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

$L*/L*_{80,u}$

$L* = s(Y/Y_u)^n - d$ $(Y_n=100, Y_u=23, s=153.7, n=0.31, d=47.9)$[1a]

$L* = r(Y/Y_u)^n - d$ $(r = s(Y_u/Y_n)^n = 90.34, L*_u = r - d = 42.3)$[1b]

$L*/L*_u = g(Y/Y_u)^n - h$ $(g = r/(r-d) = 2.13, h = d/(r-d) = 1.13)$[1c]

$\log[(L*/L*_u + h)/g] = n \log(Y/Y_u) = 0.31 \log(Y/23)$[1d]

$\ln[(L*/L*_u + h)/g] = n \ln(10)\log(Y/Y_u) = 0.71\log(Y/23)$[1e]

$(L*/L*_u + h)/g = e^{n \ln(10)\log(Y/Y_u)} = e^{0.71\log(Y/23)}$[1f]

$m_{nu} = n = 0.310$

$m_u = 0.577$

0,007

0,325

0,615

$\varphi = 30'$

$L_{aw} = 200 \, cd/m^2$

application range

hey90–3a