see similar files of the whole serie: http://farbe.li.tu-berlin.de/febs.htm
technical information: http://farbe.li.tu-berlin.de or http://color.li.tu-berlin.de

TUB registration: 20231201-feb4/feb4l0na.txt /.ps
application for evaluation and measurement of display or print output
TUB material: code=rha4ta

logarithmic U''-, J''-sensitivity
$U'' = (L''\times M'')^{0,5}$ $L'' = 0{,}90(L+0{,}00S)$
$J'' = (N''\times U'')^{0,5}$ $M'' = 1{,}26(M+0{,}00L)$
log [U'', J'', L'', M'', S''] $S'' = 1{,}00(S+0{,}00L)$
λ/nm
feb40−1N

logarithmic U''-, J''-sensitivity
$U'' = (L''\times M'')^{0,5}$ $L'' = 1{,}62(L+0{,}00S)$
$J'' = (N''\times U'')^{0,5}$ $M'' = 0{,}70(M+0{,}00L)$
log [U'', J'', L'', M'', S''] $S'' = 1{,}00(S+0{,}00L)$
λ/nm
feb40−2N

logar. saturation chromaticity diagram
JB-saturation $L'' = 0{,}90(L+0{,}02S)$
log (L''/S''), λ<505nm $M'' = 1{,}26(M+0{,}00L)$
log (U''/L''), λ≥505nm $S'' = 1{,}00(S+0{,}02L)$
RG-saturation
log (L''/U''), all λ
feb41−1N

logar. saturation chromaticity diagram
JB-saturation $L'' = 1{,}62(L+0{,}02S)$
log (L''/S''), λ<505nm $M'' = 0{,}70(M+0{,}00L)$
log (U''/L''), λ≥505nm $S'' = 1{,}00(S+0{,}02L)$
RG-saturation
log (L''/U''), all λ
feb41−2N

logarithmic U''-, J''-saturation asymmetrical
log [(L''/U''), (M''/U'')] $L'' = 0{,}90(L+0{,}00S)$
log [(U''/J''), (S''/J'')] $M'' = 1{,}26(M+0{,}00L)$
$S'' = 1{,}00(S+0{,}00L)$
λ/nm
feb40−3N

logarithmic U''-, J''-saturation asymmetrical
log [(L''/U''), (M''/U'')] $L'' = 1{,}62(L+0{,}00S)$
log [(U''/J''), (S''/J'')] $M'' = 0{,}70(M+0{,}00L)$
$S'' = 1{,}00(S+0{,}00L)$
λ/nm
feb40−4N

logar. saturation chromaticity diagram
JB-saturation $L'' = 0{,}90(L+0{,}02S)$
log (L''/S''), λ<505nm $M'' = 1{,}26(M+0{,}00L)$
log (U''/L''), λ≥505nm $S'' = 1{,}00(S+0{,}02L)$
RG-saturation
log (L''/U'') +
log (S''/N''), λ<505nm
log (L''/U''), λ≥505nm
feb41−3N

$F(x)$ D-, U-, H-achromatic response
$Q^*_{-2;1}$[1,0(x−2)] U
$Q^*_{-1,6;1}$[1,0(x−1)] H
D
$Q^*_{-2,4;1}$[1,0(x−3)]
L = 0
L_u = 10, 100, 1000 cd/m²
x=log L
feb41−4N

logarithmic U''-saturation
$U'' = (L''\times M'')^{0,5}$ $L'' = 1{,}06(L+0{,}00S)$
ln U''=(ln L'' +ln M'')/2 $M'' = 1{,}06(M+0{,}00L)$
log[(L''/U''), (M''/U'')]adaptation: u = 0
u_L=0,3
u_M=−0,3
−3,1 −1,1 0.0 0,9 2,9 u
555
λ/nm
feb40−5N

logarithmic U''-saturation
$U'' = (L''\times M'')^{0,5}$ $L'' = 1{,}06(L+0{,}00S)$
ln U''=(ln L'' +ln M'')/2 $M'' = 1{,}06(M+0{,}00L)$
log[(L''/U''), (M''/U'')]adaptation: u = 0
u_L=0,3
u_M=−0,3
−3,1 −1,1 0.0 0,9 2,9 u
555
λ/nm
feb40−6N

$L/\Delta L$ luminance discrimination
H: $L/\Delta L_{-2,4;1}$[1,0(x−3)]
D: $L/\Delta L_{-1,6;1}$[1,0(x−1)]
D H
for U: $L/\Delta L_{-2;1}$[1,0(x−2)]
L = 0
L_u = 10, 100, 1000 cd/m²
x=log L
feb41−5N

$F(x)$ R-, U-, G-, RG-chromatic response
$Q^*_{-2;1}$[1,0(x−2,0)] U
$Q^*_{-2;1}$[1,0(x−1,5)] RG
G
R
$Q^*_{-2;1}$[1,0(x−2,5)]
L = 0,5, 0,0, −0,5
L_u L_u = 100 cd/m²
x=log L
feb41−6N

logarithmic U''-, J''-saturation asymmetrical
log [(L''/U''), (M''/U'')] $L'' = 0{,}90(L+0{,}02S)$
log [(U''/J''), (S''/J'')] $M'' = 1{,}26(M+0{,}00L)$
$S'' = 1{,}00(S+0{,}02L)$
λ/nm
feb40−7N

logarithmic U''-, J''-saturation asymmetrical
log [(L''/U''), (M''/U'')] $L'' = 1{,}62(L+0{,}02S)$
log [(U''/J''), (S''/J'')] $M'' = 0{,}70(M+0{,}00L)$
$S'' = 1{,}00(S+0{,}02L)$
λ/nm
feb40−8N

$L/\Delta L$ luminance discrimination
G: $L/\Delta L_{-2;1}$[1,0(x−2,5)]
R: $L/\Delta L_{-2;1}$[1,0(x−1,5)]
R G
U
for U: $L/\Delta L_{-2;1}$[1,0(x−2,0)]
L = 0,5, 0,0, −0,5
L_u L_u = 100 cd/m²
x=log L
feb41−7N

$F(x)$ J-, U-, B-, JB-chromatic response
$Q^*_{-2;1}$[1,0(x−2)] U
$Q^*_{-2;1}$[1,0(x−1)] JB
B
J
$Q^*_{-2;1}$[1,0(x−3)]
L = 1, 0, −1
L_u L_u = 100 cd/m²
x=log L
feb41−8N

TUB-test chart feb4; logarithmic responses and saturation for different contrasts
Chromaticity diagrams; Response and discrimination functions as function of luminance