

$\log(\Delta Y)$

LABJNDu4

tristimulus value difference

$$Y_{nc} = L^* \cdot w_{RGB} = 100, 52, 87, 31$$

ΔY

1-10

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

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

$$dY = A_{0n}(A_{1n} + A_{2n}Y) = A_{0n}(A_{1n} + A_{2u}x), \text{ see CIE 230:2019}$$

0-1

$$dY_{90} = 0,15, A_{0n} = 0,6666, A_{2u} = 0,0438, c_x = 0,42$$

$$dY_{18} = 0,03, A_{1n} = 0,007, A_{2n} = 0,0024$$

$$dY_{3,6} = 0,01, Y_u = 18, dY_u = 0,03$$

-1-0,1

$$L^*_u = 1780, dY_u = 0,03, dY_u/Y_u = 0,0018$$

$$\log(dY) = 0,03, m_u = 0,85$$

application
range

-2

0,1

1

10

100

Y

-2

-1

1

10

100

Y

$x_N = 0,2$

$x_W = 5$

2

$\log(Y)$