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

TUB registration: 20230701-eea5/eea5l0na.txt /.ps
application for evaluation and measurement of display or print output

TUB material: code=rha4ta

L^*/L^*_u CIELAB — relative lightness L^*/L^*_u normalized to the background lightness L^*_u
$L^*_{CIELAB}=116 (Y/Y_n)^{1/3}-16$ $(Y_n=100, 0.89 \le Y)$ [2a]
$L^*_{CIELAB}=65.4 (Y/Y_u)^{1/3}-16$ $(Y_u=18, 0.89 \le Y)$ [2b]
$L^*_{CIELAB,r}=1, m_u=1.02$
$L^*_{CIELAB,u}=49, Y_u=18$
1.93 white
0.99
0.47 black
application range
$Y_N=3.6$ $Y_u=18$ $Y_W=90$
eea50-1a

L^*/L^*_u CIELAB — relative lightness L^*/L^*_u normalized to the background lightness L^*_u
$L^*_{CIELAB}=116 (Y/Y_n)^{1/3}-16$ $(Y_n=100, 0.89 \le Y)$ [2a]
$L^*_{CIELAB}=65.4 (Y/Y_u)^{1/3}-16$ $(Y_u=18, 0.89 \le Y)$ [2b]
regularity index: $g^*_5=99, g^*_9=99$,
intended output:
equally spaced 9 steps in CIELAB for contrast $C_Y=25:1$
$L^*_{CIELAB,r}=1, m_u=1.02$
$L^*_{CIELAB,u}=49, Y_u=18$
[ISO 15775]
1.93 white
0.99
0.47 black
application range
$Y_N=3.6$ $Y_u=18$ $Y_W=90$
eea50-2a

$(\Delta Y/Y) / (\Delta Y_u/Y_u)$ CIELAB — CIE-Y sensitivity normalized to $\Delta Y_u/Y_u$
$L^*_{CIELAB}=116 (Y/Y_n)^{1/3}-16$ $(Y_n=100, 0.89 \le Y)$ [2a]
$L^*_{CIELAB}=65.4 (Y/Y_u)^{1/3}-16$ $(Y_u=18, 0.89 \le Y)$ [2b]
$L^*_{CIELAB,r}=1, m_u=-0.76$
$L^*_{CIELAB,u}=49, Y_u=18$
1.65 black
1.00
0.58 white
application range
$Y_N=3.6$ $Y_u=18$ $Y_W=90$
eea51-1a

$(\Delta Y/Y) / (\Delta Y_u/Y_u)$ CIELAB — CIE-Y sensitivity normalized to $\Delta Y_u/Y_u$
$L^*_{CIELAB}=116 (Y/Y_n)^{1/3}-16$ $(Y_n=100, 0.89 \le Y)$ [2a]
$L^*_{CIELAB}=65.4 (Y/Y_u)^{1/3}-16$ $(Y_u=18, 0.89 \le Y)$ [2b]
$L^*_{CIELAB,r}=1, m_u=-0.76$
$L^*_{CIELAB,u}=49, Y_u=18$
1.65 black
1.00
0.58 white
application range
$Y_N=3.6$ $Y_u=18$ $Y_W=90$
eea51-2a

L^*/L^*_u CIELAB — relative lightness L^*/L^*_u normalized to the background lightness L^*_u
$L^*_{CIELAB}=116 (Y/Y_n)^{1/3}-16$ $(Y_n=100, 0.89 \le Y)$ [2a]
$L^*_{CIELAB}=65.4 (Y/Y_u)^{1/3}-16$ $(Y_u=18, 0.89 \le Y)$ [2b]
regularity index: $g^*_5=30, g^*_9=23$,
non linearized real output:
nonequally spaced 9 steps in CIELAB for contrast $C_Y=2:1$
$L^*_{CIELAB,r}=1, m_u=1.02$
$L^*_{CIELAB,u}=49, Y_u=18$
[ISO 15775]
1.93 white
device white
0.99
device black
0.47 black
$Y_N=3.6$ $Y_u=18$ $Y_W=90$
eea50-3N

L^*/L^*_u CIELAB — relative lightness L^*/L^*_u normalized to the background lightness L^*_u
$L^*_{CIELAB}=116 (Y/Y_n)^{1/3}-16$ $(Y_n=100, 0.89 \le Y)$ [2a]
$L^*_{CIELAB}=65.4 (Y/Y_u)^{1/3}-16$ $(Y_u=18, 0.89 \le Y)$ [2b]
regularity index: $g^*_5=88, g^*_9=74$,
linearized real output:
equally spaced 9 steps in CIELAB after contrast transfer $C_Y=25:1$
$L^*_{CIELAB,r}=1, m_u=1.02$
$L^*_{CIELAB,u}=49, Y_u=1$
[ISO 15775]
1.93 white
device white
0.99
device black
0.47 black
$Y_N=3.6$ $Y_u=18$ $Y_W=90$
eea50-4a

$(\Delta Y/Y) / (\Delta Y_u/Y_u)$ CIELAB — CIE-Y sensitivity normalized to $\Delta Y_u/Y_u$
$L^*_{CIELAB}=116 (Y/Y_n)^{1/3}-16$ $(Y_n=100, 0.89 \le Y)$ [2a]
$L^*_{CIELAB}=65.4 (Y/Y_u)^{1/3}-16$ $(Y_u=18, 0.89 \le Y)$ [2b]
$L^*_{CIELAB,r}=1, m_u=-0.76$
$L^*_{CIELAB,u}=49, Y_u=18$
1.65 black
1.00
0.58 white
$Y_N=3.6$ $Y_u=18$ $Y_W=90$
eea51-3a

$(\Delta Y/Y) / (\Delta Y_u/Y_u)$ CIELAB — CIE-Y sensitivity normalized to $\Delta Y_u/Y_u$
$L^*_{CIELAB}=116 (Y/Y_n)^{1/3}-16$ $(Y_n=100, 0.89 \le Y)$ [2a]
$L^*_{CIELAB}=65.4 (Y/Y_u)^{1/3}-16$ $(Y_u=18, 0.89 \le Y)$ [2b]
$L^*_{CIELAB,r}=1, m_u=-0.76$
$L^*_{CIELAB,u}=49, Y_u=18$
1.65 black
1.00
0.58 white
$Y_N=3.6$ $Y_u=18$ $Y_W=90$
eea51-4a

$\Delta Y/\Delta Y_u$ CIELAB — CIE tristimulus value difference ΔY normalized to ΔY_u
$L^*_{CIELAB}=116 (Y/Y_n)^{1/3}-16$ $(Y_n=100, 0.89 \le Y)$ [2a]
$L^*_{CIELAB}=65.4 (Y/Y_u)^{1/3}-16$ $(Y_u=18, 0.89 \le Y)$ [2b]
$L^*_{CIELAB,r}=1, m_u=1.56$
$L^*_{CIELAB,u}=49, Y_u=18$
2.92 white
1.00
0.36 black
application range
$Y_N=3.6$ $Y_u=18$ $Y_W=90$
eea50-5a

$\Delta Y/\Delta Y_u$ CIELAB — CIE tristimulus value difference ΔY normalized to ΔY_u
$L^*_{CIELAB}=116 (Y/Y_n)^{1/3}-16$ $(Y_n=100, 0.89 \le Y)$ [2a]
$L^*_{CIELAB}=65.4 (Y/Y_u)^{1/3}-16$ $(Y_u=18, 0.89 \le Y)$ [2b]
$L^*_{CIELAB,r}=1, m_u=1.56$
$L^*_{CIELAB,u}=49, Y_u=18$
2.92 white
1.00
0.36 black
application range
$Y_N=3.6$ $Y_u=18$ $Y_W=90$
eea50-6a

$(Y/\Delta Y) / (Y_u/\Delta Y_u)$ CIELAB — CIE-Y contrast normalized to $Y_u/\Delta Y_u$
$L^*_{CIELAB}=116 (Y/Y_n)^{1/3}-16$ $(Y_n=100, 0.89 \le Y)$ [2a]
$L^*_{CIELAB}=65.4 (Y/Y_u)^{1/3}-16$ $(Y_u=18, 0.89 \le Y)$ [2b]
$L^*_{CIELAB,r}=1, m_u=0.77$
$L^*_{CIELAB,u}=49, Y_u=18$
1.70 white
1.00
0.60 black
application range
$Y_N=3.6$ $Y_u=18$ $Y_W=90$
eea51-5a

$(Y/\Delta Y) / (Y_u/\Delta Y_u)$ CIELAB — CIE-Y contrast normalized to $Y_u/\Delta Y_u$
$L^*_{CIELAB}=116 (Y/Y_n)^{1/3}-16$ $(Y_n=100, 0.89 \le Y)$ [2a]
$L^*_{CIELAB}=65.4 (Y/Y_u)^{1/3}-16$ $(Y_u=18, 0.89 \le Y)$ [2b]
$L^*_{CIELAB,r}=1, m_u=0.77$
$L^*_{CIELAB,u}=49, Y_u=18$
1.70 white
1.00
0.60 black
application range
$Y_N=3.6$ $Y_u=18$ $Y_W=90$
eea51-6a

$\Delta Y/\Delta Y_u$ CIELAB — CIE tristimulus value difference ΔY normalized to ΔY_u
$L^*_{CIELAB}=116 (Y/Y_n)^{1/3}-16$ $(Y_n=100, 0.89 \le Y)$ [2a]
$L^*_{CIELAB}=65.4 (Y/Y_u)^{1/3}-16$ $(Y_u=18, 0.89 \le Y)$ [2b]
$L^*_{CIELAB,r}=1, m_u=1.56$
$L^*_{CIELAB,u}=49, Y_u=18$
2.92 white
1.00
0.36 black
$Y_N=3.6$ $Y_u=18$ $Y_W=90$
eea50-7N

$\Delta Y/\Delta Y_u$ CIELAB — CIE tristimulus value difference ΔY normalized to ΔY_u
$L^*_{CIELAB}=116 (Y/Y_n)^{1/3}-16$ $(Y_n=100, 0.89 \le Y)$ [2a]
$L^*_{CIELAB}=65.4 (Y/Y_u)^{1/3}-16$ $(Y_u=18, 0.89 \le Y)$ [2b]
$L^*_{CIELAB,r}=1, m_u=1.56$
$L^*_{CIELAB,u}=49, Y_u=18$
2.92 white
1.00
0.36 black
$Y_N=3.6$ $Y_u=18$ $Y_W=90$
eea50-8a

$(Y/\Delta Y) / (Y_u/\Delta Y_u)$ CIELAB — CIE-Y contrast normalized to $Y_u/\Delta Y_u$
$L^*_{CIELAB}=116 (Y/Y_n)^{1/3}-16$ $(Y_n=100, 0.89 \le Y)$ [2a]
$L^*_{CIELAB}=65.4 (Y/Y_u)^{1/3}-16$ $(Y_u=18, 0.89 \le Y)$ [2b]
$L^*_{CIELAB,r}=1, m_u=0.77$
$L^*_{CIELAB,u}=49, Y_u=18$
1.70 white
1.00
0.60 black
$Y_N=3.6$ $Y_u=18$ $Y_W=90$
eea51-7N

$(Y/\Delta Y) / (Y_u/\Delta Y_u)$ CIELAB — CIE-Y contrast normalized to $Y_u/\Delta Y_u$
$L^*_{CIELAB}=116 (Y/Y_n)^{1/3}-16$ $(Y_n=100, 0.89 \le Y)$ [2a]
$L^*_{CIELAB}=65.4 (Y/Y_u)^{1/3}-16$ $(Y_u=18, 0.89 \le Y)$ [2b]
$L^*_{CIELAB,r}=1, m_u=0.77$
$L^*_{CIELAB,u}=49, Y_u=18$
1.70 white
1.00
0.60 black
$Y_N=3.6$ $Y_u=18$ $Y_W=90$
eea51-8a

TUB-test chart eea5; Colourimetric data L^*/L^*_u, $\Delta Y/\Delta Y_u$, $(\Delta Y/Y)/(\Delta Y_u/Y_u)$, $(Y/\Delta Y)/(Y_u/\Delta Y_u)$
= f(Y) of colour space CIELAB, see ISO/CIE 11664-4