$\log(L^*/L^*_u)$ — CIELAB-Helligkeit L^* normiert für die UmgebungsHelligkeit L^*_u

L^*/L^*_u

$L^* = s\,(Y/Y_n)^n - d$ $(Y_n=100,\ Y_u=18,\ s=116,\ n=1/3,\ d=16)$ [1a]

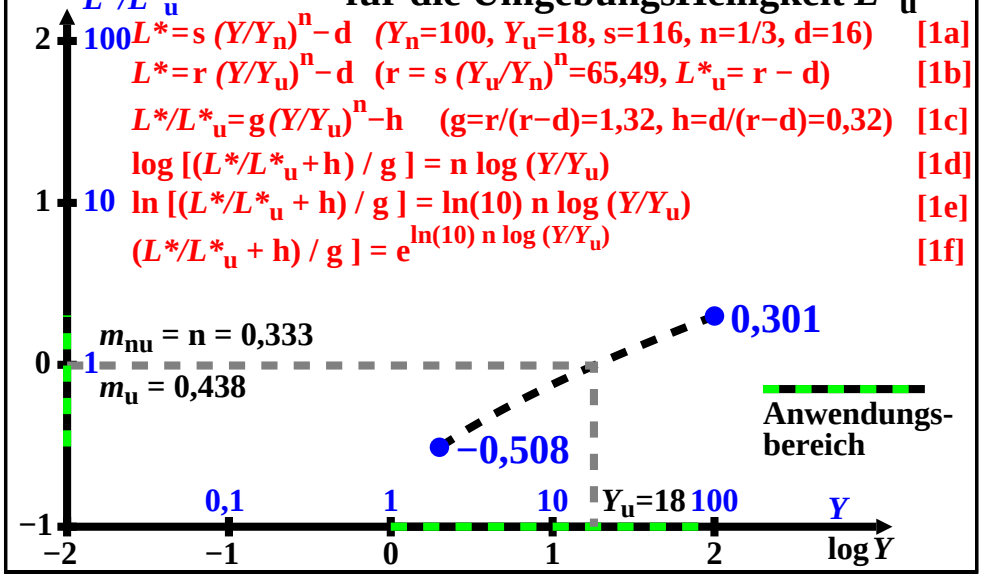
$L^* = r\,(Y/Y_u)^n - d$ $(r = s\,(Y_u/Y_n)^n = 65{,}49,\ L^*_u = r - d)$ [1b]

$L^*/L^*_u = g\,(Y/Y_u)^n - h$ $(g = r/(r-d) = 1{,}32,\ h = d/(r-d) = 0{,}32)$ [1c]

$\log[(L^*/L^*_u + h)/g] = n \log(Y/Y_u)$ [1d]

$\ln[(L^*/L^*_u + h)/g] = \ln(10)\, n \log(Y/Y_u)$ [1e]

$(L^*/L^*_u + h)/g] = e^{\ln(10)\, n \log(Y/Y_u)}$ [1f]



hgp30−5a

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

$\Delta Y/\Delta Y_u$

$L^* = s\,(Y/Y_n)^n - d$ $(Y_n=100,\ Y_u=18,\ s=116,\ n=1/3,\ d=16)$ [1a]

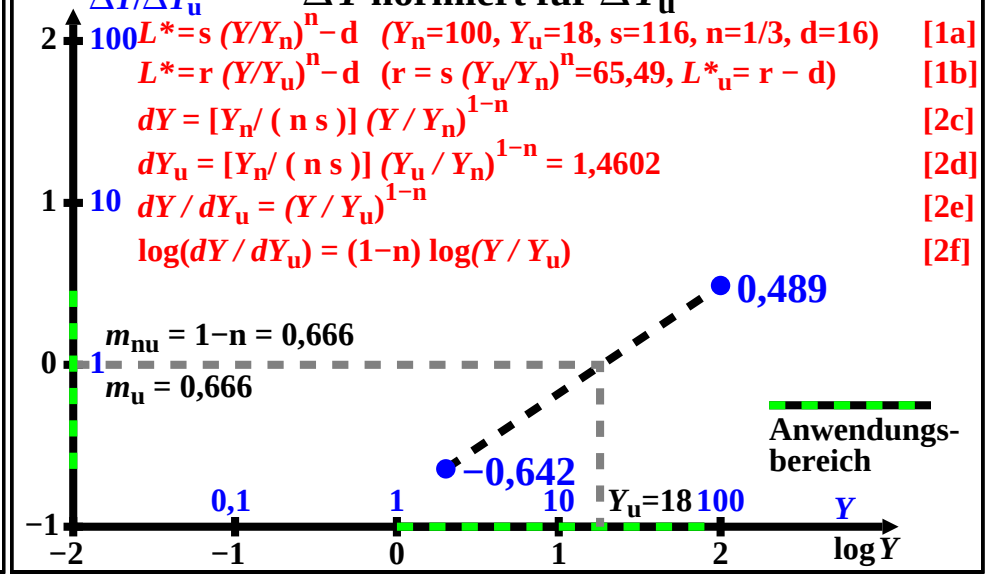
$L^* = r\,(Y/Y_u)^n - d$ $(r = s\,(Y_u/Y_n)^n = 65{,}49,\ L^*_u = r - d)$ [1b]

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

$dY_u = [Y_n/(n\,s)]\,(Y_u/Y_n)^{1-n} = 1{,}4602$ [2d]

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

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



hgp30−6a

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

$S_r/S_{ru} = (\Delta Y/Y)/(\Delta Y/Y)_u$

$L^* = s\,(Y/Y_n)^n - d$ $(Y_n=100,\ Y_u=18,\ s=116,\ n=1/3,\ d=16)$ [1a]

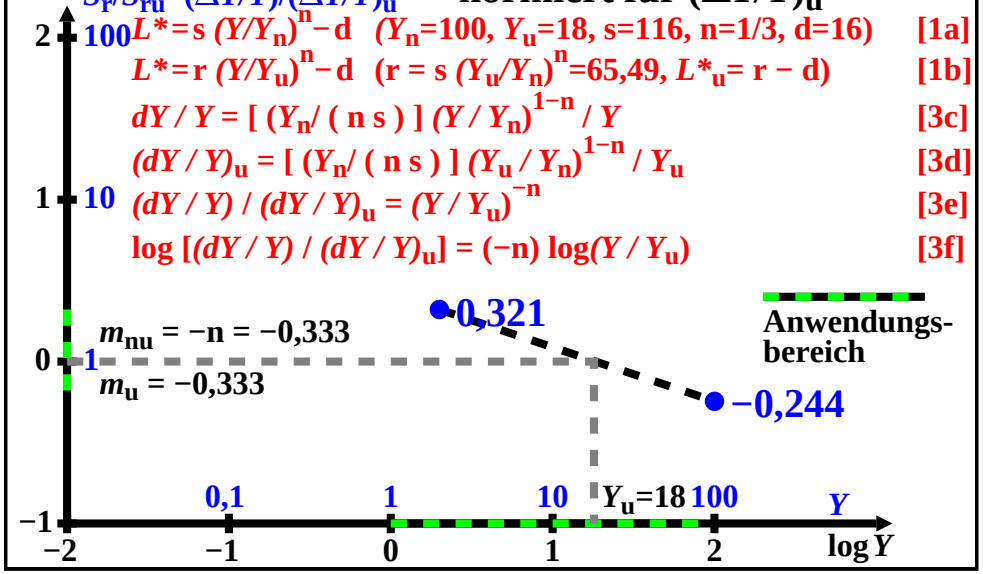
$L^* = r\,(Y/Y_u)^n - d$ $(r = s\,(Y_u/Y_n)^n = 65{,}49,\ L^*_u = r - d)$ [1b]

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

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

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

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



hgp30−7a

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

$C_r/C_{ru} = (Y/\Delta Y)/(Y/\Delta Y)_u$

$L^* = s\,(Y/Y_n)^n - d$ $(Y_n=100,\ Y_u=18,\ s=116,\ n=1/3,\ d=16)$ [1a]

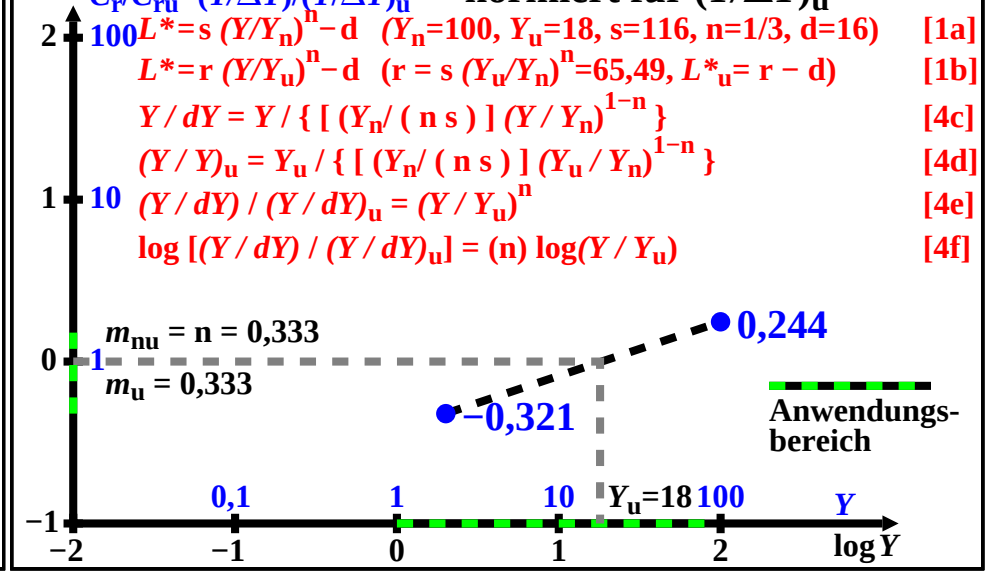
$L^* = r\,(Y/Y_u)^n - d$ $(r = s\,(Y_u/Y_n)^n = 65{,}49,\ L^*_u = r - d)$ [1b]

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

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

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

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



hgp30−8a

hgp30−7n