

Germicidal Lighting in Sports Facilities

WHY SHOULD I CONSIDER GERMICIDAL LIGHTING?

Germicidal lighting has been shown to reduce the risk of transmission of disease-causing pathogens.

As teams return to active playing, safety of the players, spectators, officials, and all other personnel is paramount to keeping teams healthy and preventing further outbreaks.

Germicidal Lighting has potential applications in arenas/rinks/stadiums, locker/dressing rooms, food & beverage facilities, administrative offices, guest services, hospitality boxes, employee break rooms, restrooms, storage areas/stock rooms, and retail.

Germicidal lighting is one tool by which sports facilities can be made safer for all, and once installed, additional maintenance is not disruptive to teams.

While germicidal lighting can be implemented today, you may also need time to plan and budget. Now is a good time to evaluate your infrastructure in case you need to install it in the future.

IS GERMICIDAL UV LIGHTING SAFE?

If properly installed, monitored, and maintained, germicidal UV lighting is both safe and effective.

Commonly used 254nm UV-C light does not cause cancer, when properly installed, and may be used in occupied spaces only with proper shielding and focusing. Far UV-C light (200-222nm wavelength), appears to be even safer. Research is ongoing as new products are being developed.

It is critical to install systems that are properly designed and engineered to ensure safety. UV-B light is known to be carcinogenic, and may not be used in an occupied space when there is a possibility of human exposure. UV-A light is not effective for germicidal lighting.

WHAT IS GERMICIDAL LIGHTING?

Germicidal lighting...

- ... **is light emitted in a wavelength with enough energy to neutralize or kill disease-causing pathogens.**
- ... in the visible spectrum (405nm) is safe and effective against molds, fungi, and bacteria such as e coli, listeriosis and salmonella.
- ... in the ultraviolet (UV-C) spectrum (200-280nm) is effective against all of the above, and viruses as well.
- ... stops pathogens from spreading and infecting people and animals.
- ... **must be dosed properly, just like medicine.** Dose is based on intensity, distance, and time. Similar to regular light intensity, which is expressed as lumens, germicidal light is expressed in joules of energy.
- ... **has been safely used** in health care and municipal water purification **for over 70 years.** It was used in classrooms prior to the advent of antibiotics in the late 1940s.
- ... requires special care and training to be configured and installed properly. Along with the concerns of regular lighting, additional engineering and science are needed to make sure the germicidal lighting doesn't injure anyone, doesn't damage the environment, and properly inactivates pathogens.
- ... **is a disinfecting tool.** It supplements and strengthens your environment health and safety protocols, but does not replace your existing cleaning and hygiene regimen.
- ... can become part of your overall biorisk prevention and recovery strategy.

IS GERMICIDAL LIGHTING EFFECTIVE AGAINST COVID-19?

Germicidal lighting has been **shown to inactivate Covid-19** in less than 25 seconds at the proper dosing.

Once the Covid-19 pandemic is over, germicidal lighting will continue to provide protection against other common pathogens, protecting against measles, influenza, tuberculosis, and the common cold, among others.

WHO WE ARE & WHAT WE DO

Visual Terrain is an internationally known lighting design firm, founded in 1995. In order to support our clients, and help them assess the risks, benefits and opportunities of germicidal lighting, we have formed a team of experts, advisors and specifiers, bringing on **Birket Engineering** for Life Safety systems, **Buholtz Professional Engineering** for MEP engineering, and **Cumming**, for Project, Cost Estimating, and Sustainability services.

Our team doesn't sell products. We can be your representative when you are approached by contractors, manufacturers, and salespeople. We can help you avoid spending money on germicidal lighting systems that are ineffective, harmful, or otherwise ill-suited to your needs.

WHAT SHOULD I DO NEXT?

- **Call us** to schedule a feasibility study or to review potential products.
- Request and complete our initial survey.
- Identify and collaborate on "easy" test projects.
- Find opportunities to use germicidal lighting strategies into new or retrofit projects, and your environmental health and safety plans.
- Contact us to help determine potential costs, budgets and resources.

Introducing the Visual Terrain Germicidal Lighting Task Team

