$(Y/\Delta Y)$ and $(Y/\Delta Y) / (Y/\Delta Y)_u$ — TUBsRGB-Y contrast normalized to $(Y/\Delta Y)_u$

text lightness

$L^* = s\,(Y/Y_n)^n - d$ (Y_n=100, Y_u=18, s=100, n=1/ln(10), d=0) [1a]

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

text relative lightness

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

text log(L*/L*u)

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

text ln(L*/Lu)

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

text L*/L*u=ex**

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