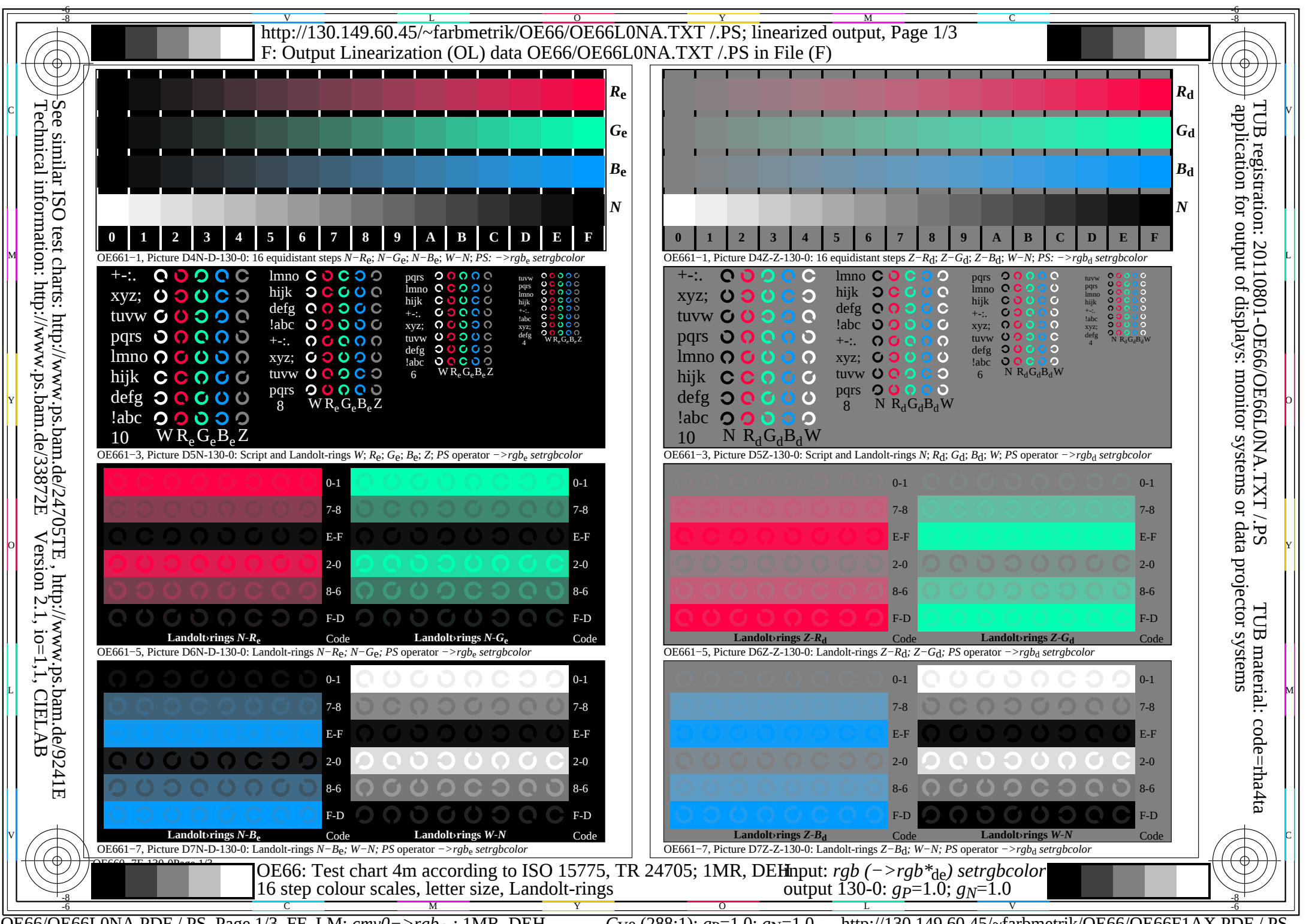




Test of 16 visually equally spaced steps of the colour rows $N-R_d$, $N-G_d$, $N-B_d$, and $W-N$ according to picture D4N-130-0

$N-R_d$ Black – Orangered: Are all the 16 steps distinguishable? **Yes/No**
 If No: How many steps can be distinguished? of the given 16 steps

$N-G_d$ Black – Leafgreen: Are all the 16 steps distinguishable? **Yes/No**
 If No: How many steps can be distinguished? of the given 16 steps

$N-B_d$ Black – Violetblue: Are all the 16 steps distinguishable? **Yes/No**
 If No: How many steps can be distinguished? of the given 16 steps

$W-N$ White – Black: Are all the 16 steps distinguishable? **Yes/No**
 If No: How many steps can be distinguished? of the given 16 steps

Test of characters and Landolt-rings in four sizes according to picture D5N-130-0
 Is the recognition frequency > 50% for letters (17 from 32 at least) and for Landolt-rings (minimum 5 of 8)?

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

Test of recognition frequency of Landolt-rings $N-R_d$, $N-G_d$, $N-B_d$, and $W-N$ according to pictures D6N-130-0, and D7N-130-0
 Is the recognition frequency of the Landolt-rings > 50% (min. 5 of 8 at least)?

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

Part 1 OE660-3N-130-1

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

PDF-File: <http://130.149.60.45/farbmetrik/OE66/OE66L0NP.PDF> **underline Yes/No**

PS-File: <http://130.149.60.45/farbmetrik/OE66/OE66L0NA.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 OE66L0NP.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 OE66L0NA.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 OE660-7N-130-1

Test of 16 visually equally spaced steps of the colour rows $Z-R_d$, $Z-G_d$, $Z-B_d$, and $W-N$ according to picture D4Z-130-0

$Z-R_d$ Grey – Orangered: Are all the 16 steps distinguishable? **Yes/No**
 If No: How many steps can be distinguished? of the given 16 steps

$Z-G_d$ Grey – Leafgreen: Are all the 16 steps distinguishable? **Yes/No**
 If No: How many steps can be distinguished? of the given 16 steps

$Z-B_d$ Grey – Violetblue: Are all the 16 steps distinguishable? **Yes/No**
 If No: How many steps can be distinguished? of the given 16 steps

$W-N$ White – Black: Are all the 16 steps distinguishable? **Yes/No**
 If No: How many steps can be distinguished? of the given 16 steps

Test of characters and Landolt-rings in four sizes according to picture D5Z-130-0
 Is the recognition frequency > 50% for letters (17 from 32 at least) and for Landolt-rings (minimum 5 of 8)?

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

Test of recognition frequency of Landolt-rings $Z-R_d$, $Z-G_d$, $Z-B_d$, and $W-N$ according to pictures D6Z-130-0, and D7Z-130-0
 Is the recognition frequency of the Landolt-rings > 50% (min. 5 of 8 at least)?

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

Part 1 OE660-3N-130-1

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/OE66/OE66F1P2.PDF> **underline Yes/No**

PS file: <http://130.149.60.45/farbmetrik/OE66/OE66F1P2.PS> **underline Yes/No**

Picture A7-130-2: contrast range: (>F:0) (F:0) (E:0) (D:0) (C:0) (A:0) (9:0) (7:0) (5:0) (3:0) (<3:0)

compare standard print output according to ISO/IEC 15775 with range F:0 **underline range**

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

Only for optional colorimetric specification with PDF/PS file output

PDF-File: <http://130.149.60.45/farbmetrik/OE66/OE66F1P2.PDF>

picture A7-130-2 **underline Yes/No**

PS-File: <http://130.149.60.45/farbmetrik/OE66/OE66F1P2.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: **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 OE661-7N-130-1

OE66: Form A for test chart 4m according to ISO 15775; 1MR, DEHinput: $rgb (->rgb^*_{de})$ setrgbcolor
 16 step colour scales, letter size, Landolt-rings
 output 130-1: $g_P=1.0$; $g_N=1.0$

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

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

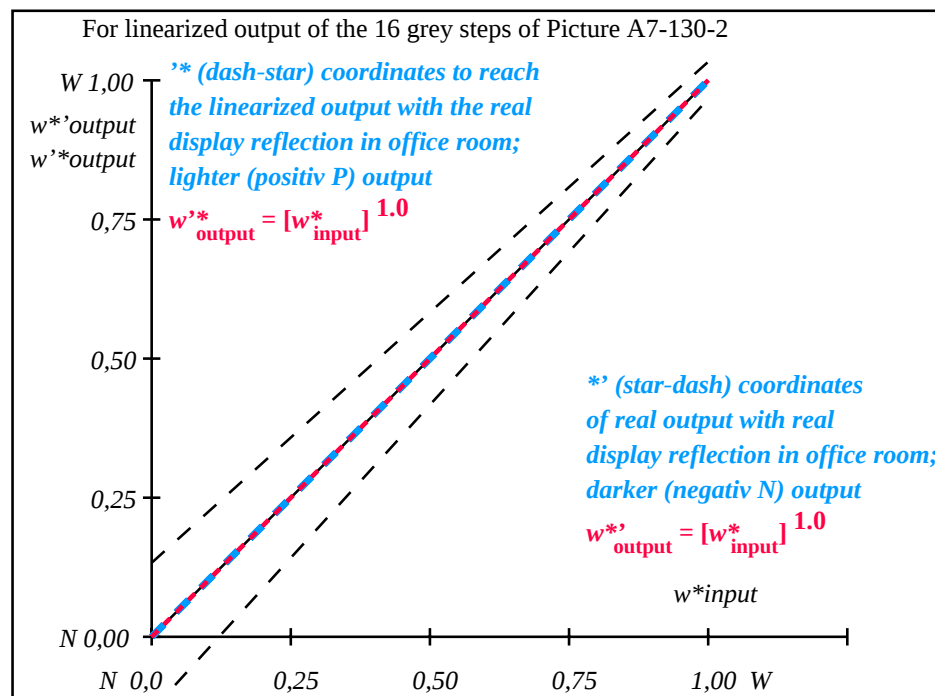
Start output S1
Specification according to
ISO/IEC 15775 Annex G
and DIN 33866-1 Annex G

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

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

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

OE660-3N-130-2: File: Measure unknown; Device: Device unknown; Date: Date unknown



OE661-3N-130-2: 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
$w^* w^* w^*$ setrgb $g_P=1.0$ No. and Hex code	00;F	01;E	02;D	03;C	04;B	05;A	06;9	07;8	08;7	09;6	10;5	11;4	12;3	13;2	14;1	15;0
$w^*=l^*_{\text{CIELAB},r}$ (relative)																
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

OE660-7N, Picture A7-130-2: 16 visual equidistant L^* -grey steps; PS operator: $w^* w^* w^*$ setrgbcolor

OE66: In-output relation according to ISO 9241-306; 1MR, DEH
Viewing Y contrast $Y_W:Y_N=88,9:0,31$; Y_N range 0,0 to <0,46

input: $rgb \rightarrow rgb^*_{de}$ setrgbcolor
output 130-2: $g_P=1.0$; $g_N=1.0$

TUB registration: 20110801-OE66/OE66L0NA.TXT /.PS
application for output of displays: monitor systems or data projector systems
TUB material: code=rh4ta