

color space CIELAB 1976, color values, -attributes, -chromaticities (a', b')

tristimulus values X, Y, Z -> color attributes L*, a*, b*

lightness $L^* = 116 (Y/Y_n)^{1/3} - 16$
 RG-chromaticness $a^* = 500 [(X/X_n)^{1/3} - (Y/Y_n)^{1/3}] = 500 [a' - a'_n] Y^{1/3}$
 JB-chromaticness $b^* = 200 [(Y/Y_n)^{1/3} - (Z/Z_n)^{1/3}] = 500 [b' - b'_n] Y^{1/3}$

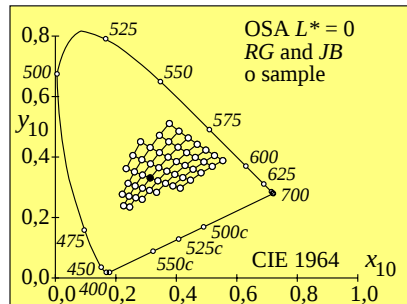
color attributes L*, a*, b* -> tristimulus values X, Y, Z

tristimulus values $X = X_n [(L^* + 16) / 116 + a^*/500]^3$
 $Y = Y_n [(L^* + 16) / 116]^3$
 $Z = Z_n [(L^* + 16) / 116 - b^*/200]^3$

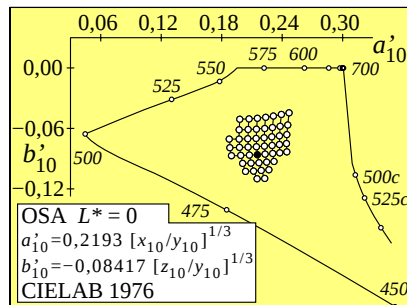
chromaticity for CIELAB 1976, LABHNU 1977, LABHNUx 1979

CIELAB 1976, 2°	$a' = 0,2191 (x/y)^{1/3}$	$b' = -0,08376 (z/y)^{1/3}$
LABHNU 1977	$a' = (x/y + 1/6)^{1/3} / 4$	$b' = -(z/y + 1/6)^{1/3} / 12$
LABHNU1 1979	$a' = (x/y + 1) / 15$ linear!	$b' = -(z/y + 1/6)^{1/3} / 12$
LABHNU2 1979	$a' = (x/y + 1/6)^{2/3} / 15$	$b' = -(z/y + 1/6)^{1/3} / 12$
CIELAB 1976, 10°	$a' = 0,2193 (x_{10}/y_{10})^{1/3}$	$b' = -0,08417 (z_{10}/y_{10})^{1/3}$
chromaticity constants	$a_2 = 500 (1/X_n)^{1/3} = 0,2191$	$b_2 = -200 (1/Z_n)^{1/3} = -0,08376$
CIELAB, 2°, 10°	$a_{10} = 500 (1/X_{n10})^{1/3} = 0,2193$	$b_{10} = -200 (1/Z_{n10})^{1/3} = -0,08417$

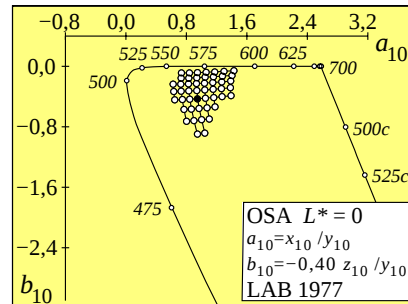
NE150-3, B4_12



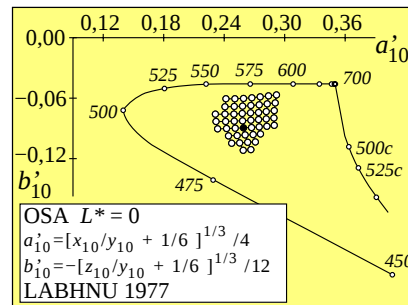
NE150-5, B4_13



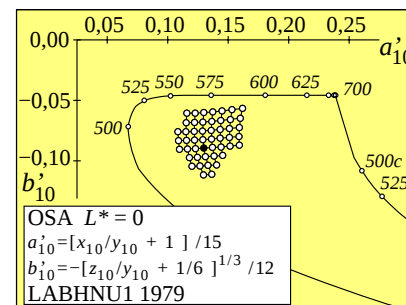
NE150-7, B4_14_2



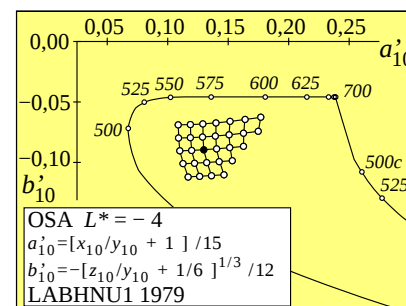
NE150-6, B4_14_1



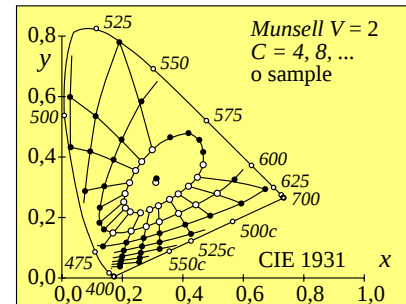
NE150-8, B4_14_3



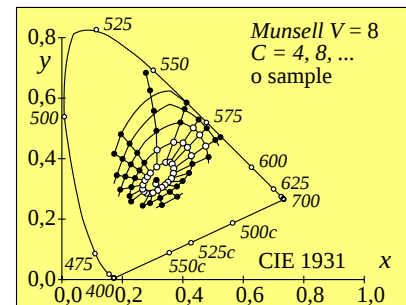
NE151-1, B4_14_4



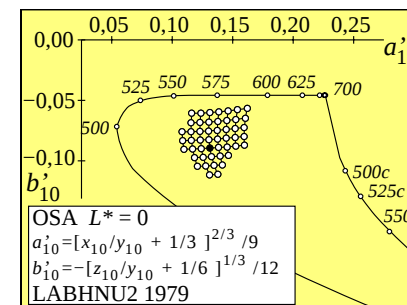
NE151-3, B4_15_1



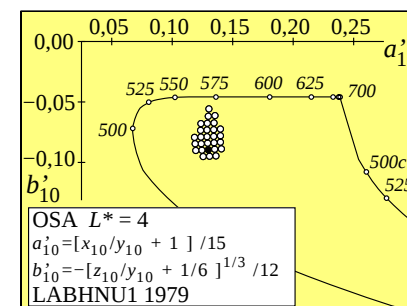
NE151-5, B4_16_1



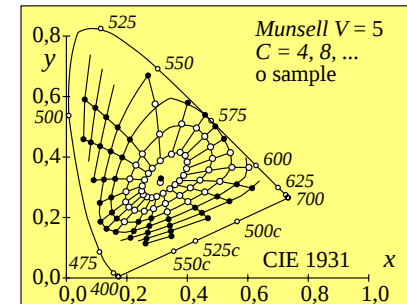
NE151-7, B4_60_3



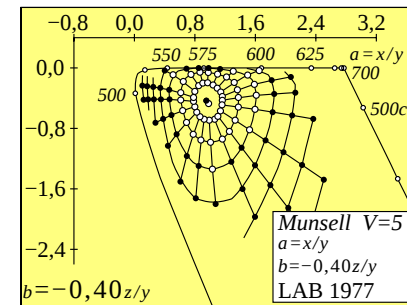
NE151-2, B4_14_5



NE151-4, B4_15_2



NE151-6, B4_16_2



NE151-8, B4_17_1