 0 0 0 n* setcmykcolor

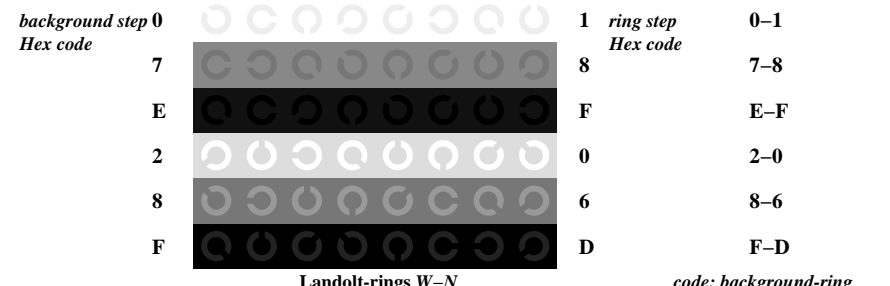


OE540-5N, Picture A2-100-0: 5 equidistant L^* -grey steps+ N_0 + W_1 ; PS operator: 0 0 0 n* setcmykcolor

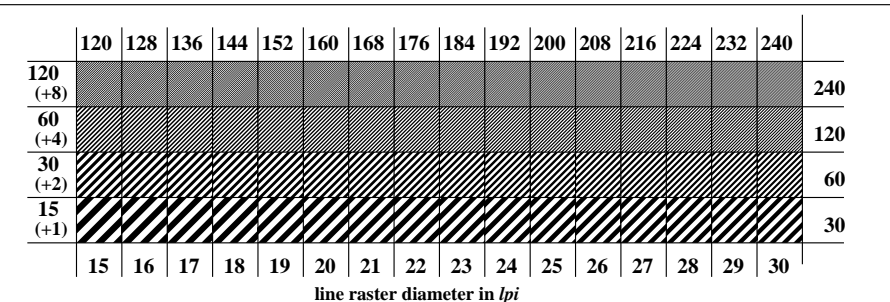


OE540-7N, Picture A3-100-0: 16 visual equidistant L^* -grey steps; PS operator: 0 0 0 n* setcmykcolor

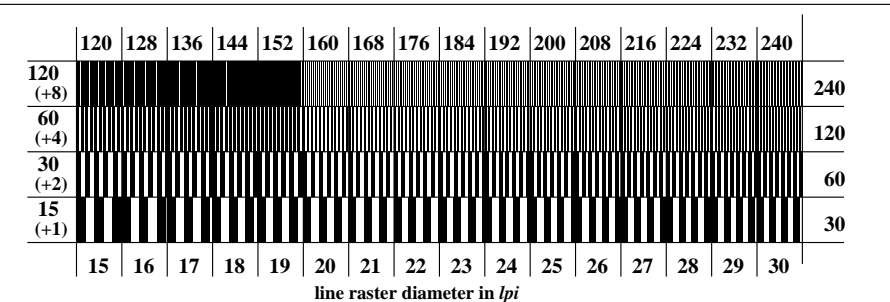
OE54: similar ME16 according to ISO 9241-306; 1MR, DH
Viewing Y contrast $Y_W:Y_N=88,9:0,31$; Y_N range 0,0 to <0,46



OE541-1N, Picture A4-100-0: Landolt-rings W-N; PS operator: 0 0 0 n* setcmykcolor



OE541-3N, Picture A5-100-0: Line raster under 45° (or 135°); PS operator: 0 0 0 n* setcmykcolor



OE541-5N, Picture A6-100-0: Line raster under 90° (or 0°); PS operator: 0 0 0 n* setcmykcolor

input: all (->rgb*d) setrgbcolor
output 130-0: $g_p=1.0$; $g_N=1.0$

Test for the best visual linearized output of Picture A7-100-0		Yes/No
Output test with the computer display () or the external display ()		
Test of the radial grating according to picture A1-100-0		
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 A2-100-0		
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 A3-100-0		
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 OE540-3N-100-1

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

PDF-File: <http://130.149.60.45/farbmetrik/OE54/OE54L0NP.PDF> underline Yes/No

PS-File: <http://130.149.60.45/farbmetrik/OE54/OE54L0NA.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 OE54L0NP.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 OE54L0NA.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 OE540-7N-100-1

OE54: Form A for test chart according to ISO 9241-306; 1MR, DH input: *all* ($\rightarrow rgb_d$) *setrgbcolor*
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 A7-100-0		Yes/No
Output test with the computer display () or the external display ()		
Test of the Landolt-rings N-W according to picture A4-100-0		
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 A5-100-0		
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 A6-100-0		
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 OE541-3N-100-1

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/OE54/OE54F1P2.PDF> underline Yes/No

PS file: <http://130.149.60.45/farbmetrik/OE54/OE54F1P2.PS> underline Yes/No

Picture A7-100-2: 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/OE54/OE54F1P2.PDF> underline Yes/No

PS-File: <http://130.149.60.45/farbmetrik/OE54/OE54F1P2.PS> or underline Yes/No

picture A7-100-2

picture A7-100-2

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:

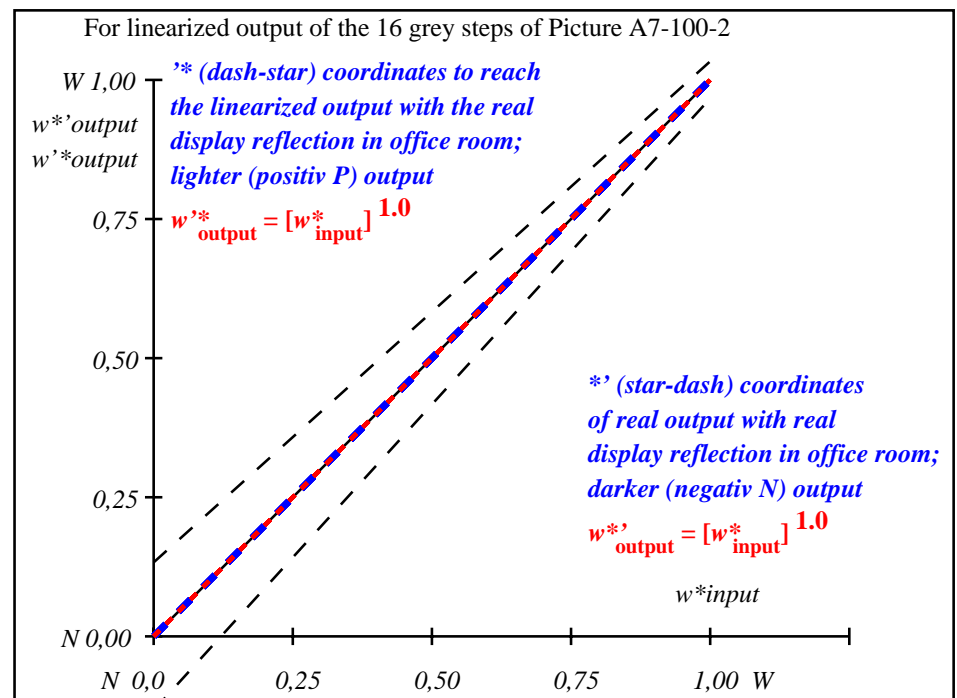
Colorimetric specification with PS file for colours in the columns A to T
Exchange of CIELAB data in file www.ps.bam.de/De17/10L/L17e00NP.PS and transfer
of the PS-file L17e00NP.PS in PDF-file L17e00NP.PDF underline Yes/No
If No, please describe other method:

Part 4 OE541-7N-100-1

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)						$\Delta E^*_{\text{CIELAB}} = 0.0$
Mean lightness difference (5 steps)						$\Delta E^*_{\text{CIELAB}} = 0.0$
Mean colour reproduction index:						$R^*_{\text{ab,m}} = 100$

OE540-3N-100-2: File: Measure unknown; Device: Device unknown; Date: Date unknown



OE541-3N-100-2: File: Measure unknown; Device: Device unknown; Date: Date unknown

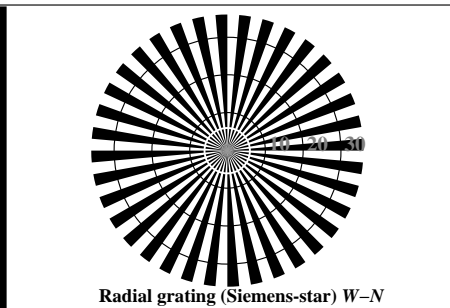
$L^*/Y^*_{\text{intended}}$ (absolute)	0.0/0.0	6.4/0.7	12.7/1.5	19.1/2.8	25.4/4.6	31.8/7.0	38.2/10.2	44.5/14.2	50.9/19.2	57.2/25.2	63.6/32.3	70.0/40.7	76.3/50.4	82.7/61.6	89.0/74.3	95.4/88.6
0 0 0 n* setcmyk g _p =1.0 No. and Hex code	00;F	01;E	02;D	03;C	04;B	05;A	06;9	07;8	08;7	09;6	10;5	11;4	12;3	13;2	14;1	15;0
$w^* = [L^*]_{\text{CIELAB}, r}$ (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	0.067	0.133	0.2	0.267	0.333	0.4	0.467	0.533	0.6	0.667	0.733	0.8	0.867	0.933	1.0

OE540-7N, Picture A7-100-2: 16 visual equidistant L^* -grey steps; PS operator: 0 0 0 n* setcmykcolor

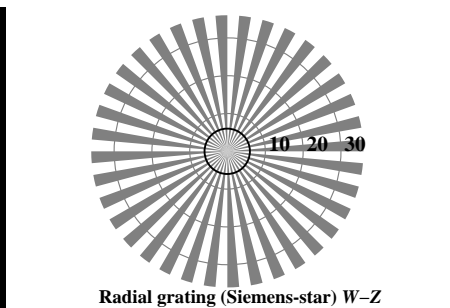
OE54: In-output relation according to ISO 9241-306; 1MR, DH
Viewing Y contrast $Y_W:Y_N=88.9:0.31$; Y_N range 0,0 to <0,46

input: all ($\rightarrow \text{rgb}_d$) setrgbcolor
output 130-2: $g_P=1.0$; $g_N=1.0$

TUB registration: 20110801-OE54/OE54L0NA.TXT /.PS
application for output of displays: monitor systems or data projector systems
TUB material: code=th4ta



Radial grating (Siemens-star) $W-N$



Radial grating (Siemens-star) $W-Z$

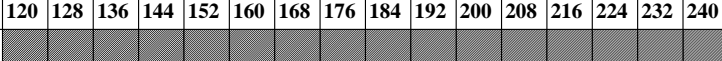
$L^*Y_I^*$ (absolute)	0.0/0.0	23.8/4.0	47.7/16.5	71.5/43.0	95.4/88.5	N_0 (min.)	W_I (max.)
w^* setgray							
$g_P=1.0$							
No. and Hex code	00;4	01;3	02;2	03;1	04;0		
$w^*=l^*$ (relative)							
$w^*_{intended}$	0,000	0,250	0,500	0,750	1,000	N_0 (min.)	W_I (max.)
w^*_{out}	0.0	0.25	0.5	0.75	1.0		

$L^*Y_i^*$ (absolute)	0.0/0.0	6.3/0.7	12.7/1.5	19.0/2.7	25.4/4.5	31.8/6.9	38.1/10.1	44.5/14.2	50.8/19.1	57.2/25.1	63.6/32.3	69.9/40.7	76.3/50.4	82.6/61.5	89.0/74.2	95.4/88.5
w^* setgray																
$g_P=1.0$																
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
$w^*=l^*$ (relative)																
$w_{intended}^*$	0,000	0,067	0,133	0,200	0,267	0,333	0,400	0,467	0,533	0,600	0,667	0,733	0,800	0,867	0,933	1,000
w_{out}^*	0.0	0.067	0.133	0.2	0.267	0.333	0.4	0.467	0.533	0.6	0.667	0.733	0.8	0.867	0.933	1.0



input: *all* ($\rightarrow rgb^*_d$) *setrgbcolor*
output 130-3: $g_P=1.0$; $g_N=1.0$

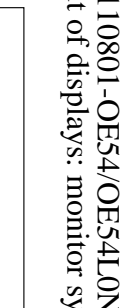
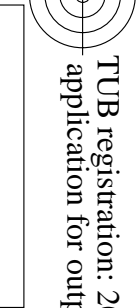
Landolt-rings $W-N$

	120	128	136	144	152	160	168	176	184	192	200	208	216	224	232	240	
120 (+8)																	240
60 (+4)																	120
30 (+2)																	60
15 (+1)																	30
	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	
	line raster diameter in lpi																

	120	128	136	144	152	160	168	176	184	192	200	208	216	224	232	240	
120 (+8)																	240
60 (+4)																	120
30 (+2)																	60
15 (+1)																	30
	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	
	line raster diameter in lpi																

14.2	50.8/19.1	57.2/25.1	63.6/32.3	69.9/40.7	76.3/50.4	82.6/61.5	89.0/74.2	95.4/88.5
8	08;7	09;6	10;5	11;4	12;3	13;2	14;1	15;0
0.533	0.533	0.600	0.667	0.733	0.800	0.867	0.933	1.000
0.6	0.6	0.667	0.733	0.8	0.867	0.933	1.0	

TUB registration: 20110801-OE54/OE54L0NA.TXT /.PS TUB material: code=rha4ta
+ application for output of displays: monitor systems or data projector systems



Test for the best visual linearized output of Picture A7-110-0		Yes/No
Output test with the computer display () or the external display ()		
Test of the radial grating according to picture A1-110-0		
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 A2-110-0		
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 A3-110-0		
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 OE540-3N-110-4

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

PDF-File: <http://130.149.60.45/farbmetrik/OE54/OE54L0NP.PDF> underline Yes/No

PS-File: <http://130.149.60.45/farbmetrik/OE54/OE54L0NA.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 OE54L0NP.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 OE54L0NA.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 OE540-7N-110-4

OE54: Form A for test chart according to ISO 9241-306; 1MR, DH input: *all (->rgb*d) setrgbcolor*
Viewing Y contrast $Y_W: Y_N=88,9:0,31$; Y_N range 0,0 to <0,46 output 130-4: $g_P=1.0$; $g_N=1.0$

Test for the best visual linearized output of Picture A7-110-0		Yes/No
Output test with the computer display () or the external display ()		
Test of the Landolt-rings N-W according to picture A4-110-0		
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 A5-110-0		
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 A6-110-0		
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 OE541-3N-110-4

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/OE54/OE54F1P2.PDF>

PS file: <http://130.149.60.45/farbmetrik/OE54/OE54F1P2.PS>

Picture A7-110-2: **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/OE54/OE54F1P2.PDF>

picture A7-110-2

underline Yes/No

PS-File: <http://130.149.60.45/farbmetrik/OE54/OE54F1P2.PS>

picture A7-110-2

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

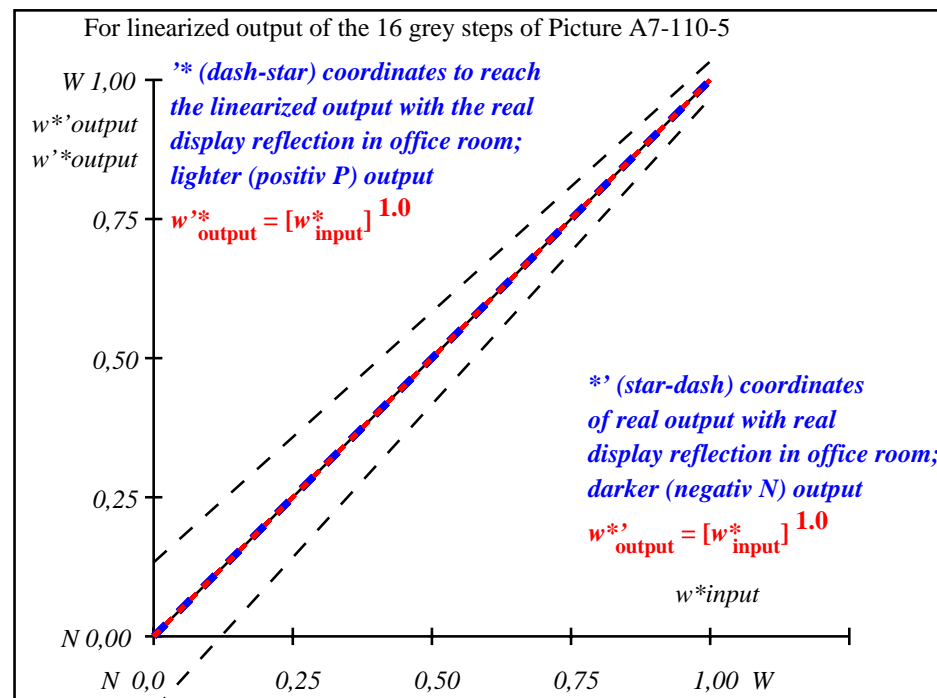
OE541-7N-110-4

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

TUB registration: 20110801-OE54/OE54L0NA.TXT /.PS
application for output of displays: monitor systems or data projector systems
TUB material: code=th4ta

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

OE540-3N-110-5: File: Measure unknown; Device: Device unknown; Date: Date unknown



OE541-3N-110-5: File: Measure unknown; Device: Device unknown; Date: Date unknown

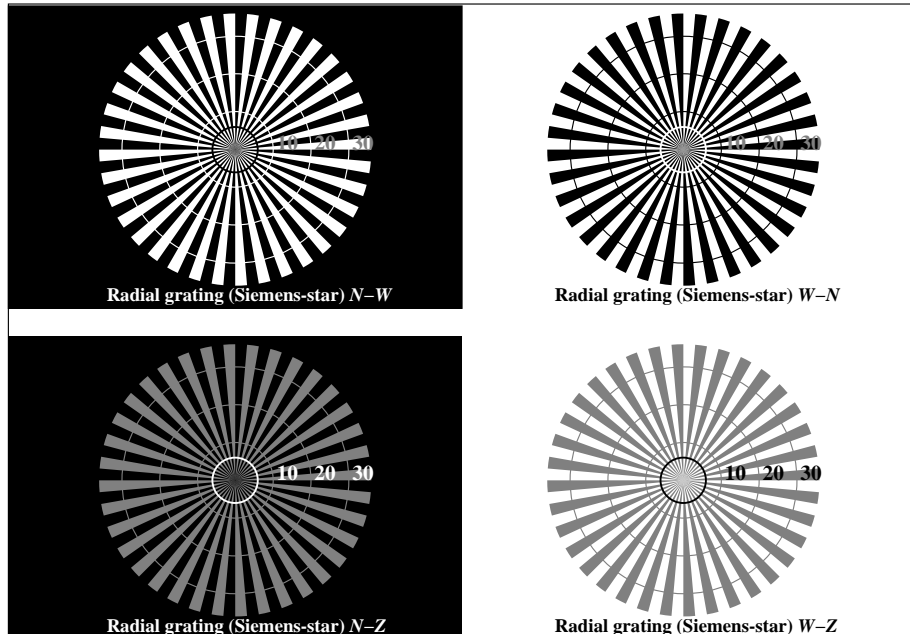
$L^*/Y^*_{intended}$ (absolute)	0.0/0.0	6.4/0.7	12.7/1.5	19.1/2.8	25.4/4.6	31.8/7.0	38.2/10.2	44.5/14.2	50.9/19.2	57.2/25.2	63.6/32.3	70.0/40.7	76.3/50.4	82.7/61.6	89.0/74.3	95.4/88.6
w^* setgray $g_P=1.0$																
No. and Hex code	00;F	01;E	02;D	03;C	04;B	05;A	06;9	07;8	08;7	09;6	10;5	11;4	12;3	13;2	14;1	15;0
$w^* = [L^*_{CIELAB, r}]$ (relative)																
$w^*_{intended}$	0.000	0.067	0.133	0.200	0.267	0.333	0.400	0.467	0.533	0.600	0.667	0.733	0.800	0.867	0.933	1.000
w^*_{out}	0.0	0.067	0.133	0.2	0.267	0.333	0.4	0.467	0.533	0.6	0.667	0.733	0.8	0.867	0.933	1.0

OE540-7N, Picture A7-110-5: 16 visual equidistant L^* -grey steps; PS operator: w^* setgray

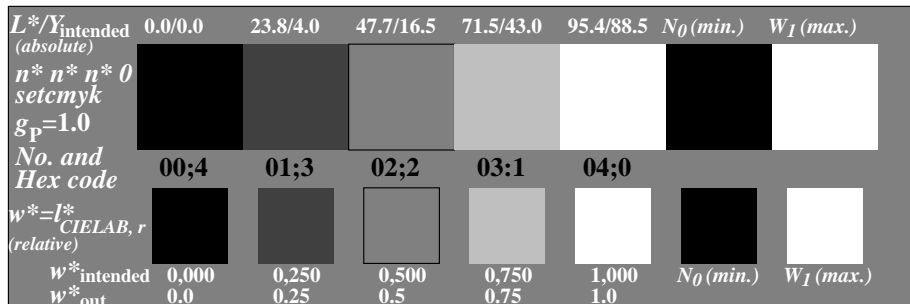
OE54: In-output relation according to ISO 9241-306; 1MR, DH
Viewing Y contrast $Y_W:Y_N=88,9:0,31$; Y_N range 0,0 to <0,46

input: all ($\rightarrow rgb_d$) setrgbcOLOR
output 130-5: $g_P=1.0$; $g_N=1.0$

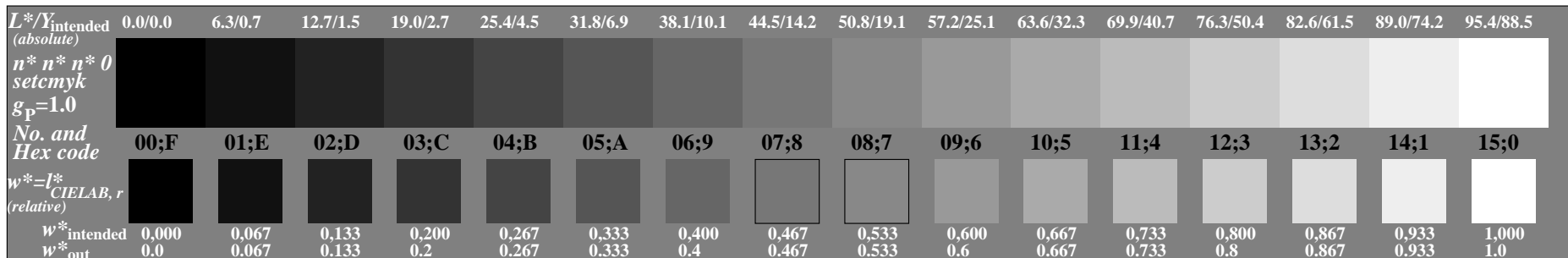
See similar ISO test charts: <http://www.ps.bam.de/24705TE>, <http://www.ps.bam.de/9241E>
Technical information: <http://www.ps.bam.de/33872E> Version 2.1, io=1,1, CIELAB



OE540-3N, Picture A1-120-6: Radial grating N-W, W-N, N-Z, W-Z; PS operator: $n^*n^*n^*0$ setcmkcolor

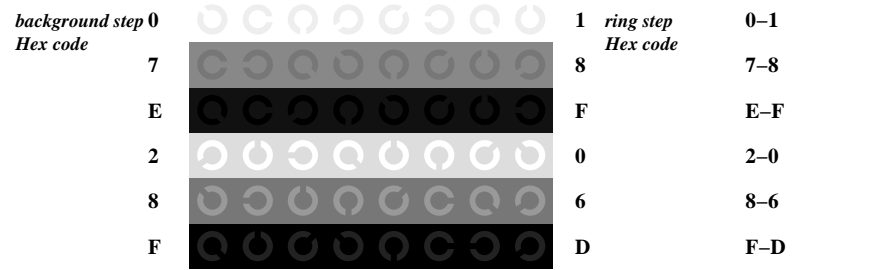


OE540-5N, Picture A2-120-6: 5 equidistant L^* -grey steps+ N_0 + W_1 ; PS operator: $n^*n^*n^*0$ setcmkcolor



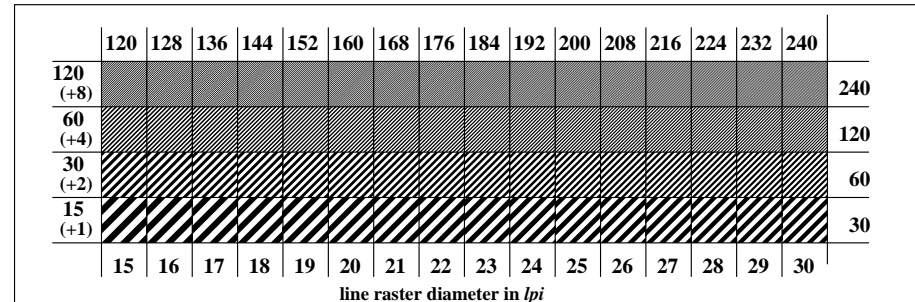
OE540-7N, Picture A3-120-6: 16 visual equidistant L^* -grey steps; PS operator: $n^*n^*n^*0$ setcmkcolor

OE54: 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



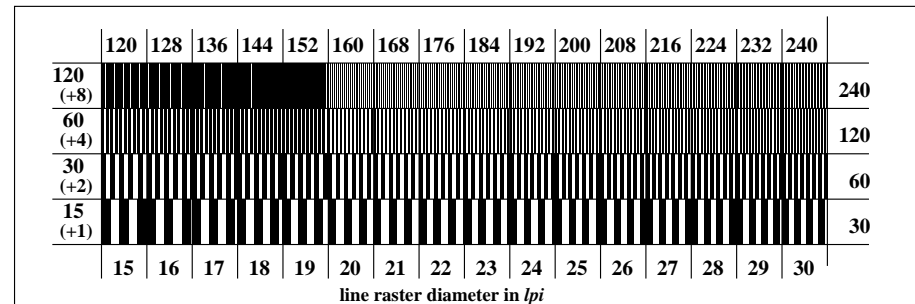
Landolt-rings W-N code: background-ring

OE541-1N, Picture A4-120-6: Landolt-rings W-N; PS operator: $n^*n^*n^*0$ setcmkcolor



line raster diameter in lpi

OE541-3N, Picture A5-120-6: Line raster under 45° (or 135°); PS operator: $n^*n^*n^*0$ setcmkcolor



line raster diameter in lpi

OE541-5N, Picture A6-120-6: Line raster under 90° (or 0°); PS operator: $n^*n^*n^*0$ setcmkcolor

input: all ($\rightarrow rgb_d$) setrgbcolor
output 130-6: $g_p=1.0$; $g_N=1.0$

TUB registration: 20110801-OE54/OE54L0NA.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 A7-120-0 Yes/No
Output test with the computer display () or the external display ()
Test of the radial grating according to picture A1-120-0
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 A2-120-0
 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 A3-120-0
 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 OE540-3N-120-7

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

PDF-File: <http://130.149.60.45/farbmetrik/OE54/OE54L0NP.PDF> underline Yes/No

PS-File: <http://130.149.60.45/farbmetrik/OE54/OE54L0NA.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 OE54L0NP.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 OE54L0NA.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 OE540-7N-120-7

OE54: Form A for test chart according to ISO 9241-306; 1MR, DH input: *all (->rgb*d) setrgbcolor*
 Viewing Y contrast $Y_W:Y_N=88,9:0,31$; Y_N range 0,0 to <0,46 output 130-7: $g_P=1.0$; $g_N=1.0$

Test for the best visual linearized output of Picture A7-120-0 Yes/No
Output test with the computer display () or the external display ()
Test of the Landolt-rings N-W according to picture A4-120-0
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 A5-120-0
 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 A6-120-0
 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 OE541-3N-120-7

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)

underline Yes/No

PDF file: <http://130.149.60.45/farbmetrik/OE54/OE54F1P2.PDF>

underline Yes/No

PS file: <http://130.149.60.45/farbmetrik/OE54/OE54F1P2.PS>

underline Yes/No

Picture A7-120-2: 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/OE54/OE54F1P2.PDF>

underline Yes/No

PS-File: <http://130.149.60.45/farbmetrik/OE54/OE54F1P2.PS>

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

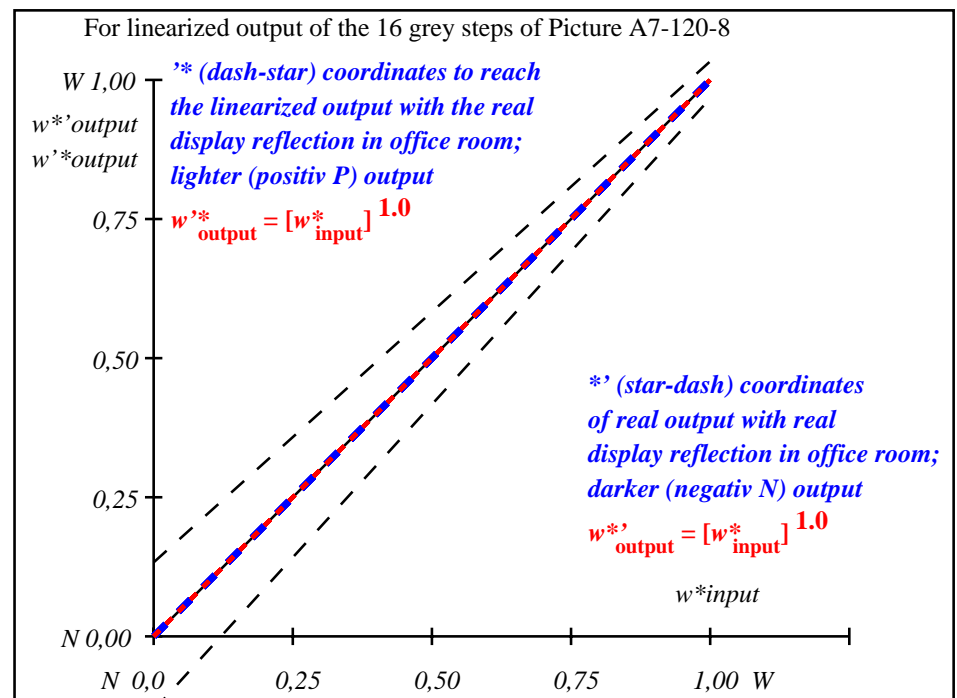
If No, please describe other method:

Part 4 OE541-7N-120-7

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	I*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

OE540-3N-120-8: File: Measure unknown; Device: Device unknown; Date: Date unknown



OE541-3N-120-8: File: Measure unknown; Device: Device unknown; Date: Date unknown

$L^*/Y^*_{intended}$ (absolute)	0.0/0.0	6.4/0.7	12.7/1.5	19.1/2.8	25.4/4.6	31.8/7.0	38.2/10.2	44.5/14.2	50.9/19.2	57.2/25.2	63.6/32.3	70.0/40.7	76.3/50.4	82.7/61.6	89.0/74.3	95.4/88.6
$n^* n^* n^* 0$ setcmk $g_P=1.0$ No. and Hex code	00;F	01;E	02;D	03;C	04;B	05;A	06;9	07;8	08;7	09;6	10;5	11;4	12;3	13;2	14;1	15;0
$w^* = [L^*_{CIELAB, r}]$ (relative)																
$w^*_{intended}$	0.000	0.067	0.133	0.200	0.267	0.333	0.400	0.467	0.533	0.600	0.667	0.733	0.800	0.867	0.933	1.000
w^*_{out}	0.0	0.067	0.133	0.2	0.267	0.333	0.4	0.467	0.533	0.6	0.667	0.733	0.8	0.867	0.933	1.0

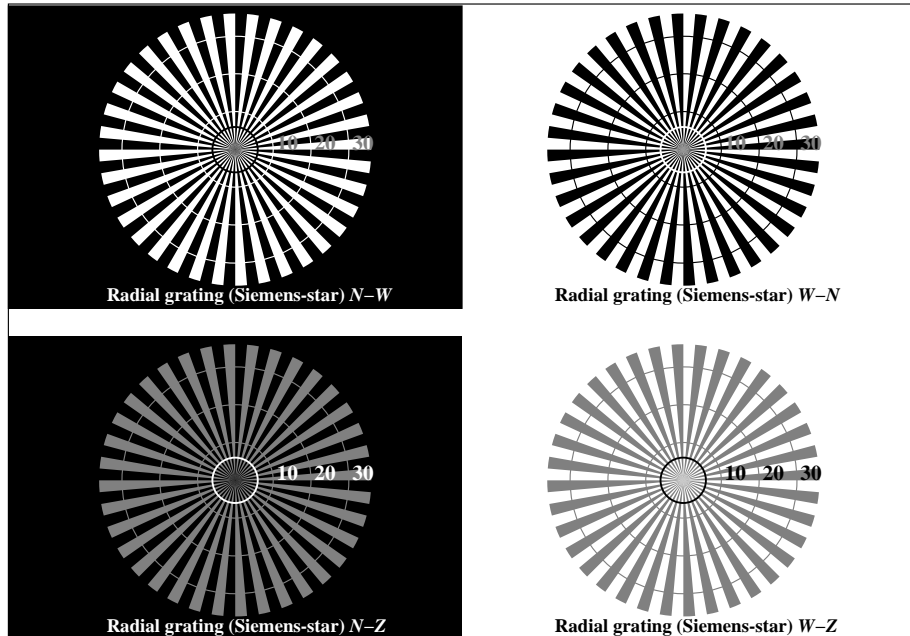
OE540-7N, Picture A7-120-8: 16 visual equidistant L^* -grey steps; PS operator: $n^* n^* n^* 0$ setcmkcolor

OE54: 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

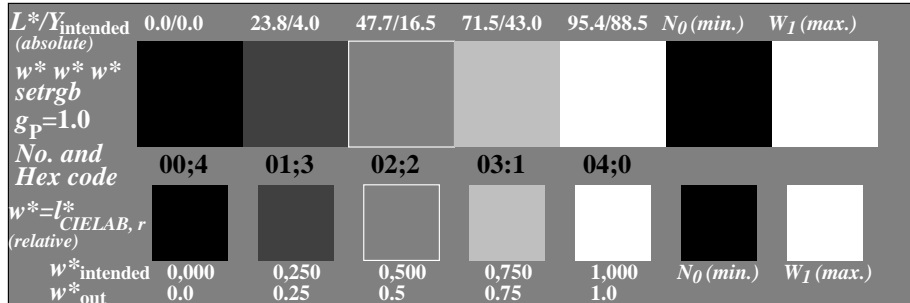
input: all ($\rightarrow rgb_d$) setrgbcolor
output 130-8: $g_P=1.0$; $g_N=1.0$

TUB registration: 20110801-OE54/OE54L0NA.TXT /.PS
application for output of displays: monitor systems or data projector systems
TUB material: code=th4ta

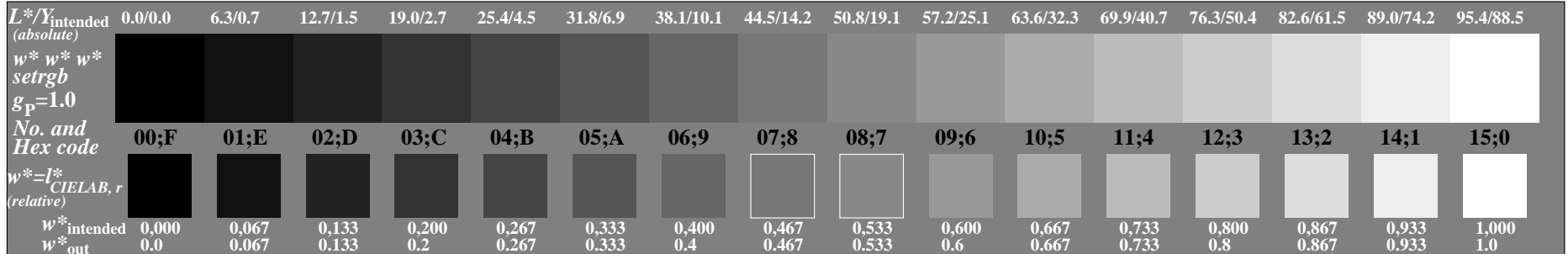
See similar ISO test charts: <http://www.ps.bam.de/24705TE>, <http://www.ps.bam.de/9241E>
Technical information: <http://www.ps.bam.de/33872E> Version 2.1, io=1,1, CIELAB



OE540-3N, Picture A1-130-9: Radial grating N-W, W-N, N-Z, W-Z; PS operator: $w^* w^* w^* \text{setrgbcolor}$

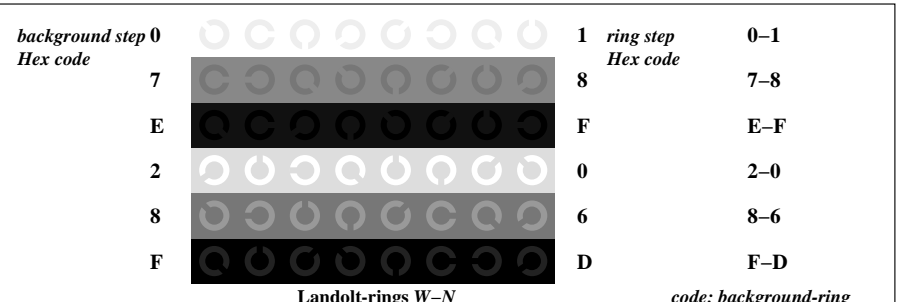


OE540-5N, Picture A2-130-9: 5 equidistant L^* -grey steps+ N_0 + W_1 ; PS operator: $w^* w^* w^* \text{setrgbcolor}$

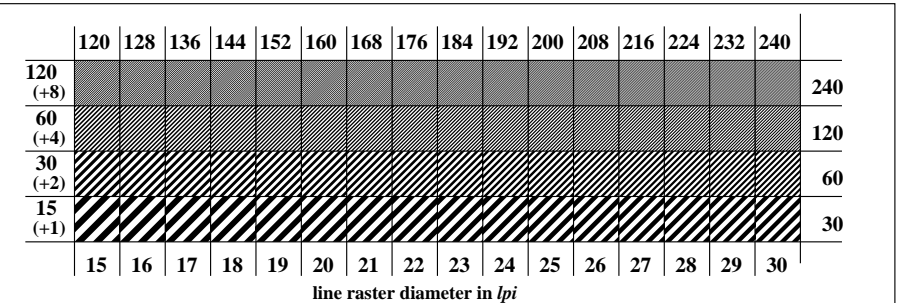


OE540-7N, Picture A3-130-9: 16 visual equidistant L^* -grey steps; PS operator: $w^* w^* w^* \text{setrgbcolor}$

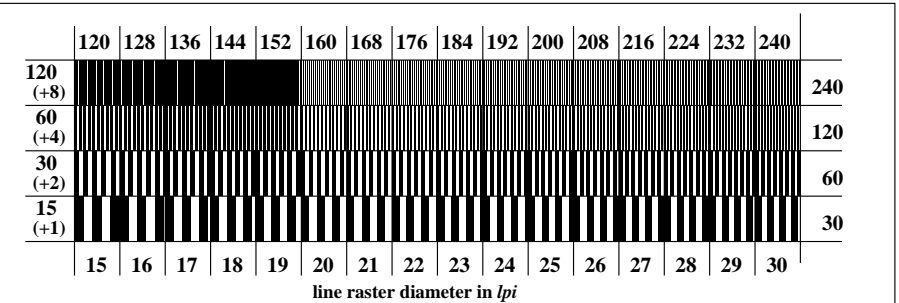
OE54: similar ME16 according to ISO 9241-306; 1MR, DH
Viewing Y contrast $Y_W:Y_N=88,9:0,31$; Y_N range 0,0 to <0,46



OE541-1N, Picture A4-130-9: Landolt-rings W-N; PS operator: $w^* w^* w^* \text{setrgbcolor}$



OE541-3N, Picture A5-130-9: Line raster under 45° (or 135°); PS operator: $w^* w^* w^* \text{setrgbcolor}$



OE541-5N, Picture A6-130-9: Line raster under 90° (or 0°); PS operator: $w^* w^* w^* \text{setrgbcolor}$

input: all ($\rightarrow \text{rgb}_d$) setrgbcolor
output 130-9: $g_p=1.0$; $g_N=1.0$

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 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)	..... 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 A2-130-0		
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:		..... 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:		..... Steps

Part 1 OE540-3N-130-10

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

PDF-File: <http://130.149.60.45/farbmetrik/OE54/OE54L0NP.PDF> underline Yes/No

PS-File: <http://130.149.60.45/farbmetrik/OE54/OE54L0NA.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 OE54L0NP.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 OE54L0NA.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 OE540-7N-130-10

OE54: Form A for test chart according to ISO 9241-306; 1MR, DH input: *all (->rgb*d) setrgbcolor*
Viewing Y contrast $Y_W:Y_N=88,9:0,31$; Y_N range 0,0 to <0,46 output 130-10: $g_P=1.0$; $g_N=1.0$

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	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 A5-130-0		
Can equally spaced lines be seen?		
Visual testing: for radial diameter from 15 to 60 lpi		
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		
Test with a magnifying glass (e.g. 6x): - from 15 lpi: to lpi		

Part 2 OE541-3N-130-10

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/OE54/OE54F1P2.PDF>

PS file: <http://130.149.60.45/farbmetrik/OE54/OE54F1P2.PS>

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/OE54/OE54F1P2.PDF>

picture A7-130-2

underline Yes/No

PS-File: <http://130.149.60.45/farbmetrik/OE54/OE54F1P2.PS>

picture A7-130-2

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

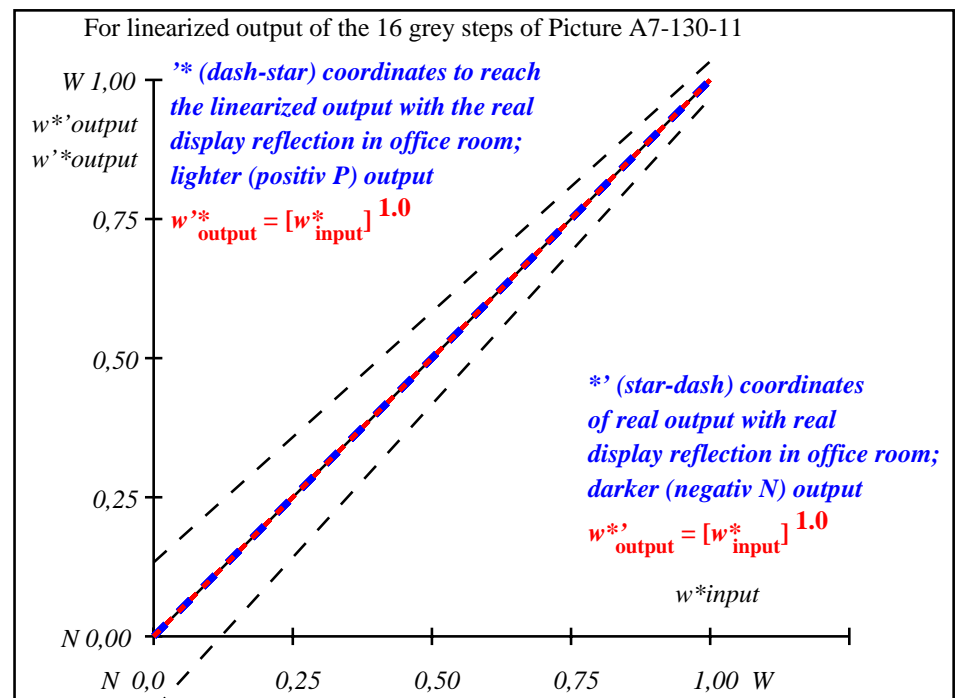
Part 4

OE541-7N-130-10

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)					ΔE* _{CIELAB} =	0.0
Mean colour reproduction index:					R* _{ab,m} =	100

OE540-3N-130-11: File: Measure unknown; Device: Device unknown; Date: Date unknown



OE541-3N-130-11: File: Measure unknown; Device: Device unknown; Date: Date unknown

$L^*/Y^*_{intended}$ (absolute)	0.0/0.0	6.4/0.7	12.7/1.5	19.1/2.8	25.4/4.6	31.8/7.0	38.2/10.2	44.5/14.2	50.9/19.2	57.2/25.2	63.6/32.3	70.0/40.7	76.3/50.4	82.7/61.6	89.0/74.3	95.4/88.6
$w^* w^* w^*$ 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
$w^* = [L^*_{CIELAB, r}]$ (relative)																
$w^*_{intended}$	0.000	0.067	0.133	0.200	0.267	0.333	0.400	0.467	0.533	0.600	0.667	0.733	0.800	0.867	0.933	1.000
w^*_{out}	0.0	0.067	0.133	0.2	0.267	0.333	0.4	0.467	0.533	0.6	0.667	0.733	0.8	0.867	0.933	1.0

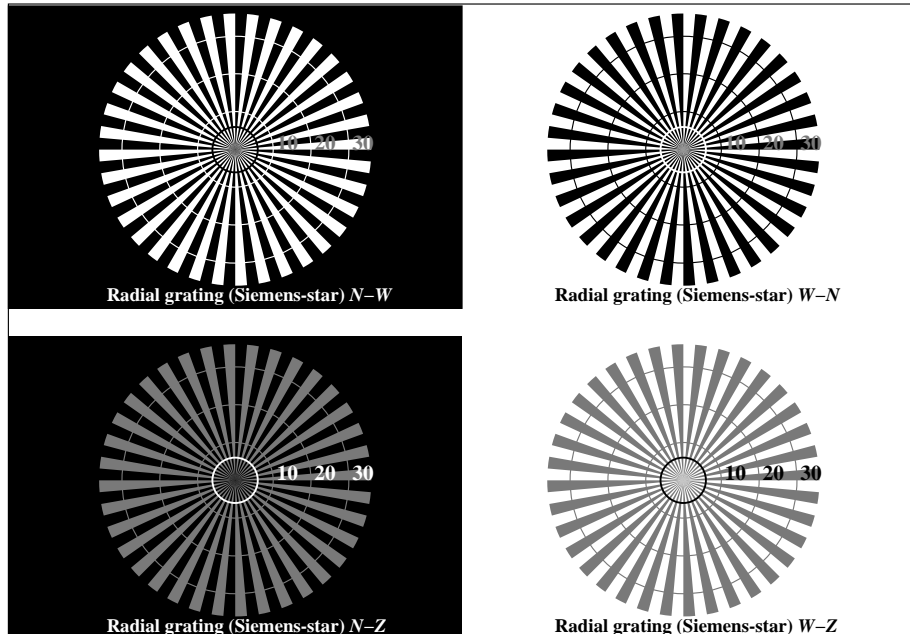
OE540-7N, Picture A7-130-11: 16 visual equidistant L^* -grey steps; PS operator: $w^* w^* w^*$ setrgbcolor

OE54: 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

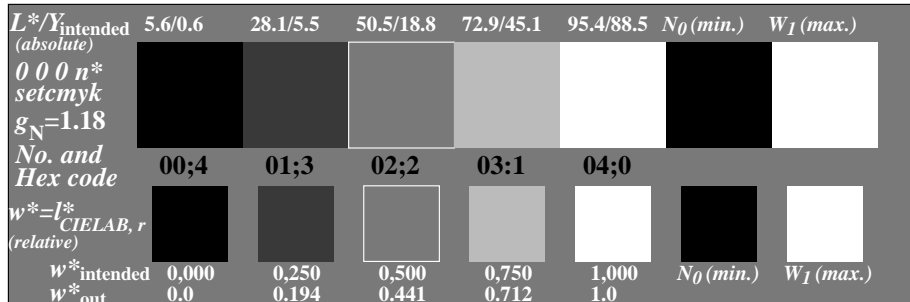
input: all ($\rightarrow rgb_d$) setrgbcolor
output 130-11: $g_P=1.0$; $g_N=1.0$

TUB registration: 20110801-OE54/OE54L0NA.TXT /.PS
TUB material: code=th4ta
application for output of displays: monitor systems or data projector systems

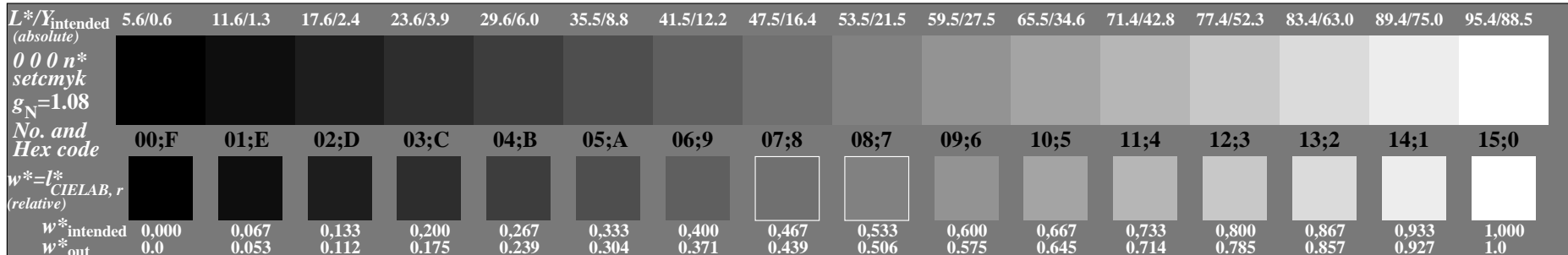
See similar ISO test charts: <http://www.ps.bam.de/24705TE>, <http://www.ps.bam.de/9241E>
Technical information: <http://www.ps.bam.de/33872E> Version 2.1, io=1.1, CIELAB



OE540-3N, Picture A1-101-0: Radial grating N-W, W-N, N-Z, W-Z; PS operator: 0 0 0 n* setcmykcolor



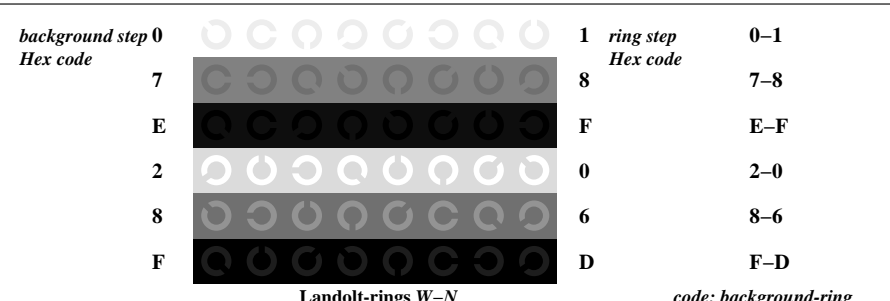
OE540-5N, Picture A2-101-0: 5 equidistant L^* -grey steps+ N_0 + W_1 ; PS operator: 0 0 0 n* setcmykcolor



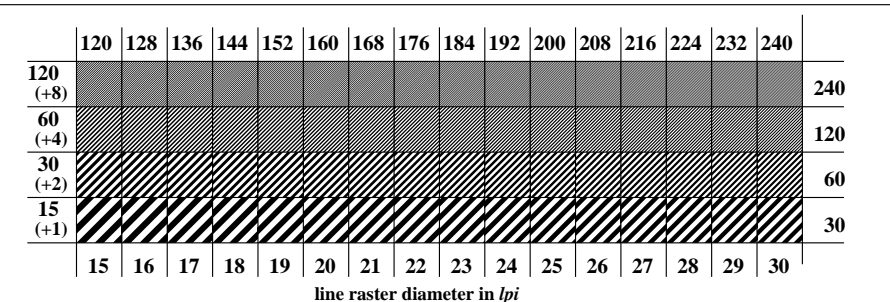
OE540-7N, Picture A3-101-0: 16 visual equidistant L^* -grey steps; PS operator: 0 0 0 n* setcmykcolor

OE54: 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

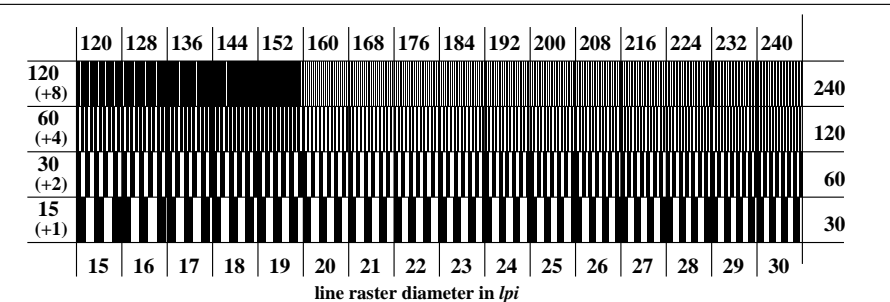
input: all ($\rightarrow rgb_d$) setrgbcolor
output 130-0: $g_P=1.0$; $g_N=1.08$



OE541-1N, Picture A4-101-0: Landolt-rings W-N; PS operator: 0 0 0 n* setcmykcolor



OE541-3N, Picture A5-101-0: Line raster under 45° (or 135°); PS operator: 0 0 0 n* setcmykcolor



OE541-5N, Picture A6-101-0: Line raster under 90° (or 0°); PS operator: 0 0 0 n* setcmykcolor

TUB registration: 20110801-OE54/OE54L0NA.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

Test for the best visual linearized output of Picture A7-101-0		Yes/No
Output test with the computer display () or the external display ()		
Test of the radial grating according to picture A1-101-0		
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 A2-101-0		
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 A3-101-0		
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

OE540-3N-108-1

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

PDF-File: <http://130.149.60.45/farbmetrik/OE54/OE54L0NP.PDF> **underline Yes/No**

PS-File: <http://130.149.60.45/farbmetrik/OE54/OE54L0NA.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 OE54L0NP.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 OE54L0NA.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

OE540-7N-101-1

OE54: Form A for test chart according to ISO 9241-306; 1MR, DH input: *all (->rgb*d) setrgbcolor*
Viewing Y contrast $Y_W:Y_N=88,9:0,62$; Y_N range 0,46 to <0,93 output 130-1: $g_P=1.0$; $g_N=1.08$

Test for the best visual linearized output of Picture A7-101-0		Yes/No
Output test with the computer display () or the external display ()		
Test of the Landolt-rings N-W according to picture A4-101-0		
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 A5-101-0		
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 A6-101-0		
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

OE541-3N-101-1

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)

underline Yes/No

PDF file: <http://130.149.60.45/farbmetrik/OE54/OE54F1P2.PDF>

underline Yes/No

PS file: <http://130.149.60.45/farbmetrik/OE54/OE54F1P2.PS>

underline Yes/No

Picture A7-101-2: 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/OE54/OE54F1P2.PDF>

underline Yes/No

picture A7-101-2

PS-File: <http://130.149.60.45/farbmetrik/OE54/OE54F1P2.PS>

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:

OE541-7N-101-1

TUB registration: 20110801-OE54/OE54L0NA.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

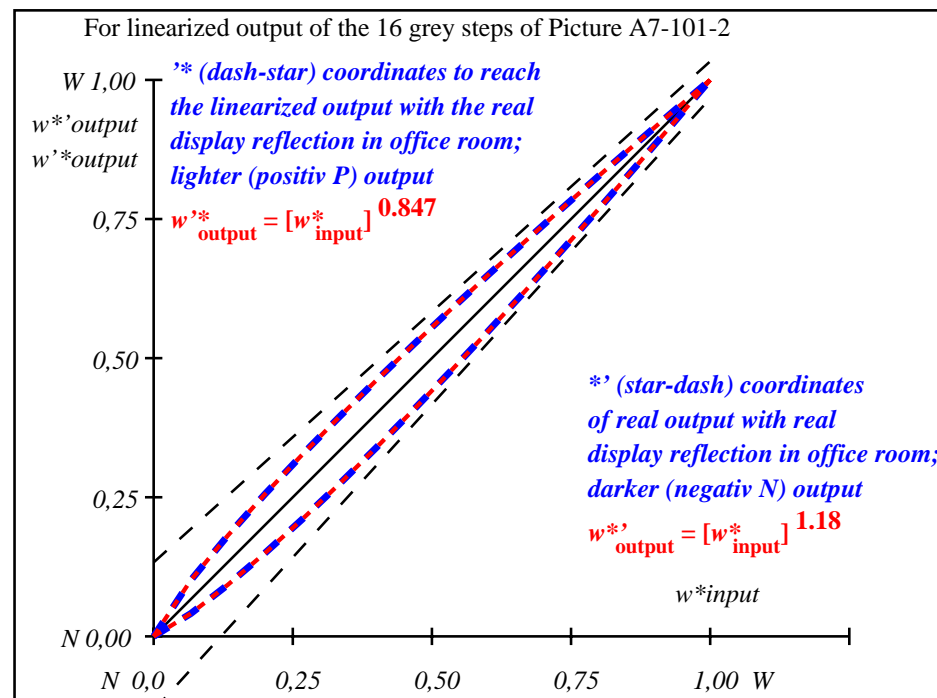
i	LAB*ref	L*out	LAB*out	LAB*out/c-ref	ΔE*	Start output S1
1	5.69	0.0	0.0	5.69	0.0	0.01
2	11.67	0.0	0.05	10.49	0.0	0.0
3	17.65	0.0	0.11	15.85	0.0	0.0
4	23.63	0.0	0.18	21.44	0.0	0.0
5	29.62	0.0	0.24	27.18	0.0	0.0
6	35.6	0.0	0.3	33.05	0.0	0.0
7	41.58	0.0	0.37	39.01	0.0	0.0
8	47.56	0.0	0.44	45.05	0.0	0.0
9	53.54	0.0	0.51	51.16	0.0	0.0
10	59.52	0.0	0.58	57.34	0.0	0.0
11	65.5	0.0	0.65	63.57	0.0	0.0
12	71.48	0.0	0.72	69.85	0.0	0.0
13	77.47	0.0	0.79	76.18	0.0	0.0
14	83.45	0.0	0.86	82.55	0.0	0.0
15	89.43	0.0	0.93	88.96	0.0	0.0
16	95.41	0.0	1.0	95.41	0.0	0.0
17	5.69	0.0	0.0	5.69	0.0	0.0
18	28.12	0.0	0.22	25.74	0.0	0.0
19	50.55	0.0	0.47	48.1	0.0	0.0
20	72.98	0.0	0.73	71.43	0.0	0.0
21	95.41	0.0	1.0	95.41	0.0	0.0

Mean lightness difference (16 steps) $\Delta E^*_{\text{CIELAB}} = 1.6$

Mean lightness difference (5 steps) $\Delta L^*_{\text{CIELAB}} = 1.3$

Mean colour reproduction index: $R^*_{\text{ab,m}} = 93$

OE540-3N-101-2: File: Measure unknown; Device: Device unknown; Date: Date unknown



OE541-3N-101-2: File: Measure unknown; Device: Device unknown; Date: Date unknown

$L^*/Y^*_{\text{intended}}$ (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
$000n^*$ setcmk $g_N=1.08$ No. and Hex code	00;F	01;E	02;D	03;C	04;B	05;A	06;9	07;8	08;7	09;6	10;5	11;4	12;3	13;2	14;1	15;0
$w^* = [L^*_{\text{CIELAB}, r}]$ (relative)	0.000	0.067	0.133	0.200	0.267	0.333	0.400	0.467	0.533	0.600	0.667	0.733	0.800	0.867	0.933	1.000
w^*_{intended}	0.000	0.067	0.133	0.200	0.267	0.333	0.400	0.467	0.533	0.600	0.667	0.733	0.800	0.867	0.933	1.000
w^*_{out}	0.0	0.054	0.113	0.176	0.24	0.305	0.371	0.439	0.506	0.576	0.645	0.715	0.786	0.857	0.928	1.0

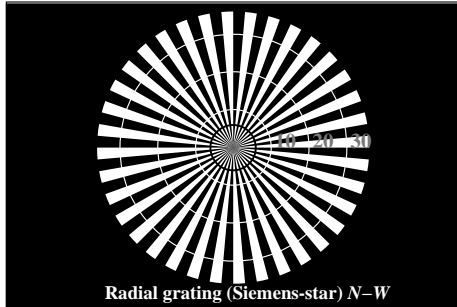
OE540-7N, Picture A7-101-2: 16 visual equidistant L^* -grey steps; PS operator: $000n^*$ setcmkcolor

OE54: 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

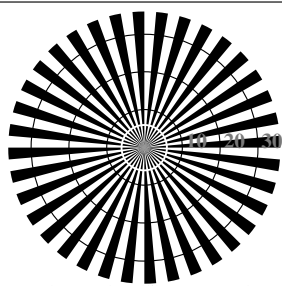
input: all ($\rightarrow rgb_d$) setrgbcolor
output 130-2: $g_P=1.0$; $g_N=1.08$

TUB registration: 20110801-OE54/OE54L0NA.TXT /.PS
TUB material: code=thata

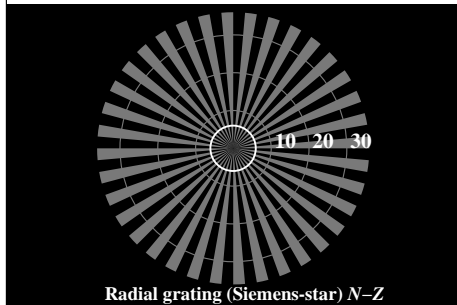
See similar ISO test charts: <http://www.ps.bam.de/24705TE>, <http://www.ps.bam.de/9241E>
Technical information: <http://www.ps.bam.de/33872E> Version 2.1, io=1,1, CIELAB



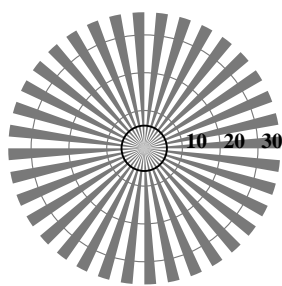
Radial grating (Siemens-star) N-W



Radial grating (Siemens-star) W-N

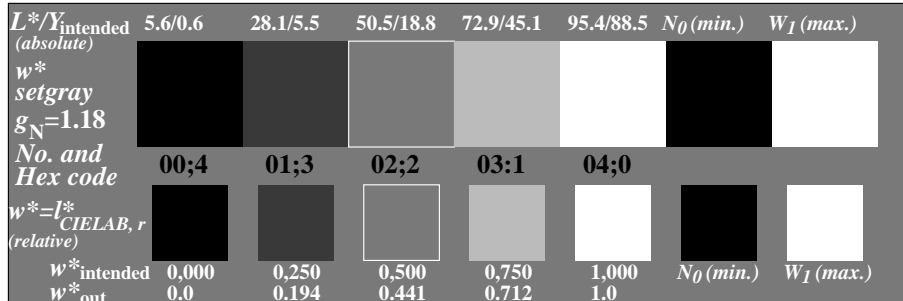


Radial grating (Siemens-star) N-Z

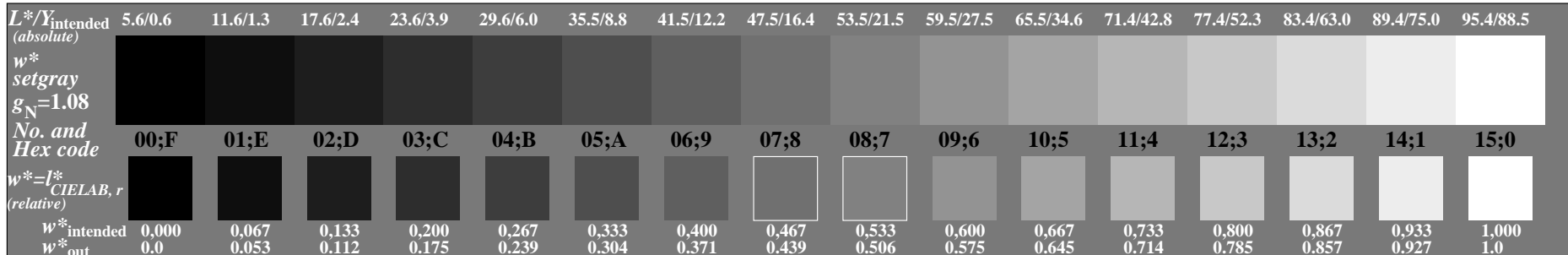


Radial grating (Siemens-star) W-Z

OE540-3N, Picture A1-111-3: Radial grating N-W, W-N, N-Z, W-Z; PS operator: w^* setgray

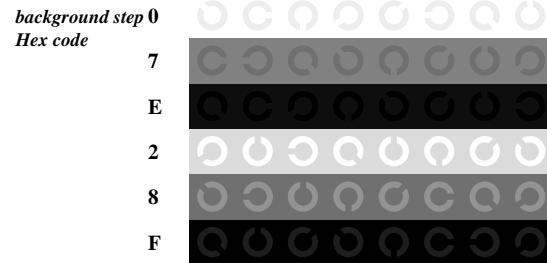


OE540-5N, Picture A2-111-3: 5 equidistant L^* -grey steps+ N_0 + W_1 ; PS operator: w^* setgray



OE540-7N, Picture A3-111-3: 16 visual equidistant L^* -grey steps; PS operator: w^* setgray

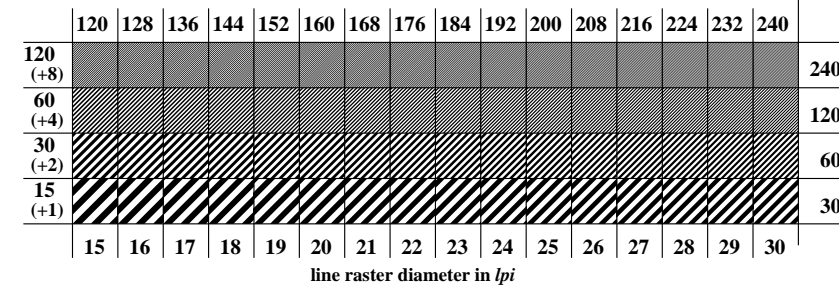
OE54: similar ME16 according to ISO 9241-306; 1MR, DH
Viewing Y contrast $Y_W:Y_N=88,9:0,62$; Y_N range 0,46 to <0,93



Landolt-rings W-N

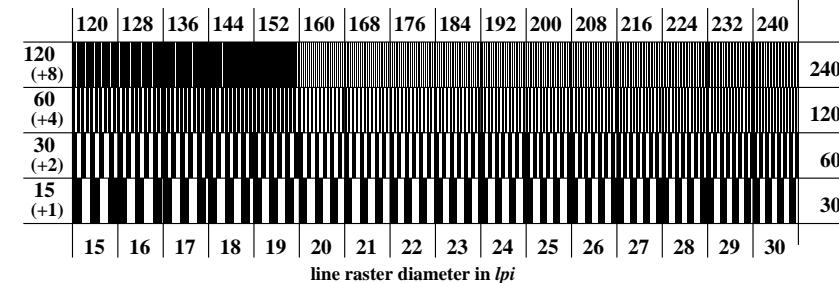
code: background-ring

OE541-1N, Picture A4-111-3: Landolt-rings W-N; PS operator: w^* setgray



line raster diameter in lpi

OE541-3N, Picture A5-111-3: Line raster under 45° (or 135°); PS operator: w^* setgray

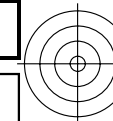
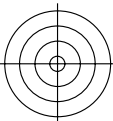


line raster diameter in lpi

OE541-5N, Picture A6-111-3: Line raster under 90° (or 0°); PS operator: w^* setgray

input: all ($\rightarrow rgb_d$) setrgbcolor
output 130-3: $g_P=1.0$; $g_N=1.08$

TUB registration: 20110801-OE54/OE54L0NA.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

Test for the best visual linearized output of Picture A7-111-0		Yes/No
Output test with the computer display () or the external display ()		
Test of the radial grating according to picture A1-111-0		
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 A2-111-0		
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 A3-111-0		
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 OE540-3N-118-4

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

PDF-File: <http://130.149.60.45/farbmetrik/OE54/OE54L0NP.PDF> underline Yes/No

PS-File: <http://130.149.60.45/farbmetrik/OE54/OE54L0NA.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 OE54L0NP.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 OE54L0NA.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 OE540-7N-111-4



OE54: Form A for test chart according to ISO 9241-306; 1MR, DH input: *all* ($\rightarrow rgb_d$) *setrgbcolor*
Viewing Y contrast $Y_W: Y_N=88,9:0,62$; Y_N range 0,46 to <0,93 output 130-4: $g_P=1.0$; $g_N=1.08$



Test for the best visual linearized output of Picture A7-111-0		Yes/No
Output test with the computer display () or the external display ()		
Test of the Landolt-rings N-W according to picture A4-111-0		
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 A5-111-0		
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 A6-111-0		
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 OE541-3N-111-4

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/OE54/OE54F1P2.PDF> underline Yes/No

PS file: <http://130.149.60.45/farbmetrik/OE54/OE54F1P2.PS> underline Yes/No

Picture A7-111-2: 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/OE54/OE54F1P2.PDF> underline Yes/No

picture A7-111-2 underline Yes/No

PS-File: <http://130.149.60.45/farbmetrik/OE54/OE54F1P2.PS> or underline Yes/No

picture A7-111-2 or underline Yes/No

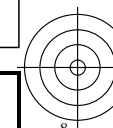
colour measurement and specification for:
CIE standard illuminant D65, 2 degree observer, CIE 45/0 geometry: underline Yes/No
If No, please give other parameters:

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:

Part 4 OE541-7N-111-4



TUB registration: 20110801-OE54/OE54L0NA.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

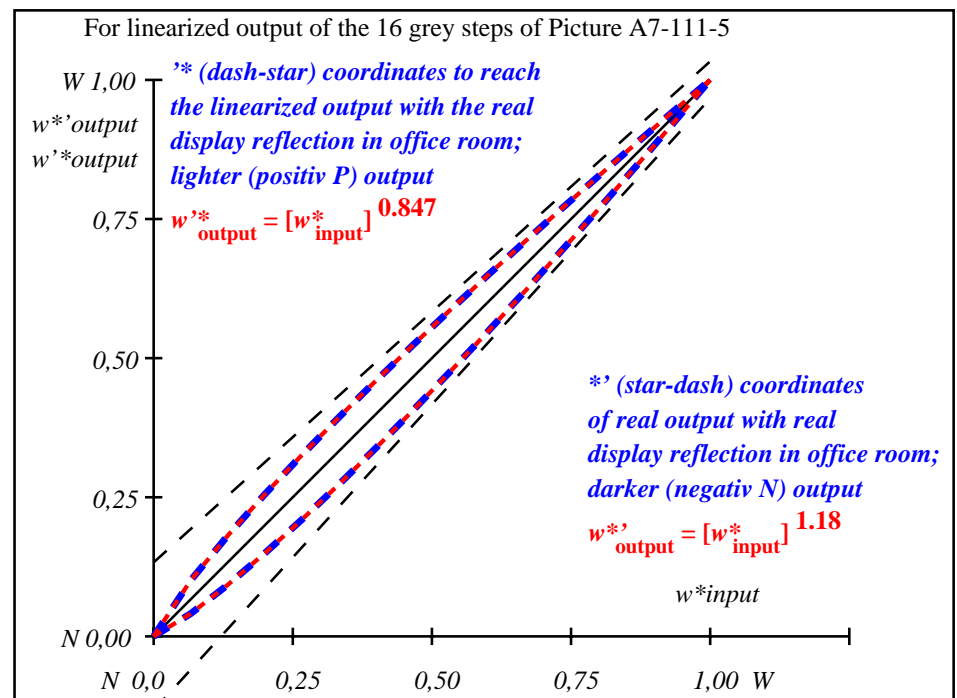
i	LAB*ref	L*out	LAB*out	LAB*out/c-ref	ΔE*	Start output S1
1	5.69	0.0	0.0	5.69	0.0	0.01
2	11.67	0.0	0.05	10.49	0.0	0.0
3	17.65	0.0	0.11	15.85	0.0	0.0
4	23.63	0.0	0.18	21.44	0.0	0.0
5	29.62	0.0	0.24	27.18	0.0	0.0
6	35.6	0.0	0.3	33.05	0.0	0.0
7	41.58	0.0	0.37	39.01	0.0	0.0
8	47.56	0.0	0.44	45.05	0.0	0.0
9	53.54	0.0	0.51	51.16	0.0	0.0
10	59.52	0.0	0.58	57.34	0.0	0.0
11	65.5	0.0	0.65	63.57	0.0	0.0
12	71.48	0.0	0.72	69.85	0.0	0.0
13	77.47	0.0	0.79	76.18	0.0	0.0
14	83.45	0.0	0.86	82.55	0.0	0.0
15	89.43	0.0	0.93	88.96	0.0	0.0
16	95.41	0.0	1.0	95.41	0.0	0.0
17	5.69	0.0	0.0	5.69	0.0	0.0
18	28.12	0.0	0.22	25.74	0.0	0.0
19	50.55	0.0	0.47	48.1	0.0	0.0
20	72.98	0.0	0.73	71.43	0.0	0.0
21	95.41	0.0	1.0	95.41	0.0	0.0

Mean lightness difference (16 steps) $\Delta E^*_{\text{CIELAB}} = 1.6$

Mean lightness difference (5 steps) $\Delta E^*_{\text{CIELAB}} = 1.3$

Mean colour reproduction index: $R^*_{\text{ab,m}} = 93$

OE540-3N-111-5: File: Measure unknown; Device: Device unknown; Date: Date unknown



OE541-3N-111-5: File: Measure unknown; Device: Device unknown; Date: Date unknown

$L^*/Y^*_{\text{intended}}$ (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^*_{setgray} $g_N=1.08$ 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^*_{intended} w^*_{out}	0.000 0.0	0.067 0.054	0.133 0.113	0.200 0.176	0.267 0.24	0.333 0.305	0.400 0.371	0.467 0.439	0.533 0.506	0.600 0.576	0.667 0.645	0.733 0.715	0.800 0.786	0.867 0.857	0.933 0.928	1.000 1.0

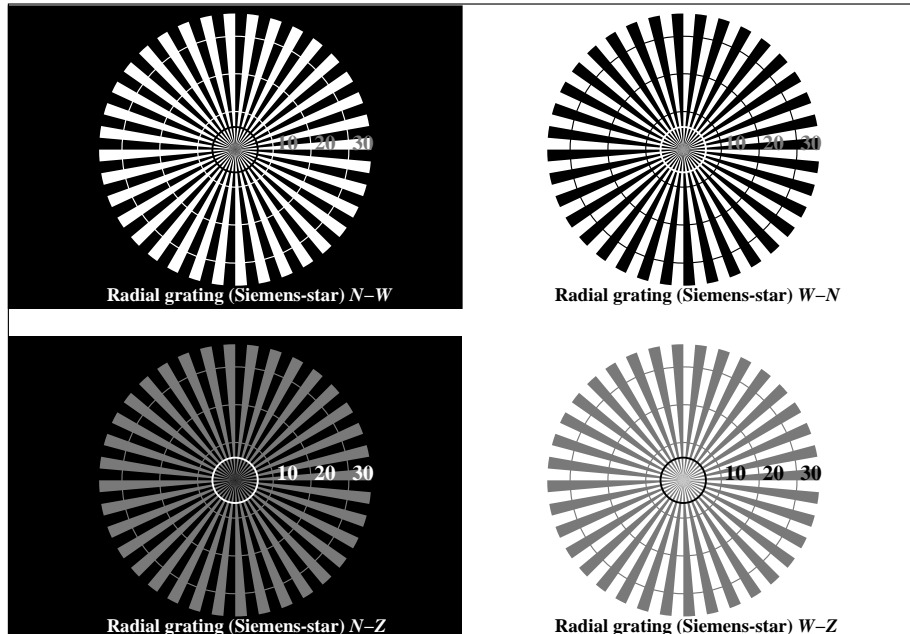
OE540-7N, Picture A7-111-5: 16 visual equidistant L^* -grey steps; PS operator: w^*_{setgray}

OE54: 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

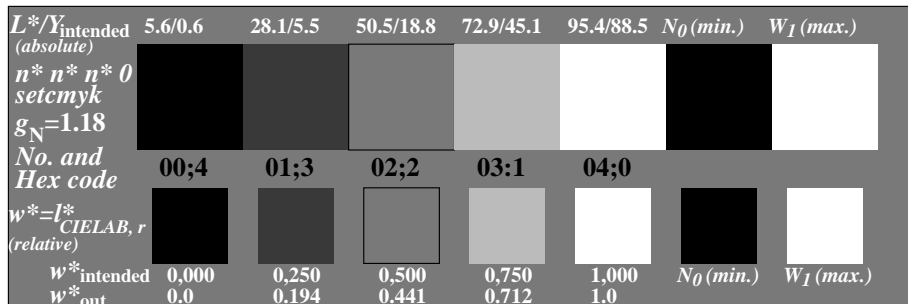
input: all ($\rightarrow \text{rgb}_d$) setrgbcOLOR
output 130-5: $g_P=1.0$; $g_N=1.08$

TUB registration: 20110801-OE54/OE54L0NA.TXT /.PS
application for output of displays: monitor systems or data projector systems
TUB material: code=th4ta

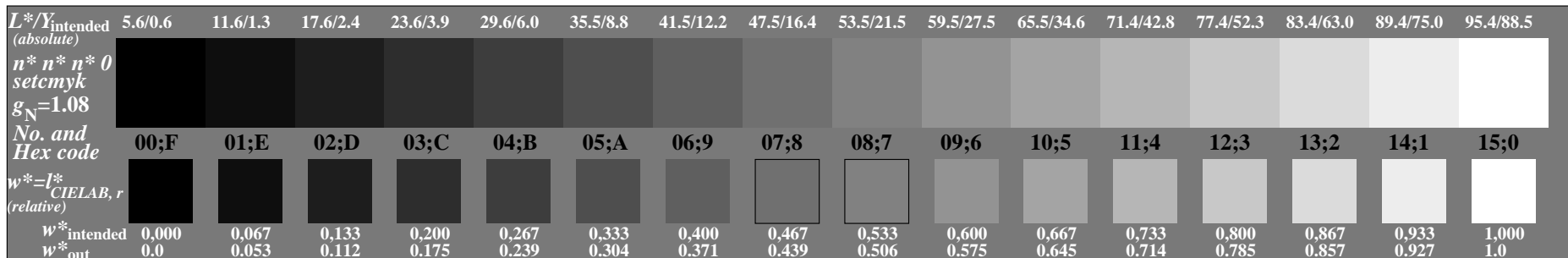
See similar ISO test charts: <http://www.ps.bam.de/24705TE>, <http://www.ps.bam.de/9241E>
Technical information: <http://www.ps.bam.de/33872E> Version 2.1, io=1.1, CIELAB



OE540-3N, Picture A1-121-6: Radial grating N-W, W-N, N-Z, W-Z; PS operator: $n^*n^*n^*0$ setcmkcolor

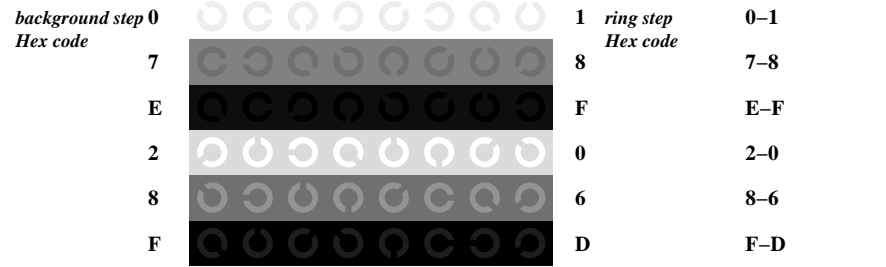


OE540-5N, Picture A2-121-6: 5 equidistant L^* -grey steps+ N_0 + W_1 ; PS operator: $n^*n^*n^*0$ setcmkcolor



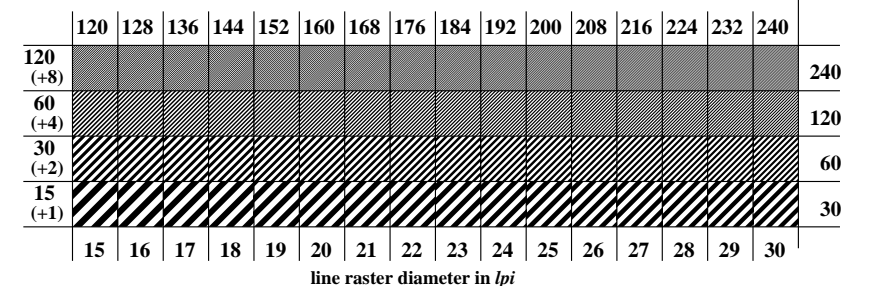
OE540-7N, Picture A3-121-6: 16 visual equidistant L^* -grey steps; PS operator: $n^*n^*n^*0$ setcmkcolor

OE54: 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



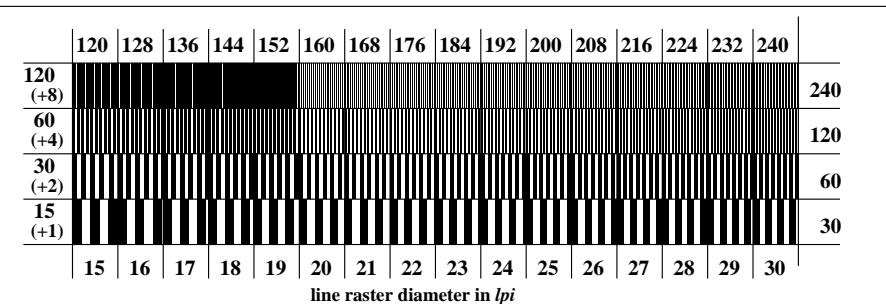
Landolt-rings W-N code: background-ring

OE541-1N, Picture A4-121-6: Landolt-rings W-N; PS operator: $n^*n^*n^*0$ setcmkcolor



line raster diameter in lpi

OE541-3N, Picture A5-121-6: Line raster under 45° (or 135°); PS operator: $n^*n^*n^*0$ setcmkcolor



line raster diameter in lpi

OE541-5N, Picture A6-121-6: Line raster under 90° (or 0°); PS operator: $n^*n^*n^*0$ setcmkcolor

input: all ($\rightarrow rgb_d$) setrgbcolor
output 130-6: $g_P=1.0$; $g_N=1.08$

TUB registration: 20110801-OE54/OE54L0NA.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 A7-121-0 Yes/No
Output test with the computer display () or the external display ()
Test of the radial grating according to picture A1-121-0
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 A2-121-0
 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 A3-121-0
 Are the 16 steps on the upper rows distinguishable? Yes/No
 If No: How many steps can be distinguished? Steps

Part 1 OE540-3N-128-7

Documentation of file format, hardware and software for this test:
PDF-File: <http://130.149.60.45/farbmetrik/OE54/OE54L0NP.PDF> underline Yes/No
PS-File: <http://130.149.60.45/farbmetrik/OE54/OE54L0NA.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 OE54L0NP.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 OE54L0NA.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 OE540-7N-121-7

OE54: Form A for test chart according to ISO 9241-306; 1MR, DH input: *all* (\rightarrow rgb_d) setrgbcolor
 Viewing Y contrast $Y_W: Y_N=88,9:0,62$; Y_N range 0,46 to <0,93 output 130-7: $g_P=1.0$; $g_N=1.08$

Test for the best visual linearized output of Picture A7-121-0 Yes/No
Output test with the computer display () or the external display ()
Test of the Landolt-rings N-W according to picture A4-121-0
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 A5-121-0
 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 A6-121-0
 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 OE541-3N-121-7

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/OE54/OE54F1P2.PDF> underline Yes/No
PS file: <http://130.149.60.45/farbmetrik/OE54/OE54F1P2.PS> underline Yes/No
Picture A7-121-2: 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/OE54/OE54F1P2.PDF> underline Yes/No
picture A7-121-2
PS-File: <http://130.149.60.45/farbmetrik/OE54/OE54F1P2.PS> or underline Yes/No
picture A7-121-2

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 OE541-7N-121-7

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

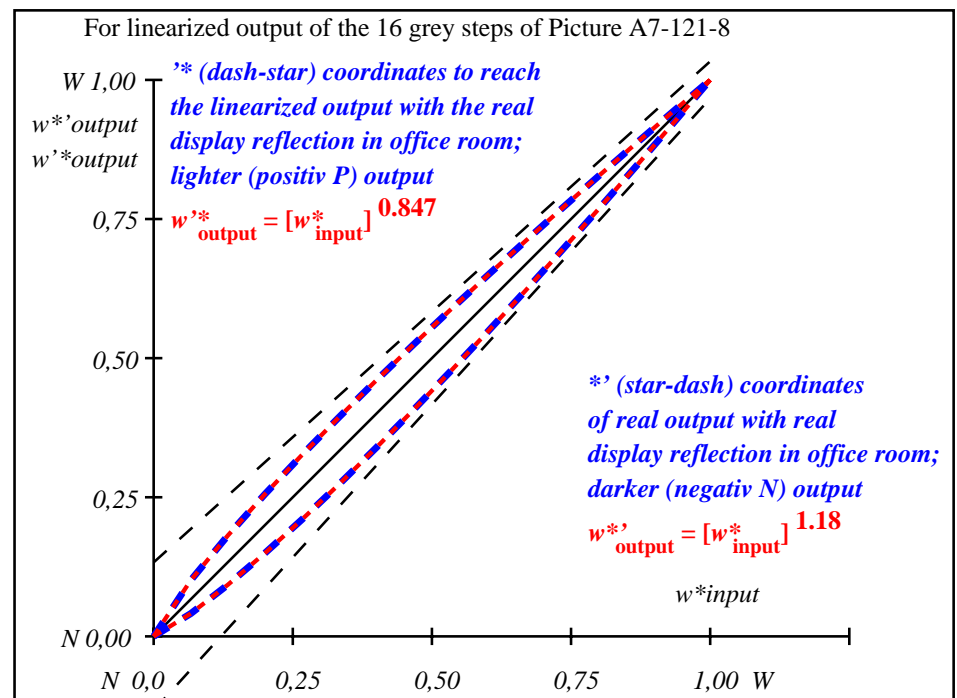
i	LAB*ref	L*out	LAB*out	LAB*out/c-ref	ΔE*	Start output S1
1	5.69	0.0	0.0	5.69	0.0	0.01
2	11.67	0.0	0.05	10.49	0.0	0.0
3	17.65	0.0	0.11	15.85	0.0	0.0
4	23.63	0.0	0.18	21.44	0.0	0.0
5	29.62	0.0	0.24	27.18	0.0	0.0
6	35.6	0.0	0.3	33.05	0.0	0.0
7	41.58	0.0	0.37	39.01	0.0	0.0
8	47.56	0.0	0.44	45.05	0.0	0.0
9	53.54	0.0	0.51	51.16	0.0	0.0
10	59.52	0.0	0.58	57.34	0.0	0.0
11	65.5	0.0	0.65	63.57	0.0	0.0
12	71.48	0.0	0.72	69.85	0.0	0.0
13	77.47	0.0	0.79	76.18	0.0	0.0
14	83.45	0.0	0.86	82.55	0.0	0.0
15	89.43	0.0	0.93	88.96	0.0	0.0
16	95.41	0.0	1.0	95.41	0.0	0.0
17	5.69	0.0	0.0	5.69	0.0	0.0
18	28.12	0.0	0.22	25.74	0.0	0.0
19	50.55	0.0	0.47	48.1	0.0	0.0
20	72.98	0.0	0.73	71.43	0.0	0.0
21	95.41	0.0	1.0	95.41	0.0	0.0

Mean lightness difference (16 steps) $\Delta E^*_{\text{CIELAB}} = 1.6$

Mean lightness difference (5 steps) $\Delta E^*_{\text{CIELAB}} = 1.3$

Mean colour reproduction index: $R^*_{\text{ab,m}} = 93$

OE540-3N-121-8: File: Measure unknown; Device: Device unknown; Date: Date unknown



OE541-3N-121-8: File: Measure unknown; Device: Device unknown; Date: Date unknown

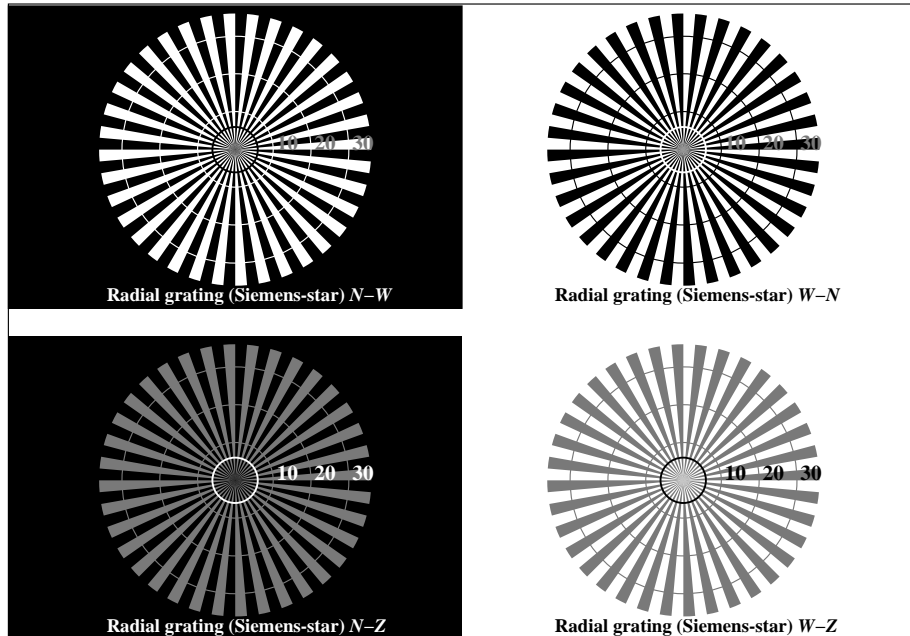
$L^*/Y^*_{\text{intended}}$ (absolute)	5.7/0.6	11.7/1.4	17.7/2.4	23.6/4.0	29.6/6.1	35.6/8.8	41.6/12.2	47.6/16.5	53.5/21.5	59.5/27.6	65.5/34.7	71.5/42.9	77.5/52.3	83.4/63.0	89.4/75.1	95.4/88.6
$n^* n^* n^* 0$ setcmk $g_N=1.08$ No. and Hex code	00;F	01;E	02;D	03;C	04;B	05;A	06;9	07;8	08;7	09;6	10;5	11;4	12;3	13;2	14;1	15;0
$w^* = [L^*_{\text{CIELAB}, r}]$ (relative)	0.000	0.067	0.133	0.200	0.267	0.333	0.400	0.467	0.533	0.600	0.667	0.733	0.800	0.867	0.933	1.000
w^*_{intended}	0.0	0.054	0.113	0.176	0.24	0.305	0.371	0.439	0.506	0.576	0.645	0.715	0.786	0.857	0.928	1.0

OE540-7N, Picture A7-121-8: 16 visual equidistant L^* -grey steps; PS operator: $n^* n^* n^* 0$ setcmkcolor

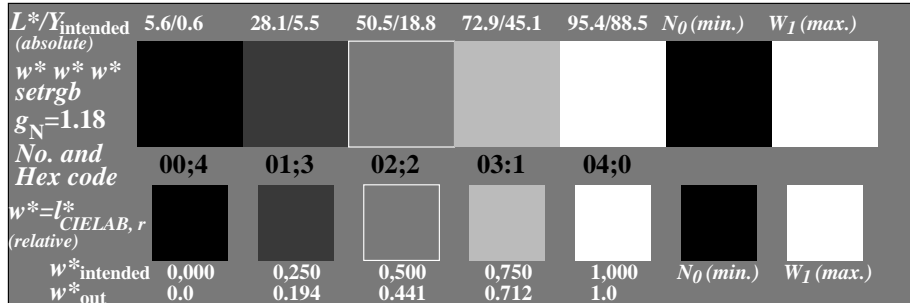
OE54: In-output relation according to ISO 9241-306; 1MR, DH
Viewing Y contrast $Y_W:Y_N=88,9:0,62$; Y_N range 0,46 to <0,93

input: all ($\rightarrow rgb_d$) setrgbcolor
output 130-8: $g_P=1.0$; $g_N=1.08$

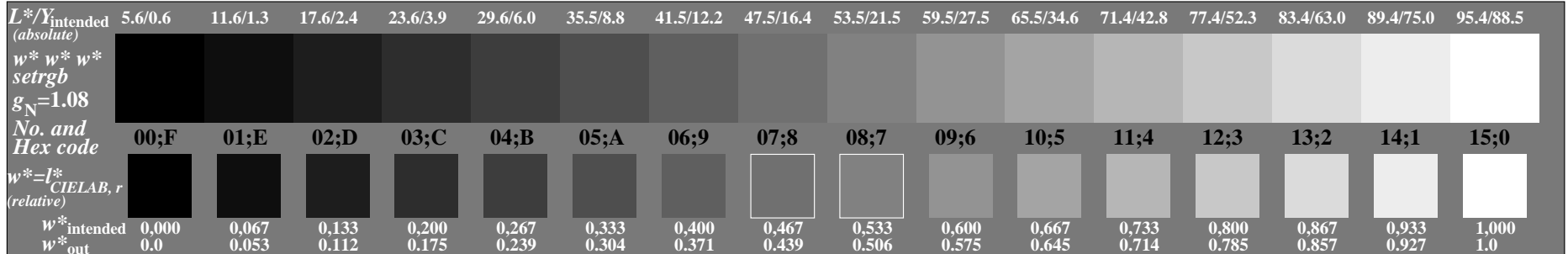
See similar ISO test charts: <http://www.ps.bam.de/24705TE>, <http://www.ps.bam.de/9241E>
Technical information: <http://www.ps.bam.de/33872E> Version 2.1, io=1.1, CIELAB



OE540-3N, Picture A1-131-9: Radial grating N-W, W-N, N-Z, W-Z; PS operator: $w^* w^* w^* \text{setrgbcolor}$

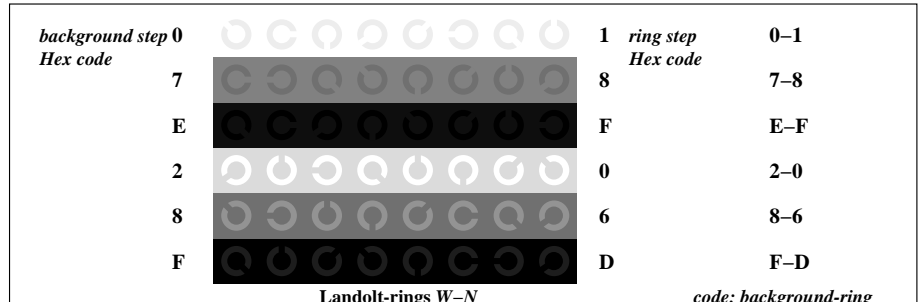


OE540-5N, Picture A2-131-9: 5 equidistant L^* -grey steps+ N_0 + W_1 ; PS operator: $w^* w^* w^* \text{setrgbcolor}$

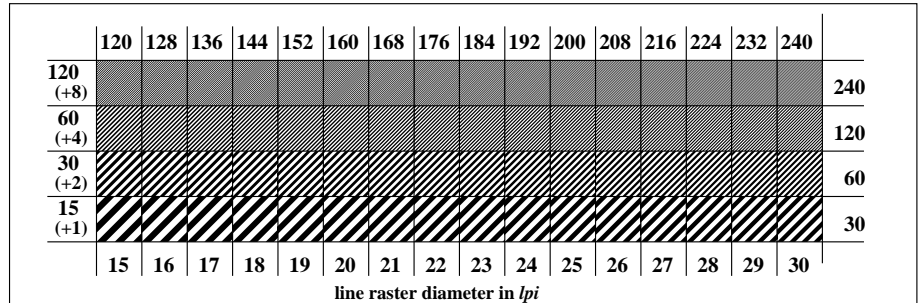


OE540-7N, Picture A3-131-9: 16 visual equidistant L^* -grey steps; PS operator: $w^* w^* w^* \text{setrgbcolor}$

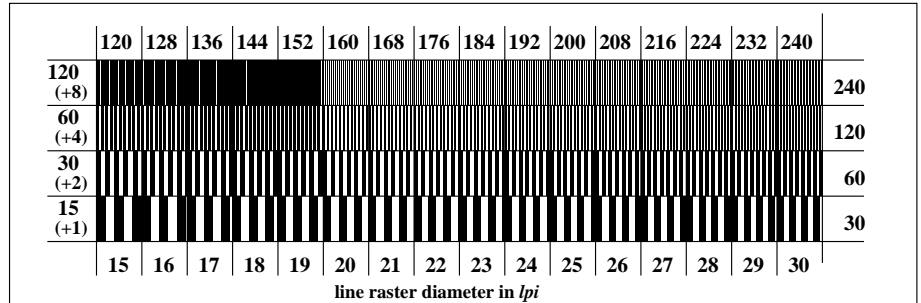
OE54: similar ME16 according to ISO 9241-306; 1MR, DH
Viewing Y contrast $Y_W:Y_N=88,9:0,62$; Y_N range 0,46 to <0,93



OE541-1N, Picture A4-131-9: Landolt-rings W-N; PS operator: $w^* w^* w^* \text{setrgbcolor}$



OE541-3N, Picture A5-131-9: Line raster under 45° (or 135°); PS operator: $w^* w^* w^* \text{setrgbcolor}$



OE541-5N, Picture A6-131-9: Line raster under 90° (or 0°); PS operator: $w^* w^* w^* \text{setrgbcolor}$

input: all ($\rightarrow \text{rgb}_d$) setrgbcolor
output 130-9: $g_P=1.0$; $g_N=1.08$

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 radial grating according to picture A1-131-0		
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 A2-131-0		
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 A3-131-0		
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 OE540-3N-138-10

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

PDF-File: <http://130.149.60.45/farbmetrik/OE54/OE54L0NP.PDF> underline Yes/No

PS-File: <http://130.149.60.45/farbmetrik/OE54/OE54L0NA.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 OE54L0NP.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 OE54L0NA.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 OE540-7N-131-10

OE54: Form A for test chart according to ISO 9241-306; 1MR, DH input: *all (->rgb*d) setrgbcolor*
Viewing Y contrast $Y_W:Y_N=88,9:0,62$; Y_N range 0,46 to <0,93 output 130-10: $g_P=1.0$; $g_N=1.08$

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 Landolt-rings N-W according to picture A4-131-0		
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 A5-131-0		
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

Part 2 OE541-3N-131-10

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/OE54/OE54F1P2.PDF>

PS file: <http://130.149.60.45/farbmetrik/OE54/OE54F1P2.PS>

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)

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/OE54/OE54F1P2.PDF>

picture A7-131-2

underline Yes/No

PS-File: <http://130.149.60.45/farbmetrik/OE54/OE54F1P2.PS>

picture A7-131-2

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

OE541-7N-131-10

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

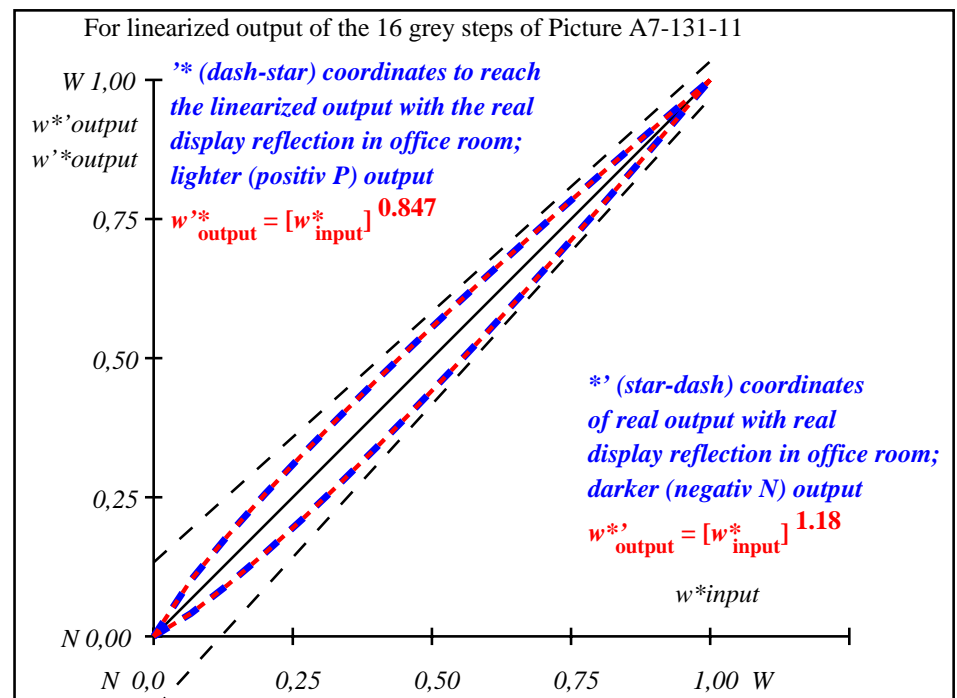
i	LAB*ref	L*out	LAB*out	LAB*out/c-ref	ΔE*	Start output S1
1	5.69	0.0	0.0	5.69	0.0	0.01
2	11.67	0.0	0.05	10.49	0.0	0.0
3	17.65	0.0	0.11	15.85	0.0	0.0
4	23.63	0.0	0.18	21.44	0.0	0.0
5	29.62	0.0	0.24	27.18	0.0	0.0
6	35.6	0.0	0.3	33.05	0.0	0.0
7	41.58	0.0	0.37	39.01	0.0	0.0
8	47.56	0.0	0.44	45.05	0.0	0.0
9	53.54	0.0	0.51	51.16	0.0	0.0
10	59.52	0.0	0.58	57.34	0.0	0.0
11	65.5	0.0	0.65	63.57	0.0	0.0
12	71.48	0.0	0.72	69.85	0.0	0.0
13	77.47	0.0	0.79	76.18	0.0	0.0
14	83.45	0.0	0.86	82.55	0.0	0.0
15	89.43	0.0	0.93	88.96	0.0	0.0
16	95.41	0.0	1.0	95.41	0.0	0.0
17	5.69	0.0	0.0	5.69	0.0	0.0
18	28.12	0.0	0.22	25.74	0.0	0.0
19	50.55	0.0	0.47	48.1	0.0	0.0
20	72.98	0.0	0.73	71.43	0.0	0.0
21	95.41	0.0	1.0	95.41	0.0	0.0

Mean lightness difference (16 steps) $\Delta E^*_{\text{CIELAB}} = 1.6$

Mean lightness difference (5 steps) $\Delta E^*_{\text{CIELAB}} = 1.3$

Mean colour reproduction index: $R^*_{\text{ab,m}} = 93$

OE540-3N-131-11: File: Measure unknown; Device: Device unknown; Date: Date unknown



OE541-3N-131-11: File: Measure unknown; Device: Device unknown; Date: Date unknown

$L^*/Y^*_{\text{intended}}$ (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 $g_N=1.08$ 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}	0.0	0.054	0.113	0.176	0.24	0.305	0.371	0.439	0.506	0.576	0.645	0.715	0.786	0.857	0.928	1.0

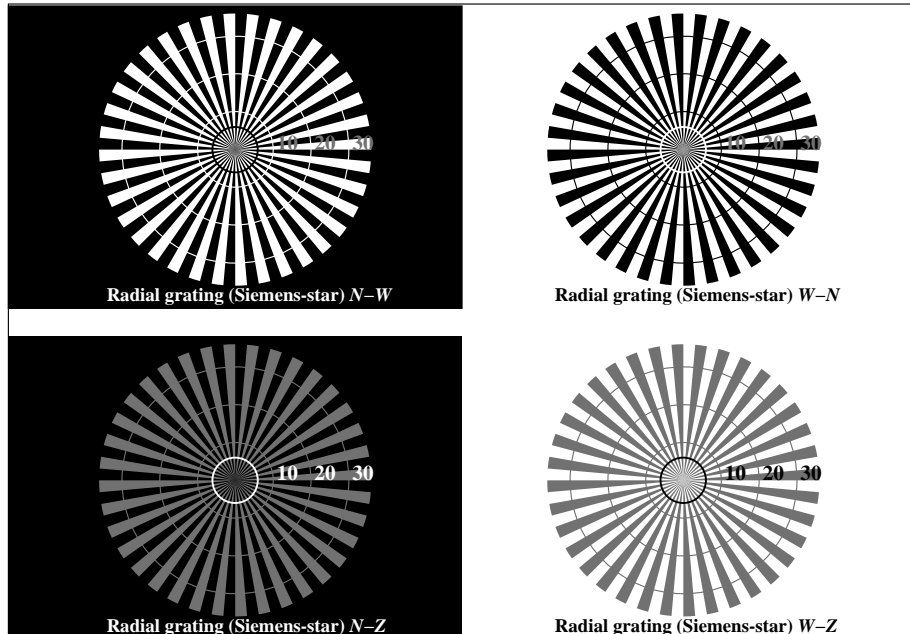
OE540-7N, Picture A7-131-11: 16 visual equidistant L^* -grey steps; PS operator: $w^* w^* w^*$ setrgbcolor

OE54: 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

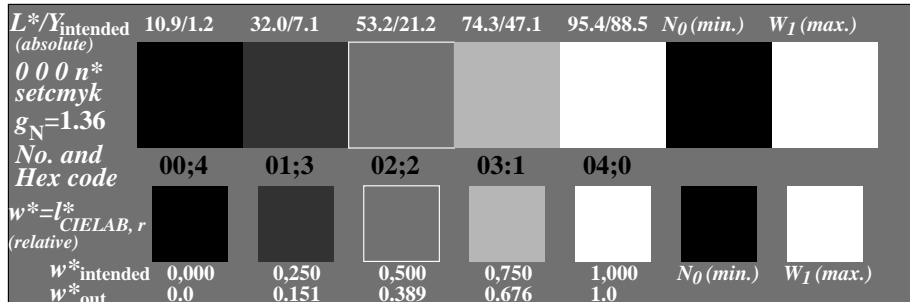
input: all ($\rightarrow \text{rgb}_d$) setrgbcolor
output 130-11: $g_P=1.0$; $g_N=1.08$

TUB registration: 20110801-OE54/OE54L0NA.TXT /.PS
application for output of displays: monitor systems or data projector systems
TUB material: code=rh4ta

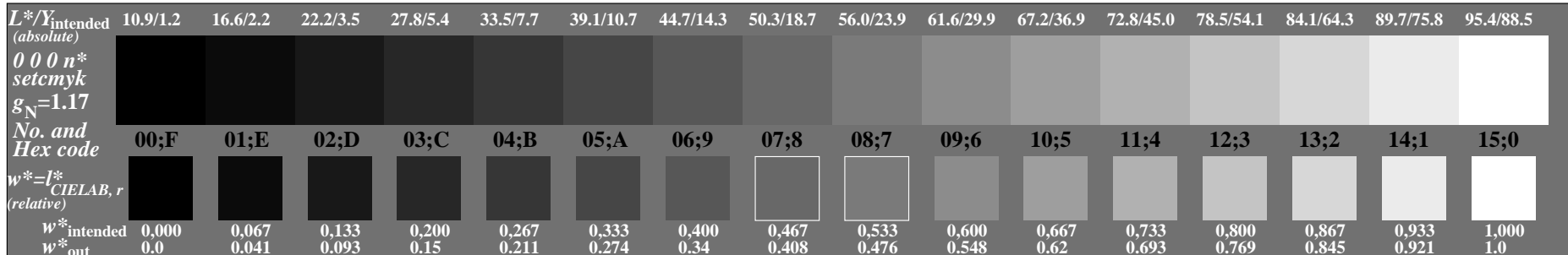
See similar ISO test charts: <http://www.ps.bam.de/24705TE>, <http://www.ps.bam.de/9241E>
Technical information: <http://www.ps.bam.de/33872E> Version 2.1, io=1,1, CIELAB



OE540-3N, Picture A1-102-0: Radial grating N-W, W-N, N-Z, W-Z; PS operator: 0 0 0 n* setcmykcolor

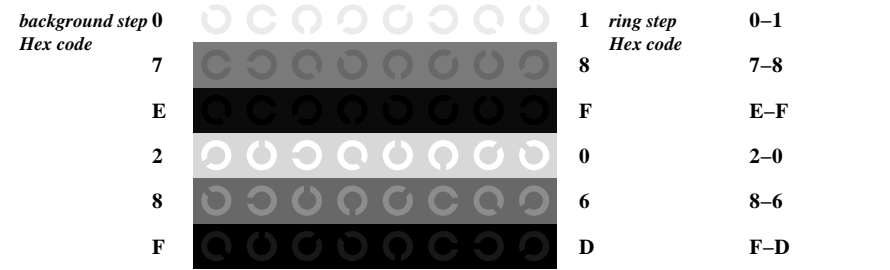


OE540-5N, Picture A2-102-0: 5 equidistant L^* -grey steps+ N_0 + W_1 ; PS operator: 0 0 0 n* setcmykcolor

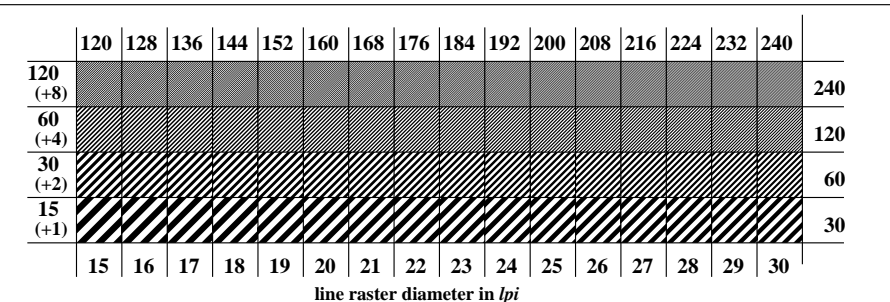


OE540-7N, Picture A3-102-0: 16 visual equidistant L^* -grey steps; PS operator: 0 0 0 n* setcmykcolor

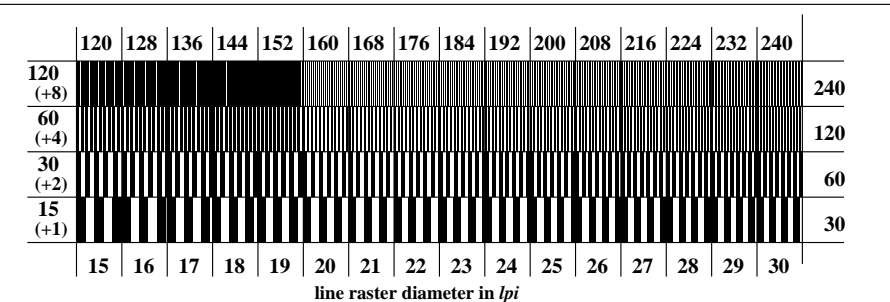
OE54: similar ME16 according to ISO 9241-306; 1MR, DH
Viewing Y contrast $Y_W:Y_N=88,9:1,25$; Y_N range 0,93 to <1,87



Landolt-rings W-N code: background-ring
OE541-1N, Picture A4-102-0: Landolt-rings W-N; PS operator: 0 0 0 n* setcmykcolor



OE541-3N, Picture A5-102-0: Line raster under 45° (or 135°); PS operator: 0 0 0 n* setcmykcolor



OE541-5N, Picture A6-102-0: Line raster under 90° (or 0°); PS operator: 0 0 0 n* setcmykcolor

input: all (->rgb*d) setrgbcolor
output 130-0: $g_P=1.0$; $g_N=1.17$

TUB registration: 20110801-OE54/OE54L0NA.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 A7-102-0		Yes/No
Output test with the computer display () or the external display ()		
Test of the radial grating according to picture A1-102-0		
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 A2-102-0		
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 A3-102-0		
Are the 16 steps on the upper rows distinguishable?		Yes/No
If No: How many steps can be distinguished?		.... Steps

Part 1

OE540-3N-1016-1

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

PDF-File: <http://130.149.60.45/farbmetrik/OE54/OE54L0NP.PDF> underline Yes/No

PS-File: <http://130.149.60.45/farbmetrik/OE54/OE54L0NA.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 OE54L0NP.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 OE54L0NA.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

OE540-7N-102-1

OE54: Form A for test chart according to ISO 9241-306; 1MR, DH input: *all* ($\rightarrow rgb_d$) *setrgbcolor*
Viewing Y contrast $Y_W:Y_N=88,9:1,25$; Y_N range 0,93 to <1,87 output 130-1: $g_P=1.0$; $g_N=1.17$

Test for the best visual linearized output of Picture A7-102-0		Yes/No
Output test with the computer display () or the external display ()		
Test of the Landolt-rings N-W according to picture A4-102-0		
N-W-radial grating:	Is the recognition frequency of the Landolt-rings > 50% (5 of 8 at least)?	Yes/No
	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 A5-102-0		
Can equally spaced lines be seen?		Yes/No
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 A6-102-0		
Can equally spaced lines be seen?		Yes/No
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

OE541-3N-102-1

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/OE54/OE54F1P2.PDF>

PS file: <http://130.149.60.45/farbmetrik/OE54/OE54F1P2.PS>

Picture A7-102-2: 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/OE54/OE54F1P2.PDF>

picture A7-102-2

PS-File: <http://130.149.60.45/farbmetrik/OE54/OE54F1P2.PS>

picture A7-102-2

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:

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

OE541-7N-102-1

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

TUB registration: 20110801-OE54/OE54L0NA.TXT /.PS
application for output of displays: monitor systems or data projector systems
TUB material: code=rh4ta

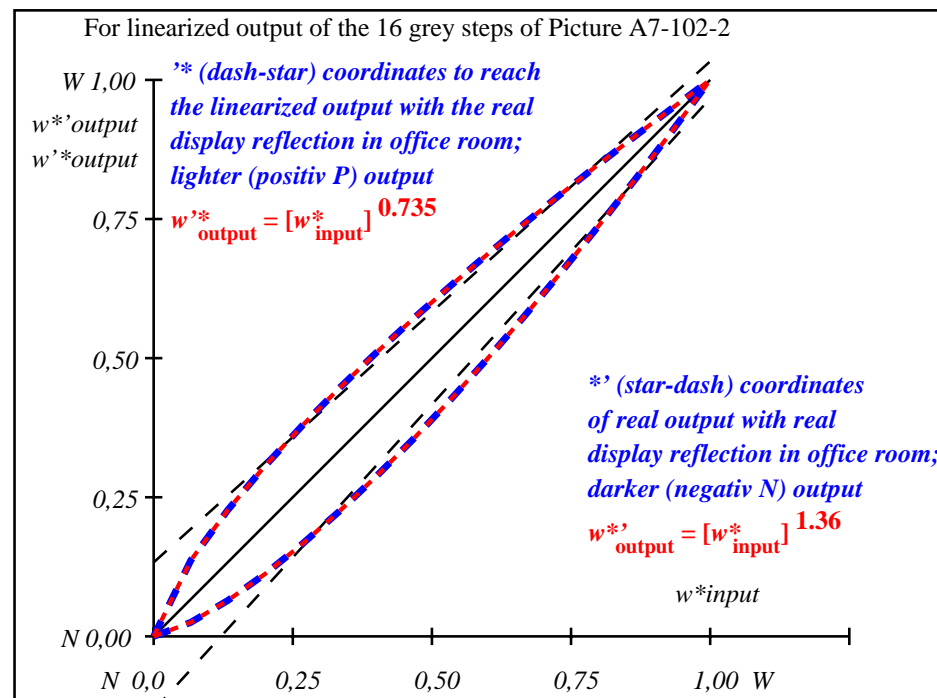
i	LAB*ref	L*out	LAB*out	LAB*out/c-ref	ΔE*	Start output S1
1	10.99	0.0	0.0	10.99	0.0	0.01
2	16.62	0.0	0.04	14.48	0.0	2.14
3	22.25	0.0	0.09	18.88	0.0	3.37
4	27.88	0.0	0.15	23.7	0.0	4.17
5	33.5	0.0	0.21	28.82	0.0	4.68
6	39.13	0.0	0.27	34.17	0.0	4.96
7	44.76	0.0	0.34	39.72	0.0	5.04
8	50.39	0.0	0.41	45.43	0.0	4.96
9	56.02	0.0	0.48	51.29	0.0	4.73
10	61.64	0.0	0.55	57.28	0.0	4.37
11	67.27	0.0	0.62	63.38	0.0	3.89
12	72.9	0.0	0.69	69.6	0.0	3.3
13	78.53	0.0	0.77	75.92	0.0	2.61
14	84.15	0.0	0.85	82.33	0.0	1.82
15	89.78	0.0	0.92	88.83	0.0	0.95
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	0.2	27.52	0.0	4.58
19	53.2	0.0	0.44	48.34	0.0	4.86
20	74.31	0.0	0.71	71.17	0.0	3.13
21	95.41	0.0	1.0	95.41	0.0	0.01

Mean lightness difference (16 steps) $\Delta E^*_{\text{CIELAB}} = 3.2$

Mean lightness difference (5 steps) $\Delta E^*_{\text{CIELAB}} = 2.5$

Mean colour reproduction index: $R^*_{\text{ab,m}} = 86$

OE540-3N-102-2: File: Measure unknown; Device: Device unknown; Date: Date unknown



OE541-3N-102-2: File: Measure unknown; Device: Device unknown; Date: Date unknown

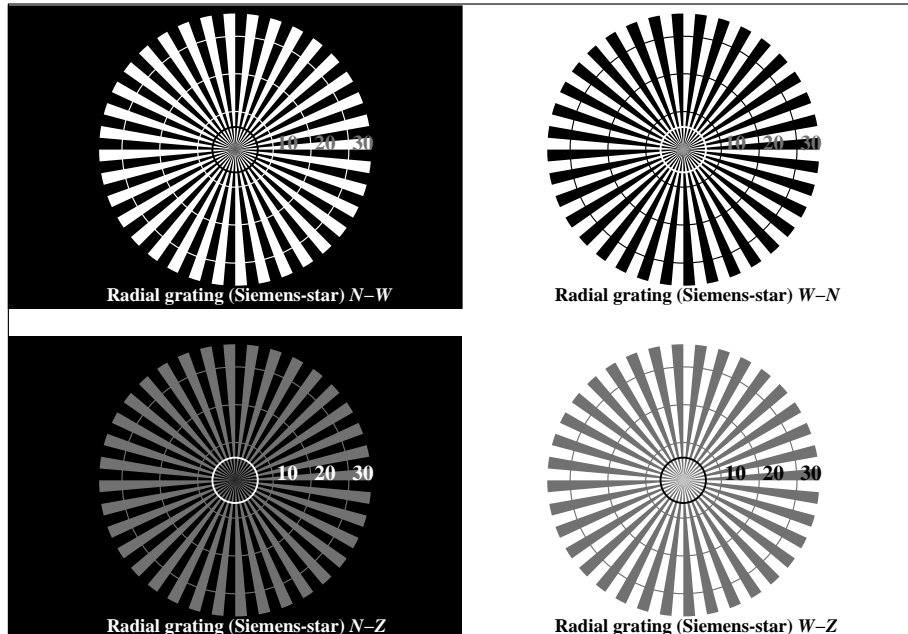
L^*/Y_{intended} (absolute)	11.0/1.3	16.6/2.2	22.2/3.6	27.9/5.4	33.5/7.8	39.1/10.7	44.8/14.4	50.4/18.7	56.0/23.9	61.6/30.0	67.3/37.0	72.9/45.0	78.5/54.1	84.2/64.4	89.8/75.8	95.4/88.6
0 0 0 n* setcmyk $g_N=1.18$ No. and Hex code	00;F	01;E	02;D	03;C	04;B	05;A	06;9	07;8	08;7	09;6	10;5	11;4	12;3	13;2	14;1	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	0.042	0.093	0.151	0.211	0.274	0.34	0.408	0.477	0.548	0.621	0.694	0.769	0.845	0.922	1.0

OE540-7N, Picture A7-102-2: 16 visual equidistant L^* -grey steps; PS operator: 0 0 0 n* setcmykcolor

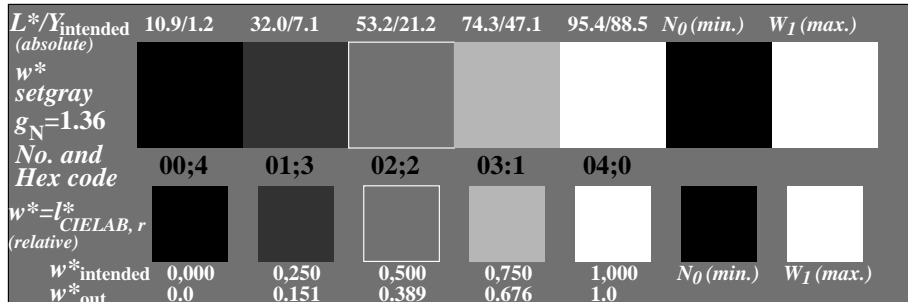
OE54: In-output relation according to ISO 9241-306; 1MR, DH
Viewing Y contrast $Y_W:Y_N=88,9:1,25$; Y_N range 0,93 to <1,87

input: all ($\rightarrow rgb_d$) setrgbcolor
output 130-2: $g_P=1.0$; $g_N=1.17$

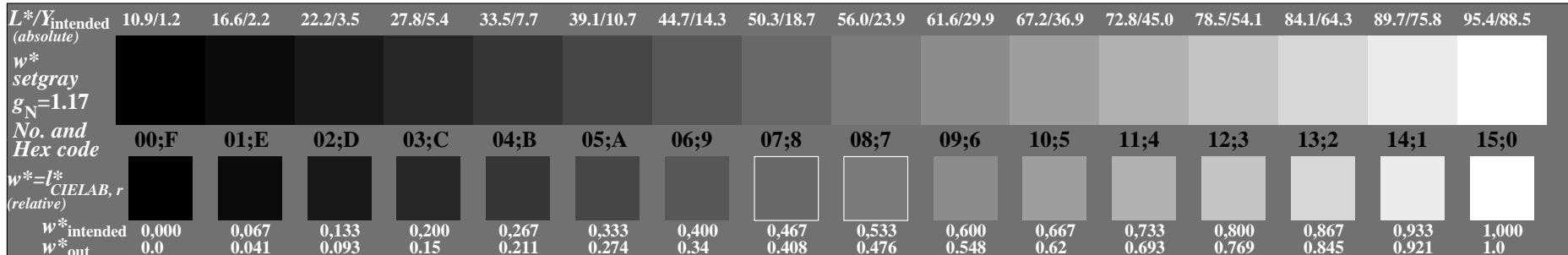
See similar ISO test charts: <http://www.ps.bam.de/24705TE>, <http://www.ps.bam.de/9241E>
Technical information: <http://www.ps.bam.de/33872E> Version 2.1, io=1,1, CIELAB



OE540-3N, Picture A1-112-3: Radial grating N-W, W-N, N-Z, W-Z; PS operator: w^* setgray

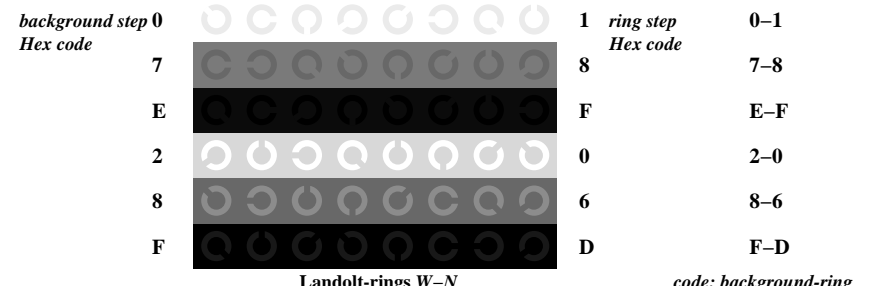


OE540-5N, Picture A2-112-3: 5 equidistant L^* -gray steps+ N_0 + W_1 ; PS operator: w^* setgray

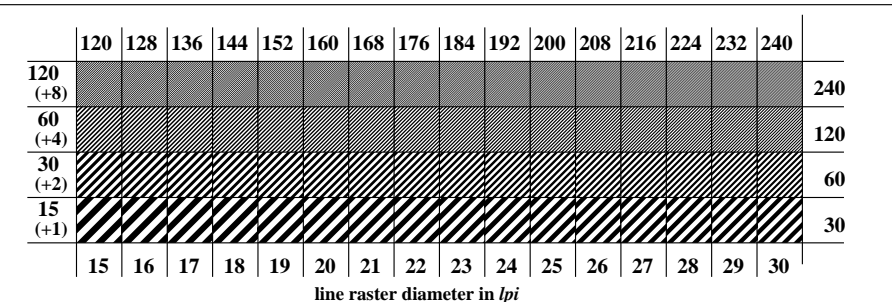


OE540-7N, Picture A3-112-3: 16 visual equidistant L^* -gray steps; PS operator: w^* setgray

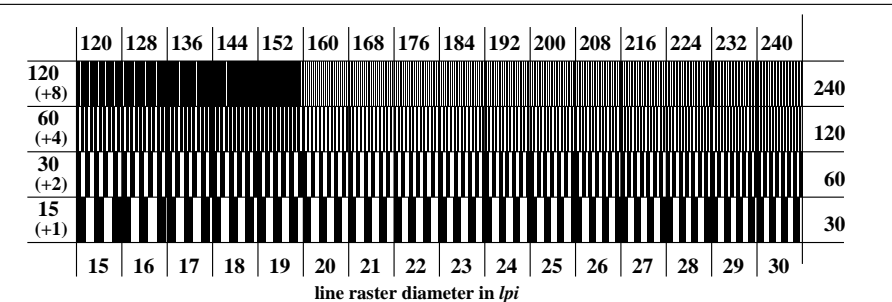
OE54: similar ME16 according to ISO 9241-306; 1MR, DH
Viewing Y contrast $Y_W:Y_N=88,9:1,25$; Y_N range 0,93 to <1,87



OE541-1N, Picture A4-112-3: Landolt-rings W-N; PS operator: w^* setgray



OE541-3N, Picture A5-112-3: Line raster under 45° (or 135°); PS operator: w^* setgray



OE541-5N, Picture A6-112-3: Line raster under 90° (or 0°); PS operator: w^* setgray

input: all ($\rightarrow rgb_d$) setrgbcolor
output 130-3: $g_P=1.0$; $g_N=1.17$

TUB registration: 20110801-OE54/OE54L0NA.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 A7-112-0 Yes/No
Output test with the computer display () or the external display ()
Test of the radial grating according to picture A1-112-0
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 A2-112-0
 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 A3-112-0
 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 OE540-3N-1116-4

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

PDF-File: <http://130.149.60.45/farbmetrik/OE54/OE54L0NP.PDF> underline Yes/No

PS-File: <http://130.149.60.45/farbmetrik/OE54/OE54L0NA.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 OE54L0NP.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 OE54L0NA.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 OE540-7N-112-4

OE54: Form A for test chart according to ISO 9241-306; 1MR, DH input: *all (->rgb*d) setrgbcolor*
 Viewing Y contrast $Y_W: Y_N=88,9:1,25$; Y_N range 0,93 to <1,87 output 130-4: $g_P=1.0$; $g_N=1.17$

Test for the best visual linearized output of Picture A7-112-0 Yes/No
Output test with the computer display () or the external display ()
Test of the Landolt-rings N-W according to picture A4-112-0
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 A5-112-0
 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 A6-112-0
 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 OE541-3N-112-4

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)

underline Yes/No

PDF file: <http://130.149.60.45/farbmetrik/OE54/OE54F1P2.PDF>

underline Yes/No

PS file: <http://130.149.60.45/farbmetrik/OE54/OE54F1P2.PS>

underline Yes/No

Picture A7-112-2: 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/OE54/OE54F1P2.PDF>

underline Yes/No

PS-File: <http://130.149.60.45/farbmetrik/OE54/OE54F1P2.PS>

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:

Part 4 OE541-7N-112-4

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

TUB registration: 20110801-OE54/OE54L0NA.TXT /.PS
application for output of displays: monitor systems or data projector systems
TUB material: code=rh4ta

i	LAB*ref	L*out	LAB*out	LAB*out/c-ref	ΔE*	Start output S1
1	10.99	0.0	0.0	10.99	0.0	0.01
2	16.62	0.0	0.04	14.48	0.0	2.14
3	22.25	0.0	0.09	18.88	0.0	3.37
4	27.88	0.0	0.15	23.7	0.0	4.17
5	33.5	0.0	0.21	28.82	0.0	4.68
6	39.13	0.0	0.27	34.17	0.0	4.96
7	44.76	0.0	0.34	39.72	0.0	5.04
8	50.39	0.0	0.41	45.43	0.0	4.96
9	56.02	0.0	0.48	51.29	0.0	4.73
10	61.64	0.0	0.55	57.28	0.0	4.37
11	67.27	0.0	0.62	63.38	0.0	3.89
12	72.9	0.0	0.69	69.6	0.0	3.3
13	78.53	0.0	0.77	75.92	0.0	2.61
14	84.15	0.0	0.85	82.33	0.0	1.82
15	89.78	0.0	0.92	88.83	0.0	0.95
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	0.2	27.52	0.0	4.58
19	53.2	0.0	0.44	48.34	0.0	4.86
20	74.31	0.0	0.71	71.17	0.0	3.13
21	95.41	0.0	1.0	95.41	0.0	0.01

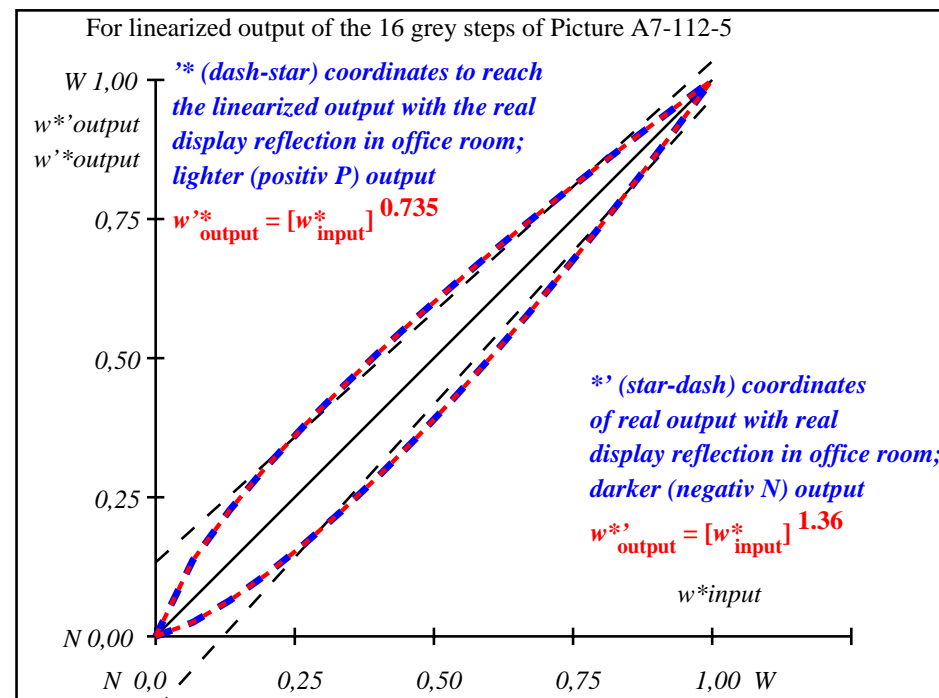
Specification according to ISO/IEC 15775 Annex G and DIN 33866-1 Annex G

Mean lightness difference (16 steps) $\Delta E^*_{\text{CIELAB}} = 3.2$

Mean lightness difference (5 steps) $\Delta L^*_{\text{CIELAB}} = 2.5$

Mean colour reproduction index: $R^*_{\text{ab,m}} = 86$

OE540-3N-112-5: File: Measure unknown; Device: Device unknown; Date: Date unknown



OE541-3N-112-5: File: Measure unknown; Device: Device unknown; Date: Date unknown

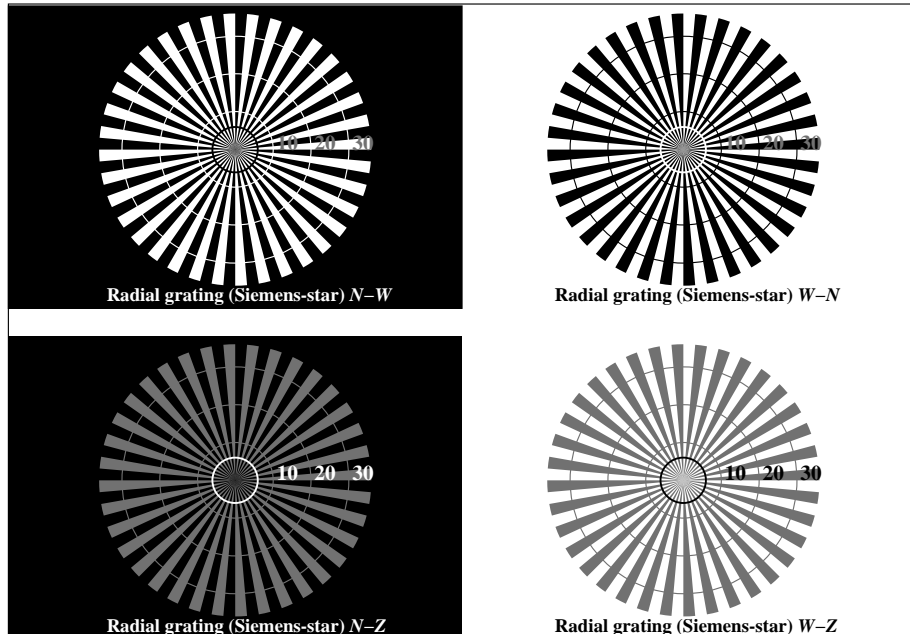
$L^*/Y^*_{\text{intended}}$ (absolute)	11.0/1.3	16.6/2.2	22.2/3.6	27.9/5.4	33.5/7.8	39.1/10.7	44.8/14.4	50.4/18.7	56.0/23.9	61.6/30.0	67.3/37.0	72.9/45.0	78.5/54.1	84.2/64.4	89.8/75.8	95.4/88.6
w^*_{setgray} $g_N=1.18$ No. and Hex code	00;F	01;E	02;D	03;C	04;B	05;A	06;9	07;8	08;7	09;6	10;5	11;4	12;3	13;2	14;1	15;0
w^*_{intended} w^*_{out}	0.000 0.0	0.067 0.042	0.133 0.093	0.200 0.151	0.267 0.211	0.333 0.274	0.400 0.34	0.467 0.408	0.533 0.477	0.600 0.548	0.667 0.621	0.733 0.694	0.800 0.769	0.867 0.845	0.933 0.922	1.000 1.0

OE540-7N, Picture A7-112-5: 16 visual equidistant L^* -grey steps; PS operator: w^*_{setgray}

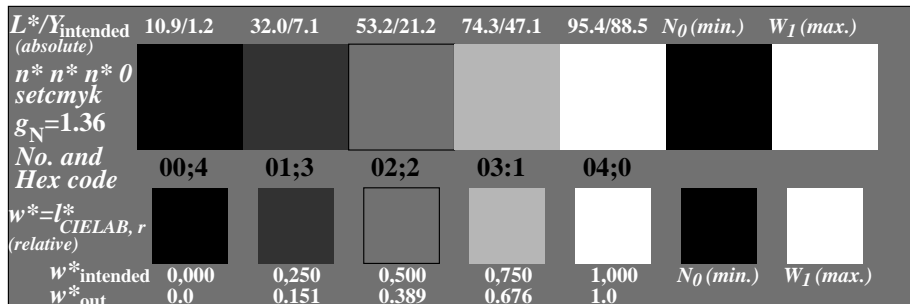
OE54: In-output relation according to ISO 9241-306; 1MR, DH
Viewing Y contrast $Y_W:Y_N=88,9:1,25$; Y_N range 0,93 to <1,87

input: all ($\rightarrow \text{rgb}_d$) setrgbcolor
output 130-5: $g_P=1.0$; $g_N=1.17$

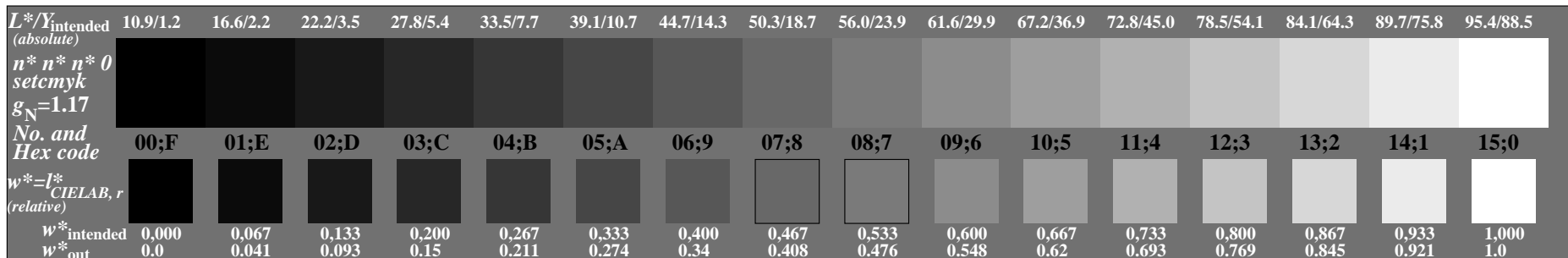
See similar ISO test charts: <http://www.ps.bam.de/24705TE>, <http://www.ps.bam.de/9241E>
Technical information: <http://www.ps.bam.de/33872E> Version 2.1, io=1,1, CIELAB



OE540-3N, Picture A1-122-6: Radial grating N-W, W-N, N-Z, W-Z; PS operator: $n^*n^*n^*0$ setcmkcolor

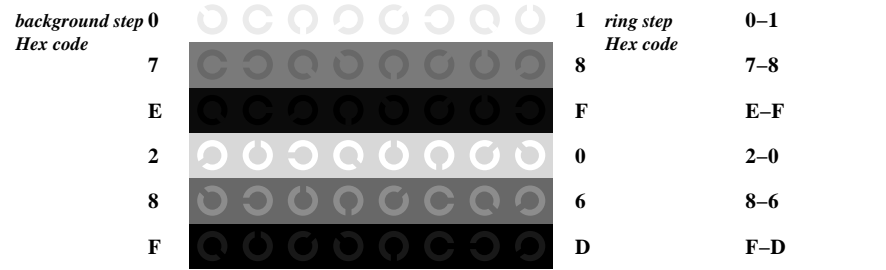


OE540-5N, Picture A2-122-6: 5 equidistant L^* -grey steps+ N_0 + W_1 ; PS operator: $n^*n^*n^*0$ setcmkcolor



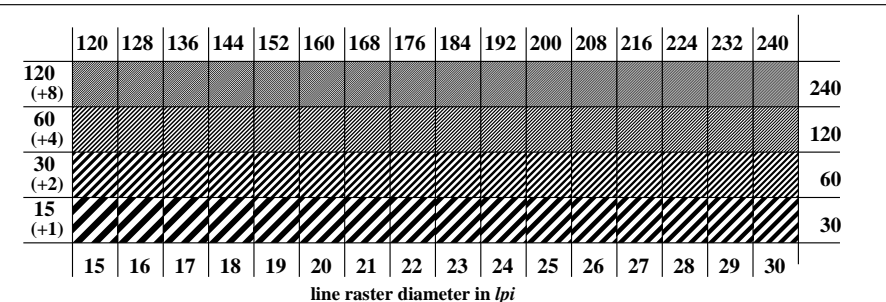
OE540-7N, Picture A3-122-6: 16 visual equidistant L^* -grey steps; PS operator: $n^*n^*n^*0$ setcmkcolor

OE54: 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



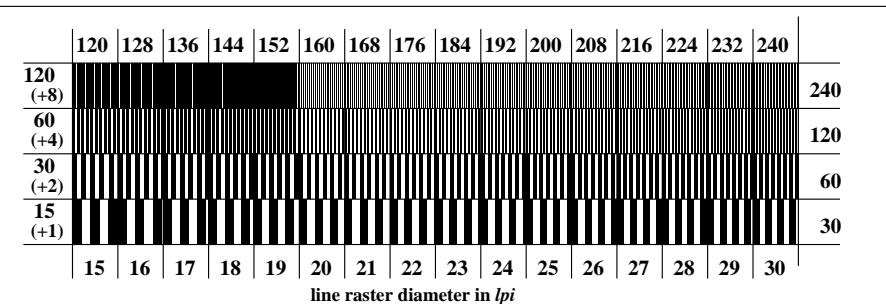
Landolt-rings W-N code: background-ring

OE541-1N, Picture A4-122-6: Landolt-rings W-N; PS operator: $n^*n^*n^*0$ setcmkcolor



line raster diameter in lpi

OE541-3N, Picture A5-122-6: Line raster under 45° (or 135°); PS operator: $n^*n^*n^*0$ setcmkcolor



line raster diameter in lpi

OE541-5N, Picture A6-122-6: Line raster under 90° (or 0°); PS operator: $n^*n^*n^*0$ setcmkcolor

input: all ($\rightarrow rgb_d$) setrgbcolor
output 130-6: $g_P=1.0$; $g_N=1.17$

TUB registration: 20110801-OE54/OE54L0NA.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 A7-122-0 Yes/No
Output test with the computer display () or the external display ()
Test of the radial grating according to picture A1-122-0
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 A2-122-0
 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 A3-122-0
 Are the 16 steps on the upper rows distinguishable? Yes/No
 If No: How many steps can be distinguished? Steps

Part 1

OE540-3N-1216-7

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

PDF-File: http://130.149.60.45/farbmetrik/OE54/OE54L0NP.PDF underline Yes/No

PS-File: http://130.149.60.45/farbmetrik/OE54/OE54L0NA.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 OE54L0NP.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 OE54L0NA.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

OE540-7N-122-7

OE54: Form A for test chart according to ISO 9241-306; 1MR, DH input: all (->rgb*d) setrgbcolor
 Viewing Y contrast $Y_W:Y_N=88,9:1,25$; Y_N range 0,93 to <1,87 output 130-7: $g_P=1.0$; $g_N=1.17$

Test for the best visual linearized output of Picture A7-122-0 Yes/No
Output test with the computer display () or the external display ()
Test of the Landolt-rings N-W according to picture A4-122-0
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 A5-122-0
 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 A6-122-0
 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

OE541-3N-122-7

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/OE54/OE54F1P2.PDF

PS file: http://130.149.60.45/farbmetrik/OE54/OE54F1P2.PS

Picture A7-122-2: 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/OE54/OE54F1P2.PDF

picture A7-122-2

underline Yes/No

PS-File: http://130.149.60.45/farbmetrik/OE54/OE54F1P2.PS

picture A7-122-2

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

OE541-7N-122-7

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

TUB registration: 20110801-OE54/OE54L0NA.TXT /.PS
application for output of displays: monitor systems or data projector systems
TUB material: code=rh4ta

i	LAB*ref	L*out	LAB*out	LAB*out/c-ref	ΔE*	Start output S1
1	10.99	0.0	0.0	10.99	0.0	0.0
2	16.62	0.0	0.04	14.48	0.0	0.0
3	22.25	0.0	0.09	18.88	0.0	0.0
4	27.88	0.0	0.15	23.7	0.0	0.0
5	33.5	0.0	0.21	28.82	0.0	0.0
6	39.13	0.0	0.27	34.17	0.0	0.0
7	44.76	0.0	0.34	39.72	0.0	0.0
8	50.39	0.0	0.41	45.43	0.0	0.0
9	56.02	0.0	0.48	51.29	0.0	0.0
10	61.64	0.0	0.55	57.28	0.0	0.0
11	67.27	0.0	0.62	63.38	0.0	0.0
12	72.9	0.0	0.69	69.6	0.0	0.0
13	78.53	0.0	0.77	75.92	0.0	0.0
14	84.15	0.0	0.85	82.33	0.0	0.0
15	89.78	0.0	0.92	88.83	0.0	0.0
16	95.41	0.0	1.0	95.41	0.0	0.0
17	10.99	0.0	0.0	10.99	0.0	0.0
18	32.1	0.0	0.2	27.52	0.0	0.0
19	53.2	0.0	0.44	48.34	0.0	0.0
20	74.31	0.0	0.71	71.17	0.0	0.0
21	95.41	0.0	1.0	95.41	0.0	0.0

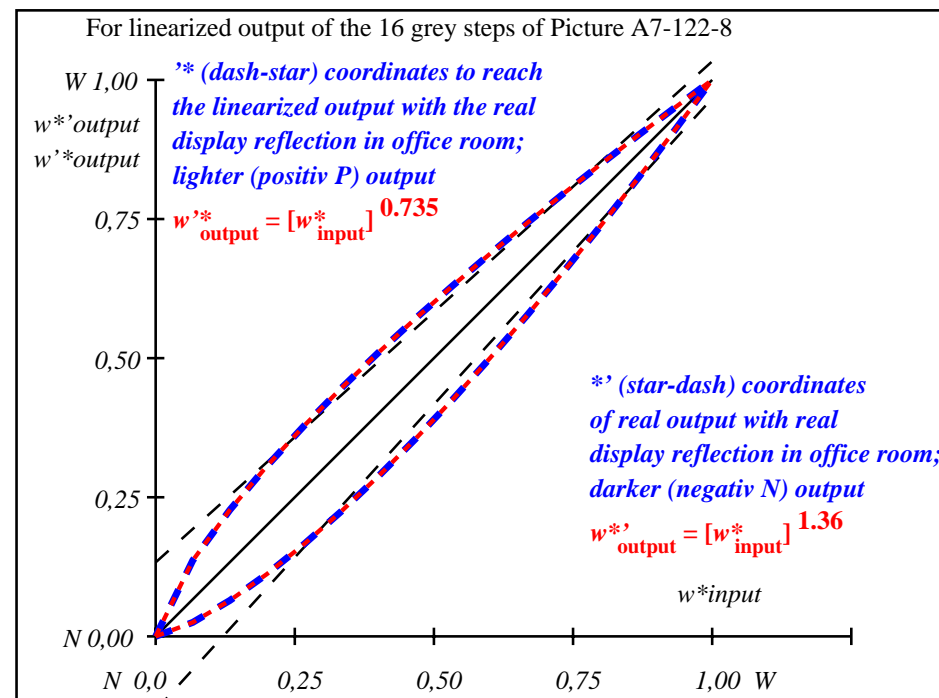
Specification according to
ISO/IEC 15775 Annex G
and DIN 33866-1 Annex G

Mean lightness difference (16 steps)
 $\Delta E^*_{\text{CIELAB}} = 3.2$

Mean lightness difference (5 steps)
 $\Delta E^*_{\text{CIELAB}} = 2.5$

Mean colour reproduction index:
 $R^*_{\text{ab,m}} = 86$

OE540-3N-122-8: File: Measure unknown; Device: Device unknown; Date: Date unknown



OE541-3N-122-8: File: Measure unknown; Device: Device unknown; Date: Date unknown

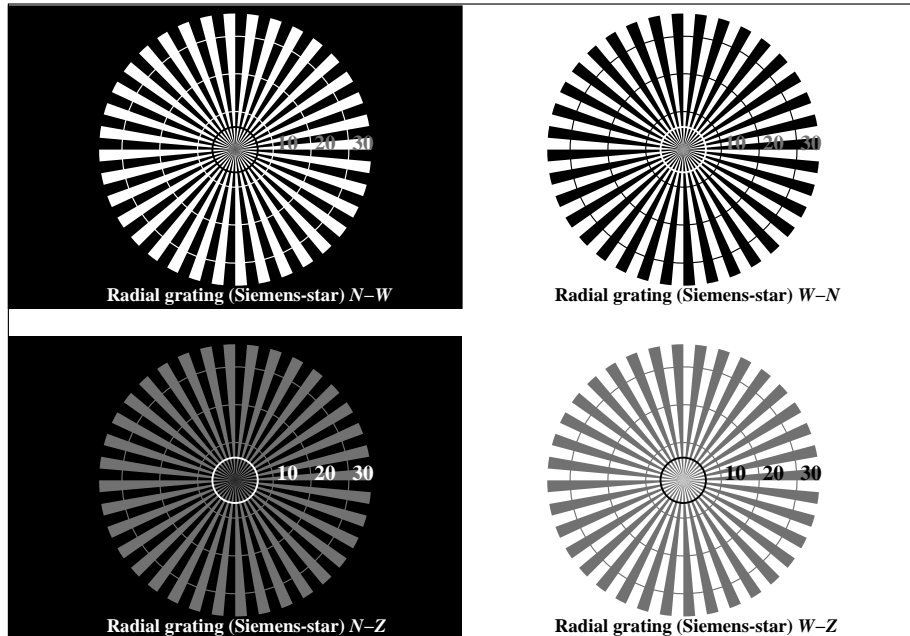
$L^*/Y^*_{\text{intended}}$ (absolute)	11.0/1.3	16.6/2.2	22.2/3.6	27.9/5.4	33.5/7.8	39.1/10.7	44.8/14.4	50.4/18.7	56.0/23.9	61.6/30.0	67.3/37.0	72.9/45.0	78.5/54.1	84.2/64.4	89.8/75.8	95.4/88.6
$n^* n^* n^* 0$ setcmk $g_N=1.18$ No. and Hex code	00;F	01;E	02;D	03;C	04;B	05;A	06;9	07;8	08;7	09;6	10;5	11;4	12;3	13;2	14;1	15;0
$w^* = [L^*_{\text{CIELAB}, r}]$ (relative)	0.000	0.067	0.133	0.200	0.267	0.333	0.400	0.467	0.533	0.600	0.667	0.733	0.800	0.867	0.933	1.000
w^*_{intended}	0.000	0.067	0.133	0.200	0.267	0.333	0.400	0.467	0.533	0.600	0.667	0.733	0.800	0.867	0.933	1.000
w^*_{out}	0.0	0.042	0.093	0.151	0.211	0.274	0.34	0.408	0.477	0.548	0.621	0.694	0.769	0.845	0.922	1.0

OE540-7N, Picture A7-122-8: 16 visual equidistant L^* -grey steps; PS operator: $n^* n^* n^* 0$ setcmkcolor

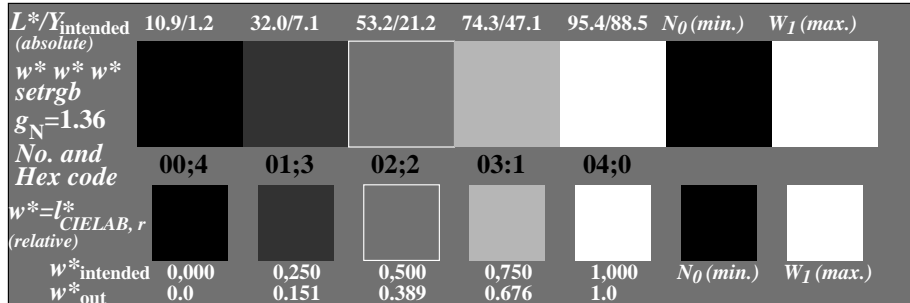
OE54: In-output relation according to ISO 9241-306; 1MR, DH
Viewing Y contrast $Y_W:Y_N=88,9:1,25$; Y_N range 0,93 to <1,87

input: all ($\rightarrow rgb_d$) setrgbcolor
output 130-8: $g_P=1.0$; $g_N=1.17$

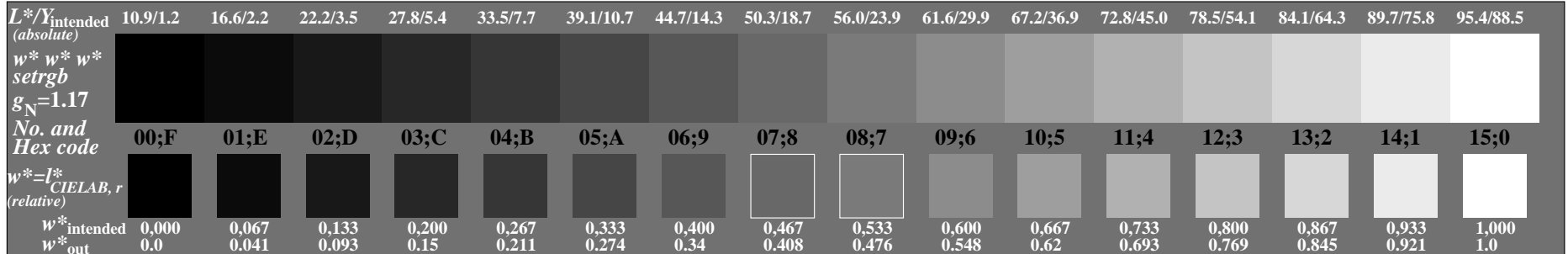
See similar ISO test charts: <http://www.ps.bam.de/24705TE>, <http://www.ps.bam.de/9241E>
Technical information: <http://www.ps.bam.de/33872E> Version 2.1, io=1,1, CIELAB



OE540-3N, Picture A1-132-9: Radial grating N-W, W-N, N-Z, W-Z; PS operator: $w^* w^* w^* \text{setrgbcolor}$

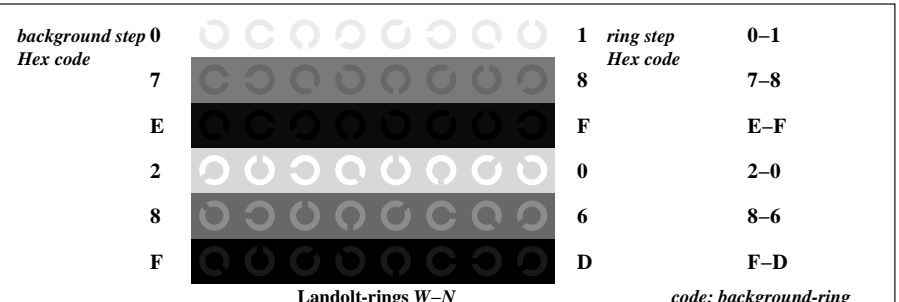


OE540-5N, Picture A2-132-9: 5 equidistant L^* -grey steps+ N_0 + W_1 ; PS operator: $w^* w^* w^* \text{setrgbcolor}$

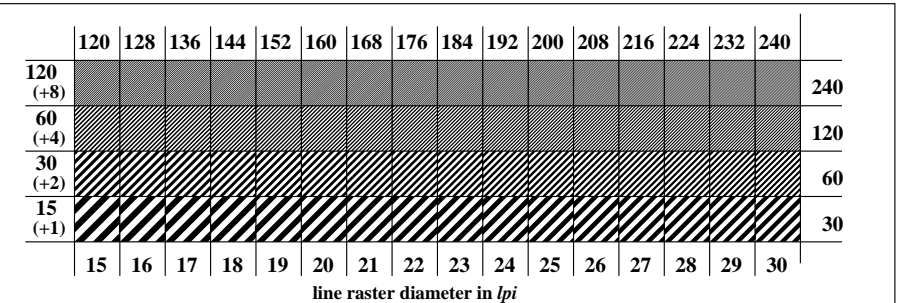


OE540-7N, Picture A3-132-9: 16 visual equidistant L^* -grey steps; PS operator: $w^* w^* w^* \text{setrgbcolor}$

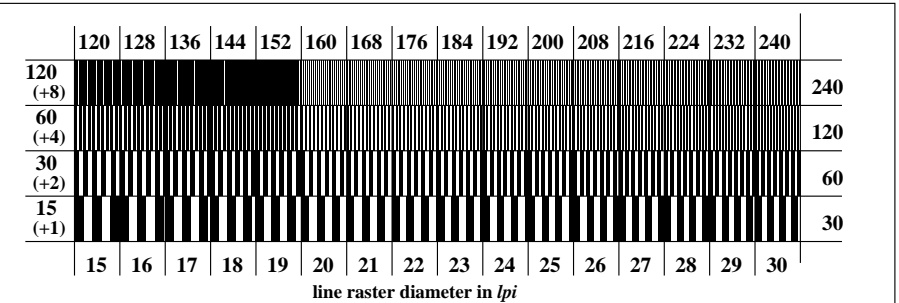
OE54: similar ME16 according to ISO 9241-306; 1MR, DH
Viewing Y contrast $Y_W:Y_N=88,9:1,25$; Y_N range 0,93 to <1,87



OE541-1N, Picture A4-132-9: Landolt-rings W-N; PS operator: $w^* w^* w^* \text{setrgbcolor}$



OE541-3N, Picture A5-132-9: Line raster under 45° (or 135°); PS operator: $w^* w^* w^* \text{setrgbcolor}$



OE541-5N, Picture A6-132-9: Line raster under 90° (or 0°); PS operator: $w^* w^* w^* \text{setrgbcolor}$

input: all ($\rightarrow \text{rgb}_d$) setrgbcolor
output 130-9: $g_P=1.0$; $g_N=1.17$

TUB registration: 20110801-OE54/OE54L0NA.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
	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 A2-132-0		
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 A3-132-0		
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

OE540-3N-1316-10

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

PDF-File: <http://130.149.60.45/farbmetrik/OE54/OE54L0NP.PDF> underline Yes/No

PS-File: <http://130.149.60.45/farbmetrik/OE54/OE54L0NA.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 OE54L0NP.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 OE54L0NA.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

OE540-7N-132-10

OE54: Form A for test chart according to ISO 9241-306; 1MR, DH input: *all (->rgb*d) setrgbcolor*
Viewing Y contrast $Y_W:Y_N=88,9:1,25$; Y_N range 0,93 to <1,87 output 130-10: $g_P=1.0$; $g_N=1.17$

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

OE541-3N-132-10

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/OE54/OE54F1P2.PDF>

PS file: <http://130.149.60.45/farbmetrik/OE54/OE54F1P2.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/OE54/OE54F1P2.PDF>

picture A7-132-2

underline Yes/No

PS-File: <http://130.149.60.45/farbmetrik/OE54/OE54F1P2.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

OE541-7N-132-10

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	10.99	0.0	0.0
2	16.62	0.0	0.04	14.48	0.0	0.0
3	22.25	0.0	0.09	18.88	0.0	0.0
4	27.88	0.0	0.15	23.7	0.0	0.0
5	33.5	0.0	0.21	28.82	0.0	0.0
6	39.13	0.0	0.27	34.17	0.0	0.0
7	44.76	0.0	0.34	39.72	0.0	0.0
8	50.39	0.0	0.41	45.43	0.0	0.0
9	56.02	0.0	0.48	51.29	0.0	0.0
10	61.64	0.0	0.55	57.28	0.0	0.0
11	67.27	0.0	0.62	63.38	0.0	0.0
12	72.9	0.0	0.69	69.6	0.0	0.0
13	78.53	0.0	0.77	75.92	0.0	0.0
14	84.15	0.0	0.85	82.33	0.0	0.0
15	89.78	0.0	0.92	88.83	0.0	0.0
16	95.41	0.0	1.0	95.41	0.0	0.0
17	10.99	0.0	0.0	10.99	0.0	0.0
18	32.1	0.0	0.2	27.52	0.0	0.0
19	53.2	0.0	0.44	48.34	0.0	0.0
20	74.31	0.0	0.71	71.17	0.0	0.0
21	95.41	0.0	1.0	95.41	0.0	0.0

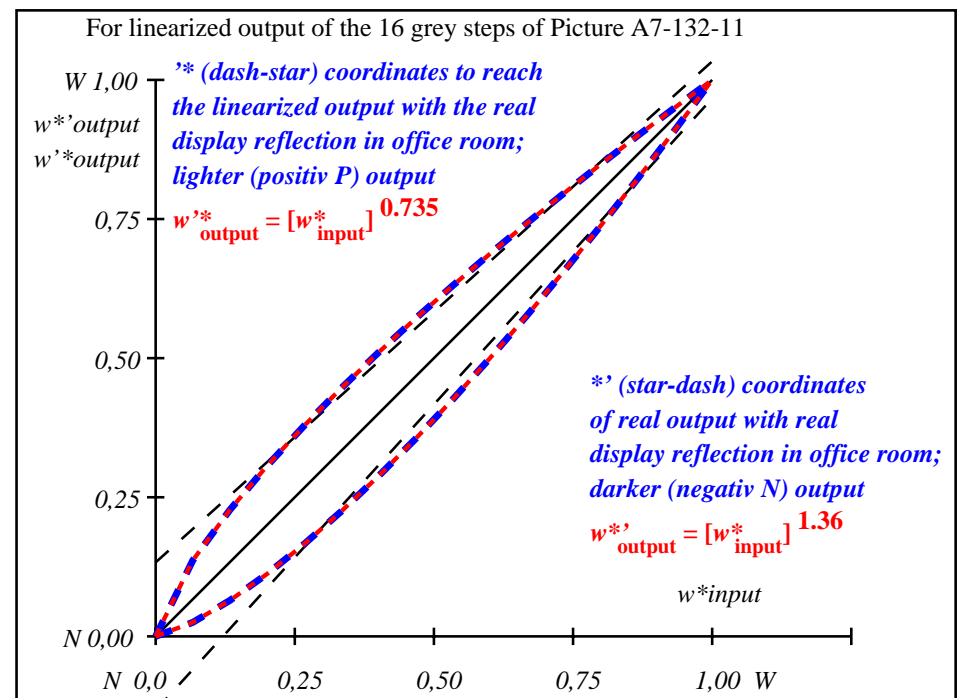
Specification according to
ISO/IEC 15775 Annex G
and DIN 33866-1 Annex G

Mean lightness difference (16 steps)
 $\Delta E^*_{\text{CIELAB}} = 3.2$

Mean lightness difference (5 steps)
 $\Delta E^*_{\text{CIELAB}} = 2.5$

Mean colour reproduction index:
 $R^*_{\text{ab,m}} = 86$

OE540-3N-132-11: File: Measure unknown; Device: Device unknown; Date: Date unknown



OE541-3N-132-11: File: Measure unknown; Device: Device unknown; Date: Date unknown

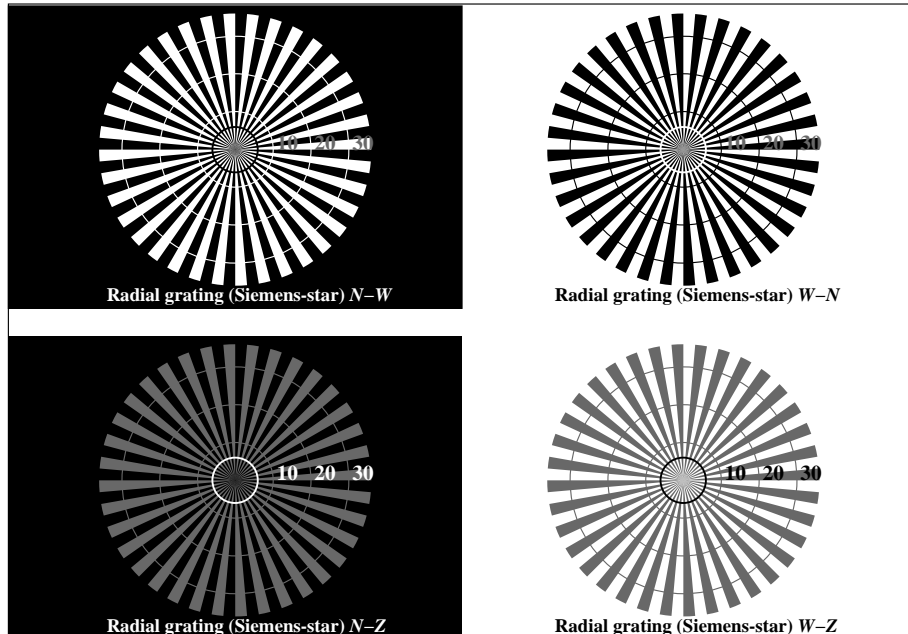
$L^*/Y^*_{\text{intended}}$ (absolute)	11.0/1.3	16.6/2.2	22.2/3.6	27.9/5.4	33.5/7.8	39.1/10.7	44.8/14.4	50.4/18.7	56.0/23.9	61.6/30.0	67.3/37.0	72.9/45.0	78.5/54.1	84.2/64.4	89.8/75.8	95.4/88.6
w^*_{setrgb} $g_N=1.18$ No. and Hex code	00;F	01;E	02;D	03;C	04;B	05;A	06;9	07;8	08;7	09;6	10;5	11;4	12;3	13;2	14;1	15;0
w^*_{intended} w^*_{out}	0.000 0.0	0.067 0.042	0.133 0.093	0.200 0.151	0.267 0.211	0.333 0.274	0.400 0.34	0.467 0.408	0.533 0.477	0.600 0.548	0.667 0.621	0.733 0.694	0.800 0.769	0.867 0.845	0.933 0.922	1.000 1.0

OE540-7N, Picture A7-132-11: 16 visual equidistant L^* -grey steps; PS operator: $w^*_{\text{setrgbcolor}}$

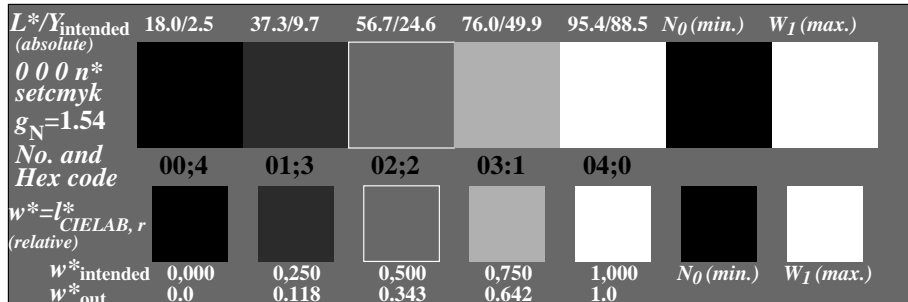
OE54: In-output relation according to ISO 9241-306; 1MR, DH
Viewing Y contrast $Y_W:Y_N=88,9:1,25$; Y_N range 0,93 to <1,87

input: all ($\rightarrow \text{rgb}_d$) setrgbcolor
output 130-11: $g_P=1.0$; $g_N=1.17$

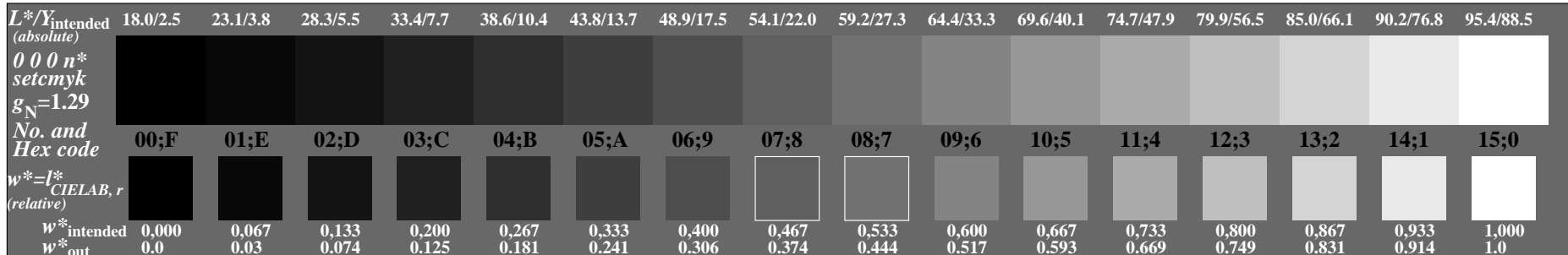
See similar ISO test charts: <http://www.ps.bam.de/24705TE>, <http://www.ps.bam.de/9241E>
Technical information: <http://www.ps.bam.de/33872E> Version 2.1, io=1.1, CIELAB



OE540-3N, Picture A1-103-0: Radial grating N-W, W-N, N-Z, W-Z; PS operator: 0 0 0 n* setcmykcolor

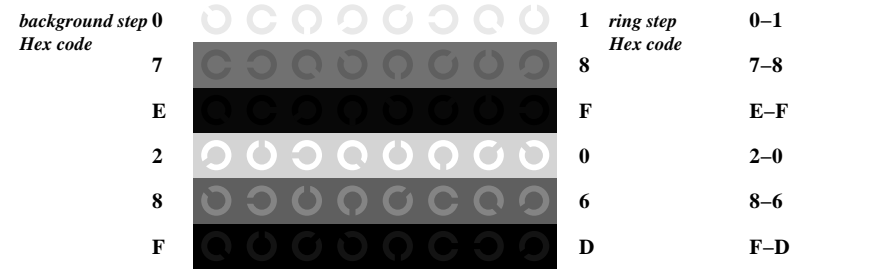


OE540-5N, Picture A2-103-0: 5 equidistant L^* -grey steps+ N_0 + W_1 ; PS operator: 0 0 0 n* setcmykcolor

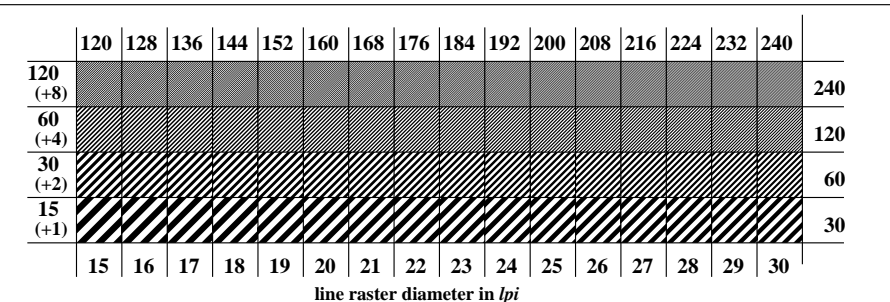


OE540-7N, Picture A3-103-0: 16 visual equidistant L^* -grey steps; PS operator: 0 0 0 n* setcmykcolor

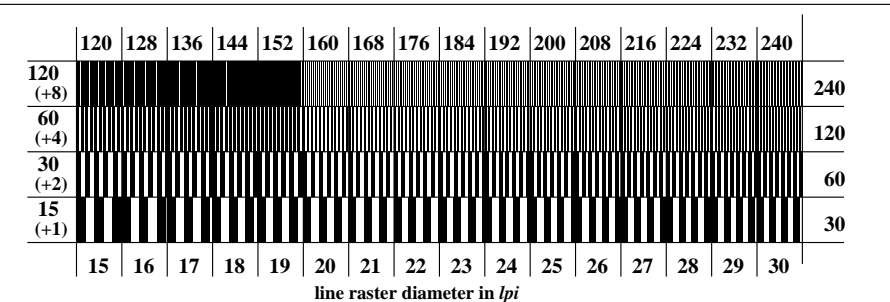
OE54: similar ME16 according to ISO 9241-306; 1MR, DH
Viewing Y contrast $Y_W:Y_N=88.9:2.5$; Y_N range 1,87 to <3,75



Landolt-rings W-N code: background-ring
OE541-1N, Picture A4-103-0: Landolt-rings W-N; PS operator: 0 0 0 n* setcmykcolor



OE541-3N, Picture A5-103-0: Line raster under 45° (or 135°); PS operator: 0 0 0 n* setcmykcolor



OE541-5N, Picture A6-103-0: Line raster under 90° (or 0°); PS operator: 0 0 0 n* setcmykcolor

input: all (->rgb*d) setrgbcolor
output 130-0: $g_P=1.0$; $g_N=1.29$

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

Test for the best visual linearized output of Picture A7-103-0		Yes/No
Output test with the computer display () or the external display ()		
Test of the radial grating according to picture A1-103-0		
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 A2-103-0		
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 A3-103-0		
Are the 16 steps on the upper rows distinguishable?		Yes/No
If No: How many steps can be distinguished?		.... Steps

Part 1

OE540-3N-1024-1

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

PDF-File: <http://130.149.60.45/farbmetrik/OE54/OE54L0NP.PDF> underline Yes/No

PS-File: <http://130.149.60.45/farbmetrik/OE54/OE54L0NA.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 OE54L0NP.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 OE54L0NA.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

OE540-7N-103-1

OE54: Form A for test chart according to ISO 9241-306; 1MR, DH input: *all* ($\rightarrow rgb_d$) *setrgbcolor*
Viewing Y contrast $Y_W: Y_N=88,9:2,5$; Y_N range 1,87 to <3,75 output 130-1: $g_P=1.0$; $g_N=1.29$

Test for the best visual linearized output of Picture A7-103-0		Yes/No
Output test with the computer display () or the external display ()		
Test of the Landolt-rings N-W according to picture A4-103-0		
N-W-radial grating:	Is the recognition frequency of the Landolt-rings > 50% (5 of 8 at least)?	Yes/No
	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 A5-103-0		
Can equally spaced lines be seen?		Yes/No
Visual testing: for radial diameter from 15 to 60 lpi		to lpi
Test with a magnifying glass (e.g. 6x):	- from 15 lpi:	
Test of the radial grating under 90° according to picture A6-103-0		
Can equally spaced lines be seen?		Yes/No
Visual testing: for radial diameter from 15 to 60 lpi		to lpi
Test with a magnifying glass (e.g. 6x):	- from 15 lpi:	

Part 2

OE541-3N-103-1

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/OE54/OE54F1P2.PDF>

PS file: <http://130.149.60.45/farbmetrik/OE54/OE54F1P2.PS>

Picture A7-103-2: 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/OE54/OE54F1P2.PDF>

picture A7-103-2

PS-File: <http://130.149.60.45/farbmetrik/OE54/OE54F1P2.PS>

picture A7-103-2

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:

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

Part 4

OE541-7N-103-1

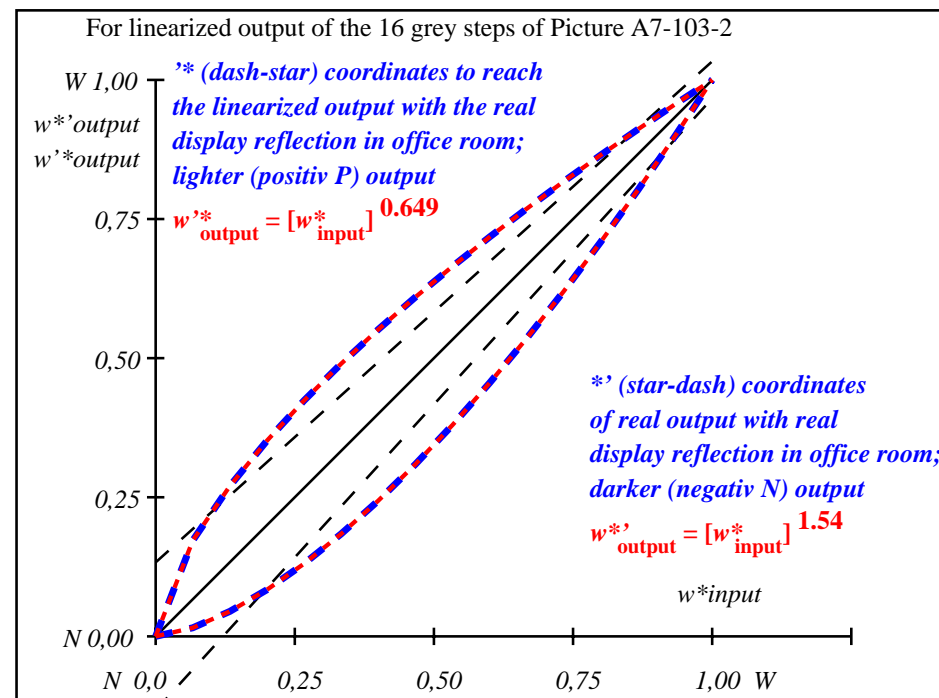
TUB registration: 20110801-OE54/OE54L0NA.TXT /.PS
application for output of displays: monitor systems or data projector systems
TUB material: code=th4ta

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

TUB registration: 20110801-OE54/OE54L0NA.TXT /.PS
application for output of displays: monitor systems or data projector systems
TUB material: code=rh4ta

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	0.03	20.36	0.0	-2.8
3	28.33	0.0	0.07	23.76	0.0	-4.56
4	33.49	0.0	0.13	27.71	0.0	-5.77
5	38.65	0.0	0.18	32.07	0.0	-6.57
6	43.81	0.0	0.24	36.76	0.0	-7.04
7	48.97	0.0	0.31	41.74	0.0	-7.22
8	54.13	0.0	0.37	46.96	0.0	-7.16
9	59.29	0.0	0.44	52.4	0.0	-6.88
10	64.45	0.0	0.52	58.05	0.0	-6.39
11	69.61	0.0	0.59	63.88	0.0	-5.72
12	74.77	0.0	0.67	69.88	0.0	-4.88
13	79.93	0.0	0.75	76.05	0.0	-3.87
14	85.09	0.0	0.83	82.36	0.0	-2.72
15	90.25	0.0	0.91	88.82	0.0	-1.42
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	0.17	30.95	0.0	-6.4
19	56.71	0.0	0.41	49.66	0.0	-7.04
20	76.06	0.0	0.69	71.41	0.0	-4.64
21	95.41	0.0	1.0	95.41	0.0	0.0
Mean lightness difference (16 steps)						ΔE* _{CIELAB} = 4.6
Mean lightness difference (5 steps)						ΔE* _{CIELAB} = 3.6
Mean colour reproduction index:						R* _{ab,m} = 80

OE540-3N-103-2: File: Measure unknown; Device: Device unknown; Date: Date unknown



OE541-3N-103-2: File: Measure unknown; Device: Device unknown; Date: Date unknown

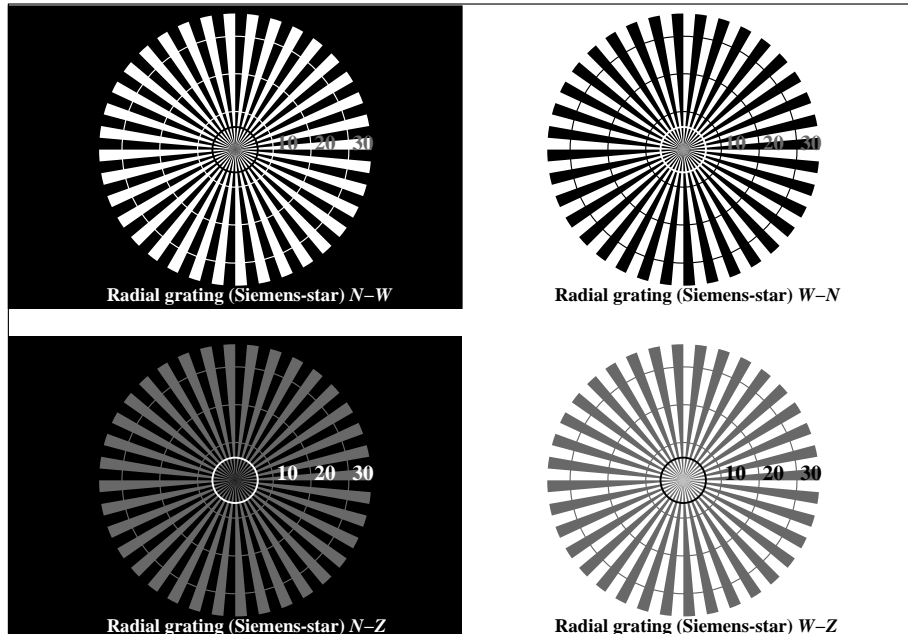
L*/Y _{intended} (absolute)	18.0/2.5	23.2/3.8	28.3/5.6	33.5/7.8	38.6/10.5	43.8/13.7	49.0/17.6	54.1/22.1	59.3/27.3	64.4/33.4	69.6/40.2	74.8/47.9	79.9/56.6	85.1/66.2	90.2/76.8	95.4/88.6
0 0 0 n* setcmyk g _N =1.29 No. and Hex code	00;F	01;E	02;D	03;C	04;B	05;A	06;9	07;8	08;7	09;6	10;5	11;4	12;3	13;2	14;1	15;0
w*=[*] 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	0.031	0.074	0.125	0.182	0.242	0.307	0.374	0.444	0.517	0.593	0.67	0.75	0.832	0.914	1.0

OE540-7N, Picture A7-103-2: 16 visual equidistant L*-grey steps; PS operator: 0 0 0 n* setcmykcolor

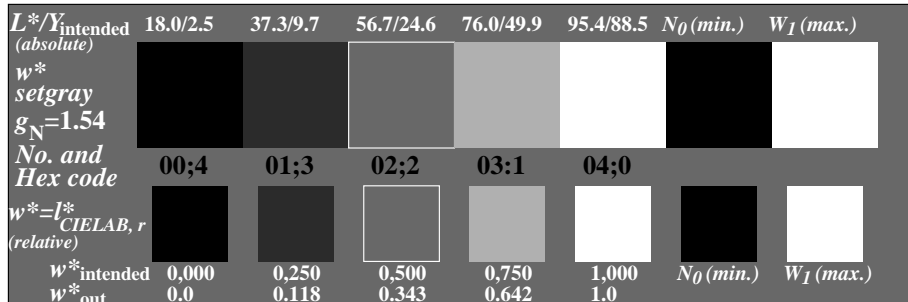
OE54: In-output relation according to ISO 9241-306; 1MR, DH
Viewing Y contrast Y_W:Y_N=88,9:2,5; Y_N range 1,87 to <3,75

input: all (->rgb_d) setrgbcolor
output 130-2: g_P=1.0; g_N=1.29

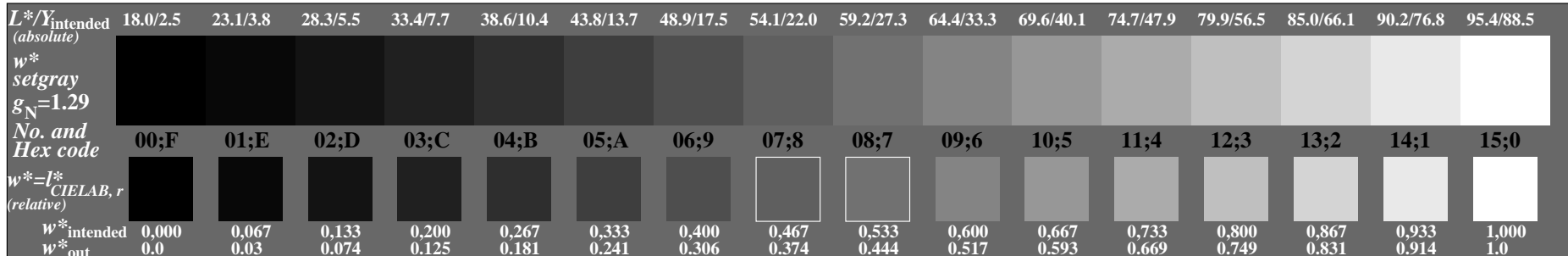
See similar ISO test charts: <http://www.ps.bam.de/24705TE>, <http://www.ps.bam.de/9241E>
Technical information: <http://www.ps.bam.de/33872E> Version 2.1, io=1,1, CIELAB



OE540-3N, Picture A1-113-3: Radial grating N-W, W-N, N-Z, W-Z; PS operator: w^* setgray

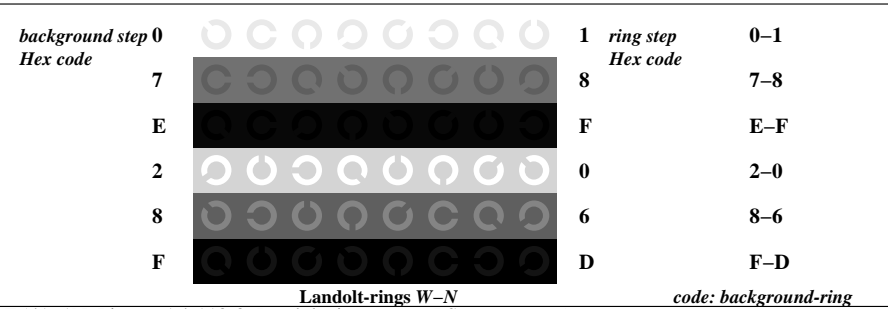


OE540-5N, Picture A2-113-3: 5 equidistant L^* -grey steps+ N_0 + W_1 ; PS operator: w^* setgray

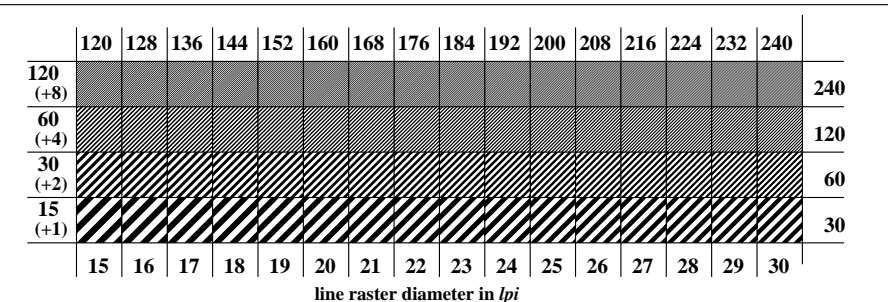


OE540-7N, Picture A3-113-3: 16 visual equidistant L^* -grey steps; PS operator: w^* setgray

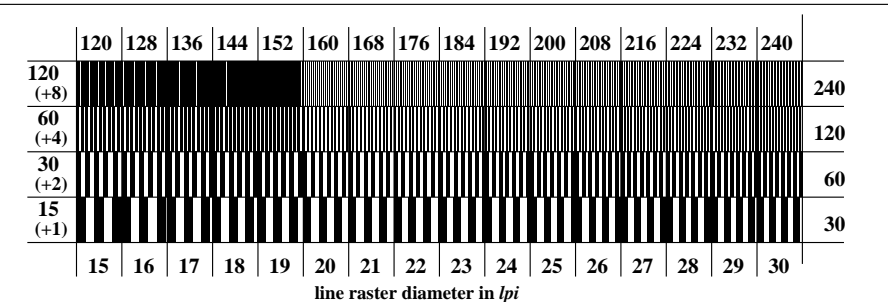
OE54: similar ME16 according to ISO 9241-306; 1MR, DH
Viewing Y contrast $Y_W:Y_N=88,9:2,5$; Y_N range 1,87 to <3,75



OE541-1N, Picture A4-113-3: Landolt-rings W-N; PS operator: w^* setgray



OE541-3N, Picture A5-113-3: Line raster under 45° (or 135°); PS operator: w^* setgray



OE541-5N, Picture A6-113-3: Line raster under 90° (or 0°); PS operator: w^* setgray

input: all (->rgb*d) setrgbcolor
output 130-3: $g_P=1.0$; $g_N=1.29$

TUB registration: 20110801-OE54/OE54L0NA.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 A7-113-0		Yes/No
Output test with the computer display () or the external display ()		
Test of the radial grating according to picture A1-113-0		
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 A2-113-0		
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 A3-113-0		
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 OE540-3N-1124-4

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

PDF-File: <http://130.149.60.45/farbmetrik/OE54/OE54L0NP.PDF> underline Yes/No

PS-File: <http://130.149.60.45/farbmetrik/OE54/OE54L0NA.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 OE54L0NP.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 OE54L0NA.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 OE540-7N-113-4

OE54: Form A for test chart according to ISO 9241-306; 1MR, DH input: *all (->rgb*d) setrgbcolor*
Viewing Y contrast $Y_W:Y_N=88,9:2,5$; Y_N range 1,87 to <3,75 output 130-4: $g_P=1.0$; $g_N=1.29$

Test for the best visual linearized output of Picture A7-113-0		Yes/No
Output test with the computer display () or the external display ()		
Test of the Landolt-rings N-W according to picture A4-113-0		
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 A5-113-0		
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 A6-113-0		
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 OE541-3N-113-4

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/OE54/OE54F1P2.PDF>

PS file: <http://130.149.60.45/farbmetrik/OE54/OE54F1P2.PS>

Picture A7-113-2: **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/OE54/OE54F1P2.PDF>

picture A7-113-2

underline Yes/No

PS-File: <http://130.149.60.45/farbmetrik/OE54/OE54F1P2.PS>

picture A7-113-2

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

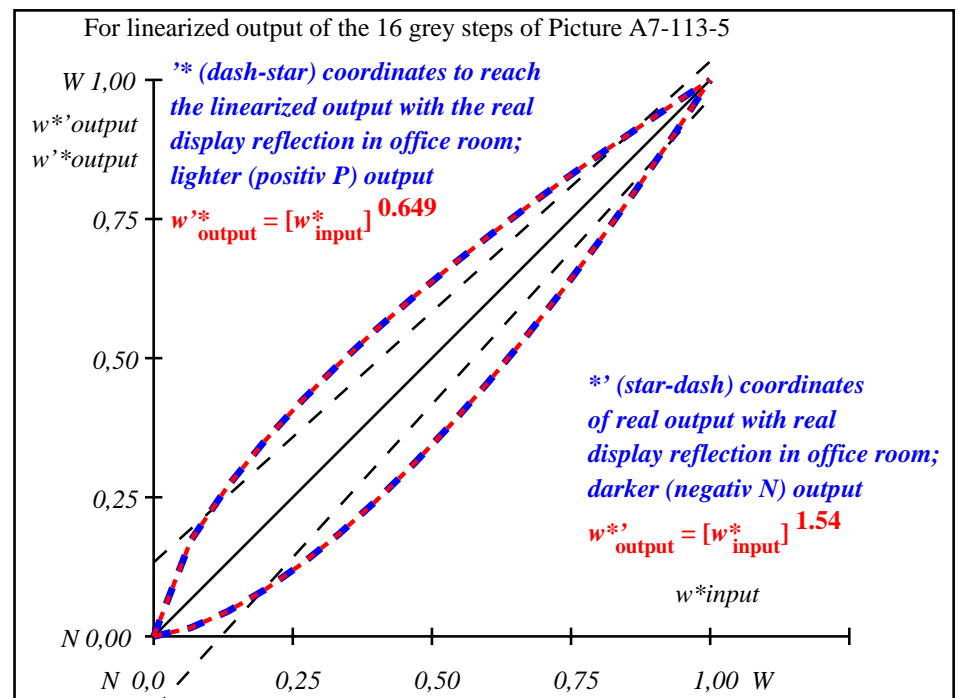
Part 4

OE541-7N-113-4

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	0.03	20.36	0.0	-2.8
3	28.33	0.0	0.07	23.76	0.0	-4.56
4	33.49	0.0	0.13	27.71	0.0	-5.77
5	38.65	0.0	0.18	32.07	0.0	-6.57
6	43.81	0.0	0.24	36.76	0.0	-7.04
7	48.97	0.0	0.31	41.74	0.0	-7.22
8	54.13	0.0	0.37	46.96	0.0	-7.16
9	59.29	0.0	0.44	52.4	0.0	-6.88
10	64.45	0.0	0.52	58.05	0.0	-6.39
11	69.61	0.0	0.59	63.88	0.0	-5.72
12	74.77	0.0	0.67	69.88	0.0	-4.88
13	79.93	0.0	0.75	76.05	0.0	-3.87
14	85.09	0.0	0.83	82.36	0.0	-2.72
15	90.25	0.0	0.91	88.82	0.0	-1.42
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	0.17	30.95	0.0	-6.4
19	56.71	0.0	0.41	49.66	0.0	-7.04
20	76.06	0.0	0.69	71.41	0.0	-4.64
21	95.41	0.0	1.0	95.41	0.0	0.0
Mean lightness difference (16 steps)						ΔE* _{CIELAB} = 4.6
Mean lightness difference (5 steps)						ΔE* _{CIELAB} = 3.6
Mean colour reproduction index:						R* _{ab,m} = 80

OE540-3N-113-5: File: Measure unknown; Device: Device unknown; Date: Date unknown



OE541-3N-113-5: File: Measure unknown; Device: Device unknown; Date: Date unknown

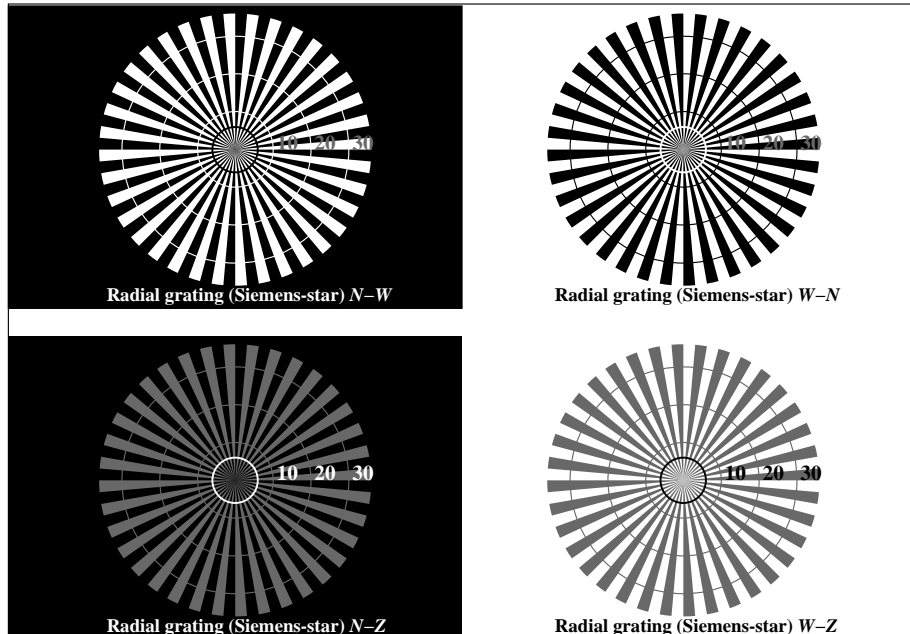
$L^{*}/Y_{\text{intended}}$ (absolute)	18.0/2.5	23.2/3.8	28.3/5.6	33.5/7.8	38.6/10.5	43.8/13.7	49.0/17.6	54.1/22.1	59.3/27.3	64.4/33.4	69.6/40.2	74.8/47.9	79.9/56.6	85.1/66.2	90.2/76.8	95.4/88.6
w^{*}_{setgray} $g_N=1.29$ No. and Hex code	00;F	01;E	02;D	03;C	04;B	05;A	06;9	07;8	08;7	09;6	10;5	11;4	12;3	13;2	14;1	15;0
$w^{*} = [L^{*}_{\text{CIELAB}, r}]$ (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	0.031	0.074	0.125	0.182	0.242	0.307	0.374	0.444	0.517	0.593	0.67	0.75	0.832	0.914	1.0

OE540-7N, Picture A7-113-5: 16 visual equidistant L^{*} -grey steps; PS operator: w^{*}_{setgray}

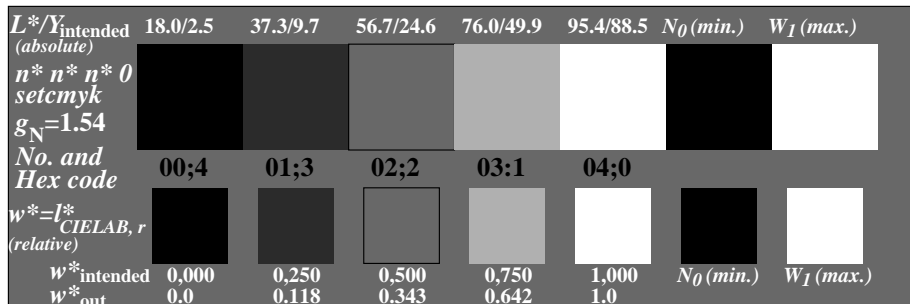
OE54: In-output relation according to ISO 9241-306; 1MR, DH
Viewing Y contrast $Y_W:Y_N=88,9:2,5$; Y_N range 1,87 to <3,75

input: all ($\rightarrow rgb_d$) setrgbcolor
output 130-5: $g_P=1.0$; $g_N=1.29$

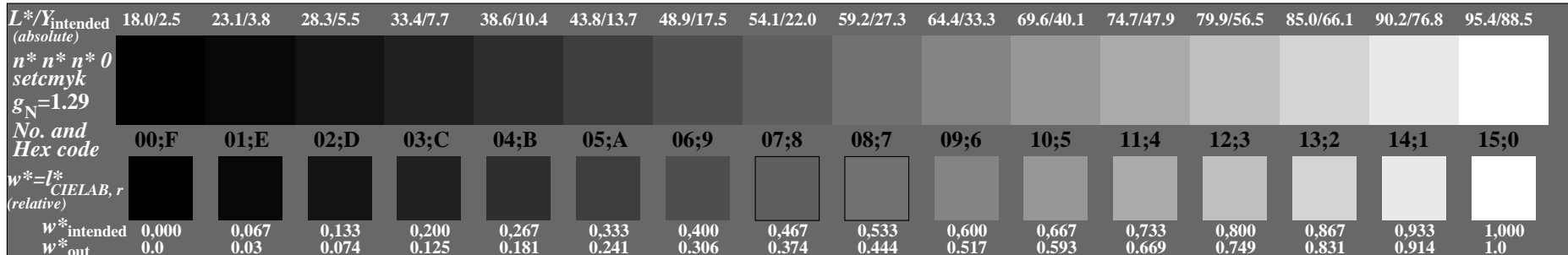
See similar ISO test charts: <http://www.ps.bam.de/24705TE>, <http://www.ps.bam.de/9241E>
Technical information: <http://www.ps.bam.de/33872E> Version 2.1, io=1.1, CIE LAB



OE540-3N, Picture A1-123-6: Radial grating N-W, W-N, N-Z, W-Z; PS operator: $n^*n^*n^*0$ setcmykcolor

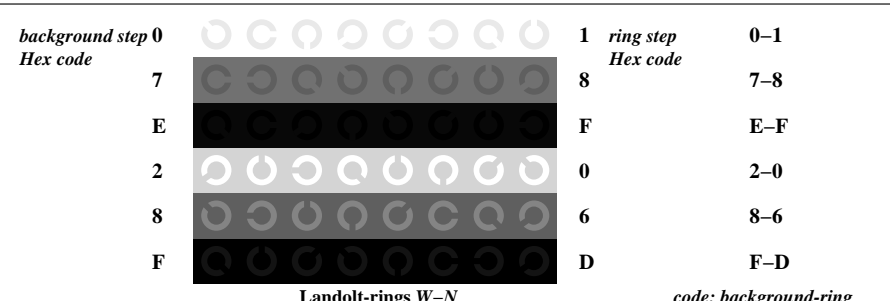


OE540-5N, Picture A2-123-6: 5 equidistant L^* -grey steps+ N_0 + W_1 ; PS operator: $n^*n^*n^*0$ setcmykcolor

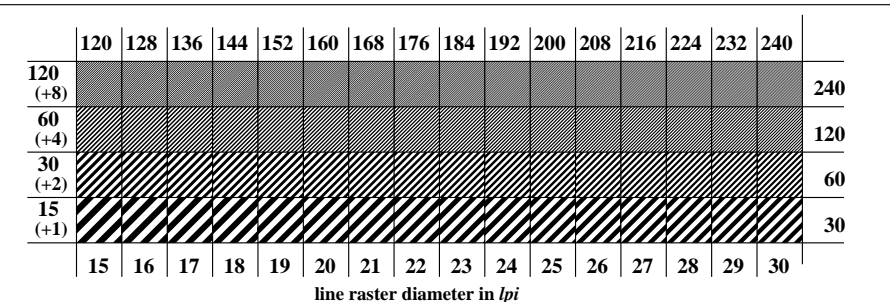


OE540-7N, Picture A3-123-6: 16 visual equidistant L^* -grey steps; PS operator: $n^*n^*n^*0$ setcmykcolor

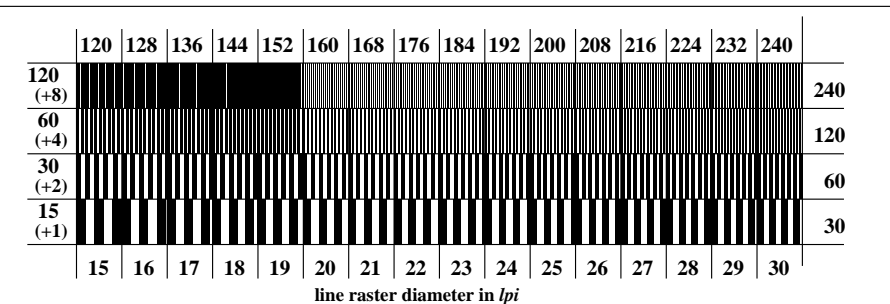
OE54: similar ME16 according to ISO 9241-306; 1MR, DH
Viewing Y contrast $Y_W:Y_N=88,9:2,5$; Y_N range 1,87 to <3,75



OE541-1N, Picture A4-123-6: Landolt-rings W-N; PS operator: $n^*n^*n^*0$ setcmykcolor



OE541-3N, Picture A5-123-6: Line raster under 45° (or 135°); PS operator: $n^*n^*n^*0$ setcmykcolor



OE541-5N, Picture A6-123-6: Line raster under 90° (or 0°); PS operator: $n^*n^*n^*0$ setcmykcolor

input: all ($\rightarrow rgb_d$) setrgbcolor
output 130-6: $g_P=1.0$; $g_N=1.29$

TUB registration: 20110801-OE54/OE54L0NA.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 A7-123-0 Yes/No
Output test with the computer display () or the external display ()
Test of the radial grating according to picture A1-123-0
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 A2-123-0
 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 A3-123-0
 Are the 16 steps on the upper rows distinguishable? Yes/No
 If No: How many steps can be distinguished? Steps

Part 1

OE540-3N-1224-7

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

PDF-File: http://130.149.60.45/farbmetrik/OE54/OE54L0NP.PDF underline Yes/No

PS-File: http://130.149.60.45/farbmetrik/OE54/OE54L0NA.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 OE54L0NP.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 OE54L0NA.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

OE540-7N-123-7

OE54: Form A for test chart according to ISO 9241-306; 1MR, DH input: all (->rgb*d) setrgbcolor
 Viewing Y contrast $Y_W:Y_N=88,9:2,5$; Y_N range 1,87 to <3,75 output 130-7: $g_P=1.0$; $g_N=1.29$

Test for the best visual linearized output of Picture A7-123-0 Yes/No
Output test with the computer display () or the external display ()
Test of the Landolt-rings N-W according to picture A4-123-0
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 A5-123-0
 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 A6-123-0
 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

OE541-3N-123-7

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/OE54/OE54F1P2.PDF

PS file: http://130.149.60.45/farbmetrik/OE54/OE54F1P2.PS

Picture A7-123-2: 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/OE54/OE54F1P2.PDF

picture A7-123-2

underline Yes/No

PS-File: http://130.149.60.45/farbmetrik/OE54/OE54F1P2.PS

picture A7-123-2

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

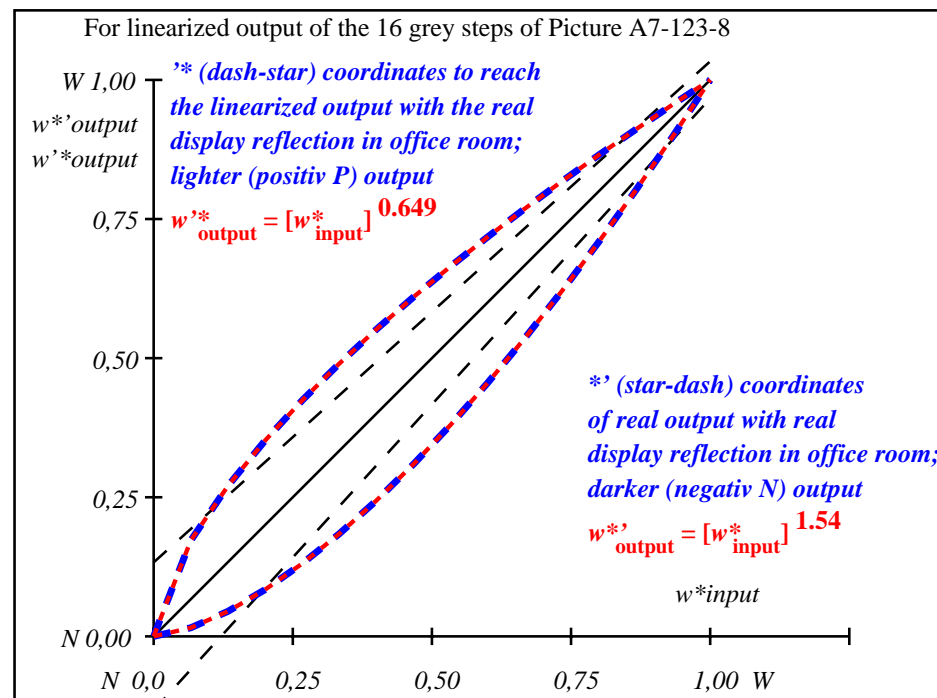
Part 4

OE541-7N-123-7

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	0.03	20.36	0.0	-2.8
3	28.33	0.0	0.07	23.76	0.0	-4.56
4	33.49	0.0	0.13	27.71	0.0	-5.77
5	38.65	0.0	0.18	32.07	0.0	-6.57
6	43.81	0.0	0.24	36.76	0.0	-7.04
7	48.97	0.0	0.31	41.74	0.0	-7.22
8	54.13	0.0	0.37	46.96	0.0	-7.16
9	59.29	0.0	0.44	52.4	0.0	-6.88
10	64.45	0.0	0.52	58.05	0.0	-6.39
11	69.61	0.0	0.59	63.88	0.0	-5.72
12	74.77	0.0	0.67	69.88	0.0	-4.88
13	79.93	0.0	0.75	76.05	0.0	-3.87
14	85.09	0.0	0.83	82.36	0.0	-2.72
15	90.25	0.0	0.91	88.82	0.0	-1.42
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	0.17	30.95	0.0	-6.4
19	56.71	0.0	0.41	49.66	0.0	-7.04
20	76.06	0.0	0.69	71.41	0.0	-4.64
21	95.41	0.0	1.0	95.41	0.0	0.0
Mean lightness difference (16 steps)						ΔE* _{CIELAB} = 4.6
Mean lightness difference (5 steps)						ΔE* _{CIELAB} = 3.6
Mean colour reproduction index:						R* _{ab,m} = 80

OE540-3N-123-8: File: Measure unknown; Device: Device unknown; Date: Date unknown



OE541-3N-123-8: 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
$n^{*}n^{*}n^{*}0$ setcmyk $g_N=1.29$ No. and Hex code	00;F	01;E	02;D	03;C	04;B	05;A	06;9	07;8	08;7	09;6	10;5	11;4	12;3	13;2	14;1	15;0
$w^{*}=l^{*}_{\text{CIELAB},r}$ (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	0.031	0.074	0.125	0.182	0.242	0.307	0.374	0.444	0.517	0.593	0.67	0.75	0.832	0.914	1.0

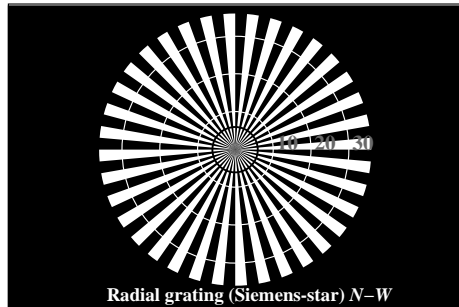
OE540-7N, Picture A7-123-8: 16 visual equidistant L^{*} -grey steps; PS operator: $n^{*}n^{*}n^{*}0$ setcmykcolor

OE54: 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

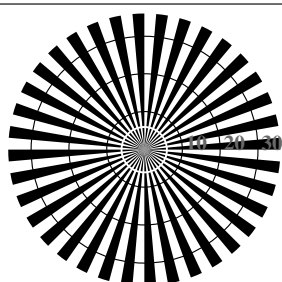
input: all (\rightarrow rgb_d) setrgbcolor
output 130-8: $g_P=1.0$; $g_N=1.29$

TUB registration: 20110801-OE54/OE54L0NA.TXT /.PS
application for output of displays: monitor systems or data projector systems
TUB material: code=rh4ta

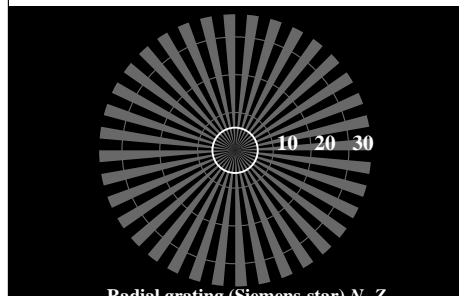
See similar ISO test charts: <http://www.ps.bam.de/24705TE>, <http://www.ps.bam.de/9241E>
Technical information: <http://www.ps.bam.de/33872E> Version 2.1, io=1.1, CIELAB



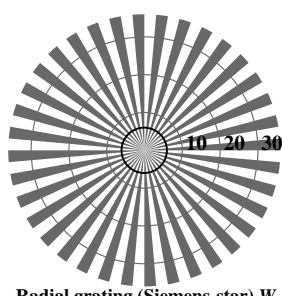
Radial grating (Siemens-star) N-W



Radial grating (Siemens-star) W-N

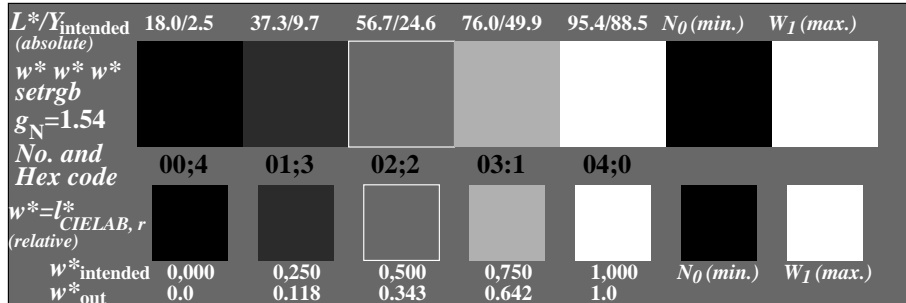


Radial grating (Siemens-star) N-Z

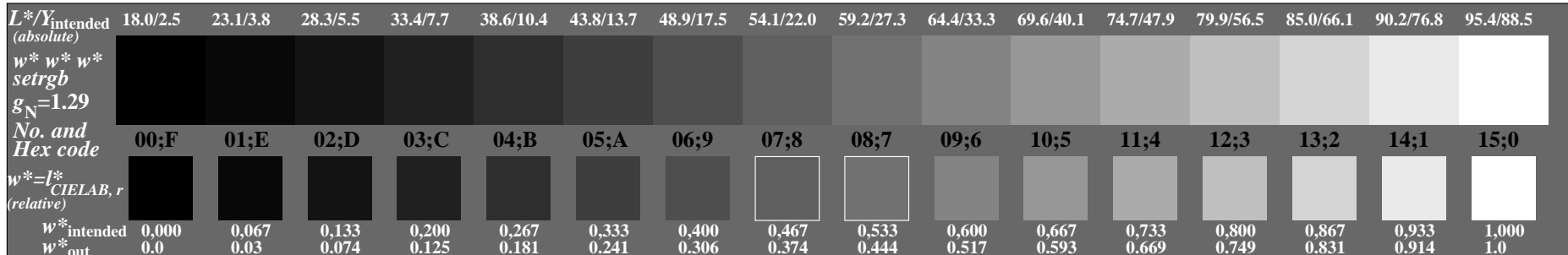


Radial grating (Siemens-star) W-Z

OE540-3N, Picture A1-133-9: Radial grating N-W, W-N, N-Z, W-Z; PS operator: $w^* w^* w^* \text{setrgbcolor}$

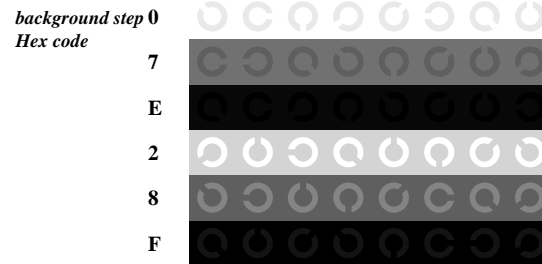


OE540-5N, Picture A2-133-9: 5 equidistant L^* -grey steps+ N_0 + W_1 ; PS operator: $w^* w^* w^* \text{setrgbcolor}$



OE540-7N, Picture A3-133-9: 16 visual equidistant L^* -grey steps; PS operator: $w^* w^* w^* \text{setrgbcolor}$

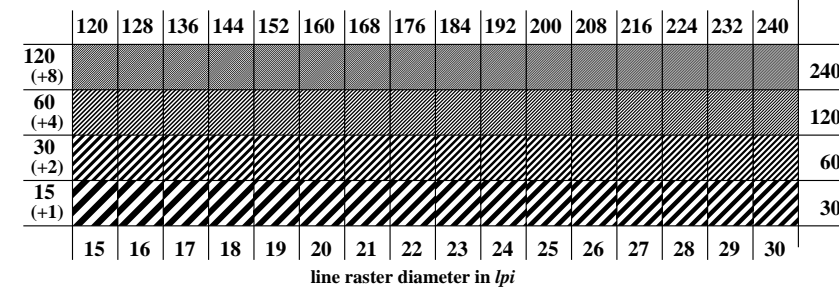
OE54: similar ME16 according to ISO 9241-306; 1MR, DH
Viewing Y contrast $Y_W:Y_N=88,9:2,5$; Y_N range 1,87 to <3,75



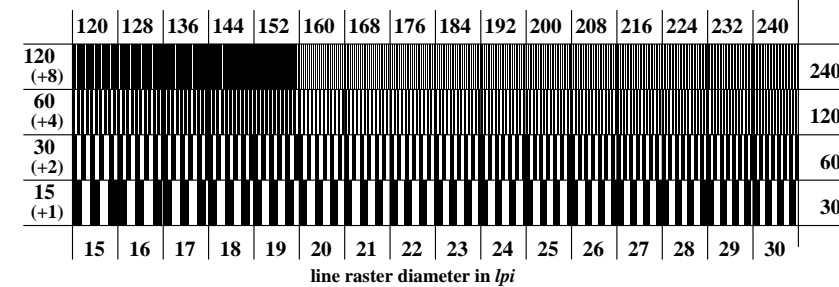
Landolt-rings W-N

code: background-ring

OE541-1N, Picture A4-133-9: Landolt-rings W-N; PS operator: $w^* w^* w^* \text{setrgbcolor}$



OE541-3N, Picture A5-133-9: Line raster under 45° (or 135°); PS operator: $w^* w^* w^* \text{setrgbcolor}$



OE541-5N, Picture A6-133-9: Line raster under 90° (or 0°); PS operator: $w^* w^* w^* \text{setrgbcolor}$

input: all ($\rightarrow \text{rgb}_d$) setrgbcolor
output 130-9: $g_P=1.0$; $g_N=1.29$

TUB registration: 20110801-OE54/OE54L0NA.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
	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 A2-133-0		
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 A3-133-0		
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 OE540-3N-1324-10

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

PDF-File: <http://130.149.60.45/farbmetrik/OE54/OE54L0NP.PDF> underline Yes/No

PS-File: <http://130.149.60.45/farbmetrik/OE54/OE54L0NA.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 OE54L0NP.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 OE54L0NA.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

OE540-7N-133-10

OE54: Form A for test chart according to ISO 9241-306; 1MR, DH input: *all (->rgb*d) setrgbcolor*
Viewing Y contrast $Y_W:Y_N=88,9:2,5$; Y_N range 1,87 to <3,75 output 130-10: $g_P=1.0$; $g_N=1.29$

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		
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		
Test with a magnifying glass (e.g. 6x): - from 15 lpi: to lpi		

Part 2 OE541-3N-133-10

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/OE54/OE54F1P2.PDF>

PS file: <http://130.149.60.45/farbmetrik/OE54/OE54F1P2.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/OE54/OE54F1P2.PDF>

picture A7-133-2

underline Yes/No

PS-File: <http://130.149.60.45/farbmetrik/OE54/OE54F1P2.PS>

picture A7-133-2

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

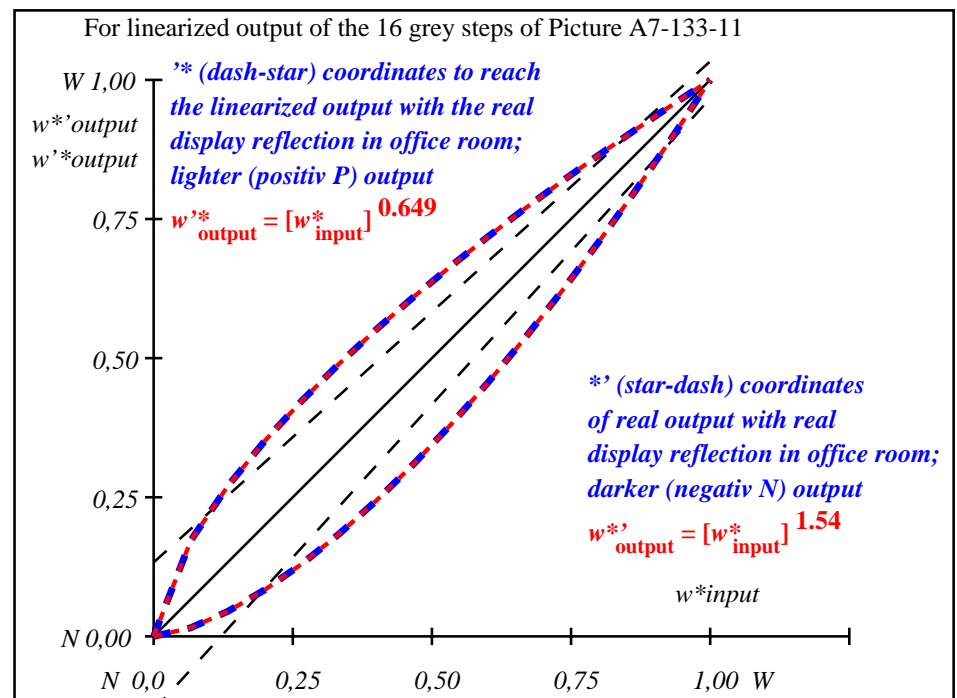
Part 4

OE541-7N-133-10

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	0.03	20.36	0.0	-2.8
3	28.33	0.0	0.07	23.76	0.0	-4.56
4	33.49	0.0	0.13	27.71	0.0	-5.77
5	38.65	0.0	0.18	32.07	0.0	-6.57
6	43.81	0.0	0.24	36.76	0.0	-7.04
7	48.97	0.0	0.31	41.74	0.0	-7.22
8	54.13	0.0	0.37	46.96	0.0	-7.16
9	59.29	0.0	0.44	52.4	0.0	-6.88
10	64.45	0.0	0.52	58.05	0.0	-6.39
11	69.61	0.0	0.59	63.88	0.0	-5.72
12	74.77	0.0	0.67	69.88	0.0	-4.88
13	79.93	0.0	0.75	76.05	0.0	-3.87
14	85.09	0.0	0.83	82.36	0.0	-2.72
15	90.25	0.0	0.91	88.82	0.0	-1.42
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	0.17	30.95	0.0	-6.4
19	56.71	0.0	0.41	49.66	0.0	-7.04
20	76.06	0.0	0.69	71.41	0.0	-4.64
21	95.41	0.0	1.0	95.41	0.0	0.0
Mean lightness difference (16 steps)						ΔE* _{CIELAB} = 4.6
Mean lightness difference (5 steps)						ΔE* _{CIELAB} = 3.6
Mean colour reproduction index:						R* _{ab,m} = 80

OE540-3N-133-11: File: Measure unknown; Device: Device unknown; Date: Date unknown



OE541-3N-133-11: File: Measure unknown; Device: Device unknown; Date: Date unknown

$L^*/Y_{intended}$ (absolute)	18.0/2.5	23.2/3.8	28.3/5.6	33.5/7.8	38.6/10.5	43.8/13.7	49.0/17.6	54.1/22.1	59.3/27.3	64.4/33.4	69.6/40.2	74.8/47.9	79.9/56.6	85.1/66.2	90.2/76.8	95.4/88.6
$w^* w^* w^*$ setrgb $g_N=1.29$ No. and Hex code	00;F	01;E	02;D	03;C	04;B	05;A	06;9	07;8	08;7	09;6	10;5	11;4	12;3	13;2	14;1	15;0
$w^*=l^*_{CIELAB,r}$ (relative)																
$w^*_{intended}$	0,000	0,067	0,133	0,200	0,267	0,333	0,400	0,467	0,533	0,600	0,667	0,733	0,800	0,867	0,933	1,000
w^*_{out}	0,0	0,031	0,074	0,125	0,182	0,242	0,307	0,374	0,444	0,517	0,593	0,67	0,75	0,832	0,914	1,0

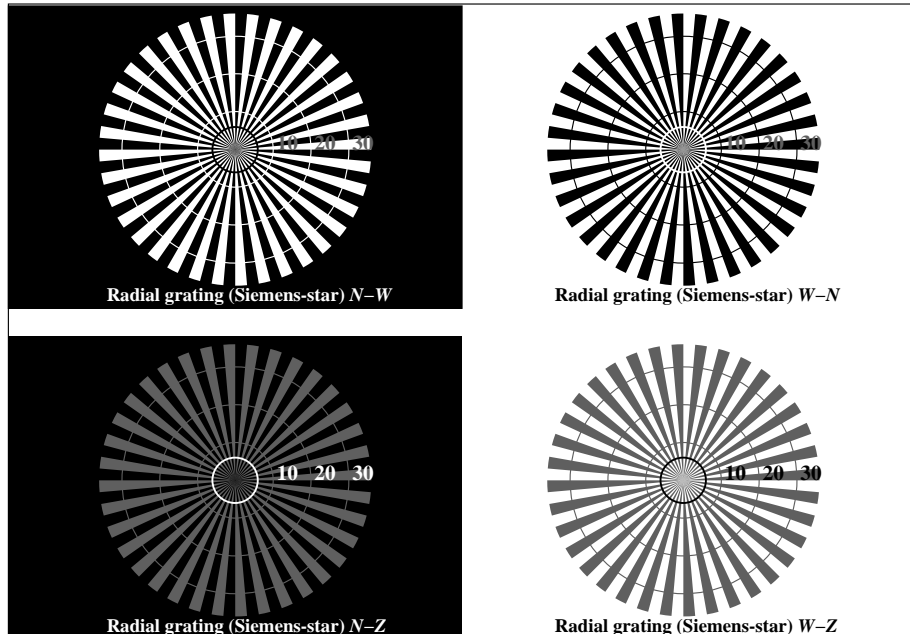
OE540-7N, Picture A7-133-11: 16 visual equidistant L^* -grey steps; PS operator: $w^* w^* w^*$ setrgbcolor

OE54: 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

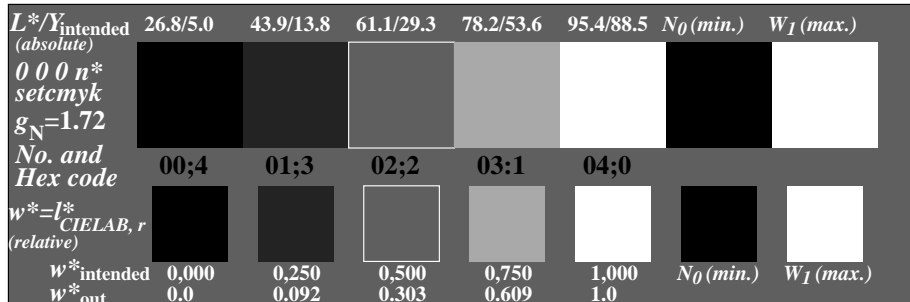
input: all (\rightarrow rgb_d) setrgbcolor
output 130-11: $g_P=1.0$; $g_N=1.29$

TUB registration: 20110801-OE54/OE54L0NA.TXT /.PS
application for output of displays: monitor systems or data projector systems
TUB material: code=rh4ta

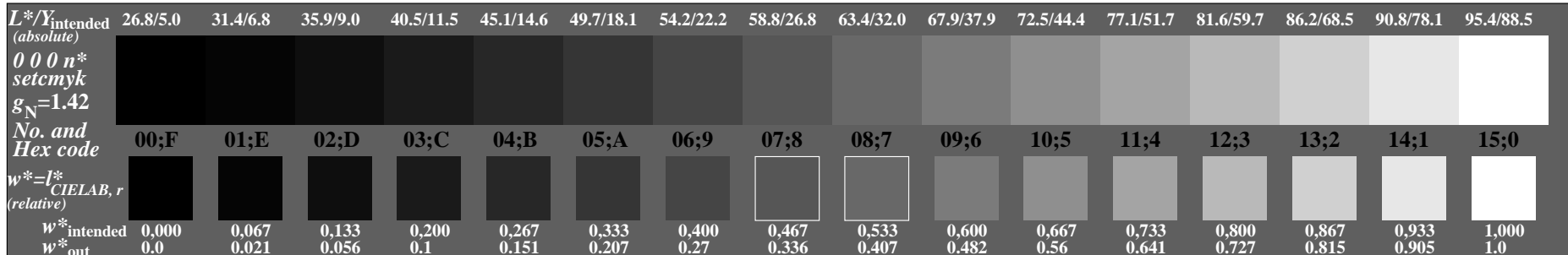
See similar ISO test charts: <http://www.ps.bam.de/24705TE>, <http://www.ps.bam.de/9241E>
Technical information: <http://www.ps.bam.de/33872E> Version 2.1, io=1.1, CIELAB



OE540-3N, Picture A1-104-0: Radial grating N-W, W-N, N-Z, W-Z; PS operator: 0 0 0 n* setcmykcolor



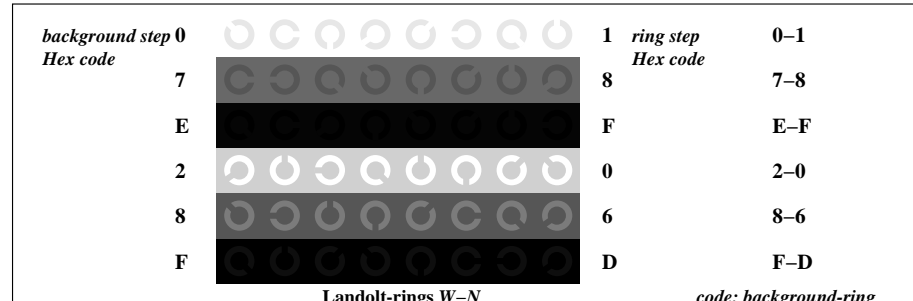
OE540-5N, Picture A2-104-0: 5 equidistant L^* -grey steps+ N_0 + W_1 ; PS operator: 0 0 0 n* setcmykcolor



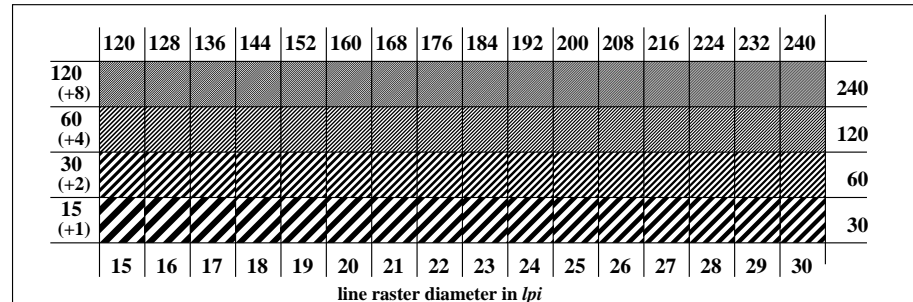
OE540-7N, Picture A3-104-0: 16 visual equidistant L^* -grey steps; PS operator: 0 0 0 n* setcmykcolor

OE54: 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

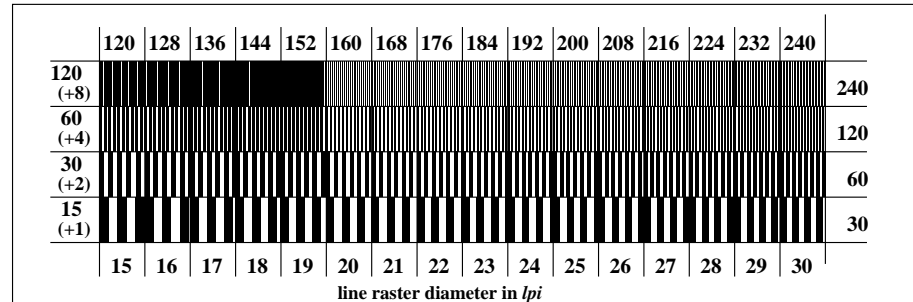
input: all ($\rightarrow rgb_d$) setrgbcolor
output 130-0: $g_P=1.0$; $g_N=1.42$



OE541-1N, Picture A4-104-0: Landolt-rings W-N; PS operator: 0 0 0 n* setcmykcolor



OE541-3N, Picture A5-104-0: Line raster under 45° (or 135°); PS operator: 0 0 0 n* setcmykcolor



OE541-5N, Picture A6-104-0: Line raster under 90° (or 0°); PS operator: 0 0 0 n* setcmykcolor

TUB registration: 20110801-OE54/OE54L0NA.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 A7-104-0		Yes/No
Output test with the computer display () or the external display ()		
Test of the radial grating according to picture A1-104-0		
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 A2-104-0		
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 A3-104-0		
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

OE540-3N-1032-1

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

PDF-File: http://130.149.60.45/farbmetrik/OE54/OE54L0NP.PDF underline Yes/No

PS-File: http://130.149.60.45/farbmetrik/OE54/OE54L0NA.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 OE54L0NP.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 OE54L0NA.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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Test for the best visual linearized output of Picture A7-104-0		Yes/No
Output test with the computer display () or the external display ()		
Test of the Landolt-rings N-W according to picture A4-104-0		
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 A5-104-0		
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 A6-104-0		
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

OE541-3N-104-1

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/OE54/OE54F1P2.PDF

PS file: http://130.149.60.45/farbmetrik/OE54/OE54F1P2.PS

Picture A7-104-2: 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/OE54/OE54F1P2.PDF

picture A7-104-2

PS-File: http://130.149.60.45/farbmetrik/OE54/OE54F1P2.PS

picture A7-104-2

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:

underline Yes/No

underline Yes/No

underline Yes/No

underline Yes/No

underline Yes/No

underline Yes/No

Part 3

OE540-7N-104-1

Part 4

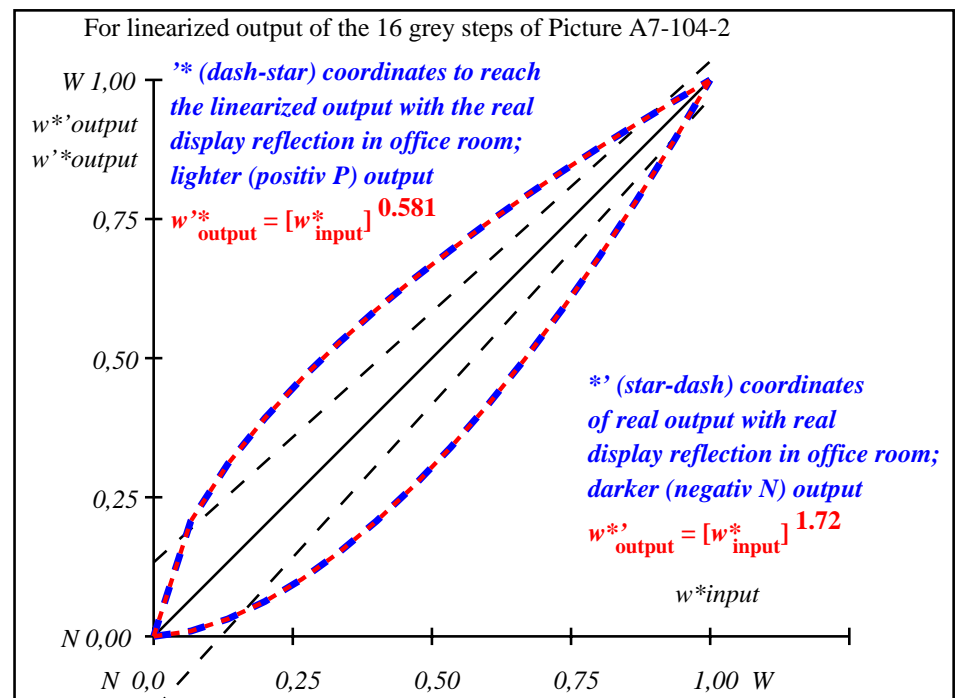
OE541-7N-104-1

OE54: Form A for test chart according to ISO 9241-306; 1MR, DH input: all (->rgb*d) setrgbcolor
Viewing Y contrast $Y_W:Y_N=88,9:5$; Y_N range 3,75 to <7,5 output 130-1: $g_P=1.0$; $g_N=1.42$

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	26.85	0.0	0.0
2	31.42	0.0	0.02	28.28	0.0	-3.13
3	35.99	0.0	0.06	30.7	0.0	-5.28
4	40.56	0.0	0.1	33.73	0.0	-6.82
5	45.13	0.0	0.15	37.22	0.0	-7.9
6	49.7	0.0	0.21	41.12	0.0	-8.57
7	54.27	0.0	0.27	45.37	0.0	-8.9
8	58.84	0.0	0.34	49.93	0.0	-8.91
9	63.41	0.0	0.41	54.78	0.0	-8.63
10	67.99	0.0	0.48	59.9	0.0	-8.08
11	72.56	0.0	0.56	65.27	0.0	-7.28
12	77.13	0.0	0.64	70.87	0.0	-6.25
13	81.7	0.0	0.73	76.7	0.0	-4.99
14	86.27	0.0	0.82	82.73	0.0	-3.52
15	90.84	0.0	0.91	88.97	0.0	-1.85
16	95.41	0.0	1.0	95.41	0.0	0.0
17	26.85	0.0	0.0	26.85	0.0	0.0
18	43.99	0.0	0.14	36.31	0.0	-7.67
19	61.13	0.0	0.37	52.32	0.0	-8.8
20	78.27	0.0	0.66	72.31	0.0	-5.95
21	95.41	0.0	1.0	95.41	0.0	0.0
Mean lightness difference (16 steps)					ΔE* _{CIELAB} = 5.6	
Mean lightness difference (5 steps)					ΔE* _{CIELAB} = 4.5	
Mean colour reproduction index:					R* _{ab,m} = 75	

OE540-3N-104-2: File: Measure unknown; Device: Device unknown; Date: Date unknown



OE541-3N-104-2: File: Measure unknown; Device: Device unknown; Date: Date unknown

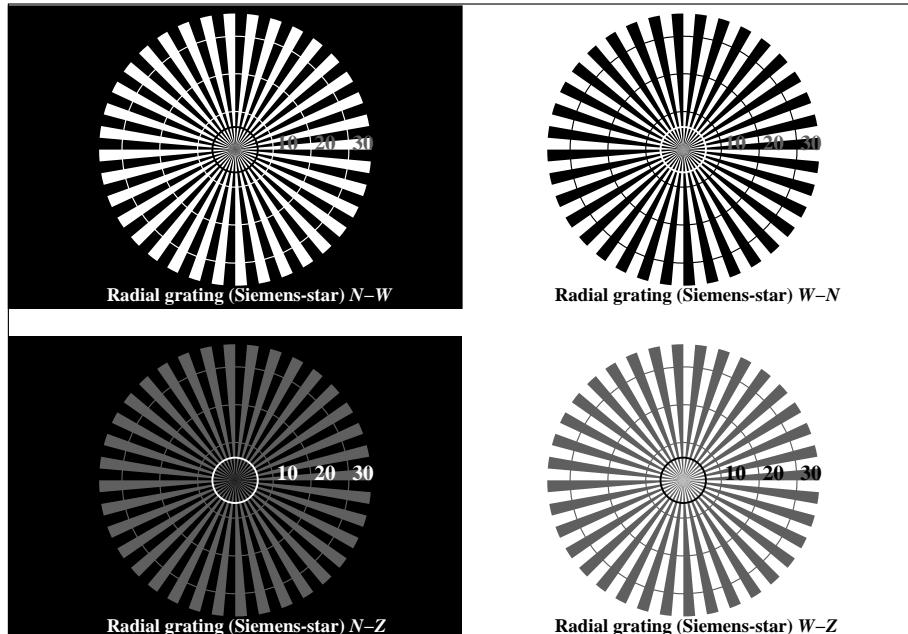
L^*/Y_{intended} (absolute)	26.8/5.0	31.4/6.8	36.0/9.0	40.6/11.6	45.1/14.6	49.7/18.2	54.3/22.2	58.8/26.9	63.4/32.1	68.0/38.0	72.6/44.5	77.1/51.7	81.7/59.7	86.3/68.5	90.8/78.1	95.4/88.6
0 0 0 n* setcmk g _N =1.43 No. and Hex code	00;F	01;E	02;D	03;C	04;B	05;A	06;9	07;8	08;7	09;6	10;5	11;4	12;3	13;2	14;1	15;0
w* = l* CIELAB, r (relative)	0.000	0.067	0.133	0.200	0.267	0.333	0.400	0.467	0.533	0.600	0.667	0.733	0.800	0.867	0.933	1.000
w* _{intended}	0.000	0.067	0.133	0.200	0.267	0.333	0.400	0.467	0.533	0.600	0.667	0.733	0.800	0.867	0.933	1.000
w* _{out}	0.0	0.021	0.056	0.1	0.152	0.208	0.27	0.337	0.407	0.482	0.561	0.642	0.727	0.816	0.906	1.0

OE540-7N, Picture A7-104-2: 16 visual equidistant L*-grey steps; PS operator: 0 0 0 n* setcmkcolor

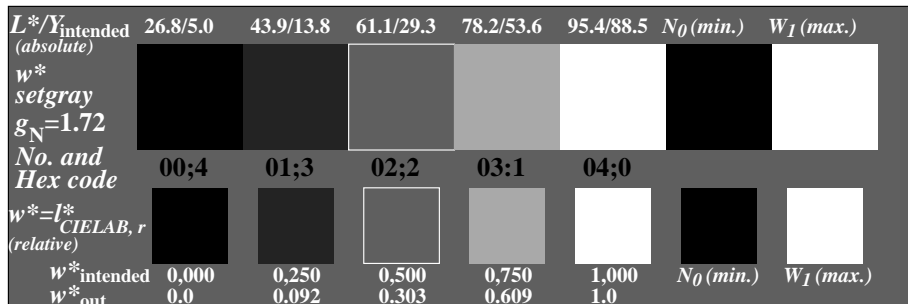
OE54: In-output relation according to ISO 9241-306; 1MR, DH
Viewing Y contrast $Y_W:Y_N=88,9:5$; Y_N range 3,75 to <7,5

input: all (->rgb_d) setrgbcolor
output 130-2: g_P=1.0; g_N=1.42

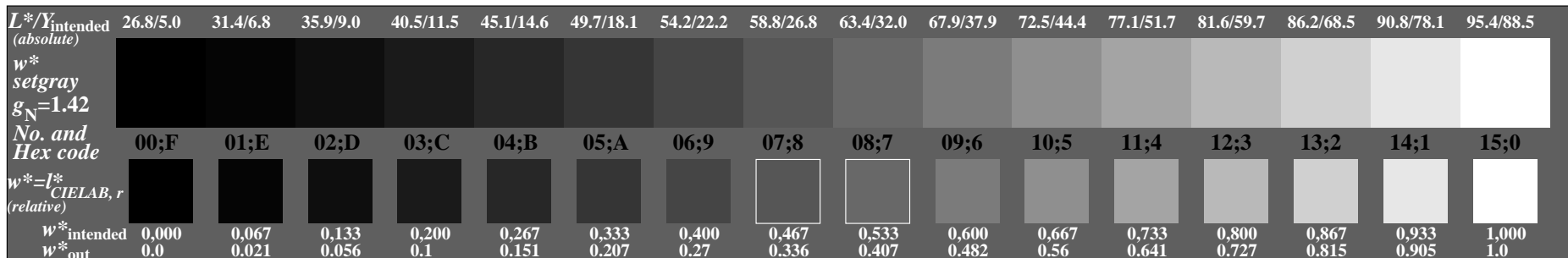
See similar ISO test charts: <http://www.ps.bam.de/24705TE>, <http://www.ps.bam.de/9241E>
Technical information: <http://www.ps.bam.de/33872E> Version 2.1, io=1.1, CIELAB



OE540-3N, Picture A1-114-3: Radial grating N-W, W-N, N-Z, W-Z; PS operator: w^* setgray



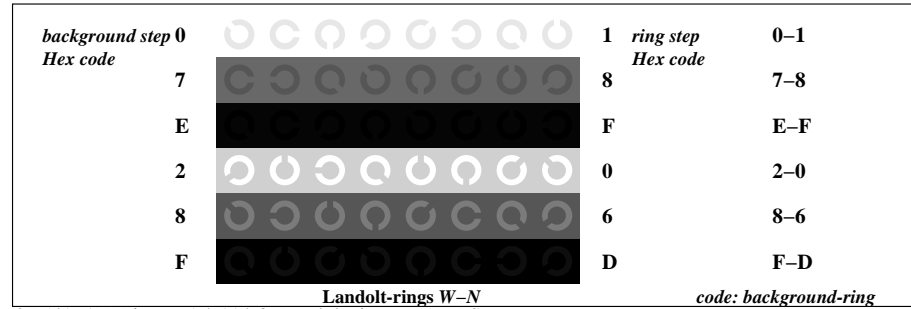
OE540-5N, Picture A2-114-3: 5 equidistant L^* -grey steps+ N_0 + W_1 ; PS operator: w^* setgray



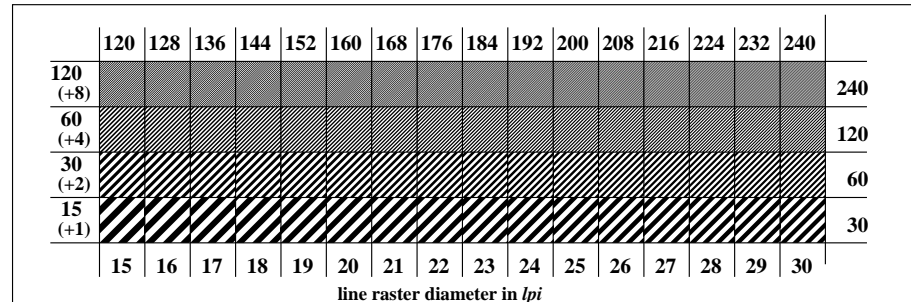
OE540-7N, Picture A3-114-3: 16 visual equidistant L^* -grey steps; PS operator: w^* setgray

OE54: 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

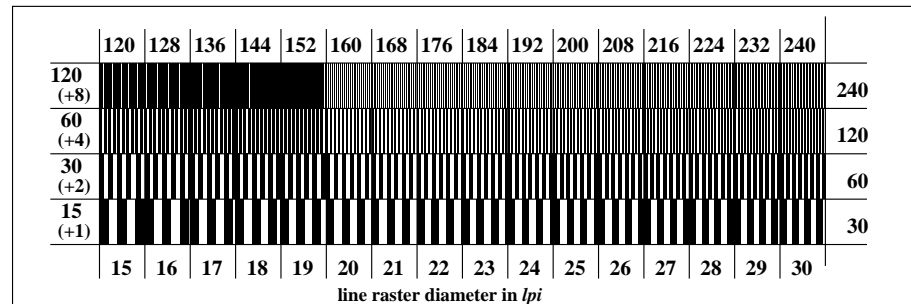
input: all ($\rightarrow rgb_d$) setrgbcolor
output 130-3: $g_P=1.0$; $g_N=1.42$



OE541-1N, Picture A4-114-3: Landolt-rings W-N; PS operator: w^* setgray



OE541-3N, Picture A5-114-3: Line raster under 45° (or 135°); PS operator: w^* setgray



OE541-5N, Picture A6-114-3: Line raster under 90° (or 0°); PS operator: w^* setgray

TUB registration: 20110801-OE54/OE54L0NA.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 A7-114-0		Yes/No
Output test with the computer display () or the external display ()		
Test of the radial grating according to picture A1-114-0		
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 A2-114-0		
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 A3-114-0		
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 OE540-3N-1132-4

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

PDF-File: <http://130.149.60.45/farbmetrik/OE54/OE54L0NP.PDF> underline Yes/No

PS-File: <http://130.149.60.45/farbmetrik/OE54/OE54L0NA.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 OE54L0NP.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 OE54L0NA.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

OE540-7N-114-4

OE54: Form A for test chart according to ISO 9241-306; 1MR, DH input: *all* ($\rightarrow rgb_d$) *setrgbcolor*
Viewing Y contrast $Y_W:Y_N=88,9:5$; Y_N range 3,75 to <7,5 output 130-4: $g_P=1.0$; $g_N=1.42$

Test for the best visual linearized output of Picture A7-114-0		Yes/No
Output test with the computer display () or the external display ()		
Test of the Landolt-rings N-W according to picture A4-114-0		
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 A5-114-0		
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 A6-114-0		
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 OE541-3N-114-4

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/OE54/OE54F1P2.PDF>

PS file: <http://130.149.60.45/farbmetrik/OE54/OE54F1P2.PS>

Picture A7-114-2: 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/OE54/OE54F1P2.PDF>

picture A7-114-2

underline Yes/No

PS-File: <http://130.149.60.45/farbmetrik/OE54/OE54F1P2.PS>

picture A7-114-2

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:

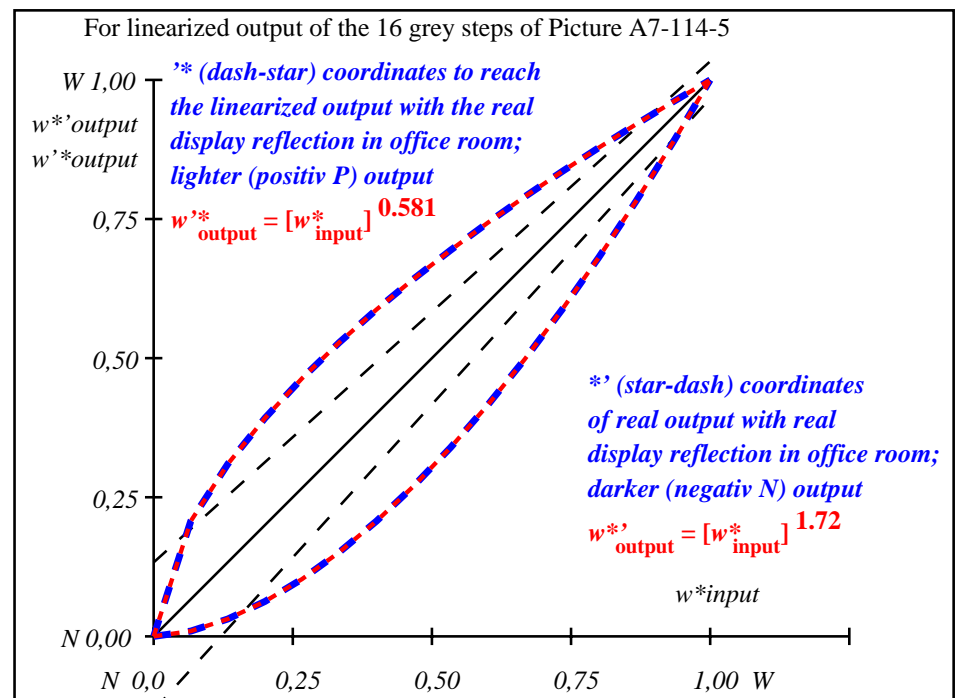
underline Yes/No

OE541-7N-114-4

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	26.85	0.0	0.0
2	31.42	0.0	0.02	28.28	0.0	0.0
3	35.99	0.0	0.06	30.7	0.0	0.0
4	40.56	0.0	0.1	33.73	0.0	0.0
5	45.13	0.0	0.15	37.22	0.0	0.0
6	49.7	0.0	0.21	41.12	0.0	0.0
7	54.27	0.0	0.27	45.37	0.0	0.0
8	58.84	0.0	0.34	49.93	0.0	0.0
9	63.41	0.0	0.41	54.78	0.0	0.0
10	67.99	0.0	0.48	59.9	0.0	0.0
11	72.56	0.0	0.56	65.27	0.0	0.0
12	77.13	0.0	0.64	70.87	0.0	0.0
13	81.7	0.0	0.73	76.7	0.0	0.0
14	86.27	0.0	0.82	82.73	0.0	0.0
15	90.84	0.0	0.91	88.97	0.0	0.0
16	95.41	0.0	1.0	95.41	0.0	0.0
17	26.85	0.0	0.0	26.85	0.0	0.0
18	43.99	0.0	0.14	36.31	0.0	0.0
19	61.13	0.0	0.37	52.32	0.0	0.0
20	78.27	0.0	0.66	72.31	0.0	0.0
21	95.41	0.0	1.0	95.41	0.0	0.0
Mean lightness difference (16 steps)						ΔE* _{CIELAB} = 5.6
Mean lightness difference (5 steps)						ΔE* _{CIELAB} = 4.5
Mean colour reproduction index:						R* _{ab,m} = 75

OE540-3N-114-5: File: Measure unknown; Device: Device unknown; Date: Date unknown



OE541-3N-114-5: File: Measure unknown; Device: Device unknown; Date: Date unknown

$L^*/Y_{intended}$ (absolute)	26.8/5.0	31.4/6.8	36.0/9.0	40.6/11.6	45.1/14.6	49.7/18.2	54.3/22.2	58.8/26.9	63.4/32.1	68.0/38.0	72.6/44.5	77.1/51.7	81.7/59.7	86.3/68.5	90.8/78.1	95.4/88.6
w^* setgray																
$g_N=1.43$																
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	0.021	0.056	0.1	0.152	0.208	0.27	0.337	0.407	0.482	0.561	0.642	0.727	0.816	0.906	1.0

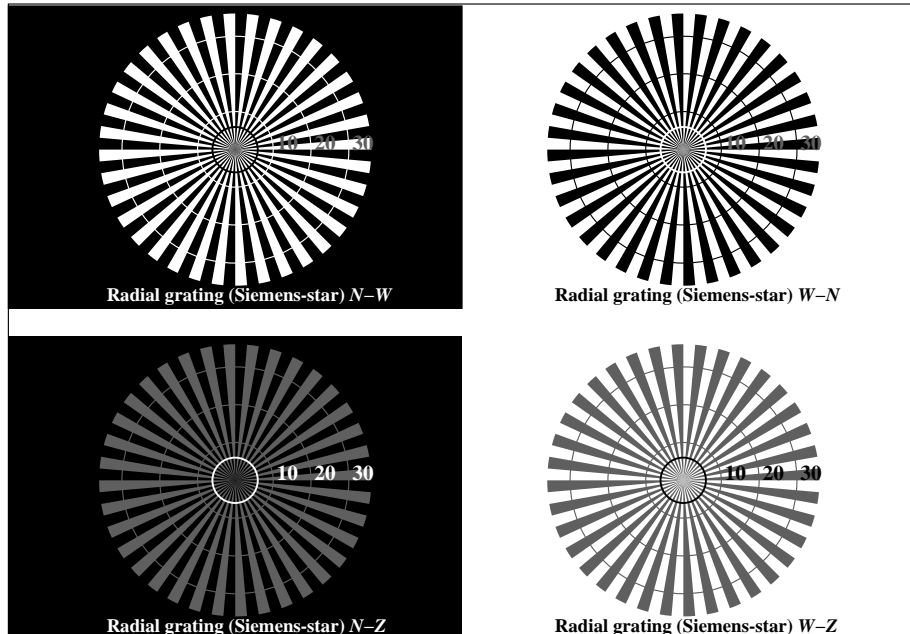
OE540-7N, Picture A7-114-5: 16 visual equidistant L^* -grey steps; PS operator: w^* setgray

OE54: 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

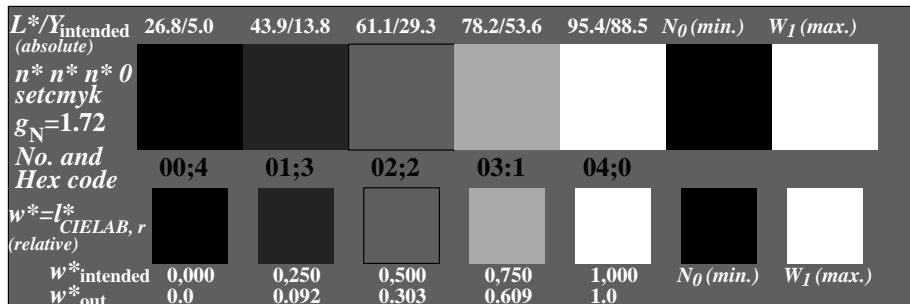
input: all ($\rightarrow rgb_d$) setrgbcOLOR
output 130-5: $g_P=1.0$; $g_N=1.42$

TUB registration: 20110801-OE54/OE54L0NA.TXT /.PS
application for output of displays: monitor systems or data projector systems
TUB material: code=rh4ta

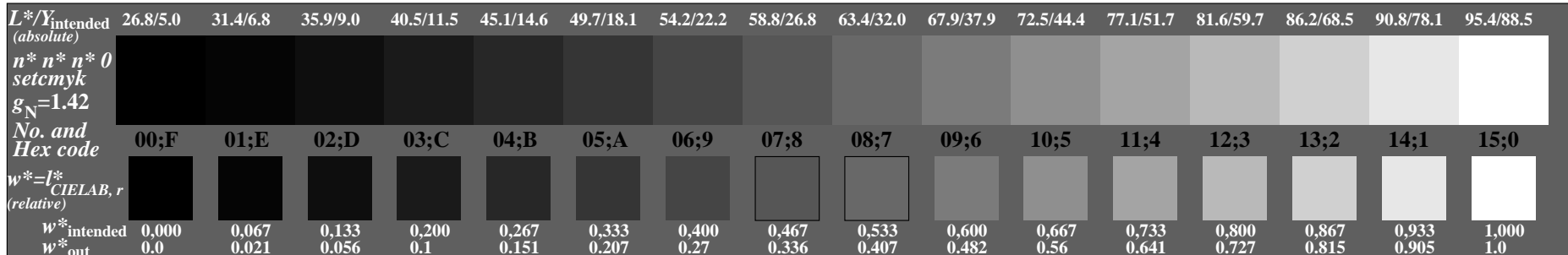
See similar ISO test charts: <http://www.ps.bam.de/24705TE>, <http://www.ps.bam.de/9241E>
Technical information: <http://www.ps.bam.de/33872E> Version 2.1, io=1.1, CIE LAB



OE540-3N, Picture A1-124-6: Radial grating N-W, W-N, N-Z, W-Z; PS operator: $n^*n^*n^*0$ setcmkcolor



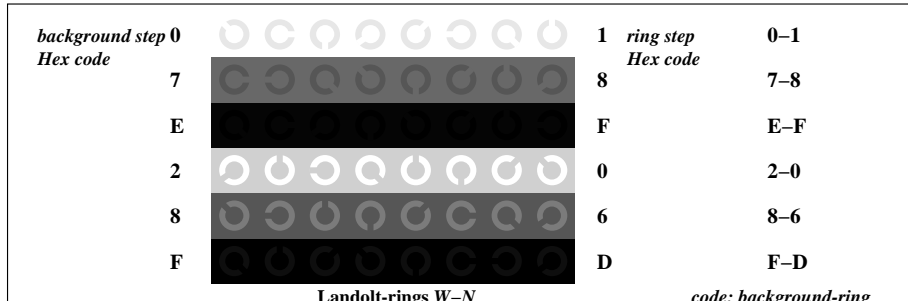
OE540-5N, Picture A2-124-6: 5 equidistant L^* -grey steps+ N_0 + W_1 ; PS operator: $n^*n^*n^*0$ setcmkcolor



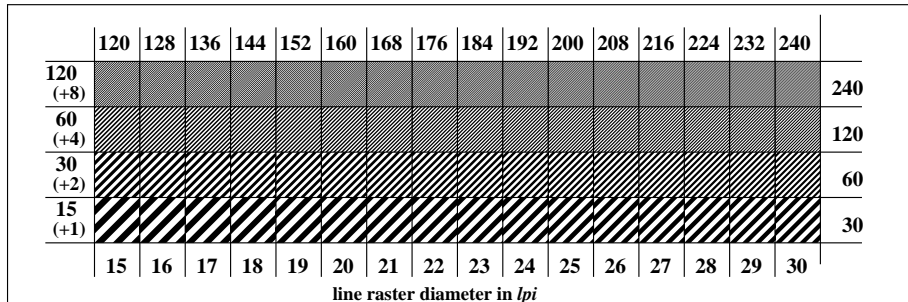
OE540-7N, Picture A3-124-6: 16 visual equidistant L^* -grey steps; PS operator: $n^*n^*n^*0$ setcmkcolor

OE54: 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

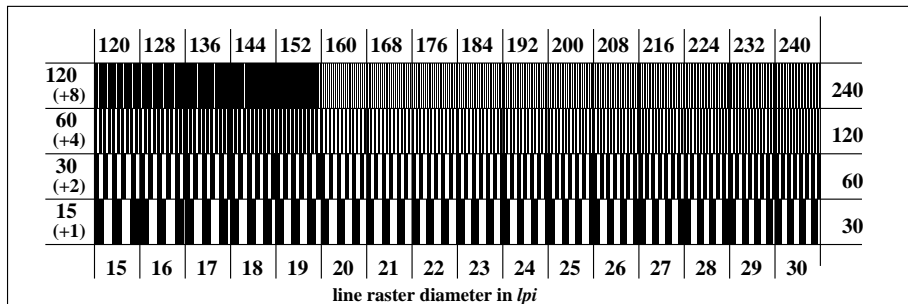
input: all ($\rightarrow rgb_d$) setrgbcolor
output 130-6: $g_P=1.0$; $g_N=1.42$



OE541-1N, Picture A4-124-6: Landolt-rings W-N; PS operator: $n^*n^*n^*0$ setcmkcolor



OE541-3N, Picture A5-124-6: Line raster under 45° (or 135°); PS operator: $n^*n^*n^*0$ setcmkcolor



OE541-5N, Picture A6-124-6: Line raster under 90° (or 0°); PS operator: $n^*n^*n^*0$ setcmkcolor

TUB registration: 20110801-OE54/OE54L0NA.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

Test for the best visual linearized output of Picture A7-124-0 Yes/No
Output test with the computer display () or the external display ()
Test of the radial grating according to picture A1-124-0
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 A2-124-0
 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 A3-124-0
 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

OE540-3N-1232-7

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

PDF-File: <http://130.149.60.45/farbmetrik/OE54/OE54L0NP.PDF> underline Yes/No

PS-File: <http://130.149.60.45/farbmetrik/OE54/OE54L0NA.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 OE54L0NP.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 OE54L0NA.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

OE540-7N-124-7

OE54: Form A for test chart according to ISO 9241-306; 1MR, DH input: *all (->rgb*d) setrgbcolor*
 Viewing Y contrast $Y_W:Y_N=88,9:5$; Y_N range 3,75 to <7,5 output 130-7: $g_P=1.0$; $g_N=1.42$

Test for the best visual linearized output of Picture A7-124-0 Yes/No
Output test with the computer display () or the external display ()
Test of the Landolt-rings N-W according to picture A4-124-0
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 A5-124-0
 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 A6-124-0
 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

OE541-3N-124-7

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)

underline Yes/No

PDF file: <http://130.149.60.45/farbmetrik/OE54/OE54F1P2.PDF>

underline Yes/No

PS file: <http://130.149.60.45/farbmetrik/OE54/OE54F1P2.PS>

underline Yes/No

Picture A7-124-2: 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/OE54/OE54F1P2.PDF>

underline Yes/No

PS-File: <http://130.149.60.45/farbmetrik/OE54/OE54F1P2.PS>

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:

Part 4

OE541-7N-124-7

TUB registration: 20110801-OE54/OE54L0NA.TXT /.PS
 application for output of displays: monitor systems or data projector systems
 TUB material: code=th4ta

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	I*out	LAB*out	LAB*out/c-ref	ΔE*	Start output S1
1	26.85	0.0	0.0	26.85	0.0	0.01
2	31.42	0.0	0.02	28.28	0.0	0.0
3	35.99	0.0	0.06	30.7	0.0	0.0
4	40.56	0.0	0.1	33.73	0.0	0.0
5	45.13	0.0	0.15	37.22	0.0	0.0
6	49.7	0.0	0.21	41.12	0.0	0.0
7	54.27	0.0	0.27	45.37	0.0	0.0
8	58.84	0.0	0.34	49.93	0.0	0.0
9	63.41	0.0	0.41	54.78	0.0	0.0
10	67.99	0.0	0.48	59.9	0.0	0.0
11	72.56	0.0	0.56	65.27	0.0	0.0
12	77.13	0.0	0.64	70.87	0.0	0.0
13	81.7	0.0	0.73	76.7	0.0	0.0
14	86.27	0.0	0.82	82.73	0.0	0.0
15	90.84	0.0	0.91	88.97	0.0	0.0
16	95.41	0.0	1.0	95.41	0.0	0.0
17	26.85	0.0	0.0	26.85	0.0	0.0
18	43.99	0.0	0.14	36.31	0.0	0.0
19	61.13	0.0	0.37	52.32	0.0	0.0
20	78.27	0.0	0.66	72.31	0.0	0.0
21	95.41	0.0	1.0	95.41	0.0	0.0

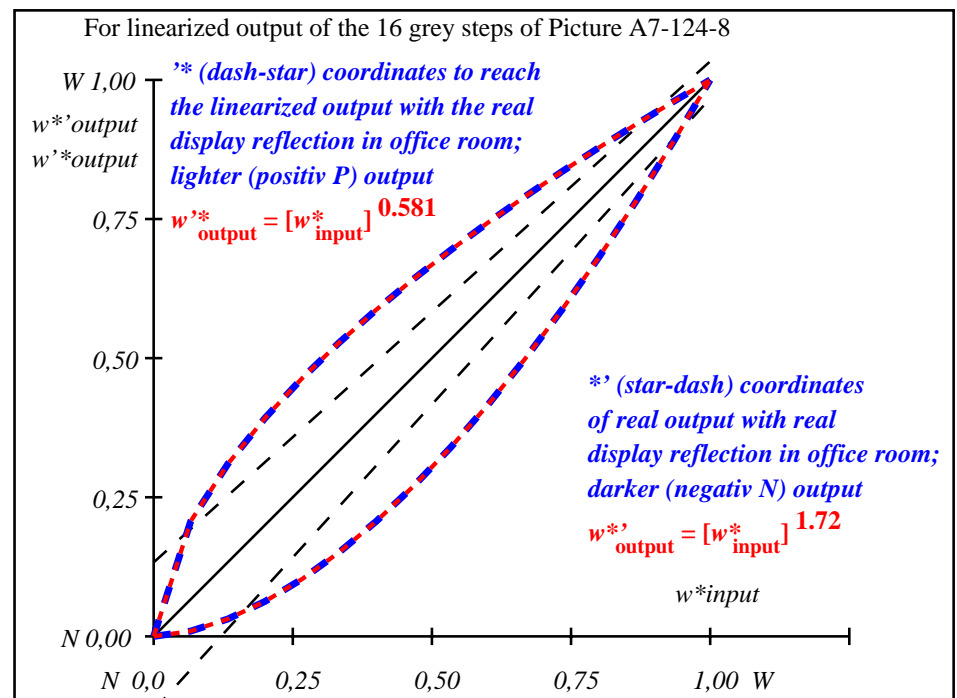
Specification according to
ISO/IEC 15775 Annex G
and DIN 33866-1 Annex G

Mean lightness difference (16 steps)
 $\Delta E^*_{\text{CIELAB}} = 5.6$

Mean lightness difference (5 steps)
 $\Delta E^*_{\text{CIELAB}} = 4.5$

Mean colour reproduction index:
 $R^*_{\text{ab,m}} = 75$

OE540-3N-124-8: File: Measure unknown; Device: Device unknown; Date: Date unknown



OE541-3N-124-8: File: Measure unknown; Device: Device unknown; Date: Date unknown

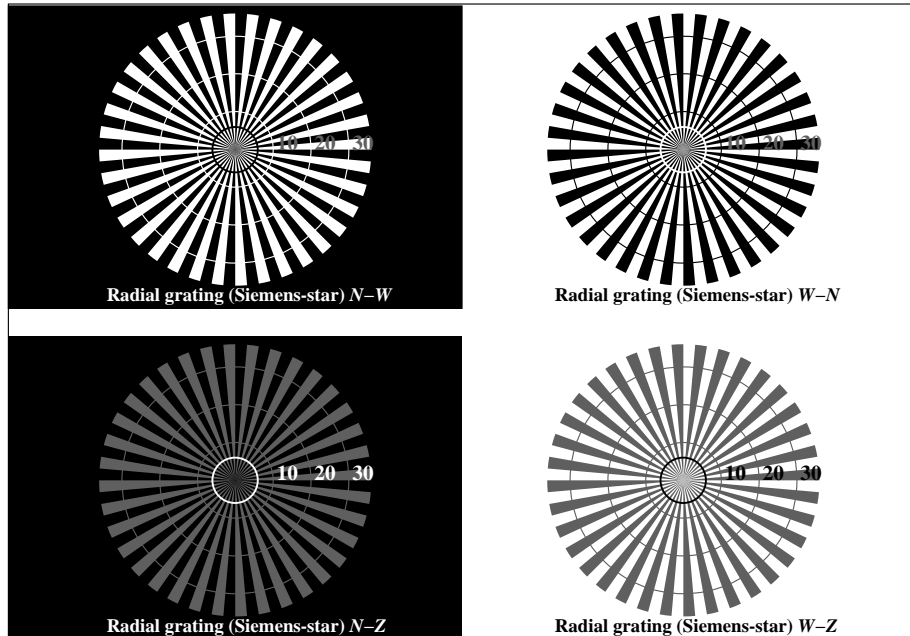
L^*/Y_{intended} (absolute)	26.8/5.0	31.4/6.8	36.0/9.0	40.6/11.6	45.1/14.6	49.7/18.2	54.3/22.2	58.8/26.9	63.4/32.1	68.0/38.0	72.6/44.5	77.1/51.7	81.7/59.7	86.3/68.5	90.8/78.1	95.4/88.6
$n^* n^* n^* 0$ setcmk $g_N=1.43$ No. and Hex code	00;F	01;E	02;D	03;C	04;B	05;A	06;9	07;8	08;7	09;6	10;5	11;4	12;3	13;2	14;1	15;0
$w^* = [L^*_{\text{CIELAB}, r}]$ (relative)	0.000	0.067	0.133	0.200	0.267	0.333	0.400	0.467	0.533	0.600	0.667	0.733	0.800	0.867	0.933	1.000
w^*_{intended}	0.000	0.067	0.133	0.200	0.267	0.333	0.400	0.467	0.533	0.600	0.667	0.733	0.800	0.867	0.933	1.000
w^*_{out}	0.0	0.021	0.056	0.1	0.152	0.208	0.27	0.337	0.407	0.482	0.561	0.642	0.727	0.816	0.906	1.0

OE540-7N, Picture A7-124-8: 16 visual equidistant L^* -grey steps; PS operator: $n^* n^* n^* 0$ setcmkcolor

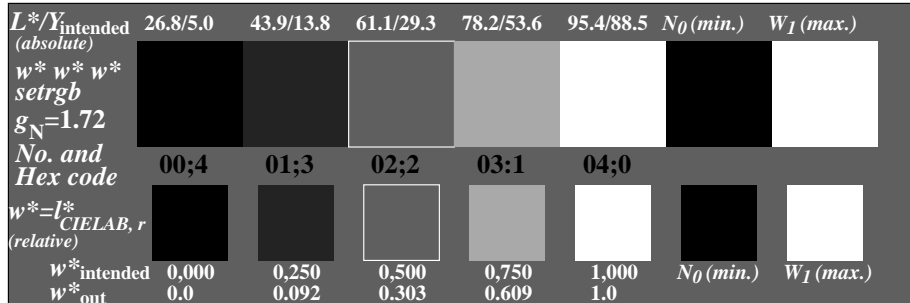
OE54: In-output relation according to ISO 9241-306; 1MR, DH
Viewing Y contrast $Y_W:Y_N=88,9:5$; Y_N range 3,75 to <7,5

input: all ($\rightarrow rgb_d$) setrgbcOLOR
output 130-8: $g_P=1.0$; $g_N=1.42$

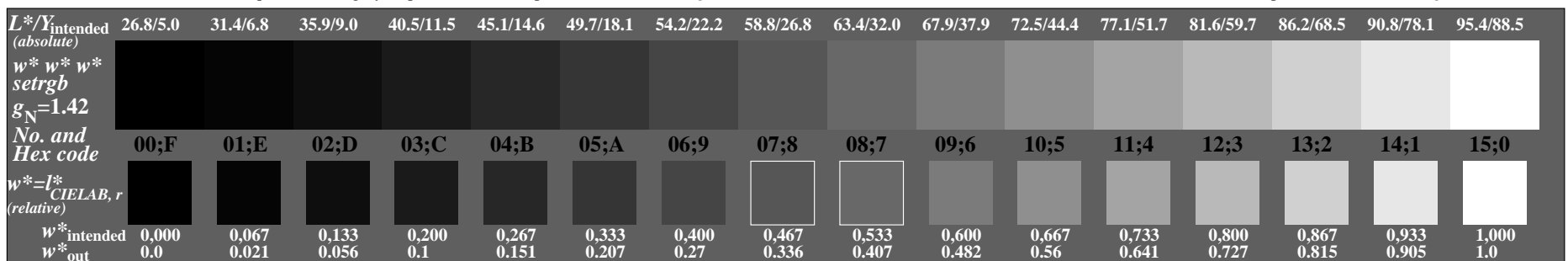
See similar ISO test charts: <http://www.ps.bam.de/24705TE>, <http://www.ps.bam.de/9241E>
Technical information: <http://www.ps.bam.de/33872E> Version 2.1, io=1.1, CIELAB



OE540-3N, Picture A1-134-9: Radial grating N-W, W-N, N-Z, W-Z; PS operator: $w^* w^* w^* \text{setrgbcolor}$

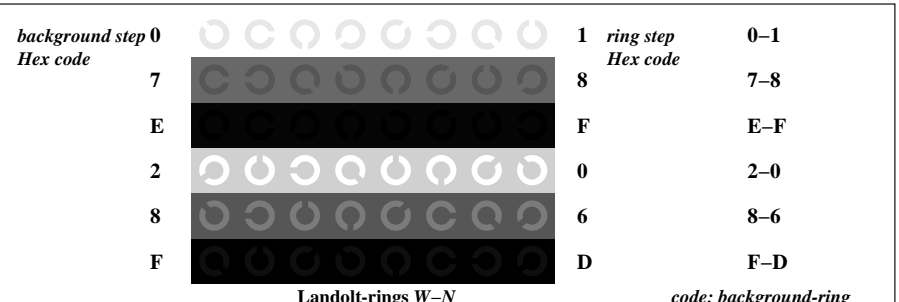


OE540-5N, Picture A2-134-9: 5 equidistant L^* -grey steps+ N_0 + W_1 ; PS operator: $w^* w^* w^* \text{setrgbcolor}$

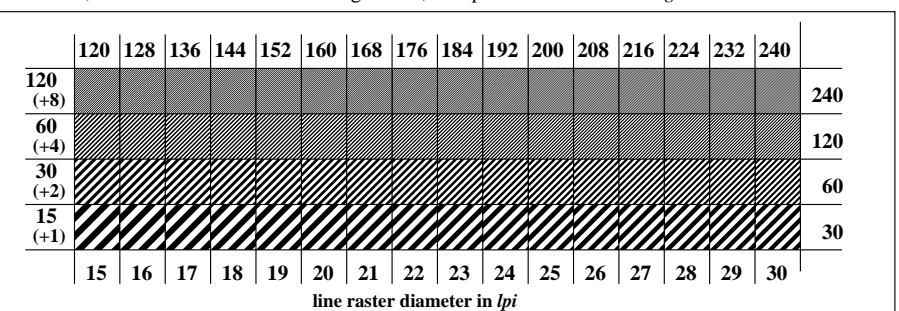


OE540-7N, Picture A3-134-9: 16 visual equidistant L^* -grey steps; PS operator: $w^* w^* w^* \text{setrgbcolor}$

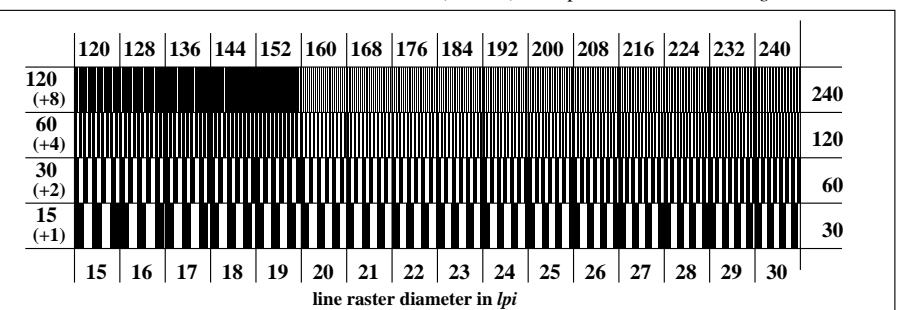
OE54: similar ME16 according to ISO 9241-306; 1MR, DH
Viewing Y contrast $Y_W:Y_N=88.9:5$; Y_N range 3,75 to <7,5



OE541-1N, Picture A4-134-9: Landolt-rings W-N; PS operator: $w^* w^* w^* \text{setrgbcolor}$



OE541-3N, Picture A5-134-9: Line raster under 45° (or 135°); PS operator: $w^* w^* w^* \text{setrgbcolor}$



OE541-5N, Picture A6-134-9: Line raster under 90° (or 0°); PS operator: $w^* w^* w^* \text{setrgbcolor}$

input: all (->rgb*d) setrgbcolor
output 130-9: $g_P=1.0$; $g_N=1.42$

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) 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 A2-134-0
 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 A3-134-0
 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

OE540-3N-1332-10

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

PDF-File: <http://130.149.60.45/farbmetrik/OE54/OE54L0NP.PDF> underline Yes/No

PS-File: <http://130.149.60.45/farbmetrik/OE54/OE54L0NA.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 OE54L0NP.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 OE54L0NA.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

OE540-7N-134-10

OE54: Form A for test chart according to ISO 9241-306; 1MR, DH input: *all (->rgb*d) setrgbcolor*
 Viewing Y contrast $Y_W:Y_N=88,9:5$; Y_N range 3,75 to <7,5 output 130-10: $g_P=1.0$; $g_N=1.42$

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
 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

OE541-3N-134-10

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)

underline Yes/No

PDF file: <http://130.149.60.45/farbmetrik/OE54/OE54F1P2.PDF>

underline Yes/No

PS file: <http://130.149.60.45/farbmetrik/OE54/OE54F1P2.PS>

underline Yes/No

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/OE54/OE54F1P2.PDF>

underline Yes/No

PS-File: <http://130.149.60.45/farbmetrik/OE54/OE54F1P2.PS>

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

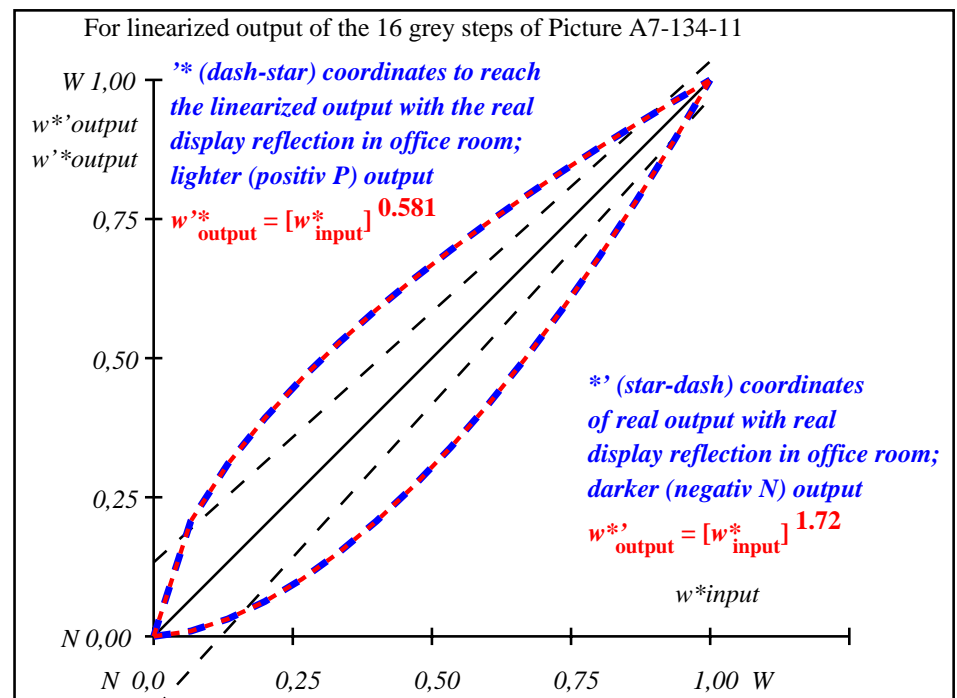
If No, please describe other method:

OE541-7N-134-10

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	26.85	0.0	0.0	Specification according to ISO/IEC 15775 Annex G and DIN 33866-1 Annex G			
2	31.42	0.0	0.02	28.28	0.0	0.0				
3	35.99	0.0	0.06	30.7	0.0	0.0				
4	40.56	0.0	0.1	33.73	0.0	0.0				
5	45.13	0.0	0.15	37.22	0.0	0.0				
6	49.7	0.0	0.21	41.12	0.0	0.0				
7	54.27	0.0	0.27	45.37	0.0	0.0				
8	58.84	0.0	0.34	49.93	0.0	0.0				
9	63.41	0.0	0.41	54.78	0.0	0.0				
10	67.99	0.0	0.48	59.9	0.0	0.0				
11	72.56	0.0	0.56	65.27	0.0	0.0				
12	77.13	0.0	0.64	70.87	0.0	0.0				
13	81.7	0.0	0.73	76.7	0.0	0.0				
14	86.27	0.0	0.82	82.73	0.0	0.0				
15	90.84	0.0	0.91	88.97	0.0	0.0	1.86	Mean lightness difference (16 steps)		
16	95.41	0.0	1.0	95.41	0.0	0.0	0.0	0.01	ΔE*CIELAB = 5.6	
17	26.85	0.0	0.0	26.85	0.0	0.0	0.0	0.0	0.01	
18	43.99	0.0	0.14	36.31	0.0	0.0	-7.67	0.0	7.68	
19	61.13	0.0	0.37	52.32	0.0	0.0	-8.8	0.0	8.81	
20	78.27	0.0	0.66	72.31	0.0	0.0	-5.95	0.0	5.96	Mean lightness difference (5 steps)
21	95.41	0.0	1.0	95.41	0.0	0.0	0.0	0.0	0.01	ΔL*CIELAB = 4.5
Mean colour reproduction index:							R* _{ab,m} = 75			

OE540-3N-134-11: File: Measure unknown; Device: Device unknown; Date: Date unknown



OE541-3N-134-11: File: Measure unknown; Device: Device unknown; Date: Date unknown

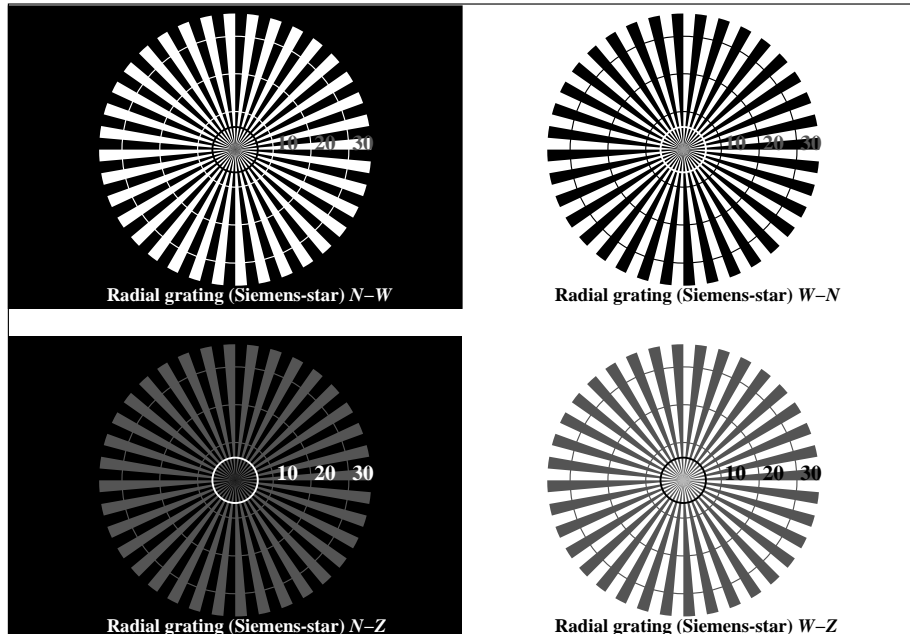
L^*/Y_{intended} (absolute)	26.8/5.0	31.4/6.8	36.0/9.0	40.6/11.6	45.1/14.6	49.7/18.2	54.3/22.2	58.8/26.9	63.4/32.1	68.0/38.0	72.6/44.5	77.1/51.7	81.7/59.7	86.3/68.5	90.8/78.1	95.4/88.6
$w^* w^* w^*$ setrgb $g_N=1.43$ No. and Hex code	00;F	01;E	02;D	03;C	04;B	05;A	06;9	07;8	08;7	09;6	10;5	11;4	12;3	13;2	14;1	15;0
$w^* = [L^*_{\text{CIELAB}}]^{1/r}$ (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	0.021	0.056	0.1	0.152	0.208	0.27	0.337	0.407	0.482	0.561	0.642	0.727	0.816	0.906	1.0

OE540-7N, Picture A7-134-11: 16 visual equidistant L^* -grey steps; PS operator: $w^* w^* w^*$ setrgbcolor

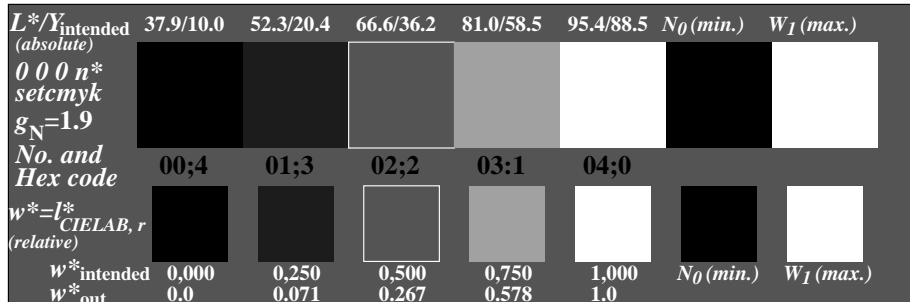
OE54: In-output relation according to ISO 9241-306; 1MR, DH
Viewing Y contrast $Y_W:Y_N=88,9:5$; Y_N range 3,75 to <7,5

input: all ($\rightarrow \text{rgb}_d$) setrgbcolor
output 130-11: $g_P=1.0$; $g_N=1.42$

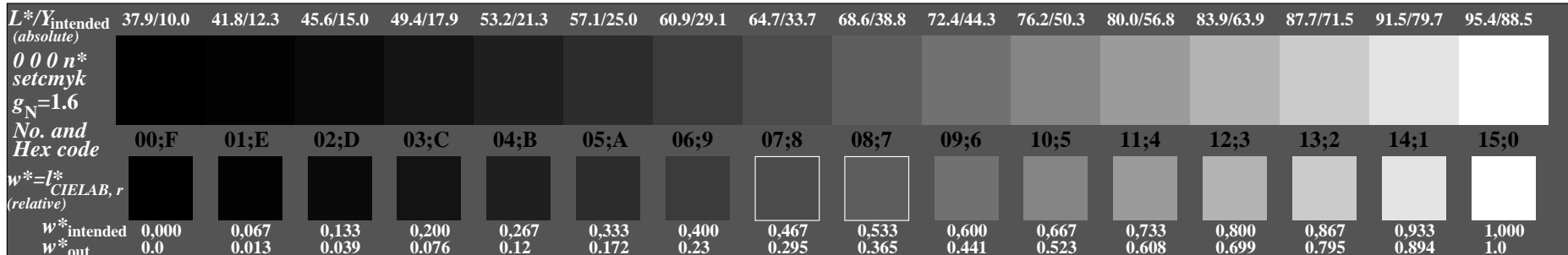
See similar ISO test charts: <http://www.ps.bam.de/24705TE>, <http://www.ps.bam.de/9241E>
Technical information: <http://www.ps.bam.de/33872E> Version 2.1, io=1,1, CIELAB



OE540-3N, Picture A1-105-0: Radial grating N-W, W-N, N-Z, W-Z; PS operator: 0 0 0 n* setcmykcolor



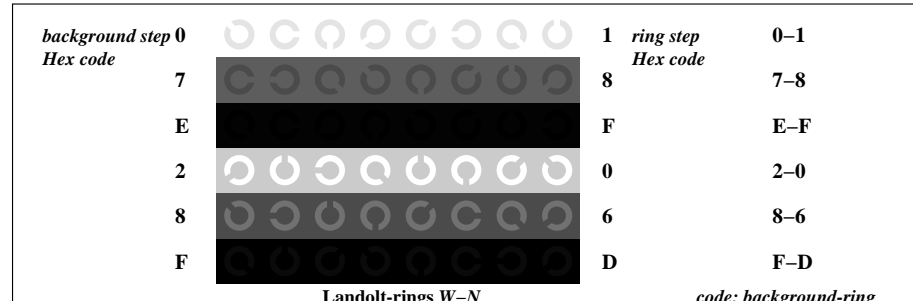
OE540-5N, Picture A2-105-0: 5 equidistant L^* -grey steps+ N_0 + W_1 ; PS operator: 0 0 0 n* setcmykcolor



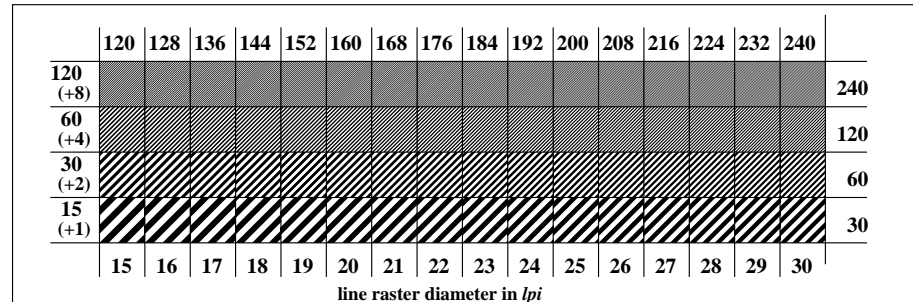
OE540-7N, Picture A3-105-0: 16 visual equidistant L^* -grey steps; PS operator: 0 0 0 n* setcmykcolor

OE54: 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

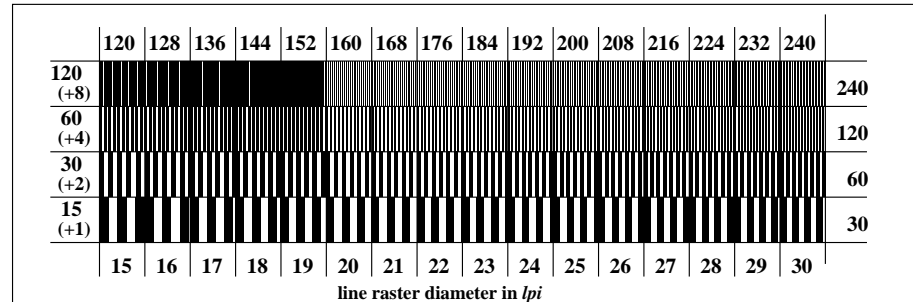
input: all ($\rightarrow rgb_d$) setrgbcolor
output 130-0: $g_P=1.0$; $g_N=1.6$



OE541-1N, Picture A4-105-0: Landolt-rings W-N; PS operator: 0 0 0 n* setcmykcolor



OE541-3N, Picture A5-105-0: Line raster under 45° (or 135°); PS operator: 0 0 0 n* setcmykcolor



OE541-5N, Picture A6-105-0: Line raster under 90° (or 0°); PS operator: 0 0 0 n* setcmykcolor

TUB registration: 20110801-OE54/OE54L0NA.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 A7-105-0 Yes/No
Output test with the computer display () or the external display ()
Test of the radial grating according to picture A1-105-0
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 A2-105-0
 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 A3-105-0
 Are the 16 steps on the upper rows distinguishable? Yes/No
 If No: How many steps can be distinguished? Steps

Part 1 OE540-3N-1040-1

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

PDF-File: <http://130.149.60.45/farbmetrik/OE54/OE54L0NP.PDF> underline Yes/No

PS-File: <http://130.149.60.45/farbmetrik/OE54/OE54L0NA.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 OE54L0NP.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 OE54L0NA.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 OE540-7N-105-1

OE54: Form A for test chart according to ISO 9241-306; 1MR, DH input: *all (->rgb*d) setrgbcolor*
 Viewing Y contrast $Y_W:Y_N=88,9:10$; Y_N range 7,5 to <15 output 130-1: $g_P=1.0$; $g_N=1.6$

Test for the best visual linearized output of Picture A7-105-0 Yes/No
Output test with the computer display () or the external display ()
Test of the Landolt-rings N-W according to picture A4-105-0
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 A5-105-0
 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 A6-105-0
 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 OE541-3N-105-1

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)

underline Yes/No

PDF file: <http://130.149.60.45/farbmetrik/OE54/OE54F1P2.PDF>

underline Yes/No

PS file: <http://130.149.60.45/farbmetrik/OE54/OE54F1P2.PS>

underline Yes/No

Picture A7-105-2: 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/OE54/OE54F1P2.PDF>

underline Yes/No

picture A7-105-2

PS-File: <http://130.149.60.45/farbmetrik/OE54/OE54F1P2.PS>

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:

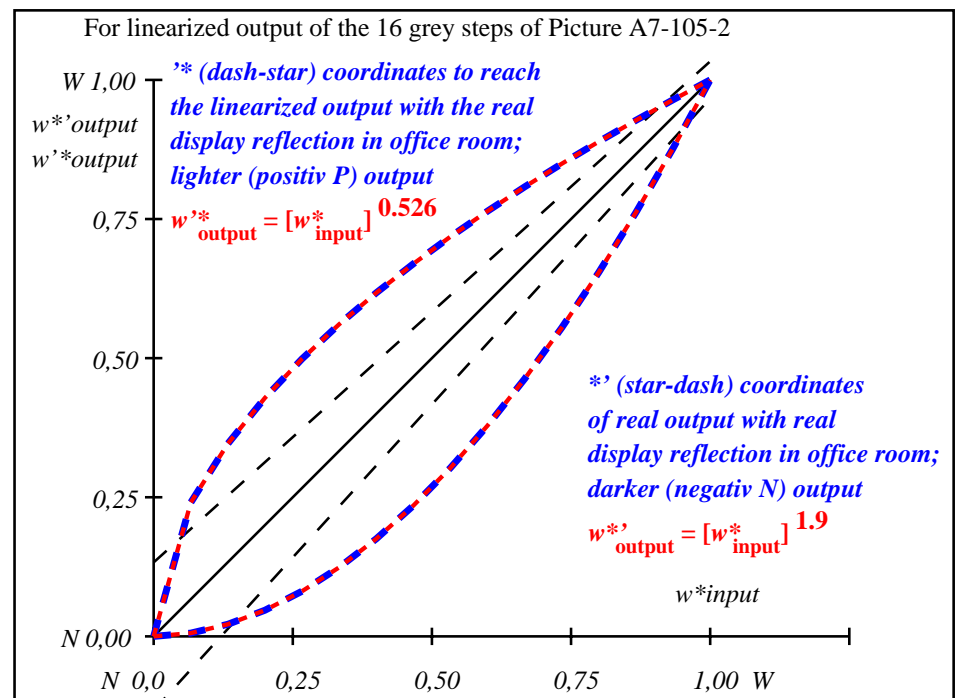
Part 4

OE541-7N-105-1

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	37.99	0.0	0.0
2	41.81	0.0	0.01	38.74	0.0	-3.06
3	45.64	0.0	0.04	40.27	0.0	-5.36
4	49.47	0.0	0.08	42.36	0.0	-7.1
5	53.3	0.0	0.12	44.91	0.0	-8.37
6	57.13	0.0	0.17	47.89	0.0	-9.23
7	60.96	0.0	0.23	51.24	0.0	-9.7
8	64.78	0.0	0.3	54.95	0.0	-9.82
9	68.61	0.0	0.37	58.99	0.0	-9.61
10	72.44	0.0	0.44	63.34	0.0	-9.09
11	76.27	0.0	0.52	68.0	0.0	-8.26
12	80.1	0.0	0.61	72.95	0.0	-7.14
13	83.93	0.0	0.7	78.17	0.0	-5.75
14	87.75	0.0	0.8	83.66	0.0	-4.08
15	91.58	0.0	0.9	89.41	0.0	-2.16
16	95.41	0.0	1.0	95.41	0.0	0.0
17	37.99	0.0	0.0	37.99	0.0	0.0
18	52.34	0.0	0.11	44.23	0.0	-8.1
19	66.7	0.0	0.33	56.93	0.0	-9.76
20	81.05	0.0	0.63	74.23	0.0	-6.82
21	95.41	0.0	1.0	95.41	0.0	0.0
Mean lightness difference (16 steps)					ΔE* _{CIELAB} = 6.2	
Mean lightness difference (5 steps)					ΔE* _{CIELAB} = 4.9	
Mean colour reproduction index:					R* _{ab,m} = 73	

OE540-3N-105-2: File: Measure unknown; Device: Device unknown; Date: Date unknown



OE541-3N-105-2: File: Measure unknown; Device: Device unknown; Date: Date unknown

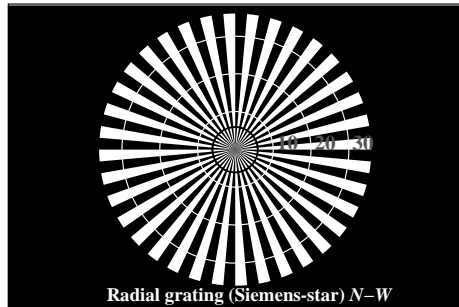
L^*/Y_{intended} (absolute)	38.0/10.1	41.8/12.4	45.6/15.0	49.5/18.0	53.3/21.3	57.1/25.1	61.0/29.2	64.8/33.8	68.6/38.8	72.4/44.3	76.3/50.3	80.1/56.9	83.9/63.9	87.8/71.6	91.6/79.8	95.4/88.6
0 0 0 n* setcmyk $g_N=1.6$ No. and Hex code	00;F	01;E	02;D	03;C	04;B	05;A	06;9	07;8	08;7	09;6	10;5	11;4	12;3	13;2	14;1	15;0
$w^* = [L^*_{\text{CIELAB}}]^{1/r}$ (relative)	0.000	0.067	0.133	0.200	0.267	0.333	0.400	0.467	0.533	0.600	0.667	0.733	0.800	0.867	0.933	1.000
w^*_{intended}	0.000	0.067	0.133	0.200	0.267	0.333	0.400	0.467	0.533	0.600	0.667	0.733	0.800	0.867	0.933	1.000
w^*_{out}	0.0	0.013	0.04	0.076	0.121	0.172	0.231	0.296	0.365	0.442	0.523	0.608	0.7	0.796	0.895	1.0

OE540-7N, Picture A7-105-2: 16 visual equidistant L^* -grey steps; PS operator: 0 0 0 n* setcmykcolor

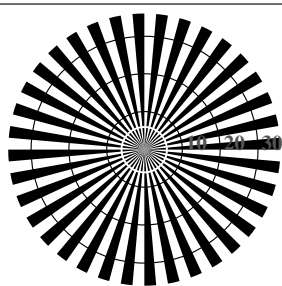
OE54: In-output relation according to ISO 9241-306; 1MR, DH
Viewing Y contrast $Y_W:Y_N=88,9:10$; Y_N range 7,5 to <15

input: all ($\rightarrow rgb_d$) setrgbcolor
output 130-2: $g_P=1.0$; $g_N=1.6$

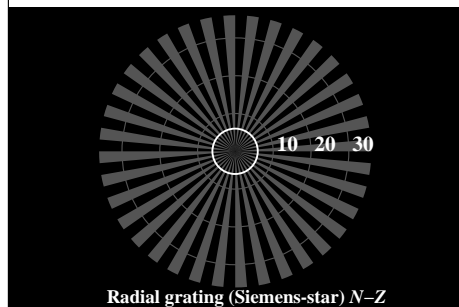
See similar ISO test charts: <http://www.ps.bam.de/24705TE>, <http://www.ps.bam.de/9241E>
Technical information: <http://www.ps.bam.de/33872E> Version 2.1, io=1,1, CIELAB



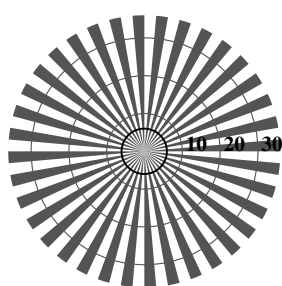
Radial grating (Siemens-star) N-W



Radial grating (Siemens-star) W-N

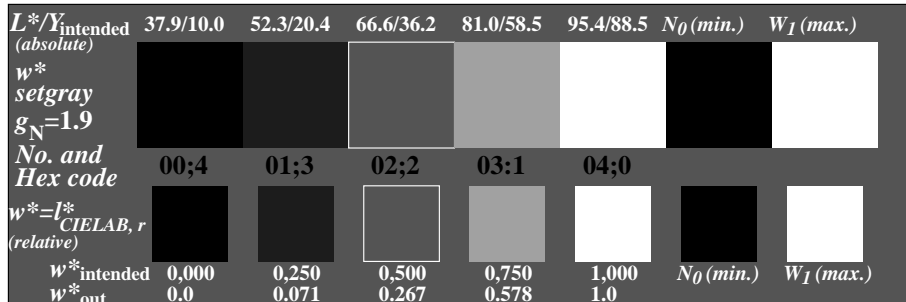


Radial grating (Siemens-star) N-Z

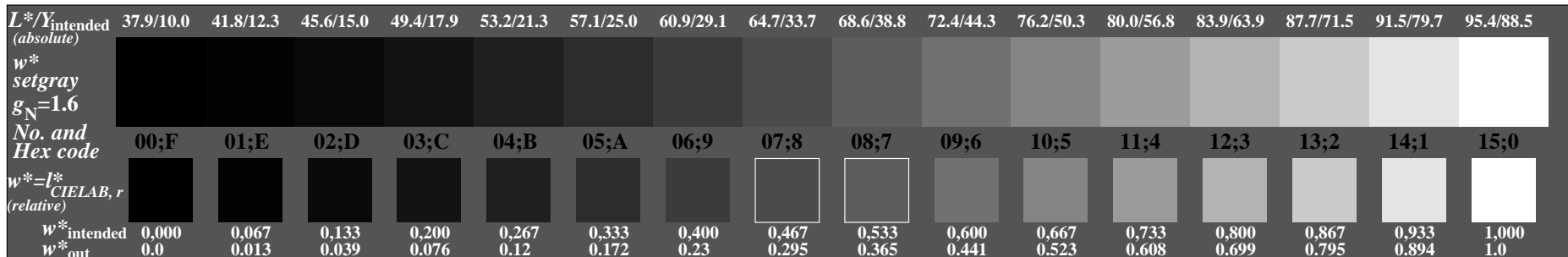


Radial grating (Siemens-star) W-Z

OE540-3N, Picture A1-115-3: Radial grating N-W, W-N, N-Z, W-Z; PS operator: w^* setgray

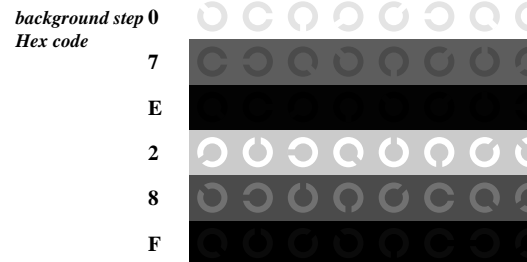


OE540-5N, Picture A2-115-3: 5 equidistant L^* -grey steps+ N_0 + W_1 ; PS operator: w^* setgray



OE540-7N, Picture A3-115-3: 16 visual equidistant L^* -grey steps; PS operator: w^* setgray

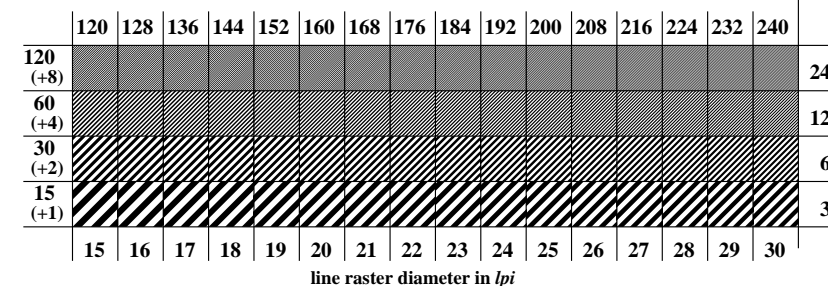
OE54: similar ME16 according to ISO 9241-306; 1MR, DH
Viewing Y contrast $Y_W:Y_N=88,9:10$; Y_N range 7,5 to <15



Landolt-rings W-N

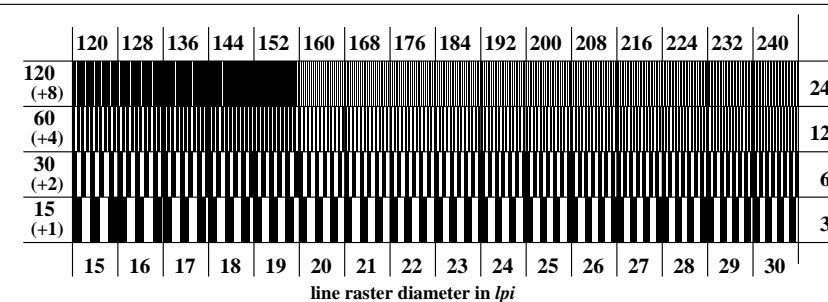
code: background-ring

OE541-1N, Picture A4-115-3: Landolt-rings W-N; PS operator: w^* setgray



line raster diameter in lpi

OE541-3N, Picture A5-115-3: Line raster under 45° (or 135°); PS operator: w^* setgray



line raster diameter in lpi

OE541-5N, Picture A6-115-3: Line raster under 90° (or 0°); PS operator: w^* setgray

input: all ($\rightarrow rgb_d$) setrgbcolor
output 130-3: $g_P=1.0$; $g_N=1.6$

TUB registration: 20110801-OE54/OE54L0NA.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 A7-115-0 Yes/No
Output test with the computer display () or the external display ()
Test of the radial grating according to picture A1-115-0
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 A2-115-0
 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 A3-115-0
 Are the 16 steps on the upper rows distinguishable? Yes/No
 If No: How many steps can be distinguished? Steps

Part 1 OE540-3N-1140-4

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

PDF-File: <http://130.149.60.45/farbmetrik/OE54/OE54L0NP.PDF> underline Yes/No

PS-File: <http://130.149.60.45/farbmetrik/OE54/OE54L0NA.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 OE54L0NP.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 OE54L0NA.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 OE540-7N-115-4

OE54: Form A for test chart according to ISO 9241-306; 1MR, DH input: *all (->rgb*d) setrgbcolor*
 Viewing Y contrast $Y_W:Y_N=88,9:10$; Y_N range 7,5 to <15 output 130-4: $g_P=1.0$; $g_N=1.6$

Test for the best visual linearized output of Picture A7-115-0 Yes/No
Output test with the computer display () or the external display ()
Test of the Landolt-rings N-W according to picture A4-115-0
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 A5-115-0
 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 A6-115-0
 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 OE541-3N-115-4

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)

underline Yes/No

PDF file: <http://130.149.60.45/farbmetrik/OE54/OE54F1P2.PDF>

underline Yes/No

PS file: <http://130.149.60.45/farbmetrik/OE54/OE54F1P2.PS>

underline Yes/No

Picture A7-115-2: 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/OE54/OE54F1P2.PDF>

underline Yes/No

PS-File: <http://130.149.60.45/farbmetrik/OE54/OE54F1P2.PS>

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:

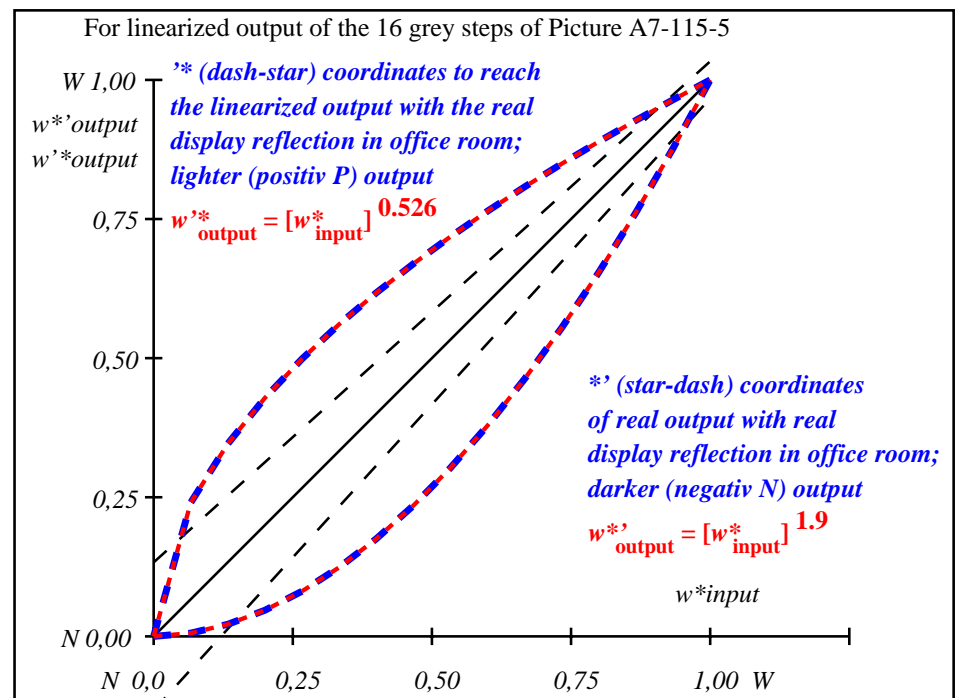
Part 4

OE541-7N-115-4

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^*	
1	37.99	0.0	0.0	37.99	0.0	0.0
2	41.81	0.0	0.01	38.74	0.0	-3.06
3	45.64	0.0	0.04	40.27	0.0	-5.36
4	49.47	0.0	0.08	42.36	0.0	-7.1
5	53.3	0.0	0.12	44.91	0.0	-8.37
6	57.13	0.0	0.17	47.89	0.0	-9.23
7	60.96	0.0	0.23	51.24	0.0	-9.7
8	64.78	0.0	0.3	54.95	0.0	-9.82
9	68.61	0.0	0.37	58.99	0.0	-9.61
10	72.44	0.0	0.44	63.34	0.0	-9.09
11	76.27	0.0	0.52	68.0	0.0	-8.26
12	80.1	0.0	0.61	72.95	0.0	-7.14
13	83.93	0.0	0.7	78.17	0.0	-5.75
14	87.75	0.0	0.8	83.66	0.0	-4.08
15	91.58	0.0	0.9	89.41	0.0	-2.16
16	95.41	0.0	1.0	95.41	0.0	0.0
17	37.99	0.0	0.0	37.99	0.0	0.0
18	52.34	0.0	0.11	44.23	0.0	-8.1
19	66.7	0.0	0.33	56.93	0.0	-9.76
20	81.05	0.0	0.63	74.23	0.0	-6.82
21	95.41	0.0	1.0	95.41	0.0	0.0
Mean lightness difference (16 steps)						$\Delta E^*_{\text{CIELAB}} = 6.2$
Mean lightness difference (5 steps)						$\Delta E^*_{\text{CIELAB}} = 4.9$
Mean colour reproduction index:						$R^*_{\text{ab,m}} = 73$

OE540-3N-115-5: File: Measure unknown; Device: Device unknown; Date: Date unknown



OE541-3N-115-5: File: Measure unknown; Device: Device unknown; Date: Date unknown

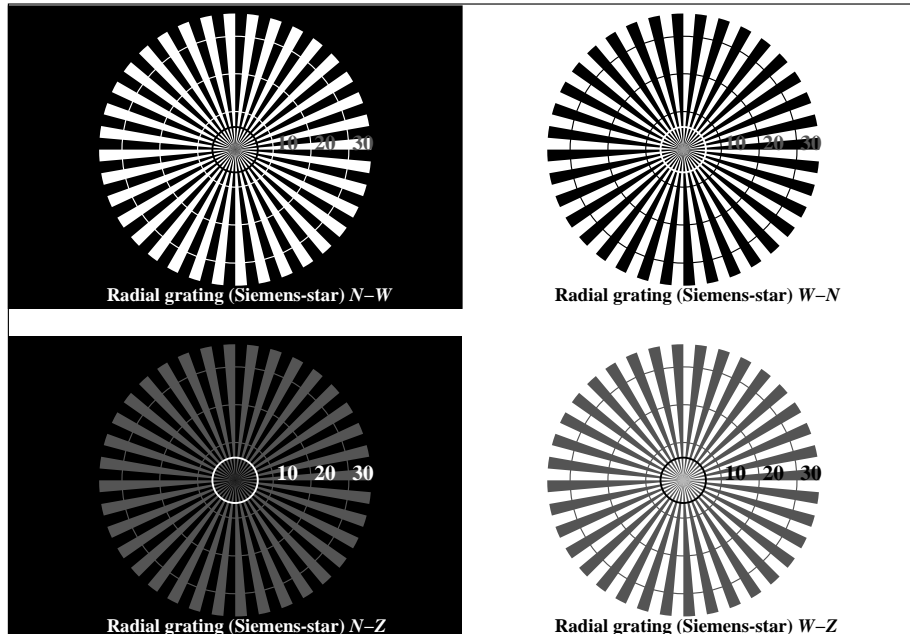
$L^*/Y^*_{\text{intended}}$ (absolute)	38.0/10.1	41.8/12.4	45.6/15.0	49.5/18.0	53.3/21.3	57.1/25.1	61.0/29.2	64.8/33.8	68.6/38.8	72.4/44.3	76.3/50.3	80.1/56.9	83.9/63.9	87.8/71.6	91.6/79.8	95.4/88.6
w^*_{setgray} $g_N=1.6$ No. and Hex code	00;F	01;E	02;D	03;C	04;B	05;A	06;9	07;8	08;7	09;6	10;5	11;4	12;3	13;2	14;1	15;0
$w^* = [L^*_{\text{CIELAB}, r}]$ (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	0.013	0.04	0.076	0.121	0.172	0.231	0.296	0.365	0.442	0.523	0.608	0.7	0.796	0.895	1.0

OE540-7N, Picture A7-115-5: 16 visual equidistant L^* -grey steps; PS operator: w^*_{setgray}

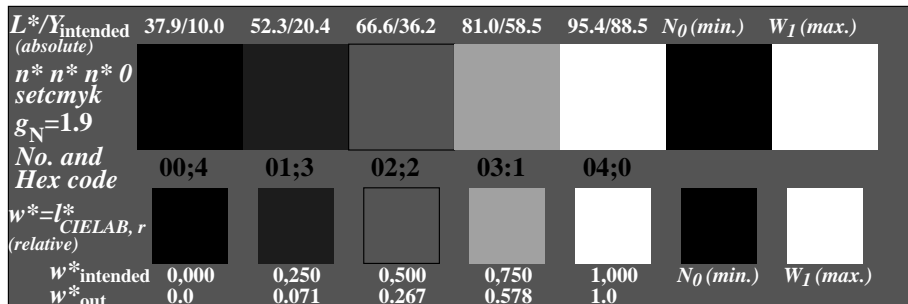
OE54: In-output relation according to ISO 9241-306; 1MR, DH
Viewing Y contrast $Y_W:Y_N=88,9:10$; Y_N range 7,5 to <15

input: all ($\rightarrow \text{rgb}_d$) setrgbcolor
output 130-5: $g_P=1.0$; $g_N=1.6$

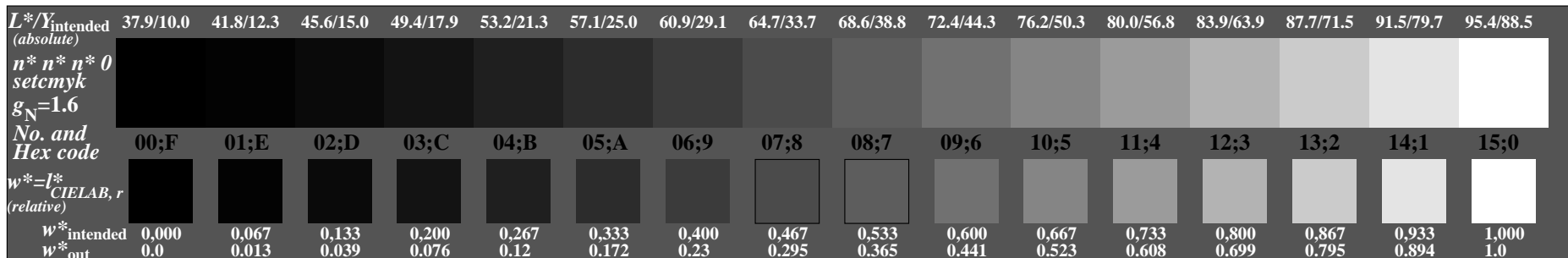
See similar ISO test charts: <http://www.ps.bam.de/24705TE>, <http://www.ps.bam.de/9241E>
Technical information: <http://www.ps.bam.de/33872E> Version 2.1, io=1.1, CIELAB



OE540-3N, Picture A1-125-6: Radial grating N-W, W-N, N-Z, W-Z; PS operator: $n^*n^*n^*0$ setcmykcolor



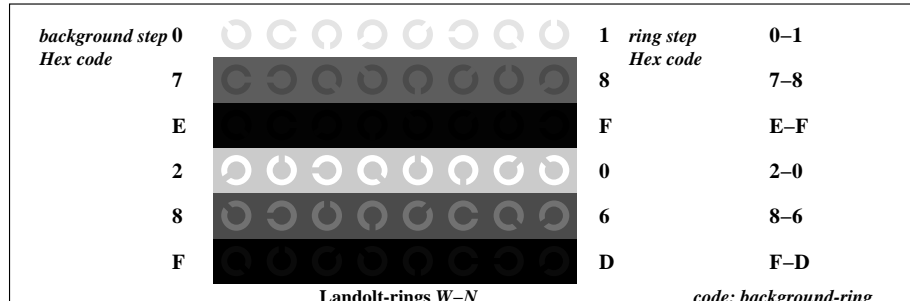
OE540-5N, Picture A2-125-6: 5 equidistant L^* -grey steps+ N_0 + W_1 ; PS operator: $n^*n^*n^*0$ setcmykcolor



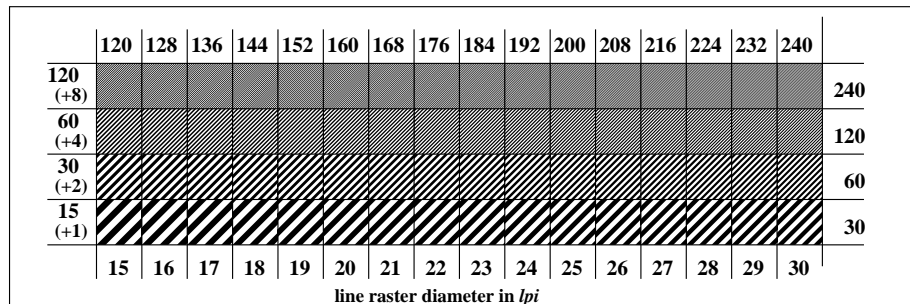
OE540-7N, Picture A3-125-6: 16 visual equidistant L^* -grey steps; PS operator: $n^*n^*n^*0$ setcmykcolor

OE54: 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

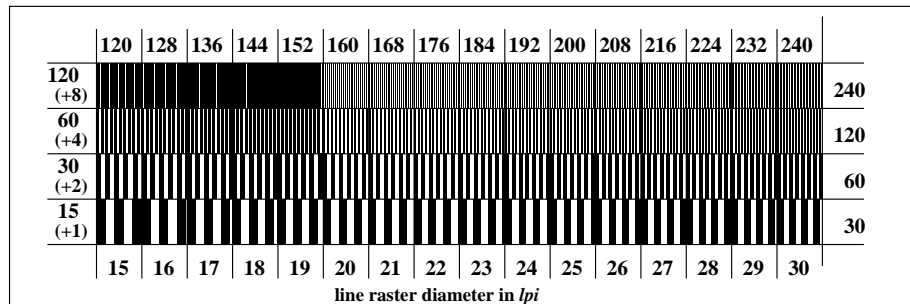
input: all ($\rightarrow rgb_d$) setrgbcolor
output 130-6: $g_P=1.0$; $g_N=1.6$



OE541-1N, Picture A4-125-6: Landolt-rings W-N; PS operator: $n^*n^*n^*0$ setcmykcolor



OE541-3N, Picture A5-125-6: Line raster under 45° (or 135°); PS operator: $n^*n^*n^*0$ setcmykcolor



OE541-5N, Picture A6-125-6: Line raster under 90° (or 0°); PS operator: $n^*n^*n^*0$ setcmykcolor

TUB registration: 20110801-OE54/OE54L0NA.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 A7-125-0		Yes/No
Output test with the computer display () or the external display ()		
Test of the radial grating according to picture A1-125-0		
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 A2-125-0		
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 A3-125-0		
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 OE540-3N-1240-7

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

PDF-File: <http://130.149.60.45/farbmetrik/OE54/OE54L0NP.PDF> underline Yes/No

PS-File: <http://130.149.60.45/farbmetrik/OE54/OE54L0NA.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 OE54L0NP.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 OE54L0NA.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

OE540-7N-125-7

OE54: Form A for test chart according to ISO 9241-306; 1MR, DH input: *all (->rgb*_d) setrgbcolor*
Viewing Y contrast $Y_W:Y_N=88,9:10$; Y_N range 7,5 to <15 output 130-7: $g_P=1.0$; $g_N=1.6$

Test for the best visual linearized output of Picture A7-125-0		Yes/No
Output test with the computer display () or the external display ()		
Test of the Landolt-rings N-W according to picture A4-125-0		
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 A5-125-0		
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 A6-125-0		
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 OE541-3N-125-7

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/OE54/OE54F1P2.PDF>

PS file: <http://130.149.60.45/farbmetrik/OE54/OE54F1P2.PS>

Picture A7-125-2: 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/OE54/OE54F1P2.PDF>

picture A7-125-2

underline Yes/No

PS-File: <http://130.149.60.45/farbmetrik/OE54/OE54F1P2.PS>

picture A7-125-2

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

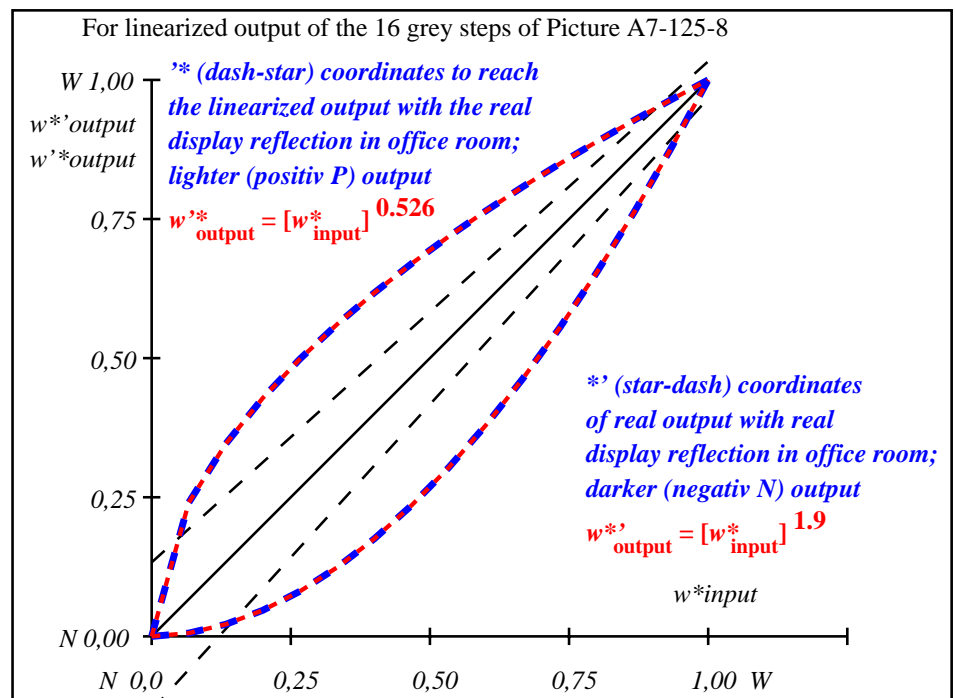
Part 4

OE541-7N-125-7

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	37.99	0.0	0.0
2	41.81	0.0	0.01	38.74	0.0	-3.06
3	45.64	0.0	0.04	40.27	0.0	-5.36
4	49.47	0.0	0.08	42.36	0.0	-7.1
5	53.3	0.0	0.12	44.91	0.0	-8.37
6	57.13	0.0	0.17	47.89	0.0	-9.23
7	60.96	0.0	0.23	51.24	0.0	-9.7
8	64.78	0.0	0.3	54.95	0.0	-9.82
9	68.61	0.0	0.37	58.99	0.0	-9.61
10	72.44	0.0	0.44	63.34	0.0	-9.09
11	76.27	0.0	0.52	68.0	0.0	-8.26
12	80.1	0.0	0.61	72.95	0.0	-7.14
13	83.93	0.0	0.7	78.17	0.0	-5.75
14	87.75	0.0	0.8	83.66	0.0	-4.08
15	91.58	0.0	0.9	89.41	0.0	-2.16
16	95.41	0.0	1.0	95.41	0.0	0.0
17	37.99	0.0	0.0	37.99	0.0	0.0
18	52.34	0.0	0.11	44.23	0.0	-8.1
19	66.7	0.0	0.33	56.93	0.0	-9.76
20	81.05	0.0	0.63	74.23	0.0	-6.82
21	95.41	0.0	1.0	95.41	0.0	0.0
Mean lightness difference (16 steps)						$\Delta E^*_{\text{CIELAB}} = 6.2$
Mean lightness difference (5 steps)						$\Delta E^*_{\text{CIELAB}} = 4.9$
Mean colour reproduction index:						$R^*_{\text{ab,m}} = 73$

OE540-3N-125-8: File: Measure unknown; Device: Device unknown; Date: Date unknown



OE541-3N-125-8: 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
$n^* n^* n^* 0$ setcmyk $g_N=1.6$ No. and Hex code	00;F	01;E	02;D	03;C	04;B	05;A	06;9	07;8	08;7	09;6	10;5	11;4	12;3	13;2	14;1	15;0
$w^* = [L^*_{\text{CIELAB}, r}]$ (relative)	0.000	0.067	0.133	0.200	0.267	0.333	0.400	0.467	0.533	0.600	0.667	0.733	0.800	0.867	0.933	1.000
w^*_{intended}	0.000	0.067	0.133	0.200	0.267	0.333	0.400	0.467	0.533	0.600	0.667	0.733	0.800	0.867	0.933	1.000
w^*_{out}	0.0	0.013	0.04	0.076	0.121	0.172	0.231	0.296	0.365	0.442	0.523	0.608	0.7	0.796	0.895	1.0

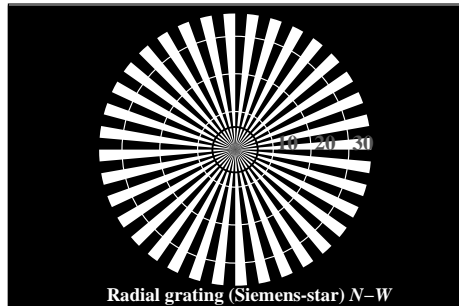
OE540-7N, Picture A7-125-8: 16 visual equidistant L^* -grey steps; PS operator: $n^* n^* n^* 0$ setcmykcolor

OE54: 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

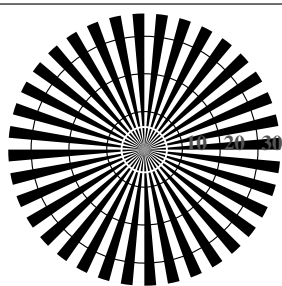
input: all ($\rightarrow \text{rgb}_d$) setrgbcolor
output 130-8: $g_P=1.0$; $g_N=1.6$

TUB registration: 20110801-OE54/OE54L0NA.TXT /.PS
TUB material: code=rh4ta
application for output of displays: monitor systems or data projector systems

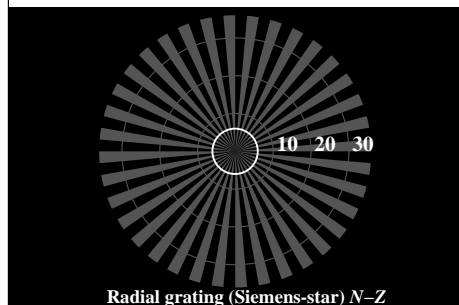
See similar ISO test charts: <http://www.ps.bam.de/24705TE>, <http://www.ps.bam.de/9241E>
Technical information: <http://www.ps.bam.de/33872E> Version 2.1, io=1,1, CIELAB



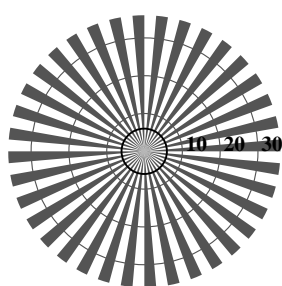
Radial grating (Siemens-star) N-W



Radial grating (Siemens-star) W-N

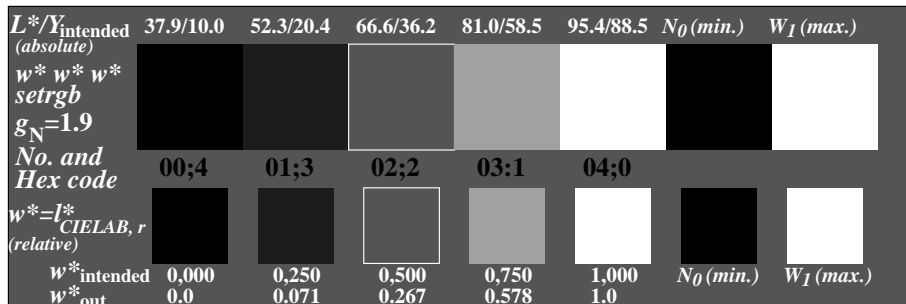


Radial grating (Siemens-star) N-Z

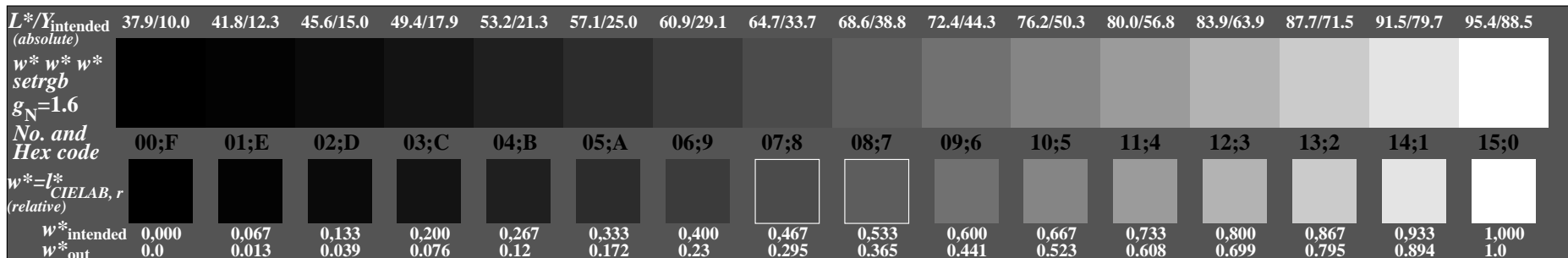


Radial grating (Siemens-star) W-Z

OE540-3N, Picture A1-135-9: Radial grating N-W, W-N, N-Z, W-Z; PS operator: $w^* w^* w^* \text{setrgbcolor}$



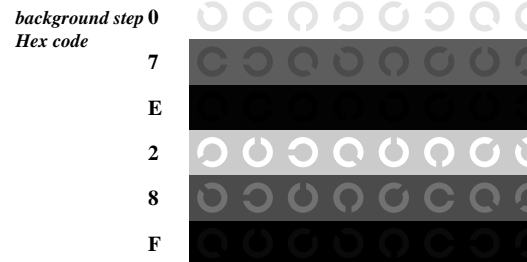
OE540-5N, Picture A2-135-9: 5 equidistant L^* -grey steps+ N_0 + W_1 ; PS operator: $w^* w^* w^* \text{setrgbcolor}$



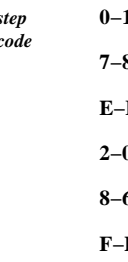
OE540-7N, Picture A3-135-9: 16 visual equidistant L^* -grey steps; PS operator: $w^* w^* w^* \text{setrgbcolor}$

OE54: 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: all ($\rightarrow \text{rgb}_d$) setrgbcolor
output 130-9: $g_P=1.0$; $g_N=1.6$

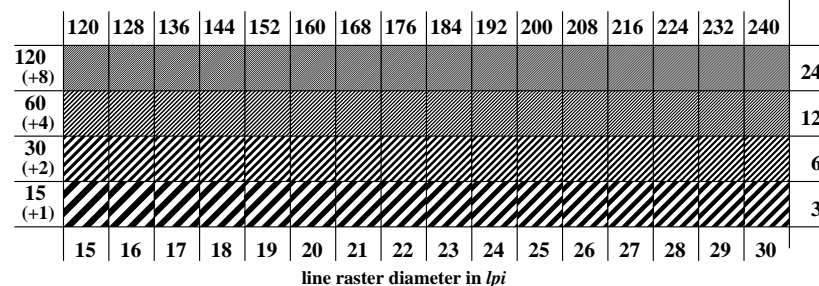


Landolt-rings W-N

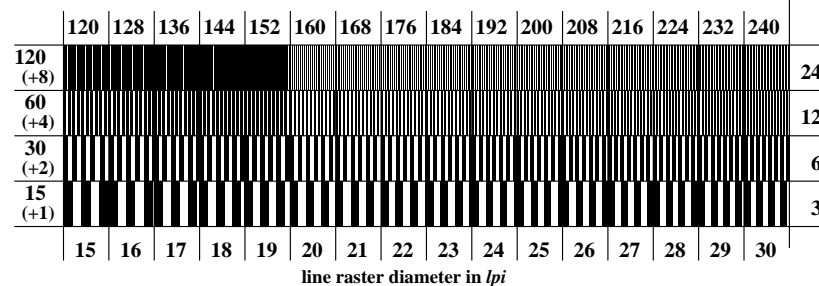


code: background-ring

OE541-1N, Picture A4-135-9: Landolt-rings W-N; PS operator: $w^* w^* w^* \text{setrgbcolor}$



OE541-3N, Picture A5-135-9: Line raster under 45° (or 135°); PS operator: $w^* w^* w^* \text{setrgbcolor}$



OE541-5N, Picture A6-135-9: Line raster under 90° (or 0°); PS operator: $w^* w^* w^* \text{setrgbcolor}$

TUB registration: 20110801-OE54/OE54L0NA.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)	
	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 A2-135-0		
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 A3-135-0		
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

OE540-3N-1340-10

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

PDF-File: <http://130.149.60.45/farbmetrik/OE54/OE54L0NP.PDF> **underline Yes/No**

PS-File: <http://130.149.60.45/farbmetrik/OE54/OE54L0NA.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 OE54L0NP.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 OE54L0NA.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

OE540-7N-135-10

OE54: Form A for test chart according to ISO 9241-306; 1MR, DH input: *all (->rgb*d) setrgbcolor*
Viewing Y contrast $Y_W:Y_N=88,9:10$; Y_N range 7,5 to <15 output 130-10: $g_P=1.0$; $g_N=1.6$

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

OE541-3N-135-10

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/OE54/OE54F1P2.PDF>

PS file: <http://130.149.60.45/farbmetrik/OE54/OE54F1P2.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

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/OE54/OE54F1P2.PDF>

picture A7-135-2

underline Yes/No

PS-File: <http://130.149.60.45/farbmetrik/OE54/OE54F1P2.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

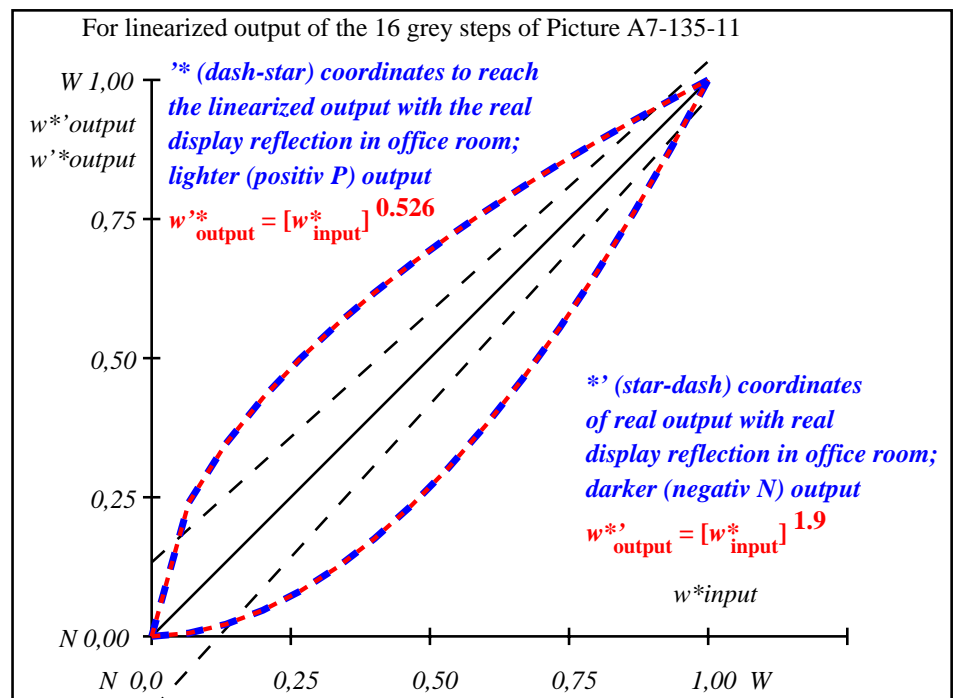
Part 4

OE541-7N-135-10

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	37.99	0.0	0.0
2	41.81	0.0	0.01	38.74	0.0	-3.06
3	45.64	0.0	0.04	40.27	0.0	-5.36
4	49.47	0.0	0.08	42.36	0.0	-7.1
5	53.3	0.0	0.12	44.91	0.0	-8.37
6	57.13	0.0	0.17	47.89	0.0	-9.23
7	60.96	0.0	0.23	51.24	0.0	-9.7
8	64.78	0.0	0.3	54.95	0.0	-9.82
9	68.61	0.0	0.37	58.99	0.0	-9.61
10	72.44	0.0	0.44	63.34	0.0	-9.09
11	76.27	0.0	0.52	68.0	0.0	-8.26
12	80.1	0.0	0.61	72.95	0.0	-7.14
13	83.93	0.0	0.7	78.17	0.0	-5.75
14	87.75	0.0	0.8	83.66	0.0	-4.08
15	91.58	0.0	0.9	89.41	0.0	-2.16
16	95.41	0.0	1.0	95.41	0.0	0.0
17	37.99	0.0	0.0	37.99	0.0	0.0
18	52.34	0.0	0.11	44.23	0.0	-8.1
19	66.7	0.0	0.33	56.93	0.0	-9.76
20	81.05	0.0	0.63	74.23	0.0	-6.82
21	95.41	0.0	1.0	95.41	0.0	0.0
Mean lightness difference (16 steps)					ΔE* _{CIELAB} = 6.2	
Mean lightness difference (5 steps)					ΔE* _{CIELAB} = 4.9	
Mean colour reproduction index:					R* _{ab,m} = 73	

OE540-3N-135-11: File: Measure unknown; Device: Device unknown; Date: Date unknown



OE541-3N-135-11: File: Measure unknown; Device: Device unknown; Date: Date unknown

$L^{*}/Y_{\text{intended}}$ (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 $g_N=1.6$ No. and Hex code	00;F	01;E	02;D	03;C	04;B	05;A	06;9	07;8	08;7	09;6	10;5	11;4	12;3	13;2	14;1	15;0
$w^{*}=l^{*}_{\text{CIELAB},r}$ (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	0.013	0.04	0.076	0.121	0.172	0.231	0.296	0.365	0.442	0.523	0.608	0.7	0.796	0.895	1.0

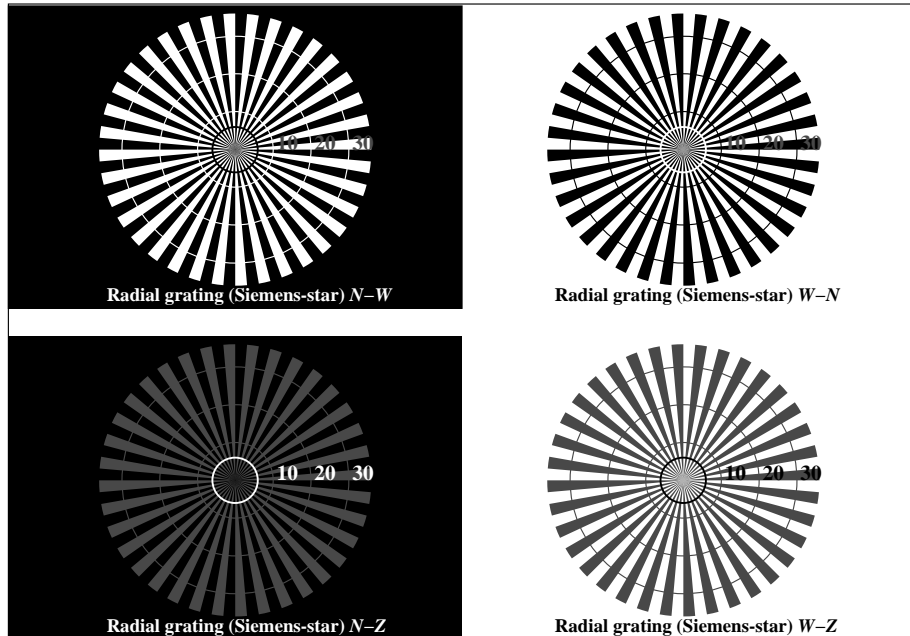
OE540-7N, Picture A7-135-11: 16 visual equidistant L^{*} -grey steps; PS operator: $w^{*} w^{*} w^{*}$ setrgbcolor

OE54: 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: all (\rightarrow rgb_d) setrgbcolor
output 130-11: $g_P=1.0$; $g_N=1.6$

TUB registration: 20110801-OE54/OE54L0NA.TXT /.PS
TUB material: code=rh4ta
application for output of displays: monitor systems or data projector systems

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, CIE LAB



OE540-3N, Picture A1-106-0: Radial grating N-W, W-N, N-Z, W-Z; PS operator: 0 0 0 n* setcmykcolor

$L^*/Y_{intended}$ (absolute)	52.0/20.1	62.8/31.4	73.7/46.2	84.5/65.1	95.4/88.5	N_0 (min.)	W_1 (max.)
0 0 0 n* setcmyk $g_N=2.08$ No. and Hex code	00;4	01;3	02;2	03;1	04;0		
$w^*=l^*$ CIE LAB, r (relative)							
$w^*_{intended}$	0.000	0.250	0.500	0.750	1.000	N_0 (min.)	W_1 (max.)
w^*_{out}	0.0	0.055	0.236	0.549	1.0		

OE540-5N, Picture A2-106-0: 5 equidistant L^* -grey steps+ N_0 + W_1 ; PS operator: 0 0 0 n* setcmykcolor

$L^*/Y_{intended}$ (absolute)	52.0/20.1	54.9/22.8	57.8/25.7	60.6/28.9	63.5/32.2	66.4/35.9	69.3/39.8	72.2/44.0	75.1/48.5	78.0/53.3	80.9/58.3	83.8/63.7	86.7/69.4	89.6/75.4	92.5/81.8	95.4/88.5
0 0 0 n* setcmyk $g_N=1.81$ 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
$w^*=l^*$ CIE LAB, 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	0.007	0.025	0.053	0.09	0.135	0.189	0.25	0.318	0.395	0.478	0.568	0.666	0.771	0.881	1.0

OE540-7N, Picture A3-106-0: 16 visual equidistant L^* -grey steps; PS operator: 0 0 0 n* setcmykcolor

OE54: 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

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				

OE541-1N, Picture A4-106-0: Landolt-rings W-N; PS operator: 0 0 0 n* setcmykcolor

	120	128	136	144	152	160	168	176	184	192	200	208	216	224	232	240	
120 (+8)																	240
60 (+4)																	120
30 (+2)																	60
15 (+1)																	30
	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	

OE541-3N, Picture A5-106-0: Line raster under 45° (or 135°); PS operator: 0 0 0 n* setcmykcolor

	120	128	136	144	152	160	168	176	184	192	200	208	216	224	232	240	
120 (+8)																	240
60 (+4)																	120
30 (+2)																	60
15 (+1)																	30
	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	

OE541-5N, Picture A6-106-0: Line raster under 90° (or 0°); PS operator: 0 0 0 n* setcmykcolor

input: all (->rgb*d) setrgbcolor
output 130-0: $g_P=1.0$; $g_N=1.81$

Test for the best visual linearized output of Picture A7-106-0		Yes/No
Output test with the computer display () or the external display ()		
Test of the radial grating according to picture A1-106-0		
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	Yes/No
Test of 5 visual equidistant L*-grey steps according to picture A2-106-0		
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 A3-106-0		
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

OE540-3N-1048-1

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

PDF-File: <http://130.149.60.45/farbmetrik/OE54/OE54L0NP.PDF> underline Yes/No

PS-File: <http://130.149.60.45/farbmetrik/OE54/OE54L0NA.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 OE54L0NP.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 OE54L0NA.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

OE540-7N-106-1

OE54: Form A for test chart according to ISO 9241-306; 1MR, DH input: *all* (\rightarrow rgb_d) setrgbcolor
Viewing Y contrast $Y_W:Y_N=88,9:20$; Y_N range 15 to <30
output 130-1: $g_P=1.0$; $g_N=1.81$

Test for the best visual linearized output of Picture A7-106-0		Yes/No
Output test with the computer display () or the external display ()		
Test of the Landolt-rings N-W according to picture A4-106-0		
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 A5-106-0		
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 A6-106-0		
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

OE541-3N-106-1

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/OE54/OE54F1P2.PDF>

PS file: <http://130.149.60.45/farbmetrik/OE54/OE54F1P2.PS>

Picture A7-106-2: 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/OE54/OE54F1P2.PDF>

picture A7-106-2

underline Yes/No

PS-File: <http://130.149.60.45/farbmetrik/OE54/OE54F1P2.PS>

picture A7-106-2

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

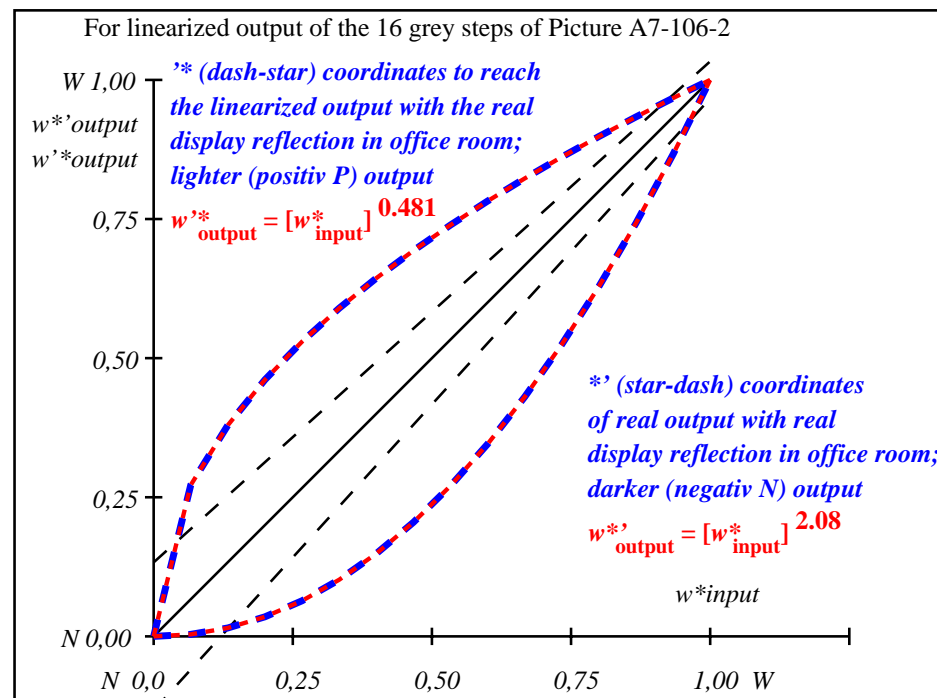
Part 4

OE541-7N-106-1

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 0.0 0.0	52.02 0.0 0.0	0.0 0.0 0.0	0.01	Specification according to
2	54.91 0.0 0.0	0.01 0.01 0.01	52.33 0.0 0.0	-2.57 0.0 0.0	2.58	ISO/IEC 15775 Annex G
3	57.8 0.0 0.0	0.03 0.03 0.03	53.13 0.0 0.0	-4.66 0.0 0.0	4.67	and DIN 33866-1 Annex G
4	60.7 0.0 0.0	0.05 0.05 0.05	54.34 0.0 0.0	-6.34 0.0 0.0	6.35	
5	63.59 0.0 0.0	0.09 0.09 0.09	55.94 0.0 0.0	-7.64 0.0 0.0	7.65	
6	66.48 0.0 0.0	0.14 0.14 0.14	57.9 0.0 0.0	-8.57 0.0 0.0	8.58	
7	69.37 0.0 0.0	0.19 0.19 0.19	60.22 0.0 0.0	-9.15 0.0 0.0	9.16	
8	72.27 0.0 0.0	0.25 0.25 0.25	62.87 0.0 0.0	-9.39 0.0 0.0	9.4	
9	75.16 0.0 0.0	0.32 0.32 0.32	65.85 0.0 0.0	-9.3 0.0 0.0	9.31	
10	78.05 0.0 0.0	0.4 0.4 0.4	69.16 0.0 0.0	-8.88 0.0 0.0	8.89	
11	80.95 0.0 0.0	0.48 0.48 0.48	72.78 0.0 0.0	-8.16 0.0 0.0	8.17	
12	83.84 0.0 0.0	0.57 0.57 0.57	76.71 0.0 0.0	-7.12 0.0 0.0	7.13	
13	86.73 0.0 0.0	0.67 0.67 0.67	80.94 0.0 0.0	-5.78 0.0 0.0	5.79	
14	89.62 0.0 0.0	0.77 0.77 0.77	85.47 0.0 0.0	-4.15 0.0 0.0	4.16	
15	92.52 0.0 0.0	0.88 0.88 0.88	90.29 0.0 0.0	-2.21 0.0 0.0	2.22	Mean lightness difference (16 steps)
16	95.41 0.0 0.0	1.0 0.0 0.0	95.41 0.0 0.0	0.0 0.0 0.0	0.01	ΔE*CIELAB = 5.9
17	52.02 0.0 0.0	0.0 0.0 0.0	52.02 0.0 0.0	0.0 0.0 0.0	0.01	
18	62.87 0.0 0.0	0.08 0.08 0.08	55.51 0.0 0.0	-7.35 0.0 0.0	7.36	
19	73.71 0.0 0.0	0.28 0.28 0.28	64.32 0.0 0.0	-9.38 0.0 0.0	9.39	
20	84.56 0.0 0.0	0.59 0.59 0.59	77.74 0.0 0.0	-6.82 0.0 0.0	6.83	Mean lightness difference (5 steps)
21	95.41 0.0 0.0	1.0 0.0 0.0	95.41 0.0 0.0	0.0 0.0 0.0	0.01	ΔL*CIELAB = 4.7
Mean colour reproduction index:					R* _{ab,m} = 74	

OE540-3N-106-2: File: Measure unknown; Device: Device unknown; Date: Date unknown



OE541-3N-106-2: 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
0 0 0 n* setcmyk g _N =1.82 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	0.007	0.026	0.054	0.091	0.135	0.189	0.25	0.319	0.395	0.479	0.569	0.666	0.771	0.882	1.0

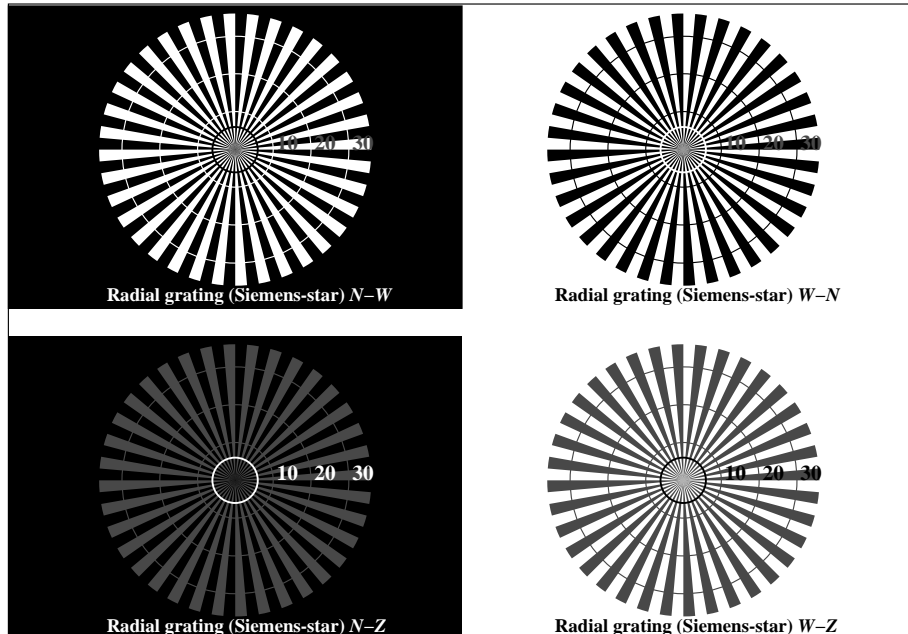
OE540-7N, Picture A7-106-2: 16 visual equidistant L*-grey steps; PS operator: 0 0 0 n* setcmykcolor

OE54: 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

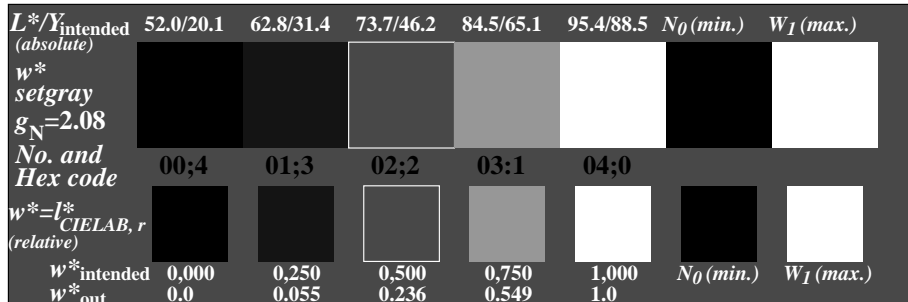
input: all (->rgb_d) setrgbcolor
output 130-2: g_P=1.0; g_N=1.81

TUB registration: 20110801-OE54/OE54L0NA.TXT /.PS
application for output of displays: monitor systems or data projector systems
TUB material: code=rh4ta

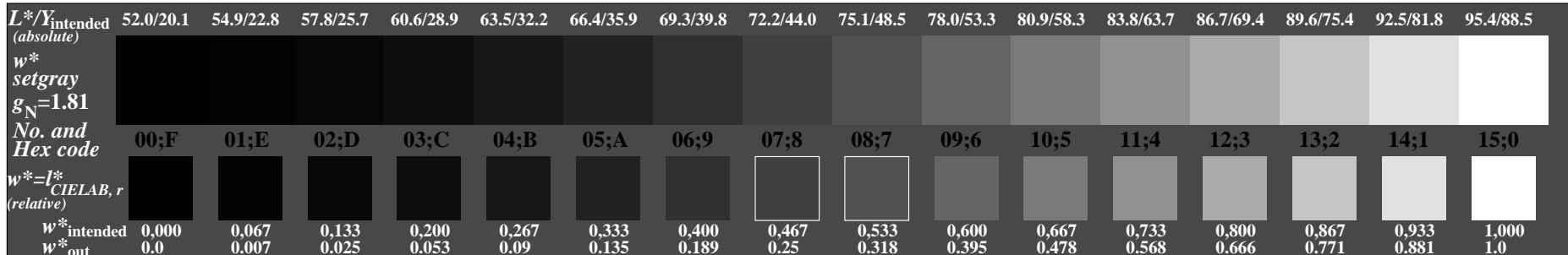
See similar ISO test charts: <http://www.ps.bam.de/24705TE>, <http://www.ps.bam.de/9241E>
Technical information: <http://www.ps.bam.de/33872E> Version 2.1, io=1.1, CIELAB



OE540-3N, Picture A1-116-3: Radial grating N-W, W-N, N-Z, W-Z; PS operator: w^* setgray

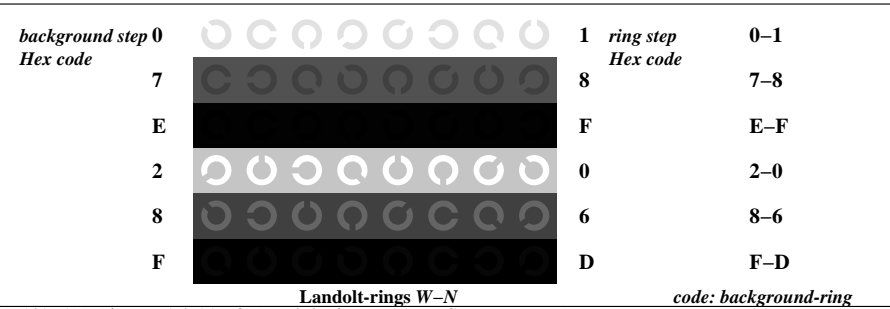


OE540-5N, Picture A2-116-3: 5 equidistant L^* -gray steps+ N_0 + W_1 ; PS operator: w^* setgray

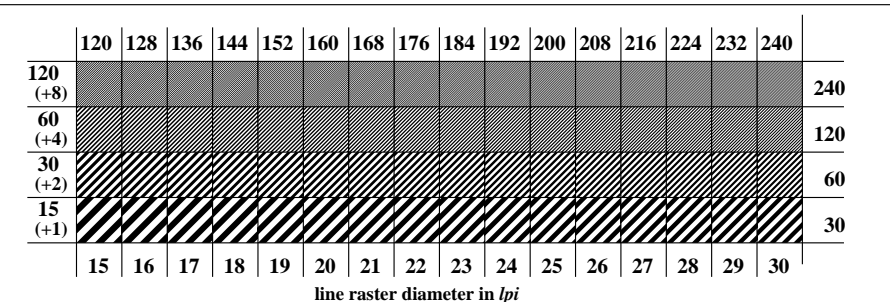


OE540-7N, Picture A3-116-3: 16 visual equidistant L^* -gray steps; PS operator: w^* setgray

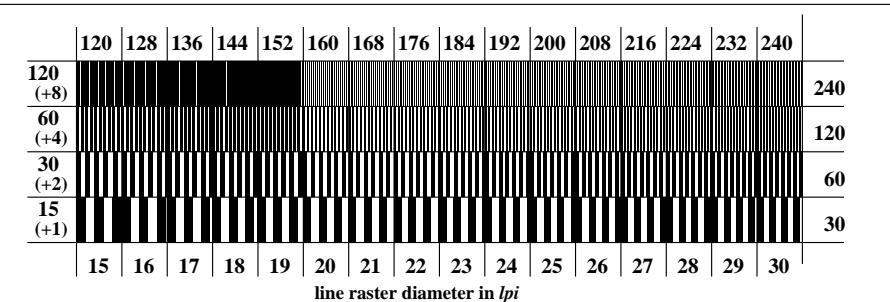
OE54: similar ME16 according to ISO 9241-306; 1MR, DH
Viewing Y contrast $Y_W:Y_N=88,9:20$; Y_N range 15 to <30



OE541-1N, Picture A4-116-3: Landolt-rings W-N; PS operator: w^* setgray



OE541-3N, Picture A5-116-3: Line raster under 45° (or 135°); PS operator: w^* setgray



OE541-5N, Picture A6-116-3: Line raster under 90° (or 0°); PS operator: w^* setgray

input: all ($\rightarrow rgb_d$) setrgbcolor
output 130-3: $g_P=1.0$; $g_N=1.81$

TUB registration: 20110801-OE54/OE54L0NA.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 A7-116-0		Yes/No
Output test with the computer display () or the external display ()		
Test of the radial grating according to picture A1-116-0		
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 A2-116-0		
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 A3-116-0		
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 OE540-3N-1148-4

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

PDF-File: <http://130.149.60.45/farbmetrik/OE54/OE54L0NP.PDF> underline Yes/No

PS-File: <http://130.149.60.45/farbmetrik/OE54/OE54L0NA.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 OE54L0NP.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 OE54L0NA.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 OE540-7N-116-4

OE54: Form A for test chart according to ISO 9241-306; 1MR, DH input: *all* (\rightarrow rgb_d) setrgbcolor
Viewing Y contrast $Y_W:Y_N=88,9:20$; Y_N range 15 to <30
output 130-4: $g_P=1.0$; $g_N=1.81$

Test for the best visual linearized output of Picture A7-116-0		Yes/No
Output test with the computer display () or the external display ()		
Test of the Landolt-rings N-W according to picture A4-116-0		
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 A5-116-0		
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 A6-116-0		
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 OE541-3N-116-4

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/OE54/OE54F1P2.PDF>

PS file: <http://130.149.60.45/farbmetrik/OE54/OE54F1P2.PS>

Picture A7-116-2: **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/OE54/OE54F1P2.PDF>

picture A7-116-2

underline Yes/No

PS-File: <http://130.149.60.45/farbmetrik/OE54/OE54F1P2.PS>

picture A7-116-2

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

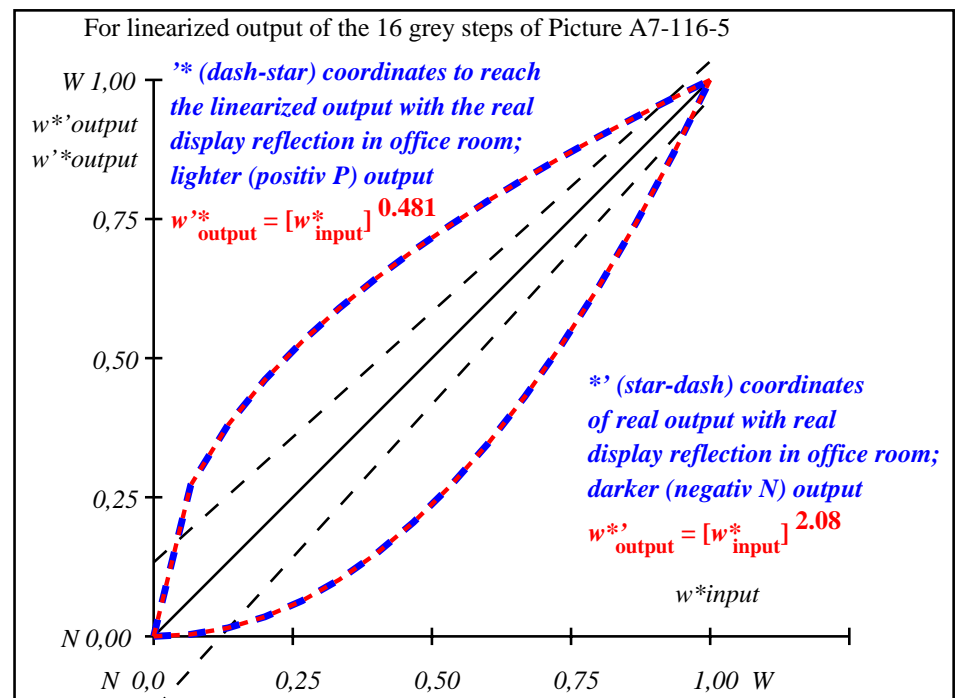
Part 4

OE541-7N-116-4

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 0.0 0.0	52.02 0.0 0.0	0.0 0.0 0.0	0.01	Specification according to
2	54.91 0.0 0.0	0.01 0.0 0.0	52.33 0.0 0.0	-2.57 0.0 0.0	2.58	ISO/IEC 15775 Annex G
3	57.8 0.0 0.0	0.03 0.0 0.0	53.13 0.0 0.0	-4.66 0.0 0.0	4.67	and DIN 33866-1 Annex G
4	60.7 0.0 0.0	0.05 0.0 0.0	54.34 0.0 0.0	-6.34 0.0 0.0	6.35	
5	63.59 0.0 0.0	0.09 0.0 0.0	55.94 0.0 0.0	-7.64 0.0 0.0	7.65	
6	66.48 0.0 0.0	0.14 0.0 0.0	57.9 0.0 0.0	-8.57 0.0 0.0	8.58	
7	69.37 0.0 0.0	0.19 0.0 0.0	60.22 0.0 0.0	-9.15 0.0 0.0	9.16	
8	72.27 0.0 0.0	0.25 0.0 0.0	62.87 0.0 0.0	-9.39 0.0 0.0	9.4	
9	75.16 0.0 0.0	0.32 0.0 0.0	65.85 0.0 0.0	-9.3 0.0 0.0	9.31	
10	78.05 0.0 0.0	0.4 0.0 0.0	69.16 0.0 0.0	-8.88 0.0 0.0	8.89	
11	80.95 0.0 0.0	0.48 0.0 0.0	72.78 0.0 0.0	-8.16 0.0 0.0	8.17	
12	83.84 0.0 0.0	0.57 0.0 0.0	76.71 0.0 0.0	-7.12 0.0 0.0	7.13	
13	86.73 0.0 0.0	0.67 0.0 0.0	80.94 0.0 0.0	-5.78 0.0 0.0	5.79	
14	89.62 0.0 0.0	0.77 0.0 0.0	85.47 0.0 0.0	-4.15 0.0 0.0	4.16	
15	92.52 0.0 0.0	0.88 0.0 0.0	90.29 0.0 0.0	-2.21 0.0 0.0	2.22	Mean lightness difference (16 steps)
16	95.41 0.0 0.0	1.0 0.0 0.0	95.41 0.0 0.0	0.0 0.0 0.0	0.01	ΔE*CIELAB = 5.9
17	52.02 0.0 0.0	0.0 0.0 0.0	52.02 0.0 0.0	0.0 0.0 0.0	0.01	
18	62.87 0.0 0.0	0.08 0.0 0.0	55.51 0.0 0.0	-7.35 0.0 0.0	7.36	
19	73.71 0.0 0.0	0.28 0.0 0.0	64.32 0.0 0.0	-9.38 0.0 0.0	9.39	
20	84.56 0.0 0.0	0.59 0.0 0.0	77.74 0.0 0.0	-6.82 0.0 0.0	6.83	Mean lightness difference (5 steps)
21	95.41 0.0 0.0	1.0 0.0 0.0	95.41 0.0 0.0	0.0 0.0 0.0	0.01	ΔL*CIELAB = 4.7
Mean colour reproduction index:					R* _{ab,m} = 74	

OE540-3N-116-5: File: Measure unknown; Device: Device unknown; Date: Date unknown



OE541-3N-116-5: 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^* setgray																
$g_N=1.82$																
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	0.007	0.026	0.054	0.091	0.135	0.189	0.25	0.319	0.395	0.479	0.569	0.666	0.771	0.882	1.0

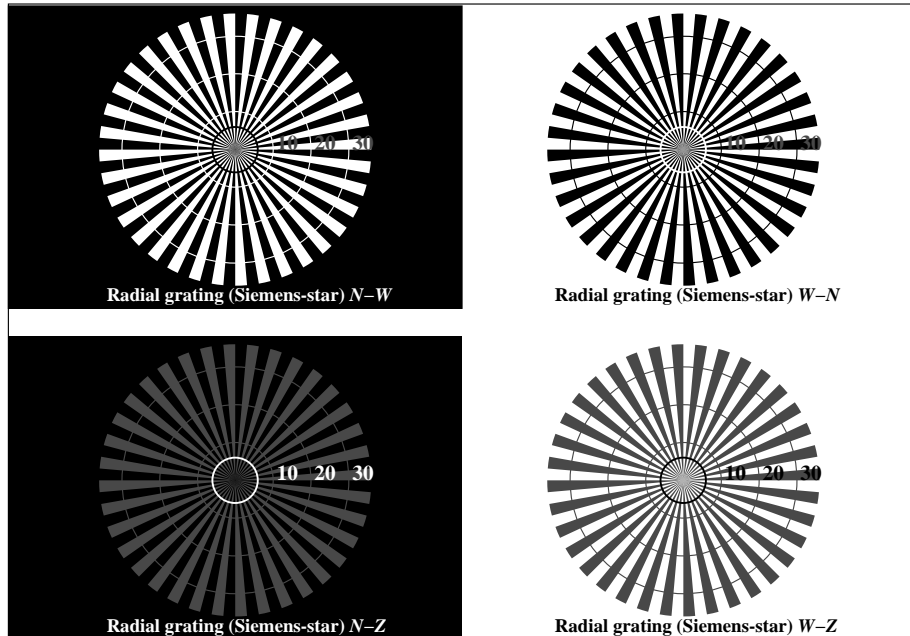
OE540-7N, Picture A7-116-5: 16 visual equidistant L^* -grey steps; PS operator: w^* setgray

OE54: 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: all ($\rightarrow rgb_d$) setrgbcOLOR
output 130-5: $g_P=1.0$; $g_N=1.81$

TUB registration: 20110801-OE54/OE54L0NA.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, CIE LAB



OE540-3N, Picture A1-126-6: Radial grating N-W, W-N, N-Z, W-Z; PS operator: $n^*n^*n^*0$ setcmkcolor

$L^*/Y_{intended}$ (absolute)	52.0/20.1	62.8/31.4	73.7/46.2	84.5/65.1	95.4/88.5	N_0 (min.)	W_1 (max.)
$n^*n^*n^*0$ setcmk $g_N=2.08$							
No. and Hex code	00;4	01;3	02;2	03;1	04;0		
$w^*=l^*$ CIE LAB, r (relative)							
$w^*_{intended}$	0.000	0.250	0.500	0.750	1.000	N_0 (min.)	W_1 (max.)
w^*_{out}	0.0	0.055	0.236	0.549	1.0		

OE540-5N, Picture A2-126-6: 5 equidistant L^* -grey steps+ N_0 + W_1 ; PS operator: $n^*n^*n^*0$ setcmkcolor

$L^*/Y_{intended}$ (absolute)	52.0/20.1	54.9/22.8	57.8/25.7	60.6/28.9	63.5/32.2	66.4/35.9	69.3/39.8	72.2/44.0	75.1/48.5	78.0/53.3	80.9/58.3	83.8/63.7	86.7/69.4	89.6/75.4	92.5/81.8	95.4/88.5
$n^*n^*n^*0$ setcmk $g_N=1.81$																
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
$w^*=l^*$ CIE LAB, 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	0.007	0.025	0.053	0.09	0.135	0.189	0.25	0.318	0.395	0.478	0.568	0.666	0.771	0.881	1.0

OE540-7N, Picture A3-126-6: 16 visual equidistant L^* -grey steps; PS operator: $n^*n^*n^*0$ setcmkcolor

OE54: 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

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

OE541-1N, Picture A4-126-6: Landolt-rings W-N; PS operator: $n^*n^*n^*0$ setcmkcolor

	120	128	136	144	152	160	168	176	184	192	200	208	216	224	232	240	
120 (+8)																	240
60 (+4)																	120
30 (+2)																	60
15 (+1)																	30
	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	

line raster diameter in lpi

OE541-3N, Picture A5-126-6: Line raster under 45° (or 135°); PS operator: $n^*n^*n^*0$ setcmkcolor

	120	128	136	144	152	160	168	176	184	192	200	208	216	224	232	240	
120 (+8)																	240
60 (+4)																	120
30 (+2)																	60
15 (+1)																	30
	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	

line raster diameter in lpi

OE541-5N, Picture A6-126-6: Line raster under 90° (or 0°); PS operator: $n^*n^*n^*0$ setcmkcolor

input: all ($\rightarrow rgb_d$) setrgbcolor
output 130-6: $g_P=1.0$; $g_N=1.81$

Test for the best visual linearized output of Picture A7-126-0		Yes/No
Output test with the computer display () or the external display ()		
Test of the radial grating according to picture A1-126-0		
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 A2-126-0		
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 A3-126-0		
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 OE540-3N-1248-7

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

PDF-File: http://130.149.60.45/farbmetrik/OE54/OE54L0NP.PDF underline Yes/No

PS-File: http://130.149.60.45/farbmetrik/OE54/OE54L0NA.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 OE54L0NP.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 OE54L0NA.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 OE540-7N-126-7

OE54: Form A for test chart according to ISO 9241-306; 1MR, DH input: all (->rgb*d) setrgbcolor
Viewing Y contrast $Y_W:Y_N=88,9:20$; Y_N range 15 to <30
output 130-7: $g_P=1.0$; $g_N=1.81$

Test for the best visual linearized output of Picture A7-126-0		Yes/No
Output test with the computer display () or the external display ()		
Test of the Landolt-rings N-W according to picture A4-126-0		
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 A5-126-0		
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 A6-126-0		
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 OE541-3N-126-7

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/OE54/OE54F1P2.PDF

PS file: http://130.149.60.45/farbmetrik/OE54/OE54F1P2.PS

Picture A7-126-2: 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/OE54/OE54F1P2.PDF

picture A7-126-2

PS-File: http://130.149.60.45/farbmetrik/OE54/OE54F1P2.PS

picture A7-126-2

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:

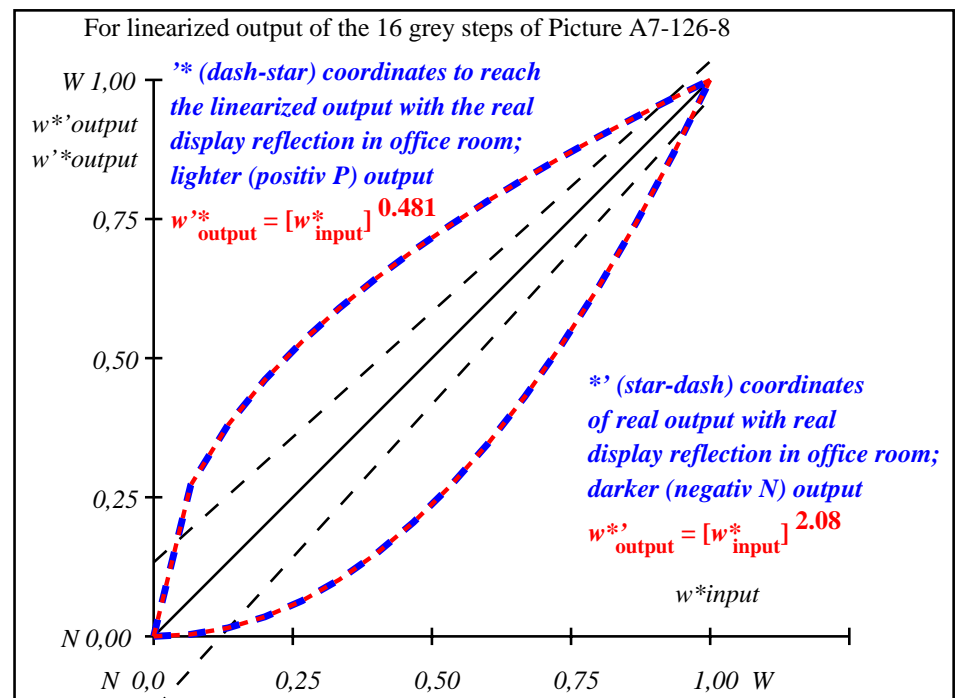
Part 4

OE541-7N-126-7

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	I*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	0.01	Specification according to
2	54.91 0.0 0.0	0.01	52.33 0.0 0.0	-2.57 0.0 0.0	2.58	ISO/IEC 15775 Annex G
3	57.8 0.0 0.0	0.03	53.13 0.0 0.0	-4.66 0.0 0.0	4.67	and DIN 33866-1 Annex G
4	60.7 0.0 0.0	0.05	54.34 0.0 0.0	-6.34 0.0 0.0	6.35	
5	63.59 0.0 0.0	0.09	55.94 0.0 0.0	-7.64 0.0 0.0	7.65	
6	66.48 0.0 0.0	0.14	57.9 0.0 0.0	-8.57 0.0 0.0	8.58	
7	69.37 0.0 0.0	0.19	60.22 0.0 0.0	-9.15 0.0 0.0	9.16	
8	72.27 0.0 0.0	0.25	62.87 0.0 0.0	-9.39 0.0 0.0	9.4	
9	75.16 0.0 0.0	0.32	65.85 0.0 0.0	-9.3 0.0 0.0	9.31	
10	78.05 0.0 0.0	0.4	69.16 0.0 0.0	-8.88 0.0 0.0	8.89	
11	80.95 0.0 0.0	0.48	72.78 0.0 0.0	-8.16 0.0 0.0	8.17	
12	83.84 0.0 0.0	0.57	76.71 0.0 0.0	-7.12 0.0 0.0	7.13	
13	86.73 0.0 0.0	0.67	80.94 0.0 0.0	-5.78 0.0 0.0	5.79	
14	89.62 0.0 0.0	0.77	85.47 0.0 0.0	-4.15 0.0 0.0	4.16	
15	92.52 0.0 0.0	0.88	90.29 0.0 0.0	-2.21 0.0 0.0	2.22	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 = 5.9
17	52.02 0.0 0.0	0.0	52.02 0.0 0.0	0.0 0.0 0.0	0.01	
18	62.87 0.0 0.0	0.08	55.51 0.0 0.0	-7.35 0.0 0.0	7.36	
19	73.71 0.0 0.0	0.28	64.32 0.0 0.0	-9.38 0.0 0.0	9.39	
20	84.56 0.0 0.0	0.59	77.74 0.0 0.0	-6.82 0.0 0.0	6.83	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 = 4.7
Mean colour reproduction index:					R* _{ab,m} = 74	

OE540-3N-126-8: File: Measure unknown; Device: Device unknown; Date: Date unknown



OE541-3N-126-8: File: Measure unknown; Device: Device unknown; Date: Date unknown

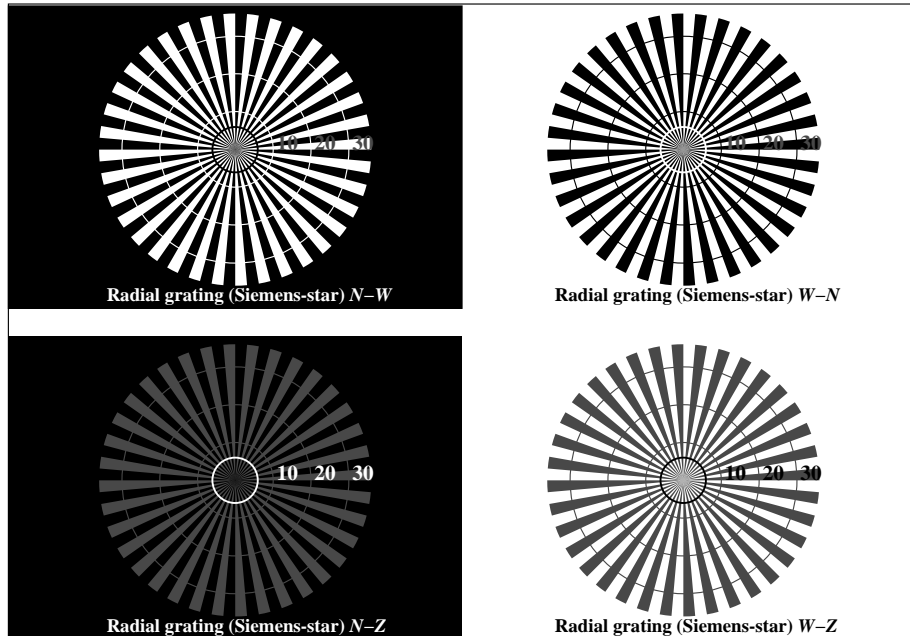
L*/Y _{intended} (absolute)	52.0/20.2	54.9/22.8	57.8/25.8	60.7/28.9	63.6/32.3	66.5/36.0	69.4/39.9	72.3/44.1	75.2/48.5	78.1/53.3	80.9/58.4	83.8/63.8	86.7/69.5	89.6/75.5	92.5/81.9	95.4/88.6
n* n* n* 0 setcmk g _N =1.82 No. and Hex code	00;F	01;E	02;D	03;C	04;B	05;A	06;9	07;8	08;7	09;6	10;5	11;4	12;3	13;2	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	0,007	0,026	0,054	0,091	0,135	0,189	0,25	0,319	0,395	0,479	0,569	0,666	0,771	0,882	1,0

OE540-7N, Picture A7-126-8: 16 visual equidistant L*-grey steps; PS operator: n* n* n* 0 setcmkcolor

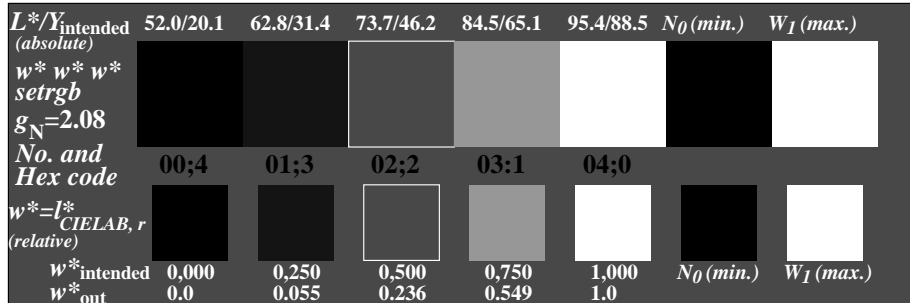
OE54: In-output relation according to ISO 9241-306; 1MR, DH
Viewing Y contrast Y_W:Y_N=88,9:20; Y_N range 15 to <30

input: all (->rgb_d) setrgbcolor
output 130-8: g_P=1.0; g_N=1.81

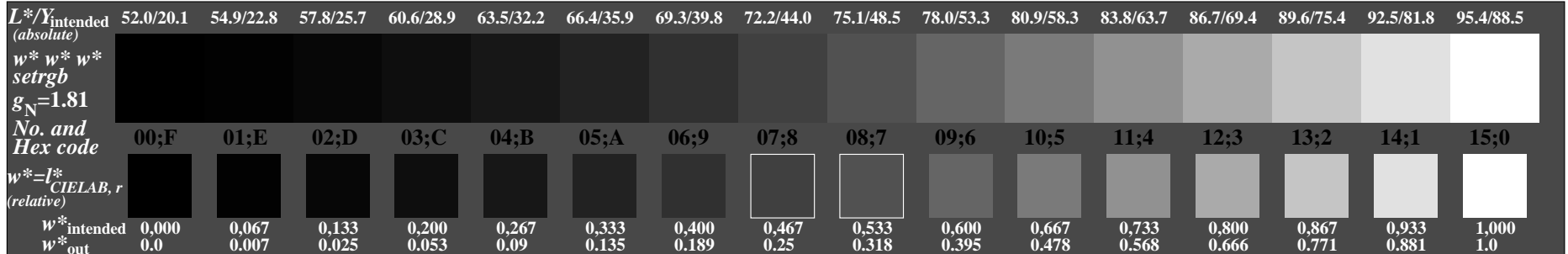
See similar ISO test charts: <http://www.ps.bam.de/24705TE>, <http://www.ps.bam.de/9241E>
Technical information: <http://www.ps.bam.de/33872E> Version 2.1, io=1.1, CIELAB



OE540-3N, Picture A1-136-9: Radial grating N-W, W-N, N-Z, W-Z; PS operator: $w^* w^* w^* \text{setrgbcolor}$

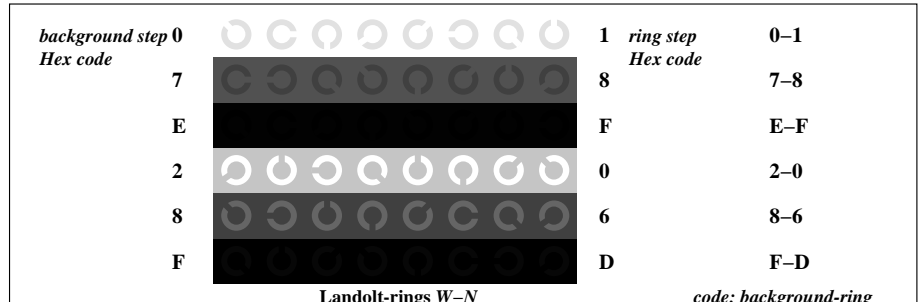


OE540-5N, Picture A2-136-9: 5 equidistant L^* -grey steps+ N_0 + W_1 ; PS operator: $w^* w^* w^* \text{setrgbcolor}$

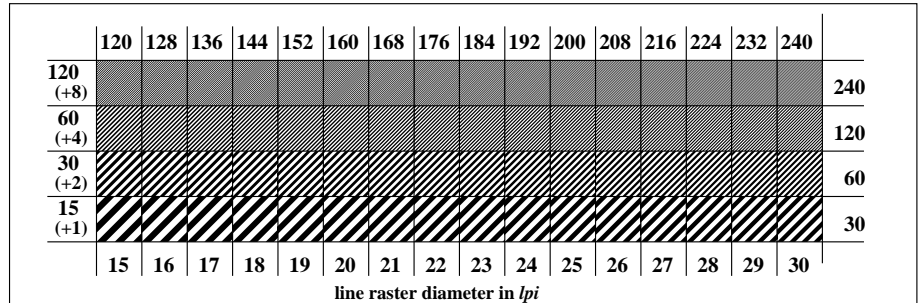


OE540-7N, Picture A3-136-9: 16 visual equidistant L^* -grey steps; PS operator: $w^* w^* w^* \text{setrgbcolor}$

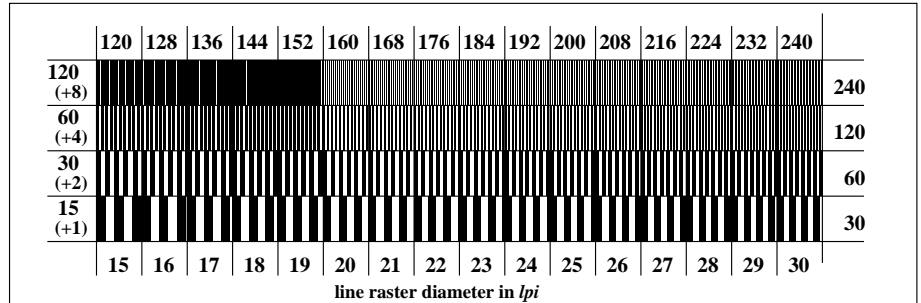
OE54: similar ME16 according to ISO 9241-306; 1MR, DH
Viewing Y contrast $Y_W:Y_N=88,9:20$; Y_N range 15 to <30



OE541-1N, Picture A4-136-9: Landolt-rings W-N; PS operator: $w^* w^* w^* \text{setrgbcolor}$



OE541-3N, Picture A5-136-9: Line raster under 45° (or 135°); PS operator: $w^* w^* w^* \text{setrgbcolor}$



OE541-5N, Picture A6-136-9: Line raster under 90° (or 0°); PS operator: $w^* w^* w^* \text{setrgbcolor}$

input: all ($\rightarrow \text{rgb}_d$) setrgbcolor
output 130-9: $g_P=1.0$; $g_N=1.81$

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 OE540-3N-1348-10

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

PDF-File: <http://130.149.60.45/farbmetrik/OE54/OE54L0NP.PDF> underline Yes/No

PS-File: <http://130.149.60.45/farbmetrik/OE54/OE54L0NA.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 OE54L0NP.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 OE54L0NA.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 OE540-7N-136-10

OE54: Form A for test chart according to ISO 9241-306; 1MR, DH input: *all (->rgb*d) setrgbcolor*
Viewing Y contrast $Y_W:Y_N=88,9:20$; Y_N range 15 to <30 output 130-10: $g_P=1.0$; $g_N=1.81$

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 OE541-3N-136-10

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/OE54/OE54F1P2.PDF>

PS file: <http://130.149.60.45/farbmetrik/OE54/OE54F1P2.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 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/OE54/OE54F1P2.PDF>

picture A7-136-2

underline Yes/No

PS-File: <http://130.149.60.45/farbmetrik/OE54/OE54F1P2.PS>

picture A7-136-2

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

OE541-7N-136-10

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

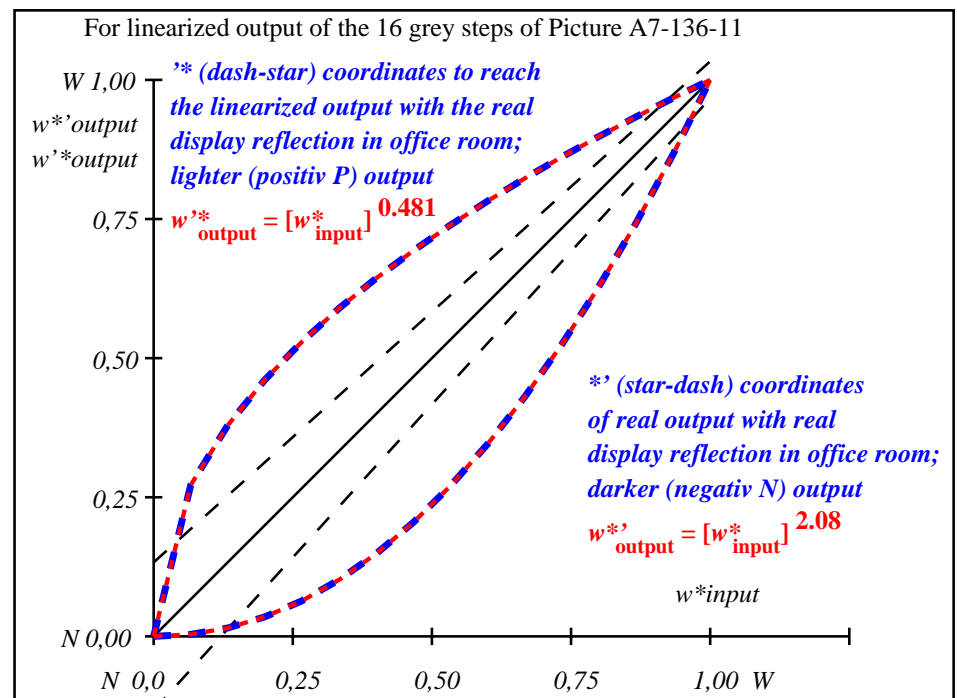
i	LAB*ref	L*out	LAB*out	LAB*out/c-ref	ΔE*	Start output S1
1	52.02	0.0	0.0	52.02	0.0	0.0
2	54.91	0.0	0.01	52.33	0.0	0.0
3	57.8	0.0	0.03	53.13	0.0	0.0
4	60.7	0.0	0.05	54.34	0.0	0.0
5	63.59	0.0	0.09	55.94	0.0	0.0
6	66.48	0.0	0.14	57.9	0.0	0.0
7	69.37	0.0	0.19	60.22	0.0	0.0
8	72.27	0.0	0.25	62.87	0.0	0.0
9	75.16	0.0	0.32	65.85	0.0	0.0
10	78.05	0.0	0.4	69.16	0.0	0.0
11	80.95	0.0	0.48	72.78	0.0	0.0
12	83.84	0.0	0.57	76.71	0.0	0.0
13	86.73	0.0	0.67	80.94	0.0	0.0
14	89.62	0.0	0.77	85.47	0.0	0.0
15	92.52	0.0	0.88	90.29	0.0	0.0
16	95.41	0.0	1.0	95.41	0.0	0.0
17	52.02	0.0	0.0	52.02	0.0	0.0
18	62.87	0.0	0.08	55.51	0.0	0.0
19	73.71	0.0	0.28	64.32	0.0	0.0
20	84.56	0.0	0.59	77.74	0.0	0.0
21	95.41	0.0	1.0	95.41	0.0	0.0

Mean lightness difference (16 steps) $\Delta E^*_{\text{CIELAB}} = 5.9$

Mean lightness difference (5 steps) $\Delta E^*_{\text{CIELAB}} = 4.7$

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

OE540-3N-136-11: File: Measure unknown; Device: Device unknown; Date: Date unknown



OE541-3N-136-11: File: Measure unknown; Device: Device unknown; Date: Date unknown

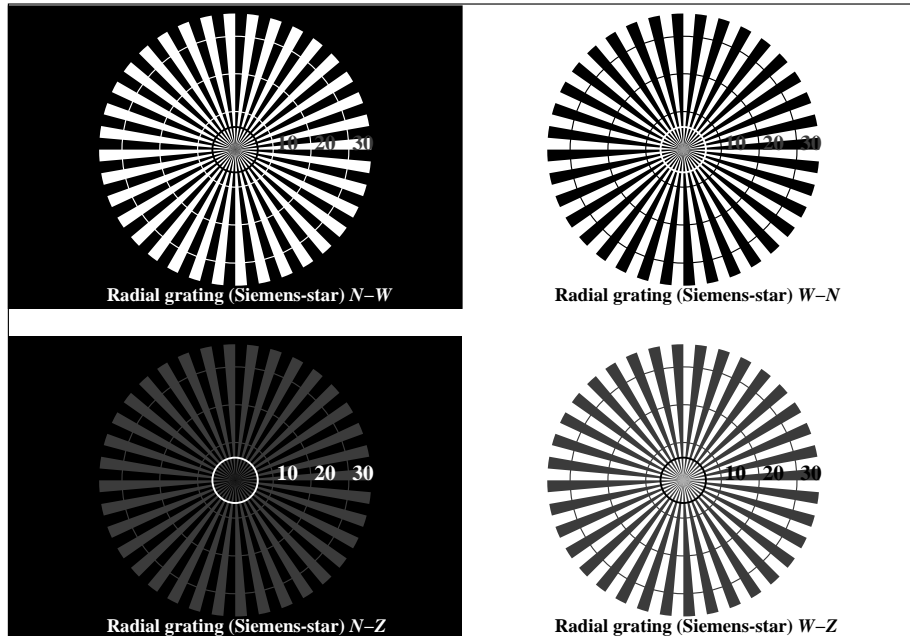
L^*/Y_{intended} (absolute)	52.0/20.2	54.9/22.8	57.8/25.8	60.7/28.9	63.6/32.3	66.5/36.0	69.4/39.9	72.3/44.1	75.2/48.5	78.1/53.3	80.9/58.4	83.8/63.8	86.7/69.5	89.6/75.5	92.5/81.9	95.4/88.6
$w^* w^* w^*$ setrgb $g_N=1.82$ No. and Hex code	00;F	01;E	02;D	03;C	04;B	05;A	06;9	07;8	08;7	09;6	10;5	11;4	12;3	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	0.007	0.026	0.054	0.091	0.135	0.189	0.25	0.319	0.395	0.479	0.569	0.666	0.771	0.882	1.0

OE540-7N, Picture A7-136-11: 16 visual equidistant L^* -grey steps; PS operator: $w^* w^* w^*$ setrgbcolor

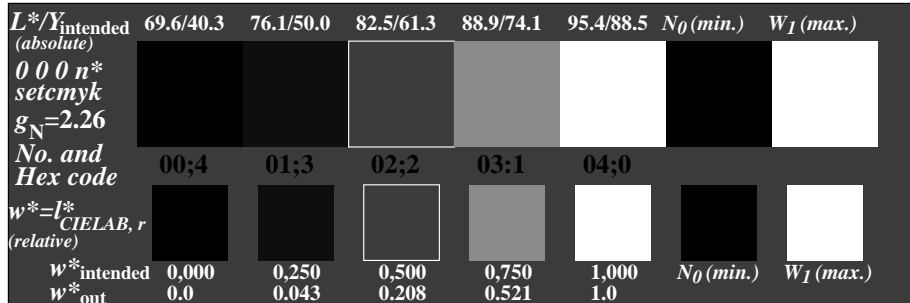
OE54: In-output relation according to ISO 9241-306; 1MR, DH
Viewing Y contrast $Y_W:Y_N=88,9:20$; Y_N range 15 to <30

input: all ($\rightarrow \text{rgb}_d$) setrgbcolor
output 130-11: $g_P=1.0$; $g_N=1.81$

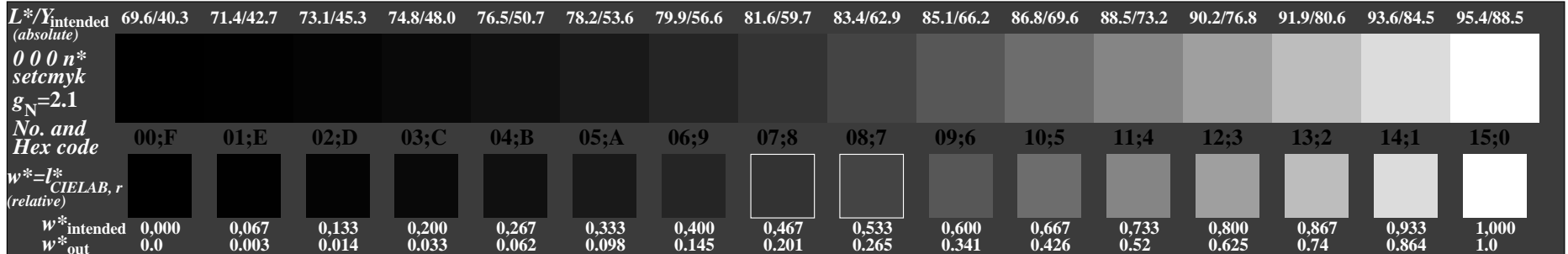
See similar ISO test charts: <http://www.ps.bam.de/24705TE>, <http://www.ps.bam.de/9241E>
Technical information: <http://www.ps.bam.de/33872E> Version 2.1, io=1.1, CIELAB



OE540-3N, Picture A1-107-0: Radial grating N-W, W-N, N-Z, W-Z; PS operator: 0 0 0 n* setcmykcolor

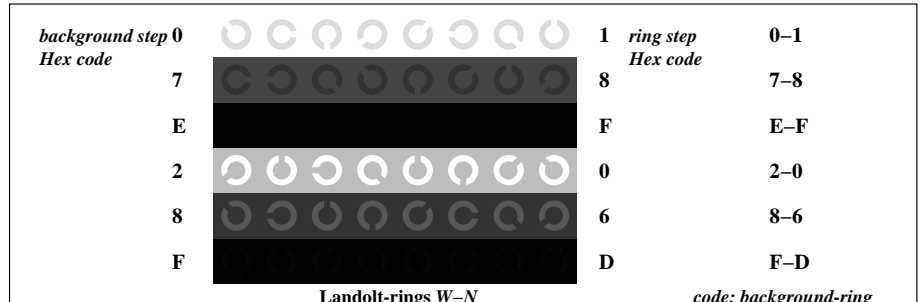


OE540-5N, Picture A2-107-0: 5 equidistant L^* -grey steps+ N_0 + W_1 ; PS operator: 0 0 0 n* setcmykcolor

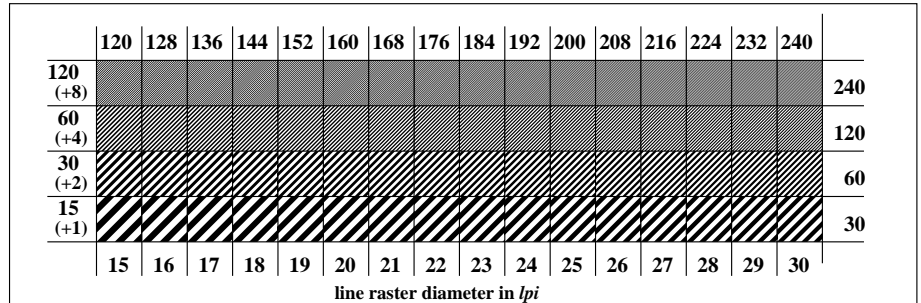


OE540-7N, Picture A3-107-0: 16 visual equidistant L^* -grey steps; PS operator: 0 0 0 n* setcmykcolor

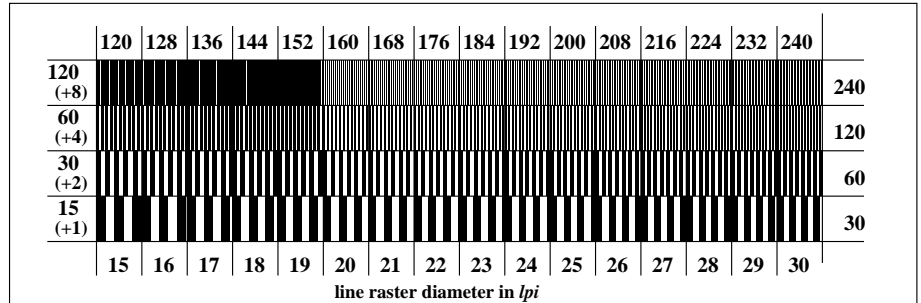
OE54: similar ME16 according to ISO 9241-306; 1MR, DH
Viewing Y contrast $Y_W:Y_N=88,9:40$; Y_N range 30 to <60



OE541-1N, Picture A4-107-0: Landolt-rings W-N; PS operator: 0 0 0 n* setcmykcolor



OE541-3N, Picture A5-107-0: Line raster under 45° (or 135°); PS operator: 0 0 0 n* setcmykcolor



OE541-5N, Picture A6-107-0: Line raster under 90° (or 0°); PS operator: 0 0 0 n* setcmykcolor

input: all (->rgb*d) setrgbcolor
output 130-0: $g_P=1.0$; $g_N=2.1$

Test for the best visual linearized output of Picture A7-107-0		Yes/No
Output test with the computer display () or the external display ()		
Test of the radial grating according to picture A1-107-0		
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 A2-107-0		
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 A3-107-0		
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 OE540-3N-1056-1

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

PDF-File: <http://130.149.60.45/farbmetrik/OE54/OE54L0NP.PDF> underline Yes/No

PS-File: <http://130.149.60.45/farbmetrik/OE54/OE54L0NA.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 OE54L0NP.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 OE54L0NA.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 OE540-7N-107-1

OE54: Form A for test chart according to ISO 9241-306; 1MR, DH input: *all (->rgb*d) setrgbcolor*
Viewing Y contrast $Y_W:Y_N=88,9:40$; Y_N range 30 to <60 output 130-1: $g_P=1.0$; $g_N=2.1$

Test for the best visual linearized output of Picture A7-107-0		Yes/No
Output test with the computer display () or the external display ()		
Test of the Landolt-rings N-W according to picture A4-107-0		
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 A5-107-0		
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 A6-107-0		
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 OE541-3N-107-1

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/OE54/OE54F1P2.PDF>

PS file: <http://130.149.60.45/farbmetrik/OE54/OE54F1P2.PS>

Picture A7-107-2: **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/OE54/OE54F1P2.PDF>

picture A7-107-2

underline Yes/No

PS-File: <http://130.149.60.45/farbmetrik/OE54/OE54F1P2.PS>

picture A7-107-2

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

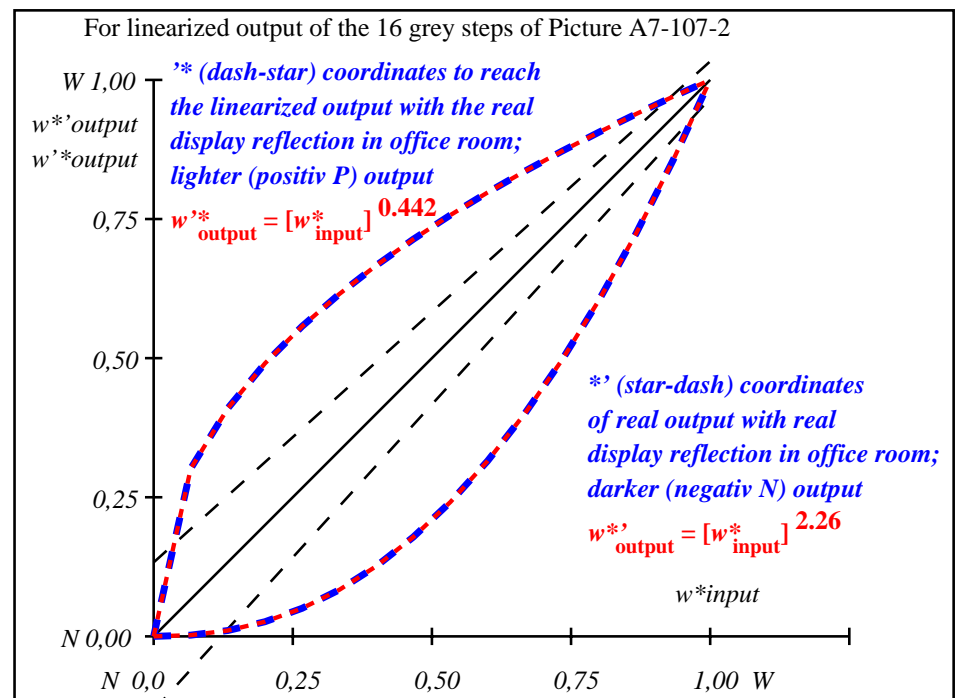
Part 4

OE541-7N-107-1

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	69.7	0.0	0.01	Specification according to
2	71.41	0.0	69.78	-1.62	1.63	ISO/IEC 15775 Annex G
3	73.13	0.0	70.07	-3.05	3.06	and DIN 33866-1 Annex G
4	74.84	0.0	70.57	-4.26	4.27	
5	76.55	0.0	71.29	-5.26	5.27	
6	78.27	0.0	72.24	-6.02	6.03	
7	79.98	0.0	73.43	-6.54	6.55	
8	81.7	0.0	74.86	-6.82	6.83	
9	83.41	0.0	76.54	-6.86	6.87	
10	85.12	0.0	78.47	-6.65	6.66	
11	86.84	0.0	80.65	-6.18	6.19	
12	88.55	0.0	83.08	-5.46	5.47	
13	90.27	0.0	85.77	-4.49	4.5	
14	91.98	0.0	88.72	-3.25	3.26	
15	93.7	0.0	91.93	-1.75	1.76	Mean lightness difference (16 steps)
16	95.41	0.0	95.41	0.0	0.01	ΔE*CIELAB = 4.3
17	69.7	0.0	69.7	0.0	0.01	
18	76.13	0.0	71.09	-5.03	5.04	
19	82.55	0.0	75.67	-6.87	6.88	
20	88.98	0.0	83.73	-5.24	5.25	Mean lightness difference (5 steps)
21	95.41	0.0	95.41	0.0	0.01	ΔL*CIELAB = 3.4
Mean colour reproduction index:					R* _{ab,m} = 81	

OE540-3N-107-2: File: Measure unknown; Device: Device unknown; Date: Date unknown



OE541-3N-107-2: 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
0 0 0 n* setcmyk g _N =2.11 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	0,003	0,014	0,034	0,062	0,099	0,145	0,201	0,266	0,341	0,426	0,52	0,625	0,74	0,864	1,0

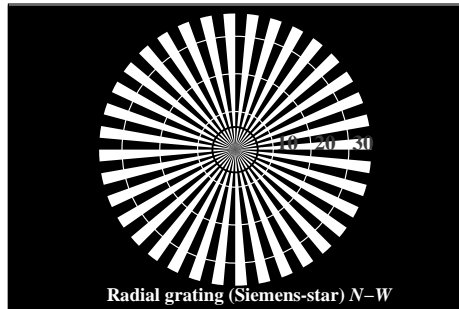
OE540-7N, Picture A7-107-2: 16 visual equidistant L*-grey steps; PS operator: 0 0 0 n* setcmykcolor

OE54: 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

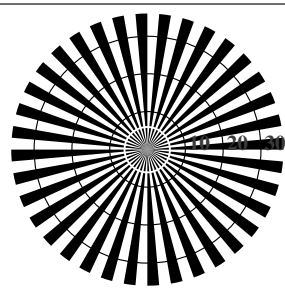
input: all (->rgb_d) setrgbcolor
output 130-2: g_P=1.0; g_N=2.1

TUB registration: 20110801-OE54/OE54L0NA.TXT /.PS
application for output of displays: monitor systems or data projector systems
TUB material: code=rh4ta

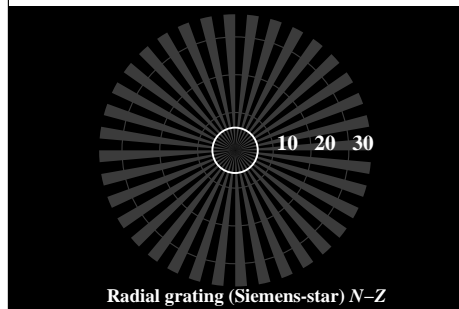
See similar ISO test charts: <http://www.ps.bam.de/24705TE>, <http://www.ps.bam.de/9241E>
Technical information: <http://www.ps.bam.de/33872E> Version 2.1, io=1,1, CIE LAB



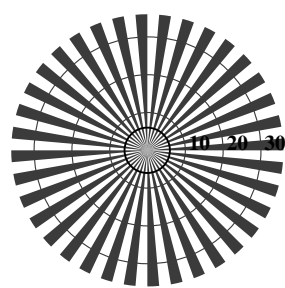
Radial grating (Siemens-star) N-W



Radial grating (Siemens-star) W-N

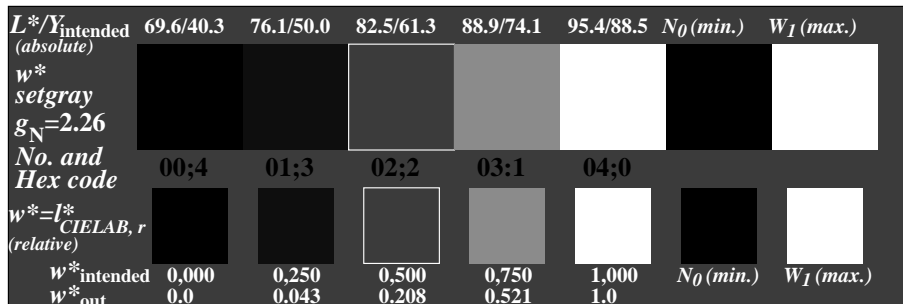


Radial grating (Siemens-star) N-Z

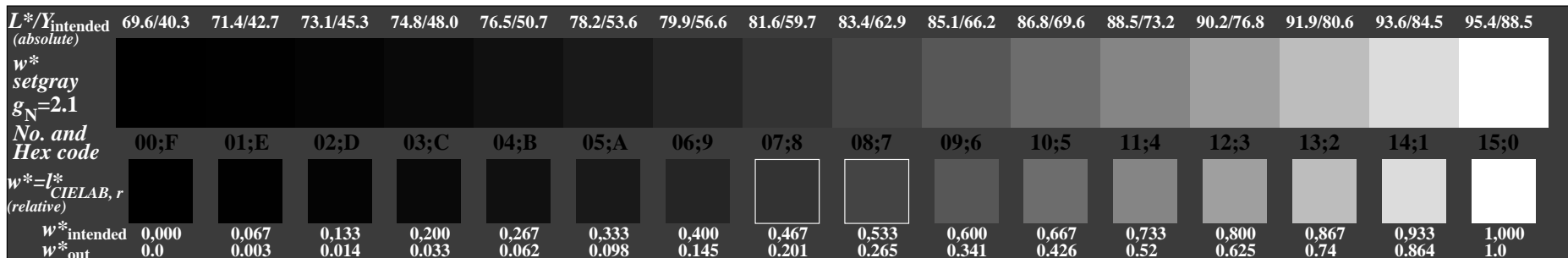


Radial grating (Siemens-star) W-Z

OE540-3N, Picture A1-117-3: Radial grating N-W, W-N, N-Z, W-Z; PS operator: w^* setgray



OE540-5N, Picture A2-117-3: 5 equidistant L^* -grey steps+ N_0 + W_1 ; PS operator: w^* setgray



OE540-7N, Picture A3-117-3: 16 visual equidistant L^* -grey steps; PS operator: w^* setgray

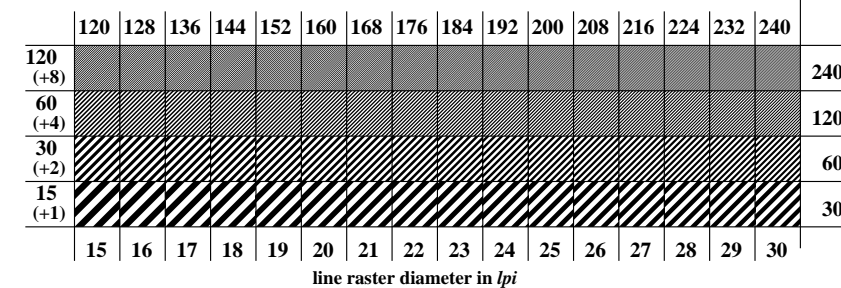
OE54: similar ME16 according to ISO 9241-306; 1MR, DH
Viewing Y contrast $Y_W:Y_N=88.9:40$; Y_N range 30 to <60

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

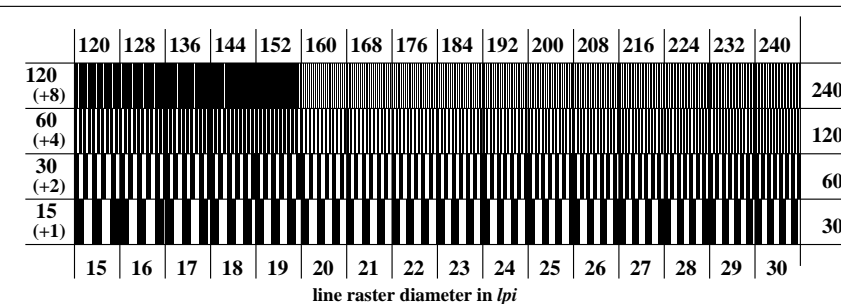
code: background-ring

OE541-1N, Picture A4-117-3: Landolt-rings W-N; PS operator: w^* setgray



line raster diameter in lpi

OE541-3N, Picture A5-117-3: Line raster under 45° (or 135°); PS operator: w^* setgray



line raster diameter in lpi

OE541-5N, Picture A6-117-3: Line raster under 90° (or 0°); PS operator: w^* setgray

input: all ($\rightarrow rgb_d$) setrgbcolor
output 130-3: $g_P=1.0$; $g_N=2.1$

TUB registration: 20110801-OE54/OE54L0NA.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 A7-117-0 Yes/No
Output test with the computer display () or the external display ()
Test of the radial grating according to picture A1-117-0
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 A2-117-0
 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 A3-117-0
 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

OE540-3N-1156-4

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

PDF-File: <http://130.149.60.45/farbmetrik/OE54/OE54L0NP.PDF> underline Yes/No

PS-File: <http://130.149.60.45/farbmetrik/OE54/OE54L0NA.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 OE54L0NP.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 OE54L0NA.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

OE540-7N-117-4

OE54: Form A for test chart according to ISO 9241-306; 1MR, DH input: *all (->rgb*d) setrgbcolor*
 Viewing Y contrast $Y_W:Y_N=88,9:40$; Y_N range 30 to <60 output 130-4: $g_P=1.0$; $g_N=2.1$

Test for the best visual linearized output of Picture A7-117-0 Yes/No
Output test with the computer display () or the external display ()
Test of the Landolt-rings N-W according to picture A4-117-0
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 A5-117-0
 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 A6-117-0
 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

OE541-3N-117-4

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)

underline Yes/No

PDF file: <http://130.149.60.45/farbmetrik/OE54/OE54F1P2.PDF>

underline Yes/No

PS file: <http://130.149.60.45/farbmetrik/OE54/OE54F1P2.PS>

underline Yes/No

Picture A7-117-2: 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/OE54/OE54F1P2.PDF>

underline Yes/No

PS-File: <http://130.149.60.45/farbmetrik/OE54/OE54F1P2.PS>

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:

Part 4

OE541-7N-117-4

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

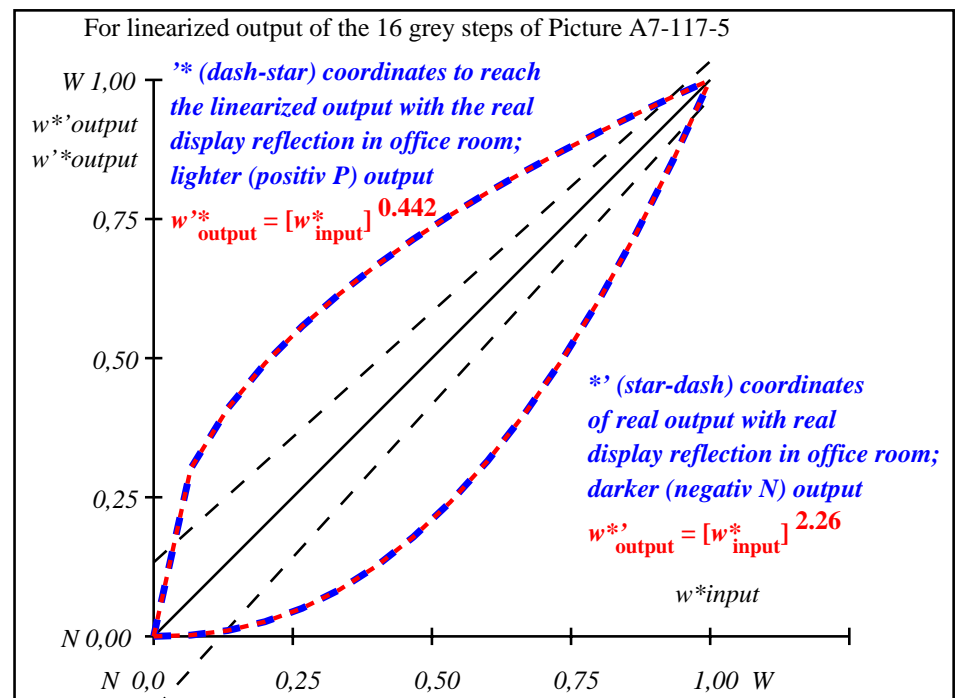
i	LAB*ref	L*out	LAB*out	LAB*out/c-ref	ΔE*	Start output S1
1	69.7	0.0	0.0	0.0	0.0	0.01
2	71.41	0.0	0.0	0.0	0.0	1.63
3	73.13	0.0	0.0	0.0	0.0	3.06
4	74.84	0.0	0.0	0.0	0.0	4.27
5	76.55	0.0	0.0	0.0	0.0	5.27
6	78.27	0.0	0.0	0.0	0.0	6.03
7	79.98	0.0	0.0	0.0	0.0	6.55
8	81.7	0.0	0.0	0.0	0.0	6.83
9	83.41	0.0	0.0	0.0	0.0	6.87
10	85.12	0.0	0.0	0.0	0.0	6.66
11	86.84	0.0	0.0	0.0	0.0	6.19
12	88.55	0.0	0.0	0.0	0.0	5.47
13	90.27	0.0	0.0	0.0	0.0	4.5
14	91.98	0.0	0.0	0.0	0.0	3.26
15	93.7	0.0	0.0	0.0	0.0	1.76
16	95.41	0.0	0.0	0.0	0.0	0.01
17	69.7	0.0	0.0	0.0	0.0	0.01
18	76.13	0.0	0.0	0.0	0.0	5.04
19	82.55	0.0	0.0	0.0	0.0	6.88
20	88.98	0.0	0.0	0.0	0.0	5.25
21	95.41	0.0	0.0	0.0	0.0	0.01

Mean lightness difference (16 steps) $\Delta E^*_{\text{CIELAB}} = 4.3$

Mean lightness difference (5 steps) $\Delta E^*_{\text{CIELAB}} = 3.4$

Mean colour reproduction index: $R^*_{\text{ab,m}} = 81$

OE540-3N-117-5: File: Measure unknown; Device: Device unknown; Date: Date unknown



OE541-3N-117-5: File: Measure unknown; Device: Device unknown; Date: Date unknown

$L^*/Y^*_{\text{intended}}$ (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^* setgray																
$g_N=2.11$ 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	0.003	0.014	0.034	0.062	0.099	0.145	0.201	0.266	0.341	0.426	0.52	0.625	0.74	0.864	1.0

OE540-7N, Picture A7-117-5: 16 visual equidistant L^* -grey steps; PS operator: w^* setgray

OE54: 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: all ($\rightarrow rgb_d$) setrgbcOLOR
output 130-5: $g_P=1.0$; $g_N=2.1$

input: *all* ($\rightarrow rgb^*_d$) *setrgbcolor*
output 130-6: $g_P=1.0$; $g_N=2.1$

Test for the best visual linearized output of Picture A7-127-0 Yes/No
Output test with the computer display () or the external display ()
Test of the radial grating according to picture A1-127-0
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 A2-127-0
 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 A3-127-0
 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 OE540-3N-1256-7

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

PDF-File: <http://130.149.60.45/farbmetrik/OE54/OE54L0NP.PDF> underline Yes/No

PS-File: <http://130.149.60.45/farbmetrik/OE54/OE54L0NA.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 OE54L0NP.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 OE54L0NA.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 OE540-7N-127-7

OE54: Form A for test chart according to ISO 9241-306; 1MR, DH input: *all (->rgb*d) setrgbcolor*
 Viewing Y contrast $Y_W:Y_N=88,9:40$; Y_N range 30 to <60 output 130-7: $g_P=1.0$; $g_N=2.1$

Test for the best visual linearized output of Picture A7-127-0 Yes/No
Output test with the computer display () or the external display ()
Test of the Landolt-rings N-W according to picture A4-127-0
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 A5-127-0
 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 A6-127-0
 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 OE541-3N-127-7

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)

underline Yes/No

PDF file: <http://130.149.60.45/farbmetrik/OE54/OE54F1P2.PDF>

underline Yes/No

PS file: <http://130.149.60.45/farbmetrik/OE54/OE54F1P2.PS>

underline Yes/No

Picture A7-127-2: 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/OE54/OE54F1P2.PDF>

underline Yes/No

PS-File: <http://130.149.60.45/farbmetrik/OE54/OE54F1P2.PS>

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:

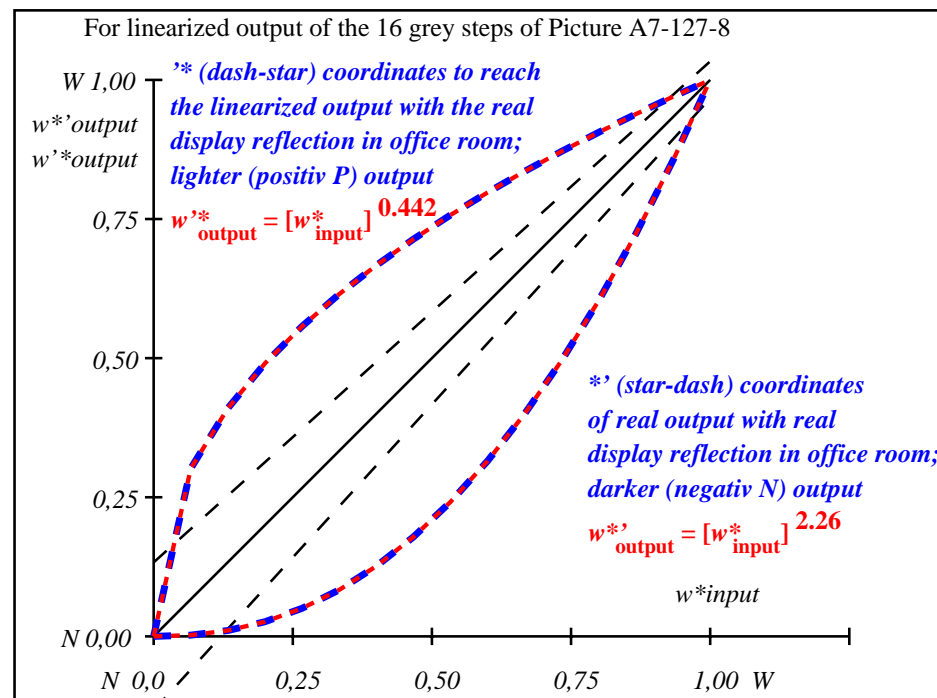
Part 4

OE541-7N-127-7

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	69.7 0.0 0.0	69.7 0.0 0.0	0.0 0.0 0.0	0.01	Specification according to
2	71.41 0.0 0.0	69.78 0.0 0.0	-1.62 0.0 0.0	1.63		ISO/IEC 15775 Annex G
3	73.13 0.0 0.0	70.07 0.0 0.0	-3.05 0.0 0.0	3.06		and DIN 33866-1 Annex G
4	74.84 0.0 0.0	70.57 0.0 0.0	-4.26 0.0 0.0	4.27		
5	76.55 0.0 0.0	71.29 0.0 0.0	-5.26 0.0 0.0	5.27		
6	78.27 0.0 0.0	72.24 0.0 0.0	-6.02 0.0 0.0	6.03		
7	79.98 0.0 0.0	73.43 0.0 0.0	-6.54 0.0 0.0	6.55		
8	81.7 0.0 0.0	74.86 0.0 0.0	-6.82 0.0 0.0	6.83		
9	83.41 0.0 0.0	76.54 0.0 0.0	-6.86 0.0 0.0	6.87		
10	85.12 0.0 0.0	78.47 0.0 0.0	-6.65 0.0 0.0	6.66		
11	86.84 0.0 0.0	80.65 0.0 0.0	-6.18 0.0 0.0	6.19		
12	88.55 0.0 0.0	83.08 0.0 0.0	-5.46 0.0 0.0	5.47		
13	90.27 0.0 0.0	85.77 0.0 0.0	-4.49 0.0 0.0	4.5		
14	91.98 0.0 0.0	88.72 0.0 0.0	-3.25 0.0 0.0	3.26		
15	93.7 0.0 0.0	91.93 0.0 0.0	-1.75 0.0 0.0	1.76	Mean lightness difference (16 steps)	
16	95.41 0.0 0.0	95.41 0.0 0.0	0.0 0.0 0.0	0.01	ΔE*CIELAB = 4.3	
17	69.7 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	71.09 0.0 0.0	-5.03 0.0 0.0	5.04		
19	82.55 0.0 0.0	75.67 0.0 0.0	-6.87 0.0 0.0	6.88		
20	88.98 0.0 0.0	83.73 0.0 0.0	-5.24 0.0 0.0	5.25	Mean lightness difference (5 steps)	
21	95.41 0.0 0.0	95.41 0.0 0.0	0.0 0.0 0.0	0.01	ΔL*CIELAB = 3.4	
Mean colour reproduction index:					R* _{ab,m} = 81	

OE540-3N-127-8: File: Measure unknown; Device: Device unknown; Date: Date unknown



OE541-3N-127-8: File: Measure unknown; Device: Device unknown; Date: Date unknown

$L^*/Y^*_{\text{intended}}$ (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
$n^* n^* n^* 0$ setcmk $g_N=2.11$ 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	0,003	0,014	0,034	0,062	0,099	0,145	0,201	0,266	0,341	0,426	0,52	0,625	0,74	0,864	1,0

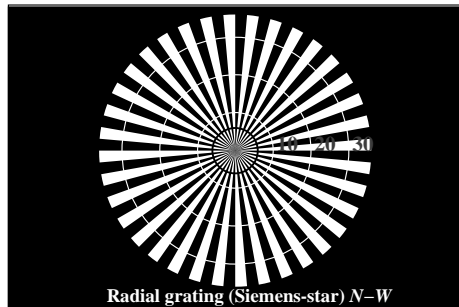
OE540-7N, Picture A7-127-8: 16 visual equidistant L^* -grey steps; PS operator: $n^* n^* n^* 0$ setcmkcolor

OE54: 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

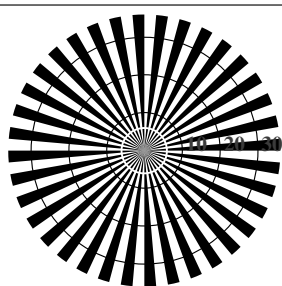
input: all ($\rightarrow rgb_d$) setrgbcolor
output 130-8: $g_P=1.0$; $g_N=2.1$

TUB registration: 20110801-OE54/OE54L0NA.TXT /.PS
application for output of displays: monitor systems or data projector systems
TUB material: code=rh4ta

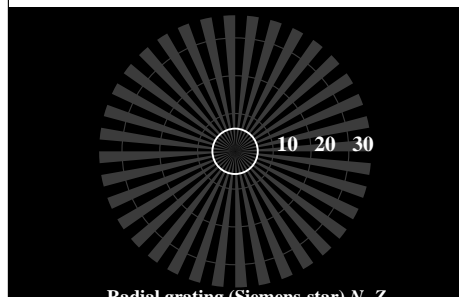
See similar ISO test charts: <http://www.ps.bam.de/24705TE>, <http://www.ps.bam.de/9241E>
Technical information: <http://www.ps.bam.de/33872E> Version 2.1, io=1,1, CIELAB



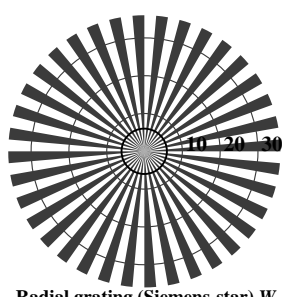
Radial grating (Siemens-star) N-W



Radial grating (Siemens-star) W-N

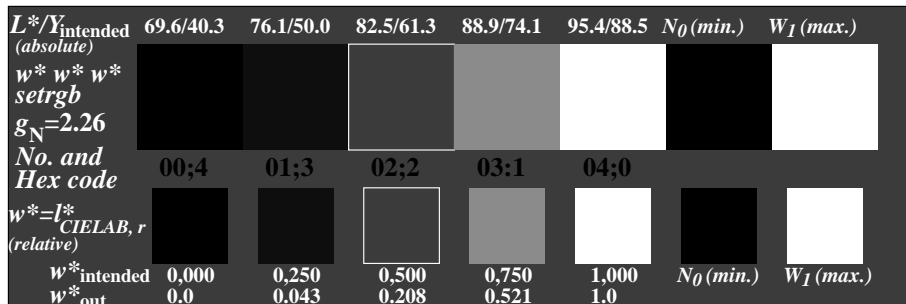


Radial grating (Siemens-star) N-Z

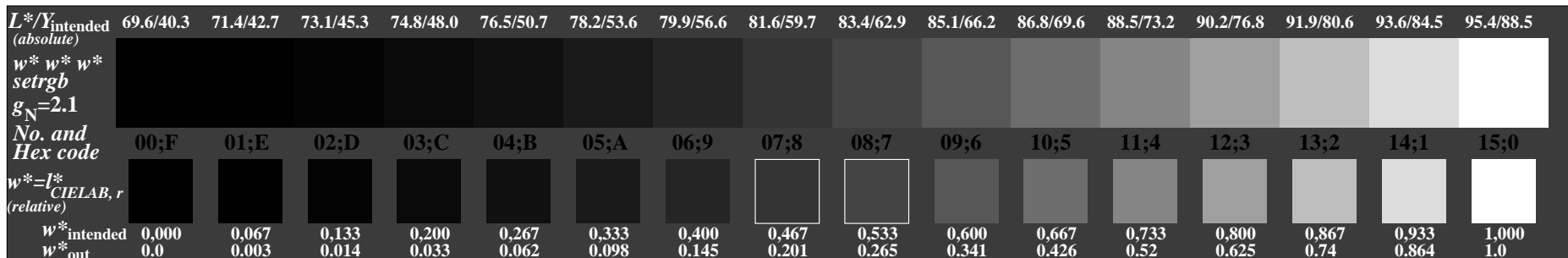


Radial grating (Siemens-star) W-Z

OE540-3N, Picture A1-137-9: Radial grating N-W, W-N, N-Z, W-Z; PS operator: $w^* w^* w^* \text{setrgbcolor}$

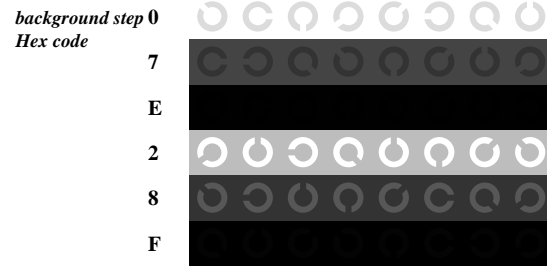


OE540-5N, Picture A2-137-9: 5 equidistant L^* -grey steps+ N_0 + W_1 ; PS operator: $w^* w^* w^* \text{setrgbcolor}$



OE540-7N, Picture A3-137-9: 16 visual equidistant L^* -grey steps; PS operator: $w^* w^* w^* \text{setrgbcolor}$

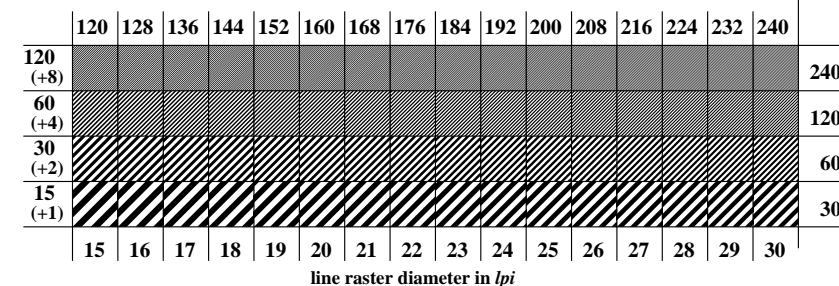
OE54: similar ME16 according to ISO 9241-306; 1MR, DH
Viewing Y contrast $Y_W:Y_N=88,9:40$; Y_N range 30 to <60



Landolt-rings W-N

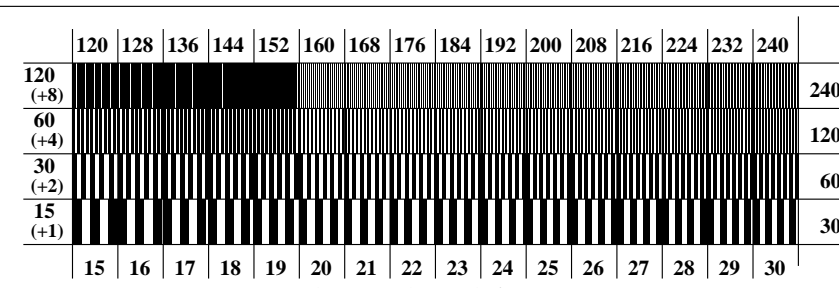
code: background-ring

OE541-1N, Picture A4-137-9: Landolt-rings W-N; PS operator: $w^* w^* w^* \text{setrgbcolor}$



line raster diameter in lpi

OE541-3N, Picture A5-137-9: Line raster under 45° (or 135°); PS operator: $w^* w^* w^* \text{setrgbcolor}$



line raster diameter in lpi

OE541-5N, Picture A6-137-9: Line raster under 90° (or 0°); PS operator: $w^* w^* w^* \text{setrgbcolor}$

input: all ($\rightarrow \text{rgb}_d$) setrgbcolor
output 130-9: $g_P=1.0$; $g_N=2.1$

TUB registration: 20110801-OE54/OE54L0NA.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 A7-137-0		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

OE540-3N-1356-10

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

PDF-File: <http://130.149.60.45/farbmetrik/OE54/OE54L0NP.PDF> **underline Yes/No**

PS-File: <http://130.149.60.45/farbmetrik/OE54/OE54L0NA.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 OE54L0NP.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 OE54L0NA.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

OE540-7N-137-10

OE54: Form A for test chart according to ISO 9241-306; 1MR, DH input: *all (->rgb*d) setrgbcolor*
Viewing Y contrast $Y_W:Y_N=88,9:40$; Y_N range 30 to <60 output 130-10: $g_P=1.0$; $g_N=2.1$

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	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 A5-137-0		
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

OE541-3N-137-10

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/OE54/OE54F1P2.PDF>

PS file: <http://130.149.60.45/farbmetrik/OE54/OE54F1P2.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

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/OE54/OE54F1P2.PDF>

picture A7-137-2

PS-File: <http://130.149.60.45/farbmetrik/OE54/OE54F1P2.PS>

picture A7-137-2

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:

underline Yes/No

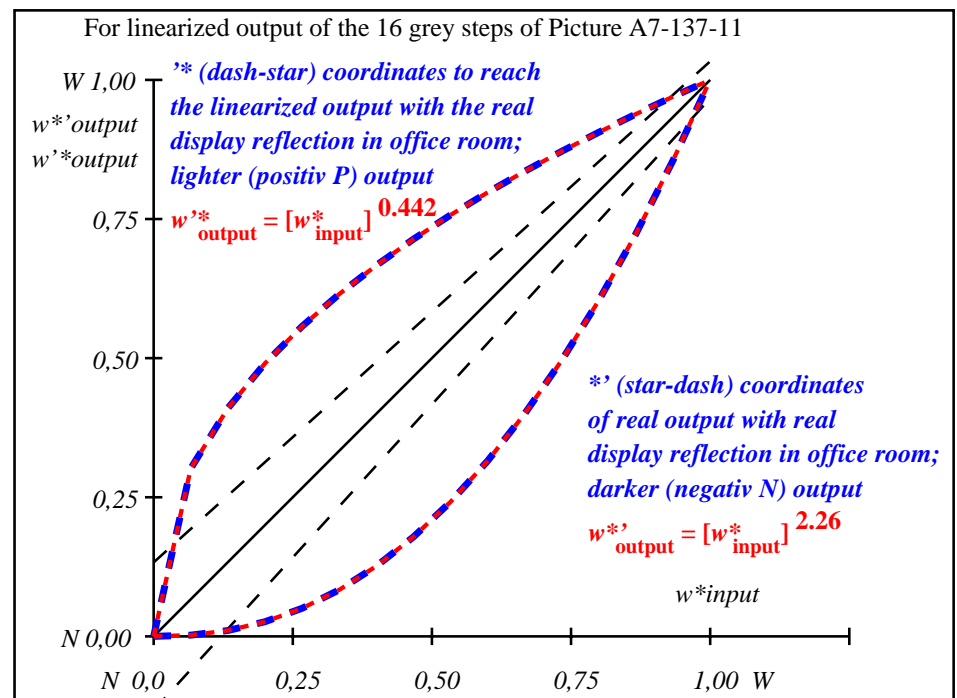
underline Yes/No

OE541-7N-137-10

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	69.7 0.0 0.0	69.7 0.0 0.0	0.0 0.0 0.0	0.01	Specification according to
2	71.41 0.0 0.0	69.78 0.0 0.0	-1.62 0.0 0.0	1.63		ISO/IEC 15775 Annex G
3	73.13 0.0 0.0	70.07 0.0 0.0	-3.05 0.0 0.0	3.06		and DIN 33866-1 Annex G
4	74.84 0.0 0.0	70.57 0.0 0.0	-4.26 0.0 0.0	4.27		
5	76.55 0.0 0.0	71.29 0.0 0.0	-5.26 0.0 0.0	5.27		
6	78.27 0.0 0.0	72.24 0.0 0.0	-6.02 0.0 0.0	6.03		
7	79.98 0.0 0.0	73.43 0.0 0.0	-6.54 0.0 0.0	6.55		
8	81.7 0.0 0.0	74.86 0.0 0.0	-6.82 0.0 0.0	6.83		
9	83.41 0.0 0.0	76.54 0.0 0.0	-6.86 0.0 0.0	6.87		
10	85.12 0.0 0.0	78.47 0.0 0.0	-6.65 0.0 0.0	6.66		
11	86.84 0.0 0.0	80.65 0.0 0.0	-6.18 0.0 0.0	6.19		
12	88.55 0.0 0.0	83.08 0.0 0.0	-5.46 0.0 0.0	5.47		
13	90.27 0.0 0.0	85.77 0.0 0.0	-4.49 0.0 0.0	4.5		
14	91.98 0.0 0.0	88.72 0.0 0.0	-3.25 0.0 0.0	3.26		
15	93.7 0.0 0.0	91.93 0.0 0.0	-1.75 0.0 0.0	1.76	Mean lightness difference (16 steps)	
16	95.41 0.0 0.0	95.41 0.0 0.0	0.0 0.0 0.0	0.01	ΔE*CIELAB = 4.3	
17	69.7 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	71.09 0.0 0.0	-5.03 0.0 0.0	5.04		
19	82.55 0.0 0.0	75.67 0.0 0.0	-6.87 0.0 0.0	6.88		
20	88.98 0.0 0.0	83.73 0.0 0.0	-5.24 0.0 0.0	5.25	Mean lightness difference (5 steps)	
21	95.41 0.0 0.0	95.41 0.0 0.0	0.0 0.0 0.0	0.01	ΔL*CIELAB = 3.4	
Mean colour reproduction index:					R* _{ab,m} = 81	

OE540-3N-137-11: File: Measure unknown; Device: Device unknown; Date: Date unknown



OE541-3N-137-11: 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 $g_N=2.11$ 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	0.003	0.014	0.034	0.062	0.099	0.145	0.201	0.266	0.341	0.426	0.52	0.625	0.74	0.864	1.0

OE540-7N, Picture A7-137-11: 16 visual equidistant L^* -grey steps; PS operator: $w^* w^* w^*$ setrgbcolor

OE54: 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: all ($\rightarrow rgb_d$) setrgbcolor
output 130-11: $g_P=1.0$; $g_N=2.1$