

2.11 Colour Gamut

The colour gamut of a light source is obtained by calculating the position of the first eight CIE standard test colours under the light source of interest and plotting them on the CIE 1976 UCS diagram. When the plotted positions are joined together, the colour gamut is formed. The colour gamut can be reduced to a single number by calculating the gamut area. Figure 10 shows the colour gamuts for a number of different light sources. A great deal can be learnt from the colour gamut. From a consideration of its shape and the spacing between

the positions of the individual test colours, the extent to which the different parts of the hue circle can be discriminated is apparent. From its location on the CIE 1976 UCS diagram, the appearance of colours can be appreciated to some degree. By plotting different light sources on the same diagram it is easy to make comparisons between light sources. Further, by including the colour gamut of an ideal light source, such as daylight, it is possible to evaluate how close to the ideal light source is the light source of interest, as far as colour rendering is concerned.

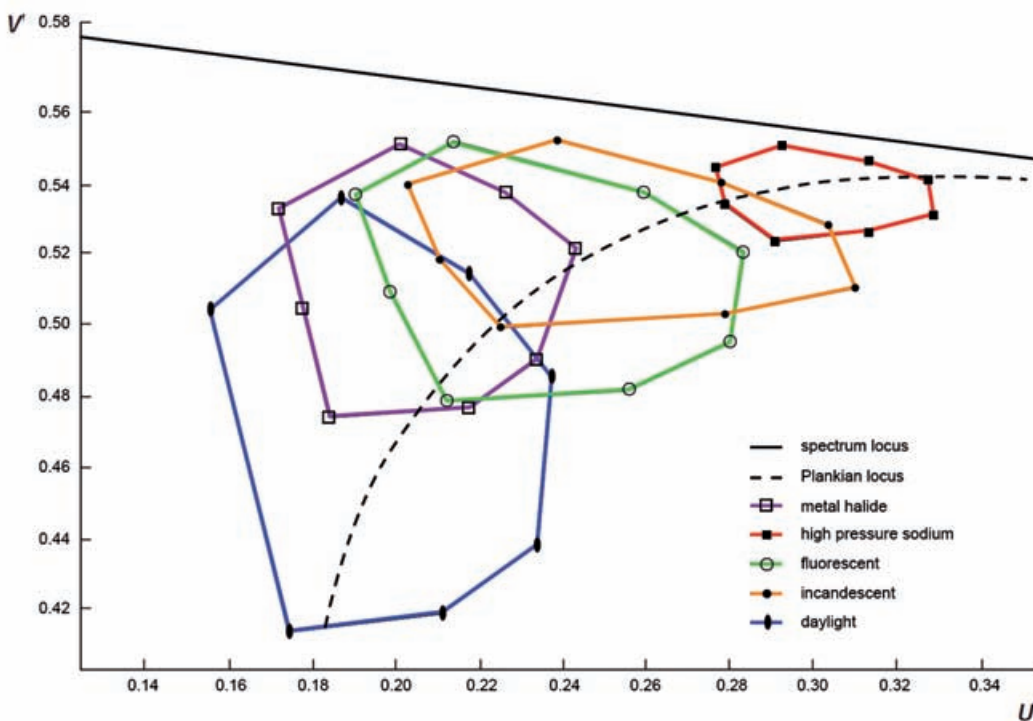


Figure 10

The colour gamuts for high pressure sodium, incandescent, fluorescent and metal halide light sources, and for the CIE Standard Illuminant D65, simulating daylight, all plotted on the CIE 1976 uniform chromaticity scale diagram. The dotted curve is the Planckian locus.