

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

$$L^*/L_u^* = s(Y/Y_u)^n - d \quad (Y_n=100, Y_u=20, s=100,0, n=1/\ln(10), d=0) \text{ [a]}$$

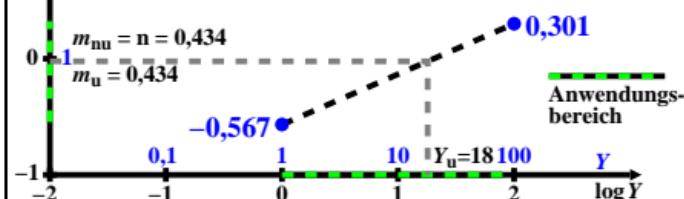
$$L^* = r(Y/Y_u)^n - d \quad (r = s(Y/Y_u)^n = 47,48, L_u^* = r-d = 47,4) \quad [1b]$$

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

$$\log(L^*/L_u^*) = (1/\ln(10)) \log(Y/Y_u) \quad [1d]$$

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

$$L^*/L_u^* = e^{\log(Y/Y_u)} \quad [1f]$$



log $[(\Delta Y)/(\Delta Y)_u]$ TUBsRGB-Y-Empfindlichkeit normiert für $(\Delta Y/Y)_u$

$$S_r/S_{ru} = (\Delta Y/Y)/(\Delta Y/Y)_u \quad [a]$$

$$100L^* = s(Y/Y_u)^n - d \quad (Y_n=100, Y_u=20, s=100,0, n=1/\ln(10), d=0) \text{ [a]}$$

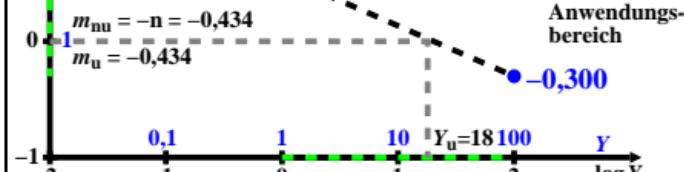
$$L^* = r(Y/Y_u)^n - d \quad (r = s(Y/Y_u)^n = 47,48, L^* = r-d = 47,4) \quad [1b]$$

$$dY/Y = [(Y_n/(n s)] (Y/Y_u)^{1-n}/Y \quad [3c]$$

$$(dY/Y)_u = [(Y_n/(n s)] (Y_u/Y_n)^{1-n}/Y_u \quad [3d]$$

$$(dY/Y)/(dY/Y)_u = (Y/Y_u)^{-n} \quad [3e]$$

$$\log [(dY/Y)/(dY/Y)_u] = (-n) \log(Y/Y_u) \quad [3f]$$



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

$$\Delta Y/\Delta Y_u = s(Y/Y_u)^n - d \quad (Y_n=100, Y_u=20, s=100,0, n=1/\ln(10), d=0) \text{ [a]}$$

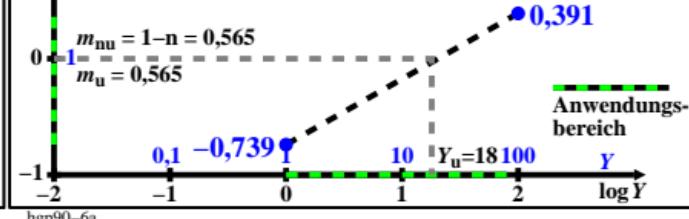
$$L^* = r(Y/Y_u)^n - d \quad (r = s(Y/Y_u)^n = 47,48, L^* = r-d = 47,4) \quad [1b]$$

$$dY = [Y_n/(n s)] (Y/Y_u)^{1-n} \quad [2c]$$

$$dY_u = [Y_n/(n s)] (Y_u/Y_n)^{1-n} = 1,0934 \quad [2d]$$

$$dY/dY_u = (Y/Y_u)^{1-n} \quad [2e]$$

$$\log(dY/dY_u) = (1-n) \log(Y/Y_u) \quad [2f]$$



log $[(Y/\Delta Y) / (Y/\Delta Y)_u]$ TUBsRGB-Y-Kontrast normiert für $(Y/\Delta Y)_u$

$$C_r/C_{ru} = (Y/\Delta Y)/(Y/\Delta Y)_u \quad [a]$$

$$100L^* = s(Y/Y_u)^n - d \quad (Y_n=100, Y_u=20, s=100,0, n=1/\ln(10), d=0) \text{ [a]}$$

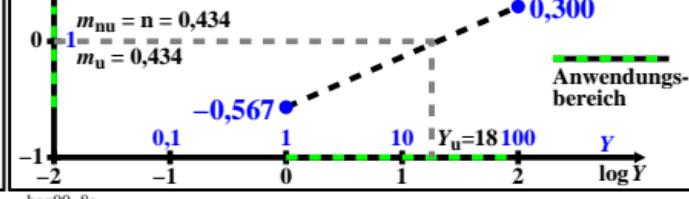
$$L^* = r(Y/Y_u)^n - d \quad (r = s(Y/Y_u)^n = 47,48, L^* = r-d = 47,4) \quad [1b]$$

$$Y/dY = Y / \{ [(Y_n/(n s)] (Y/Y_u)^{1-n}] \} \quad [4c]$$

$$(Y/Y_u) = Y_u / \{ [(Y_n/(n s)] (Y_u/Y_n)^{1-n}] \} \quad [4d]$$

$$(Y/dY)/(Y/dY)_u = (Y/Y_u)^n \quad [4e]$$

$$\log [(Y/dY)/(Y/dY)_u] = (n) \log(Y/Y_u) \quad [4f]$$



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