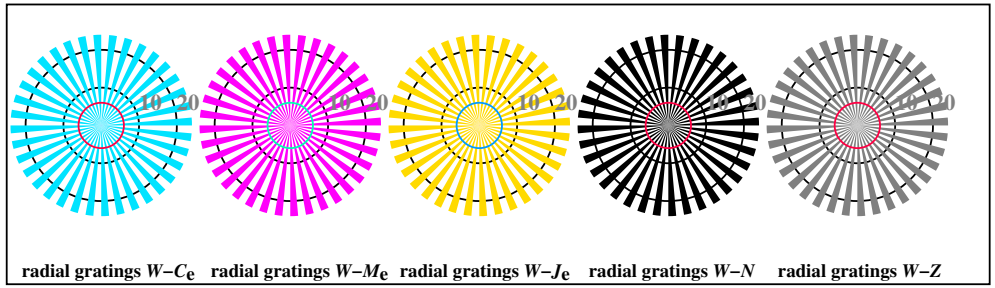
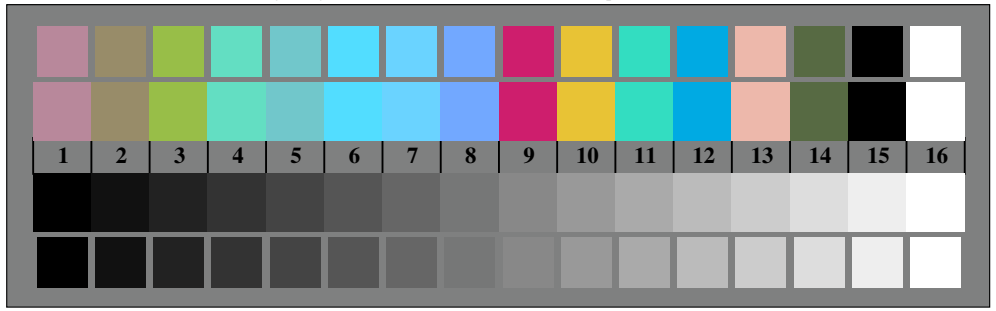
see similar files: http://farbe.li.tu-berlin.de/AE27/AE27.HTM
technical information: http://farbe.li.tu-berlin.de/ or http://farbe.li.tu-berlin.de/AE.HTM

TUB Registration: 20191001-AE27/AE27L0FA.TXT /.PS
application for measurement or viewing of the output on display and print
TUB material: code=rha4ta

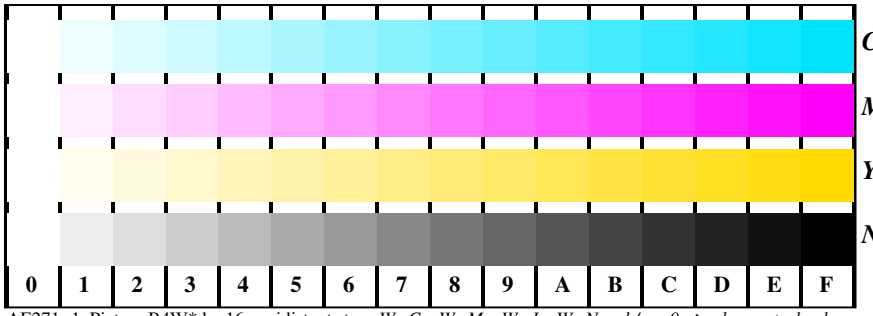
AE270–3, Picture B1W*de: Flower motif, 14 CIE-test colours and 2 + 16 grey steps (nf); *PS* operators *settransfer, 3 colorimage*



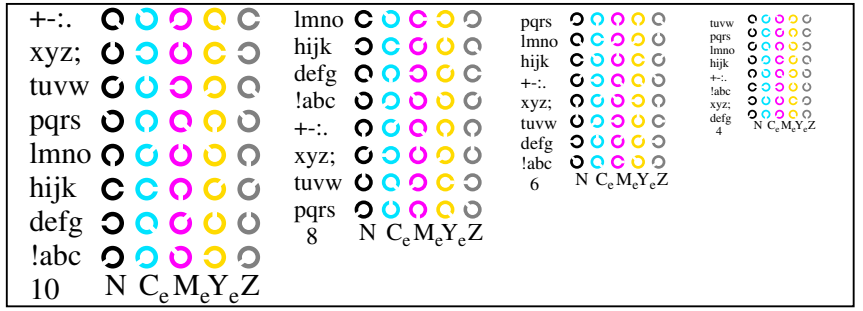

AE270–5, Picture B2W*de: radial gratings *W–Ce; W–Me; W–Je; W–N; PS* operator *rgb–>rgb*de setrgbcolor*



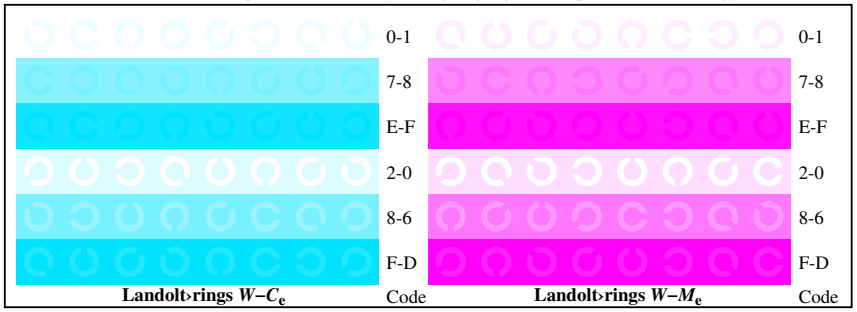

AE270–7, Picture B3W*de: 14 CIE-test colours and 2 + 16 grey steps (sf); *rgb/cmy0–>rgb*de setrgbcolor*



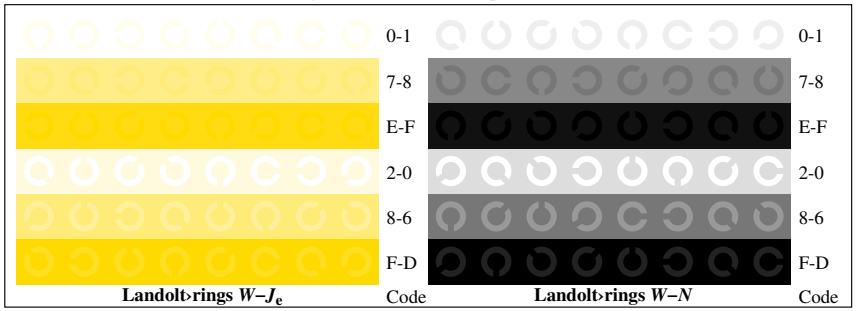

AE271–1, Picture B4W*de: 16 equidistant steps *W–Ce*; *W–Me*; *W–Je*; *W–N*; *rgb/cmy0–>rgb*de setrgbcolor*




AE271–3, Picture B5W*de: Sript and Landolt-rings *N*; *Ce*; *Me*; *Ye*; *Z*; *PS* operator *rgb–>rgb*de setrgbcolor*




AE271–5, Picture B6W*de: Landolt-rings *W–Ce; W–Me; PS* operator *rgb–>rgb*de setrgbcolor*




AE271–7, Picture B7W*de: Landolt-rings *W–Je; W–N; PS* operator *rgb–>rgb*de setrgbcolor*

Test chart AE27 according to test chart 2 of ISO/IEC 15775
chromatic test chart *CMYK*

input: *rgb/cmy0/000n/w set...*
output: *->rgb*de setrgbcolor*

see similar files: http://farbe.li.tu-berlin.de/AE27/AE27.HTM
technical information: http://farbe.li.tu-berlin.de/ or http://farbe.li.tu-berlin.de/AE.HTM

TUB Registration: 20191001-AE27/AE27L0FA.TXT /.PS TUB material: code=rha4ta
application for measurement or viewing of the output on display and print

**Test for the visual linearized output of pictures B1W**de **to B3W**de

**Output test with the computer display ( ) or the external display ( )** please mark by (x)!

**Test of the (flower) image according to picture B1W**de

Are clear (immediately conspicuous) differences recognized between reproduction and test chart? **Yes/No**

Subjective remarks about the colour reproduction of the (flower) image,
the CIE−test colours and the 16 grey steps within the image, for example "less contrast":

.....
.....
.....
.....
.....

**Test of the resolution of radial gratings *W−C*$_d$, *W−M*$_d$, *W−Y*$_d$ according to picture B2W**de

| | ***W−C*$_d$** | ***W−M*$_d$** | ***W−Y*$_d$** | ***W−N*** | ***W−Z*** |
|---|---|---|---|---|---|
| Is the resolution diameter < 6 mm? | Yes/No | Yes/No | Yes/No | Yes/No | Yes/No |
| Test with magnifying glass (6x), Resolution diameter: | ..... mm | ..... mm | ..... mm | ..... mm | ..... mm |

**Test of the 14 CIE−test colours according to picture B3W**de

Are clear (immediately conspicuous) differences recognized between reproduction and test chart? **Yes/No**

If Yes: How many colours have clear differences? of the given 14 steps: **..... Steps**

**Test of 16 visual equidistant *L**−grey steps according to picture B3W**de

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 AE270−3de: 11001

**Test of 16 visually equally spaced steps of the colour rows *W−C*$_d$, *W−M*$_d$, *W−Y*$_d$, and *W−N* according to picture B4W**de

| | | | |
|---|---|---|---|
| ***W−C*$_d$** White − Cyanblue: | Are all the 16 steps distinguishable? | | **Yes/No** |
| | If No: How many steps can be distinguished? | of the given 16 steps | ..... Steps |
| ***W−M*$_d$** White − Magentared: | Are all the 16 steps distinguishable? | | **Yes/No** |
| | If No: How many steps can be distinguished? | of the given 16 steps | ..... Steps |
| ***W−Y*$_d$** White − Yellow: | Are all the 16 steps distinguishable? | | **Yes/No** |
| | If No: How many steps can be distinguished? | of the given 16 steps | ..... Steps |
| ***W−N*** White − Black: | Are all the 16 steps distinguishable? | | **Yes/No** |
| | If No: How many steps can be distinguished? | of the given 16 steps | ..... Steps |

**Test of characters and Landolt−rings in four sizes according to picture B5W**de

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 ***C*$_d$** | Ring ***M*$_d$** | Ring ***Y*$_d$** |
|---|---|---|---|---|---|
| 10 | Yes/No | Yes/No | Yes/No | Yes/No | Yes/No |
| 8 | Yes/No | Yes/No | Yes/No | Yes/No | Yes/No |
| 6 | Yes/No | Yes/No | Yes/No | Yes/No | Yes/No |
| 4 | Yes/No | Yes/No | Yes/No | Yes/No | Yes/No |

**Test of recognition frequency of Landolt−rings *W−C*$_d$, *W−M*$_d$, *W−Y*$_d$, and *W−N* according to pictures B6W**de**, and B7W**de

Is the recognition frequency of the Landolt−rings > 50% (min. 5 of 8 at least)?

| Colour row ***W−C*$_d$** background − ring | | Colour row ***W−M*$_d$** background − ring | | Colour row ***W−Y*$_d$** 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 2 AE271−3Nde: 11001

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

**PDF file:** http://farbe.li.tu-berlin.de/AE27/AE27F0NX_CY8_1.PDF **underline Yes/No**

**PS file:** http://farbe.li.tu-berlin.de/AE27/AE27F0NX_CY8_1.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 AE27F0NX_CY8_1.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 AE27F0NX_CY8_1.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 AE270−7N*de-11001

## 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://farbe.li.tu-berlin.de/AE27/AE27F0PX_CY8_3.PDF **underline Yes/No**
**PS file:** http://farbe.li.tu-berlin.de/AE27/AE27F0PX_CY8_3.PS **underline Yes/No**
**Picture A7**de **contrast range:** (>F:0) (F:0) (E:0) (D:0) (C:0) (A:0) (9:0) (7:0) (5:0) (3:0) (<3:0)
compare standard print output according to ISO/IEC 15775 with range F:0 **underline range**
*Remark: In daylighted offices the contrast range is in many cases:*
*on display between: >F:0 and E:0 (monitor), D:0 and 3:0 (data projector)*

## Only for optional colorimetric specification with PDF/PS file output

**PDF file:** http://farbe.li.tu-berlin.de/AE27/AE27F0PX_CY8_3.PDF
**picture A7**de **underline Yes/No**
**PS file:** http://farbe.li.tu-berlin.de/AE27/AE27F0PX_CY8_3.PS
**picture A7**de **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 for 17 step colours of** http://farbe.li.tu-berlin.de/OE70/OE70L1NP.PDF
Exchange of CIELAB data in file http://farbe.li.tu-berlin.de/AE82/AE82L0NP.TXT and transfer of the PS file AE82L0NP.PS (=.TXT) to the PDF−file AE82L0NP.PDF **underline Yes/No**
If No, please describe other method: .....

part 4 AE271−7de: 11001

see similar files: http://farbe.li.tu-berlin.de/AE27/AE27.HTM
technical information: http://farbe.li.tu-berlin.de/ or http://farbe.li.tu-berlin.de/AE.HTM

TUB Registration: 20191001-AE27/AE27L0FA.TXT /.PS
application for measurement or viewing of the output on display and print
TUB material: code=rha4ta

| i | LAB*ref | | | l*out | LAB*out | | | LAB*out−ref | | | ΔE* |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,01 |
| 2 | 6,36 | 0,00 | 0,00 | 0,06 | 6,36 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,01 |
| 3 | 12,72 | 0,00 | 0,00 | 0,13 | 12,72 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,01 |
| 4 | 19,08 | 0,00 | 0,00 | 0,20 | 19,08 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,01 |
| 5 | 25,44 | 0,00 | 0,00 | 0,26 | 25,44 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,01 |
| 6 | 31,80 | 0,00 | 0,00 | 0,33 | 31,80 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,01 |
| 7 | 38,16 | 0,00 | 0,00 | 0,40 | 38,16 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,01 |
| 8 | 44,52 | 0,00 | 0,00 | 0,46 | 44,52 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,01 |
| 9 | 50,88 | 0,00 | 0,00 | 0,53 | 50,88 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,01 |
| 10 | 57,24 | 0,00 | 0,00 | 0,60 | 57,24 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,01 |
| 11 | 63,60 | 0,00 | 0,00 | 0,66 | 63,60 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,01 |
| 12 | 69,96 | 0,00 | 0,00 | 0,73 | 69,96 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,01 |
| 13 | 76,32 | 0,00 | 0,00 | 0,80 | 76,32 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,01 |
| 14 | 82,68 | 0,00 | 0,00 | 0,86 | 82,68 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,01 |
| 15 | 89,04 | 0,00 | 0,00 | 0,93 | 89,04 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,01 |
| 16 | 95,41 | 0,00 | 0,00 | 1,00 | 95,41 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,01 |
| 17 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,01 |
| 18 | 23,85 | 0,00 | 0,00 | 0,25 | 23,85 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,01 |
| 19 | 47,70 | 0,00 | 0,00 | 0,50 | 47,70 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,01 |
| 20 | 71,55 | 0,00 | 0,00 | 0,75 | 71,55 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,01 |
| 21 | 95,41 | 0,00 | 0,00 | 1,00 | 95,41 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,01 |

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

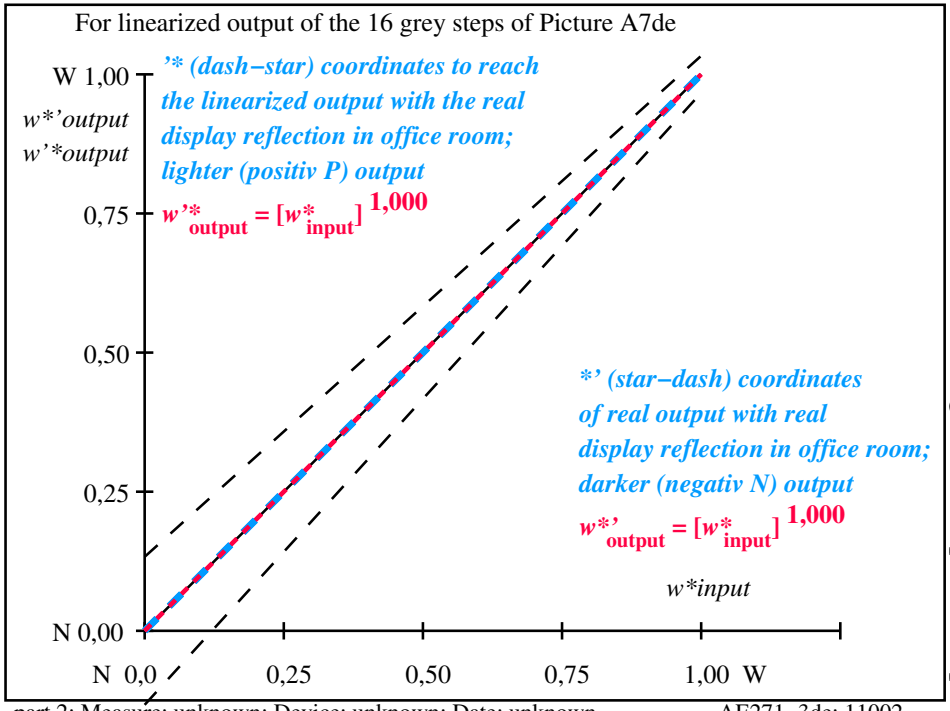
**Mean lightness difference (16 steps)**
**$\Delta E^*_{CIELAB}$ = 0,0**

**Mean lightness difference (5 steps)**
**$\Delta L^*_{CIELAB}$ = 0,0**

**Mean colour reproduction index: $R^*_{ab,m}$ = 99,9**

part 1; Measure: unknown; Device: unknown; Date: unknown AE270−3de: 11002

For linearized output of the 16 grey steps of Picture A7de




part 2; Measure: unknown; Device: unknown; Date: unknown AE271−3de: 11002

| $L^*/Y_{intended}$ (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* 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 |
| $w^*=l^*_{CIELAB, r}$ (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 |

AE270−7N, Picture A7*de: 16 visual equidistant *L**-grey steps; PS operator: *0 0 0 n* setcmykcolor*

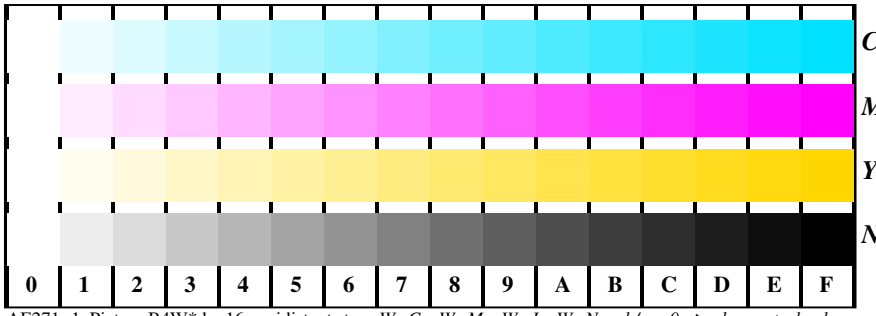
In-out: Test chart AE27 according to test chart 2 of ISO/IEC 15775
Viewing *Y* contrast $Y_W$:$Y_N$=88,9:0,31; $Y_N$-range 0,0 to <0,46

input: *rgb/cmy0/000n/w set...*
output: *->$rgb_{de}$ setrgbcolor*

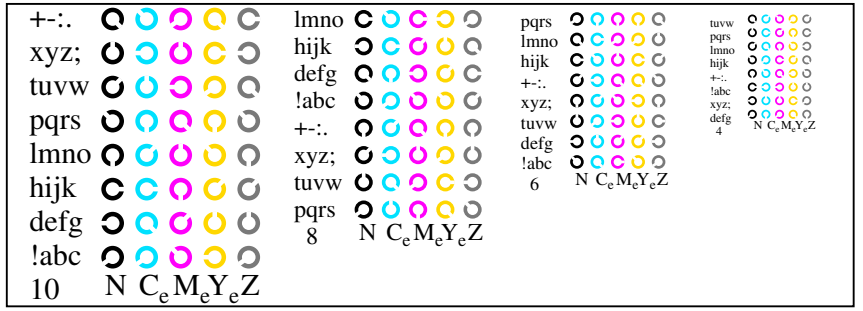
see similar files: http://farbe.li.tu-berlin.de/AE27/AE27.HTM
technical information: http://farbe.li.tu-berlin.de/ or http://farbe.li.tu-berlin.de/AE.HTM

TUB Registration: 20191001-AE27/AE27L0FA.TXT /.PS TUB material: code=rha4ta
application for measurement or viewing of the output on display and print

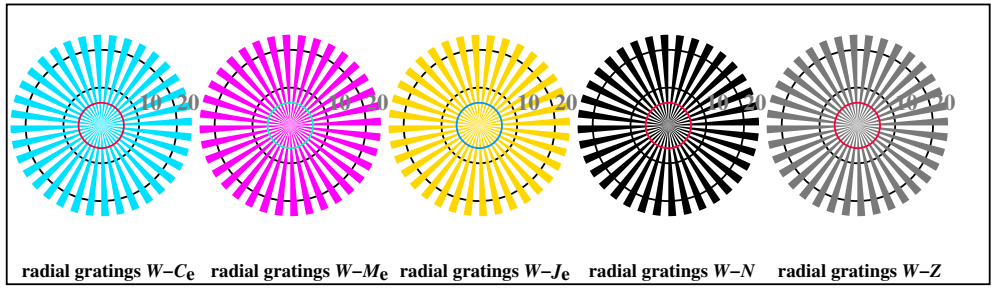
AE270–3, Picture B1W*de: Flower motif, 14 CIE-test colours and 2 + 16 grey steps (nf); *PS* operators *settransfer, 3 colorimage*



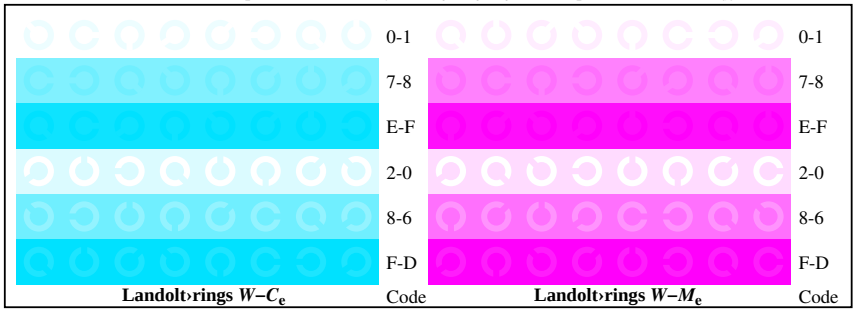

AE271–1, Picture B4W*de: 16 equidistant steps *W–Ce; W–Me; W–Je; W–N; rgb/cmy0–>rgb*de setrgbcolor*



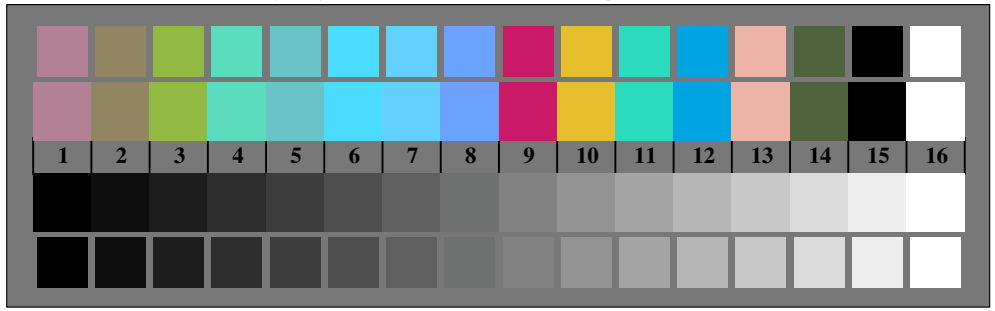

AE271–3, Picture B5W*de: Sript and Landolt-rings *N; Ce; Me; Ye; Z; PS* operator *rgb–>rgb*de setrgbcolor*



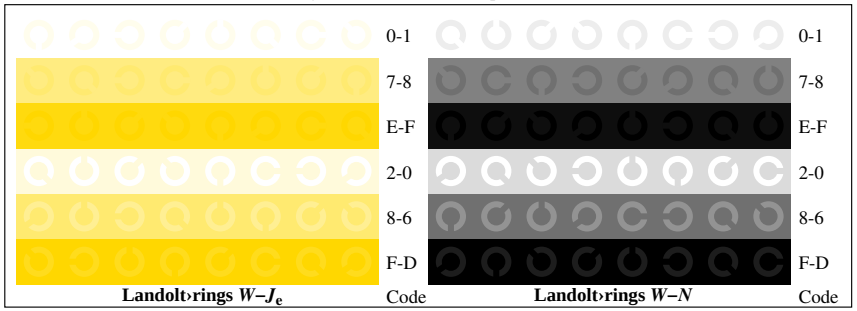

AE270–5, Picture B2W*de: radial gratings *W–Ce; W–Me; W–Je; W–N; PS* operator *rgb–>rgb*de setrgbcolor*




AE271–5, Picture B6W*de: Landolt-rings *W–Ce; W–Me; PS* operator *rgb–>rgb*de setrgbcolor*




AE270–7, Picture B3W*de: 14 CIE-test colours and 2 + 16 grey steps (sf); *rgb/cmy0–>rgb*de setrgbcolor*




AE271–7, Picture B7W*de: Landolt-rings *W–Je; W–N; PS* operator *rgb–>rgb*de setrgbcolor*

Test chart AE27 according to test chart 2 of ISO/IEC 15775
chromatic test chart *CMYK*

input: *rgb/cmy0/000n/w set...*
output: *->rgb*de setrgbcolor*

see similar files: http://farbe.li.tu-berlin.de/AE27/AE27.HTM
technical information: http://farbe.li.tu-berlin.de/ or http://farbe.li.tu-berlin.de/AE.HTM

TUB Registration: 20191001-AE27/AE27L0FA.TXT /.PS TUB material: code=rha4ta
application for measurement or viewing of the output on display and print

**Test for the visual linearized output of pictures B1W**de **to B3W**de

**Output test with the computer display ( ) or the external display ( )** please mark by (x)!

**Test of the (flower) image according to picture B1W**de

Are clear (immediately conspicuous) differences recognized between reproduction and test chart? **Yes/No**

Subjective remarks about the colour reproduction of the (flower) image,
the CIE−test colours and the 16 grey steps within the image, for example "less contrast":

.....
.....
.....
.....
.....

**Test of the resolution of radial gratings *W−C*$_d$, *W−M*$_d$, *W−Y*$_d$ according to picture B2W**de

| | ***W−C*$_d$** | ***W−M*$_d$** | ***W−Y*$_d$** | ***W−N*** | ***W−Z*** |
|---|---|---|---|---|---|
| Is the resolution diameter < 6 mm? | Yes/No | Yes/No | Yes/No | Yes/No | Yes/No |
| Test with magnifying glass (6x), Resolution diameter: | ..... mm | ..... mm | ..... mm | ..... mm | ..... mm |

**Test of the 14 CIE−test colours according to picture B3W**de

Are clear (immediately conspicuous) differences recognized between reproduction and test chart? **Yes/No**

If Yes: How many colours have clear differences? of the given 14 steps: **..... Steps**

**Test of 16 visual equidistant *L**−grey steps according to picture B3W**de

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 AE270−3de: 11081

**Test of 16 visually equally spaced steps of the colour rows *W−C*$_d$, *W−M*$_d$, *W−Y*$_d$, and *W−N* according to picture B4W**de

| | | | |
|---|---|---|---|
| ***W−C*$_d$** White − Cyanblue: | Are all the 16 steps distinguishable? | | **Yes/No** |
| | If No: How many steps can be distinguished? | of the given 16 steps | ..... Steps |
| ***W−M*$_d$** White − Magentared: | Are all the 16 steps distinguishable? | | **Yes/No** |
| | If No: How many steps can be distinguished? | of the given 16 steps | ..... Steps |
| ***W−Y*$_d$** White − Yellow: | Are all the 16 steps distinguishable? | | **Yes/No** |
| | If No: How many steps can be distinguished? | of the given 16 steps | ..... Steps |
| ***W−N*** White − Black: | Are all the 16 steps distinguishable? | | **Yes/No** |
| | If No: How many steps can be distinguished? | of the given 16 steps | ..... Steps |

**Test of characters and Landolt−rings in four sizes according to picture B5W**de

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 ***C*$_d$** | Ring ***M*$_d$** | Ring ***Y*$_d$** |
|---|---|---|---|---|---|
| 10 | Yes/No | Yes/No | Yes/No | Yes/No | Yes/No |
| 8 | Yes/No | Yes/No | Yes/No | Yes/No | Yes/No |
| 6 | Yes/No | Yes/No | Yes/No | Yes/No | Yes/No |
| 4 | Yes/No | Yes/No | Yes/No | Yes/No | Yes/No |

**Test of recognition frequency of Landolt−rings *W−C*$_d$, *W−M*$_d$, *W−Y*$_d$, and *W−N* according to pictures B6W**de**, and B7W**de

Is the recognition frequency of the Landolt−rings > 50% (min. 5 of 8 at least)?

| Colour row ***W−C*$_d$** background − ring | | Colour row ***W−M*$_d$** background − ring | | Colour row ***W−Y*$_d$** 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 2 AE271−3Nde: 11081

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

**PDF file:** http://farbe.li.tu-berlin.de/AE27/AE27F0NX_CY7_1.PDF **underline Yes/No**

**PS file:** http://farbe.li.tu-berlin.de/AE27/AE27F0NX_CY7_1.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 AE27F0NX_CY7_1.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 AE27F0NX_CY7_1.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 AE270−7N*de-11081

## 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://farbe.li.tu-berlin.de/AE27/AE27F0PX_CY7_3.PDF **underline Yes/No**
**PS file:** http://farbe.li.tu-berlin.de/AE27/AE27F0PX_CY7_3.PS **underline Yes/No**
**Picture A7**de **contrast range:** (>F:0) (F:0) (E:0) (D:0) (C:0) (A:0) (9:0) (7:0) (5:0) (3:0) (<3:0)
compare standard print output according to ISO/IEC 15775 with range F:0 **underline range**
*Remark: In daylighted offices the contrast range is in many cases:*
*on display between: >F:0 and E:0 (monitor), D:0 and 3:0 (data projector)*

## Only for optional colorimetric specification with PDF/PS file output

**PDF file:** http://farbe.li.tu-berlin.de/AE27/AE27F0PX_CY7_3.PDF
**picture A7**de **underline Yes/No**
**PS file:** http://farbe.li.tu-berlin.de/AE27/AE27F0PX_CY7_3.PS
**picture A7**de **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 for 17 step colours of** http://farbe.li.tu-berlin.de/OE70/OE70L1NP.PDF
Exchange of CIELAB data in file http://farbe.li.tu-berlin.de/AE82/AE82L0NP.TXT and transfer
of the PS file AE82L0NP.PS (=.TXT) to the PDF−file AE82L0NP.PDF **underline Yes/No**
If No, please describe other method: .....

part 4 AE271−7de: 11081

see similar files: http://farbe.li.tu-berlin.de/AE27/AE27.HTM
technical information: http://farbe.li.tu-berlin.de/ or http://farbe.li.tu-berlin.de/AE.HTM

TUB Registration: 20191001-AE27/AE27L0FA.TXT /.PS
application for measurement or viewing of the output on display and print
TUB material: code=rha4ta

| i | LAB*ref | | | l*out | LAB*out | | | LAB*out−ref | | | ΔE* |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 5,69 | 0,00 | 0,00 | 0,00 | 5,69 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,01 |
| 2 | 11,67 | 0,00 | 0,00 | 0,04 | 9,36 | 0,00 | 0,00 | -2, | 0,00 | 0,00 | 2,30 |
| 3 | 17,65 | 0,00 | 0,00 | 0,09 | 14,01 | 0,00 | 0,00 | -3, | 0,00 | 0,00 | 3,63 |
| 4 | 23,63 | 0,00 | 0,00 | 0,14 | 19,12 | 0,00 | 0,00 | -4, | 0,00 | 0,00 | 4,51 |
| 5 | 29,61 | 0,00 | 0,00 | 0,21 | 24,55 | 0,00 | 0,00 | -5, | 0,00 | 0,00 | 5,06 |
| 6 | 35,59 | 0,00 | 0,00 | 0,27 | 30,23 | 0,00 | 0,00 | -5, | 0,00 | 0,00 | 5,36 |
| 7 | 41,57 | 0,00 | 0,00 | 0,33 | 36,12 | 0,00 | 0,00 | -5, | 0,00 | 0,00 | 5,45 |
| 8 | 47,55 | 0,00 | 0,00 | 0,40 | 42,19 | 0,00 | 0,00 | -5, | 0,00 | 0,00 | 5,36 |
| 9 | 53,54 | 0,00 | 0,00 | 0,47 | 48,42 | 0,00 | 0,00 | -5, | 0,00 | 0,00 | 5,11 |
| 10 | 59,52 | 0,00 | 0,00 | 0,54 | 54,79 | 0,00 | 0,00 | -4, | 0,00 | 0,00 | 4,72 |
| 11 | 65,50 | 0,00 | 0,00 | 0,61 | 61,29 | 0,00 | 0,00 | -4, | 0,00 | 0,00 | 4,20 |
| 12 | 71,48 | 0,00 | 0,00 | 0,69 | 67,91 | 0,00 | 0,00 | -3, | 0,00 | 0,00 | 3,57 |
| 13 | 77,46 | 0,00 | 0,00 | 0,76 | 74,64 | 0,00 | 0,00 | -2, | 0,00 | 0,00 | 2,82 |
| 14 | 83,44 | 0,00 | 0,00 | 0,84 | 81,47 | 0,00 | 0,00 | -1, | 0,00 | 0,00 | 1,97 |
| 15 | 89,42 | 0,00 | 0,00 | 0,92 | 88,39 | 0,00 | 0,00 | -1, | 0,00 | 0,00 | 1,03 |
| 16 | 95,41 | 0,00 | 0,00 | 1,00 | 95,41 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,01 |
| 17 | 5,69 | 0,00 | 0,00 | 0,00 | 5,69 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,01 |
| 18 | 28,12 | 0,00 | 0,00 | 0,19 | 23,16 | 0,00 | 0,00 | -4, | 0,00 | 0,00 | 4,95 |
| 19 | 50,55 | 0,00 | 0,00 | 0,44 | 45,28 | 0,00 | 0,00 | -5, | 0,00 | 0,00 | 5,26 |
| 20 | 72,98 | 0,00 | 0,00 | 0,71 | 69,58 | 0,00 | 0,00 | -3, | 0,00 | 0,00 | 3,39 |
| 21 | 95,41 | 0,00 | 0,00 | 1,00 | 95,41 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,01 |

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

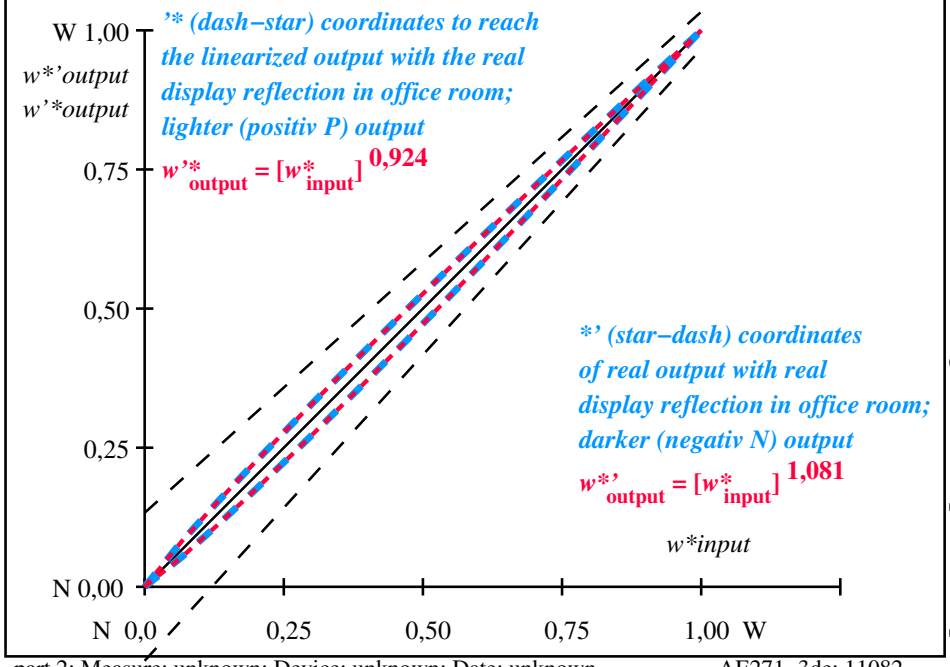
**Mean lightness difference (16 steps)**
$\Delta E^*_{CIELAB}$ = 3,4

**Mean lightness difference (5 steps)**
$\Delta L^*_{CIELAB}$ = 2,7

**Mean colour reproduction index:** $R^*_{ab,m}$ = 84,9

part 1; Measure: unknown; Device: unknown; Date: unknown AE270−3de: 11082

For linearized output of the 16 grey steps of Picture A7de




part 2; Measure: unknown; Device: unknown; Date: unknown AE271−3de: 11082

| $L^*/Y_{intended}$ (absolute) | 5.7/0.6 | 11.7/1.4 | 17.7/2.4 | 23.6/4.0 | 29.6/6.1 | 35.6/8.8 | 41.6/12.2 | 47.6/16.5 | 53.5/21.5 | 59.5/27.6 | 65.5/34.7 | 71.5/42.9 | 77.5/52.3 | 83.4/63.0 | 89.4/75.1 | 95.4/88.6 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| *0 0 0 n* setcmyk* | | | | | | | | | | | | | | | | |
| $g_N$=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 |
| $w^*=l^*_{CIELAB, r}$ (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 | 0.054 | 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 |

AE270−7N, Picture A7*de: 16 visual equidistant *L**-grey steps; PS operator: *0 0 0 n* setcmykcolor*

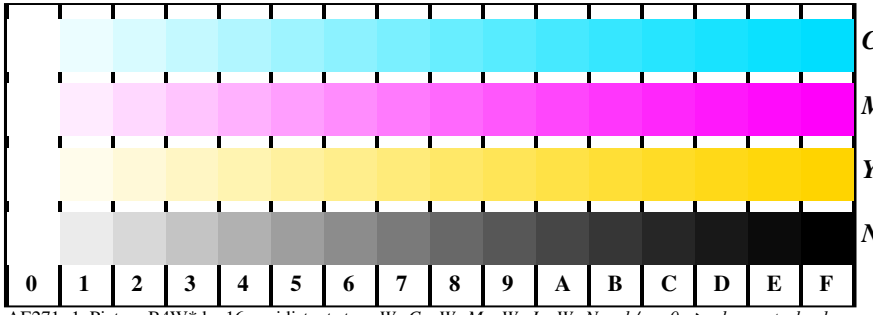
In-out: Test chart AE27 according to test chart 2 of ISO/IEC 15775
Viewing *Y* contrast $Y_W$:$Y_N$=88,9:0,62; $Y_N$-range 0,46 to <0,93

input: *rgb/cmy0/000n/w set...*
output: *->$rgb_{de}$ setrgbcolor*

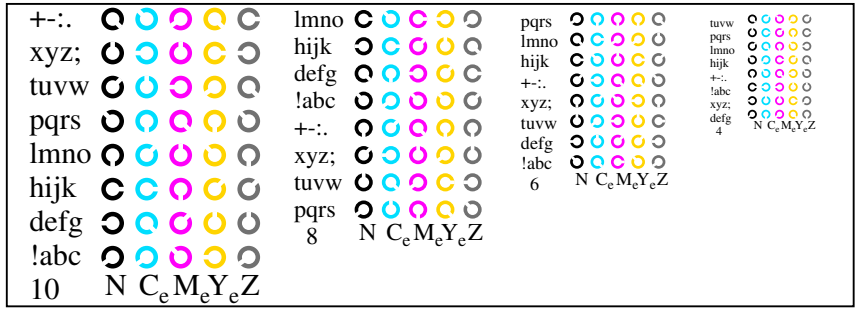
see similar files: http://farbe.li.tu-berlin.de/AE27/AE27.HTM
technical information: http://farbe.li.tu-berlin.de/ or http://farbe.li.tu-berlin.de/AE.HTM

TUB Registration: 20191001-AE27/AE27L0FA.TXT /.PS TUB material: code=rha4ta
application for measurement or viewing of the output on display and print

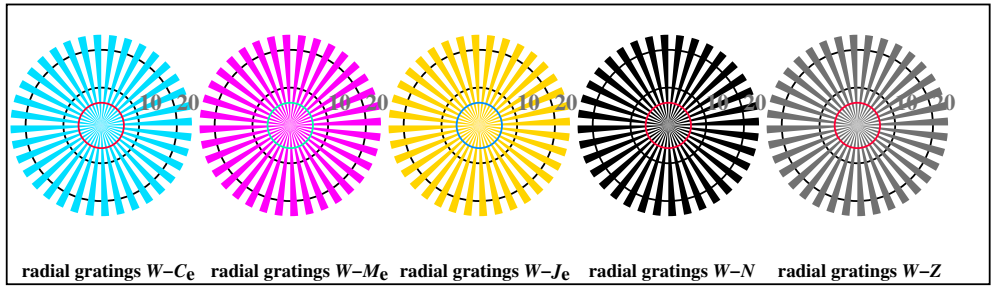
AE270–3, Picture B1W*de: Flower motif, 14 CIE-test colours and 2 + 16 grey steps (nf); *PS* operators *settransfer, 3 colorimage*



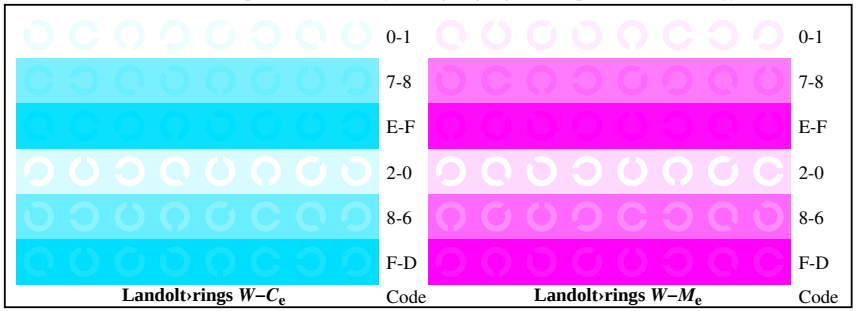

AE271–1, Picture B4W*de: 16 equidistant steps $W–C_e$; $W–M_e$; $W–J_e$; $W–N$; *rgb/cmy0–>rgb*de setrgbcolor*



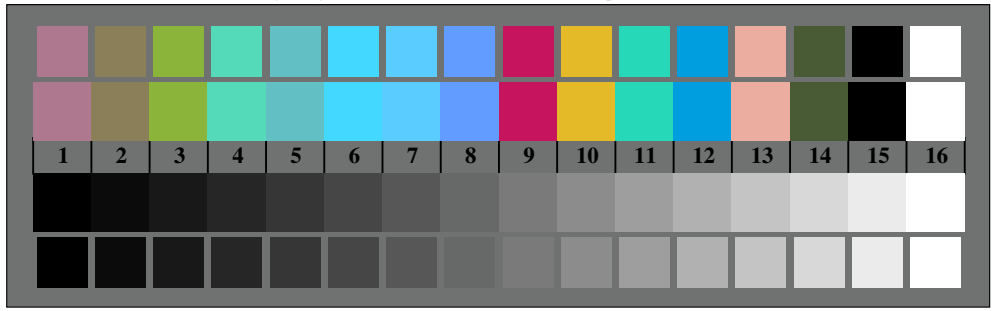

AE271–3, Picture B5W*de: Sript and Landolt-rings *N*; $C_e$; $M_e$; $Y_e$; *Z*; *PS* operator *rgb–>rgb*de setrgbcolor*



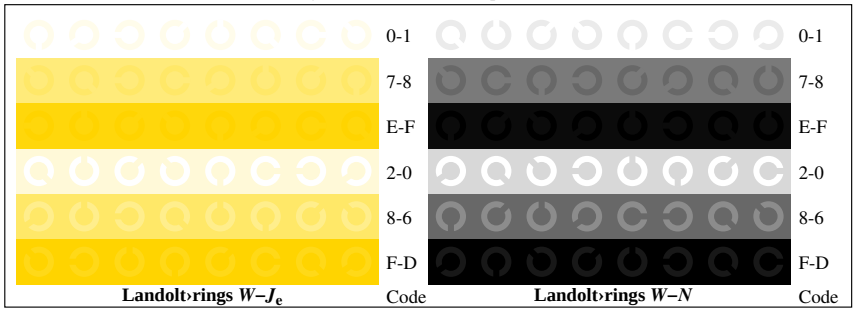

AE270–5, Picture B2W*de: radial gratings $W–C_e$; $W–M_e$; $W–J_e$; *W–N; PS* operator *rgb–>rgb*de setrgbcolor*




AE271–5, Picture B6W*de: Landolt-rings $W–C_e$; $W–M_e$; *PS* operator *rgb–>rgb*de setrgbcolor*




AE270–7, Picture B3W*de: 14 CIE-test colours and 2 + 16 grey steps (sf); *rgb/cmy0–>rgb*de setrgbcolor*




AE271–7, Picture B7W*de: Landolt-rings $W–J_e$; *W–N; PS* operator *rgb–>rgb*de setrgbcolor*

Test chart AE27 according to test chart 2 of ISO/IEC 15775
chromatic test chart *CMYK*

input: *rgb/cmy0/000n/w set...*
output: *->rgb*de setrgbcolor*

see similar files: http://farbe.li.tu-berlin.de/AE27/AE27.HTM
technical information: http://farbe.li.tu-berlin.de/ or http://farbe.li.tu-berlin.de/AE.HTM

TUB Registration: 20191001-AE27/AE27L0FA.TXT /.PS TUB material: code=rha4ta
application for measurement or viewing of the output on display and print

**Test for the visual linearized output of pictures B1W**de **to B3W**de

**Output test with the computer display ( ) or the external display ( )** please mark by (x)!

**Test of the (flower) image according to picture B1W**de

Are clear (immediately conspicuous) differences recognized between reproduction and test chart? **Yes/No**

Subjective remarks about the colour reproduction of the (flower) image,
the CIE−test colours and the 16 grey steps within the image, for example "less contrast":

.....
.....
.....
.....
.....

**Test of the resolution of radial gratings *W−C*$_d$, *W−M*$_d$, *W−Y*$_d$ according to picture B2W**de

| | ***W−C*$_d$** | ***W−M*$_d$** | ***W−Y*$_d$** | ***W−N*** | ***W−Z*** |
|---|---|---|---|---|---|
| Is the resolution diameter < 6 mm? | Yes/No | Yes/No | Yes/No | Yes/No | Yes/No |
| Test with magnifying glass (6x), Resolution diameter: | ..... mm | ..... mm | ..... mm | ..... mm | ..... mm |

**Test of the 14 CIE−test colours according to picture B3W**de

Are clear (immediately conspicuous) differences recognized between reproduction and test chart? **Yes/No**

If Yes: How many colours have clear differences? of the given 14 steps: **..... Steps**

**Test of 16 visual equidistant *L**−grey steps according to picture B3W**de

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**

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**Test of 16 visually equally spaced steps of the colour rows *W−C*$_d$, *W−M*$_d$, *W−Y*$_d$, and *W−N* according to picture B4W**de

| | | | |
|---|---|---|---|
| ***W−C*$_d$** White − Cyanblue: | Are all the 16 steps distinguishable? | | **Yes/No** |
| | If No: How many steps can be distinguished? | of the given 16 steps | ..... Steps |
| ***W−M*$_d$** White − Magentared: | Are all the 16 steps distinguishable? | | **Yes/No** |
| | If No: How many steps can be distinguished? | of the given 16 steps | ..... Steps |
| ***W−Y*$_d$** White − Yellow: | Are all the 16 steps distinguishable? | | **Yes/No** |
| | If No: How many steps can be distinguished? | of the given 16 steps | ..... Steps |
| ***W−N*** White − Black: | Are all the 16 steps distinguishable? | | **Yes/No** |
| | If No: How many steps can be distinguished? | of the given 16 steps | ..... Steps |

**Test of characters and Landolt−rings in four sizes according to picture B5W**de

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 ***C*$_d$** | Ring ***M*$_d$** | Ring ***Y*$_d$** |
|---|---|---|---|---|---|
| 10 | Yes/No | Yes/No | Yes/No | Yes/No | Yes/No |
| 8 | Yes/No | Yes/No | Yes/No | Yes/No | Yes/No |
| 6 | Yes/No | Yes/No | Yes/No | Yes/No | Yes/No |
| 4 | Yes/No | Yes/No | Yes/No | Yes/No | Yes/No |

**Test of recognition frequency of Landolt−rings *W−C*$_d$, *W−M*$_d$, *W−Y*$_d$, and *W−N* according to pictures B6W**de**, and B7W**de

Is the recognition frequency of the Landolt−rings > 50% (min. 5 of 8 at least)?

| Colour row ***W−C*$_d$** background − ring | | Colour row ***W−M*$_d$** background − ring | | Colour row ***W−Y*$_d$** 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 2 AE271−3Nde: 110161

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

**PDF file:** http://farbe.li.tu-berlin.de/AE27/AE27F0NX_CY6_1.PDF **underline Yes/No**

**PS file:** http://farbe.li.tu-berlin.de/AE27/AE27F0NX_CY6_1.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 AE27F0NX_CY6_1.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 AE27F0NX_CY6_1.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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## 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://farbe.li.tu-berlin.de/AE27/AE27F0PX_CY6_3.PDF **underline Yes/No**
**PS file:** http://farbe.li.tu-berlin.de/AE27/AE27F0PX_CY6_3.PS **underline Yes/No**
**Picture A7**de **contrast range:** (>F:0) (F:0) (E:0) (D:0) (C:0) (A:0) (9:0) (7:0) (5:0) (3:0) (<3:0)
compare standard print output according to ISO/IEC 15775 with range F:0 **underline range**
*Remark: In daylighted offices the contrast range is in many cases:*
*on display between: >F:0 and E:0 (monitor), D:0 and 3:0 (data projector)*

## Only for optional colorimetric specification with PDF/PS file output

**PDF file:** http://farbe.li.tu-berlin.de/AE27/AE27F0PX_CY6_3.PDF
**picture A7**de **underline Yes/No**
**PS file:** http://farbe.li.tu-berlin.de/AE27/AE27F0PX_CY6_3.PS
**picture A7**de **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 for 17 step colours of** http://farbe.li.tu-berlin.de/OE70/OE70L1NP.PDF
Exchange of CIELAB data in file http://farbe.li.tu-berlin.de/AE82/AE82L0NP.TXT and transfer of the PS file AE82L0NP.PS (=.TXT) to the PDF−file AE82L0NP.PDF **underline Yes/No**
If No, please describe other method: .....

part 4 AE271−7de: 110161

see similar files: http://farbe.li.tu-berlin.de/AE27/AE27.HTM
technical information: http://farbe.li.tu-berlin.de/ or http://farbe.li.tu-berlin.de/AE.HTM

TUB Registration: 20191001-AE27/AE27L0FA.TXT /.PS
application for measurement or viewing of the output on display and print
TUB material: code=rha4ta

| i | LAB*ref | | | l*out | LAB*out | | | LAB*out−ref | | | ΔE* |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 10,99 | 0,00 | 0,00 | 0,00 | 10,99 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,01 |
| 2 | 16,62 | 0,00 | 0,00 | 0,02 | 13,11 | 0,00 | 0,00 | -3, | 0,00 | 0,00 | 3,50 |
| 3 | 22,24 | 0,00 | 0,00 | 0,06 | 16,44 | 0,00 | 0,00 | -5, | 0,00 | 0,00 | 5,80 |
| 4 | 27,87 | 0,00 | 0,00 | 0,11 | 20,45 | 0,00 | 0,00 | -7, | 0,00 | 0,00 | 7,42 |
| 5 | 33,50 | 0,00 | 0,00 | 0,16 | 24,98 | 0,00 | 0,00 | -8, | 0,00 | 0,00 | 8,52 |
| 6 | 39,13 | 0,00 | 0,00 | 0,22 | 29,94 | 0,00 | 0,00 | -9, | 0,00 | 0,00 | 9,19 |
| 7 | 44,75 | 0,00 | 0,00 | 0,28 | 35,27 | 0,00 | 0,00 | -9, | 0,00 | 0,00 | 9,48 |
| 8 | 50,38 | 0,00 | 0,00 | 0,35 | 40,93 | 0,00 | 0,00 | -9, | 0,00 | 0,00 | 9,45 |
| 9 | 56,01 | 0,00 | 0,00 | 0,42 | 46,89 | 0,00 | 0,00 | -9, | 0,00 | 0,00 | 9,11 |
| 10 | 61,64 | 0,00 | 0,00 | 0,49 | 53,13 | 0,00 | 0,00 | -8, | 0,00 | 0,00 | 8,50 |
| 11 | 67,27 | 0,00 | 0,00 | 0,57 | 59,62 | 0,00 | 0,00 | -7, | 0,00 | 0,00 | 7,64 |
| 12 | 72,89 | 0,00 | 0,00 | 0,65 | 66,35 | 0,00 | 0,00 | -6, | 0,00 | 0,00 | 6,54 |
| 13 | 78,52 | 0,00 | 0,00 | 0,73 | 73,31 | 0,00 | 0,00 | -5, | 0,00 | 0,00 | 5,21 |
| 14 | 84,15 | 0,00 | 0,00 | 0,82 | 80,48 | 0,00 | 0,00 | -3, | 0,00 | 0,00 | 3,67 |
| 15 | 89,78 | 0,00 | 0,00 | 0,91 | 87,84 | 0,00 | 0,00 | -1, | 0,00 | 0,00 | 1,93 |
| 16 | 95,41 | 0,00 | 0,00 | 1,00 | 95,41 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,01 |
| 17 | 10,99 | 0,00 | 0,00 | 0,00 | 10,99 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,01 |
| 18 | 32,09 | 0,00 | 0,00 | 0,15 | 23,80 | 0,00 | 0,00 | -8, | 0,00 | 0,00 | 8,29 |
| 19 | 53,20 | 0,00 | 0,00 | 0,38 | 43,88 | 0,00 | 0,00 | -9, | 0,00 | 0,00 | 9,32 |
| 20 | 74,30 | 0,00 | 0,00 | 0,67 | 68,07 | 0,00 | 0,00 | -6, | 0,00 | 0,00 | 6,22 |
| 21 | 95,41 | 0,00 | 0,00 | 1,00 | 95,41 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,01 |

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

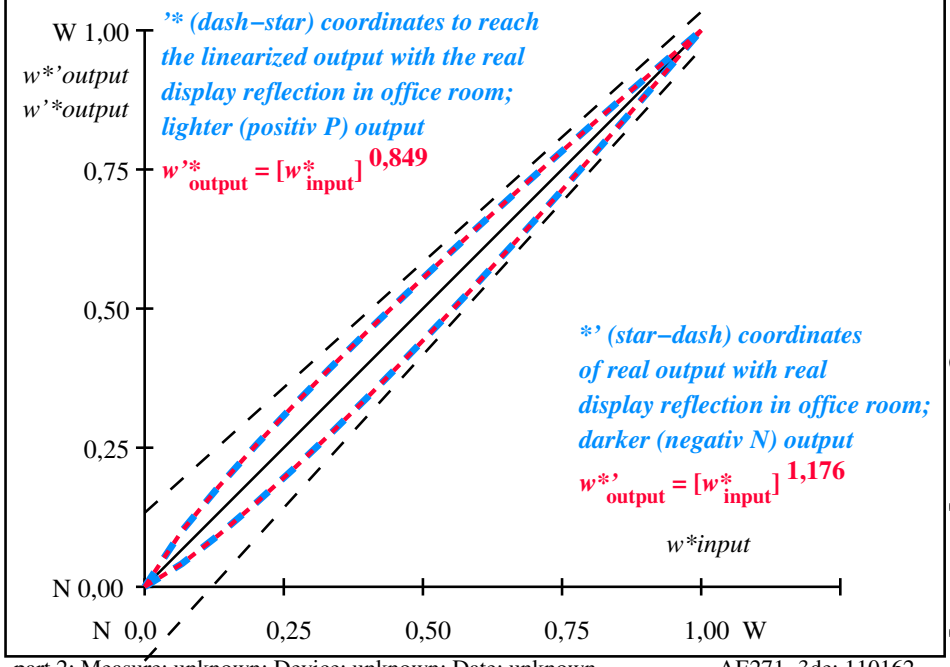
**Mean lightness difference (16 steps)**
$\Delta E^*_{CIELAB}$ = **6,0**

**Mean lightness difference (5 steps)**
$\Delta L^*_{CIELAB}$ = **4,7**

**Mean colour reproduction index:** $R^*_{ab,m}$ = **73,7**

part 1; Measure: unknown; Device: unknown; Date: unknown AE270−3de: 110162

For linearized output of the 16 grey steps of Picture A7de




part 2; Measure: unknown; Device: unknown; Date: unknown AE271−3de: 110162

| $L^*/Y_{intended}$ (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 |
| $w^*=l^*_{CIELAB, r}$ (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 |

AE270−7N, Picture A7*de: 16 visual equidistant *L**-grey steps; PS operator: *0 0 0 n* setcmykcolor*

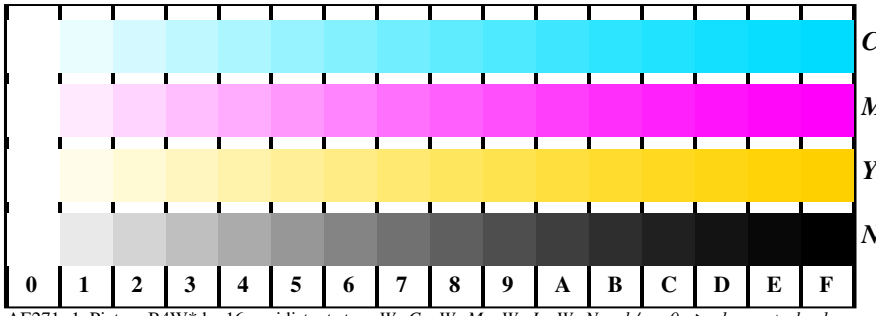
In-out: Test chart AE27 according to test chart 2 of ISO/IEC 15775
Viewing *Y* contrast $Y_W$:$Y_N$=88,9:1,25; $Y_N$-range 0,93 to <1,87

input: *rgb/cmy0/000n/w set...*
output: *->$rgb_{de}$ setrgbcolor*

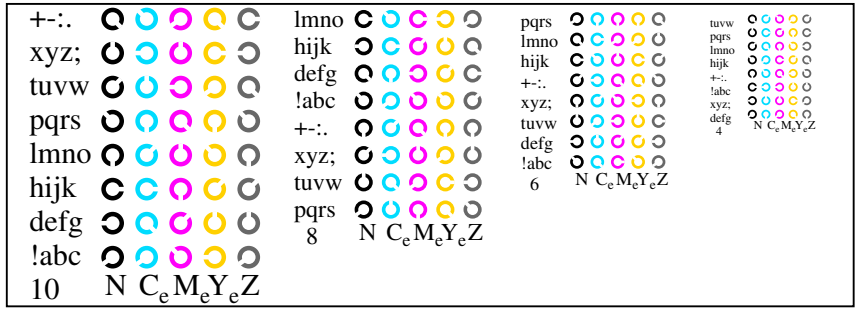
see similar files: http://farbe.li.tu-berlin.de/AE27/AE27.HTM
technical information: http://farbe.li.tu-berlin.de/ or http://farbe.li.tu-berlin.de/AE.HTM

TUB Registration: 20191001-AE27/AE27L0FA.TXT /.PS TUB material: code=rha4ta
application for measurement or viewing of the output on display and print

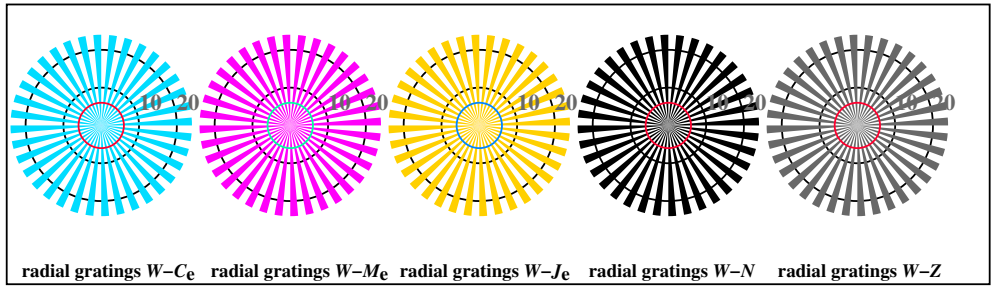
AE270–3, Picture B1W*de: Flower motif, 14 CIE-test colours and 2 + 16 grey steps (nf); *PS* operators *settransfer, 3 colorimage*



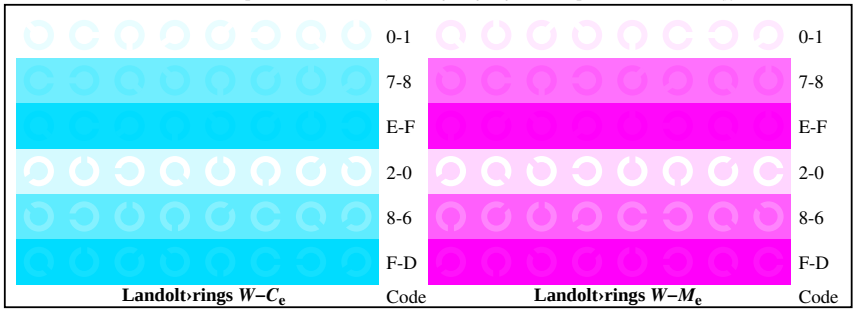

AE271–1, Picture B4W*de: 16 equidistant steps $W–C_e$; $W–M_e$; $W–J_e$; $W–N$; *rgb/cmy0–>rgb*de setrgbcolor*



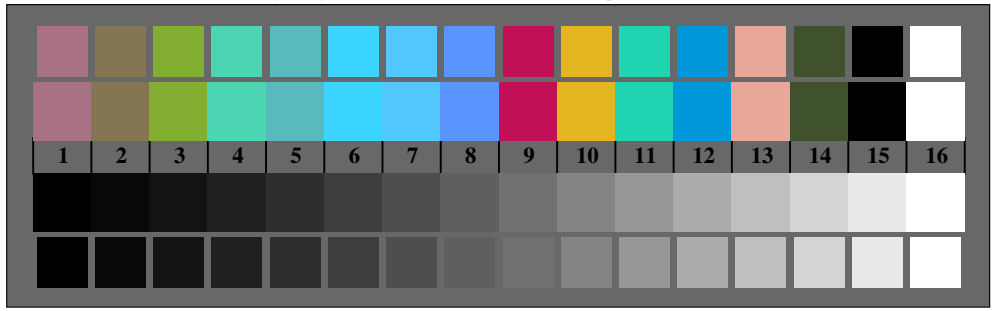

AE271–3, Picture B5W*de: Sript and Landolt-rings *N*; $C_e$; $M_e$; $Y_e$; *Z*; *PS* operator *rgb–>rgb*de setrgbcolor*



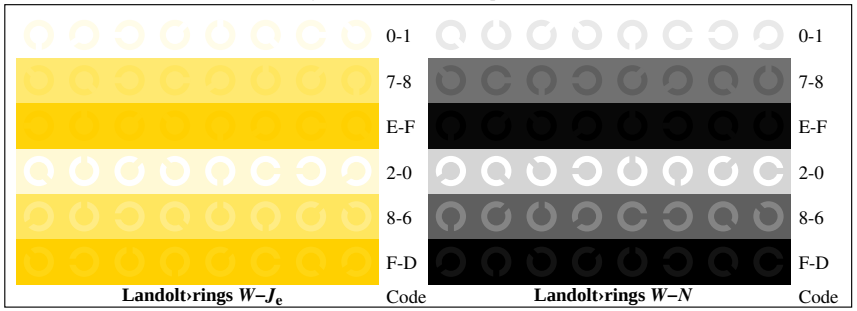

AE270–5, Picture B2W*de: radial gratings $W–C_e$; $W–M_e$; $W–J_e$; $W–N$; *PS* operator *rgb–>rgb*de setrgbcolor*




AE271–5, Picture B6W*de: Landolt-rings $W–C_e$; $W–M_e$; *PS* operator *rgb–>rgb*de setrgbcolor*




AE270–7, Picture B3W*de: 14 CIE-test colours and 2 + 16 grey steps (sf); *rgb/cmy0–>rgb*de setrgbcolor*




AE271–7, Picture B7W*de: Landolt-rings $W–J_e$; $W–N$; *PS* operator *rgb–>rgb*de setrgbcolor*

Test chart AE27 according to test chart 2 of ISO/IEC 15775
chromatic test chart *CMYK*

input: *rgb/cmy0/000n/w set...*
output: *->rgb*de setrgbcolor*

see similar files: http://farbe.li.tu-berlin.de/AE27/AE27.HTM
technical information: http://farbe.li.tu-berlin.de/ or http://farbe.li.tu-berlin.de/AE.HTM

**Test for the visual linearized output of pictures B1W**de **to B3W**de

**Output test with the computer display ( ) or the external display ( )** please mark by (x)!

**Test of the (flower) image according to picture B1W**de

Are clear (immediately conspicuous) differences recognized between reproduction and test chart? **Yes/No**

Subjective remarks about the colour reproduction of the (flower) image,
the CIE−test colours and the 16 grey steps within the image, for example "less contrast":

.....
.....
.....
.....
.....

**Test of the resolution of radial gratings *W−C*$_d$, *W−M*$_d$, *W−Y*$_d$ according to picture B2W**de

| | ***W−C*$_d$** | ***W−M*$_d$** | ***W−Y*$_d$** | ***W−N*** | ***W−Z*** |
|---|---|---|---|---|---|
| Is the resolution diameter < 6 mm? | Yes/No | Yes/No | Yes/No | Yes/No | Yes/No |
| Test with magnifying glass (6x), Resolution diameter: | ..... mm | ..... mm | ..... mm | ..... mm | ..... mm |

**Test of the 14 CIE−test colours according to picture B3W**de

Are clear (immediately conspicuous) differences recognized between reproduction and test chart? **Yes/No**

If Yes: How many colours have clear differences? of the given 14 steps: **..... Steps**

**Test of 16 visual equidistant *L**−grey steps according to picture B3W**de

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**

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**Test of 16 visually equally spaced steps of the colour rows *W−C*$_d$, *W−M*$_d$, *W−Y*$_d$, and *W−N* according to picture B4W**de

| | | | |
|---|---|---|---|
| ***W−C*$_d$** White − Cyanblue: | Are all the 16 steps distinguishable? | | **Yes/No** |
| | If No: How many steps can be distinguished? | of the given 16 steps | ..... Steps |
| ***W−M*$_d$** White − Magentared: | Are all the 16 steps distinguishable? | | **Yes/No** |
| | If No: How many steps can be distinguished? | of the given 16 steps | ..... Steps |
| ***W−Y*$_d$** White − Yellow: | Are all the 16 steps distinguishable? | | **Yes/No** |
| | If No: How many steps can be distinguished? | of the given 16 steps | ..... Steps |
| ***W−N*** White − Black: | Are all the 16 steps distinguishable? | | **Yes/No** |
| | If No: How many steps can be distinguished? | of the given 16 steps | ..... Steps |

**Test of characters and Landolt−rings in four sizes according to picture B5W**de

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 ***C*$_d$** | Ring ***M*$_d$** | Ring ***Y*$_d$** |
|---|---|---|---|---|---|
| 10 | Yes/No | Yes/No | Yes/No | Yes/No | Yes/No |
| 8 | Yes/No | Yes/No | Yes/No | Yes/No | Yes/No |
| 6 | Yes/No | Yes/No | Yes/No | Yes/No | Yes/No |
| 4 | Yes/No | Yes/No | Yes/No | Yes/No | Yes/No |

**Test of recognition frequency of Landolt−rings *W−C*$_d$, *W−M*$_d$, *W−Y*$_d$, and *W−N* according to pictures B6W**de**, and B7W**de

Is the recognition frequency of the Landolt−rings > 50% (min. 5 of 8 at least)?

| Colour row ***W−C*$_d$** background − ring | | Colour row ***W−M*$_d$** background − ring | | Colour row ***W−Y*$_d$** 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 |

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

**PDF file:** http://farbe.li.tu-berlin.de/AE27/AE27F0NX_CY5_1.PDF **underline Yes/No**

**PS file:** http://farbe.li.tu-berlin.de/AE27/AE27F0NX_CY5_1.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 AE27F0NX_CY5_1.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 AE27F0NX_CY5_1.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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## 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://farbe.li.tu-berlin.de/AE27/AE27F0PX_CY5_3.PDF **underline Yes/No**
**PS file:** http://farbe.li.tu-berlin.de/AE27/AE27F0PX_CY5_3.PS **underline Yes/No**
**Picture A7**de **contrast range:** (>F:0) (F:0) (E:0) (D:0) (C:0) (A:0) (9:0) (7:0) (5:0) (3:0) (<3:0)
compare standard print output according to ISO/IEC 15775 with range F:0 **underline range**
*Remark: In daylighted offices the contrast range is in many cases:*
*on display between: >F:0 and E:0 (monitor), D:0 and 3:0 (data projector)*

## Only for optional colorimetric specification with PDF/PS file output

**PDF file:** http://farbe.li.tu-berlin.de/AE27/AE27F0PX_CY5_3.PDF
**picture A7**de **underline Yes/No**
**PS file:** http://farbe.li.tu-berlin.de/AE27/AE27F0PX_CY5_3.PS
**picture A7**de **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 for 17 step colours of** http://farbe.li.tu-berlin.de/OE70/OE70L1NP.PDF
Exchange of CIELAB data in file http://farbe.li.tu-berlin.de/AE82/AE82L0NP.TXT and transfer
of the PS file AE82L0NP.PS (=.TXT) to the PDF−file AE82L0NP.PDF **underline Yes/No**
If No, please describe other method: .....

part 4 AE271−7de: 110241

TUB Registration: 20191001-AE27/AE27L0FA.TXT /.PS TUB material: code=rha4ta
application for measurement or viewing of the output on display and print

Form A: Test chart AE27 according to test chart 2 of ISO/IEC 15775 input: *rgb/cmy0/000n/w set...*
chromatic test chart *CMYK* output: *->rgb*$_{de}$ *setrgbcolor*

see similar files: http://farbe.li.tu-berlin.de/AE27/AE27.HTM
technical information: http://farbe.li.tu-berlin.de/ or http://farbe.li.tu-berlin.de/AE.HTM

TUB Registration: 20191001-AE27/AE27L0FA.TXT /.PS
application for measurement or viewing of the output on display and print
TUB material: code=rha4ta

| i | LAB*ref | | | l*out | LAB*out | | | LAB*out−ref | | | ΔE* |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 18,00 | 0,00 | 0,00 | 0,00 | 18,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,01 |
| 2 | 23,16 | 0,00 | 0,00 | 0,01 | 19,20 | 0,00 | 0,00 | -3, | 0,00 | 0,00 | 3,96 |
| 3 | 28,32 | 0,00 | 0,00 | 0,04 | 21,48 | 0,00 | 0,00 | -6, | 0,00 | 0,00 | 6,84 |
| 4 | 33,48 | 0,00 | 0,00 | 0,08 | 24,50 | 0,00 | 0,00 | -8, | 0,00 | 0,00 | 8,98 |
| 5 | 38,64 | 0,00 | 0,00 | 0,13 | 28,11 | 0,00 | 0,00 | -10, | 0,00 | 0,00 | 10,53 |
| 6 | 43,80 | 0,00 | 0,00 | 0,18 | 32,26 | 0,00 | 0,00 | -11, | 0,00 | 0,00 | 11,54 |
| 7 | 48,96 | 0,00 | 0,00 | 0,24 | 36,88 | 0,00 | 0,00 | -12, | 0,00 | 0,00 | 12,08 |
| 8 | 54,12 | 0,00 | 0,00 | 0,30 | 41,94 | 0,00 | 0,00 | -12, | 0,00 | 0,00 | 12,18 |
| 9 | 59,28 | 0,00 | 0,00 | 0,37 | 47,40 | 0,00 | 0,00 | -11, | 0,00 | 0,00 | 11,88 |
| 10 | 64,44 | 0,00 | 0,00 | 0,45 | 53,25 | 0,00 | 0,00 | -11, | 0,00 | 0,00 | 11,19 |
| 11 | 69,60 | 0,00 | 0,00 | 0,53 | 59,46 | 0,00 | 0,00 | -10, | 0,00 | 0,00 | 10,14 |
| 12 | 74,76 | 0,00 | 0,00 | 0,62 | 66,01 | 0,00 | 0,00 | -8, | 0,00 | 0,00 | 8,75 |
| 13 | 79,92 | 0,00 | 0,00 | 0,70 | 72,90 | 0,00 | 0,00 | -7, | 0,00 | 0,00 | 7,02 |
| 14 | 85,08 | 0,00 | 0,00 | 0,80 | 80,10 | 0,00 | 0,00 | -4, | 0,00 | 0,00 | 4,98 |
| 15 | 90,24 | 0,00 | 0,00 | 0,89 | 87,60 | 0,00 | 0,00 | -2, | 0,00 | 0,00 | 2,64 |
| 16 | 95,41 | 0,00 | 0,00 | 1,00 | 95,41 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,01 |
| 17 | 18,00 | 0,00 | 0,00 | 0,00 | 18,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,01 |
| 18 | 37,35 | 0,00 | 0,00 | 0,11 | 27,16 | 0,00 | 0,00 | -10, | 0,00 | 0,00 | 10,19 |
| 19 | 56,70 | 0,00 | 0,00 | 0,34 | 44,62 | 0,00 | 0,00 | -12, | 0,00 | 0,00 | 12,08 |
| 20 | 76,05 | 0,00 | 0,00 | 0,64 | 67,70 | 0,00 | 0,00 | -8, | 0,00 | 0,00 | 8,35 |
| 21 | 95,41 | 0,00 | 0,00 | 1,00 | 95,41 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,01 |

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

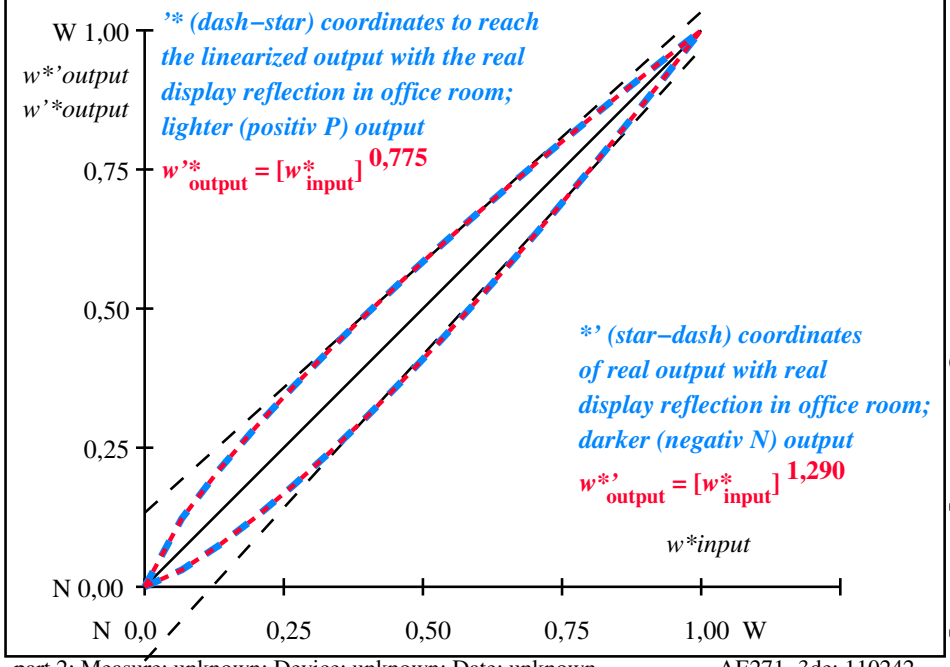
**Mean lightness difference (16 steps)**
$\Delta E^*_{CIELAB}$ = 7,6

**Mean lightness difference (5 steps)**
$\Delta L^*_{CIELAB}$ = 6,1

**Mean colour reproduction index:** $R^*_{ab,m}$ = 66,3

part 1; Measure: unknown; Device: unknown; Date: unknown AE270−3de: 110242

For linearized output of the 16 grey steps of Picture A7de




part 2; Measure: unknown; Device: unknown; Date: unknown AE271−3de: 110242

| $L^*/Y_{intended}$ (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 |
| $w^*=l^*_{CIELAB, r}$ (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 |

AE270−7N, Picture A7*de: 16 visual equidistant *L**-grey steps; PS operator: *0 0 0 n* setcmykcolor*

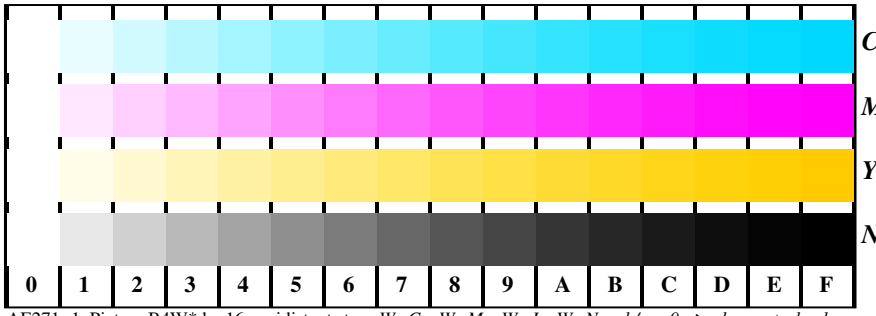
In-out: Test chart AE27 according to test chart 2 of ISO/IEC 15775
Viewing *Y* contrast $Y_W$:$Y_N$=88,9:2,5; $Y_N$-range 1,87 to <3,75

input: *rgb/cmy0/000n/w set...*
output: *->rgb*$_{de}$ *setrgbcolor*

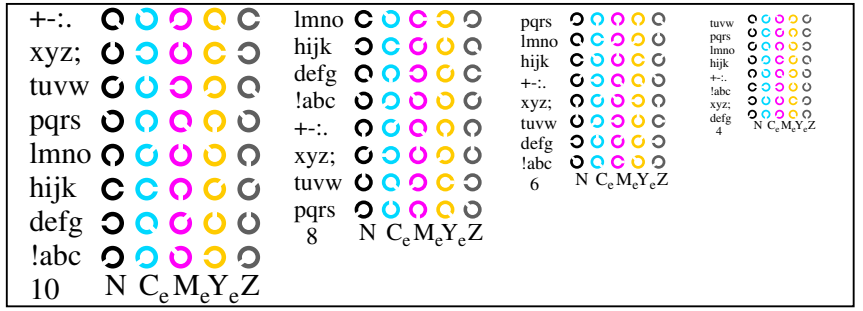
see similar files: http://farbe.li.tu-berlin.de/AE27/AE27.HTM
technical information: http://farbe.li.tu-berlin.de/ or http://farbe.li.tu-berlin.de/AE.HTM

TUB Registration: 20191001-AE27/AE27L0FA.TXT /.PS TUB material: code=rha4ta
application for measurement or viewing of the output on display and print

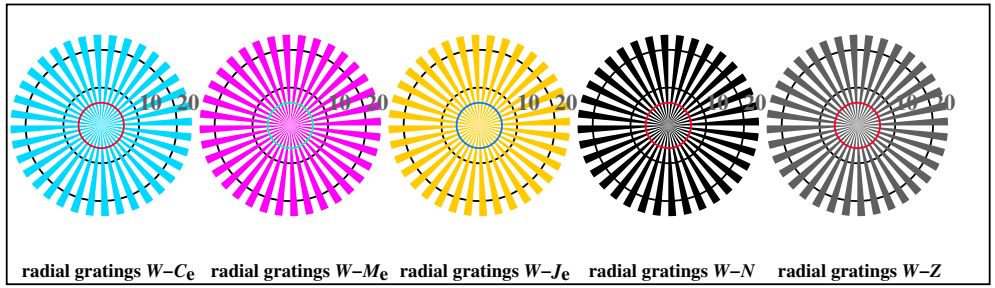
AE270–3, Picture B1W*de: Flower motif, 14 CIE-test colours and 2 + 16 grey steps (nf); *PS* operators *settransfer, 3 colorimage*



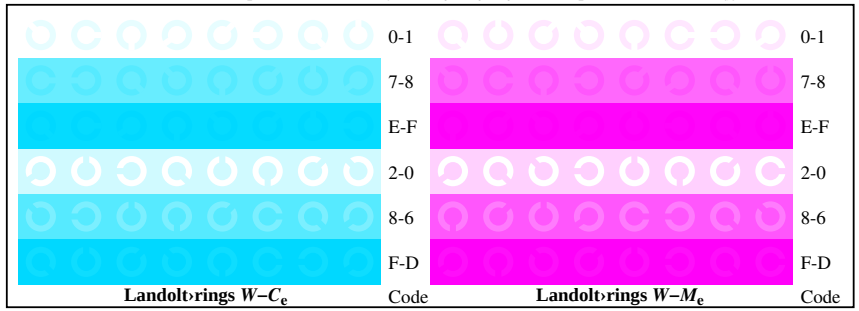

AE271–1, Picture B4W*de: 16 equidistant steps $W–C_e$; $W–M_e$; $W–J_e$; $W–N$; *rgb/cmy0–>rgb*de setrgbcolor*



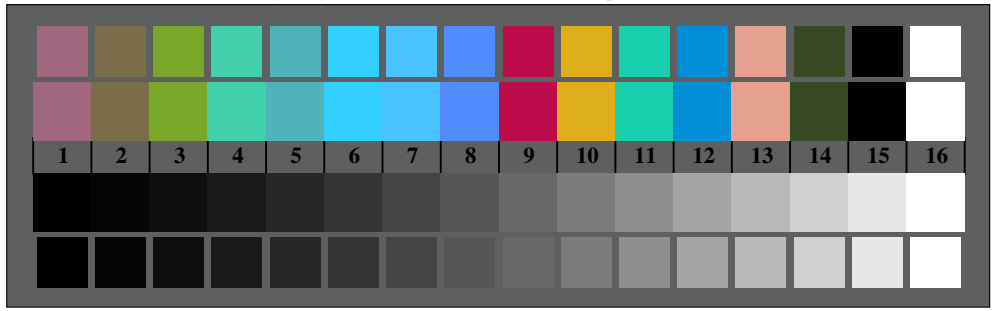

AE271–3, Picture B5W*de: Sript and Landolt-rings *N*; $C_e$; $M_e$; $Y_e$; *Z*; *PS* operator *rgb–>rgb*de setrgbcolor*



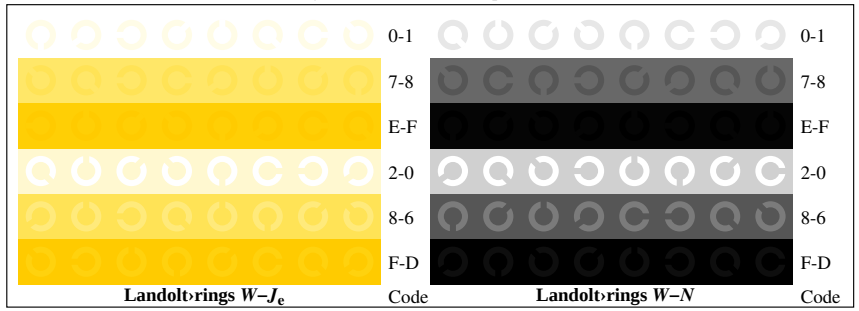

AE270–5, Picture B2W*de: radial gratings $W–C_e$; $W–M_e$; $W–J_e$; $W–N$; *PS* operator *rgb–>rgb*de setrgbcolor*




AE271–5, Picture B6W*de: Landolt-rings $W–C_e$; $W–M_e$; *PS* operator *rgb–>rgb*de setrgbcolor*




AE270–7, Picture B3W*de: 14 CIE-test colours and 2 + 16 grey steps (sf); *rgb/cmy0–>rgb*de setrgbcolor*




AE271–7, Picture B7W*de: Landolt-rings $W–J_e$; $W–N$; *PS* operator *rgb–>rgb*de setrgbcolor*

Test chart AE27 according to test chart 2 of ISO/IEC 15775
chromatic test chart *CMYK*

input: *rgb/cmy0/000n/w set...*
output: *->rgb*de setrgbcolor*

see similar files: http://farbe.li.tu-berlin.de/AE27/AE27.HTM
technical information: http://farbe.li.tu-berlin.de/ or http://farbe.li.tu-berlin.de/AE.HTM

TUB Registration: 20191001-AE27/AE27L0FA.TXT /.PS TUB material: code=rha4ta
application for measurement or viewing of the output on display and print

**Test for the visual linearized output of pictures B1W**de **to B3W**de

**Output test with the computer display ( ) or the external display ( )** please mark by (x)!

**Test of the (flower) image according to picture B1W**de

Are clear (immediately conspicuous) differences recognized between reproduction and test chart? **Yes/No**

Subjective remarks about the colour reproduction of the (flower) image,
the CIE−test colours and the 16 grey steps within the image, for example "less contrast":

.....
.....
.....
.....
.....

**Test of the resolution of radial gratings *W−C*$_d$, *W−M*$_d$, *W−Y*$_d$ according to picture B2W**de

| | ***W−C*$_d$** | ***W−M*$_d$** | ***W−Y*$_d$** | ***W−N*** | ***W−Z*** |
|---|---|---|---|---|---|
| Is the resolution diameter < 6 mm? | Yes/No | Yes/No | Yes/No | Yes/No | Yes/No |
| Test with magnifying glass (6x), Resolution diameter: | ..... mm | ..... mm | ..... mm | ..... mm | ..... mm |

**Test of the 14 CIE−test colours according to picture B3W**de

Are clear (immediately conspicuous) differences recognized between reproduction and test chart? **Yes/No**

If Yes: How many colours have clear differences? of the given 14 steps: **..... Steps**

**Test of 16 visual equidistant *L**−grey steps according to picture B3W**de

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**

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**Test of 16 visually equally spaced steps of the colour rows *W−C*$_d$, *W−M*$_d$, *W−Y*$_d$, and *W−N* according to picture B4W**de

| | | | |
|---|---|---|---|
| ***W−C*$_d$** White − Cyanblue: | Are all the 16 steps distinguishable? | | **Yes/No** |
| | If No: How many steps can be distinguished? | of the given 16 steps | ..... Steps |
| ***W−M*$_d$** White − Magentared: | Are all the 16 steps distinguishable? | | **Yes/No** |
| | If No: How many steps can be distinguished? | of the given 16 steps | ..... Steps |
| ***W−Y*$_d$** White − Yellow: | Are all the 16 steps distinguishable? | | **Yes/No** |
| | If No: How many steps can be distinguished? | of the given 16 steps | ..... Steps |
| ***W−N*** White − Black: | Are all the 16 steps distinguishable? | | **Yes/No** |
| | If No: How many steps can be distinguished? | of the given 16 steps | ..... Steps |

**Test of characters and Landolt−rings in four sizes according to picture B5W**de

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 ***C*$_d$** | Ring ***M*$_d$** | Ring ***Y*$_d$** |
|---|---|---|---|---|---|
| 10 | Yes/No | Yes/No | Yes/No | Yes/No | Yes/No |
| 8 | Yes/No | Yes/No | Yes/No | Yes/No | Yes/No |
| 6 | Yes/No | Yes/No | Yes/No | Yes/No | Yes/No |
| 4 | Yes/No | Yes/No | Yes/No | Yes/No | Yes/No |

**Test of recognition frequency of Landolt−rings *W−C*$_d$, *W−M*$_d$, *W−Y*$_d$, and *W−N* according to pictures B6W**de**, and B7W**de

Is the recognition frequency of the Landolt−rings > 50% (min. 5 of 8 at least)?

| Colour row ***W−C*$_d$** background − ring | | Colour row ***W−M*$_d$** background − ring | | Colour row ***W−Y*$_d$** 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 2 AE271−3Nde: 110321

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

**PDF file:** http://farbe.li.tu-berlin.de/AE27/AE27F0NX_CY4_1.PDF **underline Yes/No**

**PS file:** http://farbe.li.tu-berlin.de/AE27/AE27F0NX_CY4_1.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 AE27F0NX_CY4_1.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 AE27F0NX_CY4_1.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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## 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://farbe.li.tu-berlin.de/AE27/AE27F0PX_CY4_3.PDF **underline Yes/No**
**PS file:** http://farbe.li.tu-berlin.de/AE27/AE27F0PX_CY4_3.PS **underline Yes/No**
**Picture A7**de **contrast range:** (>F:0) (F:0) (E:0) (D:0) (C:0) (A:0) (9:0) (7:0) (5:0) (3:0) (<3:0)
compare standard print output according to ISO/IEC 15775 with range F:0 **underline range**
*Remark: In daylighted offices the contrast range is in many cases:*
*on display between: >F:0 and E:0 (monitor), D:0 and 3:0 (data projector)*

## Only for optional colorimetric specification with PDF/PS file output

**PDF file:** http://farbe.li.tu-berlin.de/AE27/AE27F0PX_CY4_3.PDF
**picture A7**de **underline Yes/No**
**PS file:** http://farbe.li.tu-berlin.de/AE27/AE27F0PX_CY4_3.PS
**picture A7**de **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 for 17 step colours of** http://farbe.li.tu-berlin.de/OE70/OE70L1NP.PDF
Exchange of CIELAB data in file http://farbe.li.tu-berlin.de/AE82/AE82L0NP.TXT and transfer
of the PS file AE82L0NP.PS (=.TXT) to the PDF−file AE82L0NP.PDF **underline Yes/No**
If No, please describe other method: .....

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Form A: Test chart AE27 according to test chart 2 of ISO/IEC 15775 input: *rgb/cmy0/000n/w set...*
chromatic test chart *CMYK* output: *->rgb*$_{de}$ *setrgbcolor*

see similar files: http://farbe.li.tu-berlin.de/AE27/AE27.HTM
technical information: http://farbe.li.tu-berlin.de/ or http://farbe.li.tu-berlin.de/AE.HTM

TUB Registration: 20191001-AE27/AE27L0FA.TXT /.PS
application for measurement or viewing of the output on display and print
TUB material: code=rha4ta

| i | LAB*ref | | | l*out | LAB*out | | | LAB*out−ref | | | ΔE* |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 26,84 | 0,00 | 0,00 | 0,00 | 26,84 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,01 |
| 2 | 31,41 | 0,00 | 0,00 | 0,00 | 27,49 | 0,00 | 0,00 | -3, | 0,00 | 0,00 | 3,92 |
| 3 | 35,98 | 0,00 | 0,00 | 0,03 | 28,99 | 0,00 | 0,00 | -6, | 0,00 | 0,00 | 6,99 |
| 4 | 40,56 | 0,00 | 0,00 | 0,06 | 31,15 | 0,00 | 0,00 | -9, | 0,00 | 0,00 | 9,40 |
| 5 | 45,13 | 0,00 | 0,00 | 0,10 | 33,90 | 0,00 | 0,00 | -11, | 0,00 | 0,00 | 11,22 |
| 6 | 49,70 | 0,00 | 0,00 | 0,15 | 37,21 | 0,00 | 0,00 | -12, | 0,00 | 0,00 | 12,49 |
| 7 | 54,27 | 0,00 | 0,00 | 0,20 | 41,02 | 0,00 | 0,00 | -13, | 0,00 | 0,00 | 13,24 |
| 8 | 58,84 | 0,00 | 0,00 | 0,26 | 45,33 | 0,00 | 0,00 | -13, | 0,00 | 0,00 | 13,51 |
| 9 | 63,41 | 0,00 | 0,00 | 0,33 | 50,10 | 0,00 | 0,00 | -13, | 0,00 | 0,00 | 13,31 |
| 10 | 67,98 | 0,00 | 0,00 | 0,41 | 55,32 | 0,00 | 0,00 | -12, | 0,00 | 0,00 | 12,65 |
| 11 | 72,55 | 0,00 | 0,00 | 0,49 | 60,98 | 0,00 | 0,00 | -11, | 0,00 | 0,00 | 11,57 |
| 12 | 77,12 | 0,00 | 0,00 | 0,58 | 67,06 | 0,00 | 0,00 | -10, | 0,00 | 0,00 | 10,06 |
| 13 | 81,69 | 0,00 | 0,00 | 0,68 | 73,55 | 0,00 | 0,00 | -8, | 0,00 | 0,00 | 8,14 |
| 14 | 86,26 | 0,00 | 0,00 | 0,78 | 80,45 | 0,00 | 0,00 | -5, | 0,00 | 0,00 | 5,81 |
| 15 | 90,83 | 0,00 | 0,00 | 0,88 | 87,73 | 0,00 | 0,00 | -3, | 0,00 | 0,00 | 3,10 |
| 16 | 95,41 | 0,00 | 0,00 | 1,00 | 95,41 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,01 |
| 17 | 26,84 | 0,00 | 0,00 | 0,00 | 26,84 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,01 |
| 18 | 43,98 | 0,00 | 0,00 | 0,09 | 33,16 | 0,00 | 0,00 | -10, | 0,00 | 0,00 | 10,82 |
| 19 | 61,12 | 0,00 | 0,00 | 0,30 | 47,66 | 0,00 | 0,00 | -13, | 0,00 | 0,00 | 13,46 |
| 20 | 78,26 | 0,00 | 0,00 | 0,60 | 68,64 | 0,00 | 0,00 | -9, | 0,00 | 0,00 | 9,62 |
| 21 | 95,41 | 0,00 | 0,00 | 1,00 | 95,41 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,01 |

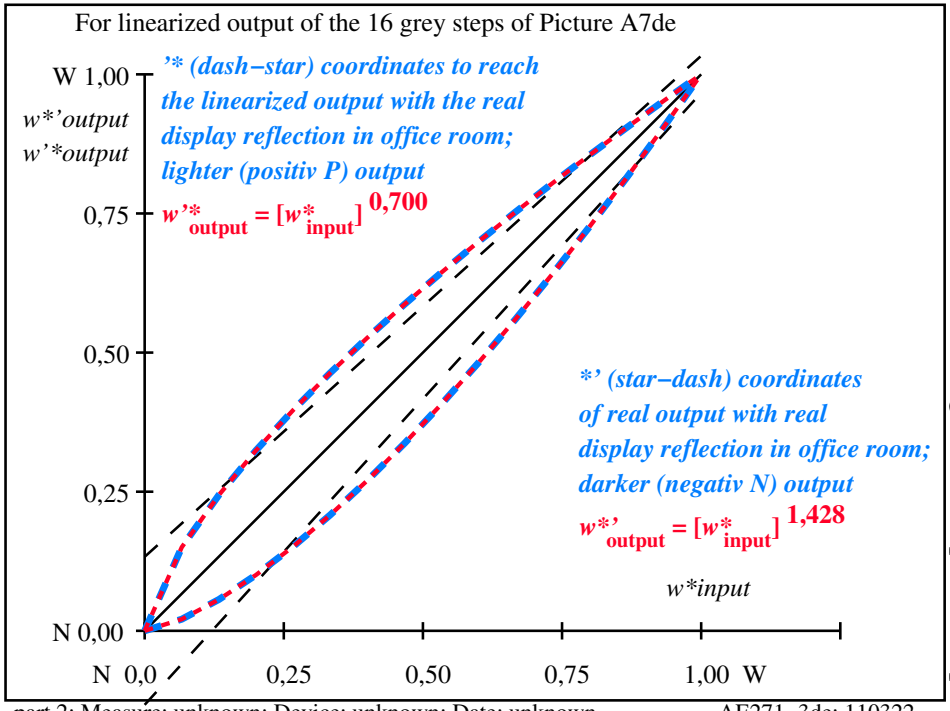
**Start output S1**
**Specification according to ISO/IEC 15775 Annex G and DIN 33866-1 Annex G**

**Mean lightness difference (16 steps)**
$\Delta E^*_{CIELAB}$ = 8,4

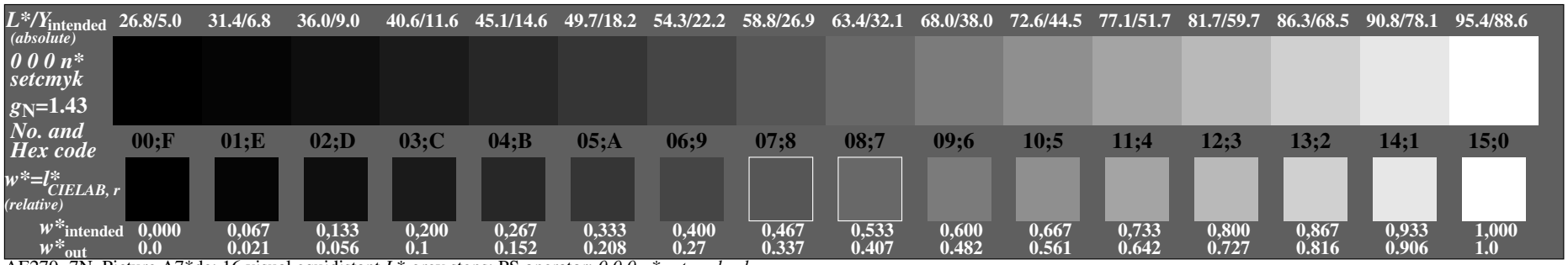
**Mean lightness difference (5 steps)**
$\Delta L^*_{CIELAB}$ = 6,7

**Mean colour reproduction index:** $R^*_{ab,m}$ = 62,8

part 1; Measure: unknown; Device: unknown; Date: unknown AE270−3de: 110322




part 2; Measure: unknown; Device: unknown; Date: unknown AE271−3de: 110322




AE270−7N, Picture A7*de: 16 visual equidistant *L**-grey steps; PS operator: *0 0 0 n* setcmykcolor*

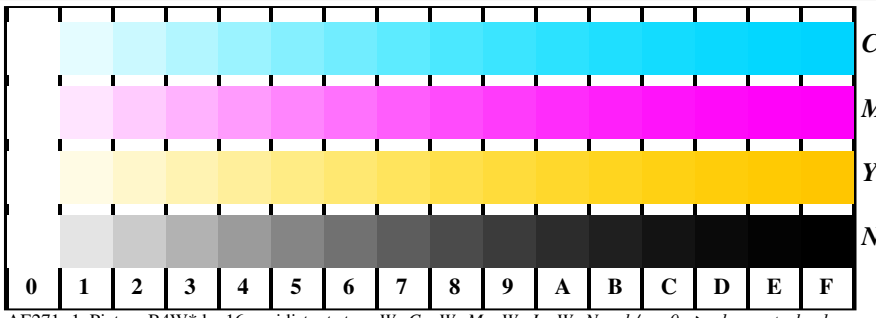
In-out: Test chart AE27 according to test chart 2 of ISO/IEC 15775
Viewing *Y* contrast $Y_W$:$Y_N$=88,9:5; $Y_N$-range 3,75 to <7,5

input: *rgb/cmy0/000n/w set...*
output: *->rgb*$_{de}$ *setrgbcolor*

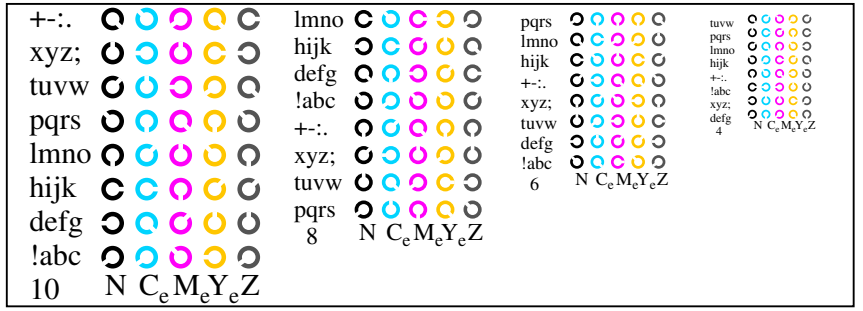
see similar files: http://farbe.li.tu-berlin.de/AE27/AE27.HTM
technical information: http://farbe.li.tu-berlin.de/ or http://farbe.li.tu-berlin.de/AE.HTM

TUB Registration: 20191001-AE27/AE27L0FA.TXT /.PS TUB material: code=rha4ta
application for measurement or viewing of the output on display and print

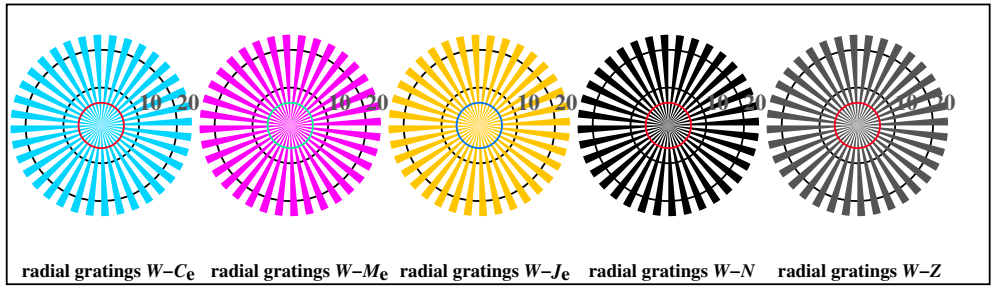
AE270–3, Picture B1W*de: Flower motif, 14 CIE-test colours and 2 + 16 grey steps (nf); *PS* operators *settransfer, 3 colorimage*



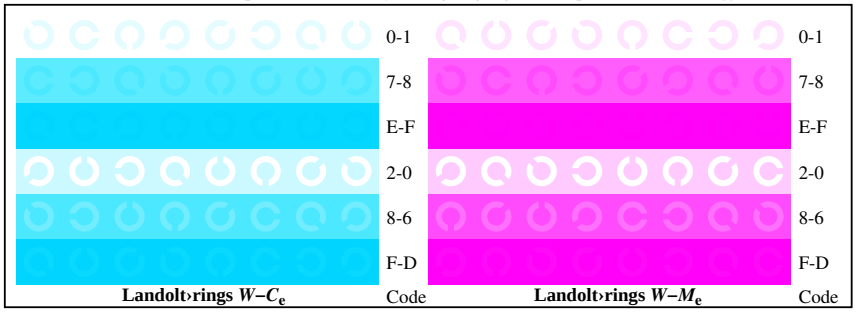

AE271–1, Picture B4W*de: 16 equidistant steps $W–C_e$; $W–M_e$; $W–J_e$; $W–N$; *rgb/cmy0–>rgb*de setrgbcolor*



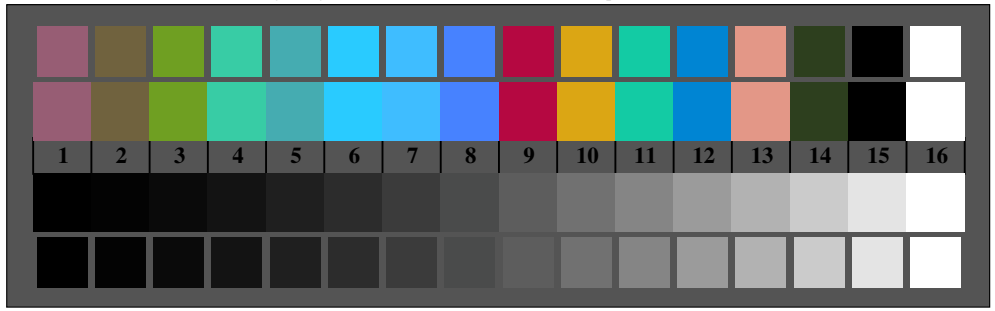

AE271–3, Picture B5W*de: Sript and Landolt-rings *N*; $C_e$; $M_e$; $Y_e$; *Z*; *PS* operator *rgb–>rgb*de setrgbcolor*



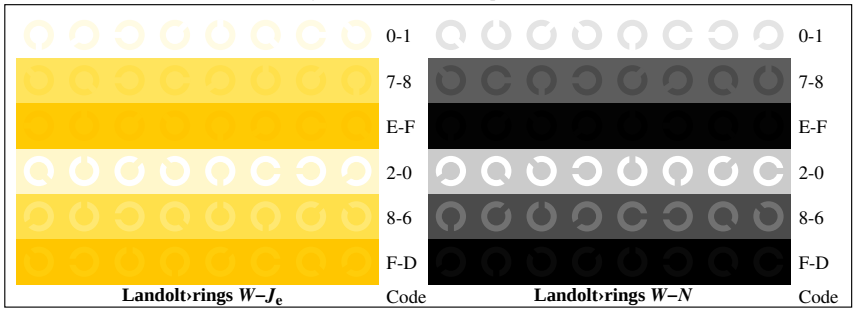

AE270–5, Picture B2W*de: radial gratings $W–C_e$; $W–M_e$; $W–J_e$; $W–N$; *PS* operator *rgb–>rgb*de setrgbcolor*




AE271–5, Picture B6W*de: Landolt-rings $W–C_e$; $W–M_e$; *PS* operator *rgb–>rgb*de setrgbcolor*




AE270–7, Picture B3W*de: 14 CIE-test colours and 2 + 16 grey steps (sf); *rgb/cmy0–>rgb*de setrgbcolor*




AE271–7, Picture B7W*de: Landolt-rings $W–J_e$; $W–N$; *PS* operator *rgb–>rgb*de setrgbcolor*

Test chart AE27 according to test chart 2 of ISO/IEC 15775
chromatic test chart *CMYK*

input: *rgb/cmy0/000n/w set...*
output: *->rgb*de setrgbcolor*

see similar files: http://farbe.li.tu-berlin.de/AE27/AE27.HTM
technical information: http://farbe.li.tu-berlin.de/ or http://farbe.li.tu-berlin.de/AE.HTM

TUB Registration: 20191001-AE27/AE27L0FA.TXT /.PS TUB material: code=rha4ta
application for measurement or viewing of the output on display and print

**Test for the visual linearized output of pictures B1W**de **to B3W**de

**Output test with the computer display ( ) or the external display ( )** please mark by (x)!

**Test of the (flower) image according to picture B1W**de

Are clear (immediately conspicuous) differences recognized between reproduction and test chart? **Yes/No**

Subjective remarks about the colour reproduction of the (flower) image,
the CIE−test colours and the 16 grey steps within the image, for example "less contrast":

.....
.....
.....
.....
.....

**Test of the resolution of radial gratings *W−C*$_d$, *W−M*$_d$, *W−Y*$_d$ according to picture B2W**de

| | ***W−C*$_d$** | ***W−M*$_d$** | ***W−Y*$_d$** | ***W−N*** | ***W−Z*** |
|---|---|---|---|---|---|
| Is the resolution diameter < 6 mm? | Yes/No | Yes/No | Yes/No | Yes/No | Yes/No |
| Test with magnifying glass (6x), Resolution diameter: | ..... mm | ..... mm | ..... mm | ..... mm | ..... mm |

**Test of the 14 CIE−test colours according to picture B3W**de

Are clear (immediately conspicuous) differences recognized between reproduction and test chart? **Yes/No**

If Yes: How many colours have clear differences? of the given 14 steps: **..... Steps**

**Test of 16 visual equidistant *L**−grey steps according to picture B3W**de

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 AE270−3de: 110401

**Test of 16 visually equally spaced steps of the colour rows *W−C*$_d$, *W−M*$_d$, *W−Y*$_d$, and *W−N* according to picture B4W**de

| | | | |
|---|---|---|---|
| ***W−C*$_d$** White − Cyanblue: | Are all the 16 steps distinguishable? | | **Yes/No** |
| | If No: How many steps can be distinguished? | of the given 16 steps | ..... Steps |
| ***W−M*$_d$** White − Magentared: | Are all the 16 steps distinguishable? | | **Yes/No** |
| | If No: How many steps can be distinguished? | of the given 16 steps | ..... Steps |
| ***W−Y*$_d$** White − Yellow: | Are all the 16 steps distinguishable? | | **Yes/No** |
| | If No: How many steps can be distinguished? | of the given 16 steps | ..... Steps |
| ***W−N*** White − Black: | Are all the 16 steps distinguishable? | | **Yes/No** |
| | If No: How many steps can be distinguished? | of the given 16 steps | ..... Steps |

**Test of characters and Landolt−rings in four sizes according to picture B5W**de

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 ***C*$_d$** | Ring ***M*$_d$** | Ring ***Y*$_d$** |
|---|---|---|---|---|---|
| 10 | Yes/No | Yes/No | Yes/No | Yes/No | Yes/No |
| 8 | Yes/No | Yes/No | Yes/No | Yes/No | Yes/No |
| 6 | Yes/No | Yes/No | Yes/No | Yes/No | Yes/No |
| 4 | Yes/No | Yes/No | Yes/No | Yes/No | Yes/No |

**Test of recognition frequency of Landolt−rings *W−C*$_d$, *W−M*$_d$, *W−Y*$_d$, and *W−N* according to pictures B6W**de**, and B7W**de

Is the recognition frequency of the Landolt−rings > 50% (min. 5 of 8 at least)?

| Colour row ***W−C*$_d$** background − ring | | Colour row ***W−M*$_d$** background − ring | | Colour row ***W−Y*$_d$** 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 2 AE271−3Nde: 110401

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

**PDF file:** http://farbe.li.tu-berlin.de/AE27/AE27F0NX_CY3_1.PDF **underline Yes/No**

**PS file:** http://farbe.li.tu-berlin.de/AE27/AE27F0NX_CY3_1.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 AE27F0NX_CY3_1.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 AE27F0NX_CY3_1.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 AE270−7N*de-110401

## 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://farbe.li.tu-berlin.de/AE27/AE27F0PX_CY3_3.PDF **underline Yes/No**
**PS file:** http://farbe.li.tu-berlin.de/AE27/AE27F0PX_CY3_3.PS **underline Yes/No**
**Picture A7**de **contrast range:** (>F:0) (F:0) (E:0) (D:0) (C:0) (A:0) (9:0) (7:0) (5:0) (3:0) (<3:0)
compare standard print output according to ISO/IEC 15775 with range F:0 **underline range**
*Remark: In daylighted offices the contrast range is in many cases:*
*on display between: >F:0 and E:0 (monitor), D:0 and 3:0 (data projector)*

## Only for optional colorimetric specification with PDF/PS file output

**PDF file:** http://farbe.li.tu-berlin.de/AE27/AE27F0PX_CY3_3.PDF
**picture A7**de **underline Yes/No**
**PS file:** http://farbe.li.tu-berlin.de/AE27/AE27F0PX_CY3_3.PS
**picture A7**de **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 for 17 step colours of** http://farbe.li.tu-berlin.de/OE70/OE70L1NP.PDF
Exchange of CIELAB data in file http://farbe.li.tu-berlin.de/AE82/AE82L0NP.TXT and transfer of the PS file AE82L0NP.PS (=.TXT) to the PDF−file AE82L0NP.PDF **underline Yes/No**
If No, please describe other method: .....

part 4 AE271−7de: 110401

Form A: Test chart AE27 according to test chart 2 of ISO/IEC 15775 input: *rgb/cmy0/000n/w set...*
chromatic test chart *CMYK* output: *->rgb*$_{de}$ *setrgbcolor*

see similar files: http://farbe.li.tu-berlin.de/AE27/AE27.HTM
technical information: http://farbe.li.tu-berlin.de/ or http://farbe.li.tu-berlin.de/AE.HTM

TUB Registration: 20191001-AE27/AE27L0FA.TXT /.PS
application for measurement or viewing of the output on display and print
TUB material: code=rha4ta

| i | LAB*ref | | | l*out | LAB*out | | | LAB*out−ref | | | ΔE* |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 37,98 | 0,00 | 0,00 | 0,00 | 37,98 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,01 |
| 2 | 41,81 | 0,00 | 0,00 | 0,00 | 38,32 | 0,00 | 0,00 | -3, | 0,00 | 0,00 | 3,49 |
| 3 | 45,64 | 0,00 | 0,00 | 0,02 | 39,23 | 0,00 | 0,00 | -6, | 0,00 | 0,00 | 6,40 |
| 4 | 49,47 | 0,00 | 0,00 | 0,04 | 40,68 | 0,00 | 0,00 | -8, | 0,00 | 0,00 | 8,78 |
| 5 | 53,29 | 0,00 | 0,00 | 0,08 | 42,64 | 0,00 | 0,00 | -10, | 0,00 | 0,00 | 10,65 |
| 6 | 57,12 | 0,00 | 0,00 | 0,12 | 45,10 | 0,00 | 0,00 | -12, | 0,00 | 0,00 | 12,02 |
| 7 | 60,95 | 0,00 | 0,00 | 0,17 | 48,05 | 0,00 | 0,00 | -12, | 0,00 | 0,00 | 12,90 |
| 8 | 64,78 | 0,00 | 0,00 | 0,23 | 51,48 | 0,00 | 0,00 | -13, | 0,00 | 0,00 | 13,30 |
| 9 | 68,61 | 0,00 | 0,00 | 0,30 | 55,37 | 0,00 | 0,00 | -13, | 0,00 | 0,00 | 13,23 |
| 10 | 72,44 | 0,00 | 0,00 | 0,37 | 59,74 | 0,00 | 0,00 | -12, | 0,00 | 0,00 | 12,69 |
| 11 | 76,26 | 0,00 | 0,00 | 0,46 | 64,56 | 0,00 | 0,00 | -11, | 0,00 | 0,00 | 11,70 |
| 12 | 80,09 | 0,00 | 0,00 | 0,55 | 69,83 | 0,00 | 0,00 | -10, | 0,00 | 0,00 | 10,25 |
| 13 | 83,92 | 0,00 | 0,00 | 0,65 | 75,56 | 0,00 | 0,00 | -8, | 0,00 | 0,00 | 8,35 |
| 14 | 87,75 | 0,00 | 0,00 | 0,76 | 81,73 | 0,00 | 0,00 | -6, | 0,00 | 0,00 | 6,01 |
| 15 | 91,58 | 0,00 | 0,00 | 0,87 | 88,35 | 0,00 | 0,00 | -3, | 0,00 | 0,00 | 3,22 |
| 16 | 95,41 | 0,00 | 0,00 | 1,00 | 95,41 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,01 |
| 17 | 37,98 | 0,00 | 0,00 | 0,00 | 37,98 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,01 |
| 18 | 52,34 | 0,00 | 0,00 | 0,07 | 42,10 | 0,00 | 0,00 | -10, | 0,00 | 0,00 | 10,23 |
| 19 | 66,69 | 0,00 | 0,00 | 0,26 | 53,37 | 0,00 | 0,00 | -13, | 0,00 | 0,00 | 13,32 |
| 20 | 81,05 | 0,00 | 0,00 | 0,57 | 71,22 | 0,00 | 0,00 | -9, | 0,00 | 0,00 | 9,82 |
| 21 | 95,41 | 0,00 | 0,00 | 1,00 | 95,41 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,01 |

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

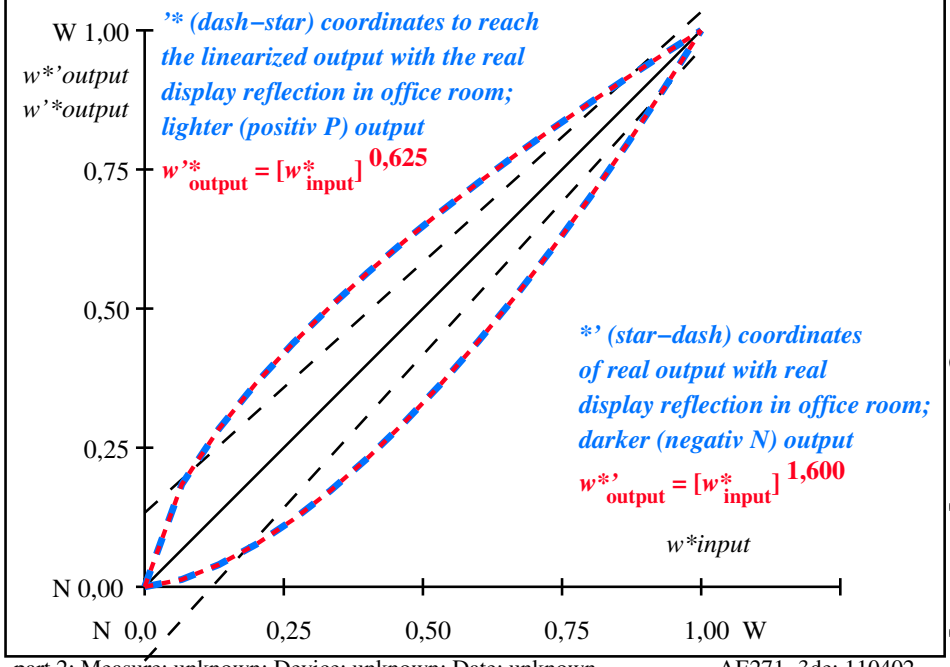
**Mean lightness difference (16 steps)**
$\Delta E^*_{CIELAB}$ = 8,3

**Mean lightness difference (5 steps)**
$\Delta L^*_{CIELAB}$ = 6,6

**Mean colour reproduction index:** $R^*_{ab,m}$ = 63,5

part 1; Measure: unknown; Device: unknown; Date: unknown AE270−3de: 110402

For linearized output of the 16 grey steps of Picture A7de




part 2; Measure: unknown; Device: unknown; Date: unknown AE271−3de: 110402

| $L^*/Y_{intended}$ (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 |
| $w^*=l^*_{CIELAB, r}$ (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 |

AE270−7N, Picture A7*de: 16 visual equidistant *L**-grey steps; PS operator: *0 0 0 n* setcmykcolor*

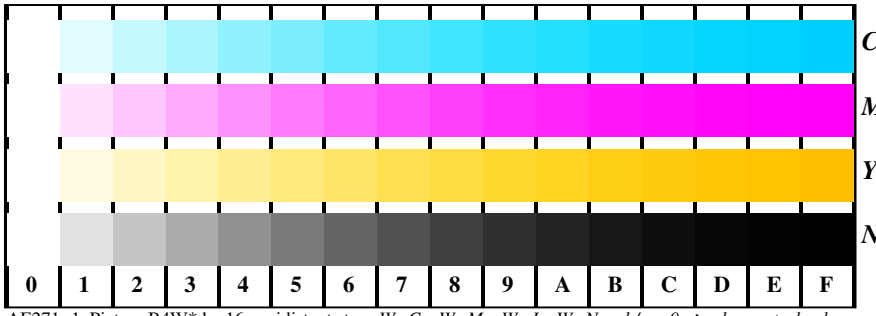
In-out: Test chart AE27 according to test chart 2 of ISO/IEC 15775
Viewing *Y* contrast $Y_W$:$Y_N$=88,9:10; $Y_N$-range 7,5 to <15

input: *rgb/cmy0/000n/w set...*
output: *->$rgb_{de}$ setrgbcolor*

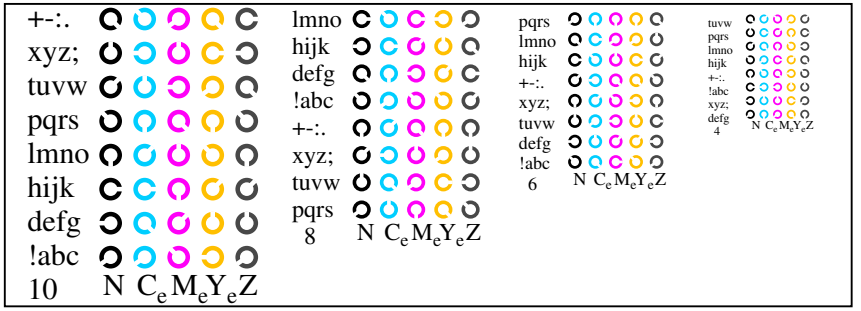
see similar files: http://farbe.li.tu-berlin.de/AE27/AE27.HTM
technical information: http://farbe.li.tu-berlin.de/ or http://farbe.li.tu-berlin.de/AE.HTM

TUB Registration: 20191001-AE27/AE27L0FA.TXT /.PS TUB material: code=rha4ta
application for measurement or viewing of the output on display and print

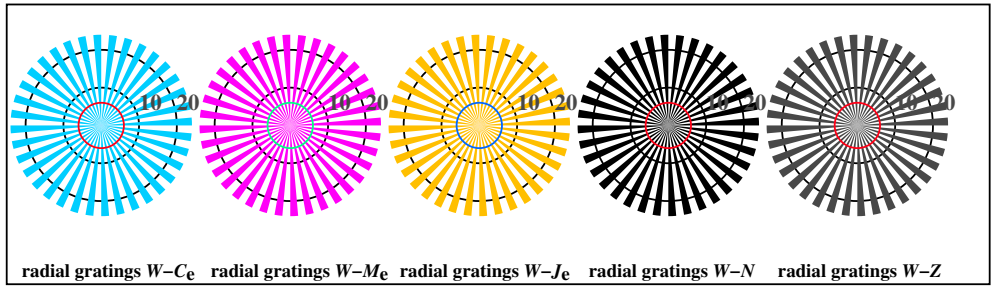
AE270–3, Picture B1W*de: Flower motif, 14 CIE-test colours and 2 + 16 grey steps (nf); *PS* operators *settransfer, 3 colorimage*



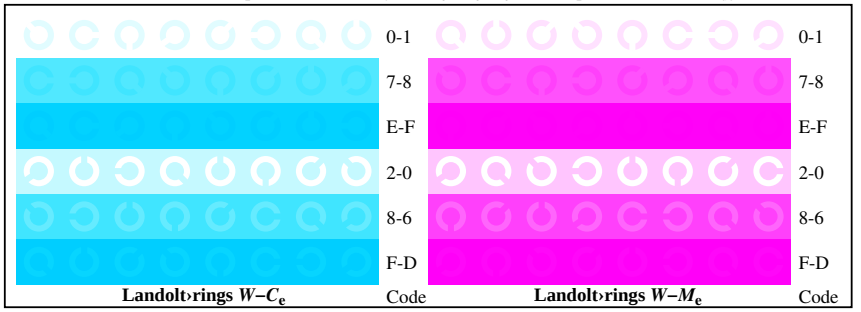

AE271–1, Picture B4W*de: 16 equidistant steps $W–C_e$; $W–M_e$; $W–J_e$; $W–N$; *rgb/cmy0–>rgb*de setrgbcolor*



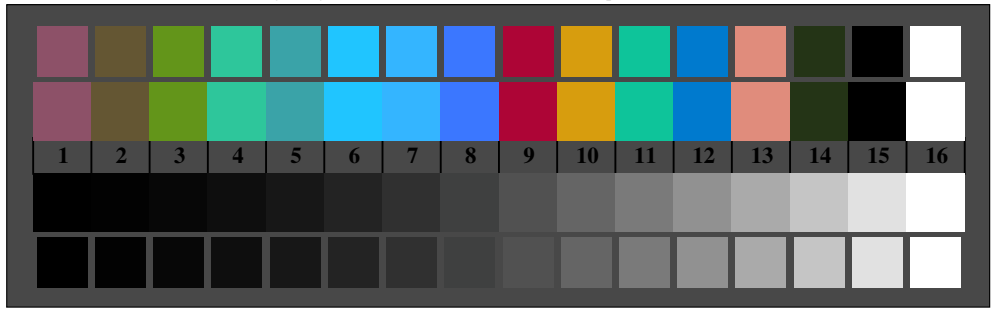

AE271–3, Picture B5W*de: Sript and Landolt-rings *N*; $C_e$; $M_e$; $Y_e$; *Z*; *PS* operator *rgb–>rgb*de setrgbcolor*



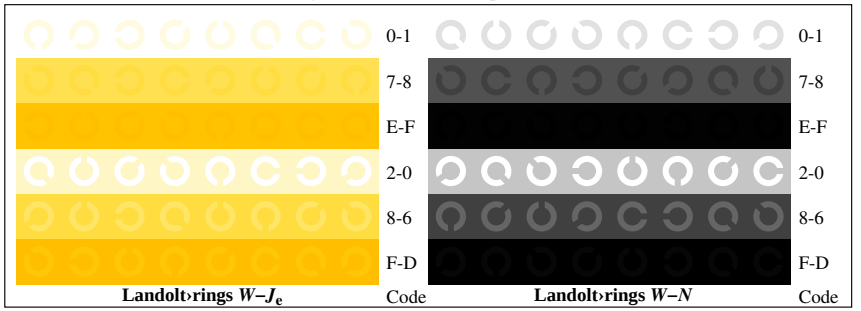

AE270–5, Picture B2W*de: radial gratings $W–C_e$; $W–M_e$; $W–J_e$; *W–N; PS* operator *rgb–>rgb*de setrgbcolor*




AE271–5, Picture B6W*de: Landolt-rings $W–C_e$; $W–M_e$; *PS* operator *rgb–>rgb*de setrgbcolor*




AE270–7, Picture B3W*de: 14 CIE-test colours and 2 + 16 grey steps (sf); *rgb/cmy0–>rgb*de setrgbcolor*




AE271–7, Picture B7W*de: Landolt-rings $W–J_e$; *W–N; PS* operator *rgb–>rgb*de setrgbcolor*

Test chart AE27 according to test chart 2 of ISO/IEC 15775
chromatic test chart *CMYK*

input: *rgb/cmy0/000n/w set...*
output: *->rgb*de setrgbcolor*

see similar files: http://farbe.li.tu-berlin.de/AE27/AE27.HTM
technical information: http://farbe.li.tu-berlin.de/ or http://farbe.li.tu-berlin.de/AE.HTM

**Test for the visual linearized output of pictures B1W**de **to B3W**de

**Output test with the computer display ( ) or the external display ( )** please mark by (x)!

**Test of the (flower) image according to picture B1W**de

Are clear (immediately conspicuous) differences recognized between reproduction and test chart? **Yes/No**

Subjective remarks about the colour reproduction of the (flower) image,
the CIE−test colours and the 16 grey steps within the image, for example "less contrast":

.....
.....
.....
.....
.....

**Test of the resolution of radial gratings *W−C*$_d$, *W−M*$_d$, *W−Y*$_d$ according to picture B2W**de

| | ***W−C*$_d$** | ***W−M*$_d$** | ***W−Y*$_d$** | ***W−N*** | ***W−Z*** |
|---|---|---|---|---|---|
| Is the resolution diameter < 6 mm? | Yes/No | Yes/No | Yes/No | Yes/No | Yes/No |
| Test with magnifying glass (6x), Resolution diameter: | ..... mm | ..... mm | ..... mm | ..... mm | ..... mm |

**Test of the 14 CIE−test colours according to picture B3W**de

Are clear (immediately conspicuous) differences recognized between reproduction and test chart? **Yes/No**

If Yes: How many colours have clear differences? of the given 14 steps: **..... Steps**

**Test of 16 visual equidistant *L**−grey steps according to picture B3W**de

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**

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**Test of 16 visually equally spaced steps of the colour rows *W−C*$_d$, *W−M*$_d$, *W−Y*$_d$, and *W−N* according to picture B4W**de

| | | | |
|---|---|---|---|
| ***W−C*$_d$** White − Cyanblue: | Are all the 16 steps distinguishable? | | **Yes/No** |
| | If No: How many steps can be distinguished? | of the given 16 steps | ..... Steps |
| ***W−M*$_d$** White − Magentared: | Are all the 16 steps distinguishable? | | **Yes/No** |
| | If No: How many steps can be distinguished? | of the given 16 steps | ..... Steps |
| ***W−Y*$_d$** White − Yellow: | Are all the 16 steps distinguishable? | | **Yes/No** |
| | If No: How many steps can be distinguished? | of the given 16 steps | ..... Steps |
| ***W−N*** White − Black: | Are all the 16 steps distinguishable? | | **Yes/No** |
| | If No: How many steps can be distinguished? | of the given 16 steps | ..... Steps |

**Test of characters and Landolt−rings in four sizes according to picture B5W**de

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 ***C*$_d$** | Ring ***M*$_d$** | Ring ***Y*$_d$** |
|---|---|---|---|---|---|
| 10 | Yes/No | Yes/No | Yes/No | Yes/No | Yes/No |
| 8 | Yes/No | Yes/No | Yes/No | Yes/No | Yes/No |
| 6 | Yes/No | Yes/No | Yes/No | Yes/No | Yes/No |
| 4 | Yes/No | Yes/No | Yes/No | Yes/No | Yes/No |

**Test of recognition frequency of Landolt−rings *W−C*$_d$, *W−M*$_d$, *W−Y*$_d$, and *W−N* according to pictures B6W**de**, and B7W**de

Is the recognition frequency of the Landolt−rings > 50% (min. 5 of 8 at least)?

| Colour row ***W−C*$_d$** background − ring | | Colour row ***W−M*$_d$** background − ring | | Colour row ***W−Y*$_d$** 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 2 AE271−3Nde: 110481

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

**PDF file:** http://farbe.li.tu-berlin.de/AE27/AE27F0NX_CY2_1.PDF **underline Yes/No**

**PS file:** http://farbe.li.tu-berlin.de/AE27/AE27F0NX_CY2_1.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 AE27F0NX_CY2_1.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 AE27F0NX_CY2_1.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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## 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://farbe.li.tu-berlin.de/AE27/AE27F0PX_CY2_3.PDF **underline Yes/No**
**PS file:** http://farbe.li.tu-berlin.de/AE27/AE27F0PX_CY2_3.PS **underline Yes/No**
**Picture A7**de **contrast range:** (>F:0) (F:0) (E:0) (D:0) (C:0) (A:0) (9:0) (7:0) (5:0) (3:0) (<3:0)
compare standard print output according to ISO/IEC 15775 with range F:0 **underline range**
*Remark: In daylighted offices the contrast range is in many cases:*
*on display between: >F:0 and E:0 (monitor), D:0 and 3:0 (data projector)*

## Only for optional colorimetric specification with PDF/PS file output

**PDF file:** http://farbe.li.tu-berlin.de/AE27/AE27F0PX_CY2_3.PDF
**picture A7**de **underline Yes/No**
**PS file:** http://farbe.li.tu-berlin.de/AE27/AE27F0PX_CY2_3.PS
**picture A7**de **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 for 17 step colours of** http://farbe.li.tu-berlin.de/OE70/OE70L1NP.PDF
Exchange of CIELAB data in file http://farbe.li.tu-berlin.de/AE82/AE82L0NP.TXT and transfer of the PS file AE82L0NP.PS (=.TXT) to the PDF−file AE82L0NP.PDF **underline Yes/No**
If No, please describe other method: .....

part 4 AE271−7de: 110481

TUB Registration: 20191001-AE27/AE27L0FA.TXT /.PS TUB material: code=rha4ta
application for measurement or viewing of the output on display and print

see similar files: http://farbe.li.tu-berlin.de/AE27/AE27.HTM
technical information: http://farbe.li.tu-berlin.de/ or http://farbe.li.tu-berlin.de/AE.HTM

TUB Registration: 20191001-AE27/AE27L0FA.TXT /.PS
application for measurement or viewing of the output on display and print
TUB material: code=rha4ta

| i | LAB*ref | | | l*out | LAB*out | | | LAB*out−ref | | | ΔE* |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 52,01 | 0,00 | 0,00 | 0,00 | 52,01 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,01 |
| 2 | 54,91 | 0,00 | 0,00 | 0,00 | 52,17 | 0,00 | 0,00 | -2, | 0,00 | 0,00 | 2,73 |
| 3 | 57,80 | 0,00 | 0,00 | 0,01 | 52,67 | 0,00 | 0,00 | -5, | 0,00 | 0,00 | 5,12 |
| 4 | 60,69 | 0,00 | 0,00 | 0,03 | 53,54 | 0,00 | 0,00 | -7, | 0,00 | 0,00 | 7,15 |
| 5 | 63,58 | 0,00 | 0,00 | 0,06 | 54,79 | 0,00 | 0,00 | -8, | 0,00 | 0,00 | 8,79 |
| 6 | 66,48 | 0,00 | 0,00 | 0,10 | 56,43 | 0,00 | 0,00 | -10, | 0,00 | 0,00 | 10,04 |
| 7 | 69,37 | 0,00 | 0,00 | 0,14 | 58,46 | 0,00 | 0,00 | -10, | 0,00 | 0,00 | 10,90 |
| 8 | 72,26 | 0,00 | 0,00 | 0,20 | 60,90 | 0,00 | 0,00 | -11, | 0,00 | 0,00 | 11,35 |
| 9 | 75,16 | 0,00 | 0,00 | 0,27 | 63,75 | 0,00 | 0,00 | -11, | 0,00 | 0,00 | 11,40 |
| 10 | 78,05 | 0,00 | 0,00 | 0,34 | 67,01 | 0,00 | 0,00 | -11, | 0,00 | 0,00 | 11,03 |
| 11 | 80,94 | 0,00 | 0,00 | 0,43 | 70,68 | 0,00 | 0,00 | -10, | 0,00 | 0,00 | 10,25 |
| 12 | 83,83 | 0,00 | 0,00 | 0,52 | 74,78 | 0,00 | 0,00 | -9, | 0,00 | 0,00 | 9,05 |
| 13 | 86,73 | 0,00 | 0,00 | 0,62 | 79,29 | 0,00 | 0,00 | -7, | 0,00 | 0,00 | 7,43 |
| 14 | 89,62 | 0,00 | 0,00 | 0,74 | 84,23 | 0,00 | 0,00 | -5, | 0,00 | 0,00 | 5,38 |
| 15 | 92,51 | 0,00 | 0,00 | 0,86 | 89,60 | 0,00 | 0,00 | -2, | 0,00 | 0,00 | 2,90 |
| 16 | 95,41 | 0,00 | 0,00 | 1,00 | 95,41 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,01 |
| 17 | 52,01 | 0,00 | 0,00 | 0,00 | 52,01 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,01 |
| 18 | 62,86 | 0,00 | 0,00 | 0,05 | 54,44 | 0,00 | 0,00 | -8, | 0,00 | 0,00 | 8,42 |
| 19 | 73,71 | 0,00 | 0,00 | 0,23 | 62,28 | 0,00 | 0,00 | -11, | 0,00 | 0,00 | 11,43 |
| 20 | 84,56 | 0,00 | 0,00 | 0,54 | 75,87 | 0,00 | 0,00 | -8, | 0,00 | 0,00 | 8,69 |
| 21 | 95,41 | 0,00 | 0,00 | 1,00 | 95,41 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,01 |

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

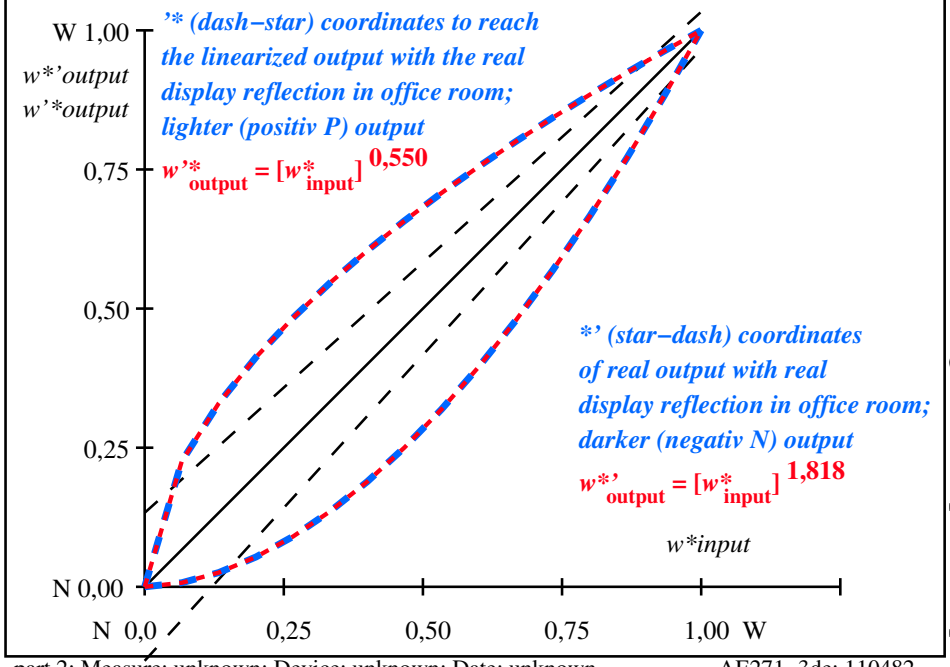
**Mean lightness difference (16 steps)**
$\Delta E^*_{CIELAB}$ = 7,1

**Mean lightness difference (5 steps)**
$\Delta L^*_{CIELAB}$ = 5,7

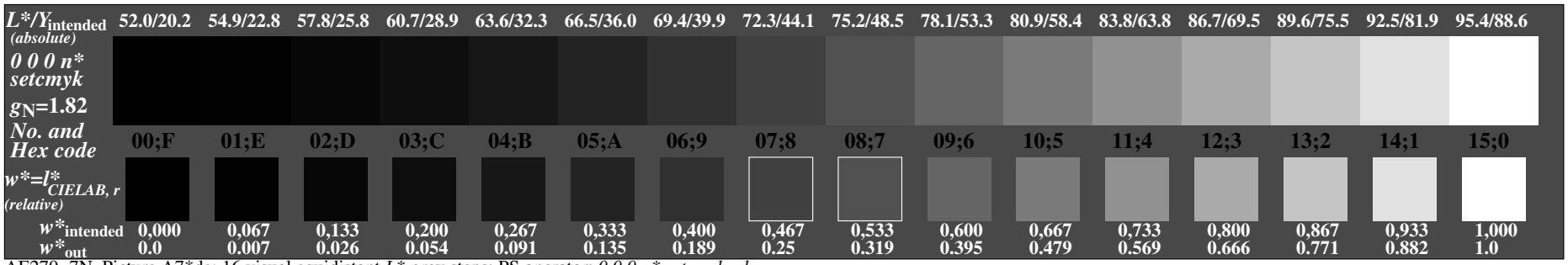
**Mean colour reproduction index:** $R^*_{ab,m}$ = 68,8

part 1; Measure: unknown; Device: unknown; Date: unknown AE270−3de: 110482

For linearized output of the 16 grey steps of Picture A7de




part 2; Measure: unknown; Device: unknown; Date: unknown AE271−3de: 110482




AE270−7N, Picture A7*de: 16 visual equidistant *L**-grey steps; PS operator: *0 0 0 n* setcmykcolor*

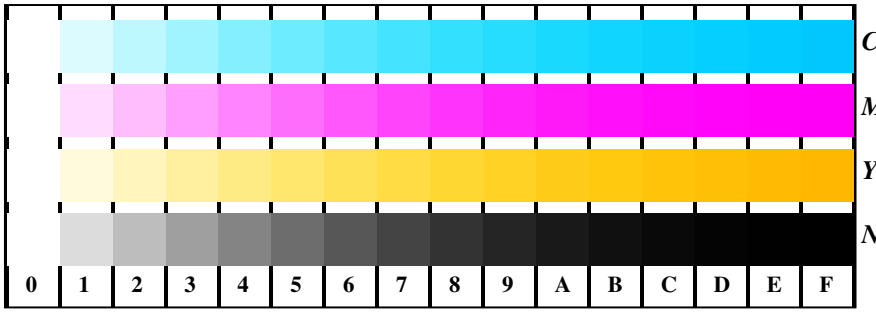
In-out: Test chart AE27 according to test chart 2 of ISO/IEC 15775
Viewing *Y* contrast $Y_W$:$Y_N$=88,9:20; $Y_N$-range 15 to <30

input: *rgb/cmy0/000n/w set...*
output: *->rgb*$_{de}$ *setrgbcolor*

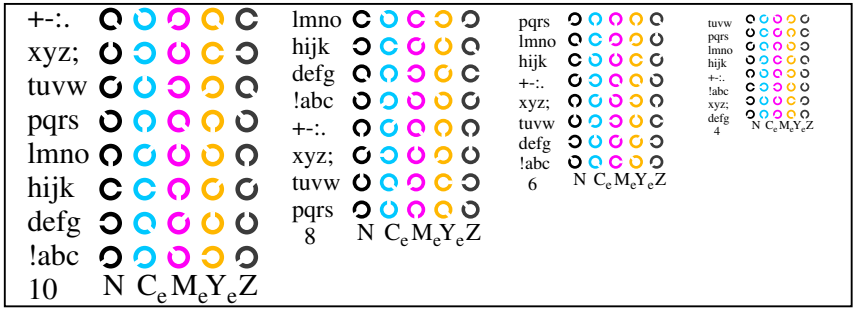
see similar files: http://farbe.li.tu-berlin.de/AE27/AE27.HTM
technical information: http://farbe.li.tu-berlin.de/ or http://farbe.li.tu-berlin.de/AE.HTM

TUB Registration: 20191001-AE27/AE27L0FA.TXT /.PS
application for measurement or viewing of the output on display and print
TUB material: code=rha4ta

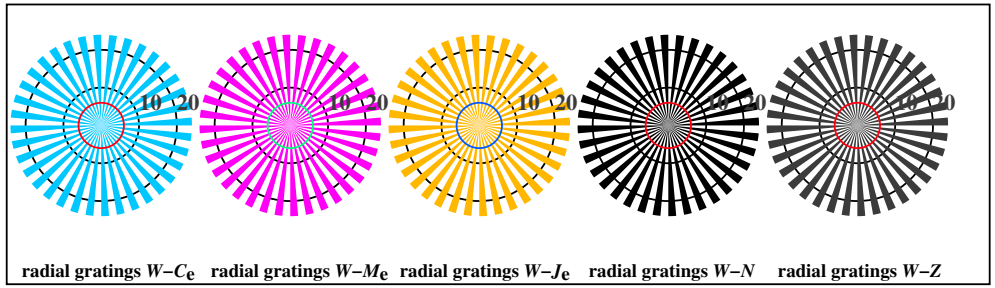
AE270–3, Picture B1W*de: Flower motif, 14 CIE-test colours and 2 + 16 grey steps (nf); *PS* operators *settransfer, 3 colorimage*



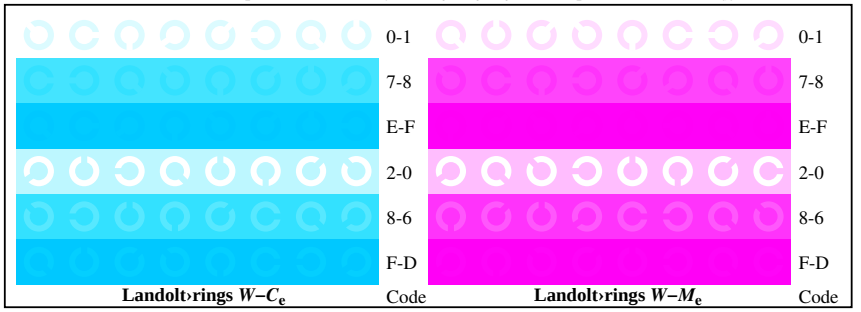

AE271–1, Picture B4W*de: 16 equidistant steps *W–Ce*; *W–Me*; *W–Je*; *W–N*; *rgb/cmy0–>rgb*de setrgbcolor*



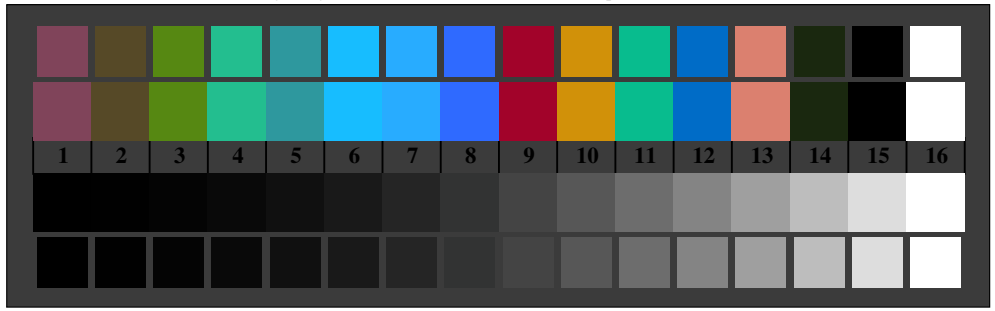

AE271–3, Picture B5W*de: Sript and Landolt-rings *N*; *Ce*; *Me*; *Ye*; *Z*; *PS* operator *rgb–>rgb*de setrgbcolor*



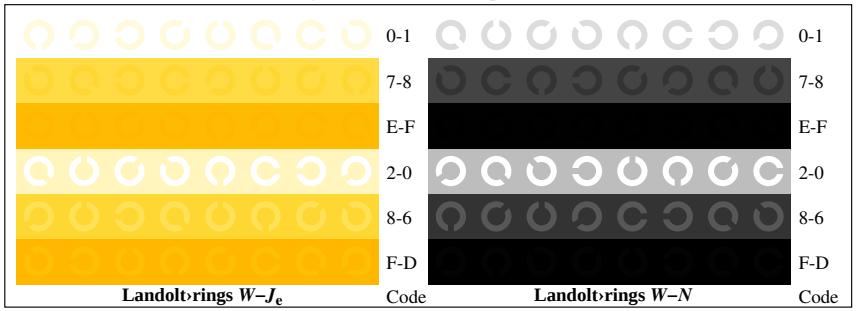

AE270–5, Picture B2W*de: radial gratings *W–Ce*; *W–Me*; *W–Je*; *W–N*; *PS* operator *rgb–>rgb*de setrgbcolor*




AE271–5, Picture B6W*de: Landolt-rings *W–Ce*; *W–Me*; *PS* operator *rgb–>rgb*de setrgbcolor*




AE270–7, Picture B3W*de: 14 CIE-test colours and 2 + 16 grey steps (sf); *rgb/cmy0–>rgb*de setrgbcolor*




AE271–7, Picture B7W*de: Landolt-rings *W–Je*; *W–N*; *PS* operator *rgb–>rgb*de setrgbcolor*

Test chart AE27 according to test chart 2 of ISO/IEC 15775
chromatic test chart *CMYK*

input: *rgb/cmy0/000n/w set...*
output: *->rgb*de setrgbcolor*

see similar files: http://farbe.li.tu-berlin.de/AE27/AE27.HTM
technical information: http://farbe.li.tu-berlin.de/ or http://farbe.li.tu-berlin.de/AE.HTM

TUB Registration: 20191001-AE27/AE27L0FA.TXT /.PS TUB material: code=rha4ta
application for measurement or viewing of the output on display and print

**Test for the visual linearized output of pictures B1W**de **to B3W**de

**Output test with the computer display ( ) or the external display ( )** please mark by (x)!

**Test of the (flower) image according to picture B1W**de

Are clear (immediately conspicuous) differences recognized between reproduction and test chart? **Yes/No**

Subjective remarks about the colour reproduction of the (flower) image,
the CIE−test colours and the 16 grey steps within the image, for example "less contrast":

.....
.....
.....
.....
.....

**Test of the resolution of radial gratings *W−C*$_d$, *W−M*$_d$, *W−Y*$_d$ according to picture B2W**de

| | ***W−C*$_d$** | ***W−M*$_d$** | ***W−Y*$_d$** | ***W−N*** | ***W−Z*** |
|---|---|---|---|---|---|
| Is the resolution diameter < 6 mm? | Yes/No | Yes/No | Yes/No | Yes/No | Yes/No |
| Test with magnifying glass (6x), Resolution diameter: | ..... mm | ..... mm | ..... mm | ..... mm | ..... mm |

**Test of the 14 CIE−test colours according to picture B3W**de

Are clear (immediately conspicuous) differences recognized between reproduction and test chart? **Yes/No**

If Yes: How many colours have clear differences? of the given 14 steps: **..... Steps**

**Test of 16 visual equidistant *L**−grey steps according to picture B3W**de

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**

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**Test of 16 visually equally spaced steps of the colour rows *W−C*$_d$, *W−M*$_d$, *W−Y*$_d$, and *W−N* according to picture B4W**de

| | | | |
|---|---|---|---|
| ***W−C*$_d$** White − Cyanblue: | Are all the 16 steps distinguishable? | | **Yes/No** |
| | If No: How many steps can be distinguished? | of the given 16 steps | ..... Steps |
| ***W−M*$_d$** White − Magentared: | Are all the 16 steps distinguishable? | | **Yes/No** |
| | If No: How many steps can be distinguished? | of the given 16 steps | ..... Steps |
| ***W−Y*$_d$** White − Yellow: | Are all the 16 steps distinguishable? | | **Yes/No** |
| | If No: How many steps can be distinguished? | of the given 16 steps | ..... Steps |
| ***W−N*** White − Black: | Are all the 16 steps distinguishable? | | **Yes/No** |
| | If No: How many steps can be distinguished? | of the given 16 steps | ..... Steps |

**Test of characters and Landolt−rings in four sizes according to picture B5W**de

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 ***C*$_d$** | Ring ***M*$_d$** | Ring ***Y*$_d$** |
|---|---|---|---|---|---|
| 10 | Yes/No | Yes/No | Yes/No | Yes/No | Yes/No |
| 8 | Yes/No | Yes/No | Yes/No | Yes/No | Yes/No |
| 6 | Yes/No | Yes/No | Yes/No | Yes/No | Yes/No |
| 4 | Yes/No | Yes/No | Yes/No | Yes/No | Yes/No |

**Test of recognition frequency of Landolt−rings *W−C*$_d$, *W−M*$_d$, *W−Y*$_d$, and *W−N* according to pictures B6W**de**, and B7W**de

Is the recognition frequency of the Landolt−rings > 50% (min. 5 of 8 at least)?

| Colour row ***W−C*$_d$** background − ring | | Colour row ***W−M*$_d$** background − ring | | Colour row ***W−Y*$_d$** 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 |

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

**PDF file:** http://farbe.li.tu-berlin.de/AE27/AE27F0NX_CY1_1.PDF **underline Yes/No**

**PS file:** http://farbe.li.tu-berlin.de/AE27/AE27F0NX_CY1_1.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 AE27F0NX_CY1_1.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 AE27F0NX_CY1_1.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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## 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://farbe.li.tu-berlin.de/AE27/AE27F0PX_CY1_3.PDF **underline Yes/No**
**PS file:** http://farbe.li.tu-berlin.de/AE27/AE27F0PX_CY1_3.PS **underline Yes/No**
**Picture A7**de **contrast range:** (>F:0) (F:0) (E:0) (D:0) (C:0) (A:0) (9:0) (7:0) (5:0) (3:0) (<3:0)
compare standard print output according to ISO/IEC 15775 with range F:0 **underline range**
*Remark: In daylighted offices the contrast range is in many cases:*
*on display between: >F:0 and E:0 (monitor), D:0 and 3:0 (data projector)*

## Only for optional colorimetric specification with PDF/PS file output

**PDF file:** http://farbe.li.tu-berlin.de/AE27/AE27F0PX_CY1_3.PDF
**picture A7**de **underline Yes/No**
**PS file:** http://farbe.li.tu-berlin.de/AE27/AE27F0PX_CY1_3.PS
**picture A7**de **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 for 17 step colours of** http://farbe.li.tu-berlin.de/OE70/OE70L1NP.PDF
Exchange of CIELAB data in file http://farbe.li.tu-berlin.de/AE82/AE82L0NP.TXT and transfer of the PS file AE82L0NP.PS (=.TXT) to the PDF−file AE82L0NP.PDF **underline Yes/No**
If No, please describe other method: .....

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see similar files: http://farbe.li.tu-berlin.de/AE27/AE27.HTM
technical information: http://farbe.li.tu-berlin.de/ or http://farbe.li.tu-berlin.de/AE.HTM

TUB Registration: 20191001-AE27/AE27L0FA.TXT /.PS
application for measurement or viewing of the output on display and print
TUB material: code=rha4ta

| i | LAB*ref | | | l*out | LAB*out | | | LAB*out−ref | | | ΔE* |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 69,69 | 0,00 | 0,00 | 0,00 | 69,69 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,01 |
| 2 | 71,41 | 0,00 | 0,00 | 0,00 | 69,75 | 0,00 | 0,00 | -1, | 0,00 | 0,00 | 1,65 |
| 3 | 73,12 | 0,00 | 0,00 | 0,01 | 69,96 | 0,00 | 0,00 | -3, | 0,00 | 0,00 | 3,15 |
| 4 | 74,83 | 0,00 | 0,00 | 0,02 | 70,37 | 0,00 | 0,00 | -4, | 0,00 | 0,00 | 4,46 |
| 5 | 76,55 | 0,00 | 0,00 | 0,05 | 70,99 | 0,00 | 0,00 | -5, | 0,00 | 0,00 | 5,56 |
| 6 | 78,26 | 0,00 | 0,00 | 0,08 | 71,84 | 0,00 | 0,00 | -6, | 0,00 | 0,00 | 6,42 |
| 7 | 79,98 | 0,00 | 0,00 | 0,12 | 72,93 | 0,00 | 0,00 | -7, | 0,00 | 0,00 | 7,04 |
| 8 | 81,69 | 0,00 | 0,00 | 0,17 | 74,28 | 0,00 | 0,00 | -7, | 0,00 | 0,00 | 7,40 |
| 9 | 83,41 | 0,00 | 0,00 | 0,24 | 75,90 | 0,00 | 0,00 | -7, | 0,00 | 0,00 | 7,50 |
| 10 | 85,12 | 0,00 | 0,00 | 0,31 | 77,80 | 0,00 | 0,00 | -7, | 0,00 | 0,00 | 7,32 |
| 11 | 86,83 | 0,00 | 0,00 | 0,39 | 79,98 | 0,00 | 0,00 | -6, | 0,00 | 0,00 | 6,85 |
| 12 | 88,55 | 0,00 | 0,00 | 0,49 | 82,45 | 0,00 | 0,00 | -6, | 0,00 | 0,00 | 6,09 |
| 13 | 90,26 | 0,00 | 0,00 | 0,60 | 85,22 | 0,00 | 0,00 | -5, | 0,00 | 0,00 | 5,04 |
| 14 | 91,98 | 0,00 | 0,00 | 0,72 | 88,30 | 0,00 | 0,00 | -3, | 0,00 | 0,00 | 3,67 |
| 15 | 93,69 | 0,00 | 0,00 | 0,85 | 91,69 | 0,00 | 0,00 | -1, | 0,00 | 0,00 | 1,99 |
| 16 | 95,41 | 0,00 | 0,00 | 1,00 | 95,41 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,01 |
| 17 | 69,69 | 0,00 | 0,00 | 0,00 | 69,69 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,01 |
| 18 | 76,12 | 0,00 | 0,00 | 0,04 | 70,81 | 0,00 | 0,00 | -5, | 0,00 | 0,00 | 5,30 |
| 19 | 82,55 | 0,00 | 0,00 | 0,20 | 75,06 | 0,00 | 0,00 | -7, | 0,00 | 0,00 | 7,48 |
| 20 | 88,98 | 0,00 | 0,00 | 0,52 | 83,11 | 0,00 | 0,00 | -5, | 0,00 | 0,00 | 5,86 |
| 21 | 95,41 | 0,00 | 0,00 | 1,00 | 95,41 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,01 |

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

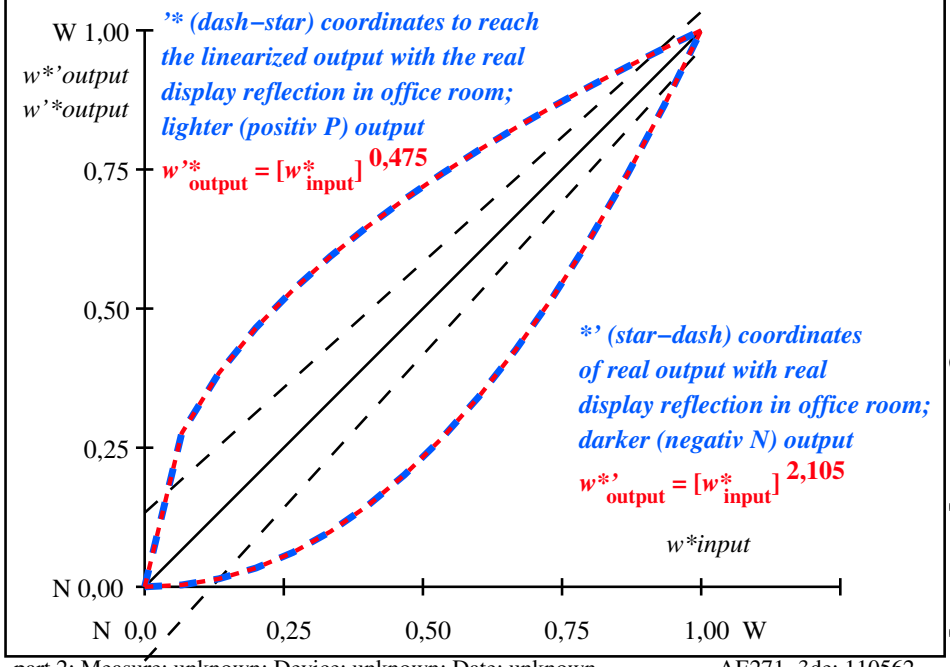
**Mean lightness difference (16 steps)**
$\Delta E^*_{CIELAB}$ = 4,6

**Mean lightness difference (5 steps)**
$\Delta L^*_{CIELAB}$ = 3,7

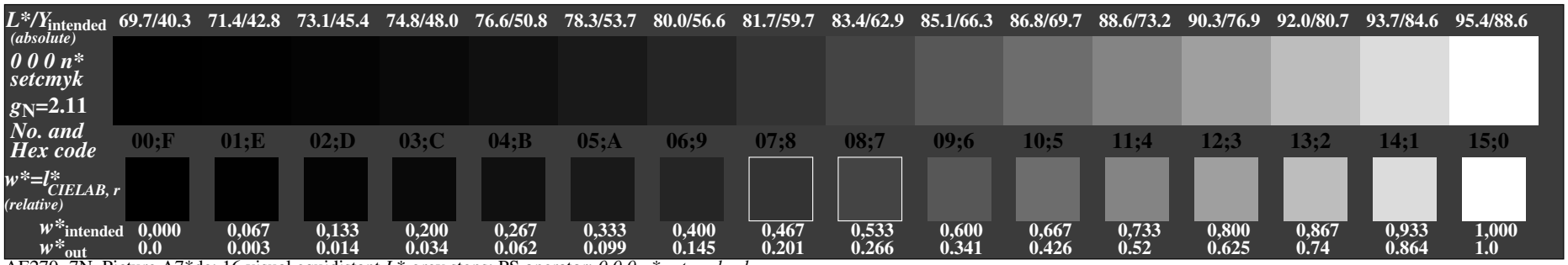
**Mean colour reproduction index:** $R^*_{ab,m}$ = 79,6

part 1; Measure: unknown; Device: unknown; Date: unknown AE270−3de: 110562

For linearized output of the 16 grey steps of Picture A7de




part 2; Measure: unknown; Device: unknown; Date: unknown AE271−3de: 110562




AE270−7N, Picture A7*de: 16 visual equidistant *L**-grey steps; PS operator: *0 0 0 n* setcmykcolor*

In-out: Test chart AE27 according to test chart 2 of ISO/IEC 15775 input: *rgb/cmy0/000n/w set...*
Viewing *Y* contrast $Y_W$:$Y_N$=88,9:40; $Y_N$-range 30 to <60 output: *->rgb*$_{de}$ *setrgbcolor*