

Farbenraum CIELAB 1976, Farbwerte, -merkmale und -arten (a' , b')

Normfarbwerte $X, Y, Z \rightarrow$ Farbmerkmale L^*, a^*, b^*

$$\begin{aligned}\text{Helligkeit} \quad L^* &= 116 (Y/Y_n)^{1/3} - 16 \\ \text{RG-Buntheit} \quad a^* &= 500 [(X/X_n)^{1/3} - (Y/Y_n)^{1/3}] = 500 [a' - a'_n] Y^{1/3} \\ \text{JB-Buntheit} \quad b^* &= 200 [(Y/Y_n)^{1/3} - (Z/Z_n)^{1/3}] = 500 [b' - b'_n] Y^{1/3}\end{aligned}$$

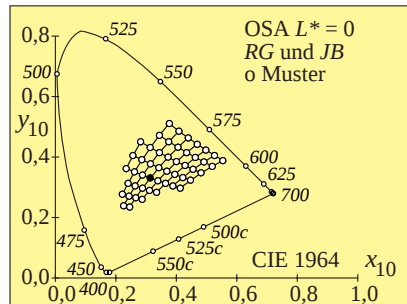
Farbmerkmale $L^*, a^*, b^* \rightarrow$ Normfarbwerte X, Y, Z

$$\begin{aligned}\text{Normfarbwerte} \quad X &= X_n [(L^* + 16) / 116 + a^*/500]^3 \\ Y &= Y_n [(L^* + 16) / 116]^3 \\ Z &= Z_n [(L^* + 16) / 116 - b^*/200]^3\end{aligned}$$

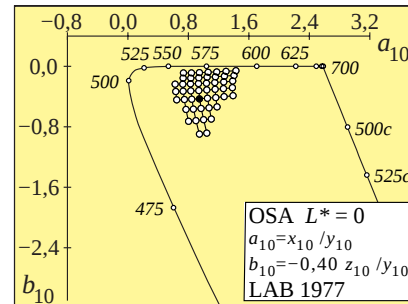
Farbarten für CIELAB 1976, LABHNU 1977, LABHNUx 1979

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°	$a' = 0,2193 (x_{10}/y_{10})^{1/3}$	$b' = -0,08417 (z_{10}/y_{10})^{1/3}$
Farbart-Konstanten	$a_2 = 500 (1/X_n)^{1/3} = 0,2191$	$b_2 = -200 (1/Z_n)^{1/3} = -0,08376$
CIELAB, 2°, 10°	$a_{10} = 500 (1/X_{n10})^{1/3} = 0,2193$	$b_{10} = -200 (1/Z_{n10})^{1/3} = -0,08417$

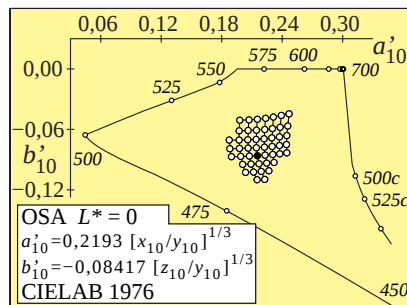
MG150-3, B4_12



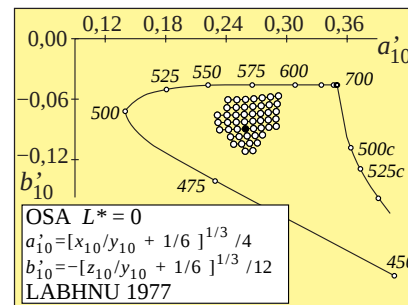
MG150-5, B4_13



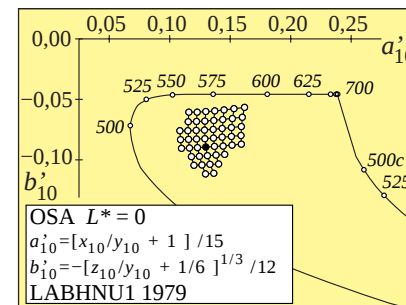
MG150-6, B4_14_1



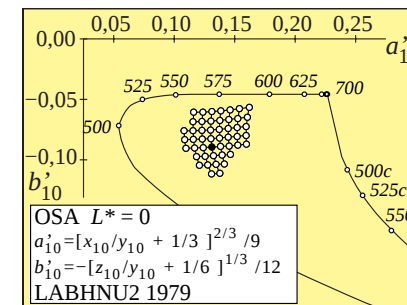
MG150-7, B4_14_2



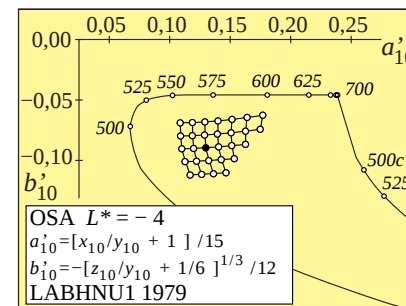
MG150-8, B4_14_3



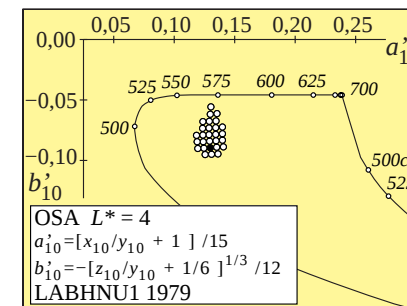
MG151-1, B4_14_4



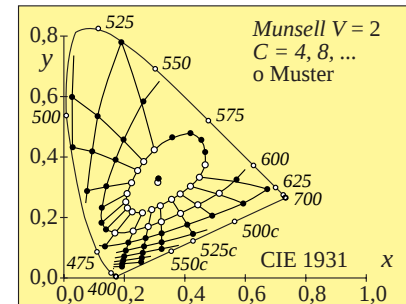
MG151-2, B4_14_5



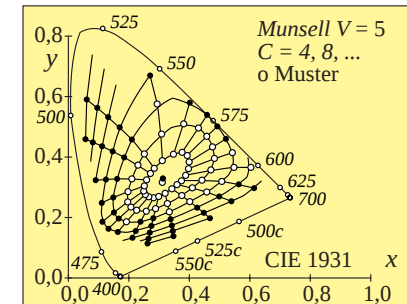
MG151-3, B4_15_1



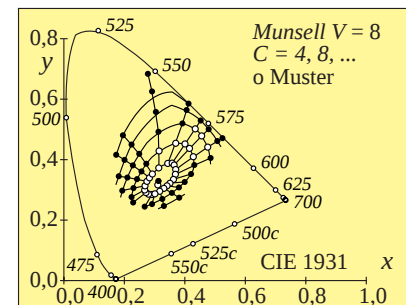
MG151-4, B4_15_2



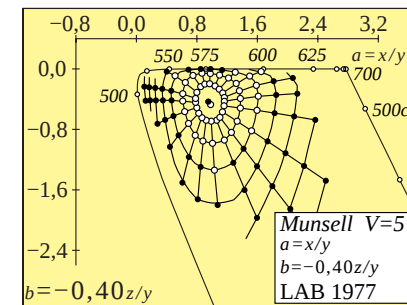
MG151-5, B4_16_1



MG151-6, B4_16_2



MG151-7, B4_60_3



MG151-8, B4_17_1