$(Y/\Delta Y)$ and $(Y/\Delta Y) / (Y/\Delta Y)_u$ — LABJND-Y contrast normalized to $(Y/\Delta Y)_u$

text lightness

$L^*/L^*_u = (t/a) \{ \ln (1 + a \cdot Y) - \ln (1 + a \cdot Y_u) \}$ [1a]

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

text relative lightness

tristimulus value Y contrast [4c]

text log(L*/L*u)

$(Y/dY) / (Y_u dY_u)$ [4d]

text ln(L*/Lu)

$= [Y / (1 + a \cdot Y)] / [Y_u / (1 + a \cdot Y_u)]$ [4e]

text L*/L*u=e**x

hep21−5a

$(Y/\Delta Y)$ and $(Y/\Delta Y) / (Y/\Delta Y)_u$ — CIELAB-Y contrast normalized to $(Y/\Delta Y)_u$

text lightness

$L^* = s\ (Y/Y_n)^n - d$ (Y_n=100, Y_u=18, s=116, n=1/3, d=16) [1a]

$L^* = r\ (Y/Y_u)^n - d$ (r = s $(Y_u/Y_n)^n$=65,49, L^*_u= r − d) [1b]

text relative lightness

$Y / dY = Y / \{ [(Y_n / (n\ s)]\ (Y / Y_n)^{1-n} \}$ [4c]

text log(L*/L*u)

$(Y / Y)_u = Y_u / \{ [(Y_n / (n\ s)]\ (Y_u / Y_n)^{1-n} \}$ [4d]

text ln(L*/Lu)

$(Y / dY) / (Y / dY)_u = (Y / Y_u)^n$ [4e]

text L*/L*u=e**x

$\log [(Y / dY) / (Y / dY)_u] = (n) \log(Y / Y_u)$ [4f]

hep21−6a

$(Y/\Delta Y)$ and $(Y/\Delta Y) / (Y/\Delta Y)_u$ — IECsRGB-Y contrast normalized to $(Y/\Delta Y)_u$

text lightness

$L^* = s\ (Y/Y_n)^n - d$ (Y_n=100, Y_u=18, s=100, n=1/2,4, d=0) [1a]

$L^* = r\ (Y/Y_u)^n - d$ (r = s $(Y_u/Y_n)^n$=48,94, L^*_u= r − d) [1b]

text relative lightness

$Y / dY = Y / \{ [(Y_n / (n\ s)]\ (Y / Y_n)^{1-n} \}$ [4c]

text log(L*/L*u)

$(Y / Y)_u = Y_u / \{ [(Y_n / (n\ s)]\ (Y_u / Y_n)^{1-n} \}$ [4d]

text ln(L*/Lu)

$(Y / dY) / (Y / dY)_u = (Y / Y_u)^n$ [4e]

text L*/L*u=e**x

$\log [(Y / dY) / (Y / dY)_u] = (n) \log(Y / Y_u)$ [4f]

hep21−7a

$(Y/\Delta Y)$ and $(Y/\Delta Y) / (Y/\Delta Y)_u$ — TUBsRGB-Y contrast normalized to $(Y/\Delta Y)_u$

text lightness

$L^* = s\ (Y/Y_n)^n - d$ (Y_n=100, Y_u=18, s=100, n=1/ln(10), d=0) [1a]

$L^* = r\ (Y/Y_u)^n - d$ (r = s $(Y_u/Y_n)^n$=47,48, L^*_u= r − d) [1b]

text relative lightness

$Y / dY = Y / \{ [(Y_n / (n\ s)]\ (Y / Y_n)^{1-n} \}$ [4c]

text log(L*/L*u)

$(Y / Y)_u = Y_u / \{ [(Y_n / (n\ s)]\ (Y_u / Y_n)^{1-n} \}$ [4d]

text ln(L*/Lu)

$(Y / dY) / (Y / dY)_u = (Y / Y_u)^n$ [4e]

text L*/L*u=e**x

$\log [(Y / dY) / (Y / dY)_u] = (n) \log(Y / Y_u)$ [4f]

hep21−8a

hep21−7n