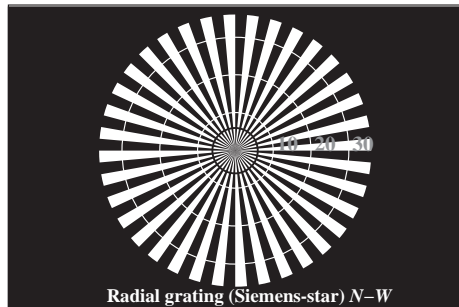
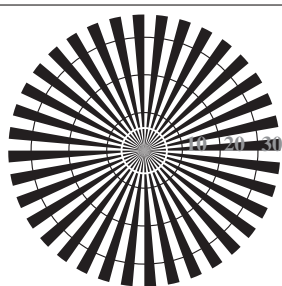


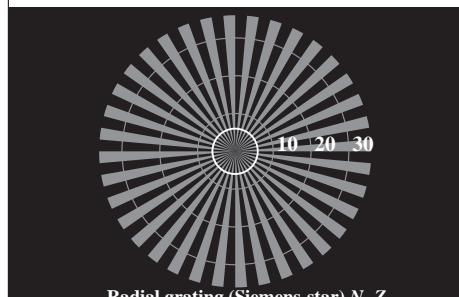
See similar ISO test charts: <http://www.ps.bam.de/24705TE>, <http://www.ps.bam.de/9241E>
Technical information: <http://www.ps.bam.de/33872E> Version 2.1, io=1,1



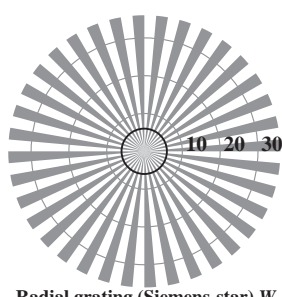
Radial grating (Siemens-star) N-W



Radial grating (Siemens-star) W-N

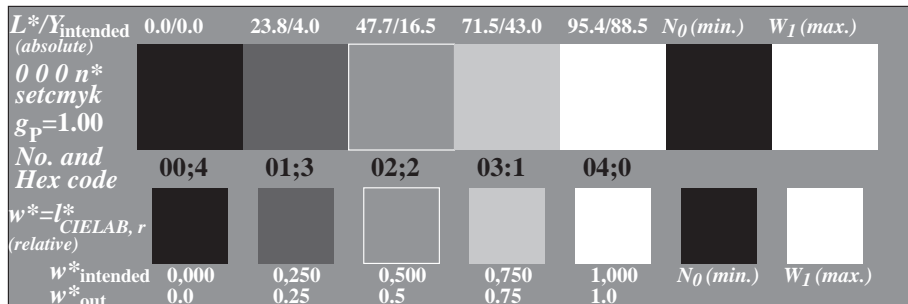


Radial grating (Siemens-star) N-Z

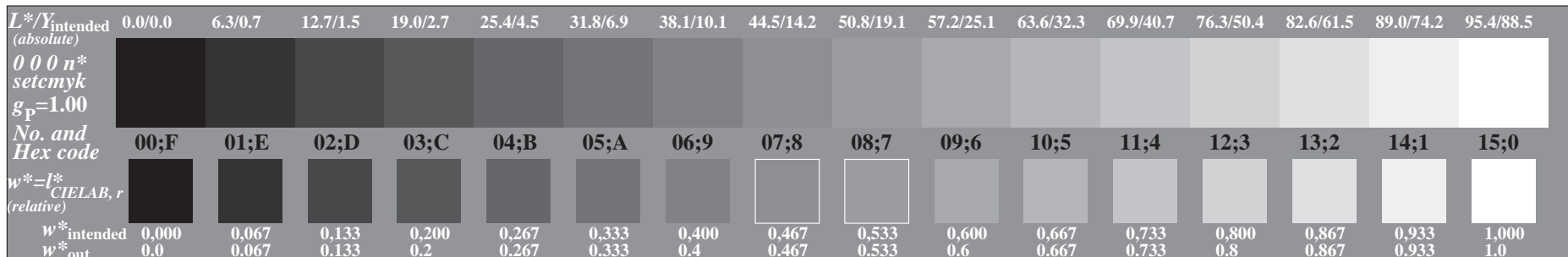


Radial grating (Siemens-star) W-Z

OE640-3N, Picture A1-000-0: Radial grating N-W, W-N, N-Z, W-Z; PS operator: 0 0 0 n* setcmykcolor

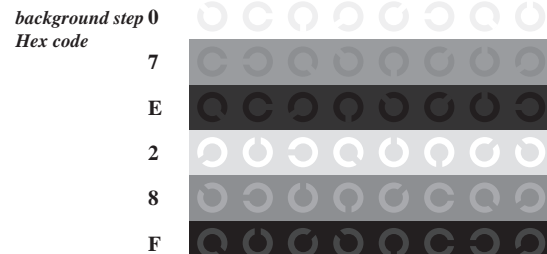


OE640-5N, Picture A2-000-0: 5 equidistant L^* -grey steps+ N_0 + W_1 ; PS operator: 0 0 0 n* setcmykcolor

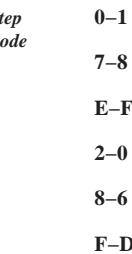


OE640-7N, Picture A3-000-0: 16 visual equidistant L^* -grey steps; PS operator: 0 0 0 n* setcmykcolor

OE64: similar ME16 according to ISO 9241-306; DH
Viewing Y contrast $Y_W:Y_N=88,9:0,31$; Y_N range 0,0 to <0,46

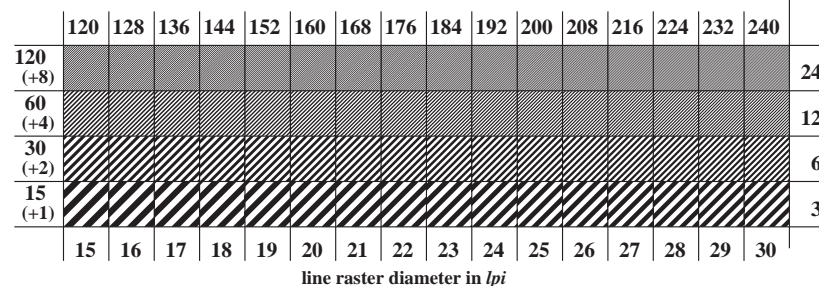


Landolt-rings W-N

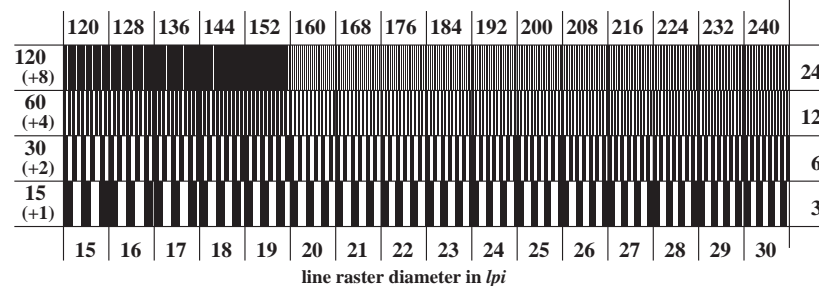


code: background-ring

OE641-1N, Picture A4-000-0: Landolt-rings W-N; PS operator: 0 0 0 n* setcmykcolor

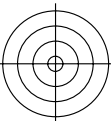


OE641-3N, Picture A5-000-0: Line raster under 45° (or 135°); PS operator: 0 0 0 n* setcmykcolor

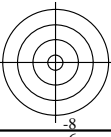


OE641-5N, Picture A6-000-0: Line raster under 90° (or 0°); PS operator: 0 0 0 n* setcmykcolor

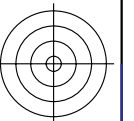
input: all (->rgb_d) setrgbcolor
output 030-0: no change



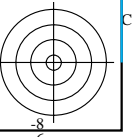
See similar ISO test charts: <http://www.ps.bam.de/24705TE>, <http://www.ps.bam.de/9241E>
 Technical information: <http://www.ps.bam.de/33872E> Version 2.1, io=1,1



<http://130.149.60.45/~farbmetrik/OE64/OE64L0NA.TXT> /PS; start output, Page 2/12
 N: No Output Linearization (OL) data in File (F), Startup (S) or Device (D)



TUB registration: 20110801-OE64/OE64L0NA.TXT /PS
 application for output of displays: monitor systems or data projector systems



Test for the best visual linearized output of Picture A7-000-0 Yes/No
Output test with the computer display () or the external display ()

Test of the radial grating according to picture A1-000-0

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 A2-000-0

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 A3-000-0

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 OE640-3N-000-1

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

PDF-File: <http://130.149.60.45/farbmetrik/OE64/OE64L0NP.PDF> underline Yes/No

PS-File: <http://130.149.60.45/farbmetrik/OE64/OE64L0NA.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 OE64L0NP.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 OE64L0NA.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 OE640-7N-000-1



OE64: Form A for test chart according to ISO 9241-306; DH
 Viewing Y contrast $Y_W:Y_N=88,9:0,31$; Y_N range 0,0 to <0,46

Test for the best visual linearized output of Picture A7-000-0 Yes/No
Output test with the computer display () or the external display ()

Test of the Landolt-rings N-W according to picture A4-000-0

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 A5-000-0

Can equally spaced lines be seen? Yes/No
 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 A6-000-0

Can equally spaced lines be seen? Yes/No
 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 OE641-3N-000-1

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/OE64/OE64F1P2.PDF> underline Yes/No

PS file: <http://130.149.60.45/farbmetrik/OE64/OE64F1P2.PS> underline Yes/No

Picture A7-000-2: 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/OE64/OE64F1P2.PDF> underline Yes/No

PS-File: <http://130.149.60.45/farbmetrik/OE64/OE64F1P2.PS> or underline Yes/No

picture A7-000-2

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 OE641-7N-000-1

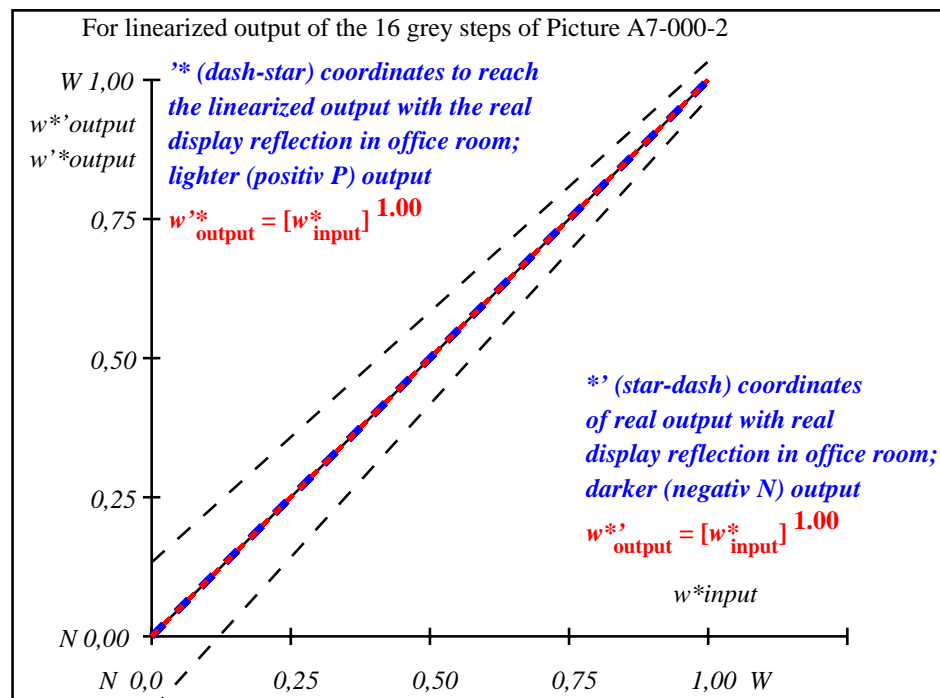


input: all (→rgb*d) setrgbcolor
 output 030-1: no change

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

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

OE640-3N-000-2: File: Measure unknown; Device: Device unknown; Date: Date unknown



OE641-3N-000-2: File: Measure unknown; Device: Device unknown; Date: Date unknown

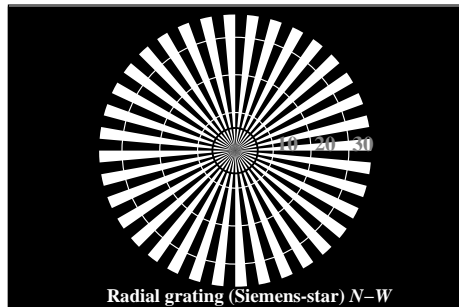
L*/Y _{intended} (absolute)	0.0/0.0	6.4/0.7	12.7/1.5	19.1/2.8	25.4/4.6	31.8/7.0	38.2/10.2	44.5/14.2	50.9/19.2	57.2/25.2	63.6/32.3	70.0/40.7	76.3/50.4	82.7/61.6	89.0/74.3	95.4/88.6
0 0 0 n* setcmk gp=1.00 No. and Hex code	00;F	01;E	02;D	03;C	04;B	05;A	06;9	07;8	08;7	09;6	10;5	11;4	12;3	13;2	14;1	15;0
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	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

OE640-7N, Picture A7-000-2: 16 visual equidistant L*-grey steps; PS operator: 0 0 0 n* setcmkcolor

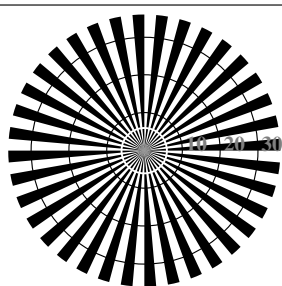
OE64: In-output relation according to ISO 9241-306; DH
Viewing Y contrast $Y_W:Y_N=88,9:0,31$; Y_N range 0,0 to <0,46

input: all ($\rightarrow rgb_d$) setrgbcolor
output 030-2: no change

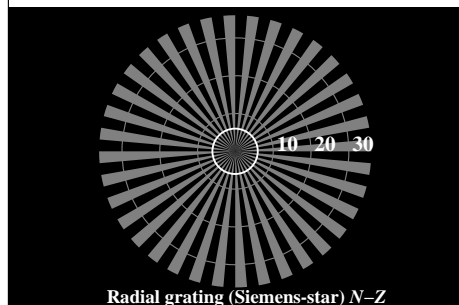
See similar ISO test charts: <http://www.ps.bam.de/24705TE>, <http://www.ps.bam.de/9241E>
Technical information: <http://www.ps.bam.de/33872E> Version 2.1, io=1,1



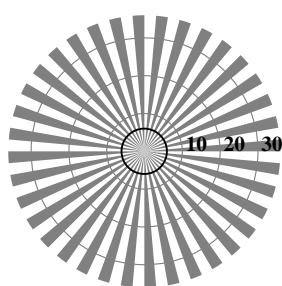
Radial grating (Siemens-star) N-W



Radial grating (Siemens-star) W-N

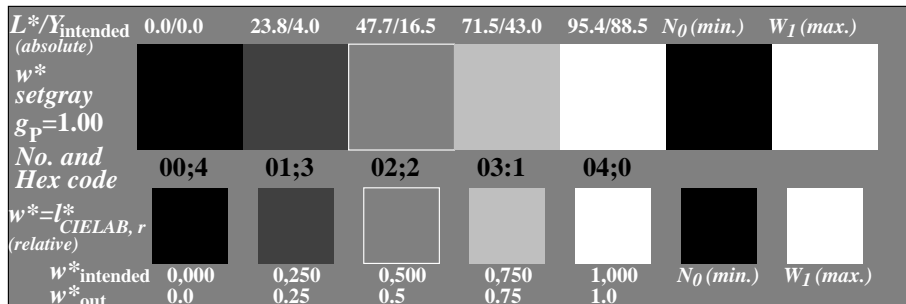


Radial grating (Siemens-star) N-Z

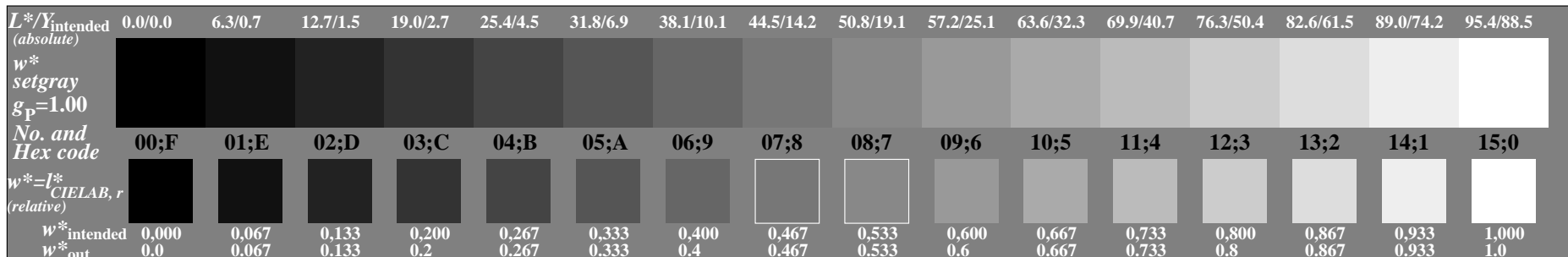


Radial grating (Siemens-star) W-Z

OE640-3N, Picture A1-010-3: Radial grating N-W, W-N, N-Z, W-Z; PS operator: *w* setgray*

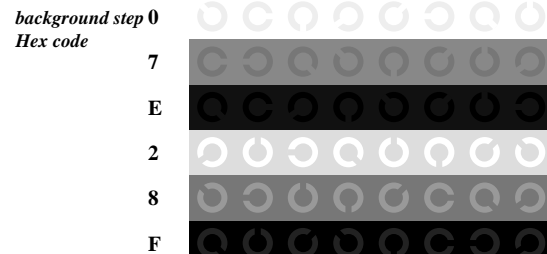


OE640-5N, Picture A2-010-3: 5 equidistant L^* -grey steps+ N_0 + W_1 ; PS operator: *w* setgray*

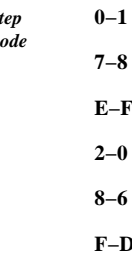


OE640-7N, Picture A3-010-3: 16 visual equidistant L^* -grey steps; PS operator: *w* setgray*

OE64: similar ME16 according to ISO 9241-306; DH
Viewing Y contrast $Y_W:Y_N=88.9:0.31$; Y_N range 0,0 to <0,46

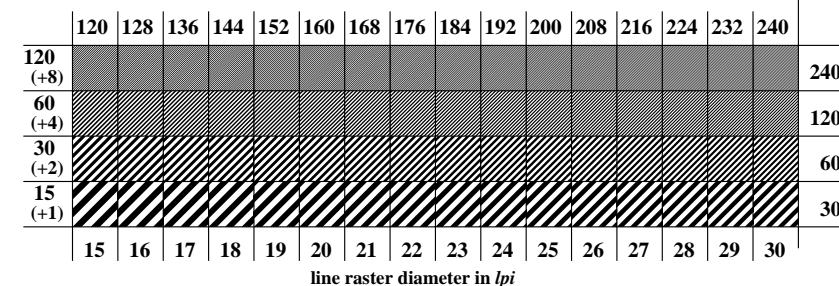


Landolt-rings W-N

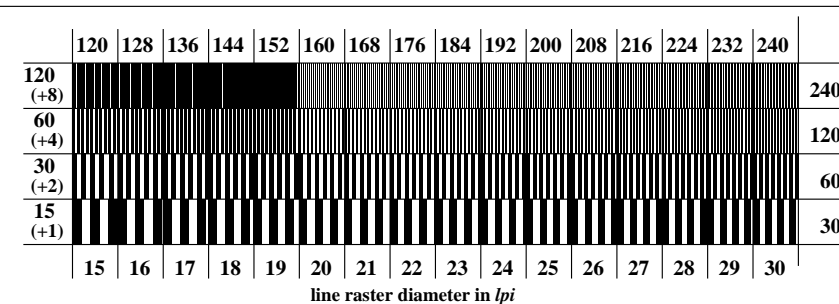


code: background-ring

OE641-1N, Picture A4-010-3: Landolt-rings W-N; PS operator: *w* setgray*

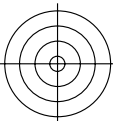


OE641-3N, Picture A5-010-3: Line raster under 45° (or 135°); PS operator: *w* setgray*

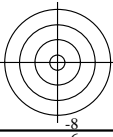


OE641-5N, Picture A6-010-3: Line raster under 90° (or 0°); PS operator: *w* setgray*

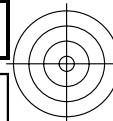
input: *all (->rgb*_d) setrgbcOLOR*
output 030-3: no change



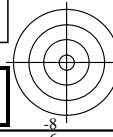
See similar ISO test charts: <http://www.ps.bam.de/24705TE>, <http://www.ps.bam.de/9241E>
 Technical information: <http://www.ps.bam.de/33872E> Version 2.1, io=1,1



<http://130.149.60.45/~farbmetrik/OE64/OE64L0NA.TXT> / .PS; start output, Page 5/12
 N: No Output Linearization (OL) data in File (F), Startup (S) or Device (D)



TUB registration: 20110801-OE64/OE64L0NA.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 A7-010-0 Yes/No
Output test with the computer display () or the external display ()

Test of the radial grating according to picture A1-010-0

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 A2-010-0

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 A3-010-0

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 OE640-3N-010-4

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

PDF-File: <http://130.149.60.45/farbmetrik/OE64/OE64L0NP.PDF> underline Yes/No

PS-File: <http://130.149.60.45/farbmetrik/OE64/OE64L0NA.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 OE64L0NP.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 OE64L0NA.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 OE640-7N-010-4

Test for the best visual linearized output of Picture A7-010-0 Yes/No
Output test with the computer display () or the external display ()

Test of the Landolt-rings N-W according to picture A4-010-0

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 A5-010-0

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 A6-010-0

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 OE641-3N-010-4

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/OE64/OE64F1P2.PDF> underline Yes/No

PS file: <http://130.149.60.45/farbmetrik/OE64/OE64F1P2.PS> underline Yes/No

Picture A7-010-2: 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/OE64/OE64F1P2.PDF> underline Yes/No

PS-File: <http://130.149.60.45/farbmetrik/OE64/OE64F1P2.PS> or underline Yes/No

picture A7-010-2

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 OE641-7N-010-4

OE64: Form A for test chart according to ISO 9241-306; DH
 Viewing Y contrast $Y_W:Y_N=88,9:0,31$; Y_N range 0,0 to <0,46

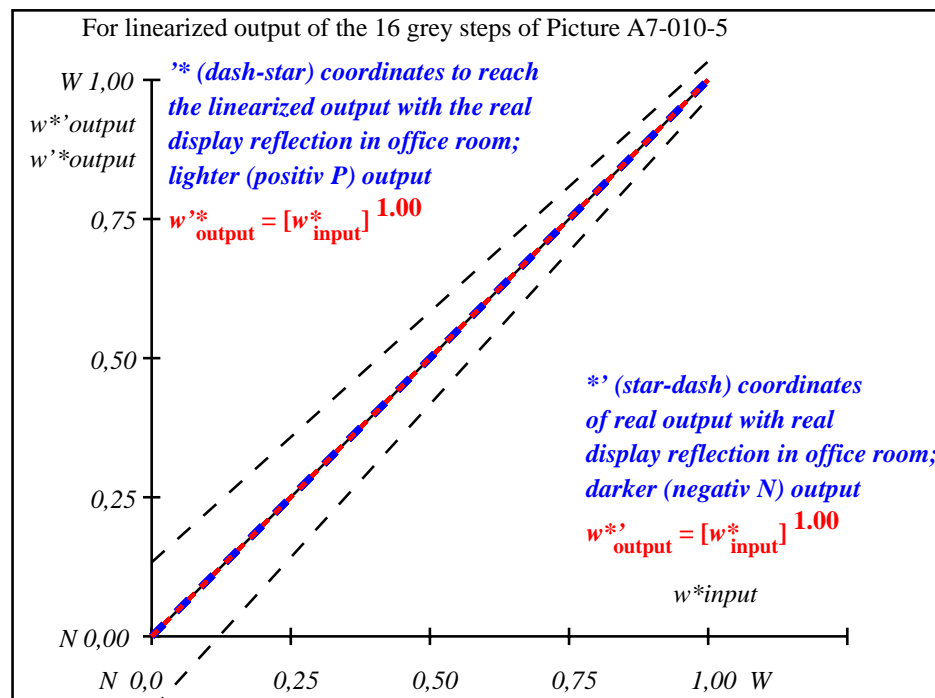
input: all (→rgb*d) setrgbcolor
 output 030-4: no change



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

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

OE640-3N-010-5: File: Measure unknown; Device: Device unknown; Date: Date unknown



OE641-3N-010-5: File: Measure unknown; Device: Device unknown; Date: Date unknown

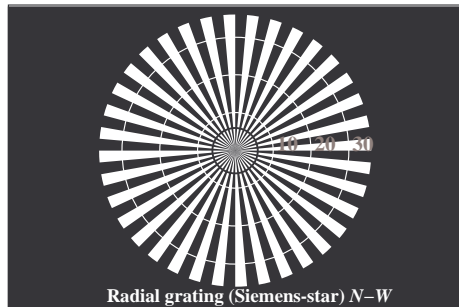
$L^*/Y^*_{\text{intended}}$ (absolute)	0.0/0.0	6.4/0.7	12.7/1.5	19.1/2.8	25.4/4.6	31.8/7.0	38.2/10.2	44.5/14.2	50.9/19.2	57.2/25.2	63.6/32.3	70.0/40.7	76.3/50.4	82.7/61.6	89.0/74.3	95.4/88.6
w^*_{setgray} $g_p=1.00$ No. and Hex code	00;F	01;E	02;D	03;C	04;B	05;A	06;9	07;8	08;7	09;6	10;5	11;4	12;3	13;2	14;1	15;0
w^*_{intended} w^*_{out}	0.000 0.0	0.067 0.067	0.133 0.133	0.200 0.2	0.267 0.267	0.333 0.333	0.400 0.4	0.467 0.467	0.533 0.533	0.600 0.6	0.667 0.667	0.733 0.733	0.800 0.8	0.867 0.867	0.933 0.933	1.000 1.0

OE640-7N, Picture A7-010-5: 16 visual equidistant L^* -grey steps; PS operator: w^*_{setgray}

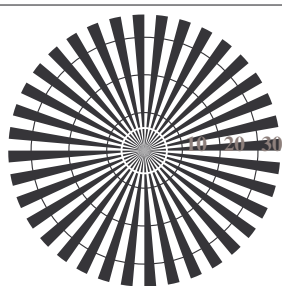
OE64: In-output relation according to ISO 9241-306; DH
Viewing Y contrast $Y_W:Y_N=88,9:0,31$; Y_N range 0,0 to <0,46

input: all ($\rightarrow \text{rgb}_d$) setrgbcOLOR
output 030-5: no change

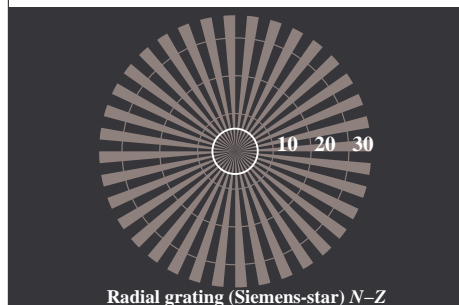
See similar ISO test charts: <http://www.ps.bam.de/24705TE>, <http://www.ps.bam.de/9241E>
Technical information: <http://www.ps.bam.de/33872E> Version 2.1, io=1,1



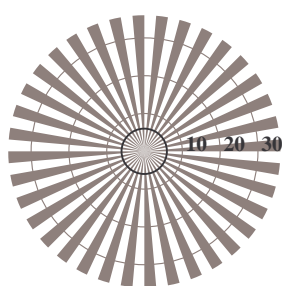
Radial grating (Siemens-star) N-W



Radial grating (Siemens-star) W-N



Radial grating (Siemens-star) N-Z



Radial grating (Siemens-star) W-Z

OE640-3N, Picture A1-020-6: Radial grating N-W, W-N, N-Z, W-Z; PS operator: $n^*n^*n^*0$ setcmykcolor

$L^*/Y_{intended}$ (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_1 (max.)
$n^*n^*n^*0$ setcmyk $g_p=1.00$ No. and Hex code	00;4	01;3	02;2	03;1	04;0		
$w^*=l^*$ CIELAB, r (relative)							
$w^*_{intended}$	0,000	0,250	0,500	0,750	1,000	N_0 (min.)	W_1 (max.)
w^*_{out}	0.0	0.25	0.5	0.75	1.0		

OE640-5N, Picture A2-020-6: 5 equidistant L^* -grey steps+ N_0 + W_1 ; PS operator: $n^*n^*n^*0$ setcmykcolor

$L^*/Y_{intended}$ (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
$n^*n^*n^*0$ setcmyk $g_p=1.00$ 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

OE640-7N, Picture A3-020-6: 16 visual equidistant L^* -grey steps; PS operator: $n^*n^*n^*0$ setcmykcolor

OE64: similar ME16 according to ISO 9241-306; DH
Viewing Y contrast $Y_W:Y_N=88,9:0,31$; Y_N range 0,0 to <0,46

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

OE641-1N, Picture A4-020-6: Landolt-rings W-N; PS operator: $n^*n^*n^*0$ 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	

line raster diameter in lpi

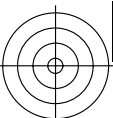
OE641-3N, Picture A5-020-6: Line raster under 45° (or 135°); PS operator: $n^*n^*n^*0$ setcmykcolor

	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	

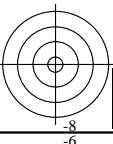
line raster diameter in lpi

OE641-5N, Picture A6-020-6: Line raster under 90° (or 0°); PS operator: $n^*n^*n^*0$ setcmykcolor

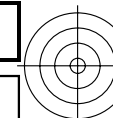
input: all ($\rightarrow rgb_d$) setrgbcolor
output 030-6: no change



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

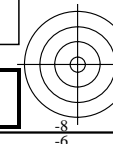


<http://130.149.60.45/~farbmetrik/OE64/OE64L0NA.TXT> /PS; start output, Page 8/12
 N: No Output Linearization (OL) data in File (F), Startup (S) or Device (D)



TUB registration: 20110801-OE64/OE64L0NA.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 A7-020-0 Yes/No
Output test with the computer display () or the external display ()

Test of the radial grating according to picture A1-020-0

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 A2-020-0

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 A3-020-0

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 OE640-3N-020-7

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

PDF-File: <http://130.149.60.45/farbmetrik/OE64/OE64L0NP.PDF> underline Yes/No

PS-File: <http://130.149.60.45/farbmetrik/OE64/OE64L0NA.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 OE64L0NP.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 OE64L0NA.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 OE640-7N-020-7



OE64: Form A for test chart according to ISO 9241-306; DH
 Viewing Y contrast $Y_W:Y_N=88,9:0,31$; Y_N range 0,0 to <0,46

Test for the best visual linearized output of Picture A7-020-0 Yes/No
Output test with the computer display () or the external display ()

Test of the Landolt-rings N-W according to picture A4-020-0

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 A5-020-0

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 A6-020-0

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 OE641-3N-020-7

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/OE64/OE64F1P2.PDF> underline Yes/No

PS file: <http://130.149.60.45/farbmetrik/OE64/OE64F1P2.PS> underline Yes/No

Picture A7-020-2: 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/OE64/OE64F1P2.PDF> underline Yes/No

PS-File: <http://130.149.60.45/farbmetrik/OE64/OE64F1P2.PS> or underline Yes/No

picture A7-020-2

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 OE641-7N-020-7

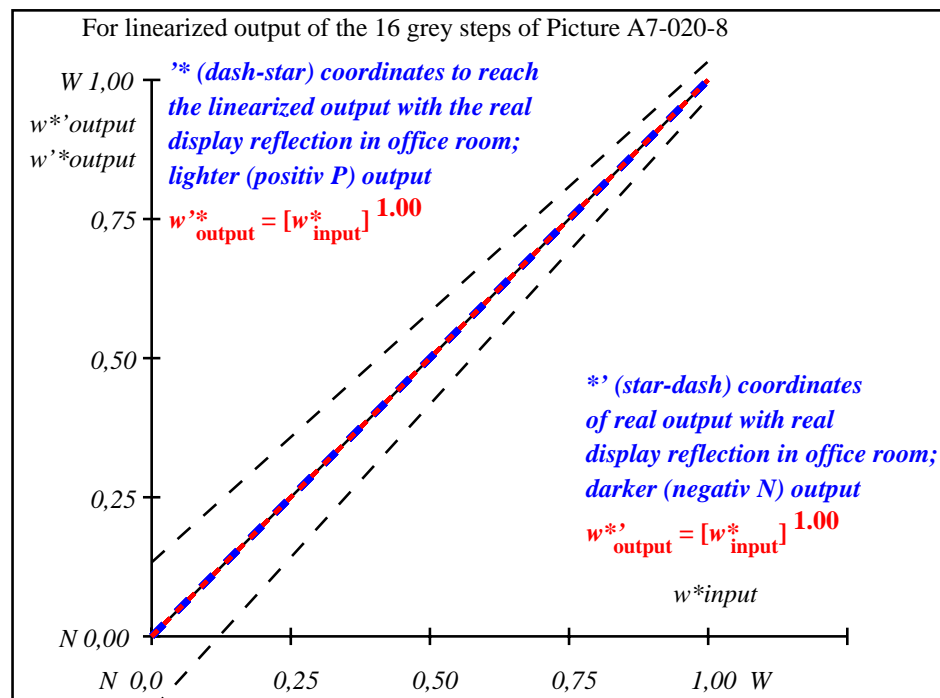


input: all (→rgb*d) setrgbcolor
 output 030-7: no change

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

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

OE640-3N-020-8: File: Measure unknown; Device: Device unknown; Date: Date unknown



OE641-3N-020-8: File: Measure unknown; Device: Device unknown; Date: Date unknown

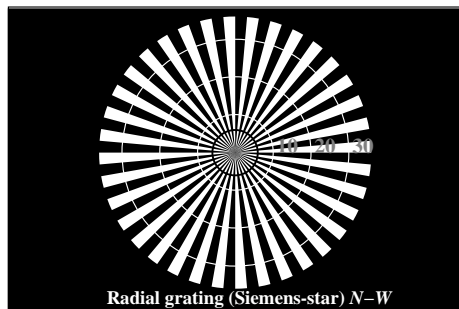
$L^*/Y^*_{intended}$ (absolute)	0.0/0.0	6.4/0.7	12.7/1.5	19.1/2.8	25.4/4.6	31.8/7.0	38.2/10.2	44.5/14.2	50.9/19.2	57.2/25.2	63.6/32.3	70.0/40.7	76.3/50.4	82.7/61.6	89.0/74.3	95.4/88.6
$n^* n^* n^* 0$ setcmk g _p =1.00																
No. and Hex code	00;F	01;E	02;D	03;C	04;B	05;A	06;9	07;8	08;7	09;6	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

OE640-7N, Picture A7-020-8: 16 visual equidistant L^* -grey steps; PS operator: $n^* n^* n^* 0$ setcmkcolor

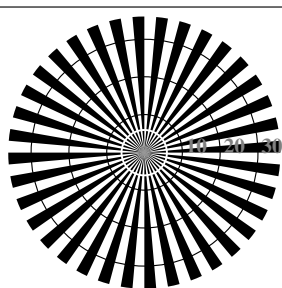
OE64: In-output relation according to ISO 9241-306; DH
Viewing Y contrast $Y_W:Y_N=88,9:0,31$; Y_N range 0,0 to <0,46

input: all ($\rightarrow rgb_d$) setrgbcolor
output 030-8: no change

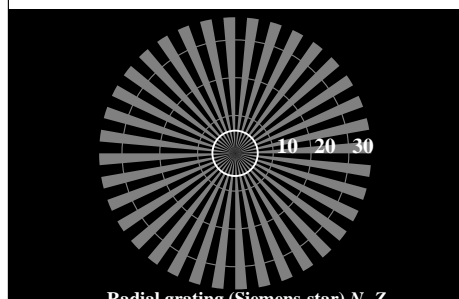
See similar ISO test charts: <http://www.ps.bam.de/24705TE>, <http://www.ps.bam.de/9241E>
Technical information: <http://www.ps.bam.de/33872E> Version 2.1, io=1,1



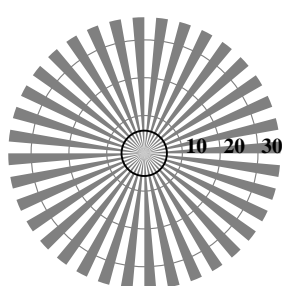
Radial grating (Siemens-star) N-W



Radial grating (Siemens-star) W-N

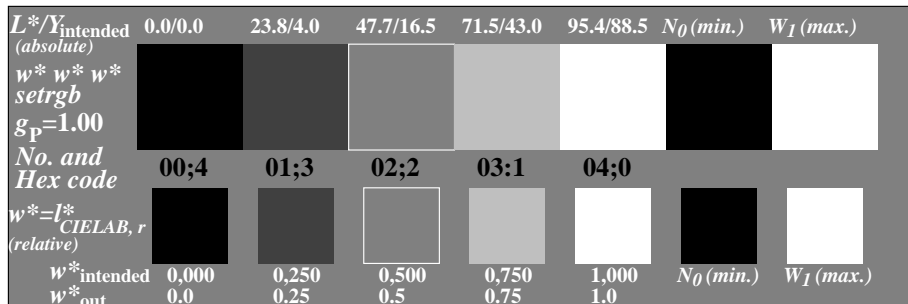


Radial grating (Siemens-star) N-Z

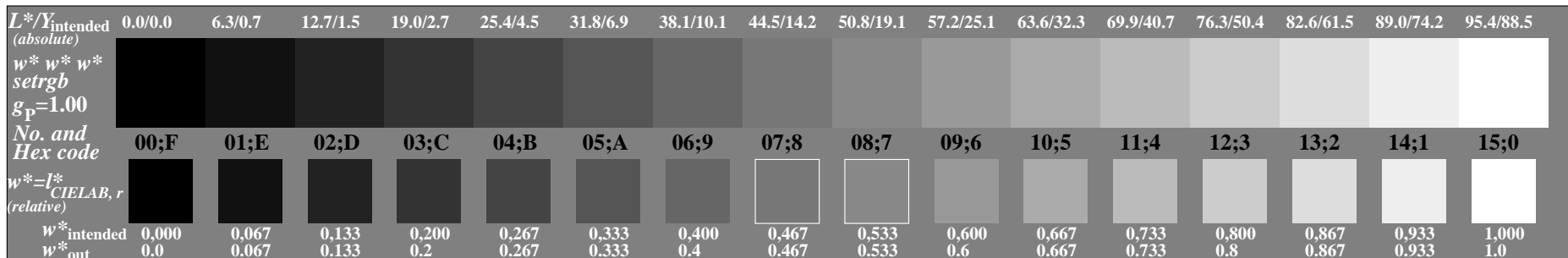


Radial grating (Siemens-star) W-Z

OE640-3N, Picture A1-030-9: Radial grating N-W, W-N, N-Z, W-Z; PS operator: $w^* w^* w^* \text{setrgbcolor}$

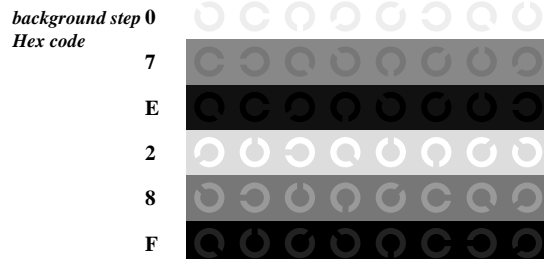


OE640-5N, Picture A2-030-9: 5 equidistant L^* -grey steps+ N_0 + W_1 ; PS operator: $w^* w^* w^* \text{setrgbcolor}$

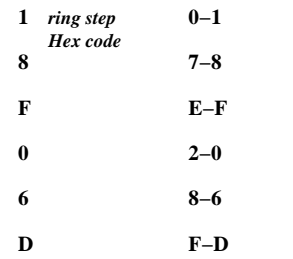


OE640-7N, Picture A3-030-9: 16 visual equidistant L^* -grey steps; PS operator: $w^* w^* w^* \text{setrgbcolor}$

OE64: similar ME16 according to ISO 9241-306; DH
Viewing Y contrast $Y_W:Y_N=88.9:0.31$; Y_N range 0,0 to <0,46

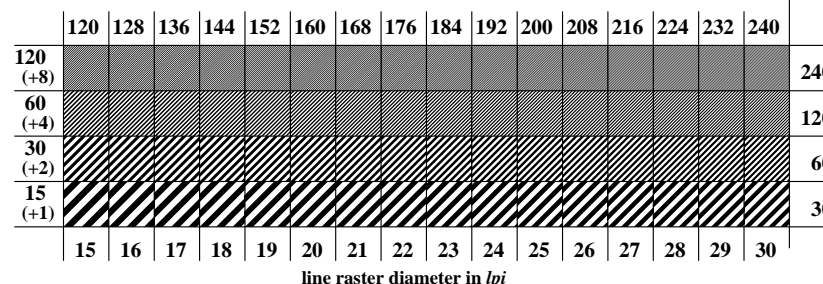


Landolt-rings W-N

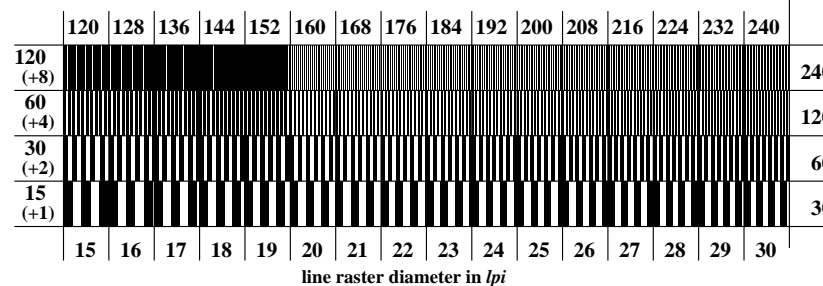


code: background-ring

OE641-1N, Picture A4-030-9: Landolt-rings W-N; PS operator: $w^* w^* w^* \text{setrgbcolor}$

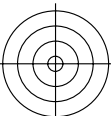


OE641-3N, Picture A5-030-9: Line raster under 45° (or 135°); PS operator: $w^* w^* w^* \text{setrgbcolor}$

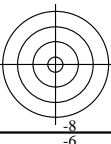


OE641-5N, Picture A6-030-9: Line raster under 90° (or 0°); PS operator: $w^* w^* w^* \text{setrgbcolor}$

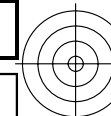
input: all ($\rightarrow \text{rgb}_d$) setrgbcolor
output 030-9: no change



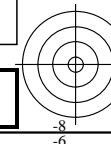
See similar ISO test charts: <http://www.ps.bam.de/24705TE>, <http://www.ps.bam.de/9241E>
 Technical information: <http://www.ps.bam.de/33872E> Version 2.1, io=1,1



<http://130.149.60.45/~farbmetrik/OE64/OE64L0NA.TXT> /PS; start output, Page 11/12
 N: No Output Linearization (OL) data in File (F), Startup (S) or Device (D)



TUB registration: 20110801-OE64/OE64L0NA.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 A7-030-0 Yes/No
Output test with the computer display () or the external display ()

Test of the radial grating according to picture A1-030-0

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 A2-030-0

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 A3-030-0

Are the 16 steps on the upper rows distinguishable? Yes/No
 If No: How many steps can be distinguished? of the given 16 steps: Steps

Part 1 OE640-3N-030-10

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

PDF-File: <http://130.149.60.45/farbmetrik/OE64/OE64L0NP.PDF> underline Yes/No

PS-File: <http://130.149.60.45/farbmetrik/OE64/OE64L0NA.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 OE64L0NP.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 OE64L0NA.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 OE640-7N-030-10



OE64: Form A for test chart according to ISO 9241-306; DH
 Viewing Y contrast $Y_W:Y_N=88,9:0,31$; Y_N range 0,0 to <0,46

Test for the best visual linearized output of Picture A7-030-0 Yes/No
Output test with the computer display () or the external display ()

Test of the Landolt-rings N-W according to picture A4-030-0

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 A5-030-0

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 A6-030-0

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 OE641-3N-030-10

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/OE64/OE64F1P2.PDF> underline Yes/No

PS file: <http://130.149.60.45/farbmetrik/OE64/OE64F1P2.PS> underline Yes/No

Picture A7-030-2: contrast range: (>F:0) (F:0) (E:0) (D:0) (C:0) (A:0) (9:0) (7:0) (5:0) (3:0) (<3:0)
 compare standard print output according to ISO/IEC 15775 with range F:0 underline range

*Remark: In daylighted offices the contrast range is in many cases:
 on display between: >F:0 and E:0 (monitor), D:0 and 3:0 (data projector)*

Only for optional colorimetric specification with PDF/PS file output

PDF-File: <http://130.149.60.45/farbmetrik/OE64/OE64F1P2.PDF> underline Yes/No

PS-File: <http://130.149.60.45/farbmetrik/OE64/OE64F1P2.PS> or underline Yes/No

picture A7-030-2
picture A7-030-2

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 OE641-7N-030-10

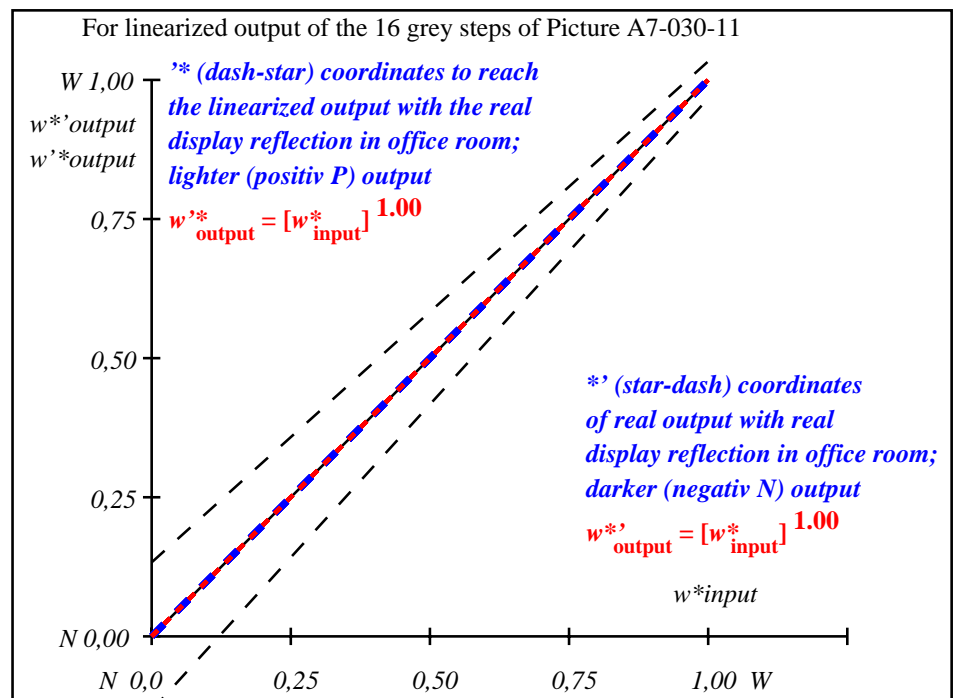


input: all (→rgb*d) setrgbcolor
 output 030-10: no change

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

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

OE640-3N-030-11: File: Measure unknown; Device: Device unknown; Date: Date unknown



OE641-3N-030-11: File: Measure unknown; Device: Device unknown; Date: Date unknown

$L^*/Y^*_{\text{intended}}$ (absolute)	0.0/0.0	6.4/0.7	12.7/1.5	19.1/2.8	25.4/4.6	31.8/7.0	38.2/10.2	44.5/14.2	50.9/19.2	57.2/25.2	63.6/32.3	70.0/40.7	76.3/50.4	82.7/61.6	89.0/74.3	95.4/88.6
$w^* w^* w^*$ setrgb gp=1.00																
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

OE640-7N, Picture A7-030-11: 16 visual equidistant L^* -grey steps; PS operator: $w^* w^* w^*$ setrgbcolor

OE64: In-output relation according to ISO 9241-306; 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 030-11: no change

TUB registration: 20110801-OE64/OE64L0NA.TXT / .PS
application for output of displays: monitor systems or data projector systems
TUB material: code=rh4ta