

LED's and Ultraviolet Radiation

Ultraviolet radiation falls into 4 categories UVA, UVB, UVC and EUV, light wavelength is measured in nanometers, Ultraviolet is light that falls below 400nm

Wavelength

UVA or ultraviolet long wave is 400 nm–320 nm

UVB or ultraviolet medium wave is 320 nm–280 nm

UVC or ultraviolet short wave is 280 nm–100 nm

EUV or Extreme is commonly below 122nm

The sun emits ultraviolet radiation in the UVA, UVB, and UVC bands, but because of absorption in the atmosphere's ozone layer 98.7% of the ultraviolet radiation that reaches the Earth's surface is UVA. Ordinary window glass passes about 90% of the light above 350 nm, but blocks over 90% of the most harmful light below 300 nm.

Fluorescent lamps produce UV radiation by ionising low-pressure mercury vapour. A phosphorescent coating on the inside of the tubes absorbs the UV and converts it to visible light.

Many pigments and dyes absorb UV and change colour, so paintings and textiles will fade over time and need extra protection both from sunlight and fluorescent bulbs.

LED's do not create light in the same way and therefore do not produce UV radiation. Below is a wavelength graph of a typical LED manufactured by Cree, Cree XLamp MC-E LED is a lighting-class multi-chip LED used in many LED lighting applications the wavelength does not go below 400nm. The same applies for all LED lights supplied by Diamond LED Lighting.

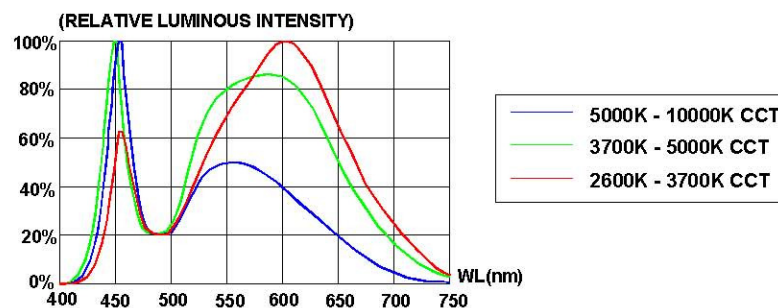


FIG.4 RELATIVE LUMINOUS INTENSITY VS. WAVELENGTH.