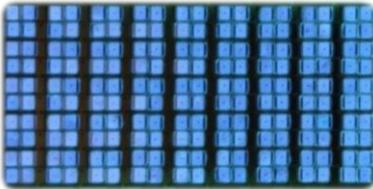


Conventional UV Mercury Lamp Sterilizer



RayVio UV LED array module

Company: Large Healthcare Company

Location: USA

Application: Disinfection of medical instruments

Solution: RayVio UV LED Light Engine

Results: 99.9997% disinfection of listeria, MRSA and salmonella using RayVio UVC LED with 23 mW power output in 80 seconds

UV LED Surface Disinfection in Healthcare Applications

Hospital acquired infections (HAI) are major hazards to patients and staff in healthcare environments. Many pathogens present in healthcare have become antibiotic resistant and many patients have weakened immune systems during their stay. Conventional chemical cleaning solutions are labor intensive and prone to human error.

A leading large medical products company makes equipment that sterilizes the instruments used by medical professionals. Their design goal was to enable a device that would have high efficacy of disinfection in a shorter time than with heat and chemical based solutions.

RayVio's novel UV LED technology makes possible the highest performance and most compact solutions for UV disinfection of water, air and medical devices.

The RayVio Solution

Based on the customer's disinfection target, RayVio recommended a high performance UV LED light engine. With its peak emitting wavelength at 285 nm nominal, RayVio's UV emitter produces germicidal optical power well suited for deactivation of commonly found bacteria and viruses in healthcare like listeria, MRSA and salmonella.

99.9997% disinfection of listeria, MRSA and salmonella has been achieved using RayVio UVC LED at 285 nm with 23 mW power output in 80 seconds, with a square inch area and 10 mm distance from the light source to the surface being disinfected. This performance was enabled by RayVio's powerful UV LED light engine and application solutions including electrical, mechanical, thermal and optical considerations.

Case Study

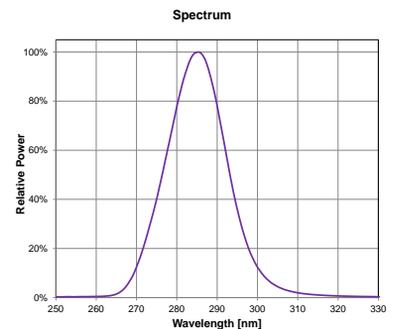
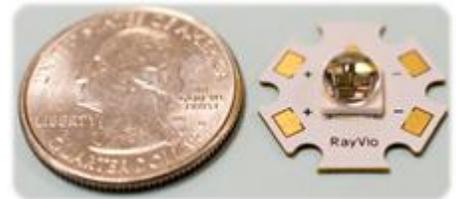
RayVio also provided several iterations of improved application reference designs where the optical performance is optimized to provide the most UV radiation possible on the subject. The advanced thermal management approach for an enclosed system keeps the temperature lower so that efficacy of power output is maximized. Even higher efficacies are possible with more devices.

The RayVio SMD UV Emitter

The RayVio SMD UV LED enables higher UV radiation density for disinfection applications in compact surface mount device (SMD). Spectral output of 285nm nominal inside the deep UV range enables powerful and compact applications in water treatment, surface cleaning and environmental disinfection.

Features and Benefits

- UV power output up to 40mW enables higher output, more compact applications
- 285 nm UV spectrum with proven germicidal efficacy
- Industry standard surface mount device (SMD) package
- Industry leading thermal resistance at 6°C/W
- RoHS compliant
- Instant on / off
- Uniform light distribution
- Robust & long lifetime
- Maintenance free
- Non-toxic / mercury free
- Taste & odor free



About RayVio Corp

RayVio Corporation is an advanced health and hygiene company that delivers clean water and environments. RayVio helps protect billions from germs and creates new markets and revenue streams by enabling a new class of products. Its powerful and efficient UV LED technology can be integrated into a variety of applications, powering versatile on-demand solutions that give consumers control over health without chemicals or costly consumables. To learn more, please visit www.rayvio.com.