Linear relation CIELAB (L*, a*, b*) and *adapted* (a) CIELAB (C*ₐᵦ,ₐ, L*)
System: HE82_HRS16_96_D65_00%_00
Hue: h*ⱼ₀₀G=92/360; h*ᴮ₀₀R=272/360

$l*_{lab} = (L* - L*_N) / (L*_W - L*_N)$
$a*_{a,a} = a* - a*_N - l*_{lab*} [a*_W - a*_N]$
$b*_a = b* - b*_N - l*_{lab*} [b*_W - b*_N]$
$C*_{ab,a} = [a*_a^2 + b*_a^2]^{1/2}$

lightness   L*

J00G

B00R

(C*ₐᵦ,ₐ,ᴹᵇ
L*ₘ)

chroma   C*ₐᵦ

HE820−2A, 1; cf1=0.90; nt=0.18; nx=1.0

Linear relation CIELAB (*L**, *a**, *b**) and *adapted* (*a*) CIELAB (*C*_{ab,a}*, *L**)
System: HE82_HRS16_96_D65_00%_O1
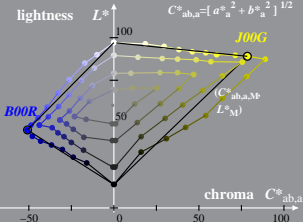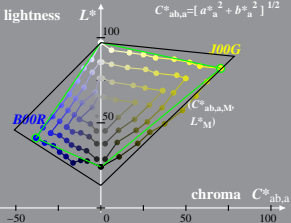**Hue: *h**_{j00G}=92/360; *h**_{B00R}=272/360**

$l^*_{lab,a} = (L^* - L^*_N) / (L^*_W - L^*_N)$

$a^*_{a} = a^* - a^*_N - l^*_{lab,a}[a^*_W - a^*_N]$

$b^*_{a} = b^* - b^*_N - l^*_{lab,a}[b^*_W - b^*_N]$

$C^*_{ab,a} = [a^*_{a}{}^2 + b^*_{a}{}^2]^{1/2}$

lightness   *L**

100

100G

B00R

50

(*C**_{ab,a,M},
*L**_M)

chroma   *C**_{ab,a}

-100   -50   0   50   100

HE820−2A, 2; cf1=0.90; nt=0.18; nx=1.0

Linear relation CIELAB (*L**, *a**, *b**) and *adapted (a)* CIELAB (*C**ab,a, *L**)
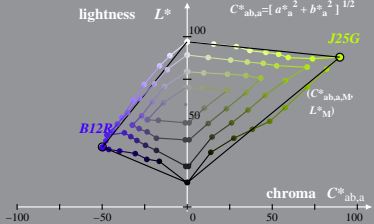System: HE82_HRS16_96_D65_25%_00
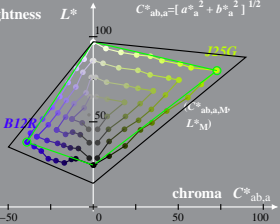
Hue: *h**J25G=109/360; *h**B12R=286/360

$$l^*_{lab} = (L^* - L^*_N) / (L^*_W - L^*_N)$$

$$a^*_{lab} = a^* - a^*_N - l^*_{lab} * [a^*_W - a^*_N]$$

$$b^*_{a} = b^* - b^*_N - l^*_{lab} * [b^*_W - b^*_N]$$

$$C^*_{ab,a} = [a^*_a{}^2 + b^*_a{}^2]^{1/2}$$

HE820–2A, 3; cf1=0.90; nt=0.18; nx=1.0

Linear relation CIELAB (*L**, *a**, *b**) and *adapted* (*a*) CIELAB (*C**ab,a, *L**)
System: HE82_HRS16_96_D65_25%_OI

Hue: h^*_{J25G}=109/360; h^*_{B12R}=286/360

l^*_{lab*}=(L^* − L^*_N) / (L^*_W − L^*_N)

a^*_{lab*}=a^* − a^*_N − l^*_{lab*} [a^*_W − a^*_N]

b^*_a=b^* − b^*_N − l^*_{lab*} [b^*_W − b^*_N]

$C^*_{ab,a}$=[$a^*_a{}^2$ + $b^*_a{}^2$]$^{1/2}$

lightness   *L**

100

J25G

B12R

50

$C^*_{ab,a,M*}$

L^*_M)

chroma *C**ab,a

−100   −50   0   50   100

HE820−2A, 4; cf1=0.90; nt=0.18; nx=1.0

Linear relation CIELAB (*L, *a**, *b**) and *adapted (a)* CIELAB (*C**$_{ab,a}$, *L**)
System: HE82_HRS16_96_D65_50%_00

Hue: *h**$_{J50G}$=127/360; *h**$_{B25R}$=300/360

$$l^*{}_{lab} = (L^* - L^*{}_N) / (L^*{}_W - L^*{}_N)$$
$$a^*{}_a = a^* - a^*{}_N - l^*{}_{lab*} [a^*{}_W - a^*{}_N]$$
$$b^*{}_a = b^* - b^*{}_N - l^*{}_{lab*} [b^*{}_W - b^*{}_N]$$
$$C^*{}_{ab,a} = [a^*{}_a{}^2 + b^*{}_a{}^2]^{1/2}$$

lightness   *L**

100

J50G

50

(*C**$_{ab,a,M}$
L*$_M$)

B25R

chroma   *C**$_{ab,a}$

-100   -50   0   50   100

HE820–2A, 5; cf1=0.90; nt=0.18; nx=1.0

Linear relation CIELAB (*L**, *a**, *b**) and *adapted (a)* CIELAB (*C**$_{ab,a}$, *L**)
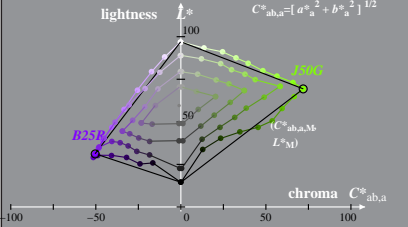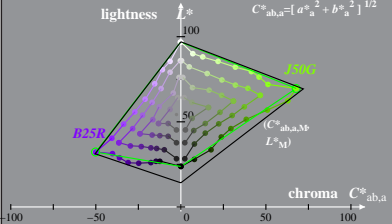**System: HE82_HRS16_96_D65_50%_01**
Hue: h*$_{J50G}$=127/360; h***$_{B25R}$=300/360

$l^*_{lab} = (L^* - L^*_N) / (L^*_W - L^*_N)$
$a^*_a = a^* - a^*_N - l^*_{lab}* [a^*_W - a^*_N]$
$b^*_a = b^* - b^*_N - l^*_{lab}* [b^*_W - b^*_N]$
$C^*_{ab,a} = [a^{*2}_a + b^{*2}_a]^{1/2}$

lightness

L*

100

J50G

B25R

50

$(C^*_{ab,a,M}, L^*_M)$

chroma *C**$_{ab,a}$

-100   -50   0   50   100

HE820−2A, 6; cf1=0.90; nt=0.18; nx=1.0

Linear relation CIELAB (L*, a*, b*) and *adapted (a)* CIELAB (C*_{ab,a}, L*)
System: HE82_HRS16_96_D65_75%_00
Hue: h^*_{J75G}=144/360; h^*_{B38R}=314/360

$l^*_{lab}=(L^* - L^*_N) / (L^*_W - L^*_N)$
$a^*_{lab}=a^* - a^*_N - l^*_{lab}* [a^*_W - a^*_N]$
$b^*_a=b^* - b^*_N - l^*_{lab}* [b^*_W - b^*_N]$
$C^*_{ab,a}=[a^*_a{}^2 + b^*_a{}^2]^{1/2}$

lightness   L*

100

J75G

50

B38R

(C*_{ab,a,M},
L*_M)

chroma   C*_{ab,a}

-100   -50   0   50   100
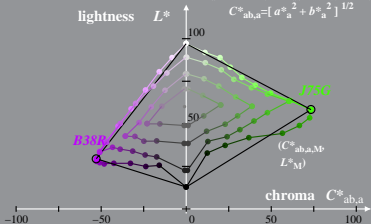
HE820−2A, 7; cf1=0.90; nt=0.18; nx=1.0

Linear relation CIELAB (*L**, *a**, *b**) and *adapted (a)* CIELAB (*C**$_{ab,a}$, *L**)
System: HE82_HRS16_96_D65_75%_OI

Hue: *h**$_{J75G}$=144/360; *h**$_{B38R}$=314/360

$$l^*_{lab} = (L^* - L^*_N) / (L^*_W - L^*_N)$$
$$a^*_a = a^* - a^*_N - l^*_{lab} \cdot [a^*_W - a^*_N]$$
$$b^*_a = b^* - b^*_N - l^*_{lab} \cdot [b^*_W - b^*_N]$$
$$C^*_{ab,a} = [a^*_a{}^2 + b^*_a{}^2]^{1/2}$$

lightness   *L**

100

J75G

B38R

50

(*C**$_{ab,a,M}$,
L*$_M$)

chroma   *C**$_{ab,a}$

−100   −50   0   50   100

HE820−2A, 8; cf1=0.90; nt=0.18; nx=1.0