

$\log(L^*_{23}/L^*_{23,u})$

normalized TUBJ23 lightness

$\log(L^*_{23} / L^*_{23,u})$

$L^*/L^*_u$

normalized CIELAB lightness

$\log(L^*/L^*_u)$

TUBJ23 and CIELAB lightness

$$L^*_{23} = \frac{[1+A_2 Y]^{(A_3+1)}}{A_1 A_2 (A_3+1)} = \frac{[1+A_{2u}(Y/Y_u)]^{(A_3+1)}}{A_1 A_{2u} (A_3+1)}$$

$A_1=0,0251, A_2=0,1566, A_3=1,1070, Y_u=18$

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

$L^*_{23,u}=2032, Y_u=18$

$\log[(L^*_{23})/(L^*_{23,u})]=0, m_u=1,57$

application range

