

functions $q[k(u-u_0)]$

„achromatic signal”-description

with $u = \log L$ (L = luminance)

$u_0 = \log L_u$ (L_u = surround luminance)

$$q[k(u-u_0)] = 1 + 1/[1 + \sqrt{2}e^{k(u-u_0)}]$$

function values:

$$q[k(u-u_0) \rightarrow +\infty] = 1$$

$$q[k(u-u_0) = 0] = \sqrt{2}$$

$$q[k(u-u_0) \rightarrow -\infty] = 2$$