

Please fill out or mark by (x):

Form B: Questions for frame area output of achromatic test chart AE06 according to ISO 9241-306 for computer display () or for external display ():

File name: e. g. AE06F0PX_CYS_1.PDF (write code from bottom right side).....

Test person (e. g. name, first name):.....

Test date (e. g. 2017-03-01):.....

Computer operating system and version (e. g. Unix Build X.Y).....

PDF Reader software and version for display output (e. g. Adobe Reader 7.0).....

Display (computer or external) driver and "gamma value" of linearized output:...

Remarks:

The output size on the computer display should be adjusted to the original size (282 mm x 194 mm) for the inner thicker frame rectangle. If possible one should adjust with an accuracy of ± 2 mm to this size by the software using a ruler.

The output size of the external display is different. For the test report the scaling factors (see below) of the corresponding output size of the computer display should be used.

Test of agreement of the four 5-step grey scales according to the grey scales in the frame region:

Are there clearly seen differences between the four 5-step grey scales near the four corners? Yes/No

If Yes: Indicate by (x) – only one (x) – which grey scale deviates most from the average of the four grey scales and mark if this is darker or lighter.

top left () if (x) is: this darker () or lighter ()

top right () if (x) is: this darker () or lighter ()

bottom left () if (x) is: this darker () or lighter ()

bottom right () if (x) is: this darker () or lighter ()

Test of the scaling factors using width and height of the inner rectangle in the frame region:

The width and height of the inner rectangle in x and y directions, expressed in millimetres, of the reproduction (Δx_0 and Δy_0 , where 0 is output) is to be measured. The scaling factors s_x and s_y in the x and y directions shall be calculated. For this, three digits, in millimetres and with rounding such as in the example, are used (e. g. $s_x = 1,01$ and $s_y = 0,98$).

$$s_x = \Delta x_0 / \Delta x_i = \dots \text{ mm} / 282 \text{ mm} = \dots$$

$$s_y = \Delta y_0 / \Delta y_i = \dots \text{ mm} / 194 \text{ mm} = \dots$$

NOTE: The width Δx_i and height Δy_i of the inner rectangle are defined in PS-file (or equivalent) as 282 mm in the x direction and 194 mm in y direction.

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TUB-test chart ZE99; Display Output Linearization
Change of gamma values according to ISO 9241-306

The visual 16 step spacing depends on hardware, software, and environment, for example on screen reflections of ambient light

computer display,
for example LCD

prepare 8 gamma values
2,40, 2,22, ..., 1,32, 1,14
for computer display output
in computer operating system

and/or external display,
for example VGA

prepare 8 gamma values
1,75, 2,00, ..., 3,25, 3,50
for external display output
in computer operating system



Use the achromatic file which produces one page:
http://farbe.li.tu-berlin/AE06/AE06F0PX_CY8-1.PDF
or use a chromatic file with an image:
http://farbe.li.tu-berlin/AE17/AE17F0PX_CY8-1.PDF

computer
display

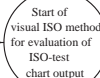
Use start gamma value 2,4
or next gamma value
2,22, 2,04, ..., 1,32, 1,14

and/or external
display

Use start gamma value 1,75
or next gamma value
2,00, 2,25, ..., 3,25, 3,50



Yes



No



Yes

Stop: test failure

No

Try method with 8 increasing gamma values:
2,40, 2,58, 2,76, 2,94, 3,12, 3,30, ...
instead of 8 decreasing gamma values 2,40, 2,22, ...

input: w/rgb/cmyk -> w/rgb/cmyk
output: no change

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