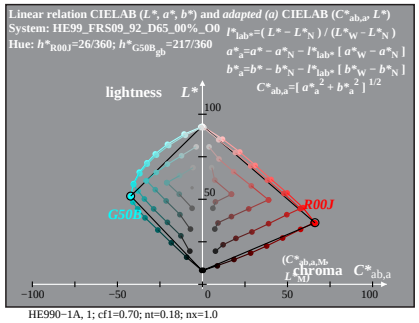
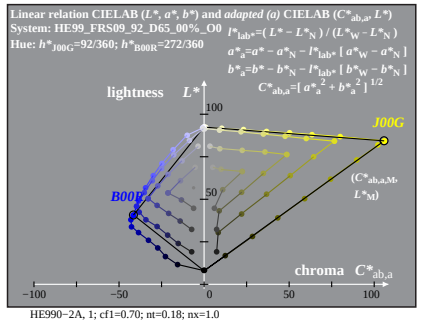


HE990−1A, 1; cf1=0.70; nt=0.18; nx=1.0



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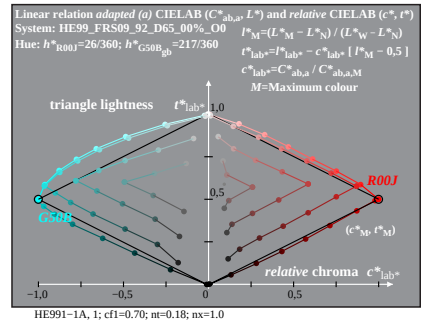
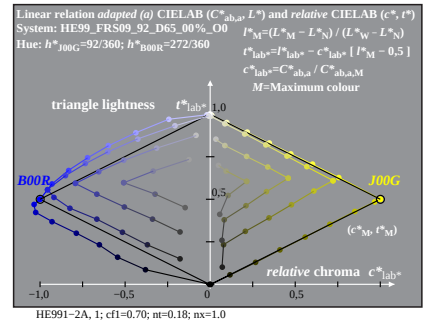
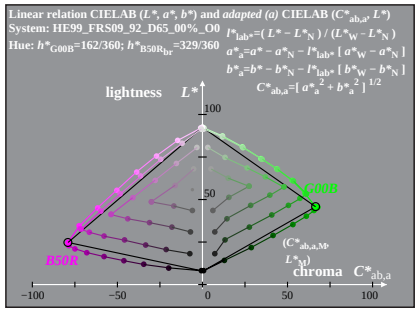


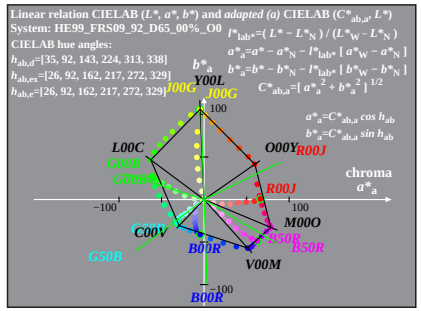
HE991−1A, 1; cf1=0.70; nt=0.18; nx=1.0



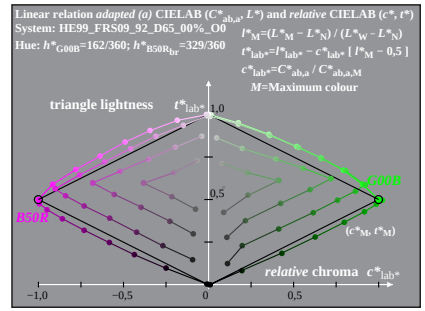
HE991−2A, 1; cf1=0.70; nt=0.18; nx=1.0



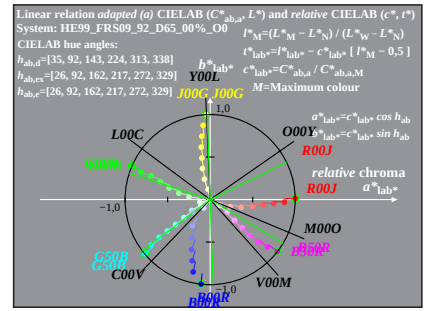
HE990−3A, 1; cf1=0.70; nt=0.18; nx=1.0



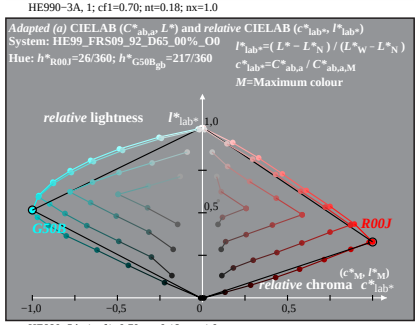
HE990−4A, 1; cf1=0.70; nt=0.18; nx=1.0



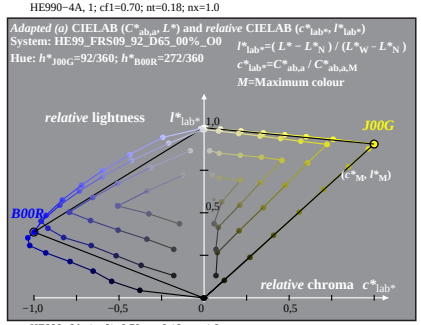
HE991−3A, 1; cf1=0.70; nt=0.18; nx=1.0



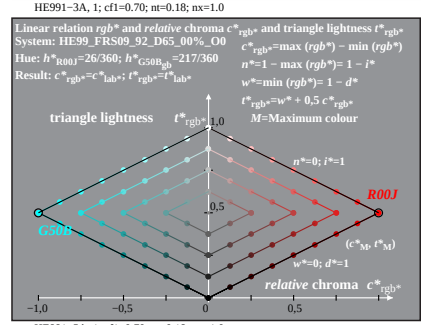
HE991−4A, 1; cf1=0.70; nt=0.18; nx=1.0



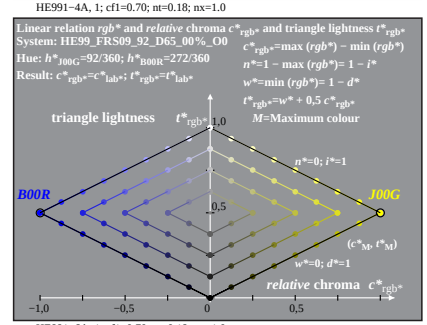
HE990−5A, 1; cf1=0.70; nt=0.18; nx=1.0



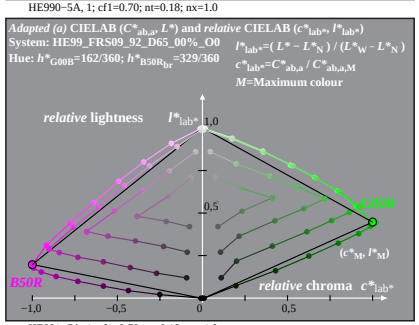
HE990−6A, 1; cf1=0.70; nt=0.18; nx=1.0



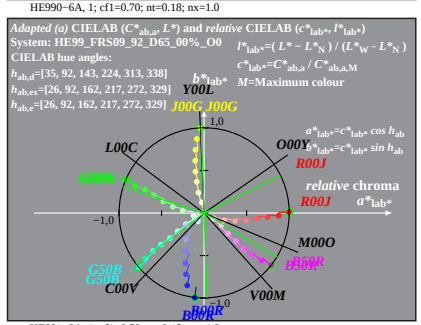
HE991−5A, 1; cf1=0.70; nt=0.18; nx=1.0



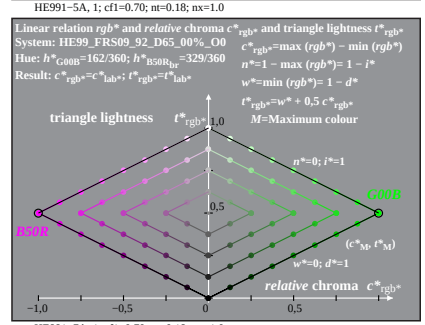
HE991−6A, 1; cf1=0.70; nt=0.18; nx=1.0



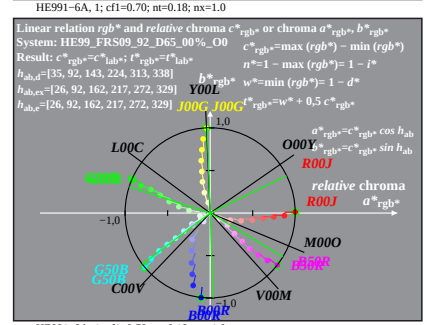
HE991−7A, 1; cf1=0.70; nt=0.18; nx=1.0



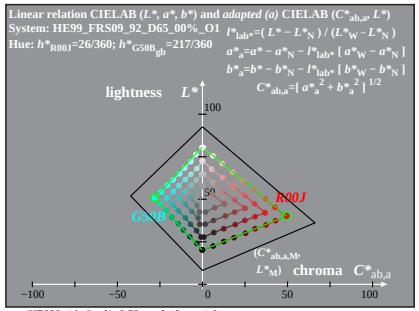
HE991−8A, 1; cf1=0.70; nt=0.18; nx=1.0

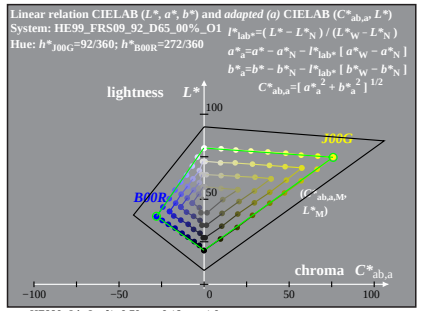


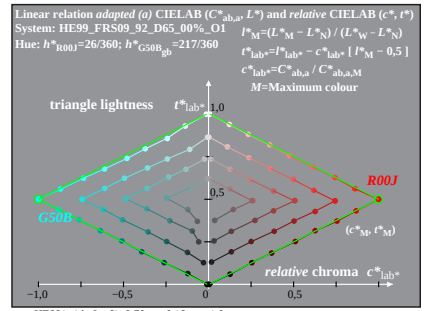
HE991−7A, 1; cf1=0.70; nt=0.18; nx=1.0

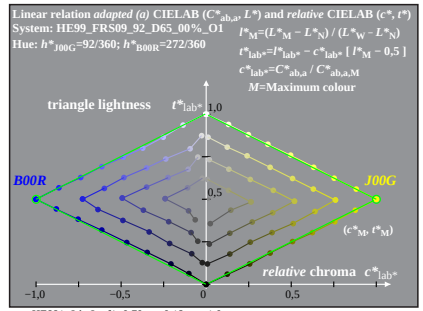


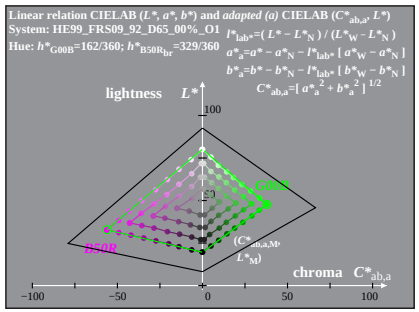
HE991−8A, 1; cf1=0.70; nt=0.18; nx=1.0

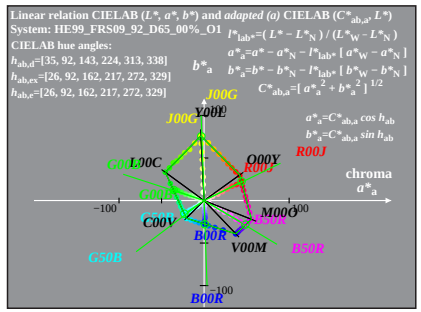

Linear relation CIELAB (L*, a*, b*) and adapted (a) CIELAB (C*ab,a, L*)
System: HE99_FRS09_92_D65_00%_O1
Hue: h*R00J=26/360; h*G50Bgb=217/360
l*lab*=(L* − L*N) / (L*W − L*N)
a*a=a* − a*N − l*lab* [a*W − a*N]
b*a=b* − b*N − l*lab* [b*W − b*N]
C*ab,a=[a*a2 + b*a2] 1/2
lightness L*
chroma C*ab,a
(C*ab,a,M, L*M)
R00J
G50B
HE990−1A, 2; cf1=0.70; nt=0.18; nx=1.0

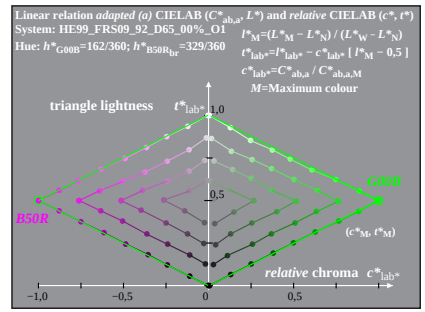

Linear relation CIELAB (L*, a*, b*) and adapted (a) CIELAB (C*ab,a, L*)
System: HE99_FRS09_92_D65_00%_O1
Hue: h*J00G=92/360; h*B00R=272/360
l*lab*=(L* − L*N) / (L*W − L*N)
a*a=a* − a*N − l*lab* [a*W − a*N]
b*a=b* − b*N − l*lab* [b*W − b*N]
C*ab,a=[a*a2 + b*a2] 1/2
lightness L*
chroma C*ab,a
J00G
B00R
(C*ab,a,M, L*M)
HE990−2A, 2; cf1=0.70; nt=0.18; nx=1.0

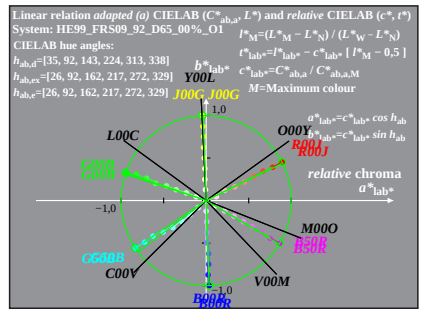

Linear relation adapted (a) CIELAB (C*ab,a, L*) and relative CIELAB (c*, t*)
System: HE99_FRS09_92_D65_00%_O1
Hue: h*R00J=26/360; h*G50Bgb=217/360
l*M=(L*M − L*N) / (L*W − L*N)
t*lab*=l*lab* − c*lab* [l*M − 0,5]
c*lab*=C*ab,a / C*ab,a,M
M=Maximum colour
triangle lightness t*lab*
relative chroma c*lab*
(c*M, t*M)
R00J
G50B
HE991−1A, 2; cf1=0.70; nt=0.18; nx=1.0

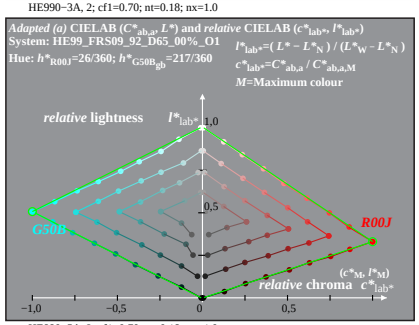

Linear relation adapted (a) CIELAB (C*ab,a, L*) and relative CIELAB (c*, t*)
System: HE99_FRS09_92_D65_00%_O1
Hue: h*J00G=92/360; h*B00R=272/360
l*M=(L*M − L*N) / (L*W − L*N)
t*lab*=l*lab* − c*lab* [l*M − 0,5]
c*lab*=C*ab,a / C*ab,a,M
M=Maximum colour
triangle lightness t*lab*
relative chroma c*lab*
(c*M, t*M)
B00R
J00G
HE991−2A, 2; cf1=0.70; nt=0.18; nx=1.0

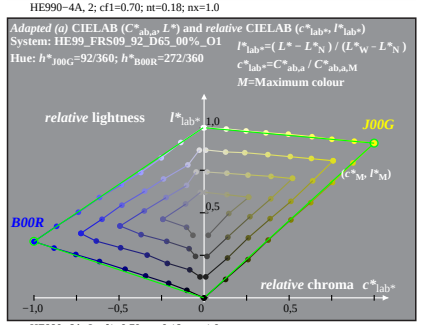

Linear relation CIELAB (L*, a*, b*) and adapted (a) CIELAB (C*ab,a, L*)
System: HE99_FRS09_92_D65_00%_O1
Hue: h*G00B=162/360; h*B50Rbr=329/360
l*lab*=(L* − L*N) / (L*W − L*N)
a*a=a* − a*N − l*lab* [a*W − a*N]
b*a=b* − b*N − l*lab* [b*W − b*N]
C*ab,a=[a*a2 + b*a2] 1/2
lightness L*
chroma C*ab,a
(C*ab,a,M, L*M)
G00B
B50R
HE990−3A, 2; cf1=0.70; nt=0.18; nx=1.0

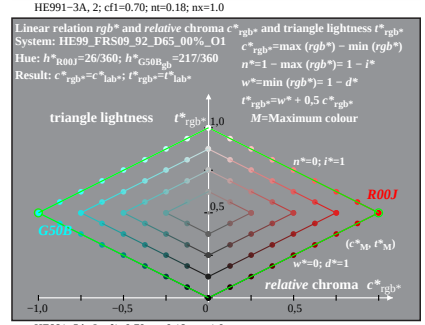

Linear relation CIELAB (L*, a*, b*) and adapted (a) CIELAB (C*ab,a, L*)
System: HE99_FRS09_92_D65_00%_O1
CIELAB hue angles:
hab,d=[35, 92, 143, 224, 313, 338]
hab,ex=[26, 92, 162, 217, 272, 329]
hab,e=[26, 92, 162, 217, 272, 329]
l*lab*=(L* − L*N) / (L*W − L*N)
a*a=a* − a*N − l*lab* [a*W − a*N]
b*a=b* − b*N − l*lab* [b*W − b*N]
C*ab,a=[a*a2 + b*a2] 1/2
a*a=C*ab,a cos hab
b*a=C*ab,a sin hab
chroma a*a
b*a
J00G
Y00L
L00C
O00Y
R00J
G00B
C00V
M00O
B00R
V00M
B50R
G50B
HE990−4A, 2; cf1=0.70; nt=0.18; nx=1.0

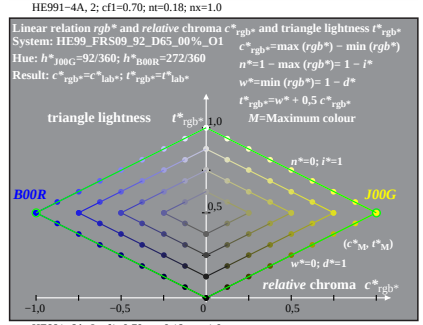

Linear relation adapted (a) CIELAB (C*ab,a, L*) and relative CIELAB (c*, t*)
System: HE99_FRS09_92_D65_00%_O1
Hue: h*G00B=162/360; h*B50Rbr=329/360
l*M=(L*M − L*N) / (L*W − L*N)
t*lab*=l*lab* − c*lab* [l*M − 0,5]
c*lab*=C*ab,a / C*ab,a,M
M=Maximum colour
triangle lightness t*lab*
relative chroma c*lab*
(c*M, t*M)
G00B
B50R
HE991−3A, 2; cf1=0.70; nt=0.18; nx=1.0

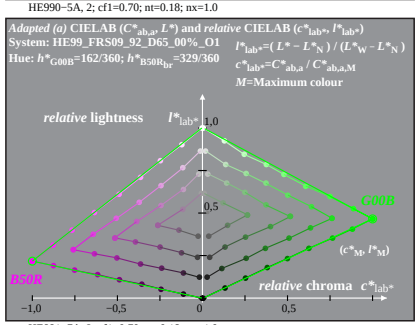

Linear relation adapted (a) CIELAB (C*ab,a, L*) and relative CIELAB (c*, t*)
System: HE99_FRS09_92_D65_00%_O1
CIELAB hue angles:
hab,d=[35, 92, 143, 224, 313, 338]
hab,ex=[26, 92, 162, 217, 272, 329]
hab,e=[26, 92, 162, 217, 272, 329]
l*M=(L*M − L*N) / (L*W − L*N)
t*lab*=l*lab* − c*lab* [l*M − 0,5]
c*lab*=C*ab,a / C*ab,a,M
M=Maximum colour
a*lab*=c*lab* cos hab
b*lab*=c*lab* sin hab
relative chroma a*lab*
b*lab*
Y00L
J00G
L00C
O00Y
R00J
G00B
M00O
B50R
G50B
C00V
V00M
B00R
HE991−4A, 2; cf1=0.70; nt=0.18; nx=1.0

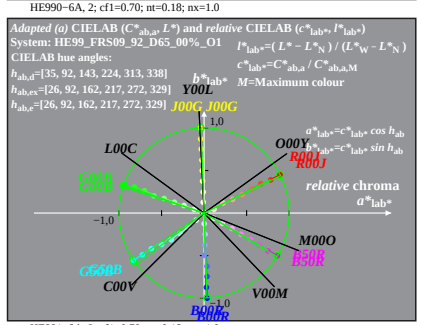

Adapted (a) CIELAB (C*ab,a, L*) and relative CIELAB (c*lab*, l*lab*)
System: HE99_FRS09_92_D65_00%_O1
Hue: h*R00J=26/360; h*G50Bgb=217/360
l*lab*=(L* − L*N) / (L*W − L*N)
c*lab*=C*ab,a / C*ab,a,M
M=Maximum colour
relative lightness l*lab*
relative chroma c*lab*
(c*M, l*M)
R00J
G50B
HE990−5A, 2; cf1=0.70; nt=0.18; nx=1.0

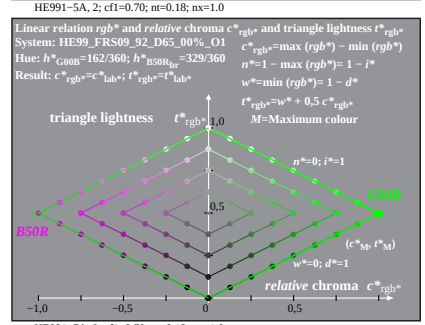

Adapted (a) CIELAB (C*ab,a, L*) and relative CIELAB (c*lab*, l*lab*)
System: HE99_FRS09_92_D65_00%_O1
Hue: h*J00G=92/360; h*B00R=272/360
l*lab*=(L* − L*N) / (L*W − L*N)
c*lab*=C*ab,a / C*ab,a,M
M=Maximum colour
relative lightness l*lab*
relative chroma c*lab*
(c*M, l*M)
J00G
B00R
HE990−6A, 2; cf1=0.70; nt=0.18; nx=1.0

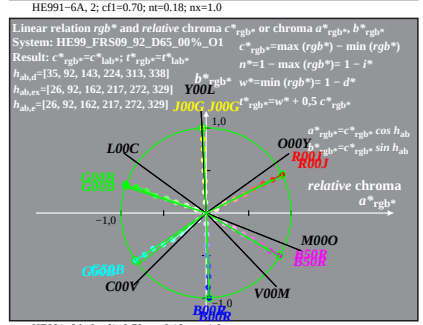

Linear relation rgb* and relative chroma c*rgb* and triangle lightness t*rgb*
System: HE99_FRS09_92_D65_00%_O1
Hue: h*R00J=26/360; h*G50Bgb=217/360
Result: c*rgb*=c*lab*; t*rgb*=t*lab*
c*rgb*=max (rgb*) − min (rgb*)
n*=1 − max (rgb*)= 1 − i*
w*=min (rgb*)= 1 − d*
t*rgb*=w* + 0,5 c*rgb*
M=Maximum colour
triangle lightness t*rgb*
n*=0; i*=1
w*=0; d*=1
relative chroma c*rgb*
(c*M, t*M)
R00J
G50B
HE991−5A, 2; cf1=0.70; nt=0.18; nx=1.0


Linear relation rgb* and relative chroma c*rgb* and triangle lightness t*rgb*
System: HE99_FRS09_92_D65_00%_O1
Hue: h*J00G=92/360; h*B00R=272/360
c*rgb*=max (rgb*) − min (rgb*)
n*=1 − max (rgb*)= 1 − i*
w*=min (rgb*)= 1 − d*
t*rgb*=w* + 0,5 c*rgb*
M=Maximum colour
Result: c*rgb*=c*lab*; t*rgb*=t*lab*
triangle lightness t*rgb*
n*=0; i*=1
w*=0; d*=1
relative chroma c*rgb*
(c*M, t*M)
B00R
J00G
HE991−6A, 2; cf1=0.70; nt=0.18; nx=1.0


Adapted (a) CIELAB (C*ab,a, L*) and relative CIELAB (c*lab*, l*lab*)
System: HE99_FRS09_92_D65_00%_O1
Hue: h*G00B=162/360; h*B50Rbr=329/360
l*lab*=(L* − L*N) / (L*W − L*N)
c*lab*=C*ab,a / C*ab,a,M
M=Maximum colour
relative lightness l*lab*
relative chroma c*lab*
(c*M, l*M)
G00B
B50R
HE991−7A, 2; cf1=0.70; nt=0.18; nx=1.0


Adapted (a) CIELAB (C*ab,a, L*) and relative CIELAB (c*lab*, l*lab*)
System: HE99_FRS09_92_D65_00%_O1
CIELAB hue angles:
hab,d=[35, 92, 143, 224, 313, 338]
hab,ex=[26, 92, 162, 217, 272, 329]
hab,e=[26, 92, 162, 217, 272, 329]
l*lab*=(L* − L*N) / (L*W − L*N)
c*lab*=C*ab,a / C*ab,a,M
M=Maximum colour
a*lab*=c*lab* cos hab
b*lab*=c*lab* sin hab
relative chroma a*lab*
b*lab*
Y00L
J00G
L00C
O00Y
R00J
G00B
M00O
B50R
G50B
C00V
V00M
B00R
HE991−8A, 2; cf1=0.70; nt=0.18; nx=1.0


Linear relation rgb* and relative chroma c*rgb* and triangle lightness t*rgb*
System: HE99_FRS09_92_D65_00%_O1
Hue: h*G00B=162/360; h*B50Rbr=329/360
Result: c*rgb*=c*lab*; t*rgb*=t*lab*
c*rgb*=max (rgb*) − min (rgb*)
n*=1 − max (rgb*)= 1 − i*
w*=min (rgb*)= 1 − d*
t*rgb*=w* + 0,5 c*rgb*
M=Maximum colour
triangle lightness t*rgb*
n*=0; i*=1
w*=0; d*=1
relative chroma c*rgb*
(c*M, t*M)
G00B
B50R
HE991−7A, 2; cf1=0.70; nt=0.18; nx=1.0


Linear relation rgb* and relative chroma c*rgb* or chroma a*rgb*, b*rgb*
System: HE99_FRS09_92_D65_00%_O1
Result: c*rgb*=c*lab*; t*rgb*=t*lab*
hab,d=[35, 92, 143, 224, 313, 338]
hab,ex=[26, 92, 162, 217, 272, 329]
hab,e=[26, 92, 162, 217, 272, 329]
c*rgb*=max (rgb*) − min (rgb*)
n*=1 − max (rgb*)= 1 − i*
w*=min (rgb*)= 1 − d*
t*rgb*=w* + 0,5 c*rgb*
a*rgb*=c*rgb* cos hab
b*rgb*=c*rgb* sin hab
relative chroma a*rgb*
b*rgb*
Y00L
J00G
L00C
O00Y
R00J
G00B
M00O
B50R
G50B
C00V
V00M
B00R
HE991−8A, 2; cf1=0.70; nt=0.18; nx=1.0