

Colorimetric *standard* CIELAB data and linearly related *adapted* and *relative* CIELAB data

| colorimetric name             | family                   | family member                                                                                                       | coordinate kind                                                                         | coordinate<br>(compare CIELAB<br>$L^*$ , $C^*_{ab}$ , $h^*_{ab}$ , $a^*$ , $b^*$ )                                                                           | coordinate name                                                                                                                                                                                                 |
|-------------------------------|--------------------------|---------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <i>standard</i><br>CIELAB     | <b>LAB*</b>              | <b>LAB*LCH*</b><br>or<br><b>LAB*LAB*</b>                                                                            | zylindric<br>or<br>kartesic                                                             | $L^* = LAB^*L^*$<br>$C^* = LAB^*C^*_{ab}$<br>$H^* = LAB^*h^*_{ab}$<br>$A^* = LAB^*a^*$<br>$B^* = LAB^*b^*$                                                   | lightness<br>chroma<br>hue angle<br>red green chroma<br>yellow blue chroma                                                                                                                                      |
| <i>adapted</i><br>CIELAB (a)  | <b>LAB*</b> <sub>a</sub> | <b>LAB*</b> <sub>a</sub> <b>LCH*</b> <sub>a</sub><br>or<br><b>LAB*</b> <sub>a</sub> <b>LAB*</b> <sub>a</sub>        | zylindric<br>or<br>kartesic                                                             | $L^*_a = LAB^*_aL^*_a$<br>$C^*_a = LAB^*_aC^*_a$<br>$H^*_a = LAB^*_aH^*_a$                                                                                   | adapted lightness (= $L^*$ )<br>adapted chroma<br>adapted hue angle<br>( $0 \leq H^*_a \leq 360$ )                                                                                                              |
| <i>relative</i><br>CIELAB (r) | <b>lab*</b>              | <b>lab*lch*</b><br>or<br><b>lab*lab*</b><br>or<br><b>lab*tch*</b><br>or<br><b>lab*tab*</b>                          | zylindric<br><br>kartesic<br><br>zylindric<br><br>kartesic                              | $l^* = lab^*l^*$<br>$c^* = lab^*c^*$<br>$h^* = lab^*h^*$<br>$a^*_r = lab^*a^*_r$<br>$b^*_r = lab^*b^*_r$<br>$t^* = lab^*t^*$                                 | relative lightness<br>relative chroma<br>relative hue<br>relative a-red green chroma<br>relative b-yellow blue chroma<br>relative triangle lightness                                                            |
|                               |                          | <b>lab*nch*</b><br>or<br><b>lab*nce*</b><br>or<br><b>lab*ncu*</b><br>or<br><b>lab*tce*</b><br>or<br><b>lab*trj*</b> | triangle-zylindric<br>triangle-zylindric<br>triangle-zylindric<br>zylindric<br>kartesic | $n^* = lab^*n^*$<br>$c^* = lab^*c^*$<br>$h^* = lab^*h^*$<br>$e^* = lab^*e^*$<br>$u^* = lab^*u^*$<br>$r^* = lab^*r^*$<br>$j^* = lab^*j^*$<br>$t^* = lab^*t^*$ | relative blackness<br>relative chroma<br>relative hue<br>relative elementary hue text<br>relative elementary hue<br>relative r-red green chroma<br>relative j-yellow blue chroma<br>relative triangle lightness |
|                               |                          | <b>lab*olv*</b> <sub>3</sub>                                                                                        | kartesic                                                                                | $o^*_3 = lab^*o^*_3$<br>$l^*_3 = lab^*l^*_3$<br>$v^*_3 = lab^*v^*_3$                                                                                         | relative orange red value<br>relative leaf green value<br>relative violett blue value                                                                                                                           |
|                               |                          | <b>lab*cmv*</b> <sub>3</sub>                                                                                        | kartesic                                                                                | $c^*_3 = lab^*c^*_3$<br>$m^*_3 = lab^*m^*_3$<br>$y^*_3 = lab^*y^*_3$                                                                                         | relative cyan blue value<br>relative magenta red value<br>relative yellow value                                                                                                                                 |
|                               |                          | <b>lab*rgb*</b> <sub>3</sub>                                                                                        | kartesic                                                                                | $r^*_3 = lab^*r^*_3$<br>$g^*_3 = lab^*g^*_3$<br>$b^*_3 = lab^*b^*_3$                                                                                         | relative elementary red value<br>relative elementary green value<br>relative elementary blue value                                                                                                              |
|                               |                          | <b>lab*c'm'j*</b> <sub>3</sub>                                                                                      | kartesic                                                                                | $c^*_3 = lab^*c^*_3$<br>$m^*_3 = lab^*m^*_3$<br>$j^*_3 = lab^*j^*_3$                                                                                         | relative cyan blue dash value<br>relative magenta red dash value<br>relative elementary yellow value                                                                                                            |