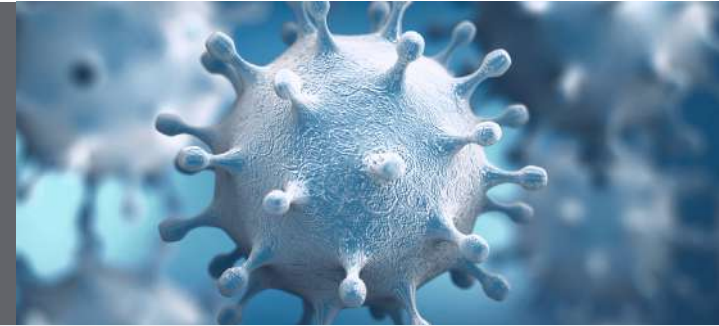


**Disinfecting Solutions**  
UV-C Technology



# UV-C Disinfecting Solutions

**Make a difference in a world** that is adjusting to a new normal by empowering health and safety. UV-C Disinfecting Solutions leverage ultraviolet (UV-C) to unlock the proven power of UV-C to kill bacteria, mold, fungi and inactivate viruses - including SARS-CoV-2 (a.k.a. SARS-CoV-2). UV-C is chemical-free and disinfects in minutes, saving hours of costly manual labor.



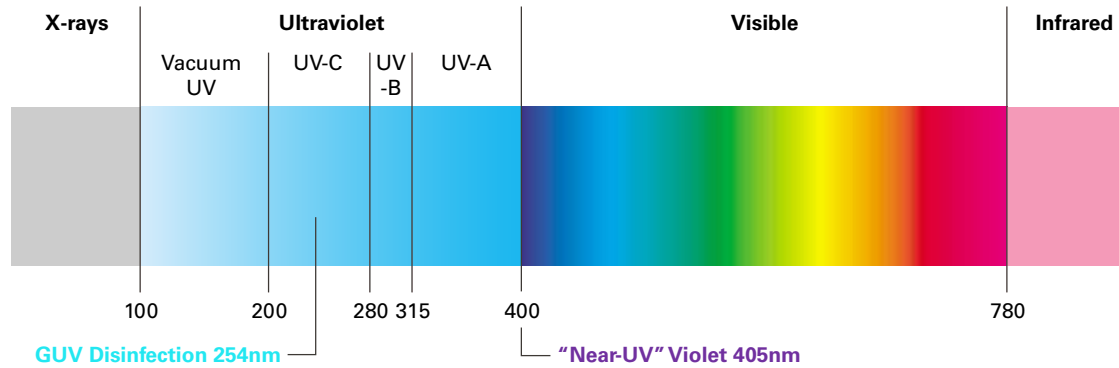
## Trust Cooper Lighting Solutions

- Signify, the parent corporation of Cooper Lighting Solutions, has been a world leader in UV-C source manufacturing and delivering solutions for over 35 years to disinfect water, air and surfaces.
- Our UV-C systems use optical and electrical engineering to ensure effective pathogen elimination within minutes for surface and air disinfection.
- Cooper Lighting Solutions has developed the first and only UL8802 Safety Certified UV-C system for surface disinfection and our air disinfection solution meet new UL1598 Annex L requirements.
- Upper Air UV-C solutions were shown to inactivate over 92% of airborne pathogens, including the virus that causes COVID-19.\*

\* Cooper Lighting Solutions' wall mount and ceiling mount upper air UV-C luminaires were tested for SARS-CoV-2 in Innovative Bioanalysis Lab. The wall-mounted luminaire achieved 99.9% reduction in 10 minutes and the ceiling mount luminaire achieved 92.6% reduction in 20 minutes. The luminaires were also tested on Escherichia coli in Intertek Lab. Both luminaires achieved 99.9% reduction in 45 minutes.



# What is Disinfection Lighting?



- 222nm, Non-visible
- Technology Infancy
- Pathogen Effects in test
  - Inactivates viruses
  - Kills bacteria
  - Mold and Fungi TBD
- Exposure Time is Short
- Exposure Risks

- 254nm, Non-visible
- Proven Technology (no known micro organisms resistant to UVC) <sup>1</sup>
- Proven Pathogen Effects
  - Inactivates viruses
  - Kills bacteria
  - Kills mold and fungi
- Exposure Time is Short
- Exposure Risks

- 315/365nm, Non-visible
- Proven Technology
- Limited Pathogen Effect
  - Low virus inactivation
  - Reduces bacteria
  - Limited effect on mold, fungi
- Exposure Time is Moderate
- Exposure Risk

- 405nm, Visible light
- Technology Infancy
- Limited Pathogen Effect
  - Extremely limited viruses effect
  - Reduces bacteria
  - Unknown effect on mold and fungi
- Exposure Time is Long
- Limited Exposure Risks

## FAR UV

Unknown Pathogen Effects  
Exposure Risks  
Technology Infancy

## UV-C

Superior Pathogen Effect  
Controllable Exposure Risks  
Proven Technology

## UVA/B

Limited Pathogen Effect  
Controllable Exposure Risks  
Proven Technology

## NEAR-UV

Limited Pathogen Effect  
Limited Exposure Risks  
Technology Infancy

<sup>1</sup> Fluence (UV Dose) Required to Achieve Incremental Log Inactivation of Bacteria, Protozoa, Viruses and Algae Revised, updated and expanded by Adel Haji Malayeri, MadjidMohseni, Bill Cairns and James R. Bolton. With earlier contributions by Gabriel Chevretils(2006) and Eric Caron (2006) With peer review by Benoit Barbeau, Harold Wright (1999) and Karl G. Linden.

# UV-C - Air Disinfection

- UV-C is an excellent air disinfectant due to its quick germicidal efficacy confirmed by decades of peer-reviewed scientific evidence.
- UV-C Air Disinfection products ensure continuous disinfection with the power of UV-C providing disinfection in minutes.
- Quietly increase equivalent air changes per hour up to recommended levels while eliminating pathogens in the air with no additional demand on the HVAC system.
- The result is air that's constantly disinfected while people are present in the space.
- No control systems are required to operate UV-C Air Disinfection products saving total costs required to keep spaces disinfected.



## Air Disinfection - Safety Certified



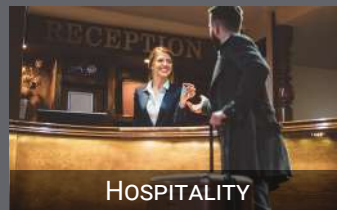
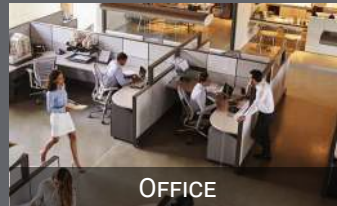
- The National Electric Code (NEC) requires all permanently installed electrical equipment to be tested and certified by an OSHA approved NRTL.
- Cooper Lighting air disinfection solution meet UL1598 annex L requirements for use in occupied spaces.



# Air Disinfection - Applications

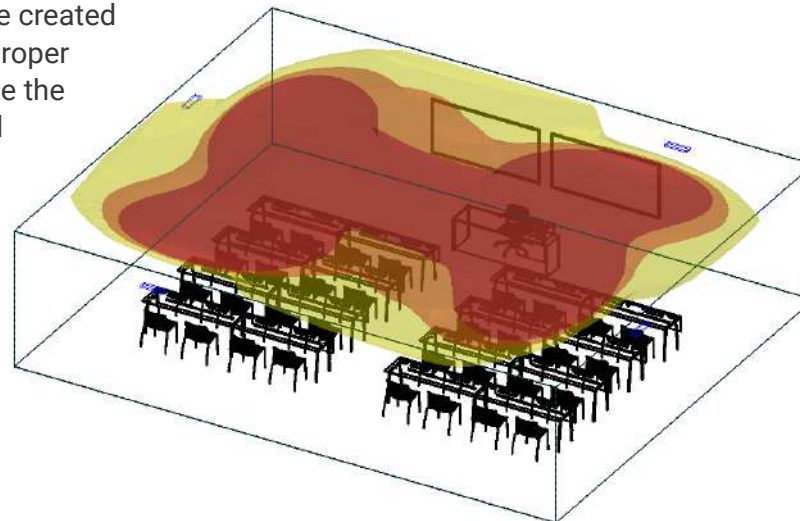
## PATHOGENS, MEET YOUR MATCH. GAME OVER!

Cooper Lighting Solutions' Germicidal UV disinfection solutions take the guesswork out of disinfecting, getting the job done quickly and effectively.



## Planning UV-C - School Classroom

- Advanced optical system delivers germicidal ultraviolet in the upper portion of the room.
- Our system is powerful - eliminating pathogens in the air.
- Cooper Lighting's team of experts have created optical tools to effectively determine proper fixture type and placement to maximize the disinfection and comply with occupied irradiance limits.
- Using only a few fixtures in a space, the air is typically disinfected in less than 30 minutes!



## UV-C Fixtures - Air Disinfection



**DEFINE UV-C**  
HYBRID LINEAR Pg. 5

[Click to visit page](#)



**GAW**  
AIR WALL Pg. 6



**GAC**  
AIR CEILING Pg. 7

# DEFINE UV-C HYBRID LINEAR SERIES

The Define UV-C series combines industry leading optical performance with upper air UV-C disinfection in a single luminaire.



## Ideal for

EDUCATION, HEALTHCARE, OFFICE, HOSPITALITY, RETAIL

## Features

- Available in 2', 4', & 8' lengths
- Direct LED + Indirect UV-C Enabled
- Suspended and wall mount family in 5" housing sizes
- Upper air UV-C enabled - safe operation while space is occupied
- Satin, Asymmetric, Regressed, and Drop Direct Lensing available
- Multiple color temperatures available



## Featured

Define UV-C: GUV125DIP-C610935-C4JB-12F0-2-UDD-F-S

# GAW UV-C AIR WALL MOUNT

The GAW UV-C Air Wall Mount is ideal for larger spaces with walls that are greater than 20' apart and with ceilings greater than 9'.



**Ideal for**  
RETAIL, COMMERCIAL, EDUCATION AND HOSPITALITY

## Features

- Available in 2' length
- Provides air disinfection for large areas of coverage and its horizontal distribution keeps UV-C in the upper air
- UL 1598 listed
- Able to be used in occupied spaces



## Featured

UV-C Air: GAW-2-1GUV20W-UNV-R1-W  
UV-C Surface: 24GTR-WGD-4GUV4- R1  
General Lighting: 22CZ2-50VHE-UNV-L840-CD1-U

# GAC UV-C AIR CEILING MOUNT

The GAC UV-C Air Ceiling Mount is ideal for smaller spaces with walls greater than 6' apart and on ceilings above 9'.



**Ideal for**  
RETAIL, COMMERCIAL, EDUCATION AND HOSPITALITY

## Features

- Fits in a 2' x 2' grid opening
- Provides air disinfection in a symmetrical coverage area and its horizontal distribution keeps UV-C in the upper air
- UL 1598 listed
- Able to be used in occupied spaces



## Featured

**GUV Air:** GAW-2-1GUV20W-UNV-R1-W and 22GAC-4GUV9W-UNV-R1-W  
**GUV Surface:** 24GTR-WGD-4GUV4-R1  
**General Lighting:** 24FP4740C



# UV-C Surface Disinfection

- UV-C is an excellent surface disinfectant due to its quick germicidal efficacy confirmed by decades of peer-reviewed scientific evidence.
- High-touch surfaces are covered in germs and don't often get the disinfecting treatment to truly rid them of these microbes. Enter UV-C lighting, which tackles surface disinfection quickly and effectively.
- UV-C is 99.99% effective in helping inactivate viruses and kill bacteria, mold, and fungi.
- Implement UV-C technology using UL8802 Permanently Installed Surface Disinfection System, which includes the appropriate safeguards to control exposure risks.



## Surface Disinfection - Safety Certified



UV-C System

- **Safety First!** Cooper Lighting UV-C combines primary and secondary safeguards to deliver the world's first and only UL8802 Safety Certified UV-C system for surface disinfection.
- For surface disinfection, UV-C Controls ensure the space is vacant before the UV-C Fixtures will turn on and will automatically turn off if someone enters the space.
- The National Electric Code (NEC) requires all permanently installed electrical equipment to be tested and certified by an OSHA approved NRTL.



# Surface Disinfection - Applications

DEAR MICROBES,  
YOU DON'T STAND  
A CHANCE.

Cooper Lighting Solutions' Germicidal UV disinfection solutions take the guesswork out of disinfecting, getting the job done quickly and effectively.



RETAIL



SPORTING EVENTS



RESTROOMS



FOOD SERVICE



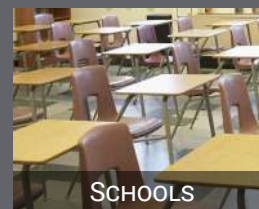
HEALTHCARE



OFFICES



HOSPITALITY



SCHOOLS



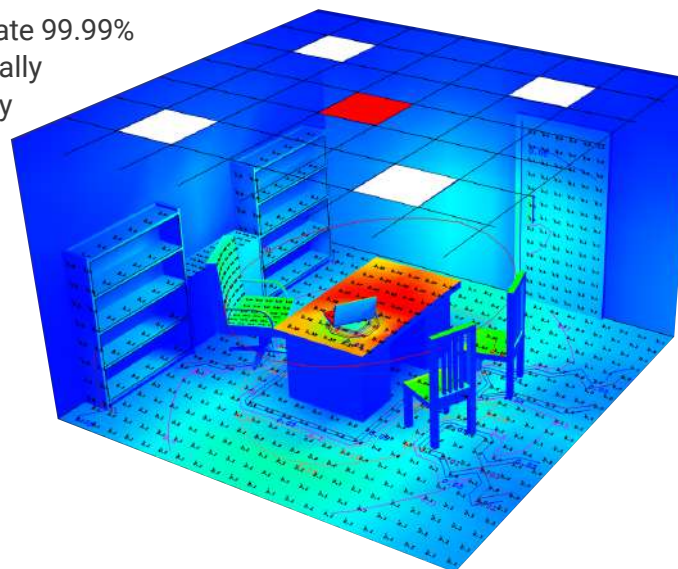
SUPERMARKETS



CUSTOM CHAMBERS

## Planning Germicidal UV Surface Disinfection in a Private Office

- Every pathogen tested to date is susceptible to UV-C and the dosing needed to eliminate these pathogens is known.
- Our system is powerful - designed to eliminate 99.99% of pathogens. This is based upon scientifically proven dosing – the product of UV-C energy over a period of time. Typically, the room surfaces are disinfected in less than 20 minutes!
- Cooper Lighting's team of experts have created optical tools to effectively determine proper fixture type and placement to maximize the disinfection.
- Using these outputs, we can effectively determine the time needed to operate the UV-C system to eliminate the pathogens.



## UV-C Fixtures - Surface Disinfection



**GLR** UV-C  
LOUVERED RECESSED  
Pg. 9



**GSL** UV-C  
STRIPLIGHT  
Pg. 10



**GH** UV-C  
HIGHBAY  
Pg. 11



**GUC** UV-C  
UNDERCABINET  
Pg. 12



**GTR** UV-C TROFFER  
Pg. 13-14

Click to  
visit page

# GLR UV-C LOUVERED RECESSED

The GLR UV-C Louvered Recessed series combines the aesthetics of a louvered fixture with the disinfecting power of UV-C technology.

**Ideal for**  
HOSPITALITY, OFFICE AND SCHOOLS

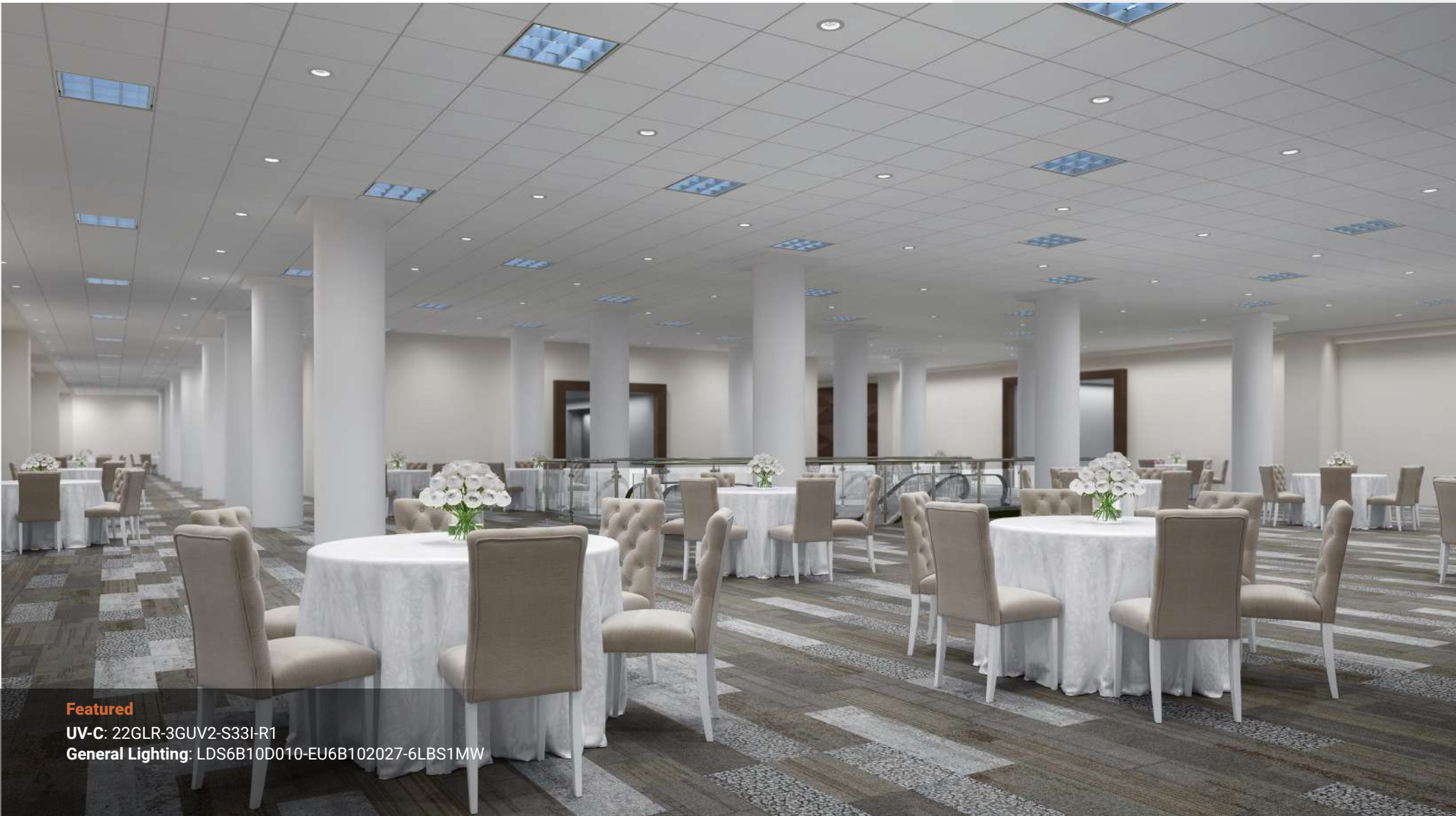


## Features

- Available in 2' x 2' and 2' x 4'
- Ideal for use in low and medium height grid ceilings or in dry wall ceilings using accessory mounting kits
- Louvers deliver a quiet ceiling and enhanced optical control during disinfection cycle

25

ESTIMATED MINUTES TO DISINFECT (COVID-19)



## Featured

**UV-C:** 22GLR-3GUV2-S331-R1

**General Lighting:** LDS6B10D010-EU6B102027-6LBS1MW

# GSL UV-C STRIPLIGHT

The GSL UV-C Striplight Series is a narrow strip family using the latest in UV-C technology.

**Ideal for**  
RETAIL, SCHOOLS AND DISTRIBUTION CENTERS



## Features

- Available in 4' lengths with 1 or 2 UV-C sources
- Ideal for surface mounted or suspended
- Optional wireguard to protect sources from damage
- Optional reflectors for symmetric and asymmetric control

5

ESTIMATED MINUTES TO DISINFECT (COVID-19)



## Featured

**UV-C:** Cove - GSL-1GUV4-R1

Ceiling - 22GLR-3GUV2-S33I-R1

**General Lighting:** 8RBG6-SL1-L8SCT3

# GH UV-C HIGHBAY

The GH UV-C High Bay Series is designed for large area UV disinfection. It accommodates 6 or 8 UV-C sources using the latest in UV-C electronics.

**Ideal for**  
GYMS, RETAIL AND CUSTOM CHAMBERS



## Features

- The 6-source version is ideal for lowbay applications for suspension mount under 20'
- The 8-source version has the maximum UV-C density and is ideal for highbay applications for suspension mount over 20'
- Excellent solution for open areas including retail checkout, loading docks, distribution centers, custom chambers and fitness centers.
- Optional wireguard

20

ESTIMATED MINUTES TO DISINFECT (COVID-19)



## Featured

**UV-C:** GH-6GUV4-N-R2  
WG/HBL6-4FT-B

**General Lighting:** HVL8-4-LD4-2HI-40-UNV-O-EDD1-S

# GUC UV-C UNDERCABINET

The GUC UV-C Undercabinet Series is a low profile design and uses the latest in UV-C technology.

**Ideal for**  
HEALTHCARE, OFFICE AND SCHOOLS



## Features

- Surface mount fixture is available in 2' and 4' lengths
- Custom designed reflector to maximize germicidal energy output
- Focused optics are ideal for shelves, small closets and elevators

6

ESTIMATED MINUTES TO DISINFECT (COVID-19)



## Featured

**UV-C:** GUC-1GUV2-R1

22GLR-3GUV2-S33I-R1

**General Lighting:** 22ID-40-CFR2-L835-U

# GTR UV-C TROFFER RECESSED

The GTR UV-C Troffer Recessed Series provides maximum germicidal disinfection in grid or hard ceiling applications.



**Ideal for**  
CLASSROOMS, OFFICE AND DISTRIBUTION CENTERS

## Features

- Available in 2' x 4' with 4 and 6-source options
- Compatible with standard grid ceilings
- Optional drywall kit
- Optional door with wireguard

16

ESTIMATED MINUTES TO DISINFECT (COVID-19)



## Featured

UV-C: 24GTR-WGD-4GUV4-R1

General Lighting: 22CZ2-50VHE-UNV-L840-CD1-U

# GTR UV-C TROFFER RECESSED

When used in higher ceilings, the wireguard option provides additional protection where needed while maximizing the delivered UV-C power.



**Ideal for**  
**CAFETERIAS**

## Features

- Available in 2' x 4' with 4 and 6-source options
- Compatible with standard grid ceilings
- Optional drywall kit
- Optional door with wireguard

20

ESTIMATED MINUTES TO DISINFECT (COVID-19)



## Featured

**UV-C:** 24GTR-WGD-4GUV4-R1  
**General Lighting:** 24FP4740C



# Surface Disinfection - Controls

UV-C inactivates viruses and eliminates bacteria, mold, and fungi. It can also be harmful to humans if exposed to UV-C for too long. That is why we developed the first and only UL8802 Safety Certified UV-C System. Using our components, you can be more confident the space is vacant whenever the system is running. The system will automatically turn off if someone enters the space.



There are three primary objectives of the UV-C Control System:



## Confirming the space is vacant

UV-C Clearance Pushbuttons are strategically placed throughout the space to be disinfected. All UV-C Clearance Pushbuttons must be pressed before the system can be turned on. This ensures the user walks the entire space to confirm it is vacant.



## Operation by authorized personnel

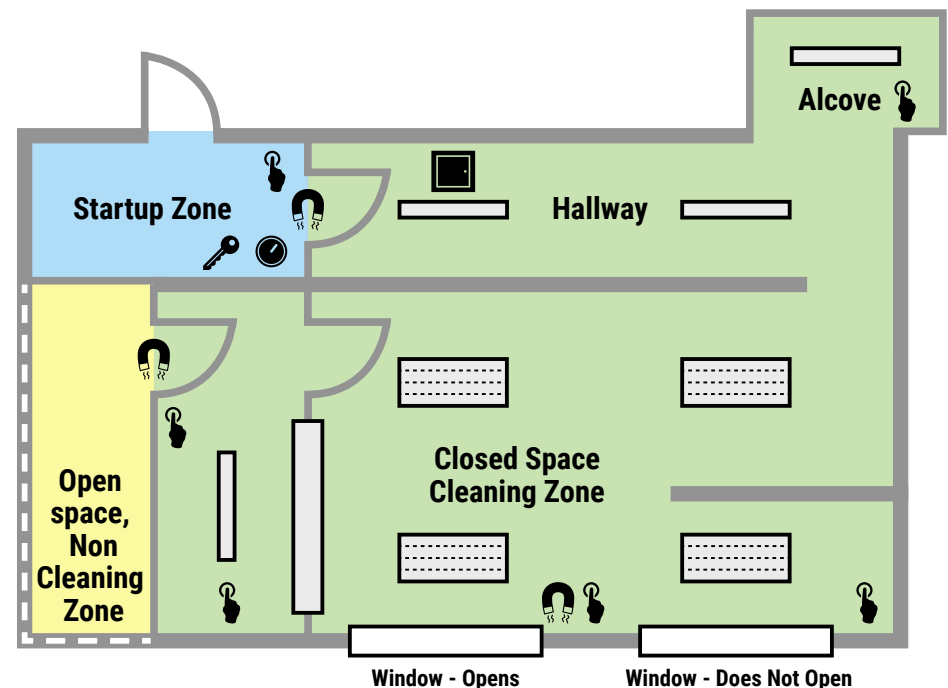
Each system has a UV-C User Station connected to it. This station includes a keyed switch which ensures only authorized personnel can operate the system.



## System automatically turns off\*

The UV-C Control System will automatically turn off if someone enters the space. UV-C Magnetic Access Sensors are placed on all points of entry to create a containment area. If an individual enters the containment area, the system will automatically shut off.

\* UV-C Magnetic Access Sensors do not prevent doors from being opened in case of an emergency



# UV-C CONTROL SYSTEM



UV-C System

## UV-C Control Panel 1

The UV-C Control Panel manages the UV-C Control System based on inputs received from UV-C Clearance Pushbuttons and UV-C Magnetic Access Sensors. Each UV-C Control Panel can have 1 UV-C User Station and up to 24 UV-C Clearance Pushbuttons connected to it.

**GUV-16-120-277** Medium Panel (16 Pushbuttons)  
**GUV-24-120-277** Large Panel (24 Pushbuttons)



Control Panel to be mounted in electrical room

## UV-C User Station 2

The UV-C User Station in an information center and user interface to the UV-C Control System. It houses a keyed activation switch to ensure only authorized personnel can operate the system, three LED indicators, and an ON/OFF selector switch.

**GUV-USER-1**



## UV-C Magnetic Access Sensor 3

The UV-C Magnetic Access Sensor, composed of an actuator and read head, ensures all doors, windows and other access points are closed. For the UV-C Control System to be activated, all of these sensors must be in the closed position. Opening a door or window will stop the UV-C session.

**GUV-MAG-SENSOR-1**



## UV-C Clearance Pushbutton 4

UV-C Clearance Pushbuttons are used to verify that no one is within the space prior to the UV-C session. Pushbutton will light up when the button is pressed letting the user know it is active.

**GUV-PB-1**



Pushbuttons are installed in each room to be disinfected

### Example of classroom



#### Featured

**UV-C:** 24GTR-WGD-4GUV4- R1

**General Lighting:** 22CZ2-50VHE-UNV-L840-CD1-U

# Light ARchitect app

## UV-C Estimator

Now available on the Light ARchitect app.



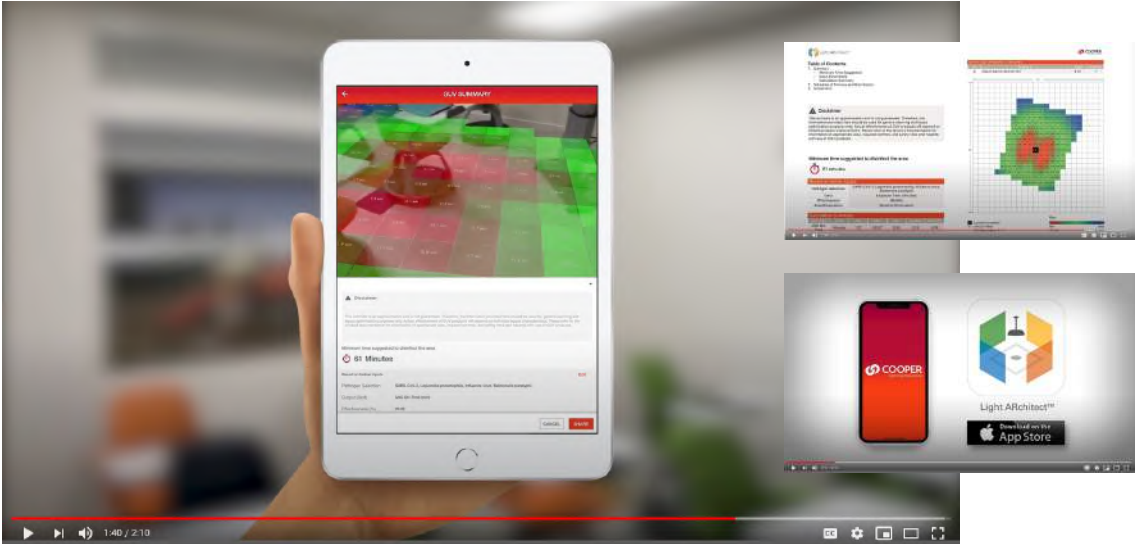
Light ARchitect™

**Download the app** on your iOS device (iPhone and/or iPad) and explore the new UV-C estimator feature, enabling pathogen(s) selection and the time to disinfect a space.



## Watch the UV-C Estimator tutorial

Simple, impactful, and result-focused



### **Lighting Brands**

Ametrix  
AtLite  
Corelite  
Ephesus  
Fail-Safe  
Halo  
Halo Commercial  
Invue  
io  
Iris  
Lumark  
Lumière  
McGraw-Edison  
Metalux  
MWS  
Neo-Ray  
Portfolio  
RSA  
Shaper  
Streetworks  
Sure-Lites

### **Controls Brands**

Greengate  
Fifth Light

### **Connected Lighting Systems**

HALO Home  
WaveLinx

### **IoT Platforms**

Trellix



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