

## 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	$X, Y, Z$	
<b>chromatic value</b>  red–green  yellow–blue  radial	<i>linear chromatic value diagram (A, B)</i>  $A = [ X / Y - X_n / Y_n ] Y = [ a - a_n ] Y$ $= [ x / y - x_n / y_n ] Y$ $B = - 0,4 [ Z / Y - Z_n / Y_n ] Y = [ b - b_n ] Y$ $= - 0,4 [ z / y - z_n / y_n ] Y$ $C_{AB} = [ A^2 + B^2 ]^{1/2}$	$n=D65$  (background)
<b>chromaticity</b>  red–green  yellow–blue  radial	<i>linear chromaticity diagram (a, b)</i>  $a = X / Y = x / y$ $b = - 0,4 [ Z / Y ] = - 0,4 [ z / y ]$ $c_{ab} = [ ( a - a_n )^2 + ( b - b_n )^2 ]^{1/2}$	<i>compare to linear cone excitation</i>  $L/(L+M)=P/(P+D)$ $S/(L+M)=T/(P+D)$