

$\log(L^*/L^*_u)$

TUBsRGB lightness L^* normalized to the background lightness L^*_u

L^*/L^*_u
2 $100L^* = s (Y/Y_u)^n - t$ ($Y_u=100, s=100, n=(1/\ln(10)), t=0$) [1b]

$L^* = r (Y/Y_u)^n - t$ ($Y_u=18, r=s(Y_u/Y_u)^n = 47,45$) [1c]

$L^*/L^*_u = (Y/Y_u)^{1/\ln(10)}$ ($\ln(x) = \ln(10) \log(x)$) [1d]

$\log(L^*/L^*_u) = (1/\ln(10)) \log(Y/Y_u)$ [1e]

1 10 $\ln(L^*/L^*_u) = \log(Y/Y_u)$ [1f]

$L^*/L^*_u = e^{\log(Y/Y_u)}$ [1g]

0 1 $\log[(L^*/L^*_u)] = 0, m_u = 0,43$

$L^*_u = 50, Y_u = 20$

-0,568

0,301

application range

0,1

1

10

100

$Y_u = 18$ $100 Y$

-1 -2 -1 0 1 2 $\log Y$