Germicidal UV-C Light

Schools & Universities

www.stouchlighting.com

Introduction

Thank you for downloading our guide to germicidal UV-C lighting for schools and universities!

In this guide you'll find information about UV-C lighting for your specific needs.

Key Subjects

Here's what you can expect on the next few pages:

- What is germicidal UV-C light?
- A brief history of UV light disinfection
- UV-C lighting for schools and universities
- UV-C light fixture options for you

Thanks again for your download. We hope this guide provides you with the information you need to choose UV-C light for your education institution needs.

Justin Stouch, President, Stouch Lighting, Inc.

Contact me directly!

What is germicidal UV-C light?

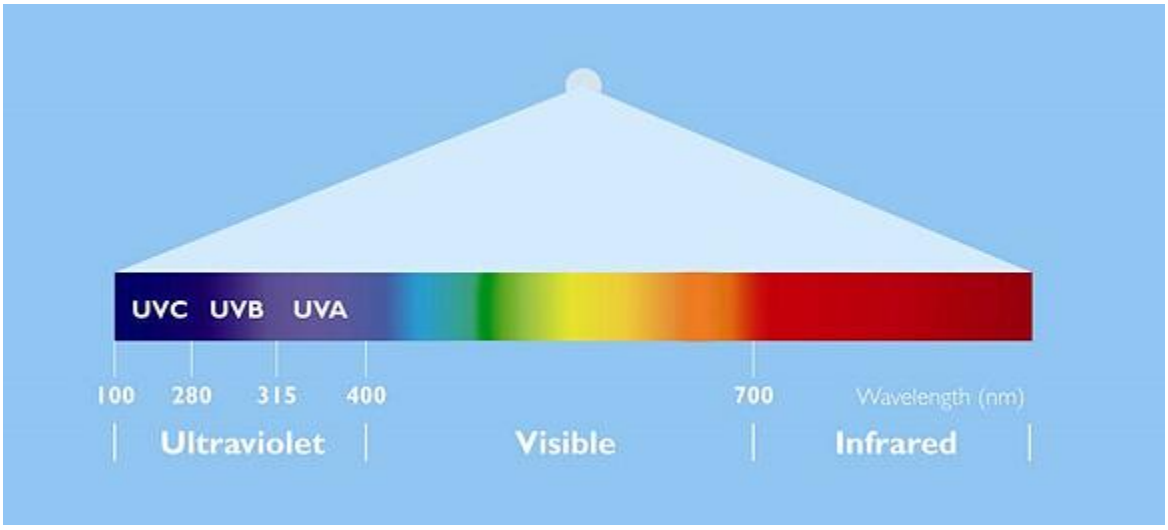
Before we define germicidal UV-C light, we need to define ultraviolet, or UV, light. We also have a whole blog post on the basics of UV here.

Ultraviolet light is a type of naturally present electromagnetic radiation that is in sunlight and actually makes up approximately 10% of the total light generated by the sun. UV light is electromagnetic energy with wavelengths shorter than visible light but longer than x-rays. The wavelength of this light ranges from 10nm to 400nm and is classified into three sub-bands; UV-A, UV-B, and UV-C.

UV light with wavelengths less than 290nm are considered to have "germicidal" properties. Germicidal means that the light can kill (inactivate) pathogens, just as it sounds. Earth's atmosphere absorbs ultramagnetic radiation with wavelengths less than 290nm, meaning that most of the UV-C and UV-B generated by the sun is blocked by our planet's ozone. **Germicidal UV-C light is commonly used to inactivate or kill microbes on surfaces, in air, and in water. When implemented properly, UV-C lighting can kill up to 99.9% of pathogens.**

Germicidal ultraviolet light kills pathogen cells by damaging their DNA. Exposure to the electromagnetic radiation (light) at certain UV wavelengths modifies the genetic material of microorganisms and destroys their ability to reproduce. The UV energy triggers the formation of specific thymine or cystosine dimers in DNA and uracil dimers in RNA, which causes the inactivation of microbes by causing mutations and/or cell death as well as failure to reproduce. (source)

Looking for UV-C disinfection systems? Click here.



A Brief History of UV Light Disinfection

The disinfection properties of ultraviolet lighting have been known for over 140 years, since Downes and Blunt discovered the antibacterial effects of the shorter wavelengths of sunlight. Shortly thereafter, it was proven that the UV portions of the light spectrum were able to destroy microorganisms.

After confirming UV lighting's ability to kill pathogens, the next step was to find a way to replicate the UV wavelengths that would result in the disinfection of surfaces, air, and water. The first UV quartz lamp was invented in 1904 and resulted in the germicidal lamp.

Germicidal lamps are a type of lamp that produce the wavelengths of ultraviolet light (UV-C; 200nm to 280nm) that have disinfection properties, like the ones used in this study to reuse N95 masks during the coronavirus pandemic.

UV disinfection unit in use in operating room:

UV-C Lighting for Schools & Universities

Schools are hotbeds for viruses and infections. Just consider the millions of schooldays missed due to illness. Missed school leads to poor outcomes for both students and school districts. Colleges and other higher education institutions are also at risk because students are often living in close quarters, ballooning the spread of illness. Student athletes at all levels are especially susceptible to a host of health issues from athlete's foot to staph infections, because of the skin-to-skin contact required in most sports.

Using germicidal UV-C light in education facility settings will keep students, faculty, and staff healthier, but also reduce the use of harmful chemical cleaners, which can contribute to respiratory illnesses, like asthma, especially in children, as well as allergic reactions.

Here are some of the educational facility types that can benefit from germicidal UV-C light disinfection:

- Elementary, middle, and high schools
- Colleges and universities
- Trade schools
- Daycare centers and other early learning centers
- School gyms and recreational facilities
- School buses

UV-C Light Fixture Options For You

Germicidal UV-C lighting is versatile and available in different forms to suit its many applications.

Mobile UV-C Disinfection Units

Germicidal UV-C light systems are available in portable form as mobile UV-C disinfection units. These units or carts can be moved easily from room to room to disinfect multiple spaces. These could be useful in schools because they could be utilized in so many spaces- individual classrooms, the gym and its locker room, on school buses, etc. The unit is placed in the room and activated to disinfect surfaces and air in that particular space. These units are usually on wheels or tripods and are easy to operate and transport.

UV-C Ceiling and Wall Fixtures

There are several options when it comes to the type of UV-C fixture for your space. Here are a few:

- **Ceiling installed**- These UV-C disinfection fixtures are hung from the ceiling of your facility, often recessed within the ceiling like a conventional troffer, or hung via chain or aircraft cable. Ceiling mounted UV-C light fixtures are extremely effective because you can space them apart appropriately to disinfect your specific space based on size and level of disinfection required.
- **Wall mounted**- Similarly to the ceiling installed fixtures, wall mounted fixtures can be spaced and installed for appropriate disinfection levels based on the size and contours of your facility.

Top 5 Blogs for You

Want to learn more about UV light disinfection? We have more content for you:

What is UVGI? What is UV Disinfection Lighting?

Frequently asked questions about ultraviolet germicidal irradiation, or UVGI.

Using UV Disinfection Lighting to Kill Coronavirus: FAQs, Part I

Does UV work on coronavirus? How long does it take? Who's using it? These questions and more answered.

Using UV Disinfection Lighting to Kill Coronavirus: FAQs, Part II

FAQs continued from the above post.

Is UV Light Safe? FAQs on Safely Using Ultraviolet Disinfection

How can I use the technology but also keep my students and staff safe? Learn here.

Do Sanitizing UV Wands Really Work?

The short answer: no. But why? We'll tell you in this post.

Contact Us To Get UV Lighting Units!

We can supply your school or university with these germ-killing devices. Just fill out the form by clicking the button below.

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