

Basic and mixed colors of standard sRGB and a special LED display

basic color or mixed color and name		CIE standard chromaticity		CIE standard tristimulus value		
		x	y	X	Y	Z
<i>sRGB display: three additive basic colors and White:</i>						
$O = R_d$	Orange red	0,6400	0,3300	43,03	22,19	2,02
$L = G_d$	Leaf green	0,2900	0,6000	34,16	70,68	12,96
$V = B_d$	Violet blue	0,1415	0,0482	17,82	7,13	93,87
W	White	0,3127	0,3291	95,01	100,00	108,85
<i>special LED display: three additive basic colors and White:</i>						
$O = R_d$	Orange red	0,6400	0,3300	43,03+21%	22,19+21%	2,02+21%
$L = G_d$	Leaf green	0,2900	0,6000	34,16+21%	70,68+21%	12,96+21%
$V = B_d$	Violet blue	0,1415	0,0482	17,82+21%	7,13+21%	93,87+21%
W	White	0,3127	0,3291	95,01+0%	100,00+0%	108,85+0%
Assumption: Display of 142+30 cd/m ² (=+21% compared to office standard)						
<i>rgb</i> input data for Red and no internal display change l^* :				1,0	0,0	0,0 = 1,0 0,0 0,0
<i>rgb</i> input data for D65 and internal 10%-change of l^* :				1,0	1,0	1,0 -> 0,9 0,9 0,9
Result: The office luminance 142 cd/m ² for 500 lux on White paper is matched.						
CIELAB lightness L^* and chroma C^*_{ab} of Red is 10% higher for the LED display.						