

ABOUT BLACK LIGHT

LIGHT AND THE SPECTRUM

Insect attraction lamps, like all lamps, emit energy in the form of light. This energy is measured in wavelengths. By determining wavelength measurements, classification of different light types within the full light spectrum is possible.

Some types of light energy classifications include: InfraRed, Visible (sunlight), and Ultraviolet [UV].

Ultraviolet energy is measured and defined by light within a band between 4000 and 1000 Angstroms (400 and 100 nanometers). Within this band of the light spectrum, ultraviolet energy is further classified into four sections: Near UV [UVA], Middle UV [UVB], Far UV [UVC] and Vacuum UV.

Insect-O-Cutor® insect attraction lamps emit light energy within the Ultraviolet band of the light spectrum, specifically light in the Near UV range.

This range of energy is measured by wavelengths between 400 and 350 nanometers.

Regarding flying insect attraction, UVA energy is most effective at 365 nanometers. This particular wavelength is commonly referred to as Black Light.

BLACK LIGHT (BL) AND BLACK LIGHT BLUE (BLB)

The BL lamp produces most of its energy in the Near UV range.

However, a portion of the energy is outside the UV range as the light spectrum enters the Visible Light range. Note in the graph that visible light ranges from Violet to Red. The lesser portion of the energy emitted by the BL lamp is in the Blue Visible range. [This is what we humans see as visible light.]

The BLB lamp produces its energy in the same wavelength range that the BL lamp does. However, the BLB lamp is constructed of special filtering glass which reduces the passage of energy in the visible light range between 4000 and 4600 Angstroms (400 to 460 nanometers).

Because of this filtering of blue visible light, the lamp does not have the light blue color that the BL lamp does but instead appears as a blue/black color.

HEALTH AND SAFETY ISSUES

The primary health concerns most often associated with ultraviolet light relate to skin irritation (erythema) and eye irritation (conjunctivitis). Such irritations might occur when an individual is exposed to light energy emitted under 3200 nanometers.

Lamps emitting energy below this wavelength are within the Middle UV and Far UV ranges — and are commonly referred to as “tanning lamps” and “germicidal” lamps, respectively.

Insect-O-Cutor®'s Gold Label™ insect attraction lamps emit light energy at 365 nanometers (UVA).

While **UVA energy is well above the harmful UVB** range of energy (320 nanometers), certain thresholds of exposure to UV light sources have been established by OSHA to ensure personnel safety as related below:

150,000 hours —

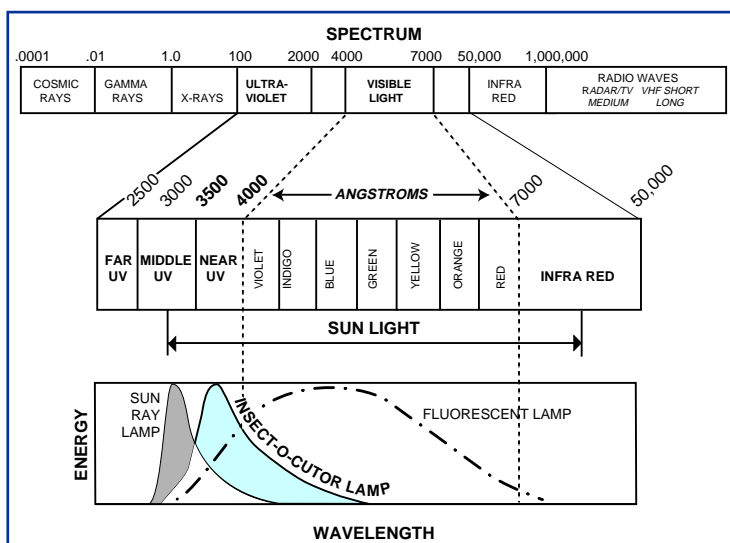
of continuous exposure at a distance of twenty feet (20') or 6.1 meters from a light source;

1,500 hours —

of continuous exposure at a distance of six feet (6') or 1.83 meters from a light source;

Forty (40) hours —

of continuous exposure at a distance of one foot (.3048 meter) from a light source.



SOURCES:

General Electric Lighting Company; Philips Lighting; Sylvania GTE Products; New England Journal of Medicine; Occupational Health and Safety Administration (OSHA).

