Line-element examples for grey samples ($0,2 \le x = Y/Y_u \le 5$)

$F(x)$ is called the line-element function of $f(x)$.

The following relations are valid for $x = Y/Y_u = Y/18$:

$$\frac{d[F(x)]}{dx} = f(x) \quad [1]$$

$$F(x) = \int \frac{f'(x)}{f(x)} \, dx \quad [2]$$

Example for all normalized tristimulus values $x = Y/Y_u$, for example for $Y_N = 3,6$, $Y_u = 18$, $Y_W = 90$.

$$\frac{d[t\ln(1+bx)]}{dx} = \frac{tb}{1+bx} \quad [3]$$

$$t\ln(1+bx) = \int \frac{tb}{1+bx} \, dx \quad [4]$$

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