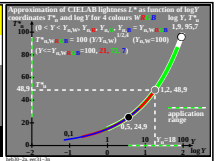
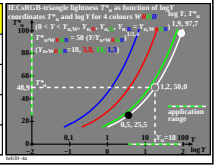
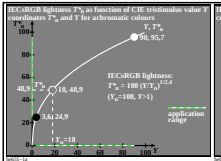
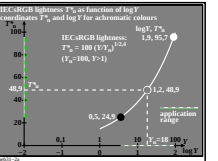
sensation scaling functions
lightness L^* and tristimulus value Y
adaptation on surround white W
$L^*_W = 100\ (\ Y\ /\ 100)^{1/2,0}$
adaptation on surround grey U
$L^*_{IECsRGB} = 100\ (\ Y\ /\ 100)^{1/2,4}$
description with CIELAB 1976
$L^*_{CIELAB} = 116\ (\ Y\ /\ 100)^{1/3,0} - 16$
adaptation on surround black N
$L^*_N = 100\ (\ Y\ /\ 100)^{1/3,0}$

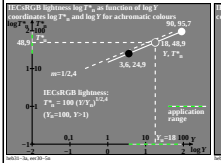


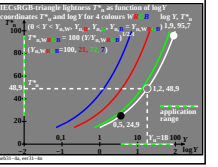
lightness scaling (ln(10)=2,3, Yu=18)
L^*_{CIELAB}, $T^*_{IECsRGB}$, T^*_{TUBJND}
description with CIELAB 1976
$L^*_{CIELAB} = 116\ (\ Y\ /\ 100)^{1/3,0} - 16$
Approximation by IECsRGB 1999
$T^*_{IECsRGB} = 100\ (\ Y\ /\ 100\ )^{1/2,4}$
Approximation by TUBJND 2024
$T^*_{TUBJND} = 47{,}49\ (\ Y\ /\ Y_U)^{1/ln(10)}$
$\ln\,[T^*_{TUBJND,relative}]$ has the slope 1!
$\ln\,[T^*_{TUBJND,r}] = \log\,(\ Y\ /\ Y_U\ )$

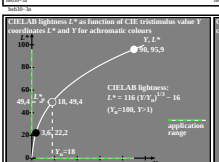


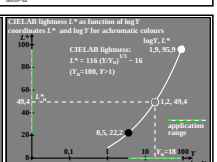


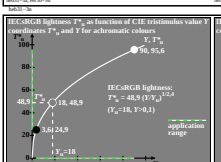


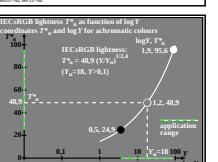


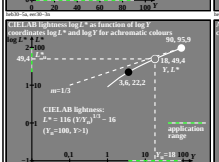


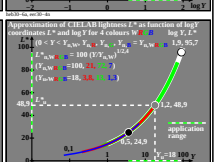


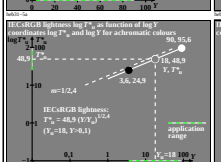


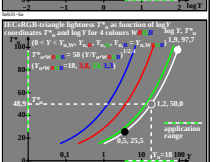












see similar files of the whole serie: http://farbe.li.tu-berlin.de/hebs.htm
technical information: http://farbe.li.tu-berlin.de or http://color.li.tu-berlin.de

TUB registration: 20240901-heb3/heb30n1.txt /.ps
application for evaluation and measurement of display or print output
TUB material: code=rha4ta