

basic and mixed colors of standard color television by DIN 6169					
basic color or mixed color and name	CIE standard chromaticity		CIE standard tristimulus value		
	x	y	X	Y	Z
three additive basic colors:					
O orangered	0,6400	0,3300	43,03	22,19	2,02
L leafgreen	0,2900	0,6000	34,16	70,68	12,96
V violetblue	0,1415	0,0482	17,82	7,13	93,87
three additive mixed colors:					
C cyanblue	0,2197	0,3288	51,98	77,81	106,83
M magentared	0,3270	0,1576	60,85	29,32	95,89
Y yellow	0,4172	0,5019	77,19	92,87	14,98
D65 (white)	0,3127	0,3291	95,01	100,00	108,85

SE240-3, BT9_06

basic and mixed colors of a test offset color printing process					
basic color or mixed color and name	CIE standard chromaticity		CIE standard tristimulus value		
	x	y	X	Y	Z
three subtractive basic colors:					
C cyanblue	0,1776	0,2510	20,04	28,32	64,46
M magentared	0,4298	0,2320	29,94	16,17	23,56
Y yellow	0,4512	0,5000	62,08	68,74	6,75
three subtractive mixed colors:					
O orangered	0,6261	0,3368	21,57	11,60	1,28
L leafgreen	0,2416	0,5989	5,82	14,43	3,84
V violetblue	0,1890	0,1326	4,39	3,08	15,77
D65 (white paper, D65)	0,3173	0,3337	77,74	81,79	85,43
N (printing black)	0,3130	0,3258	4,12	4,29	4,75

SE240-7, BT9_08

colour valence metric (color data: linear relation to CIE 1931 data)		
linear color terms	name and relationship to CIE tristimulus or chromaticity values	notes
luminous value	$Y = y (X + Y + Z)$	
chromatic value	<i>linear chromatic value diagram (A, B)</i> red-green $A = [X / Y - X_n / Y_n] Y = [a - a_n] Y$ $= [x / y - x_n / y_n] Y$ yellow-blue $B = -0,4 [Z / Y - Z_n / Y_n] Y = [b - b_n] Y$ $= -0,4 [z / y - z_n / y_n] Y$ radial $C_{AB} = [A^2 + B^2]^{1/2}$	$n=D65$ (background)
chromaticity	<i>linear chromaticity diagram (a, b)</i> red-green $a = X / Y = x / y$ yellow-blue $b = -0,4 [Z / Y] = -0,4 [z / y]$ radial $c_{ab} = [(a - a_n)^2 + (b - b_n)^2]^{1/2}$	compare to linear cone excitation $L/(L+M)=P/(P+D)$ $S/(L+M)=T/(P+D)$

1-000030-L0

SE241-3N

higher colour metric (color data: nonlinear relation to CIE 1931 data)		
nonlinear color terms	name and relationship with tristimulus or chromaticity values	notes
lightness	$L^* = 116 (Y / 100)^{1/3} - 16 \quad (Y > 0,8)$ approximation: $L^* \approx 100 (Y/100)^{1/2,4} \quad (Y > 0)$	CIELAB 1976
chroma	<i>nonlinear transform chromatic values A, B</i> red-green $a^* = 500 [(X / X_n)^{1/3} - (Y / Y_n)^{1/3}]$ $= 500 (a' - a'_n) Y^{1/3}$ yellow-blue $b^* = 200 [(Y / Y_n)^{1/3} - (Z / Z_n)^{1/3}]$ $= 500 (b' - b'_n) Y^{1/3}$ radial $C^*_{ab} = [a^{*2} + b^{*2}]^{1/2}$	CIELAB 1976 $n=D65$ (background)
chromaticity	<i>nonlinear transform chromaticities x/y, z/y</i> red-green $a' = (1 / X_n)^{1/3} (x / y)^{1/3}$ $= 0,2191 (x / y)^{1/3} \quad \text{for D65}$ yellow-blue $b' = -0,4 (1 / Z_n)^{1/3} (z / y)^{1/3}$ $= -0,08376 (z / y)^{1/3} \quad \text{for D65}$ radial $c'_{ab} = [(a' - a'_n)^2 + (b' - b'_n)^2]^{1/2}$	compare to log cone excitation $\log[L / (L+M)]$ $= \log[P / (P+D)]$ $\log[S / (L+M)]$ $= \log[T / (P+D)]$

1-000030-L0

SE241-7N

TUB-test chart SE24; CIE data sRGB display, $L_r=0\%$
Tables: colour valence and higher colour metric

input: w/rgb/cmyk -> w/rgb/cmyk-
output: no change