

# $L^*/L_u^*$ CIELAB & TUBJND

relative lightness  $L^*/L_u^*$   
normalized to the  
background lightness  $L_u^*$

$$L^*_{TUBJND} = d \ln [ 1 + b \cdot (Y/Y_u) ] \quad d=25,6 \quad b=6,141 \quad [2a]$$

$$L^*_{CIELAB} = 116 (Y/Y_n)^{1/3} - 16 \quad (Y_n=100, 0,89 \leq Y) \quad [2b]$$

regularity index:  $g^*_5=99, g^*_9=99,$  [ISO 15775]  
intended output: white

equally spaced 9 steps in CIELAB  
for contrast  $C_Y=25:1$

$$L^*_{r,CIELAB}=1, m_u=1,020,99$$

$$L^*_{u,CIELAB}=49, Y_u=18$$

application  
range

black

