

$\log(L^*/L_{\text{u}}^*)$

IECsRGB lightness L^* normalized
to the background lightness L_{u}^*

$$L^*/L_{\text{u}}^* = 100 \cdot L^* = s \cdot (Y/Y_{\text{u}})^n - d \quad (Y_{\text{u}}=100, Y_{\text{u}}=18, s=100, n=1/2,4, d=0) \quad [1a]$$

$$L^* = r \cdot (Y/Y_{\text{u}})^n - d \quad (r = s \cdot (Y_{\text{u}}/Y_{\text{n}})^n = 48,94, L_{\text{u}}^* = r - d) \quad [1b]$$

$$L^*/L_{\text{u}}^* = (Y/Y_{\text{u}})^n \quad [1c]$$

$$\log(L^*/L_{\text{u}}^*) = n \log(Y/Y_{\text{u}}) \quad [1d]$$

$$10 \ln(L^*/L_{\text{u}}^*) = \ln(10) n \log(Y/Y_{\text{u}}) \quad [1e]$$

$$L^*/L_{\text{u}}^* = e^{\ln(10) n \log(Y/Y_{\text{u}})} \quad [1f]$$

