

color valence metric (color data: linear relation to CIE 1931 data)

linear color terms	name and relationship to CIE tristimulus or chromaticity values	notes
tristimulus values	X, Y, Z	
chromatic value	<i>linear chromatic value diagram (A_1, B_1)</i>	For grey Z of D65
red-green	$A_1 = n_{1A} [X / X_Z - Y / Y_Z] = n_{1A} [a_1 - a_{Z1}] Y$ If contrast = 25:1 = 90:3,6, then $-125 \leq A_1 \leq 125$	$X_Z = 95,05 \cdot 0,18$ $Y_Z = 100,00 \cdot 0,18$
yellow-blue	$B_1 = n_{1B} [Z / Z_Z - Y / Y_Z] = n_{1B} [b_1 - b_{Z1}] Y$ If contrast 25:1 = 90:3,6, then $-50 \leq B_1 \leq 50$	$Z_Z = 108,90 \cdot 0,18$ $n_{1A} = 25, n_{1B} = -10$
radial	$C_{AB,1} = [A_1^2 + B_1^2]^{1/2}$	(background)
chromaticity	<i>linear chromaticity diagram (a_1, b_1)</i>	
red-green	$a_1 = [X / Y] / X_Z = [x / y] / X_Z$	
yellow-blue	$b_1 = [Z / Y] / Z_Z = [z / y] / Z_Z$	
radial	$c_{AB,1} = [(a_1 - a_{Z1})^2 + (b_1 - b_{Z1})^2]^{1/2}$	