

log(L*) LABJND1 lightness

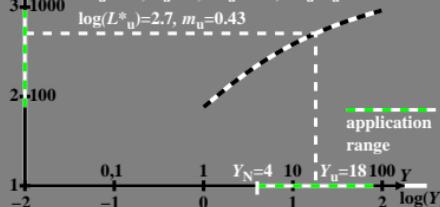
log(L*) \uparrow L*

$$L^*_{\text{LABJND1}} = (t/a) \ln(1 + a \cdot Y) \quad a=0.3411 \quad t/a=258.6$$

$$L^*_{\text{LABJND1}} = (t/a) \ln[1 + b(Y/Y_u)] = 6.1411 \quad t/a=258.6$$

$$L^*_{\text{u}}=508, Y_u=18, dY_u=0.08, dY_u/Y_u=0.004$$

$$\log(L^*_{\text{u}})=2.7, m_u=-0.43$$



BET10-1A

log ΔY LABJND1-tristimulus value difference

$$\log(\Delta Y) \Delta Y^*_{\text{LABJND1}} = (t/a) \ln(1 + a \cdot Y) \quad a=0.3411 \quad t/a=258.6$$

$$d\Delta Y/dY = t / (1 + a \cdot Y) \quad s=0.017 \quad q=0.0058$$

$$d\Delta Y/dY = t / [1 + (a \cdot Y_u)(Y/Y_u)] \quad t=88.23$$

LABJND1-tristimulus value difference

$$\log(dY) = \log[(s + q \cdot Y) / c] \quad c=1.5$$

$$= \log[(1 + a \cdot Y) / t] \quad t=c/s=88.23$$

$$= \log[(1 + (a \cdot Y_u)(Y/Y_u)) / t] \quad t=88.23$$

$$= \log[(1 + b \cdot (Y/Y_u)) / t] \quad b=Y_u=6.14$$

$$Y_u=18, dY_u=0.08, dY_u/Y_u=0.004$$

$$\log(dY)=-1.09, m_u=0.86$$



BET10-3A

log(ΔY/Y)

log(C_r) $C_r=(\Delta Y)/Y$

LABJND1-tristimulus value sensitivity

$$L^*_{\text{LABJND1}} = (t/a) \ln(1 + a \cdot Y) \quad a=0.3411 \quad t/a=258.6$$

LABJND1-tristimulus value sensitivity

$$\log(dY/Y) = \log[(1 + a \cdot Y) / (t \cdot Y)]$$

$$= \log[(1 + b \cdot (Y/Y_u)) / (t \cdot Y)]$$



BET10-5A

log(Y/ΔY)

log(S_r) $S_r=(Y/\Delta Y)$

LABJND1-tristimulus value contrast

$$L^*_{\text{LABJND1}} = (t/a) \ln(1 + a \cdot Y) \quad a=0.3411 \quad t/a=258.6$$

LABJND1-tristimulus value contrast

$$\log(Y/dY) = \log[(t \cdot Y) / (1 + a \cdot Y)]$$

$$Y_u=18, dY_u=0.08, Y_u/dY_u=222$$

$$\log(Y/dY)=2.34, m_u=0.13$$



BET10-7A

log(L*/L*_u) relative LABJND1 lightness

L^*/L^*_{u}

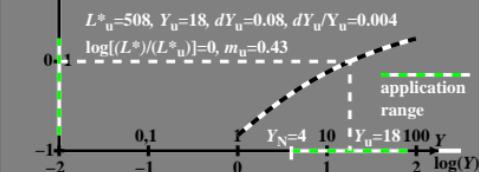
$$L^*/L^*_{\text{u}} = (t/a) \{\ln(1 + a \cdot Y) - \ln(1 + a \cdot Y_u)\}$$

$$L^*/L^*_{\text{u}} = (t/a) \{\ln[1 + b(Y/Y_u)] - \ln[1 + b(Y_u)]\}$$

$$a=0.3411 \quad t=88.23 \quad b=6.1411 \quad t/a=258.6$$

$$L^*_{\text{u}}=508, Y_u=18, dY_u=0.08, dY_u/Y_u=0.004$$

$$\log[(L^*)/(L^*_{\text{u}})]=0, m_u=-0.43$$



BET10-2A

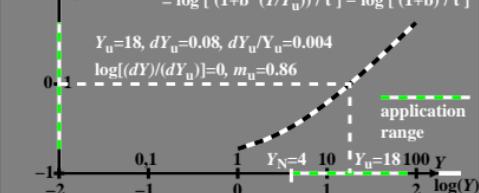
log(ΔY/ΔY_u) relative LABJND1-tristimulus value difference

$$L^*_{\text{LABJND1}} = (t/a) \ln(1 + a \cdot Y) \quad a=0.3411 \quad t/a=258.6$$

relative LABJND1-tristimulus value difference

$$\log(dY/dY_u) = \log[(1 + a \cdot Y) / t] - \log[(1 + a \cdot Y_u) / t]$$

$$= \log[(1 + b \cdot (Y/Y_u)) / t] - \log[(1 + b \cdot t) / t]$$



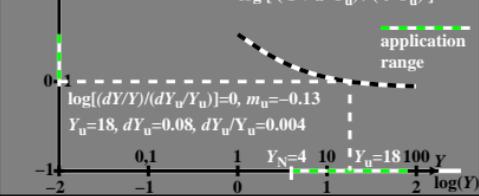
BET10-4A

log[(ΔY/Y) / (ΔY_u/Y_u)] relative LABJND1-tristimulus value sensitivity

$$L^*_{\text{LABJND1}} = (t/a) \ln(1 + a \cdot Y) \quad a=0.3411 \quad t/a=258.6$$

relative LABJND1-tristimulus value sensitivity

$$\log[(dY/Y) / (dY_u/Y_u)] = \log[(1 + a \cdot Y) / (t \cdot Y)] - \log[(1 + a \cdot Y_u) / (t \cdot Y_u)]$$



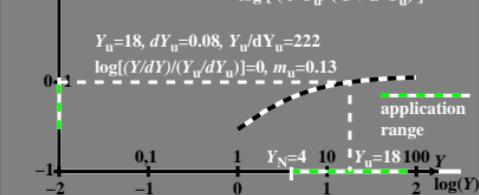
BET10-6A

log [(Y/ΔY) / (Y_u/ΔY_u)] relative LABJND1-tristimulus value contrast

$$L^*_{\text{LABJND1}} = (t/a) \ln(1 + a \cdot Y) \quad a=0.3411 \quad t/a=258.6$$

relative LABJND1-tristimulus value contrast

$$\log[(Y/dY) / (Y_u/dY_u)] = \log[(t \cdot Y) / (1 + a \cdot Y)] - \log[(t \cdot Y_u) / (1 + a \cdot Y_u)]$$



BET10-8A

BET10-7N