

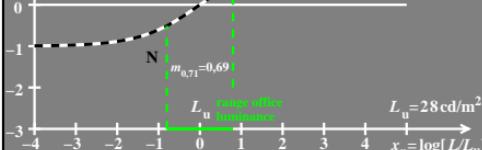
$Q_{ab}(x_r) = \text{similar tanh}$

$$10^{x_r} = e^{\ln(10)x_r}, 10^{x_r/\ln(10)} = e^{x_r}$$

$$Q_{ab}(x_r) = \frac{b}{\ln\sqrt{2}} \ln[1 + \frac{1}{1 + \sqrt{2}10^{x_r/a}}], b = 0.50, a = 1.00, e = 2.718282$$

$$a' = a \ln(10) = 1.151$$

$$10^{x_r/a'} = 10^{x_r} / [a \ln(10)] = e^{x_r/a'}$$



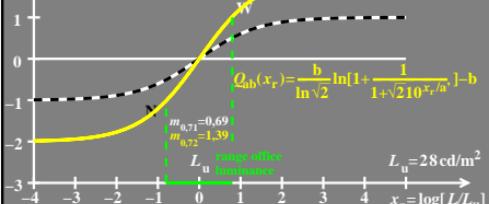
$Q_{ab}(x_r) = \text{similar tanh \& modified}$

$$Q_{ab}(x_r) = \frac{b}{\ln\sqrt{2}} \ln[1 + \frac{1}{1 + \sqrt{2}10^{x_r/a'}}] - b, b = 0.50, a = 1.00, e = 2.718282$$

$$a' = a \ln(10) = 1.151$$

$$a = 0.50, b = 0.50, e = 0.707$$

$$a = 1.628, b = 2.000$$



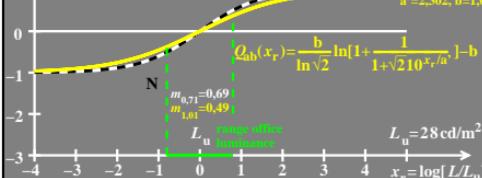
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$$a' = a \ln(10) = 1.151$$

$$a = 1.00, b = 1.00, e = 1.000$$

$$a' = 2.302, b = 1.00$$



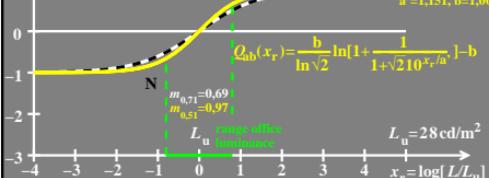
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$$a' = a \ln(10) = 1.151$$

$$a = 0.25, b = 0.500$$

$$a = 1.151, b = 1.00$$



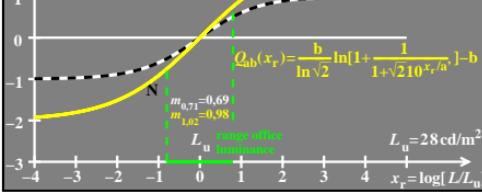
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$$a' = a \ln(10) = 1.151$$

$$a = 1.00, b = 1.00, e = 1.000$$

$$a' = 2.302, b = 2.00$$



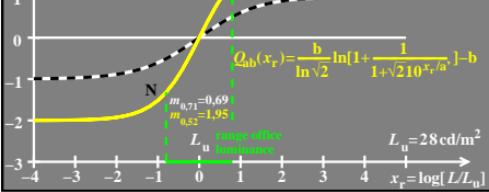
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$$a = 0.25, b = 0.500$$

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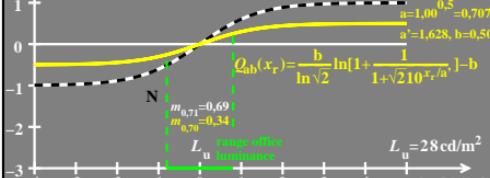
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$$a' = a \ln(10) = 1.151$$

$$a = 1.00, b = 1.00, e = 1.000$$

$$a' = 2.302, b = 2.00$$



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