

Achromatic receptor response function

$$Q_{lm}[(x-u)/a]$$

with $x = \log L$ (L = test luminance)

$u = \log L_u$ (L_u = surround luminance)

$$Q_{lm}[(x-u)/a] = \frac{1}{\ln \sqrt{2}} \ln q[(x-u)/a] - m$$

$$q[(x-u)/a] = 1 + 1/[1 + \sqrt{2}e^{(x-u)/a}]$$

$$Q_{11}[(x-u)/a \rightarrow -\infty] = -1 \quad x = \log L$$

$$Q_{11}[(x-u)/a = 0] = 0 \quad u = \log L_u$$

$$Q_{11}[(x-u)/a \rightarrow +\infty] = +1 \quad \text{for } m=l=1$$