$L^*_{85,2}$ und $L^*_{85,2}/L^*_{85,2,u}$ — LABJND-Helligkeit $L^*_{85,2}$ normiert für die UmgebungsHelligkeit $L^*_{85,2,u}$

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

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

text log(L*/L*u)

text ln(L*/Lu)

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

hgp20−1a

L^* und L^*/L^*_u — CIELAB-Helligkeit L^* normiert für die UmgebungsHelligkeit L^*_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

$L^*/L^*_u = g\ (Y/Y_u)^n - h$ (g=r/(r−d)=1,32, h=d/(r−d)=0,32) [1c]

text log(L*/L*u)

$\log [(L^*/L^*_u + h) / g] = n \log (Y/Y_u)$ [1d]

text ln(L*/Lu)

$\ln [(L^*/L^*_u + h) / g] = \ln(10)\ n \log (Y/Y_u)$ [1e]

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

$(L^*/L^*_u + h) / g] = e^{\ln(10)\ n \log\ (Y/Y_u)}$ [1f]

hgp20−2a

L^* und L^*/L^*_u — IECsRGB-Helligkeit L^* normiert für die UmgebungsHelligkeit L^*_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

$L^*/L^*_u = (Y/Y_u)^n$ [1c]

text log(L*/L*u)

$\log\ (L^*/L^*_u) = n \log\ (Y/Y_u)$ [1d]

text ln(L*/Lu)

$\ln\ (L^*/L^*_u) = \ln(10)\ n \log\ (Y/Y_u)$ [1e]

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

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

hgp20−3a

L^* und L^*/L^*_u — TUBsRGB-Helligkeit L^* normiert für die UmgebungsHelligkeit L^*_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

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

text log(L*/L*u)

$\log(L^*/L^*_u) = (1/\ln(10))\ \log(Y/Y_u)$ [1d]

text ln(L*/Lu)

$\ln(L^*/L^*_u) = \log(Y/Y_u)$ [1e]

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

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

hgp20−4a

hgp20−3n

$(\Delta Y/Y)$ und $(\Delta Y/Y) / (\Delta Y/Y)_u$ — LABJND-Y-Empfindlichkeit normiert für $(\Delta Y/Y)_u$

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

Hellbezugswert-Y-Empfindlichkeit [3c]

text log(L*/L*u)

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

text ln(L*/Lu)

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

hgp21−1a

$(\Delta Y/Y)$ und $(\Delta Y/Y) / (\Delta Y/Y)_u$ — CIELAB-Y-Empfindlichkeit normiert für $(\Delta Y/Y)_u$

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

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

text log(L*/L*u)

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

text ln(L*/Lu)

$(dY/Y) / (dY/Y)_u = (Y/Y_u)^{-n}$ [3e]

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

$\log [(dY/Y) / (dY/Y)_u] = (-n)\ \log(Y/Y_u)$ [3f]

hgp21−2a

$(\Delta Y/Y)$ und $(\Delta Y/Y) / (\Delta Y/Y)_u$ — IECsRGB-Y-Empfindlichkeit normiert für $(\Delta Y/Y)_u$

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

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

text log(L*/L*u)

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

text ln(L*/Lu)

$(dY/Y) / (dY/Y)_u = (Y/Y_u)^{-n}$ [3e]

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

$\log [(dY/Y) / (dY/Y)_u] = (-n)\ \log(Y/Y_u)$ [3f]

hgp21−3a

$(\Delta Y/Y)$ und $(\Delta Y/Y) / (\Delta Y/Y)_u$ — TUBsRGB-Y-Empfindlichkeit normiert für $(\Delta Y/Y)_u$

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

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

text log(L*/L*u)

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

text ln(L*/Lu)

$(dY/Y) / (dY/Y)_u = (Y/Y_u)^{-n}$ [3e]

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

$\log [(dY/Y) / (dY/Y)_u] = (-n)\ \log(Y/Y_u)$ [3f]

hgp21−4a

hgp21−3n

ΔY und $\Delta Y/\Delta Y_u$ — LABJND-Normfarbwertdifferenz ΔY normiert für ΔY_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

normierte Normfarbwert-Y-Differenz [3e]

text log(L*/L*u)

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

text ln(L*/Lu)

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

hgp20−5a

ΔY und $\Delta Y/\Delta Y_u$ — CIELAB-Normfarbwertdifferenz ΔY normiert für ΔY_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

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

text log(L*/L*u)

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

text ln(L*/Lu)

$dY / dY_u = (Y/Y_u)^{1-n}$ [2e]

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

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

hgp20−6a

ΔY und $\Delta Y/\Delta Y_u$ — IECsRGB-Normfarbwertdifferenz ΔY normiert für ΔY_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

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

text log(L*/L*u)

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

text ln(L*/Lu)

$dY / dY_u = (Y/Y_u)^{1-n}$ [2e]

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

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

hgp20−7a

ΔY und $\Delta Y/\Delta Y_u$ — TUBsRGB-Normfarbwertdifferenz ΔY normiert für ΔY_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

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

text log(L*/L*u)

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

text ln(L*/Lu)

$dY / dY_u = (Y/Y_u)^{1-n}$ [2e]

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

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

hgp20−8a

hgp20−7n

$(Y/\Delta Y)$ und $(Y/\Delta Y) / (Y/\Delta Y)_u$ — LABJND-Y-Kontrast normiert für $(Y/\Delta Y)_u$

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

Hellbezugswert-Y Kontrast [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

hgp21−5a

$(Y/\Delta Y)$ und $(Y/\Delta Y) / (Y/\Delta Y)_u$ — CIELAB-Y-Kontrast normiert für $(Y/\Delta Y)_u$

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]

hgp21−6a

$(Y/\Delta Y)$ und $(Y/\Delta Y) / (Y/\Delta Y)_u$ — IECsRGB-Y-Kontrast normiert für $(Y/\Delta Y)_u$

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]

hgp21−7a

$(Y/\Delta Y)$ und $(Y/\Delta Y) / (Y/\Delta Y)_u$ — TUBsRGB-Y-Kontrast normiert für $(Y/\Delta Y)_u$

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]

hgp21−8a

hgp21−7n