

Data of Maximum color M in colorimetric system LCD projector\_2, no separation, D65 for input or output; Six hue angles of the 60 degree standard colours  $s$ :  $h_{ab,s} = 30.0, 90.0, 150.0, 210.0, 270.0, 330.0$ ;  
Six hue angles of the device colours  $d$ :  $h_{ab,d} = 43.5, 101.7, 126.0, 201.5, 300.5, 319.7$ ; Six hue angles of the elementary colours  $e$ :  $h_{ab,e} = 25.5, 92.3, 162.2, 217.0, 271.7, 328.6$

$Y=J_d$  Yellow  
 $LCH^*_d = 81.9 \ 85.1 \ 101.7$   
 $LAB^*_d = 81.9 \ -17.3 \ 83.4$   
 $rgb^*_d = 1.0 \ 1.0 \ 0.0$

$L=G_d$  Leaf green  
 $LCH^*_d = 70.5 \ 85.5 \ 126.0$   
 $LAB^*_d = 70.5 \ -50.2 \ 69.2$   
 $rgb^*_d = 0.0 \ 1.0 \ 0.0$

$C=C_d$  Cyan blue  
 $LCH^*_d = 75.1 \ 29.2 \ 201.4$   
 $LAB^*_d = 75.1 \ -27.2 \ -10.7$   
 $rgb^*_d = 0.0 \ 1.0 \ 1.0$

$O=R_d$  Orange red  
 $LCH^*_d = 35.8 \ 78.9 \ 43.4$   
 $LAB^*_d = 35.8 \ 57.3 \ 54.3$   
 $rgb^*_d = 1.0 \ 0.0 \ 0.0$

$M=M_d$  Magenta red  
 $LCH^*_d = 46.8 \ 91.6 \ 319.7$   
 $LAB^*_d = 46.8 \ 69.8 \ -59.2$   
 $rgb^*_d = 1.0 \ 0.0 \ 1.0$

$V=B_d$  Violet blue  
 $LCH^*_d = 28.8 \ 97.6 \ 300.4$   
 $LAB^*_d = 28.8 \ 49.5 \ -84.1$   
 $rgb^*_d = 0.0 \ 0.0 \ 1.0$

$J_e$  Yellow  
 $LCH^*_e = 67.0 \ 71.6 \ 92.0$   
 $LAB^*_e = 67.0 \ -2.4 \ 71.5$   
 $rgb^*_e = 1.0 \ 0.871 \ 0.0$

$G_e$  Green  
 $LCH^*_e = 73.0 \ 39.7 \ 162.0$   
 $LAB^*_e = 73.0 \ -37.7 \ 12.2$   
 $rgb^*_e = 0.0 \ 1.0 \ 0.818$

$C_e$  Blue green  
 $LCH^*_e = 71.0 \ 29.4 \ 217.0$   
 $LAB^*_e = 71.0 \ -23.5 \ -17.7$   
 $rgb^*_e = 0.0 \ 0.943 \ 1.0$

$B_e$  Blue  
 $LCH^*_e = 52.4 \ 46.3 \ 272.0$   
 $LAB^*_e = 52.4 \ 1.6 \ -46.3$   
 $rgb^*_e = 0.0 \ 0.709 \ 1.0$

$R_e$  Red  
 $LCH^*_e = 36.3 \ 64.5 \ 25.0$   
 $LAB^*_e = 36.3 \ 58.4 \ 27.2$   
 $rgb^*_e = 1.0 \ 0.0 \ 0.412$

$M_e$  Blue red  
 $LCH^*_e = 42.1 \ 75.9 \ 329.0$   
 $LAB^*_e = 42.1 \ 65.1 \ -39.1$   
 $rgb^*_e = 1.0 \ 0.0 \ 0.859$

$J_s$  Yellow  
 $LCH^*_s = 65.4 \ 70.7 \ 90.0$   
 $LAB^*_s = 65.4 \ 0.0 \ 70.7$   
 $rgb^*_s = 1.0 \ 0.851 \ 0.0$

$G_s$  Green  
 $LCH^*_s = 72.3 \ 46.4 \ 150.0$   
 $LAB^*_s = 72.3 \ -40.2 \ 23.2$   
 $rgb^*_s = 0.0 \ 1.0 \ 0.749$

$R_s$  Red  
 $LCH^*_s = 36.1 \ 66.7 \ 30.0$   
 $LAB^*_s = 36.1 \ 57.8 \ 33.3$   
 $rgb^*_s = 1.0 \ 0.0 \ 0.365$

$C_s$  Blue green  
 $LCH^*_s = 72.8 \ 29.3 \ 210.0$   
 $LAB^*_s = 72.8 \ -25.4 \ -14.6$   
 $rgb^*_s = 0.0 \ 0.968 \ 1.0$

$M_s$  Blue red  
 $LCH^*_s = 41.9 \ 75.1 \ 330.0$   
 $LAB^*_s = 41.9 \ 65.0 \ -37.5$   
 $rgb^*_s = 1.0 \ 0.0 \ 0.85$

$B_s$  Blue  
 $LCH^*_s = 53.6 \ 44.3 \ 270.0$   
 $LAB^*_s = 53.6 \ 0.0 \ -44.3$   
 $rgb^*_s = 0.0 \ 0.724 \ 1.0$

Notes to the CIELAB chroma diagrams ( $a^*_d, b^*_d$ ), ( $a^*_e, b^*_e$ ), ( $a^*_s, b^*_s$ )

- For the  $rgb^*_d$ -input values the CIELAB data  $LCH^*_d$  and  $LAB^*_d$  have been measured.
- For the calculation of the standard hue angle  $h_{ab,s}$  use for any device values  $rgb^*_d$  the equation:  
$$h_{ab,s} = \text{atan} \left( \frac{r^*_d \cos(30) + g^*_d \cos(150)}{r^*_d \sin(30) + g^*_d \sin(150)} \right) / \left( \frac{r^*_d \sin(30) + g^*_d \sin(150)}{b^*_d \sin(270)} \right)$$
 (1)
- For the 48 or 360 equally spaced standard hue angles  $h_{ab,s}$  of the colours of maximum chroma use the seven hue angles of the 60 degree colours  $s$ :  $h_{ab,s} = 30.0, 90.0, 150.0, 210.0, 270.0, 330.0, 390.0$  ( $i=0,5$ ) and the equations for a 48 and 360 step hue circle:  
$$h_{ab,ab,sj} = h_{ab,s} + j [h_{ab,s+1} - h_{ab,s}] / 8 \quad (i = 0, 1, \dots, S; j = 0, 1, \dots, 7)$$
 (2)  
$$h_{360ab,sj} = h_{ab,s} + j [h_{ab,s+1} - h_{ab,s}] / 60 \quad (i = 0, 1, \dots, S; j = 0, 1, \dots, 59)$$
 (3)
- For the 48 or 360 elementary hue angles  $h_{ab,e}$  of the colours of maximum chroma use the seven hue angles of the elementary colours  $e$ :  $h_{ab,e} = 25.5, 92.3, 162.2, 217.0, 271.7, 328.6, 385.5$  ( $i=0,5$ ) and the equations for a 48 and 360 step elementary hue circle:  
$$h_{ab,ab,ej} = h_{ab,e} + j [h_{ab,e+1} - h_{ab,e}] / 8 \quad (i = 0, 1, \dots, S; j = 0, 1, \dots, 7)$$
 (4)  
$$h_{360ab,ab,ej} = h_{ab,e} + j [h_{ab,e+1} - h_{ab,e}] / 60 \quad (i = 0, 1, \dots, S; j = 0, 1, \dots, 59)$$
 (5)
- For any elementary hue angle  $h_{ab,e}$  there is a well defined device hue angle  $h_{ab,d}$  see the following tables, columns 1 to 3.
- The values  $rgb^*_de$  produce the output of the device-independent elementary hues