Linear relation *rgb** and *relative* chroma $c^*_{rgb^*}$ and triangle lightness $t^*_{rgb^*}$

System: HE82_HRS16_96_D65_00%_00

Hue: $h^*_{R00J} = 26/360$; $h^*_{G50B} = 217/360$

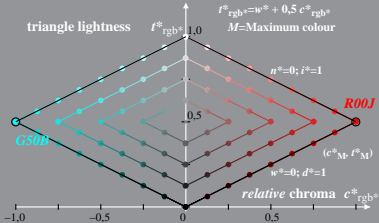Result: $c^*_{rgb^*} = c^*_{lab^*}$; $t^*_{rgb^*} = t^*_{lab^*}$

$n^*_{rgb^*} = \max (rgb^*) - \min (rgb^*)$

$n^* = 1 - \max (rgb^*) = 1 - i^*$

$w^* = \min (rgb^*) = 1 - d^*$

$t^*_{rgb^*} = w^* + 0.5 c^*_{rgb^*}$

$M = $ Maximum colour

triangle lightness

$t^*_{rgb^*} = 1.0$

$n^* = 0$; $i^* = 1$

0.5

(c^*_M, t^*_M)

$w^* = 0$; $d^* = 1$

relative chroma $c^*_{rgb^*}$

G50B

R00J

−1,0   −0,5   0   0.5   1.0

HE821−5A, 1; cf1=0.90; nt=0.18; nx=1.0

Linear relation *rgb** and *relative* chroma $c^*_{rgb^*}$ and triangle lightness $t^*_{rgb^*}$
System: HE82_HRS16_96_D65_00%_O1
Hue: h^*_{R00J}=26/360; h^*_{G50B}=217/360
Result: $c^*_{rgb^*}$=$c^*_{lab^*}$; $t^*_{rgb^*}$=$t^*_{lab^*}$

$c^*_{rgb^*}$=max (rgb^*) − min (rgb^*)
n^*=1 − max (rgb^*)= 1 − d^*
w^*=min (rgb^*)= 1 − d^*
$t^*_{rgb^*}$=w^* + 0,5 $c^*_{rgb^*}$
M=Maximum colour
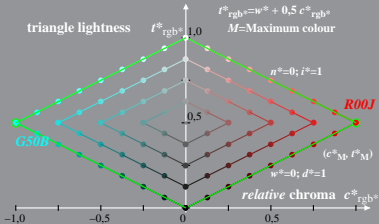
HE821−5A, 2; cf1=0.90; nt=0.18; nx=1.0

Linear relation rgb* and *relative* chroma $c*_{rgb*}$ and triangle lightness $t*_{rgb*}$.
System: HE82_HRS16_96_D65_25%_O0
Hue: $h*_{R25J}=42/360$; $h*_{G62B}=230/360$
Result: $c*_{rgb*}=c*_{lab*}$; $t*_{rgb*}=t*_{lab*}$

$c*_{rgb*}=\max (rgb*) - \min (rgb*)$
$n*=1 - \max (rgb*)=1 - d*$
$w*=\min (rgb*)=1 - d*$
$t*_{rgb*}=w* + 0.5 c*_{rgb*}$
M=Maximum colour

triangle lightness $t*_{rgb*}$

$n*=0; i*=1$

$R25J$

0.5

$(c*_M, t*_M)$

$G8B$

$w*=0; d*=1$

relative chroma $c*_{rgb*}$

−1,0   −0,5   0   0,5   1

HE821−5A, 3; cf1=0.90; nt=0.18; nx=1.0

Linear relation *rgb** and *relative* chroma *c**$_{rgb*}$ and triangle lightness *t**$_{rgb*}$
System: HE82_HRS16_96_D65_25%_O1
Hue: *h**$_{825J}$=42/360; *h**$_{G62B_{gb}}$=230/360
Result: *c**$_{rgb*}$=*c**$_{lab*}$; *t**$_{rgb*}$=*t**$_{lab*}$

c*$_{rgb*}$=max (*rgb**) − min (*rgb**)
n*=1 − max (*rgb**) = 1 − *d**
w*=min (*rgb**) = 1 − *d**
t*$_{rgb*}$=*w** + 0.5 *c**$_{rgb*}$
M=Maximum colour

triangle lightness   *t**$_{rgb*}$=1.0

n*=0; *i**=1

R25J

Gelb

0.5

(*c**$_M$, *t**$_M$)

w*=0; *d**=1

relative chroma   *c**$_{rgb*}$

−1.0   −0.5   0   0.5   1.0
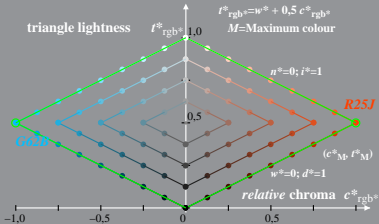
HE821−5A, 4; cf1=0.90; nt=0.18; nx=1.0

Linear relation rgb* and *relative* chroma c*$_{rgb*}$, and triangle lightness t*$_{rgb*}$

System: HE82_HRS16_96_D65_50%_O0

Hue: h*$_{g50U}$=59/360; h*$_{g75Bgb}$=244/360

Result: c*$_{rgb*}$=c*$_{lab*}$; t*$_{rgb*}$=t*$_{lab*}$

n^*_{rgb*}=max (rgb^*) − min (rgb^*)
n^*=1 − max (rgb^*) = 1 − d^*
w^*=min (rgb^*) = 1 − d^*
t^*_{rgb*}=w^* + 0,5 c^*_{rgb*}
M=Maximum colour

triangle lightness t^*_{rgb*}=1,0

n^*=0; i^*=1

0,5

(c^*_M, t^*_M)

w^*=0; n^*=1

G75B   Y0U

0   *relative* chroma c^*_{rgb*}
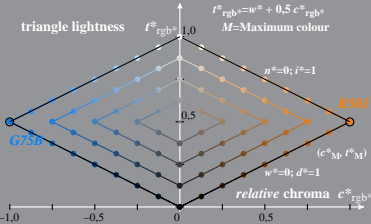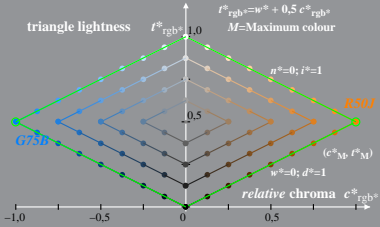
−1,0   −0,5   0   0,5   1,0

HE821−5A, 5; cf1=0.90; nt=0.18; nx=1.0

Linear relation *rgb** and *relative* chroma $c^*_{rgb^*}$ and triangle lightness $t^*_{rgb^*}$
System: HE82_HRS16_96_D65_50%_O1
Hue: h^*_{B50J}=59/360; h^*_{G75Bgb}=244/360
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 $t^*_{rgb^*}$ 1,0

n^*=0; i^*=1

0,5

(c^*_M, t^*_M)

B50J

G75B

w^*=0; d^*=1

0

relative chroma $c^*_{rgb^*}$

−1,0   −0,5   0   0,5

HE821−5A, 6; cf1=0.90; nt=0.18; nx=1.0

Linear relation *rgb** and *relative* chroma *c*_rgb*$ and triangle lightness *t*_rgb*$
System: HE82_HRS16_96_D65_75%_O0
Hue: h^*_{B75J}=75/360; h^*_{G88B}=258/360
Result: c^*_{rgb}=c^*_{lab}; t^*_{rgb}=t^*_{lab}

c^*_{rgb}=max (rgb^*) − min (rgb^*)
n^*=1 − max (rgb^*)=1 − (r^*)
w^*=min (rgb^*)=1 − d^*
t^*_{rgb}=w^* + 0,5 c^*_{rgb}
M=Maximum colour

triangle lightness

t^*_{rgb}

n^*=0; i^*=1

0,5

$G88B$

$R75J$

w^*=0; d^*=1

(c^*_M, t^*_M)

−1,0 −0,5 0 0,5 *relative* chroma c^*_{rgb}

HE821−5A, 7; cf1=0.90; nt=0.18; nx=1.0

Linear relation rgb^* and *relative* chroma $c^*_{rgb^*}$ and triangle lightness $t^*_{rgb^*}$
System: HE82_HRS16_96_D65_75%_O1
Hue: $h^*_{H75I}=75/360$; $h^*_{G88B}=258/360$
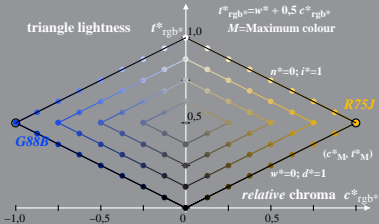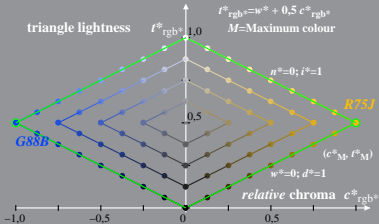Result: $c^*_{rgb^*}=c^*_{lab^*}$; $t^*_{rgb^*}=t^*_{lab^*}$

$c^*_{rgb^*}=\max (rgb^*) - \min (rgb^*)$
$n^*=1 - \max (rgb^*) = 1 - i^*$
$w^*=\min (rgb^*) = 1 - d^*$
$t^*_{rgb^*}=w^* + 0.5 c^*_{rgb^*}$
$M=$Maximum colour

triangle lightness $t^*_{rgb^*}$ 1,0

$n^*=0; i^*=1$

0,5

(c^*_M, t^*_M)

R75I

G88B

$w^*=0; d^*=1$

relative chroma $c^*_{rgb^*}$

−1,0   −0,5   0   0,5

HE821-5A, 8; cf1=0.90; nt=0.18; nx=1.0