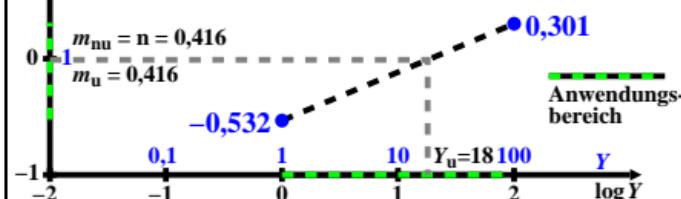


log (L^*/L_u^*) IECsRGB-Helligkeit L^* normiert für die UmgebungsHelligkeit L_u^*

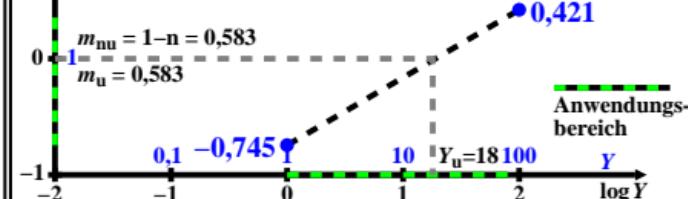
$$\begin{aligned} L^*/L_u^* &= s(Y/Y_u)^n - d \quad (Y_u=100, Y_u=18, s=100, n=1/2,4, d=0) & [1a] \\ L^* &= r(Y/Y_u)^n - d \quad (r=s(Y_u/Y_u)^n=48,94, L^*_u=r-d) & [1b] \\ L^*/L_u^* &= (Y/Y_u)^n & [1c] \\ \log(L^*/L_u^*) &= n \log(Y/Y_u) & [1d] \\ \ln(L^*/L_u^*) &= \ln(10) n \log(Y/Y_u) & [1e] \\ L^*/L_u^* &= e^{\ln(10) n \log(Y/Y_u)} & [1f] \end{aligned}$$



hgo50-1a

log $(\Delta Y/\Delta Y_u)$ IECsRGB-Normfarbwertdifferenz ΔY normiert für ΔY_u

$$\begin{aligned} \Delta Y/\Delta Y_u &= s(Y/Y_u)^n - d \quad (Y_u=100, Y_u=18, s=100, n=1/2,4, d=0) & [1a] \\ L^* &= r(Y/Y_u)^n - d \quad (r=s(Y_u/Y_u)^n=48,94, L^*_u=r-d) & [1b] \\ dY = [Y_u/(n s)] (Y/Y_u)^{1-n} & [2c] \\ dY_u = [Y_u/(n s)] (Y_u/Y_u)^{1-n} = 1,1746 & [2d] \\ dY/dY_u = (Y/Y_u)^{1-n} & [2e] \\ \log(dY/dY_u) = (1-n) \log(Y/Y_u) & [2f] \end{aligned}$$



hgo50-2a

log $[(\Delta Y/Y)/(\Delta Y/Y_u)]$ IECsRGB-Y-Empfindlichkeit normiert für $(\Delta Y/Y_u)$

$$\begin{aligned} S_r/S_{ru} &= (\Delta Y/Y)/(\Delta Y/Y_u) & \\ 100L^* &= s(Y/Y_u)^n - d \quad (Y_u=100, Y_u=18, s=100, n=1/2,4, d=0) & [1a] \\ L^* &= r(Y/Y_u)^n - d \quad (r=s(Y_u/Y_u)^n=48,94, L^*_u=r-d) & [1b] \\ dY/Y = [(Y_u/(n s))(Y/Y_u)^{1-n}] / Y & [3c] \\ (dY/Y)_u = [(Y_u/(n s))(Y_u/Y_u)^{1-n}] / Y_u & [3d] \\ \log[(dY/Y)/(dY/Y_u)] = (-n) \log(Y/Y_u) & [3e] \\ 0,532 & \bullet \quad 0,532 & [3f] \end{aligned}$$

Anwendungsbereich

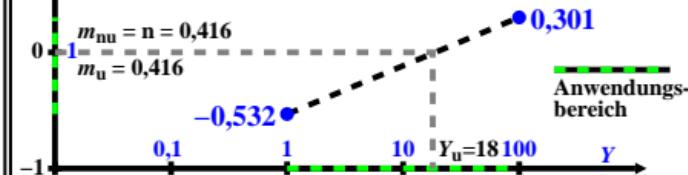


hgo50-3a

hgo50-3n

log $[(Y/\Delta Y)/(Y/\Delta Y_u)]$ IECsRGB-Y-Kontrast normiert für $(Y/\Delta Y_u)$

$$\begin{aligned} C_r/C_{ru} &= (Y/\Delta Y)/(Y/\Delta Y_u) & \\ 100L^* &= s(Y/Y_u)^n - d \quad (Y_u=100, Y_u=18, s=100, n=1/2,4, d=0) & [1a] \\ L^* &= r(Y/Y_u)^n - d \quad (r=s(Y_u/Y_u)^n=48,94, L^*_u=r-d) & [1b] \\ Y/dY = Y / \{ [(Y_u/(n s))(Y/Y_u)^{1-n}] \} & [4c] \\ (Y/Y_u)_u = Y_u / \{ [(Y_u/(n s))(Y_u/Y_u)^{1-n}] \} & [4d] \\ (Y/dY)/(Y/dY_u) = (Y/Y_u)^n & [4e] \\ \log[(Y/dY)/(Y/dY_u)] = (n) \log(Y/Y_u) & [4f] \end{aligned}$$



hgo50-4a