# HAULAB lightness $L^*_{80}$ normalized to the background lightness $L^*_{80,u}$

$L^*=s\,(Y/Y_n)^n-d$ ($Y_n$=100, $Y_u$=22, s=134,6, n=0,31, d=34,6) [1a]

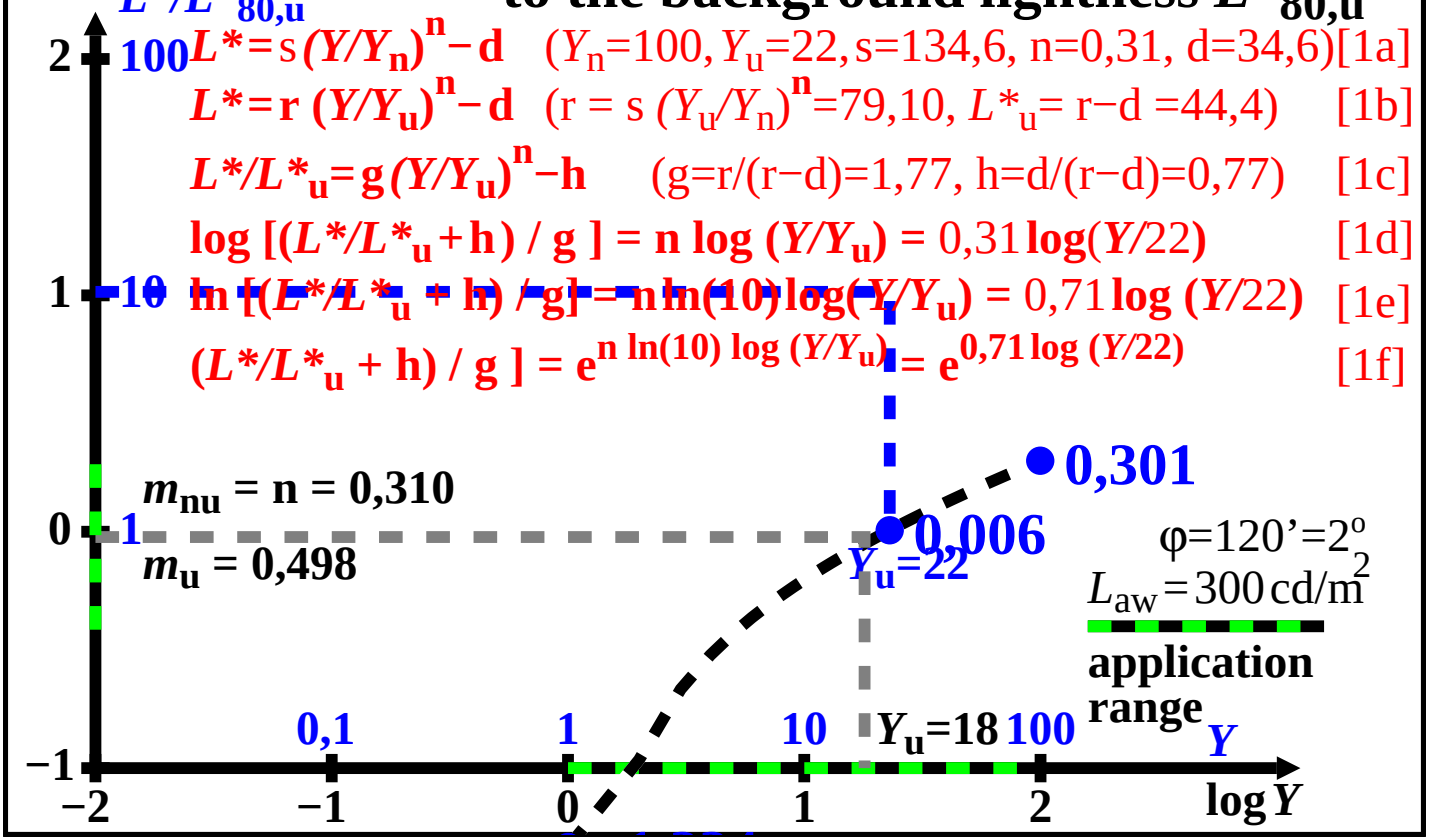
$L^*=r\,(Y/Y_u)^n-d$ (r = s $(Y_u/Y_n)^n$=79,10, $L^*_u$= r−d =44,4) [1b]

$L^*/L^*_u=g\,(Y/Y_u)^n-h$ (g=r/(r−d)=1,77, h=d/(r−d)=0,77) [1c]

$\log[(L^*/L^*_u+h)/g] = n\log(Y/Y_u) = 0{,}31\log(Y/22)$ [1d]

$\ln[(L^*/L^*_u+h)/g] = n\ln(10)\log(Y/Y_u) = 0{,}71\log(Y/22)$ [1e]

$(L^*/L^*_u+h)/g] = e^{n\ln(10)\log(Y/Y_u)} = e^{0{,}71\log(Y/22)}$ [1f]

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