$L^*_{85,2}$ and $L^*_{85,2}/L^*_{85,2,0}$ — LABJND lightness $L^*_{85,2}$ normalized to the background lightness $L^*_{85,2,0}$

text lightness

$L^*/L^*_n = (\varepsilon/\alpha)\ \{\ \ln\ (\ 1 + a\cdot Y) - \ln\ (\ 1 + a\cdot Y_0)\ \}$ [1a]

$L^*/L^*_n = (\varepsilon/\alpha)\ \{\ \ln\ [\ 1 + b\cdot (Y/Y_0)\ ] - \ln\ (\ 1 + b)\ \}$ [1b]

text relative lightness

a=0,3411 = 88,23 t/a=258,6 b=6,141 [1c]

text ln(L*/Lu)

text ln(L*/Lu)

text L*/L*u=e^x

text ln(L*/Lu)

L^* and L^*/L^*_n — CIELAB lightness L^* normalized to the background lightness L^*_n

text lightness

$L^* = s\ (Y/Y_n)^{d-d}$ (Y_n=100, Y_0=18, s=116, n=1/3, d=16) [1a]

$L^* = r\ (Y/Y_n)^{d-d}$ (r = s·(Y_0/Y_n)$^{d-d}$=65,49, L^*_n= r - d) [1b]

text relative lightness

$L^*/L^*_n = g\ (Y/Y_n)^{d-d}$ln (g=r/(r−d)=1,32, ln=d/(r−d)=0,32) [1c]

text log(L*/L*u)

log [(r/L*u + b) / g] = ln log (Y/Y_n) [1d]

text ln(L*/Lu)

ln [(r/L*u + b) / g] = ln(10) ln log (Y/Y_n) [1e]

text L*/L*u=e^x

$(r/L^*_u + b)/g\ ] = e^{\ln(10)\ \ln\ \log\ (Y/Y_n)}$ [1f]

text p=20-1a

L^* and L^*/L^*_n — IECsRGB lightness L^* normalized to the background lightness L^*_n

text lightness

$L^* = s\ (Y/Y_n)^{d-d}$ (Y_n=100, Y_0=18, s=100, n=1/2,4, d=0) [1a]

$L^* = r\ (Y/Y_n)^{d-d}$ (r = s·(Y_0/Y_n)$^{d-d}$=48,94, L^*_n= r - d) [1b]

text relative lightness

$L^*/L^*_n = (Y/Y_n)^{0,5}$ [1c]

text log(L*/L*u)

log (L*/L*u) = log (Y/Y_n) [1d]

text ln(L*/Lu)

ln (L*/L*u) = ln(10) x log (Y/Y_n) [1e]

text L*/L*u=e^x

$L^*/L^*_u = e^{\ln(10)\ x\ \log\ (Y/Y_n)}$ [1f]

text p=20-3a

L^* and L^*/L^*_n — TUBsRGB lightness L^* normalized to the background lightness L^*_n

text lightness

$L^* = s\ (Y/Y_n)^{d-d}$ (Y_n=100, Y_0=18, s=100, n=1/lu(10), d=0) [1a]

$L^* = r\ (Y/Y_n)^{d-d}$ (r = s·(Y_0/Y_n)$^{d-d}$=47,48, L^*_n= r - d) [1b]

text relative lightness

$L^*/L^*_n = (Y/Y_n)^{1/\ln(10)}$ (ln(x)=ln(10) log(x)) [1c]

text log(L*/L*u)

log(L*/L*u) =(1/ln(10)) log(Y/Y_n) [1d]

text ln(L*/Lu)

ln (L*/L*u) = log(Y/Y_n) [1e]

text L*/L*u=e^x

$L^*/L^*_u = e^{\log(Y/Y_n)}$ [1f]

text p=20-3b

ΔY and $\Delta Y/\Delta Y_n$ — LABJND tristimulus value difference ΔY normalized to ΔY_n

text lightness

$L^*/L^*_n = (\varepsilon/\alpha)\ \{\ \ln\ (\ 1 + a\cdot Y) - \ln\ (\ 1 + a\cdot Y_0)\ \}$ [1a]

$L^*/L^*_n = (\varepsilon/\alpha)\ \{\ \ln\ [\ 1 + b\cdot (Y/Y_0)\ ] - \ln\ (\ 1 + b)\ \}$ [1b]

text relative lightness

normalized tristimulus value Y difference [3c]

text log(L*/L*u)

$dY/dY_n = (1 + a\cdot Y)\ /\ (1 + a\cdot Y_0)$ [3d]

text ln(L*/Lu)

text L*/L*u=e^x

ΔY and $\Delta Y/\Delta Y_n$ — CIELAB tristimulus value difference ΔY normalized to ΔY_n

text lightness

$L^* = s\ (Y/Y_n)^{d-d}$ (Y_n=100, Y_0=18, s=116, n=1/3, d=16) [1a]

$L^* = r\ (Y/Y_n)^{d-d}$ (r = s·(Y_0/Y_n)$^{d-d}$=65,49, L^*_n= r - d) [1b]

text relative lightness

$dY = [\ (n\ s)\ (Y/Y_n)^{1-n}$ [2c]

text log(L*/L*u)

$dY_n = [\ (n\ s)\ (Y/Y_n)^{1-n} = 1,4602$ [2d]

text ln(L*/Lu)

$dY\ /\ dY_n = (Y/Y_n)^{1-n}$ [2e]

text L*/L*u=e^x

$\log(dY\ /\ dY_n) = (1-n)\ \log(Y\ /\ Y_n)$ [2f]

text p=20-5a

ΔY and $\Delta Y/\Delta Y_n$ — IECsRGB tristimulus value difference ΔY normalized to ΔY_n

text lightness

$L^* = s\ (Y/Y_n)^{d-d}$ (Y_n=100, Y_0=18, s=100, n=1/2,4, d=0) [1a]

$L^* = r\ (Y/Y_n)^{d-d}$ (r = s·(Y_0/Y_n)$^{d-d}$=48,94, L^*_n= r - d) [1b]

text relative lightness

$dY = [Y_n/\ (n\ s)]\ (Y/Y_n)^{1-n}$ [2c]

text log(L*/L*u)

$dY_n = [Y_n/\ (n\ s)]\ (Y_n/Y_n)^{1-n} = 1,1746$ [2d]

text ln(L*/Lu)

$dY\ /\ dY_n = (Y/Y_n)^{1-n}$ [2e]

text L*/L*u=e^x

$\log(dY\ /\ dY_n) = (1-n)\ \log(Y\ /\ Y_n)$ [2f]

text p=20-5b

ΔY and $\Delta Y/\Delta Y_n$ — TUBsRGB tristimulus value difference ΔY normalized to ΔY_n

text lightness

$L^* = s\ (Y/Y_n)^{d-d}$ (Y_n=100, Y_0=18, s=100, n=1/lu(10), d=0) [1a]

$L^* = r\ (Y/Y_n)^{d-d}$ (r = s·(Y_0/Y_n)$^{d-d}$=47,48, L^*_n= r - d) [1b]

text relative lightness

$dY = [Y_n/\ (n\ s)]\ (Y/Y_n)^{1-n}$ [2c]

text log(L*/L*u)

$dY_n = [Y_n/\ (n\ s)]\ (Y_n/Y_n)^{1-n} = 1,0934$ [2d]

text ln(L*/Lu)

$dY\ /\ dY_n = (Y/Y_n)^{1-n}$ [2e]

text L*/L*u=e^x

$\log(dY\ /\ dY_n) = (1-n)\ \log(Y\ /\ Y_n)$ [2f]

text p=20-5c

$(\Delta Y/Y)$ and $(\Delta Y/Y)/(\Delta Y/Y)_n$ — LABJND-Y sensitivity normalized to $(\Delta Y/Y)_n$

text lightness

$L^*/L^*_n = (\varepsilon/\alpha)\ \{\ \ln\ (\ 1 + a\cdot Y) - \ln\ (\ 1 + a\cdot Y_0)\ \}$ [1a]

$L^*/L^*_n = (\varepsilon/\alpha)\ \{\ \ln\ [\ 1 + b\cdot (Y/Y_0)\ ] - \ln\ (\ 1 + b)\ \}$ [1b]

text relative lightness

tristimulus value Y sensitivity [3c]

text log(L*/L*u)

$(dY/Y)/(dY_n/Y_n) = [\ (Y_n/\ (n\ s)\ ]\ (Y_n/Y_n)^{1-n}\ /\ Y$ [3d]

text ln(L*/Lu)

$(dY/Y)_n = (Y_n/\ (n\ s)\ ]\ (Y_n/Y_n)^{1-n}\ /\ Y_n$ [3e]

text L*/L*u=e^x

$\log\ [(dY/Y)\ /\ (dY_n/Y_n)] = (-n)\ \log(Y\ /\ Y_n)$ [3f]

text p=21-1a

$(\Delta Y/Y)$ and $(\Delta Y/Y)/(\Delta Y/Y)_n$ — IECsRGB-Y sensitivity normalized to $(\Delta Y/Y)_n$

text lightness

$L^* = s\ (Y/Y_n)^{d-d}$ (Y_n=100, Y_0=18, s=100, n=1/2,4, d=0) [1a]

$L^* = r\ (Y/Y_n)^{d-d}$ (r = s·(Y_0/Y_n)$^{d-d}$=48,94, L^*_n= r - d) [1b]

text relative lightness

$dY/Y = [\ (Y_n/\ (n\ s)\ ]\ (Y/Y_n)^{1-n}/\ Y$ [3c]

text log(L*/L*u)

$(dY/Y)_n = [\ (Y_n/\ (n\ s)\ ]\ (Y_n/Y_n)^{1-n}/\ Y_n$ [3d]

text ln(L*/Lu)

$(dY\ /\ Y)\ /\ (dY\ /\ Y)_n = (Y/Y_n)^{-n}$ [3e]

text L*/L*u=e^x

$\log\ [(dY/Y)\ /\ (dY_n/Y_n)] = (-n)\ \log(Y/Y_n)$ [3f]

text p=21-1b

$(\Delta Y/Y)$ and $(\Delta Y/Y)/(\Delta Y/Y)_n$ — TUBsRGB-Y sensitivity normalized to $(\Delta Y/Y)_n$

text lightness

$L^* = s\ (Y/Y_n)^{d-d}$ (Y_n=100, Y_0=18, s=100, n=1/lu(10), d=0) [1a]

$L^* = r\ (Y/Y_n)^{d-d}$ (r = s·(Y_0/Y_n)$^{d-d}$=47,48, L^*_n= r - d) [1b]

text relative lightness

$dY/Y = [\ (Y_n/\ (n\ s)\ ]\ (Y/Y_n)^{1-n}/\ Y$ [3c]

text log(L*/L*u)

$(dY/Y)_n = [\ (Y_n/\ (n\ s)\ ]\ (Y_n/Y_n)^{1-n}/\ Y_n$ [3d]

text ln(L*/Lu)

$(dY\ /\ Y)\ /\ (dY\ /\ Y)_n = (Y/Y_n)^{-n}$ [3e]

text L*/L*u=e^x

$\log\ [(dY/Y)\ /\ (dY_n/Y_n)] = (-n)\ \log(Y/Y_n)$ [3f]

text p=21-1c

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

text lightness

$L^*/L^*_n = (\varepsilon/\alpha)\ \{\ \ln\ (\ 1 + a\cdot Y) - \ln\ (\ 1 + a\cdot Y_0)\ \}$ [1a]

$L^*/L^*_n = (\varepsilon/\alpha)\ \{\ \ln\ [\ 1 + b\cdot (Y/Y_0)\ ] - \ln\ (\ 1 + b)\ \}$ [1b]

text relative lightness

tristimulus value Y contrast [4c]

text log(L*/L*u)

$(Y/dY)_n = (Y_n/dY_n)$ [4d]

text ln(L*/Lu)

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

text L*/L*u=e^x

text p=21-2a

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

text lightness

$L^* = s\ (Y/Y_n)^{d-d}$ (Y_n=100, Y_0=18, s=100, n=1/2,4, d=0) [1a]

$L^* = r\ (Y/Y_n)^{d-d}$ (r = s·(Y_0/Y_n)$^{d-d}$=48,94, L^*_n= r - d) [1b]

text relative lightness

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

text log(L*/L*u)

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

text ln(L*/Lu)

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

text L*/L*u=e^x

$\log\ [(Y/dY)\ /\ (Y/dY)_n] = (n)\ \log(Y/Y_n)$ [4f]

text p=21-2b

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

text lightness

$L^* = s\ (Y/Y_n)^{d-d}$ (Y_n=100, Y_0=18, s=100, n=1/lu(10), d=0) [1a]

$L^* = r\ (Y/Y_n)^{d-d}$ (r = s·(Y_0/Y_n)$^{d-d}$=47,48, L^*_n= r - d) [1b]

text relative lightness

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

text log(L*/L*u)

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

text ln(L*/Lu)

$(Y\ /\ dY)\ /\ (Y/dY)_n = (Y/Y_n)^n$ [4e]

text L*/L*u=e^x

$\log\ [(Y/dY)\ /\ (Y/dY)_n] = (n)\ \log(Y/Y_n)$ [4f]

text p=21-2c