

L^* LABJNDu4 standard lightness L^*

$$Y_{nc} = L^*_{wRGBnc} = 100, 52, 87, 31$$

 L^*

4 10000

$$L^*_{LABJNDu4} = \ln(A_{1n} + A_{2n}Y) / (A_{2n}A_{0n}) \quad (Y_{nc}/100 < Y \leq Y_{nc})$$

$$L^*_{LABJNDu4} = \ln(A_{1n} + A_{2u}x) / (A_{2u}A_{0n}) \quad (x = Y/Y_u)$$

$$L^*_N(3,6) = 146, L^*_u(18) = 332, L^*_W(90) = 517$$

3 1000

$$\log[L^*/L^*_u] = 0, m_u = 0,33$$

$$L^*_u = 49, L^*_u = 332$$

2 100

1

0,1

1

10

 $x_u = 1$

100 Y

 $x_N = 0,2$

1

 $x_W = 5$

2

 $\log(Y)$ application
range