

FAIRFIELD TOWNSHIP
RESOLUTION NO. 20-117

**RESOLUTION TO APPROVE FIRE DEPARTMENT TO Purchase UV Disinfecting units
from EA Medical, LLC.**

WHEREAS: The Fire Chief has recommended the purchase of units to enhance the safety and welfare of the firefighters of Fairfield Township;

AND WHEREAS: The Board has determined adding this technology to help fight not only COVID 19 but many other infectious diseases.

AND WHEREAS: The Board has determined adding this will improve the safety of both our staff as well as the patients who are transported in our vehicles.

AND WHEREAS: The Board has determined that the current budget can support the purchase from the Public Safety Fund, 2191;

NOW, THEREFORE, BE IT RESOLVED, by the Trustees of Fairfield Township, Butler County, Ohio, as follows:

SECTION 1: The Board of Trustees hereby approves the fire department to purchase three (3) mobile units and two(2) building units at a total cost of \$13,340.00 for the equipment.

SECTION 2: This resolution is the subject of the general authority granted to the Board of Trustees through the Ohio Revised Code and not the specific authority granted to the Board of Trustees through the status as a Limited Home Rule Township.

SECTION 3: That it is hereby found and determined that all formal actions of this Board concerning and relating to the passage of this Resolution were taken in meetings open to the public, in compliance with all legal requirements including §121.22 of the Ohio Revised Code.

SECTION 4: This Resolution shall take effect at the earliest period allowed by law.

Adopted: July 8, 2020

Board of Trustees

Shannon Hartkemeyer: _____

Joe McAbee: _____

Susan Berding: _____

Vote of Trustees:

yes
absent
yes

AUTHENTICATION

This is to certify that this is a resolution which was duly passed, and filed with the Fairfield Township Fiscal Officer, this 8th day of July, 2020.

ATTEST:

Shelly Schultz
Shelly Schultz, Fairfield Township Fiscal Officer

APPROVED AS TO FORM:

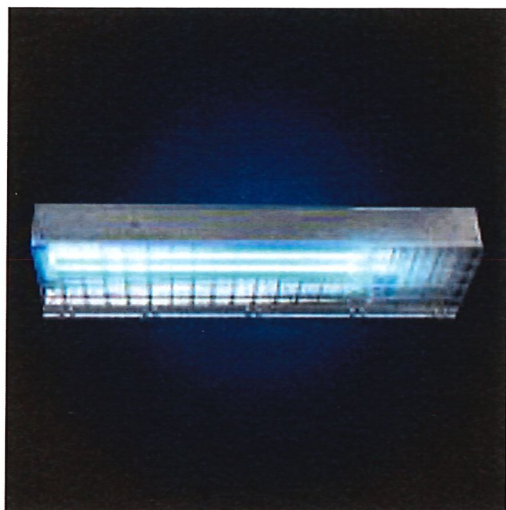
L.E. Barbieri

Lawrence E. Barbieri, Township Law Director

ADU-136-PB

UV-C Air & Surface Disinfection Lamp

Advanced High Level Disinfection for EMS - Protects Crews & Patients



A NAEMT survey of 1,356 Medics published in EMS World reported that 50% have been exposed to an infectious disease and 21% have contracted an illness from a patient.

Kills CoVid-19 Coronavirus to 99.9999% in Under 2 Minutes

The ADU-136 has powerful high UV-C germicidal output and can be recess or surface mounted and kills CoVid-19 Coronavirus in just seconds.

**Kills CoVid-19, C.diff, MRSA and
all known bacteria, virus, mold, protozoa and yeast.**

The ADU-136 Delivers Safe Rapid Disinfection:

UV-C is a natural disinfectant and requires NO dissipation time.

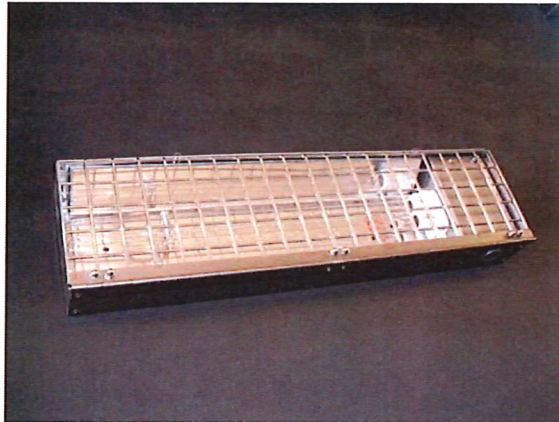
No chemicals, ozone, aerosols, vapors, toxins or out-gassing.

Meets the Required EPA Code and Made in the USA.

ADU-136-PB

UV-C Air & Surface Disinfection Lamp

Advanced High Level Disinfection for EMS - Protects Crews & Patients



ADU-136-PB Features and Specifications:

- **Can be factory installed in new ambulances and in remounts.** Recess or surface mounting options.
- Rugged Stainless Steel and Aluminum construction with Welded-Wire protective cage over bulb.
- **Mirror aluminum specular reflectors for increased UV efficiency.**
- **9000 hour lamp life.** Philips Germicidal Sterilamp® twin-tube bulb for reliable lamp availability and cost efficient replacement, TUV 36W, has no more than 4.5 mg mercury.
- ADU-136 features one (1) 36W Philips Chill-Corrected Germicidal UV Lamp providing 30 linear inches of UV-C tubing for maximum UV-C power and time efficiency.
- **All new digital front facing push button control box with built-in delayed-start timer** can be mounted in the crew cab or back of ambulance, or in a closed panel box outside the ambulance.
- **Rated UV-C energy output 145 $\mu\text{W}/\text{cm}^2$ per second; 8,700 $\mu\text{W}/\text{cm}^2$ per minute @1 meter.**
- 120V AC 60 Hz operation through on-board power inverter or land-line access. Nominal electrical output 36 watts. Draws .78 amps @ 120 volts ac.
- Dimensions: Light fixture 20-3/8" (length) x 5-1/4" (width) x 2-1/2" (depth)
Control box 7" (width) x 5" (height) x 3" (depth)
- **Made in the USA** by Evergreen UV LLC, EPA Establishment No.91347-TN-001. (Lumalier by Evergreen UV LLC)
- Warranty - Ballast has a 5 year non-prorated warranty. Lamp has a 1 year warranty against manufacturing defects.

This UV-C disinfection lamp is designed for use in UNOCCUPIED spaces.
UV-C can cause temporary damage and discomfort to unprotected skin and eyes.

ADU-136-PB (rev.061720). Specifications subject to change without notice.

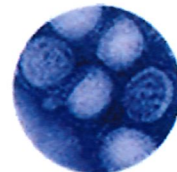
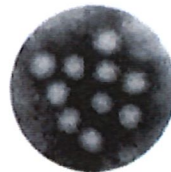
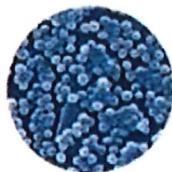
EDU-435

UV-C Air & Surface Disinfection Lamp



High Level Disinfection for EMS
Protects Crews & Patients

Kills the Unseen!



Portable UV-C Air & Surface Disinfection Lamp

Advanced High Level Disinfection for EMS - Protects Crews & Patients

The EDU-435 is a powerful UV-C disinfection lamp designed by EMS and Fire to rapidly disinfect ambulances, fire trucks, aircraft, command vehicles, equipment, and every room inside the station house.

UV-C is a natural disinfection method scientifically proven to reduce the spread of disease. UV light stops microorganisms from reproducing by disrupting their DNA and rendering them harmless. When the organism tries to reproduce, it dies.

The EDU-435 kills microorganisms that cling to surfaces and that linger in the air. The UV light rays disinfect hard to reach places and uneven surfaces for thorough disinfection.

The EDU-435 kills all known bacteria & virus to 99.999999% disinfection in less than 2 minutes.

(within 1 meter distance, direct line of sight)

Advanced proprietary features include:

- Easy to use programmable touch screen controls for the safety delay timer and the disinfection timer.
- Color digital display with built in hour meter.
- Hi-Output twin tube bulbs with 9,000 hour bulb life.
- Full metal cage to protect bulbs.
- Front and rear 180° motion sensors for added safety.



The EDU-435 has a built in full metal handle so it can be inverted inside the ambulance from ceiling rails or hooks.



A NAEMT survey of 1,356 Medics published in EMS World reported that 50% have been exposed to infectious disease and 21% have contracted an illness from a patient.

Eliminating Healthcare Acquired Infections (HAI's) is a CDC Priority.

A recent CDC funded study from Duke University shows topical cleaning alone is not enough. Adding UV-C disinfection has been proven to significantly reduce HAI's by 37%.

"These lamps, when used regularly, will provide 99.99999 percent disinfection and kills all known bacteria, virus, mold, protozoa and yeast. When the staff uses these lamps in conjunction with topical disinfection this technology will provide a safer environment for patients and staff."

"In addition to killing virus and bacteria in the ambulance, the crews will be able to use these portable UV-C lamps to disinfect living spaces like bunk rooms where an individual may have become ill. This technology can stop the transmission of diseases that before may have caused an outbreak of colds and flu in areas such as an ambulance base that many people share 24 hours a day. The new UV-C Lamps will keep staff healthy, and it will keep the ambulances and bases clean for those who visit or tour the facilities." Ray Antonacci – Director, Lincoln County Ambulance District, Troy, MO



*The EDU-435 has the highest UV-C output available for EMS.
Rated UV-C energy output: 434 $\mu\text{W}/\text{cm}^2$ per second; 26,040 $\mu\text{W}/\text{cm}^2$ per minute @1 meter.*

**Kills C.diff, MRSA, and ALL Known Bacteria, Virus, Mold, Protozoa and Yeast.
Kills Bed Bug Eggs and Nymphs.**

EDU-435 delivers Safe Rapid Thorough UV-C Disinfection:

Safe: UV-C is natural - No chemicals, ozone, aerosols, vapors, toxins or out-gassing.

Rapid: Air and surfaces disinfected in minutes, no dissipation time needed.

Thorough: Pathogen load reduction outcomes of 99.999% to 99.999999%.

EPA Compliant and Made in the USA.

EDU-435

UV-C Air & Surface Disinfection Lamp

Advanced High Level Disinfection for EMS - Protects Crews & Patients



EDU-435 Features and Specifications:

- **Programmable touch screen controls and timers with color display.** Electronic control includes preset and fully adjustable system delay timer and UV cycle timer. Can be set for specific user with password protection. **USB 2.0 port to upload software updates.**
- **Safety** – 180 degrees motion sensors front and back to de-energize the unit if motion is detected.
- **Portable** – Lamp can be placed upon any hard surface, suspended or inverted (with attached handles) to disinfect any unoccupied area.
- **Rugged** - Stainless Steel and Aluminum Construction with **welded wire protective cage around the bulbs.**
- **9000 hour lamp life with built in hour meter** to keep track of use on UV-C bulbs.
- **Philips Germicidal Sterilamp® High Output twin-tube bulbs** for reliable lamp availability and cost efficient replacement, TUV PL-L35W have no more than 4.5 mg mercury content and produce no ozone.
- **EDU-435 features four (4) 35W High Output Philips Chill-Corrected Germicidal UV Lamps** providing 72 linear inches of UV-C tubing for maximum UV-C power and time efficiency.
- Nominal electrical output 140 watts. Draws 2.6 amps @ 120 volts ac. 120V Operation with 9' grounded cord.
- **Rated UV-C energy output 434 $\mu\text{W}/\text{cm}^2$ per second; 26,040 $\mu\text{W}/\text{cm}^2$ per minute @1 meter.** 48 UV-C watts output.
- Heavy duty full metal design for everyday use in a small foot print (10"W x 10"D x 15"H). Lamp weight 15 lbs.
- **Made in the USA** by Evergreen UV LLC, **EPA Establishment No.91347-TN-001.** (Lumalier by Evergreen UV LLC)
- **Warranty** - Ballasts have a 5 year non-prorated warranty. Lamp has a 1 year warranty against manufacturing defects.

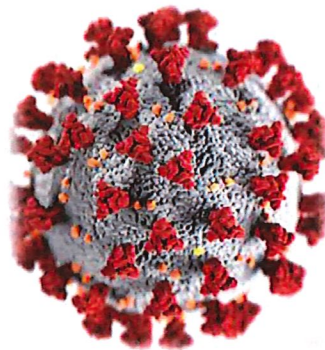
This UV-C disinfection lamp is designed for use in UNOCCUPIED spaces.
UV-C can cause temporary damage and discomfort to unprotected skin and eyes.

EDU-435 (rev.091618). Specifications subject to change without notice.

Distributed by: EA Medical, LLC • 800-339-9393 • uv@eamed.com
www.eamed.com • 10541 State Highway 81 • Canton, MO 63435

EDU-435 UV-C Air & Surface Disinfection Lamp

**Kills CoVid-19 Coronavirus
to 99.9999% Disinfection
in Under 30 Seconds**
(5' distance line-of-sight)



**Kills CoVid-19, C.diff, MRSA and all known
bacteria, virus, mold, protozoa and yeast.**

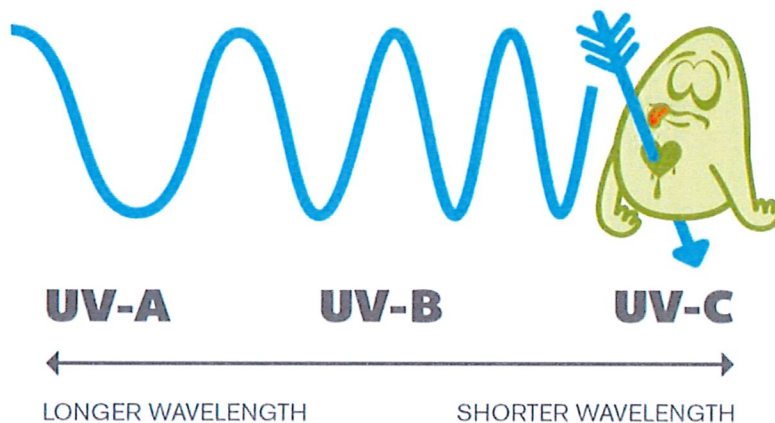
The EDU-435 delivers high level UV-C Disinfection:
Pathogen load reduction outcomes of 99.99% to 99.9999%.

Meets the Required EPA Code and Made in the USA.

UV-C Disinfection - What it is, How it works and What it Kills

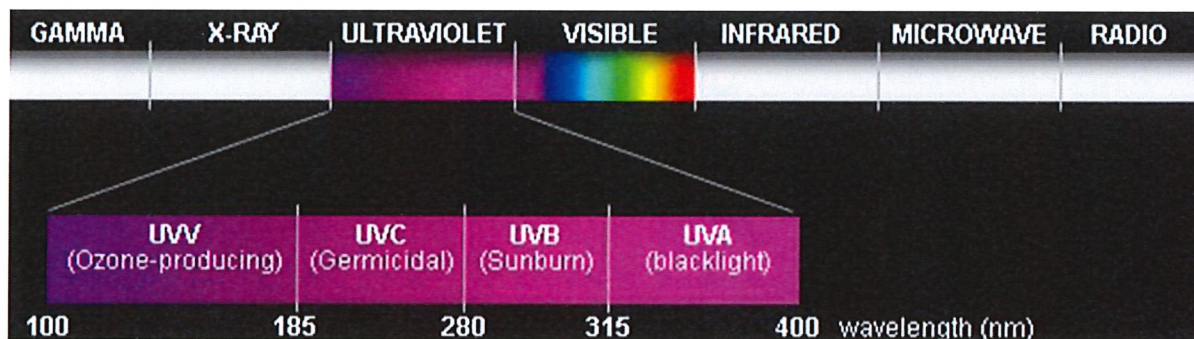
What is UV-C

Ultraviolet C (UV-C) is a magnetic waveform, and like all waveforms emanating from the Sun its properties are unique to its frequency. This "C" part of the UV family has germicidal effects, especially the 254 to 260-nanometer frequency. UV-C is natural disinfection.



UV-C Disinfection

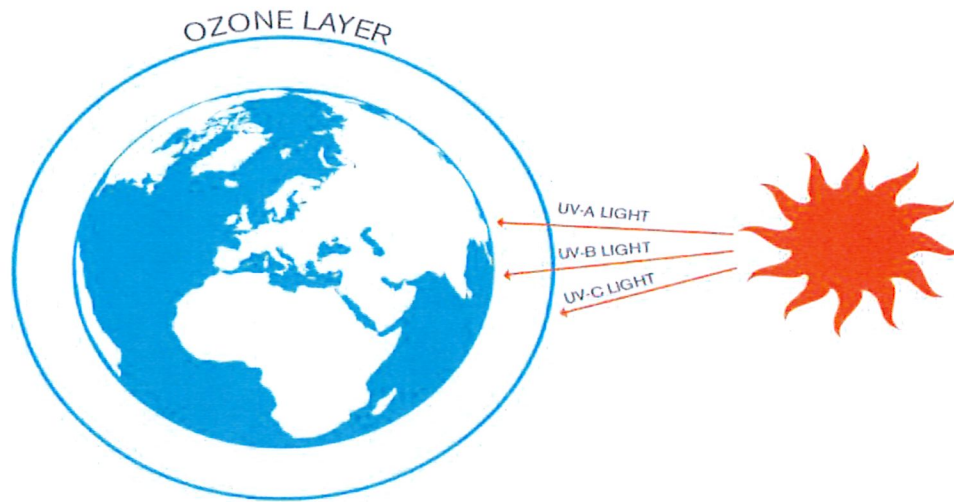
Ultraviolet Germicidal Irradiation (UVGI) is a disinfection method that uses ultraviolet light generated at a wavelength of 2,537 Angstroms (254 nm). UVGI is also called UV-C disinfection.



Although not everyone is familiar with UV-C, it is a well-known scientifically proven fact for over 100 years that UV-C has germicidal properties.

Primary uses of UV-C have been for the destruction of bacteria and other microorganisms in air, liquids and on surfaces.

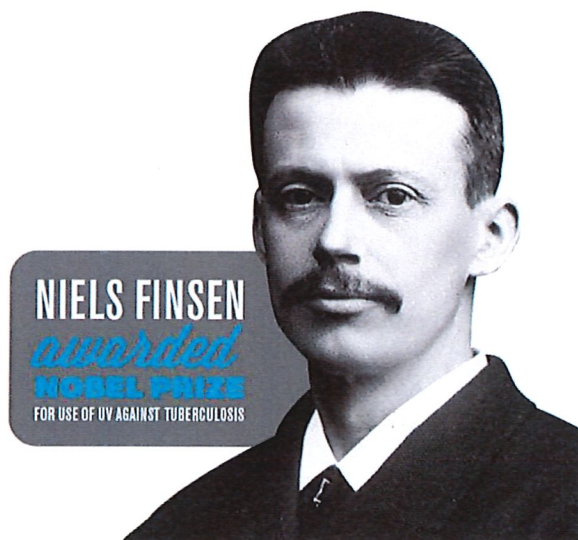
Since the Earth's atmosphere absorbs most of the UV-C from the Sun, germicidal UV-C energy must be generated by specialized light bulbs.



History of UV-C Disinfection

In 1878 the effect of short-wavelength light on sterilizing bacteria was discovered. In the 1890's UV-C was used to kill bacteria in well water. By 1903 it was scientifically known the most effective wavelengths of UV light were around 250 nm.

The 1903 Nobel Prize for Medicine was awarded to Niels Finsen for his use of UV against tuberculosis. In the 1930's UV-C was used in public schools to fight the spread of Measles. In 1960, the effect of ultraviolet radiation on DNA was established.



How UV-C Works

In the simplest of terms, a microorganism's DNA is the target of 253.7 nm wavelength. UV-C destroys DNA causing cell death or making replication (cell division) impossible.

Specifically, UV-C light causes damage to the nucleic acid of microorganisms by forming covalent bonds between certain adjacent bases in the DNA. The formation of such bonds prevent the DNA from being unzipped for replication, and the organism is unable to reproduce. In fact, when the organism tries to reproduce, it dies.

Beyond this, UV-C can degrade simple organic material at the molecular level.

What UV-C Kills

UV-C can destroy any infectious microorganism it comes in contact with. There are NO KNOWN PATHOGENS that are resistant to a proper dose of UVC energy.....NONE.



It does not matter what the pathogen strain is, how it has mutated, or if it is multiple drug or chemical resistant. UV-C kills all known bacteria, viruses, mold spores, yeast and protozoa.

Based on a recent study funded by the CDC presented by Dr. Anderson of Duke University, chemical disinfection alone is not enough. Adding UV-C to your current cleaning regiment as a final step reduces Healthcare Acquired Infection (HAI) rates 32% to 37% from C.diff, MRSA and Acinetobacter.

Industries that use UV-C

UV-C is widely used a variety of fields world-wide including medical, water treatment, food manufacturing, pharmaceutical manufacturing and in HVAC systems.

The CDC, NIOSH, FDA, and EPA use UV-C in the HVAC systems at their national office headquarters. Homeland Security uses UV-C germicidal irradiation to kill Anthrax.

UV-C is used in HVAC systems to kill Legionnaire's Disease. Meat processing plants use UV-C to kill Salmonella. Pharmaceutical compounding companies use UV-C in their clean rooms as an added measure of cleanliness.

World Health Organization (WHO), the UN, Partners in Health and US-Aid use UV-C to fight diseases including Tuberculosis and Ebola.

UV-C is used by water treatment facilities to help clean our water so it is safe to drink and bathe in. Hospitals use UV-C in their operating rooms.

EMS and Fire Departments use UV-C to disinfect their ambulances, fire trucks, command vehicles, all rooms in station houses and to disinfect equipment & gear.

UV-C Effectiveness for Pathogen Load Reduction

UV-C effectiveness is dependent upon several factors.

Dwell time: The length of time a microorganism is exposed to UV-C energy.

UV-C Intensity: The amount of UV-C energy generated.

Proximity: UV-C is strongest within 1 meter proximity to light source and loses strength each meter away from the light source.

A microorganism's ability to withstand UV exposure: Virus and bacteria are highly susceptible to very small UVC doses; spores (mold and fungi) are more resistant, but ALL are susceptible.

Direct versus indirect exposure: Pathogens hiding within shadows receive indirect UV energy (lower intensity), so disinfection will take longer.

For more information on UV-C Disinfection contact:

EA Medical LLC • Neal Zeid (314) 974-5915 • nealrz@juno.com