

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

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

Both functions are normalized to the surround value:

$$\frac{d[F_u(Y_r)]}{dY_r} = f_u(Y_r) \quad [1]$$

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

Example for $L^*(Y_r)$ & ΔY_r with $Y_{ru}=1$, $b=6,141$:

$$L^*_u(Y_r) = \frac{L^*(Y_r)}{L^*(Y_{ru})} = \frac{\ln(1+b Y_r)}{\ln(1+b)} \quad [3]$$

$$f_u(Y_r) = \frac{\Delta Y_r}{\Delta Y_{ru}} = \frac{1+b Y_r}{1+b} \quad [4]$$