

$\log(L^*/L_u^*)$ relative CIELAB lightness
 with $Y_u=90/5=18$, $Y_u=90/5=18$

relative normalized CIELAB data

CIELAB lightness for all colours with $L_u^*=18$:

$$L_{\text{CIELAB}}^* = s(Y/Y_u)^{1/3} - 16 \quad (s=66, Y_u=18, 1 < Y \leq 100)$$

$$(s=66, Y_u=18, 1/255 < Y < 7)$$

