

Line-element examples for grey samples ($0,2 \leq x \leq 5$)

$F_u(x)$ is called the line-element function of $f_u(x)$.

Both functions are normalized to the surround value:

$$\frac{d[F_u(x)]}{dx} = f_u(x) \quad [1]$$

$$F_u(x) = \int \frac{f'_u(x)}{f_u(x)} dx = \int \frac{b}{1+bx} dx \quad [2]$$

Example for $L^*(x)$ & ΔY with $x=Y/Y_u$, $x_u=1$, $b=6,141$:

$$L^*_u(x) = \frac{L^*(x)}{L^*(x_u)} = \frac{\ln(1+bx)}{\ln(1+b)} \quad [3]$$

$$f_u(x) = \frac{\Delta Y}{\Delta Y_u} = \frac{1+bx}{1+b} \quad [4]$$