Linienelement-Gleichungen nach CIE 230:219

Farbschwellen−(t)Funktion $f_t(x) = \Delta Y_t = \Delta x\, Y_u$ [0]

$\Delta Y_t = (A_1 + A_2 Y)/A_0$ A_0=1,5, A_1=0,0170, A_2=0,0058

$$f_{tu}(x) = \frac{\Delta Y_t}{\Delta Y_{tu}} = \frac{1+b\,x}{1+b} \qquad b = A_2 Y_u / A_1 \quad x = Y/Y_u \qquad [1]$$

$$F_{tu}(x) = \int \frac{f'_{tu}(x)}{f_{tu}(x)} dx = \int \frac{b}{1+b\,x}\, dx \qquad [2]$$

Beispiel für $L^*_{tu}(x)$, ΔY_t mit $x = Y/Y_u$, x_u=1, b=6,141:

$$L^*_{tu}(x) = \frac{L^*_t(x)}{L^*_{tu}(x)} = \frac{\ln(1+b\,x)}{\ln(1+b)} \qquad [3]$$

$$f_{tu}(x) = \frac{\Delta Y_t}{\Delta Y_{tu}} = \frac{1+b\,x}{1+b} \qquad [4]$$