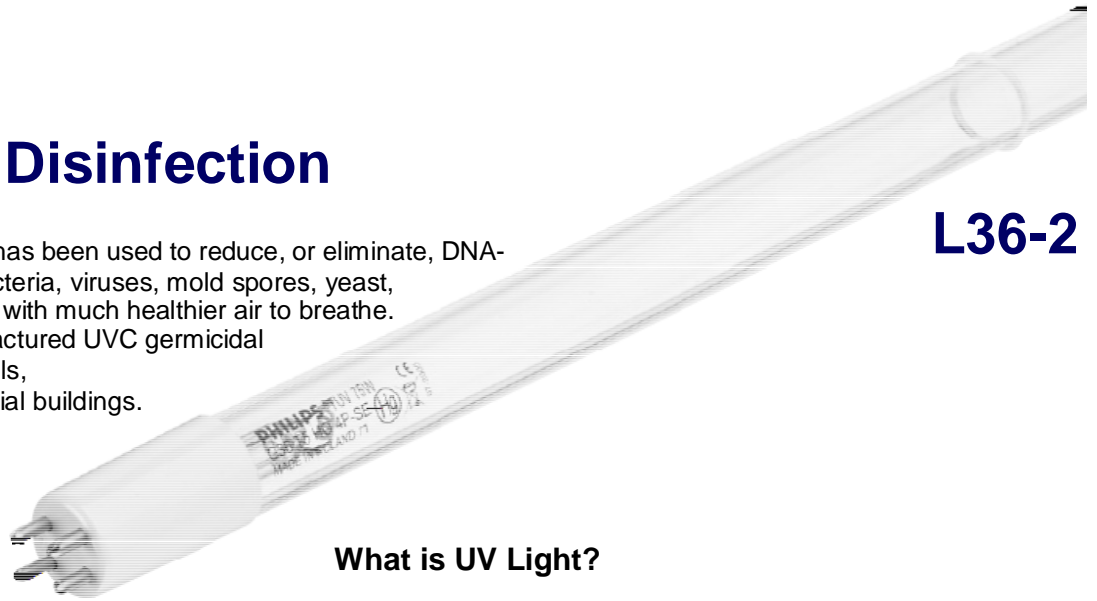


UVAiD

Ultra Violet Air Disinfection

L36-2

For more than 70 years, UV light has been used to reduce, or eliminate, DNA-based airborne contaminants (bacteria, viruses, mold spores, yeast, protozoa), and provide occupants with much healthier air to breathe. Denssep Technologies has manufactured UVC germicidal fixtures for many years for hospitals, laboratories, offices and commercial buildings.



What is UV Light?

UV light is a component of sunlight that falls in the region between visible light and X-rays on the electromagnetic spectrum, with a wavelength range of 100-400 nanometers (nm), as shown in Figure 1. This light can be further categorized into separate regions as follows:

- > UVA: 315—400 nm
- > UVB: 280—315 nm
- > UVC: 200—280 nm
- > Far UV (or “vacuum”): 100—200 nm

How does UV Disinfection Works?

Radiation in the UVC range of 250-280 nm deactivates bacteria, viruses, and other microbes by attacking their DNA. UVC light is able to penetrate the cells of microorganisms and disrupt the structure of the DNA molecules. It does this by destroying the genetic information inside the DNA (Figure 2). The microorganisms, in turn, lose their reproductive capability and are destroyed, rendering them inactive and no longer harmful. The germicidal nature of UV is well suited to inhibit microorganisms which become extremely resistant to chemical disinfectants, as they are unable to develop immunity to UV radiation.

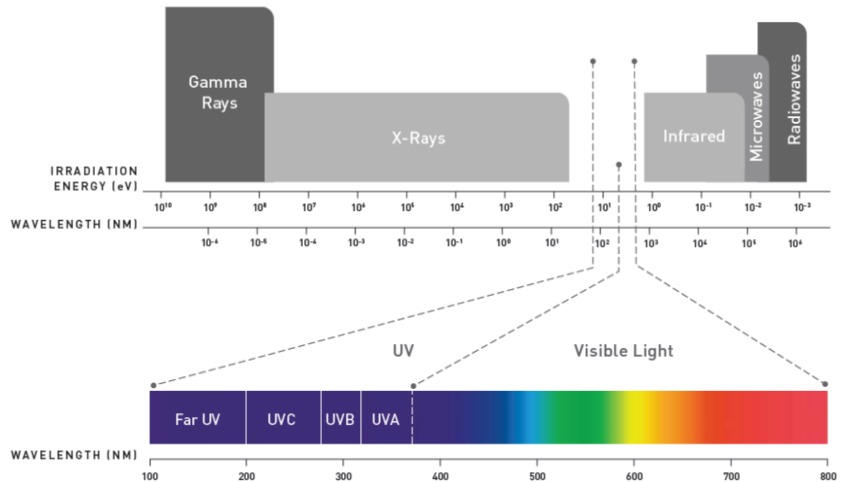


FIGURE 1: ELECTROMAGNETIC SPECTRUM

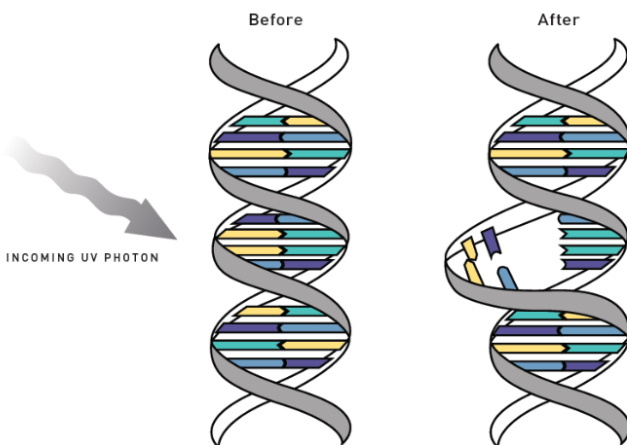


FIGURE 2: UVC RADIATION DISRUPTS DNA

UVAiD

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The UVAiD L36-1 design has been carefully conceived to provide low-cost adequate germicidal ultraviolet exposure for air disinfection in **occupied** areas. The dosage, as it applies to ultraviolet disinfection, is a function of time, and the intensity, of ultraviolet radiation, to which the air is exposed.

Densep Technologies engineers would be happy to perform the necessary calculations to ensure the unit we provide is appropriate in your application.

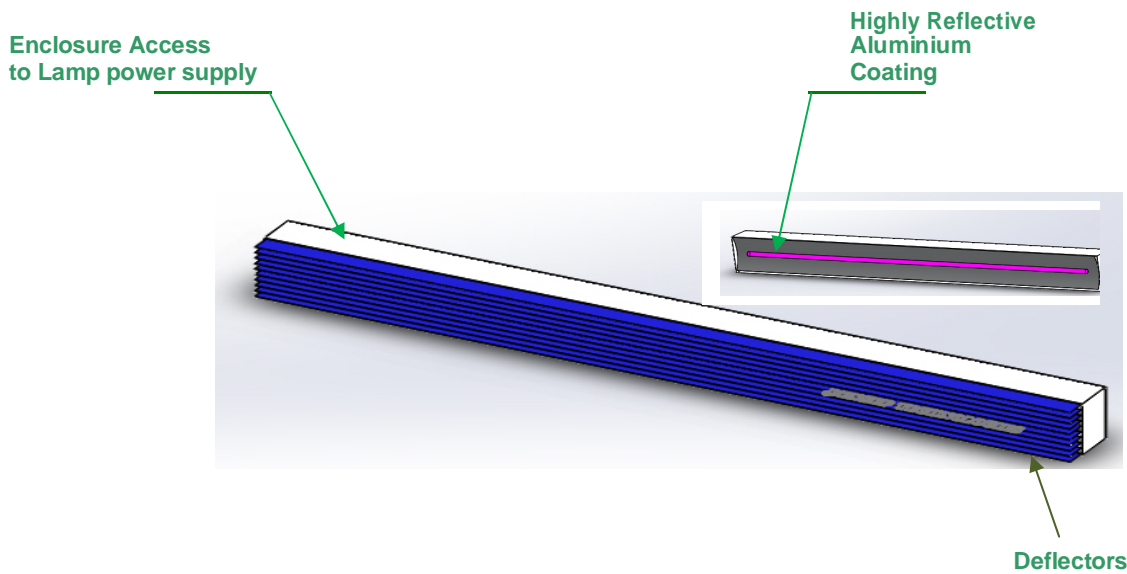


FIGURE 3: UVAiD L36-2 (For Information Only)

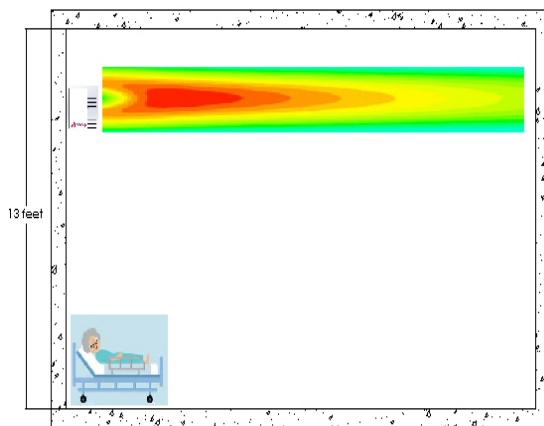


FIGURE 4: UVAiD L36-2 UVC radiation distribution contours

UVAiD L36-2 Specifications

Disinfection Type:	Forced Convection
Type	Room upper zone
Upper coverage area:	23 m ²
Power Consumption:	~36W
UVC Lamp Count:	1
UVC Lamp Output:	8.5 W
Effective Lamp Life:	9000 h (average)

UVAiD

Ultra Violet Air Disinfection

L36-2

UVAiD L36-2 Special UVC Coating

There are numerous variables that determine the effectiveness of air disinfection system for a particular application for example air velocity, air mixing, relative humidity, UVC exposure time and ambient temperature. A careful balance and control of these variables can only be achieved by a good engineering design and rigorous analytical and modeling techniques.

Densep Technologies has used sophisticated engineering tools such as CFD,(computational fluid dynamics) and Illumination modelling systems to characterize upper coverage has achieved optimum UVC exposure time to disinfect the room.

The UVC reflective coating inside UVAiD chamber (Figure 5) is fundamental to maximize and direct the available UVC power to incoming air stream and to disinfect a large variety of airborne micro-organism in a shortest amount of time included recent COVID 19.

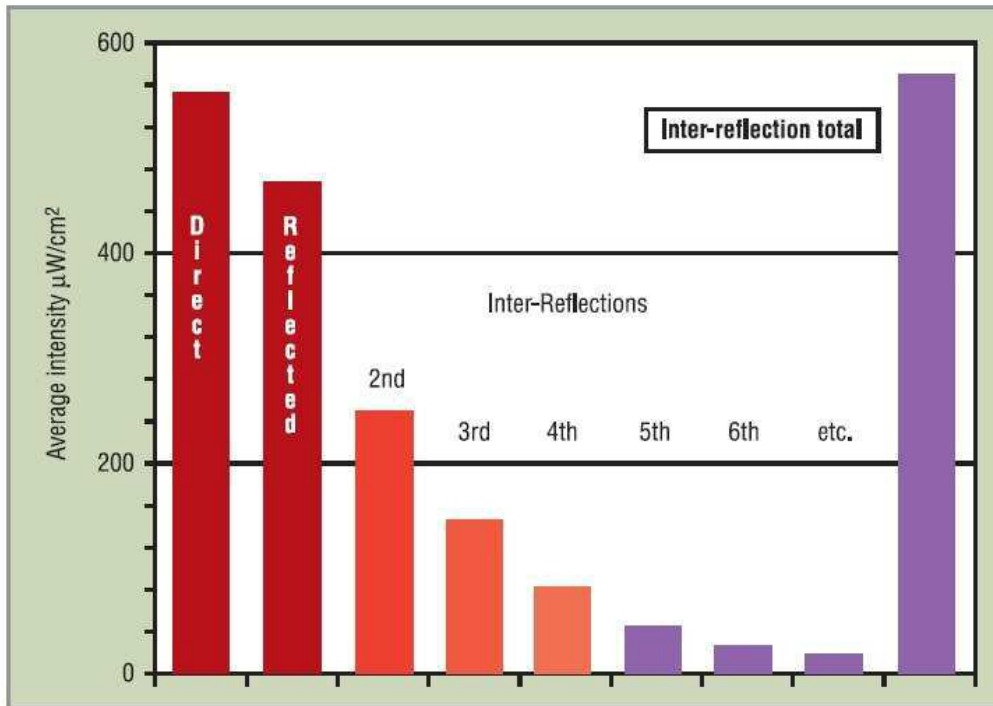


FIGURE 5: UVC EXPOSURE AS A RESULT OF HIGHLY REFLECTIVE INTERNAL COATING