see similar files: http://farbe.li.tu-berlin.de/BEV0/BEV0.HTM
technical information: http://farbe.li.tu-berlin.de or http://farbe.li.tu-berlin.de

TUB registration: 20220301-BEV0/BEV0L0NA.TXT /.PS
application for measurement of display output

TUB material: code=rha4ta

IECsRGBu0 standard lightness l*
$Y_{nc}=Y_{WR\,G\,Bnc}=100,\ 21,\ 72,\ 7$
log (l*)
$l^*_{IECsRGBu0}=50(Y/Y_u)^{1/2,4}\ (Y_u=18,\ Y_{nc}/100<Y<=Y_{nc})$
$l^*_N(3,6)=26,\ l^*_u(18)=50,\ l^*_W(90)=98$
$l^*_{90}=97,77,\ \gamma=2,4,\ 1/\gamma=1/2,4=0,41$
$l^*_{18}=50,00,\ S_n=50,00,\ D_n=-0,00$
$l^*_{3,6}=25,51,\ l^*_u=50,00,\ Y_u=18$
log[l*/l*_u]=0, m_u=0,41
L^*_u=49, l^*=50
application range
BEV00–1A

IECsRGBu0 relative standard lightness l*/l*_u
$Y_{nc}=Y_{WR\,G\,Bnc}=100,\ 21,\ 72,\ 7$
log (l*/l*_u)
$l^*_{IECsRGBu0}=50(Y/Y_u)^{1/2,4}\ (Y_u=18,\ Y_{nc}/100<Y<=Y_{nc})$
$l^*_N(3,6)=26,\ l^*_u(18)=50,\ l^*_W(90)=98$
$l^*_{90}/l^*_u=1,95,\ \gamma=2,4,\ 1/\gamma=1/2,4=0,41$
$l^*_{18}/l^*_u=1,00,\ S_n=50,00,\ D_n=-0,00$
$l^*_{3,6}/l^*_u=0,51,\ l^*_u=50,00,\ Y_u=18$
log[l*/l*_u]=0, m_u=0,41
L^*_u=49, l^*=50
application range
BEV00–2A

IECsRGBu0 standard lightness L*
$Y_{nc}=L^*_{WR\,G\,Bnc}=100,\ 52,\ 87,\ 31$
log (L*)
$L^*_{IECsRGBu0}=50(Y/Y_u)^{1/2,4}\ (Y_u=18,\ Y_{nc}/100<Y<=Y_{nc})$
$L^*_N(3,6)=26,\ L^*_u(18)=50,\ L^*_W(90)=98$
$L^*_{90}/L^*_u=1,95,\ \gamma=2,4,\ 1/\gamma=1/2,4=0,41$
$L^*_{18}=50,00,\ S_n=50,00,\ D_n=-0,00$
$L^*_{3,6}=25,51,\ L^*_u=50,00,\ Y_u=18$
log[L*/L*_u]=0, m_u=0,41
L^*_u=49, L^*=50
application range
BEV01–1A

IECsRGBu0 relative standard lightness L*/L*_u
$Y_{nc}=L^*_{WR\,G\,Bnc}=100,\ 52,\ 87,\ 31$
log (L*/L*_u)
$L^*_{IECsRGBu0}=50(Y/Y_u)^{1/2,4}\ (Y_u=18,\ Y_{nc}/100<Y<=Y_{nc})$
$L^*_N(3,6)=26,\ L^*_u(18)=50,\ L^*_W(90)=98$
$L^*_{90}/L^*_u=1,95,\ \gamma=2,4,\ 1/\gamma=1/2,4=0,41$
$L^*_{18}/L^*_u=1,00,\ S_n=50,00,\ D_n=-0,00$
$L^*_{3,6}/L^*_u=0,51,\ L^*_u=50,00,\ Y_u=18$
log[L*/L*_u]=0, m_u=0,41
L^*_u=49, L^*=50
application range
BEV01–2A

IECsRGBu0 tristimulus value difference
$Y_{nc}=Y_{WR\,G\,Bnc}=100,\ 21,\ 72,\ 7$
log(ΔY)
$l^*_{IECsRGBu0}=50(Y/Y_u)^{1/2,4}\ (Y_u=18,\ Y_{nc}/100<Y<=Y_{nc})$
$\log(dY) = (1/2,4)\log[2,4(Y_u/50)] + [1-(1/2,4)]\log(Y)$
$l^*=50,\ dY_u=4,80,\ dY_u/Y_u=0,2666$
log(dY)=4,80, m_u=0,58
$dY_{90}=12,27,\ \gamma=2,4,\ 1/\gamma=1/2,4=0,4$
$dY_{18}=4,80,\ S_n=50,00,\ D_n=-0,00$
$dY_{3,6}=1,87,\ Y_u=18,\ dY_u=4,80$
application range
BEV00–3A

IECsRGBu0 relative tristimulus value difference
$Y_{nc}=Y_{WR\,G\,Bnc}=100,\ 21,\ 72,\ 7$
log(ΔY/ΔY_u)
$l^*_{IECsRGBu0}=50(Y/Y_u)^{1/2,4}\ (Y_u=18,\ Y_{nc}/100<Y<=Y_{nc})$
$\log(dY/dY_u) = [1-(1/2,4)]\log(Y/Y_u)$
$dY_{90}/dY_u=2,55,\ \gamma=2,4,\ 1/\gamma=1/2,4=0,41$
$dY_{18}/dY_u=1,00,\ S_n=50,00,\ D_n=-0,00$
$dY_{3,6}/dY_u=0,39,\ Y_u=18,\ dY_u=4,80$
$l^*=50,\ dY_u=4,80,\ dY_u/Y_u=0,2666$
log[(dY)/(dY)_u]=0, m_u=0,58
application range
BEV00–4A

IECsRGBu0 tristimulus value difference
$Y_{nc}=L^*_{WR\,G\,Bnc}=100,\ 52,\ 87,\ 31$
log(ΔY)
$L^*_{IECsRGBu0}=50(Y/Y_u)^{1/2,4}\ (Y_u=18,\ Y_{nc}/100<Y<=Y_{nc})$
$\log(dY) = (1/2,4)\log[2,4(Y_u/50)] + [1-(1/2,4)]\log(Y)$
$L^*=50,\ dY_u=4,80,\ dY_u/Y_u=0,2666$
log(dY)=4,80, m_u=0,58
$dY_{90}=12,27,\ \gamma=2,4,\ 1/\gamma=1/2,4=0,4$
$dY_{18}=4,80,\ S_n=50,00,\ D_n=-0,00$
$dY_{3,6}=1,87,\ Y_u=18,\ dY_u=4,80$
application range
BEV01–3A

IECsRGBu0 relative tristimulus value difference
$Y_{nc}=L^*_{WR\,G\,Bnc}=100,\ 52,\ 87,\ 31$
log(ΔY/ΔY_u)
$L^*_{IECsRGBu0}=50(Y/Y_u)^{1/2,4}\ (Y_u=18,\ Y_{nc}/100<Y<=Y_{nc})$
$\log(dY/dY_u) = [1-(1/2,4)]\log(Y/Y_u)$
$dY_{90}/dY_u=2,55,\ \gamma=2,4,\ 1/\gamma=1/2,4=0,41$
$dY_{18}/dY_u=1,00,\ S_n=50,00,\ D_n=-0,00$
$dY_{3,6}/dY_u=0,39,\ Y_u=18,\ dY_u=4,80$
$L^*=50,\ dY_u=4,80,\ dY_u/Y_u=0,2666$
log[(dY)/(dY)_u]=0, m_u=0,58
application range
BEV01–4A

IECsRGBu0 tristimulus value sensitivity
$Y_{nc}=Y_{WR\,G\,Bnc}=100,\ 21,\ 72,\ 7$
log (ΔY/Y)
$S_r=(ΔY/Y)$
$l^*_{IECsRGBu0}=50(Y/Y_u)^{1/2,4}\ (Y_u=18,\ Y_{nc}/100<Y<=Y_{nc})$
$\log(dY/Y) = \log[2,4(Y_u/50)] - (1/2,4)\log(Y/Y_u)$
$= (1/2,4)\log[2,4(Y_u/50)] - (1/2,4)\log(Y)$
log(dY/Y)=−0,57, m_u=−0,41
$l^*=50,\ dY_u=4,80,\ dY_u/Y_u=0,2666$
$(dY/Y)_{90}=0,1363,\ \gamma=2,4,\ 1/\gamma=1/2,4=0,41$
$(dY/Y)_{18}=0,2666,\ S_n=50,00,\ D_n=-0,00$
$(dY/Y)_{3,6}=0,5202,\ Y_u=18,\ dY_u=4,80$
application range
BEV00–5A

IECsRGBu0 relative tristimulus value sensitivity
$Y_{nc}=Y_{WR\,G\,Bnc}=100,\ 21,\ 72,\ 7$
log [(ΔY/Y) / (ΔY/Y)_u]
$S_r/S_{ru}=(ΔY/Y)/(ΔY/Y)_u$
$l^*_{IECsRGBu0}=50(Y/Y_u)^{1/2,4}\ (Y_u=18,\ Y_{nc}/100<Y<=Y_{nc})$
$\log[(dY/Y)/(dY/Y)_u] = -(1/2,4)\log(Y/Y_u)$
$(dY/Y)_{90}/(dY/Y)_u=0,51,\ \gamma=2,4,\ 1/\gamma=1/2,4=0,41$
$(dY/Y)_{18}/(dY/Y)_u=1,00,\ S_n=50,00,\ D_n=-0,00$
$(dY/Y)_{3,6}/(dY/Y)_u=1,95,\ Y_u=18,\ dY_u=4,80$
log[(dY/Y)/(dY/Y)_u]=0, m_u=−0,41
$l^*=50,\ dY_u=4,80,\ dY_u/Y_u=0,2666$
application range
BEV00–6A

IECsRGBu0 tristimulus value sensitivity
$Y_{nc}=L^*_{WR\,G\,Bnc}=100,\ 52,\ 87,\ 31$
log (ΔY/Y)
$S_r=(ΔY/Y)$
$L^*_{IECsRGBu0}=50(Y/Y_u)^{1/2,4}\ (Y_u=18,\ Y_{nc}/100<Y<=Y_{nc})$
$\log(dY/Y) = \log[2,4(Y_u/50)] - (1/2,4)\log(Y/Y_u)$
$= (1/2,4)\log[2,4(Y_u/50)] - (1/2,4)\log(Y)$
log(dY/Y)=−0,57, m_u=−0,41
$L^*=50,\ dY_u=4,80,\ dY_u/Y_u=0,2666$
$(dY/Y)_{90}=0,1363,\ \gamma=2,4,\ 1/\gamma=1/2,4=0,41$
$(dY/Y)_{18}=0,2666,\ S_n=50,00,\ D_n=-0,00$
$(dY/Y)_{3,6}=0,5202,\ Y_u=18,\ dY_u=4,80$
application range
BEV01–5A

IECsRGBu0 relative tistimulus value sensitivity
$Y_{nc}=L^*_{WR\,G\,Bnc}=100,\ 52,\ 87,\ 31$
log [(ΔY/Y) / (ΔY/Y)_u]
$S_r/S_{ru}=(ΔY/Y)/(ΔY/Y)_u$
$L^*_{IECsRGBu0}=50(Y/Y_u)^{1/2,4}\ (Y_u=18,\ Y_{nc}/100<Y<=Y_{nc})$
$\log[(dY/Y)/(dY/Y)_u] = -(1/2,4)\log(Y/Y_u)$
$(dY/Y)_{90}/(dY/Y)_u=0,51,\ \gamma=2,4,\ 1/\gamma=1/2,4=0,41$
$(dY/Y)_{18}/(dY/Y)_u=1,00,\ S_n=50,00,\ D_n=-0,00$
$(dY/Y)_{3,6}/(dY/Y)_u=1,95,\ Y_u=18,\ dY_u=4,80$
log[(dY/Y)/(dY/Y)_u]=0, m_u=−0,41
$L^*=50,\ dY_u=4,80,\ dY_u/Y_u=0,2666$
application range
BEV01–6A

IECsRGBu0 tristimulus value contrast
$Y_{nc}=Y_{WR\,G\,Bnc}=100,\ 21,\ 72,\ 7$
log (Y/ΔY)
$C_r=(Y/ΔY)$
$l^*_{IECsRGBu0}=50(Y/Y_u)^{1/2,4}\ (Y_u=18,\ Y_{nc}/100<Y<=Y_{nc})$
$\log(Y/dY) = -\log[2,4(Y_u/50)] + (1/2,4)\log(Y/Y_u)$
$= -(1/2,4)\log[2,4(Y_u/50)] + (1/2,4)\log(Y)$
$l^*_u=50,\ dY_u=4,80,\ Y_u/dY_u=3$
log(Y/dY)=0,57, m_u=0,41
$(Y/dY)_{90}=7,33,\ \gamma=2,4,\ 1/\gamma=1/2,4=0,41$
$(Y/dY)_{18}=3,74,\ S_n=50,00,\ D_n=-0,00$
$(Y/dY)_{3,6}=1,92,\ Y_u=18,\ dY_u=4,80$
application range
BEV00–7A
BEV00–7N

IECsRGBu0 relative tistimulus value contrast
$Y_{nc}=Y_{WR\,G\,Bnc}=100,\ 21,\ 72,\ 7$
log [(Y/ΔY) / (Y/ΔY)_u]
$C_r/C_{ru}=(Y/ΔY)/(Y/ΔY)_u$
$l^*_{IECsRGBu0}=50(Y/Y_u)^{1/2,4}\ (Y_u=18,\ Y_{nc}/100<Y<=Y_{nc})$
$\log[(Y/dY)/(Y/dY)_u] = (1/2,4)\log(Y/Y_u)$
$(Y/dY)_{90}/(Y/dY)_u=1,95,\ \gamma=2,4,\ 1/\gamma=1/2,4=0,41$
$(Y/dY)_{18}/(Y/dY)_u=1,00,\ S_n=50,00,\ D_n=-0,00$
$(Y/dY)_{3,6}/(Y/dY)_u=0,51,\ Y_u=18,\ dY_u=4,80$
log[(Y/dY)/(Y/dY)_u]=0, m_u=0,41
$l^*=50,\ dY_u=4,80,\ Y_u/dY_u=3$
application range
BEV00–8A

IECsRGBu0 tristimulus value contrast
$Y_{nc}=L^*_{WR\,G\,Bnc}=100,\ 52,\ 87,\ 31$
log (Y/ΔY)
$C_r=(Y/ΔY)$
$L^*_{IECsRGBu0}=50(Y/Y_u)^{1/2,4}\ (Y_u=18,\ Y_{nc}/100<Y<=Y_{nc})$
$\log(Y/dY) = -\log[2,4(Y_u/50)] + (1/2,4)\log(Y/Y_u)$
$= -(1/2,4)\log[2,4(Y_u/50)] + (1/2,4)\log(Y)$
$L^*_u=50,\ dY_u=4,80,\ Y_u/dY_u=3$
log(Y/dY)=0,57, m_u=0,41
$(Y/dY)_{90}=7,33,\ \gamma=2,4,\ 1/\gamma=1/2,4=0,41$
$(Y/dY)_{18}=3,74,\ S_n=50,00,\ D_n=-0,00$
$(Y/dY)_{3,6}=1,92,\ Y_u=18,\ dY_u=4,80$
application range
BEV01–7A
BEV01–7N

IECsRGBu0 relative tistimulus value contrast
$Y_{nc}=L^*_{WR\,G\,Bnc}=100,\ 52,\ 87,\ 31$
log [(Y/ΔY) / (Y/ΔY)_u]
$C_r/C_{ru}=(Y/ΔY)/(Y/ΔY)_u$
$L^*_{IECsRGBu0}=50(Y/Y_u)^{1/2,4}\ (Y_u=18,\ Y_{nc}/100<Y<=Y_{nc})$
$\log[(Y/dY)/(Y/dY)_u] = (1/2,4)\log(Y/Y_u)$
$(Y/dY)_{90}/(Y/dY)_u=1,95,\ \gamma=2,4,\ 1/\gamma=1/2,4=0,41$
$(Y/dY)_{18}/(Y/dY)_u=1,00,\ S_n=50,00,\ D_n=-0,00$
$(Y/dY)_{3,6}/(Y/dY)_u=0,51,\ Y_u=18,\ dY_u=4,80$
log[(Y/dY)/(Y/dY)_u]=0, m_u=0,41
$L^*=50,\ dY_u=4,80,\ Y_u/dY_u=3$
application range
BEV01–8A

TUB-test chart BEV0; IECsRGBu0, l* & L* for Y/Y_u with additional data, $Y_{nc}=(Y\&L^*)_{Wnc}$
Absolute and relative lightness, sensitivity and contrast, S_n=50,00, $1/\gamma$=1/2,4=0,41