http://farbe.li.tu-berlin.de/hgp3/hgp3l0na.txt /.ps; nur Vektorgrafik VG; Start-Ausgabe
Siehe separate Bilder dieser Seite: http://farbe.li.tu-berlin.de/hgp3/hgp3.htm

Siehe ähnliche Dateien der ganzen Serie: http://farbe.li.tu-berlin.de/hgps.htm
Technische Information: http://farbe.li.tu-berlin.de oder http://color.li.tu-berlin.de

TUB-Registrierung: 20241001-hgp3/hgp3l0na.txt /.ps
Anwendung für Beurteilung und Messung von Display- oder Druck-Ausgabe

TUB-Material: Code=rha4ta

log ($L^*_{80}/L^*_{80,u}$) — HAULAB-Helligkeit L^*_{80} normiert für die UmgebungsHelligkeit $L^*_{80,u}$

$L^*/L^*_{80,u}$

$L^* = s\,(Y/Y_n)^n - d$ (Y_n=100, Y_u=18, s=22, n=0,31, d=30) [1a]
$L^* = r\,(Y/Y_u)^n - d$ (r = s (Y_u/Y_n)^n=13,49, L^*_u= r − d) [1b]
$L^*/L^*_u = g(Y/Y_u)^n - h$ (g=r/(r−d)=−0,78, h=d/(r−d)=−1,78) [1c]
$\log[(L^*/L^*_u + h)/g] = n \log(Y/Y_u)$ [1d]
$\ln[(L^*/L^*_u + h)/g] = \ln(10)\, n \log(Y/Y_u)$ [1e]
$(L^*/L^*_u + h)/g = e^{\ln(10)\, n \log(Y/Y_u)}$ [1f]

m_{nu} = n = 0,310
m_u = 0,544
0,301
−0,964
Anwendungs-bereich
Y_u=18
hgp30−1a

log ($\Delta Y/\Delta Y_u$) — HAULAB-Normfarbwertdifferenz ΔY normiert für ΔY_u

$\Delta Y/\Delta Y_u$

$L^* = s\,(Y/Y_n)^n - d$ (Y_n=100, Y_u=18, s=22, n=0,31, d=30) [1a]
$L^* = r\,(Y/Y_u)^n - d$ (r = s (Y_u/Y_n)^n=13,49, L^*_u= r − d) [1b]
$dY = [Y_n/(n\,s)]\,(Y/Y_n)^{1-n}$ [2c]
$dY_u = [Y_n/(n\,s)]\,(Y_u/Y_n)^{1-n}$ = 8,2533 [2d]
$dY/dY_u = (Y/Y_u)^{1-n}$ [2e]
$\log(dY/dY_u) = (1-n)\log(Y/Y_u)$ [2f]

m_{nu} = 1−n = 0,690
m_u = 0,689
0,448
−0,723
Anwendungs-bereich
Y_u=18
hgp30−2a

log [($\Delta Y/Y$) / ($\Delta Y/Y$)$_u$] — HAULAB-Y-Empfindlichkeit normiert für ($\Delta Y/Y$)$_u$

$S_r/S_{ru} = (\Delta Y/Y)/(\Delta Y/Y)_u$

$L^* = s\,(Y/Y_n)^n - d$ (Y_n=100, Y_u=18, s=22, n=0,31, d=30) [1a]
$L^* = r\,(Y/Y_u)^n - d$ (r = s (Y_u/Y_n)^n=13,49, L^*_u= r − d) [1b]
$dY/Y = [(Y_n/(n\,s)]\,(Y/Y_n)^{1-n}/Y$ [3c]
$(dY/Y)_u = [(Y_n/(n\,s)]\,(Y_u/Y_n)^{1-n}/Y_u$ [3d]
$(dY/Y)/(dY/Y)_u = (Y/Y_u)^{-n}$ [3e]
$\log[(dY/Y)/(dY/Y)_u] = (-n)\log(Y/Y_u)$ [3f]

m_{nu} = −n = −0,310
m_u = −0,310
0,325
−0,201
Anwendungs-bereich
Y_u=18
hgp30−3a

log[($Y/\Delta Y$) / ($Y/\Delta Y$)$_u$)] — HAULAB-Y-Kontrast normiert für ($Y/\Delta Y$)$_u$

$C_r/C_{ru} = (Y/\Delta Y)/(Y/\Delta Y)_u$

$L^* = s\,(Y/Y_n)^n - d$ (Y_n=100, Y_u=18, s=22, n=0,31, d=30) [1a]
$L^* = r\,(Y/Y_u)^n - d$ (r = s (Y_u/Y_n)^n=13,49, L^*_u= r − d) [1b]
$Y/dY = Y/\{[(Y_n/(n\,s)]\,(Y/Y_n)^{1-n}\}$ [4c]
$(Y/Y)_u = Y_u/\{[(Y_n/(n\,s)]\,(Y_u/Y_n)^{1-n}\}$ [4d]
$(Y/dY)/(Y/dY)_u = (Y/Y_u)^n$ [4e]
$\log[(Y/dY)/(Y/dY)_u] = (n)\log(Y/Y_u)$ [4f]

m_{nu} = n = 0,310
m_u = 0,310
0,201
−0,325
Anwendungs-bereich
Y_u=18
hgp30−4a

hgp30−3n

log (L^*/L^*_u) — CIELAB-Helligkeit L^* normiert für die UmgebungsHelligkeit L^*_u

L^*/L^*_u

$L^* = s\,(Y/Y_n)^n - d$ (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]
$L^*/L^*_u = g(Y/Y_u)^n - h$ (g=r/(r−d)=1,32, h=d/(r−d)=0,32) [1c]
$\log[(L^*/L^*_u + h)/g] = n \log(Y/Y_u)$ [1d]
$\ln[(L^*/L^*_u + h)/g] = \ln(10)\, n \log(Y/Y_u)$ [1e]
$(L^*/L^*_u + h)/g = e^{\ln(10)\, n \log(Y/Y_u)}$ [1f]

m_{nu} = n = 0,333
m_u = 0,438
0,301
−0,508
Anwendungs-bereich
Y_u=18
hgp30−5a

log ($\Delta Y/\Delta Y_u$) — CIELAB-Normfarbwertdifferenz ΔY normiert für ΔY_u

$\Delta Y/\Delta Y_u$

$L^* = s\,(Y/Y_n)^n - d$ (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]
$dY = [Y_n/(n\,s)]\,(Y/Y_n)^{1-n}$ [2c]
$dY_u = [Y_n/(n\,s)]\,(Y_u/Y_n)^{1-n}$ = 1,4602 [2d]
$dY/dY_u = (Y/Y_u)^{1-n}$ [2e]
$\log(dY/dY_u) = (1-n)\log(Y/Y_u)$ [2f]

m_{nu} = 1−n = 0,666
m_u = 0,666
0,489
−0,642
Anwendungs-bereich
Y_u=18
hgp30−6a

log [($\Delta Y/Y$) / ($\Delta Y/Y$)$_u$] — CIELAB-Y-Empfindlichkeit normiert für ($\Delta Y/Y$)$_u$

$S_r/S_{ru} = (\Delta Y/Y)/(\Delta Y/Y)_u$

$L^* = s\,(Y/Y_n)^n - d$ (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]
$dY/Y = [(Y_n/(n\,s)]\,(Y/Y_n)^{1-n}/Y$ [3c]
$(dY/Y)_u = [(Y_n/(n\,s)]\,(Y_u/Y_n)^{1-n}/Y_u$ [3d]
$(dY/Y)/(dY/Y)_u = (Y/Y_u)^{-n}$ [3e]
$\log[(dY/Y)/(dY/Y)_u] = (-n)\log(Y/Y_u)$ [3f]

m_{nu} = −n = −0,333
m_u = −0,333
0,321
−0,244
Anwendungs-bereich
Y_u=18
hgp30−7a

log[($Y/\Delta Y$) / ($Y/\Delta Y$)$_u$)] — CIELAB-Y-Kontrast normiert für ($Y/\Delta Y$)$_u$

$C_r/C_{ru} = (Y/\Delta Y)/(Y/\Delta Y)_u$

$L^* = s\,(Y/Y_n)^n - d$ (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]
$Y/dY = Y/\{[(Y_n/(n\,s)]\,(Y/Y_n)^{1-n}\}$ [4c]
$(Y/Y)_u = Y_u/\{[(Y_n/(n\,s)]\,(Y_u/Y_n)^{1-n}\}$ [4d]
$(Y/dY)/(Y/dY)_u = (Y/Y_u)^n$ [4e]
$\log[(Y/dY)/(Y/dY)_u] = (n)\log(Y/Y_u)$ [4f]

m_{nu} = n = 0,333
m_u = 0,333
0,244
−0,321
Anwendungs-bereich
Y_u=18
hgp30−8a

hgp30−7n

$L^*_{80}/L^*_{80,u}$ — HAULAB-Helligkeit L^*_{80} normiert für die UmgebungsHelligkeit $L^*_{80,u}$

$L^*/L^*_{80,u}$

$L^* = s\,(Y/Y_n)^n - d$ (Y_n=100, Y_u=18, s=22, n=0,31, d=30) [1a]
$L^* = r\,(Y/Y_u)^n - d$ (r = s (Y_u/Y_n)^n=13,49, L^*_u= r − d) [1b]
$L^*/L^*_u = g(Y/Y_u)^n - h$ (g=r/(r−d)=−0,78, h=d/(r−d)=−1,78) [1c]

m_{u90_4} = 0,937, f_{90}=95, f_4=15
m_u = 1,515
2,000
0,108
Anwendungs-bereich
Y_u=18
hgp31−1a

$\Delta Y/\Delta Y_u$ — HAULAB-Normfarbwertdifferenz ΔY normiert für ΔY_u

$\Delta Y/\Delta Y_u$

$L^* = s\,(Y/Y_n)^n - d$ (Y_n=100, Y_u=18, s=22, n=0,31, d=30) [1a]
$L^* = r\,(Y/Y_u)^n - d$ (r = s (Y_u/Y_n)^n=13,49, L^*_u= r − d) [1b]
$dY = [Y_n/(n\,s)]\,(Y/Y_n)^{1-n}$ [2c]
$dY_u = [Y_n/(n\,s)]\,(Y_u/Y_n)^{1-n}$ = 8,2533 [2d]
$dY/dY_u = (Y/Y_u)^{1-n}$ [2e]

m_{u90_4} = 0,022, f_{90}=2, f_4=0
m_u = 0,027
2,811
0,139
Anwendungs-bereich
Y_u=18
hgp31−2a

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

$S_r/S_{ru} = (\Delta Y/Y)/(\Delta Y/Y)_u$

$L^* = s\,(Y/Y_n)^n - d$ (Y_n=100, Y_u=18, s=22, n=0,31, d=30) [1a]
$L^* = r\,(Y/Y_u)^n - d$ (r = s (Y_u/Y_n)^n=13,49, L^*_u= r − d) [1b]
$dY/Y = [(Y_n/(n\,s)]\,(Y/Y_n)^{1-n}/Y$ [3c]
$(dY/Y)_u = [(Y_n/(n\,s)]\,(Y_u/Y_n)^{1-n}/Y_u$ [3d]
$(dY/Y)/(dY/Y)_u = (Y/Y_u)^{-n}$ [3e]

m_{u90_4} = −0,000, f_{90}=0, f_4=0
m_u = −0,000
2,113
0,628
Anwendungs-bereich
Y_u=18
hgp31−3a

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

$C_r/C_{ru} = (Y/\Delta Y)/(Y/\Delta Y)_u$

$L^* = s\,(Y/Y_n)^n - d$ (Y_n=100, Y_u=18, s=22, n=0,31, d=30) [1a]
$L^* = r\,(Y/Y_u)^n - d$ (r = s (Y_u/Y_n)^n=13,49, L^*_u= r − d) [1b]
$Y/dY = Y/\{[(Y_n/(n\,s)]\,(Y/Y_n)^{1-n}\}$ [4c]
$(Y/Y)_u = Y_u/\{[(Y_n/(n\,s)]\,(Y_u/Y_n)^{1-n}\}$ [4d]
$(Y/dY)/(Y/dY)_u = (Y/Y_u)^n$ [4e]

m_{u90_4} = 0,290, f_{90}=40, f_4=15
m_u = 0,407
1,591
0,473
Anwendungs-bereich
Y_u=18
hgp31−4a

hgp31−3n

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

L^*/L^*_u

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

m_{u90_4} = 0,840, f_{90}=95, f_4=23
m_u = 1,170
2,000
0,309
Anwendungs-bereich
Y_u=18
hgp31−5a

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

$\Delta Y/\Delta Y_u$

$L^* = s\,(Y/Y_n)^n - d$ (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]
$dY = [Y_n/(n\,s)]\,(Y/Y_n)^{1-n}$ [2c]
$dY_u = [Y_n/(n\,s)]\,(Y_u/Y_n)^{1-n}$ = 1,4602 [2d]
$dY/dY_u = (Y/Y_u)^{1-n}$ [2e]

m_{u90_4} = 0,024, f_{90}=2, f_4=0
m_u = 0,029
3,089
0,227
Anwendungs-bereich
Y_u=18
hgp31−6a

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

$S_r/S_{ru} = (\Delta Y/Y)/(\Delta Y/Y)_u$

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

m_{u90_4} = −0,000, f_{90}=0, f_4=0
m_u = −0,000
2,096
0,568
Anwendungs-bereich
Y_u=18
hgp31−7a

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

$C_r/C_{ru} = (Y/\Delta Y)/(Y/\Delta Y)_u$

$L^* = s\,(Y/Y_n)^n - d$ (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]
$Y/dY = Y/\{[(Y_n/(n\,s)]\,(Y/Y_n)^{1-n}\}$ [4c]
$(Y/Y)_u = Y_u/\{[(Y_n/(n\,s)]\,(Y_u/Y_n)^{1-n}\}$ [4d]
$(Y/dY)/(Y/dY)_u = (Y/Y_u)^n$ [4e]

m_{u90_4} = 0,280, f_{90}=37, f_4=13
m_u = 0,390
1,757
0,477
Anwendungs-bereich
Y_u=18
hgp31−8a

TUB-Prüfvorlage hgp3; HAULAB- & CIELAB-Farbabstand, Haubner (1980) & ISO/CIE 11664-4
log & lin[Helligkeit L^*, Schwelle ΔY, Empfindlichkeit $\Delta Y/Y$, Kontrast $Y/\Delta Y$, normiert für Grau U]