

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

L^*/L_{u}^*

CIELAB-Helligkeit L^* normiert
für die UmgebungsHelligkeit L_{u}^*

$$100L^* = s(Y/Y_{\text{n}})^n - d \quad (Y_{\text{n}}=100, Y_{\text{u}}=18, s=116, n=1/3, d=16) \quad [1a]$$
$$L^* = r(Y/Y_{\text{u}})^n - d \quad (r = s(Y_{\text{u}}/Y_{\text{n}})^n = 65,49, L_{\text{u}}^* = r - d) \quad [1b]$$
$$L^*/L_{\text{u}}^* = g(Y/Y_{\text{u}})^n - h \quad (g=r/(r-d)=1,32, h=d/(r-d)=0,32) \quad [1c]$$
$$\log [(L^*/L_{\text{u}}^* + h) / g] = n \log (Y/Y_{\text{u}}) \quad [1d]$$
$$10 \ln [(L^*/L_{\text{u}}^* + h) / g] = \ln(10) n \log (Y/Y_{\text{u}}) \quad [1e]$$
$$(L^*/L_{\text{u}}^* + h) / g = e^{\ln(10) n \log (Y/Y_{\text{u}})} \quad [1f]$$

