

log (l^*)

CIELABn0 standard lightness l^*

$$Y_{nc} = Y_{WRGBnc} = 100, 21, 72, 7$$

4 l^*
10000

$$l^*_{CIELABn0} = 116(Y/Y_n)^{1/3,0} - 16 \quad (Y_n = 100, Y_{nc}/100 < Y \leq Y_{nc})$$

$$l^*_{N(3,6)} = 23, l^*_u(18) = 50, l^*_{W(90)} = 96$$

3 l^*
1000

$$l^*_{90} = 96,01, \gamma = 3,0, 1/\gamma = 1/3,0 = 0,33$$

$$l^*_{18} = 49,71, S_n = 115,49, D_n = -15,49$$

$$l^*_{3,6} = 22,55, l^*_n = 49,71, Y_n = 18$$

2 l^*
100

$$\log[l^*/l^*_u] = 0, m_u = 0,43$$

$$L^*_u = 49, l^*_u = 50$$

application
range

1 l^*
-2 -1 0 1 10 100 Y
 $Y_N = 3,6$ 1 $Y_u = 18$ $Y_W = 90$ 2 $\log(Y)$