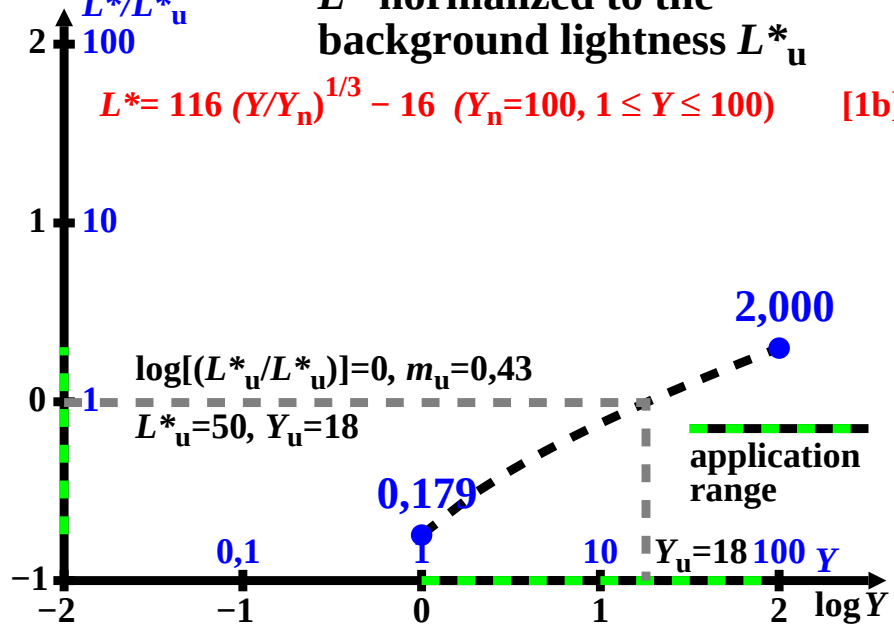
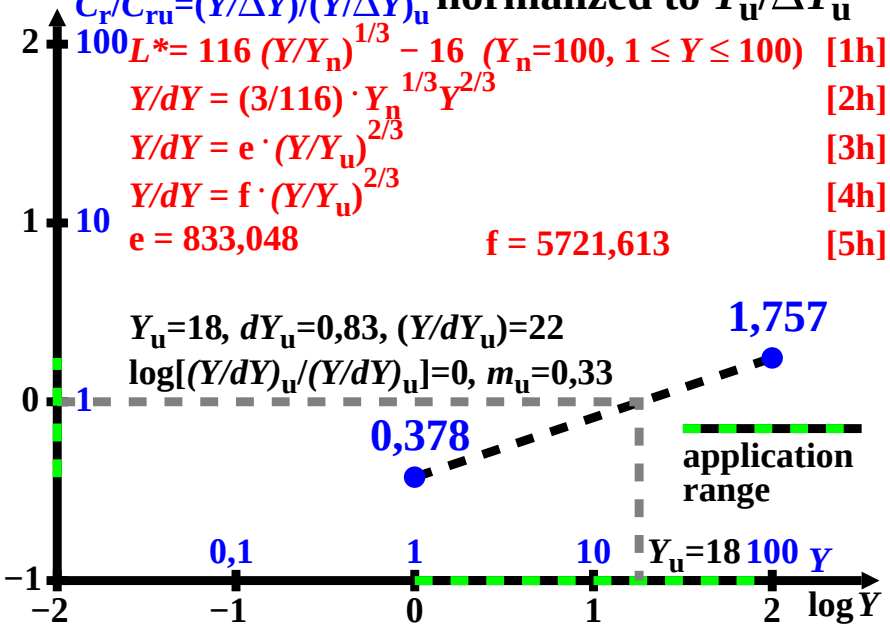
log (L^*/L^*_u) CIELAB lightness L^* normalized to the background lightness L^*_u



$L^* = 116\,(Y/Y_n)^{1/3} - 16 \quad (Y_n=100,\ 1 \le Y \le 100)$ [1b]

fem60−2A

log [($Y/\Delta Y$) / ($Y_u/\Delta Y_u$)] CIELAB-based contrast normalized to $Y_u/\Delta Y_u$



$L^* = 116\,(Y/Y_n)^{1/3} - 16 \quad (Y_n=100,\ 1 \le Y \le 100)$ [1h]

$Y/dY = (3/116) \cdot Y_n^{1/3} Y^{2/3}$ [2h]

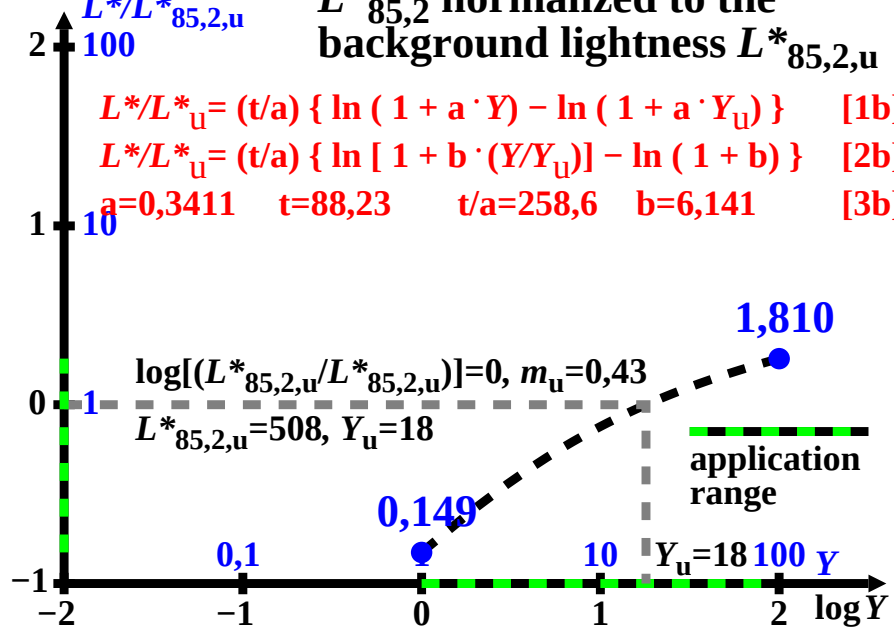
$Y/dY = e \cdot (Y/Y_u)^{2/3}$ [3h]

$Y/dY = f \cdot (Y/Y_u)^{2/3}$ [4h]

e = 833,048 f = 5721,613 [5h]

fem60−8A

log ($L^*_{85,2}/L^*_{85,2,u}$) LABJND lightness $L^*_{85,2}$ normalized to the background lightness $L^*_{85,2,u}$



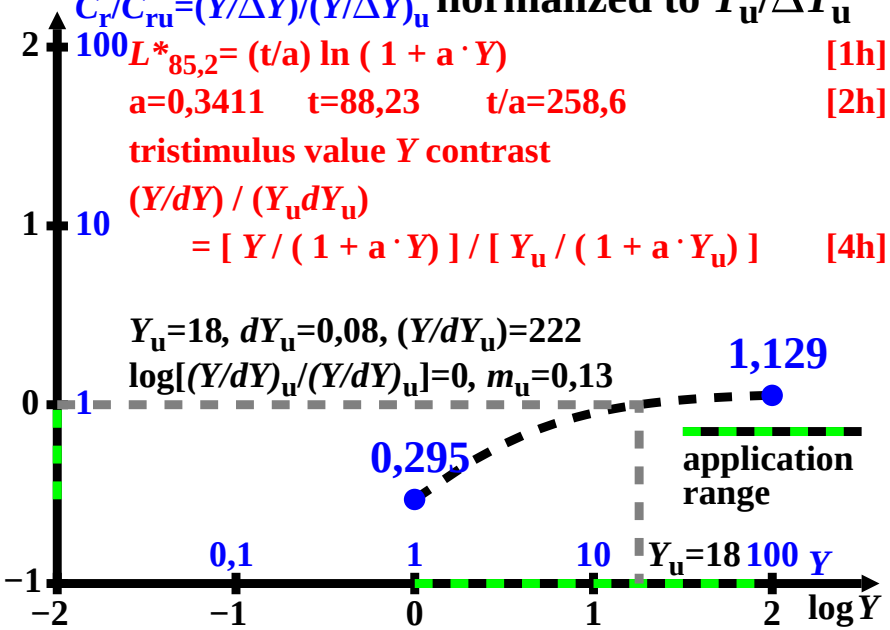
$L^*/L^*_u = (t/a)\,\{\ln(1 + a \cdot Y) - \ln(1 + a \cdot Y_u)\}$ [1b]

$L^*/L^*_u = (t/a)\,\{\ln[1 + b \cdot (Y/Y_u)] - \ln(1 + b)\}$ [2b]

a=0,3411 t=88,23 t/a=258,6 b=6,141 [3b]

fem60−2A

log [($Y/\Delta Y$) / ($Y_u/\Delta Y_u$)] LABJND-based contrast normalized to $Y_u/\Delta Y_u$



$L^*_{85,2} = (t/a)\ln(1 + a \cdot Y)$ [1h]

a=0,3411 t=88,23 t/a=258,6 [2h]

tristimulus value Y contrast

$(Y/dY) / (Y_u dY_u)$

$= [\ Y / (1 + a \cdot Y)\ ] / [\ Y_u / (1 + a \cdot Y_u)\ ]$ [4h]

fem60−8A

fem60−3n