

$\log[L^*_{\text{CIELAB},r}]$ relative lightness normalized to the background lightness $L^*_{\text{CIELAB},u}$

2 **100** $L^* = 116 (Y/Y_u)^{1/3} - 16, \quad Y_u=100, Y_u=18, 1 \leq Y \leq 100 \quad [1b]$

$L^* = k_u (Y/Y_u)^{1/3} - 16, \quad k_u=116 [Y_u/Y_u]^{1/3}=65,50 \quad [2b]$

$L^*/L^*_u = [(Y/Y_u)^{1/3} - 16/k_u] / [1 - 16/k_u] \quad [3b]$

1 **10**

0 **1** $\log[(L^*/L^*_u)] = m_u = 1,03$

$L^*_u=50, Y_u=18$

application range

N threshold

0,1

10

$Y_u=18$ 100

1000 Y

-2

-1

0

1

2

3 $\log Y$