$Q_{ab}[x_r/a]$

with $x_r = \log[L/L_u]$ (L = test luminance)

L_u = surround luminance

$$Q_{ab}[x_r/a] = \frac{b}{\ln\sqrt{2}} \ln\left[\frac{1}{1+\sqrt{2}\,e^{(x_r/a)}}\right] - b$$

function values for $b=1$ and $a>0$:

$Q_{a1}[x_r/a \rightarrow -\infty]$	$= -1$	$x = \log L,\ u = \log L_u$
$Q_{a1}[x_r/a = 0]$	$= 0$	$x_r = \log[L/L_u]$
$Q_{a1}[x_r/a \rightarrow +\infty]$	$= +1$	$= x - u$