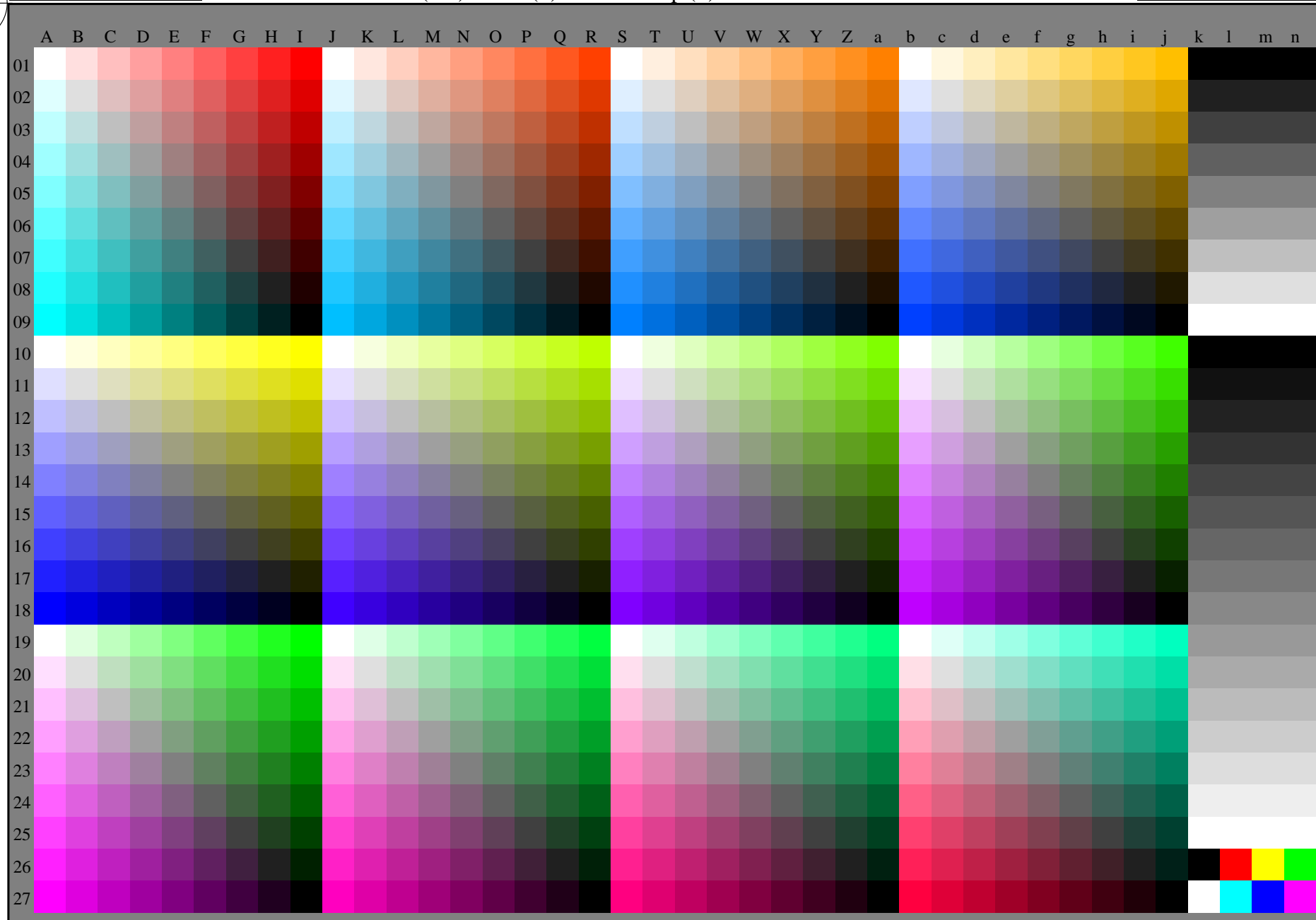


see similar files: <http://farbe.li.tu-berlin.de/AE56/AE56L0NA.TXT> / .PS  
technical information: <http://farbe.li.tu-berlin.de/AE56/AE56L0NA.TXT> / or <http://farbe.li.tu-berlin.de/AE56/AE56L0NA.TXT> / .PS

TUB Registration: 20190301-AE56/AE56L0NA.TXT /.PS  
application for measurement or viewing of display and print output  
TUB material: code=rh4ta



AE560-70

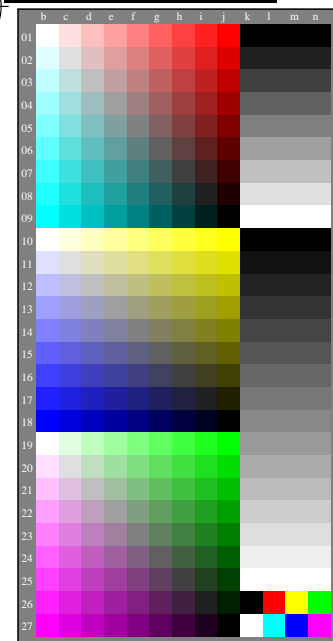
Test chart AE56 with 1080 colours; 9 or 16 step colour scales; data in column (A-n): **rgb** + **cmY0** (A-j + k26-n27), **000n** (k), **w** (l), **nnn0** (m), **www** (n)

Test chart AE56 similar to test chart 1 of DIN 33872-6  
9x9 scales; 12 hue planes; 16 visual equidistant  $L^*$ -grey steps

input: **rgb/cmy0/000n/w set...**  
output: **->rgb<sub>dd</sub> setrgbcolor**

1-003000-L0 cmy<sub>n</sub>6

see similar files: <http://farbe.li.tu-berlin.de/AE56/AE56.HTM>  
technical information: <http://farbe.li.tu-berlin.de/> or <http://farbe.li.tu-berlin.de/AE.HTM>



AE560-71 Part of test chart AE56 with 1080 colours; 9 or 16 step colour scales; data in column (b-n): rgb

#### Discriminability of chromatic colours

Remarks: This test uses many colour scales of 9 steps

Hue plane Red - Cyan blue (rows 01 to 09, column b to j)

##### Discriminability of 81 chromatic colours

Are all the 81 colours different?

Yes/No

Only in case of "No": How many are different? Of the 81 are ..... different

Hue plane Yellow - Blue (rows 10 to 18, column b to j)

##### Discriminability of 81 chromatic colours

Are all the 81 colours different?

Yes/No

Only in case of "No": How many are different? Of the 81 are ..... different

Hue plane Green - Magenta red (rows 19 to 27, column b to j)

##### Discriminability of 81 chromatic colours

Are all the 81 colours different?

Yes/No

Only in case of "No": How many are different? Of the 81 are ..... different

Result: Of the 243 (=3x81) colours are ..... different

Artifacts, please describe if visible:

Remarks about the creation and content of the PDF files:

Sometimes "colour smoothing" is a default setting.  
In this case the 9 steps are often not visible and may be counted as one step.  
Sometimes "optimizing the PDF output for the web" is a default setting.  
For example this setting may reduce the 1080 colours on a page to 256 colours.

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

##### PDF file:

[http://farbe.li.tu-berlin.de/AE56/AE56F0PX\\_CY8\\_1.PDF](http://farbe.li.tu-berlin.de/AE56/AE56F0PX_CY8_1.PDF)

underline: Yes/No

##### PS file:

[http://farbe.li.tu-berlin.de/AE56/AE56F0PX\\_CY8\\_1.PS](http://farbe.li.tu-berlin.de/AE56/AE56F0PX_CY8_1.PS)

underline: Yes/No

##### Used computer operating system:

either one of Windows/Mac/Unix/other and version:.....

This evaluation is for the output: underline: monitor/data projector/printer

Device model, driver and version:.....

##### output with PDF/PS-file:

underline: PDF/PS file

##### For output with PDF file AE56F0PX\_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 output with PS file AE56F0PX\_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:.....

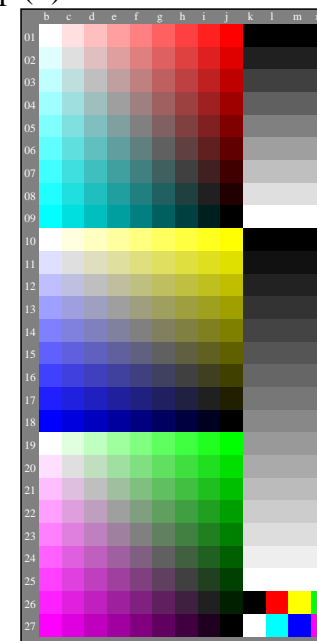
Special remarks: e. g. output of Landscape (L)

part 3,

AE560-7dd: 00301



Form A: Test chart AE56 similar to test chart 1 of DIN 33872-6  
9x9 scales; 12 hue planes; 16 visual equidistant L\*-grey steps



AE560-71 Part of test chart AE56 with 1080 colours; 9 or 16 step colour scales; data in column (b-n): rgb

#### Agreement with elementary colours

Remarks: This test uses many colour scales of 9 steps

Red  $R_e$  and Green  $G_e$  are defined by the visual criteria: *neither yellowish nor blueish*.  
Yellow  $Y_e$  and Blue  $B_e$  are defined by the visual criteria: *neither reddish nor greenish*.

Hue plane Red - Cyan blue (rows 01 to 09, column b to j)

##### Agreement with elementary colours

Is the colour at the position (j,01) the elementary colour Red  $R_e$ ?

Yes/No

Only in case of "No": The colour at this position appears:

yellowish/blueish

Hue plane Yellow - Blue  $B_e$  (rows 10 to 18, column b to j)

##### Agreement with elementary colours

Is the colour at the position (j,10) the elementary colour Yellow  $Y_e$ ?

Yes/No

Only in case of "No": The colour at this position appears:

reddish/greenish

Is the colour at the position (b,18) the elementary colour Blue  $B_e$ ?

Yes/No

Only in case of "No": The colour at this position appears:

reddish/greenish

Hue plane Green - Magenta red (rows 19 to 27, column b to j)

##### Agreement with elementary colours

Is the colour at the position (j,19) the elementary colour Green  $G_e$ ?

Yes/No

Only in case of "No": The colour at this position appears:

yellowish/blueish

Result: Of the 4 elementary colours (e. g. 3) are ..... acceptable as elementary colours.

#### Discriminability of 9 and 16 grey steps

Discriminability of 9 steps (rows 01 to 09, column k to n)

Are the 9 steps distinguishable?

Yes/No

If No: How many can be distinguished? of 9 greys ..... are distinguishable.

Discriminability of 16 steps (rows 10 to 27, column k to n)

Are the 16 steps distinguishable?

Yes/No

If No: How many can be distinguished? of 16 greys ..... are distinguishable.

Artifacts, please describe if visible:

Remarks about the creation and content of the PDF files:

Sometimes "colour smoothing" is a default setting.  
In this case the 9 steps are often not visible and may be counted as one step.  
Sometimes "optimizing the PDF output for the web" is a default setting.  
For example this setting may reduce the 1080 colours on a page to 256 colours.

#### Documentation of assessor colour-vision properties for visual assessment

The assessor has **normal** colour vision according to one test:

either according to DIN 6160:1996 with Anomaloskop of Nagel

or with test charts using colour points according to Ishihara

or tested with, please specify: .....

underline: Yes/No

underline: Yes/unknown

underline: Yes/unknown

underline: Yes/unknown

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

Office workplace illumination is daylight (clouded/north sky)

underline: Yes/No

PDF file: [http://farbe.li.tu-berlin.de/AE56/AE56F0PX\\_CY8\\_3.PDF](http://farbe.li.tu-berlin.de/AE56/AE56F0PX_CY8_3.PDF)

underline: Yes/No

PS file: [http://farbe.li.tu-berlin.de/AE56/AE56F0PX\\_CY8\\_3.PS](http://farbe.li.tu-berlin.de/AE56/AE56F0PX_CY8_3.PS)

underline: Yes/No

picture A7<sub>dd</sub> contrast range: (>F:0) (F:0) (E:0) (D:0) (C:0) (A:0) (9:0) (7:0) (5:0) (3:0) (<3:0)

underline: Yes/No

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

underline: Yes/No

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/AE56/AE56F0PX\\_CY8\\_3.PDF](http://farbe.li.tu-berlin.de/AE56/AE56F0PX_CY8_3.PDF)

underline: Yes/No

PS file: [http://farbe.li.tu-berlin.de/AE56/AE56F0PX\\_CY8\\_3.PS](http://farbe.li.tu-berlin.de/AE56/AE56F0PX_CY8_3.PS)

underline: Yes/No

picture A7<sub>dd</sub>

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: .....

underline: Yes/No

part 4,

AE561-7dd: 00301



input: *rgb/cmy0/000n/w set...*  
output: *->rgb<sub>dd</sub> setrgbcolor*

see similar files: <http://farbe.li.tu-berlin.de/AE56/AE56L0NA.TXT> / .PS  
technical information: <http://farbe.li.tu-berlin.de/> or <http://farbe.li.tu-berlin.de/AE.HTM>

TUB Registration: 20190301-AE56/AE56L0NA.TXT /.PS  
application for measurement or viewing of display and print output  
TUB material: code=rh4ta

i	LAB* <sub>ref</sub>	l* <sub>out</sub>	LAB* <sub>out</sub>	LAB* <sub>out-ref</sub>	ΔE*
1	0,00	0,00	0,00	0,00	0,01
2	6,36	0,00	0,00	0,00	0,01
3	12,72	0,00	0,13	0,00	0,01
4	19,08	0,00	0,20	0,00	0,01
5	25,44	0,00	0,26	0,00	0,01
6	31,80	0,00	0,33	0,00	0,01
7	38,16	0,00	0,40	0,00	0,01
8	44,52	0,00	0,46	0,00	0,01
9	50,88	0,00	0,53	0,00	0,01
10	57,24	0,00	0,60	0,00	0,01
11	63,60	0,00	0,66	0,00	0,01
12	69,96	0,00	0,73	0,00	0,01
13	76,32	0,00	0,80	0,00	0,01
14	82,68	0,00	0,86	0,00	0,01
15	89,04	0,00	0,93	0,00	0,01
16	95,41	0,00	1,00	0,00	0,01
17	0,00	0,00	0,00	0,00	0,01
18	23,85	0,00	0,25	0,00	0,01
19	47,70	0,00	0,50	0,00	0,01
20	71,55	0,00	0,75	0,00	0,01
21	95,41	0,00	1,00	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)  
 $\Delta E^*_{\text{CIELAB}} = 0,0$

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

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

part 1,

AE560-3dd: 00302



part 2,

AE561-3dd: 00302

$L^*/Y_{\text{intended}}$ (absolute)	0,0/0,0	6,3/0,7	12,7/1,5	19,0/2,7	25,4/4,5	31,8/6,9	38,1/10,1	44,5/14,2	50,8/19,1	57,2/25,1	63,6/32,3	69,9/40,7	76,3/50,4	82,6/61,5	89,0/74,2	95,4/88,5
$w^* w^* w^*$ setrgb gp=1,000 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)																
$w^*_{\text{intended}}$	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
$w^*_{\text{output}}$	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

part 3, picture A7<sub>dd</sub>: 16 visual equidistant  $L^*$ -grey steps; PS operator:  $w^* w^* w^*$  setrgbcolor

AE560-7dd: 00302

In-out: Test chart AE56 similar to test chart 1 of DIN 33872-6  
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:  $->rgb_{dd}$  setrgbcolor