

Linear relation CIELAB ( $L^*$ ,  $a^*$ ,  $b^*$ ) and adapted (a) CIELAB ( $C^*_{ab,a}$ ,  $L^*$ )

System: NRS18\_b15r+05

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

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

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

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

CIELAB hue angles:

$$h_{ab,d} = [26, 89, 166, 195, 283, 330]$$

$$h_{ab,e} = [26, 92, 162, 217, 272, 329]$$

$$\begin{matrix} J \\ b^* \\ a \end{matrix}$$

$$\begin{aligned} a^*_{ab} &= C^*_{ab,a} \cos h_{ab} \\ b^*_{ab} &= C^*_{ab,a} \sin h_{ab} \end{aligned}$$

