

http://farbe.li.tu-berlin.de/CES4/CES4L0N1.TXT/.PS
N: no 3D-linearization (OL) in file (F) or PS-startup (S), page 1/1

$\log L^*_S5$ LABJND lightness no CIEDE2000 lightness

$L^*_S5 = (t/a) \ln [1 + b(Y/T_u)]$
 $a=0,3411 t=88,23 t/a=258,6 b=a Y_u=6,14$

$L^*_S5=508, Y_u=18$
 $\log(L^*_S5)=2,70, m_u=-0,43$

application range
 $Y_u=18 \text{ to } 100$

CES40-1A

$\log(L^*_S5/L^*_S5,u)$ normalized LABJND lightness no CIEDE2000 lightness

LARJND lightness
 $L^*_S5 = (t/a) \ln [1 + b(Y/T_u)]$
 $a=0,3411 t=88,23 t/a=258,6 b=a Y_u=6,14$

$L^*_S5=508, Y_u=18$
 $\log((L^*_S5)/(L^*_S5,u))=0, m_u=-0,43$

application range
 $Y_u=18 \text{ to } 100$

CES40-1A

$\log(\Delta Y)$ CIE tristimulus value difference $10\Delta Y_{\text{LABJND}}$ and $\Delta Y_{\text{CIEDE2000}}$

$L^* = 116 (Y/T_u)^{1/3} - 16$
tristimulus value difference according to CIEDE2000
 $\Delta Y = \log 3 (Y_u/116) + (2/3) \log(Y/T_u)$
 $= \log(3T_u^{1/3}/116) + (2/3) \log(Y_u)$

$Y_u=18, dY_u=-0,33, (dY/Y_u)=-0,045$
 $\log(dY)=-0,07, m_u=-0,1$

$m_u=-0,85$
application range
 $Y_u=18 \text{ to } 100$

CES40-1A

$\log(\Delta Y/\Delta Y_u)$ CIE tristimulus value difference ΔY normalized to ΔY_u for LABJND and CIEDE2000

$L^* = 116 (Y/T_u)^{1/3} - 16$
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 $Y_u=18 \text{ to } 100$

CES40-1A

$\log(\Delta Y/Y)$ CIE Y sensitivity $10S_r, \text{LABJND}$ and $S_r, \text{CIEDE2000}$

$S_r = \Delta Y/Y$
 Y sensitivity according to CIEDE2000
 $\log(dY/Y) = \log 3 (Y_u/116) - (1/3) \log(Y)$

$m_u=-0,14$
 $dY/Y=-0,04, m_u=-0,18$
 $Y_u=18, dY_u=-0,33, (dY/Y_u)=-0,045$

$m_u=-0,13$
application range
 $Y_u=18 \text{ to } 100$

CES40-1A

$\log((\Delta Y)/(\Delta Y/Y_u))$ CIE Y sensitivity $10S_r, \text{LABJND}$ and $S_r, \text{CIEDE2000}$

$S_r = \Delta Y/Y$
 Y sensitivity according to CIEDE2000
 $\log(dY/Y)/(\log(dY/Y_u)) = (1/3) \log(dY/Y_u)$

$m_u=-0,14$
 $dY/Y=-0,04, m_u=-0,18$
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$\log(\Delta Y)$ CIE Y contrast $0,1C_r, \text{LABJND}$ and $C_r, \text{CIEDE2000}$

$C_r = Y/\Delta Y$
Y contrast according to CIEDE2000
 $\log(Y/\Delta Y) = \log((1/3)(116/T_u)^{1/3}) - (1/3) \log(Y/T_u)$
 $= \log((1/3)(116/T_u^{1/3}) + (1/3) \log(Y)$

$L^* = 50, Y_u=18, dY_u=-0,33, (dY/Y_u)=-0,045$
 $\log((Y/\Delta Y)/(Y/\Delta Y_u))=0, m_u=-0,18$

$m_u=-0,14$
application range
 $Y_u=18 \text{ to } 100$

CES40-1A

$\log(\Delta Y/(Y/\Delta Y_u))$ CIE Y contrast normalized to $(Y/\Delta Y)_u$, LABJND & CIEDE2000

$C_r = C_{ru}(Y/\Delta Y)/(Y/\Delta Y_u)$
Y contrast according to CIEDE2000
 $\log((Y/\Delta Y)/(Y/\Delta Y_u)) = (1/3) \log(Y/T_u)$

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CES40-1A

$\log((\Delta Y)/(\Delta Y/Y_u))$ CIE Y sensitivity normalized to $(\Delta Y/Y_u)$, LABJND & CIEDE2000

$S_r = S_{ru}(\Delta Y)/(\Delta Y_u)$
 Y sensitivity normalized to $(\Delta Y/Y_u)$, LABJND & CIEDE2000

$m_u=-0,14$
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TUB-test chart CES4; Comparison of the LABJND and the CIEDE2000 colour-difference formula
 $\log[\text{lightness } L^*, \text{ threshold } \Delta Y, \text{ sensitivity } \Delta Y/Y, \text{ contrast } Y/\Delta Y, \text{ unnormalized and normalized}]$