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TUB registration: 20180701-CET2/CET2L0NP.PDF /.PS
application for measurement of display output
TUB material: code=rha4ta

percieved color terms (colorness: cube root coordinates)

percieved color terms	name and relationship with standard chromaticity values	notes:
lightness	$L^* = 116 (Y / 100)^{1/3} - 16$ Aproximation: $L^* = 100 (Y / 100)^{1/3}$	definition 1976 in: CIELUV, CIELAB
chromaticness	for linear chromatic value diagram (AT, B)	
red-green	$a^* = 500 [(X / X_n)^{1/3} - (Y / Y_n)^{1/3}]$ $= 500 (a' - a'_n) Y^{1/3}$	definition 1976 in: CIELAB
yellow-blue	$b^* = 200 [(Y / Y_n)^{1/3} - (Z / Z_n)^{1/3}]$ $= 500 (b' - b'_n) Y^{1/3}$	n=D65 (surround)
radial	$C^* = [a^{*2} + b^{*2}]^{1/2}$	
saturation	= chromaticness / lightness	definition
red-green	$S_a^* = a^* / [100 (Y / 100)^{1/3}]$ $= 21,6 (a' - a'_n)$	for: CIELAB 1976
yellow-blue	$S_b^* = b^* / [100 (Y / 100)^{1/3}]$ $= 21,6 (b' - b'_n)$	
radial	$S_c^* = C^* / [100 (Y / 100)^{1/3}]$ $= 21,6 [(a' - a'_n)^2 + (b' - b'_n)^2]^{1/2}$	
chromaticity	for nonlinear chromaticity diagram (a' , b') definition	
red-green	$a' = (1 / X_n)^{1/3} (x / y)^{1/3}$	opponent
yellow-blue	$= 0,2191 (x / y)^{1/3}$ for D65	color system
radial	$b' = -0,4 (1 / Z_n)^{1/3} (z / y)^{1/3}$ $= -0,08376 (z / y)^{1/3}$ for D65 $c' = [(a' - a'_n)^2 + (b' - b'_n)^2]^{1/2}$	

color valence metrics terms (color values: linear coordinates)

color valence metric terms	name and relationship with standard chromaticity values	notes:
luminous value	$Y = y (X + Y + Z)$	definition in: CIEXYZ 1931
chromatic value	for linear chromatic value diagram (AT, B)	
red-green	$A = [X / Y - X_n / Y_n] Y = [a - a_n] Y$ $= [x / y - x_n / y_n] Y$	definition opponent
yellow-blue	$B = -0,4 [Z / Y - Z_n / Y_n] Y = [b - b_n] Y$ $= -0,4 [z / y - z_n / y_n] Y$	color system n=D65 (surround)
radial	$C = [A^2 + B^2]^{1/2}$	
saturation value	= chromatic value / luminous value	definition
red-green	$S_a = A / Y = X / Y - X_n / Y_n$ $= x / y - x_n / y_n = a - a_n$	opponent color system
yellow-blue	$S_b = B / Y = -0,4 [Z / Y - Z_n / Y_n]$ $= -0,4 [z / y - z_n / y_n] = b - b_n$	
radial	$S_c = C / Y$ $= [(a - a_n)^2 + (b - b_n)^2]^{1/2}$	
chromaticity value	for linear chromaticity diagram (a, b) definition	
red-green	$a = X / Y = x / y$	opponent
yellow-blue	$b = -0,4 [Z / Y] = -0,4 [z / y]$	color system
radial	$c = [(a - a_n)^2 + (b - b_n)^2]^{1/2}$	