TUB registration: 20230701-eej1/eej1l0np.pdf /.ps
application for evaluation and measurement of display or print output
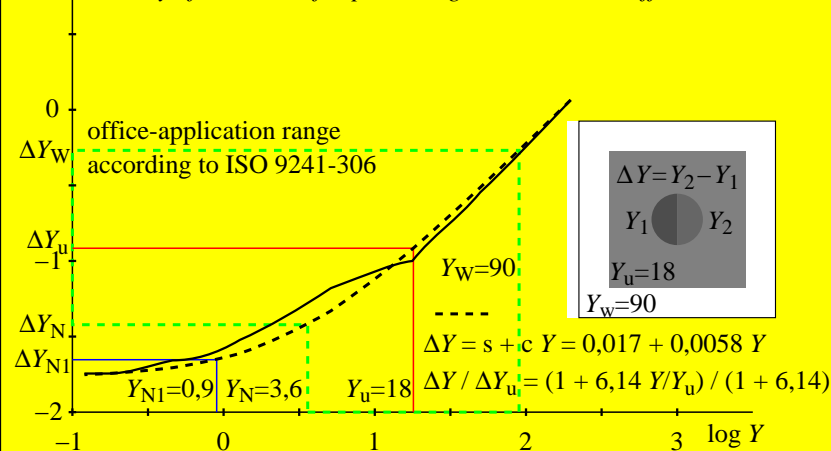TUB material: code=rha4ta

### *NW*-achromatic thresholds $\Delta Y$ as function of *Y*

experiments and data: BAM-research report no. 115 (1985), page 72, see
$\log[\Delta Y]$     https:/nbn-resolving.org/urn:nbn:de:kobv:b43-3350

**tristimulus value threshold $\Delta Y$, see LABJND in TR CIE 230:219**
*Validity of Formulae for predicting Small Colour Differences*

office-application range
according to ISO 9241-306

$\Delta Y = Y_2 - Y_1$
$Y_1$   $Y_2$
$Y_u = 18$
$Y_W = 90$

$Y_W = 90$
$\Delta Y = s + c\, Y = 0,017 + 0,0058\, Y$
$\Delta Y / \Delta Y_u = (1 + 6,14\, Y/Y_u) / (1 + 6,14)$

$Y_{N1}=0,9$  $Y_N=3,6$  $Y_u=18$

log *Y*

eej10–3n

### Normalized *NW*-achromatic thresholds $\Delta Y_{ru} = \Delta Y / \Delta Y_u$ as function of *Y*

experiments and data: BAM-research report no. 115 (1985), page 72, see
$\log[\Delta Y_{ru} = \Delta Y/\Delta Y_u]$     https:/nbn-resolving.org/urn:nbn:de:kobv:b43-3350

**tristimulus value threshold $\Delta Y$, see LABJND in TR CIE 230:219**
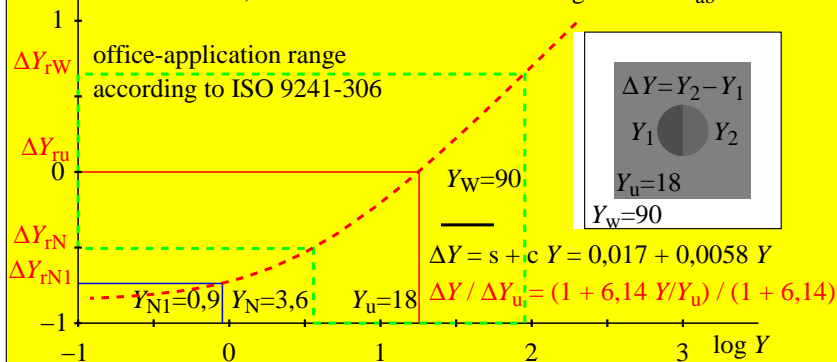*Validity of Formulae for predicting Small Colour Differences*

The performane of 8 datasets: http://files.cie.co.at/TC181_Datasets.zip
is best for LABJND in 5 cases, for CIELAB & CMC & CIEDE2000
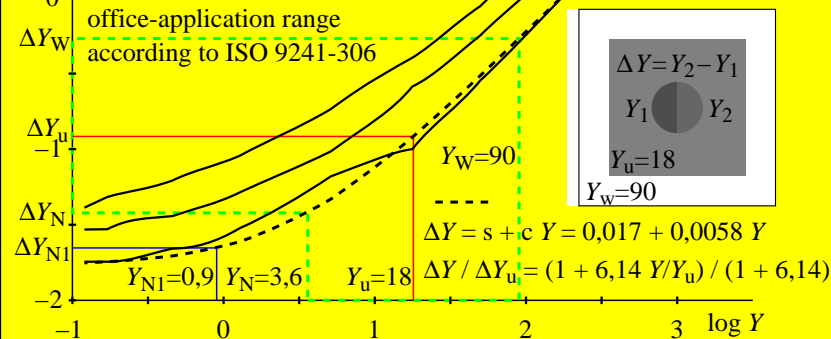all in one case, see Table 9 and 11 for the range $0 <= \Delta E^*_{ab} < 2$.

office-application range
according to ISO 9241-306

$\Delta Y = Y_2 - Y_1$
$Y_1$   $Y_2$
$Y_u = 18$
$Y_W = 90$

$Y_W = 90$
$\Delta Y = s + c\, Y = 0,017 + 0,0058\, Y$
$\Delta Y / \Delta Y_u = (1 + 6,14\, Y/Y_u) / (1 + 6,14)$

$Y_{N1}=0,9$  $Y_N=3,6$  $Y_u=18$

log *Y*

eej11–3n

### *NW*-achromatic, and *RG*- and *YB*-chromatic thresholds as function of *Y*

experiments and data: BAM-research report no. 115 (1985), page 72, see
$\log[\Delta Y, \Delta a \cdot Y, \Delta b \cdot Y]$     https:/nbn-resolving.org/urn:nbn:de:kobv:b43-3350

**tristimulus value threshold $\Delta Y$, see LABJND in TR CIE 230:219**
***RG*-chromaticity threshold** $\Delta a \cdot Y$
***YB*-chromaticity threshold** $\Delta b \cdot Y$
$\Delta a = x_1 / y_1 - x_2 / y_2$
$\Delta b = z_1 / y_1 - z_2 / y_2$

office-application range
according to ISO 9241-306

$\Delta b \cdot Y$   ***YB*-direction**
$\Delta a \cdot Y$   ***RG*-direction**
$\Delta Y$   ***NW*-direction**

$\Delta Y = Y_2 - Y_1$
$Y_1$   $Y_2$
$Y_u = 18$
$Y_W = 90$

$Y_W = 90$
$\Delta Y = s + c\, Y = 0,017 + 0,0058\, Y$
$\Delta Y / \Delta Y_u = (1 + 6,14\, Y/Y_u) / (1 + 6,14)$
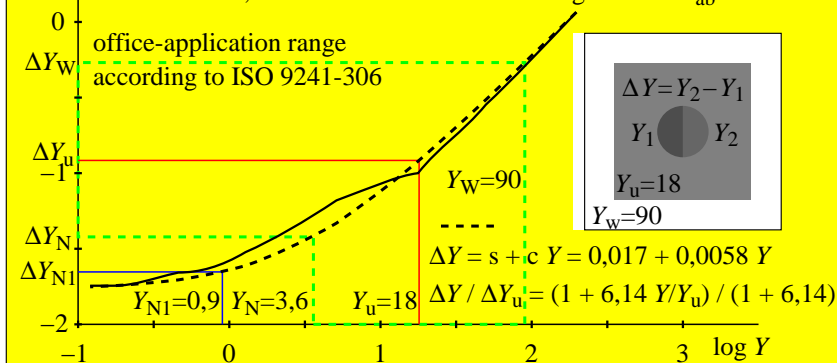
$Y_{N1}=0,9$  $Y_N=3,6$  $Y_u=18$

log *Y*

eej10–7n

### *NW*-achromatic thresholds $\Delta Y$ as function of *Y*

experiments and data: BAM-research report no. 115 (1985), page 72, see
$\log[\Delta Y]$     https:/nbn-resolving.org/urn:nbn:de:kobv:b43-3350

**tristimulus value threshold $\Delta Y$, see LABJND in TR CIE 230:219**
*Validity of Formulae for predicting Small Colour Differences*

The performane of 8 datasets: http://files.cie.co.at/TC181_Datasets.zip
is best for LABJND in 5 cases, for CIELAB & CMC & CIEDE2000
all in one case, see Table 9 and 11 for the range $0 <= \Delta E^*_{ab} < 2$.

office-application range
according to ISO 9241-306

$\Delta Y = Y_2 - Y_1$
$Y_1$   $Y_2$
$Y_u = 18$
$Y_W = 90$

$Y_W = 90$
$\Delta Y = s + c\, Y = 0,017 + 0,0058\, Y$
$\Delta Y / \Delta Y_u = (1 + 6,14\, Y/Y_u) / (1 + 6,14)$

$Y_{N1}=0,9$  $Y_N=3,6$  $Y_u=18$

log *Y*

eej11–7n

TUB-test chart eej1; Achromatic and chromatic thresholds as function of *Y*; comparison with
LABJND of CIE 230; Thresholds $\Delta Y$, $\Delta a \cdot Y$, and $\Delta b \cdot Y$, and for example relative differences $\Delta Y / \Delta Y_u$