Top-left panel:

Linear relation CIELAB (*L**, *a**, *b**) and *adapted (a)* CIELAB (*C**$_{ab,a}$, *L**)
Television Luminous System: TLS00a

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

$a*_a = a*$
$b*_a = b*$

CIELAB hue angles *RYGCBM*:
$h_{ab,d}$ = [40, 102, 136, 196, 306, 328]
$h_{ab,e}$ = [26, 92, 162, 217, 272, 329]

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

$a*_a = C*_{ab,a} \cos h_{ab}$
$b*_a = C*_{ab,a} \sin h_{ab}$

Similar to contrast step C$_{YP15}$
according to ISO 9241-306, see
http://standards.iso.org/iso/9241/306/ed-2/index.html

CIELAB data and *Y* for W and N:
(*L**, *a**, *b**, *Y*)$_W$=(95.41, 0.0, 0.0, 88.59)
(*L**, *a**, *b**, *Y*)$_N$=(0.01, 0.0, 0.0, 0.26)

AEY40–3N

Top-right panel:

Linear relation CIELAB (*L**, *a**, *b**) and *adapted (a)* CIELAB (*C**$_{ab,a}$, *L**)
Television Luminous System: TLS11a

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

$a*_a = a*$
$b*_a = b*$

CIELAB hue angles *RYGCBM*:
$h_{ab,d}$ = [36, 103, 136, 196, 305, 328]
$h_{ab,e}$ = [26, 92, 162, 217, 272, 329]

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

$a*_a = C*_{ab,a} \cos h_{ab}$
$b*_a = C*_{ab,a} \sin h_{ab}$

Similar to contrast step C$_{YP6}$
according to ISO 9241-306, see
http://standards.iso.org/iso/9241/306/ed-2/index.html

CIELAB data and *Y* for W and N:
(*L**, *a**, *b**, *Y*)$_W$=(95.41, 0.0, 0.0, 88.59)
(*L**, *a**, *b**, *Y*)$_N$=(10.99, 0.0, 0.0, 1.25)

AEY41–3N

Bottom-left panel:

Linear relation CIELAB (*L**, *a**, *b**) and *adapted (a)* CIELAB (*C**$_{ab,a}$, *L**)
Television Luminous System: TLS06a

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

$a*_a = a*$
$b*_a = b*$

CIELAB hue angles *RYGCBM*:
$h_{ab,d}$ = [38, 102, 136, 196, 305, 328]
$h_{ab,e}$ = [26, 92, 162, 217, 272, 329]

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

$a*_a = C*_{ab,a} \cos h_{ab}$
$b*_a = C*_{ab,a} \sin h_{ab}$

Similar to contrast step C$_{YP7}$
according to ISO 9241-306, see
http://standards.iso.org/iso/9241/306/ed-2/index.html

CIELAB data and *Y* for W and N:
(*L**, *a**, *b**, *Y*)$_W$=(95.41, 0.0, 0.0, 88.59)
(*L**, *a**, *b**, *Y*)$_N$=(5.69, 0.0, 0.0, 0.65)

AEY40–7N

Bottom-right panel:

Linear relation CIELAB (*L**, *a**, *b**) and *adapted (a)* CIELAB (*C**$_{ab,a}$, *L**)
Television Luminous System: TLS18a

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

$a*_a = a*$
$b*_a = b*$

CIELAB hue angles *RYGCBM*:
$h_{ab,d}$ = [34, 103, 136, 196, 304, 328]
$h_{ab,e}$ = [26, 92, 162, 217, 272, 329]

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

$a*_a = C*_{ab,a} \cos h_{ab}$
$b*_a = C*_{ab,a} \sin h_{ab}$

Similar to contrast step C$_{YP5}$
according to ISO 9241-306, see
http://standards.iso.org/iso/9241/306/ed-2/index.html

CIELAB data and *Y* for W and N:
(*L**, *a**, *b**, *Y*)$_W$=(95.41, 0.0, 0.0, 88.59)
(*L**, *a**, *b**, *Y*)$_N$=(18.01, 0.0, 0.0, 2.52)

AEY41–7N

TUB-test chart AEY4; TLS00a, TLS06a, TLS11a, TLS18a
and CIE elementary hue data in CIELAB diagram (*a**, *b**)

input: *w/rgb/cmyk −> rgb*
output: no change