# UVC Sterilization Troffer

Ultraviolet Disinfection Light Kills 99.9%
of Viruses, Bacteria, Fungi & More

**SARIN** ENERGY SOLUTIONS

Patent Pending

# Keep touch points safe for your visitors and staff.

Set yourself apart with a permanent disinfection fixture that helps protect your high traffic areas.

**Be Safe**
We regularly sterilize this room with UVC light.
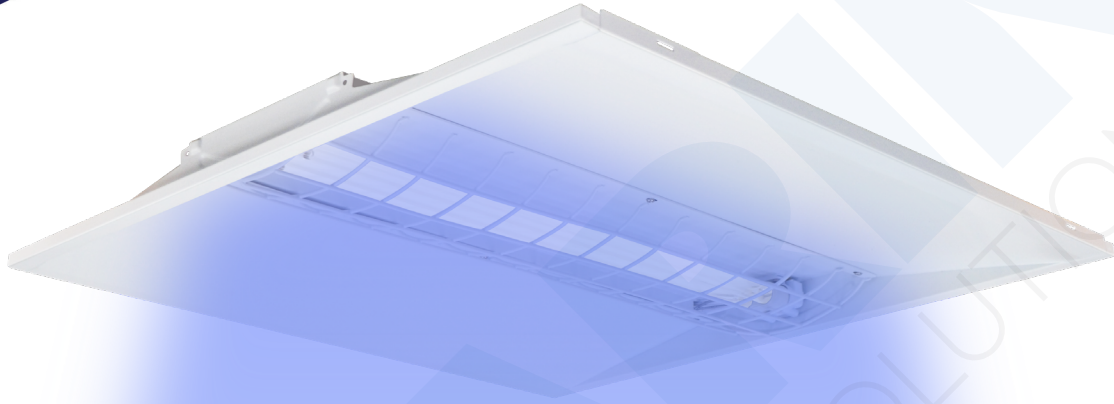
Excerpt from independent Microchem Laboratory test on a SARIN UVC device with the same bulb.

| Test Microorganism | Contact Time | Carrier Distance | Replicate | CFU/Carrier | Average CFU/Carrier | Percent Reduction Compared to Control at Time Zero | $Log_{10}$ Reduction Compared to Control at Time Zero |
|---|---|---|---|---|---|---|---|
| E. coli ATCC 11229 | Time Zero | N/A | 1 | 7.20E+07 | 6.05E+07 | N/A | |
| | | | 2 | 4.90E+07 | | | |
| | 15 Minutes | 1 meter | 1 | <1.00E+01 | <1.40E+02 | >99.9998% | >5.64 |
| | | | 2 | 2.70E+02 | | | |
| | 20 Minutes | 2 meters | 1 | 2.00E+01 | <1.50E+01 | >99.99998% | >6.61 |
| | | | 2 | <1.00E+01 | | | |
| S. aureus ATCC 6538 | Time Zero | N/A | 1 | 1.43E+07 | 1.21E+07 | N/A | |
| | | | 2 | 9.90E+06 | | | |
| | 15 Minutes | 1 meter | 1 | 2.20E+02 | 6.55E+02 | 99.995% | 4.27 |
| | | | 2 | 1.09E+03 | | | |
| | 20 Minutes | 2 meters | 1 | 3.40E+02 | 5.15E+02 | 99.996% | 4.37 |
| | | | 2 | 6.90E+02 | | | |
| MS2 Bacteriophage ATCC 15597-B1 | Time Zero | N/A | 1 | 7.20E+05 | 6.75E+05 | N/A | |
| | | | 2 | 6.30E+05 | | | |
| | 15 Minutes | 1 meter | 1 | 1.36E+03 | 1.44E+03 | 99.787% | 2.67 |
| | | | 2 | 1.51E+03 | | | |
| | 20 Minutes | 2 meters | 1 | 1.70E+03 | 1.90E+03 | 99.72% | 2.55 |
| | | | 2 | 2.09E+03 | | | |

# Disinfects in 15-60 Minutes

# Benefits of UVC Sterilization

**Highly effective** in killing every known microorganism (including coronavirus strains) and shown to reduce viral illness rates.

**Boost morale** by creating a protected environment—not just for workers—but anyone who enters your facility.

**Save money** with an alternate option to COVID-19 packages with recurring costs and non-quantifiable results.

**Safe** for the environment and humans with light naturally emitted from the sun, does not disperse mysterious chemicals.

**Get all advantages** UVC has to offer without adding more work, just activate the troffer with the push of a button.
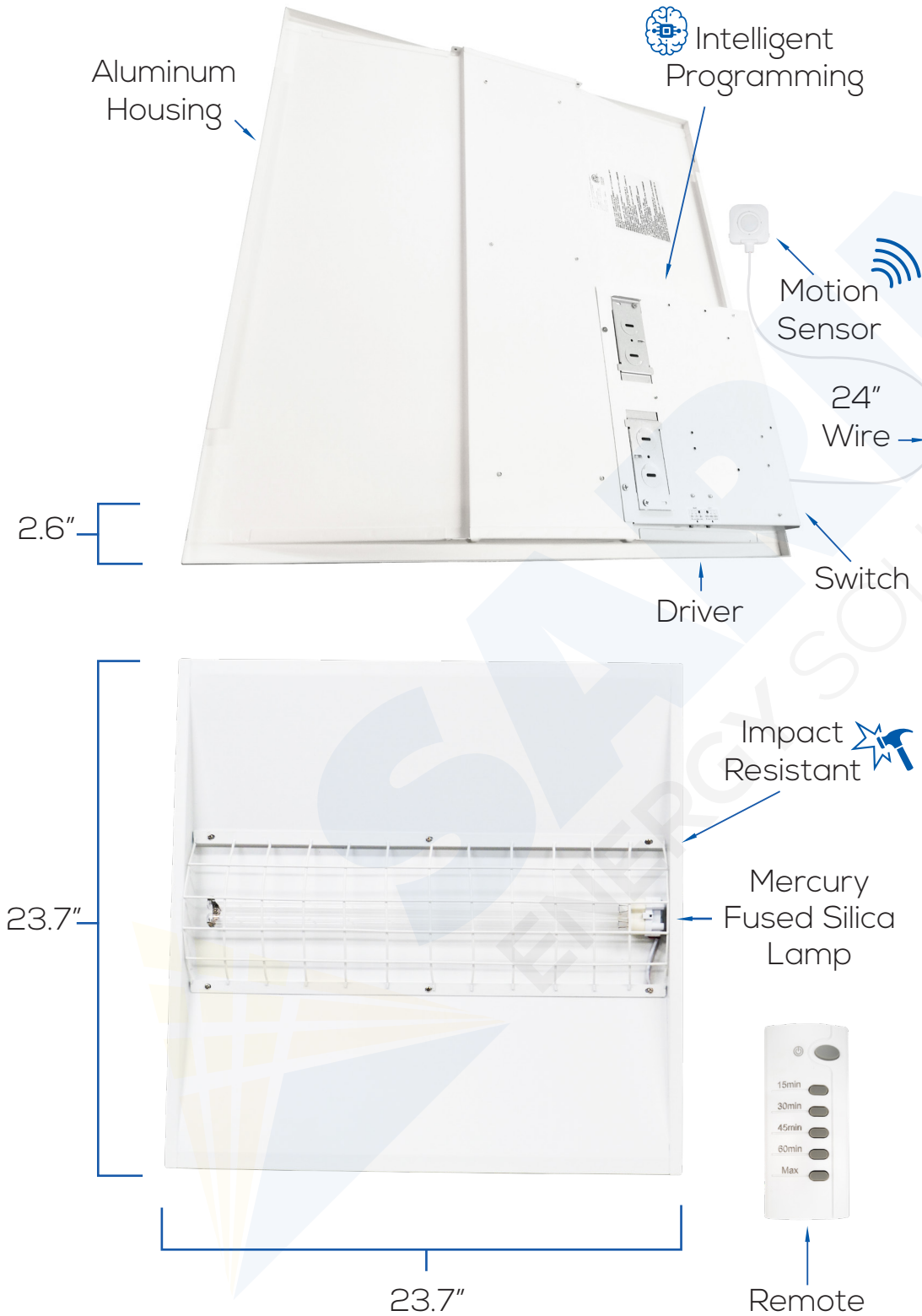
## UVC Disinfection VS Chemical Cleaners

| UVC Disinfection | | Chemical Cleaners |
|---|---|---|
| Hypoallergenic and safe | RESIDUE | Leaves toxic irritants behind |
| Effortless once installed | EFFORT | Requires manual labor |
| Run automatically with remote | FREQUENCY | Dependent on a worker |
| Effective every single time | ERRORS | Prone to cross-contamination |
| No recurring purchases | COST | Buy materials frequently |
| 8,000+ cycles per bulb | UPKEEP | Constant maintenance |
| Works against all microbes | EFFECT | Must include correct biocides |
| Environmentally friendly | NATURE | Chemical storage and waste |

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# UVC Sterilization Troffer

Troffer: #11029 SES-UVCTR-55
Transceiver: #11030 SES-UVCTR-Z

Aluminum Housing

Intelligent Programming

Motion Sensor

24" Wire

2.6"

Switch

Driver

23.7"

Impact Resistant

Mercury Fused Silica Lamp
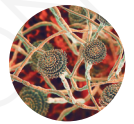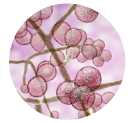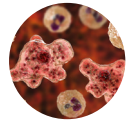
23.7"

Remote

15min
30min
45min
60min
Max

## UVC Kills

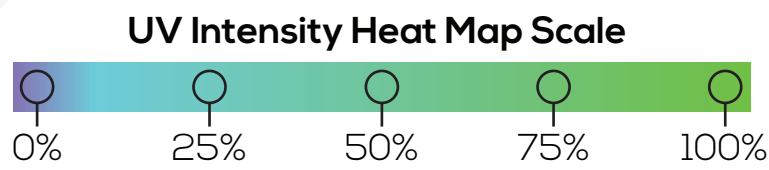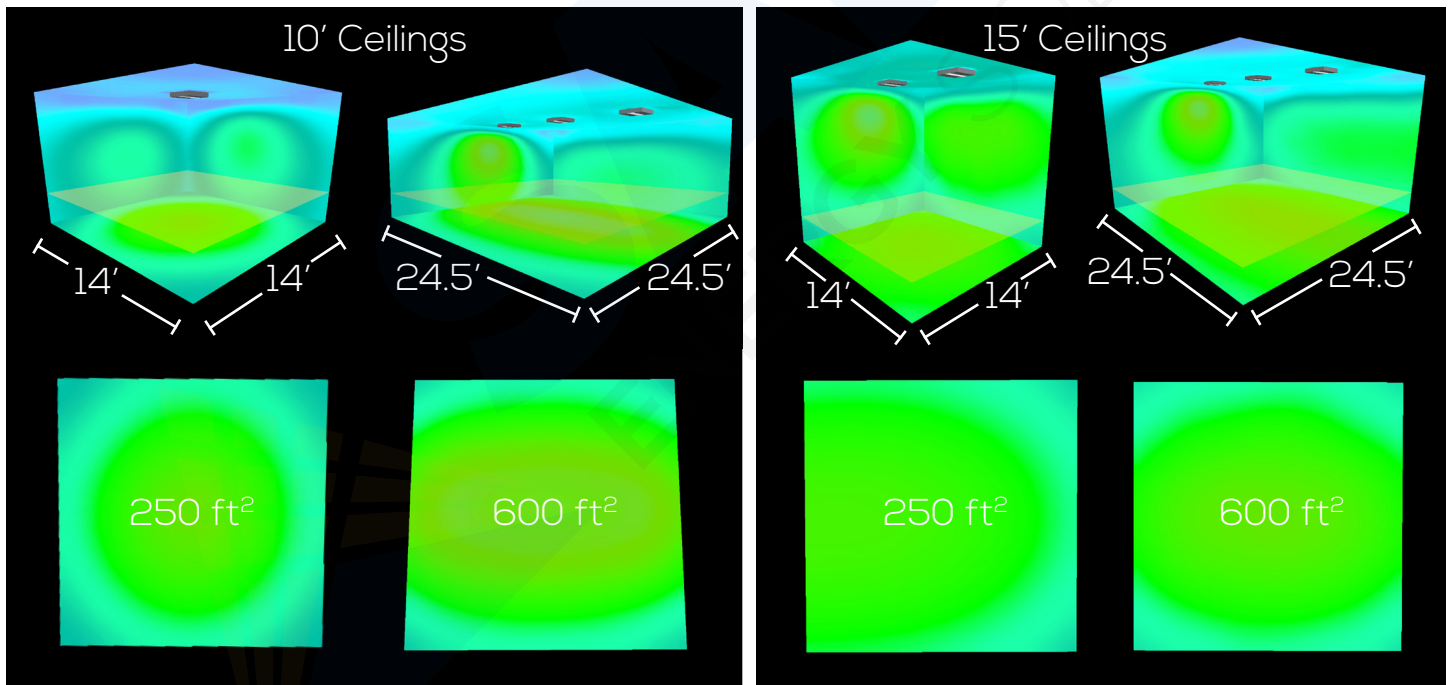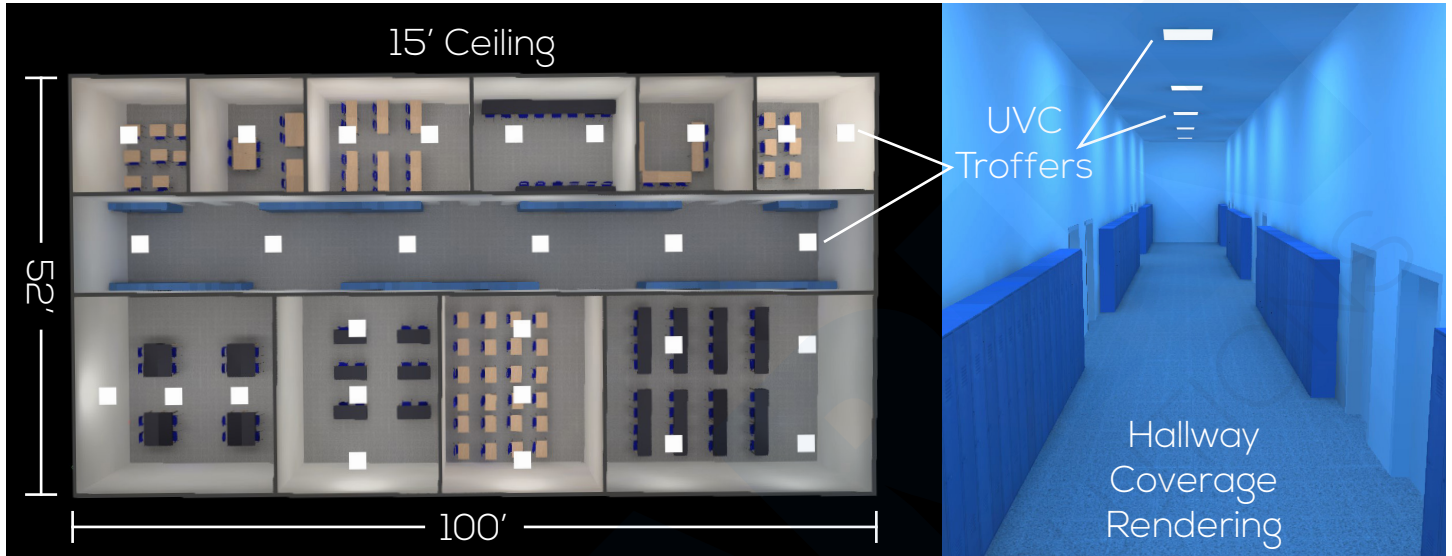Viruses

Bacteria

Fungi

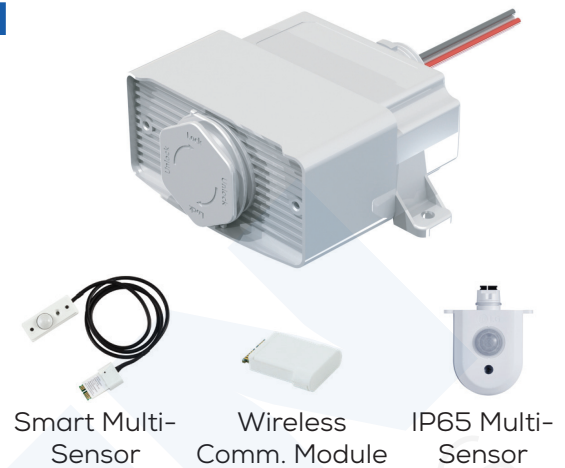Mold

Yeast
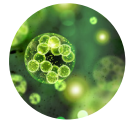
Algae

Amoebas

Allergens

# UVC LIGHT FIELD SCHOOL SIMULATION

This set of renderings illustrates the sterilization fixture coverage, light distribution and relative ultraviolet intensity. Two ceiling heights were applied in this study for a variety of rooms based on common classroom and hallway sizes.



15' Ceiling

52'

100'

UVC Troffers

Hallway Coverage Rendering

10' Ceilings

14' 14'

24.5' 24.5'

250 ft²

600 ft²

15' Ceilings

14' 14'

24.5' 24.5'

250 ft²

600 ft²

## UV Intensity Heat Map Scale
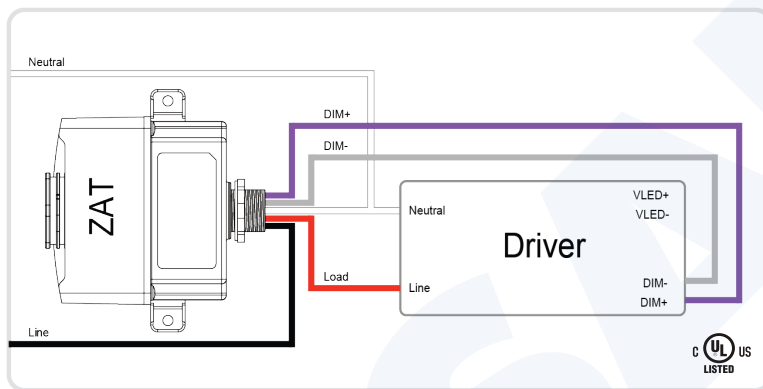
0%  25%  50%  75%  100%
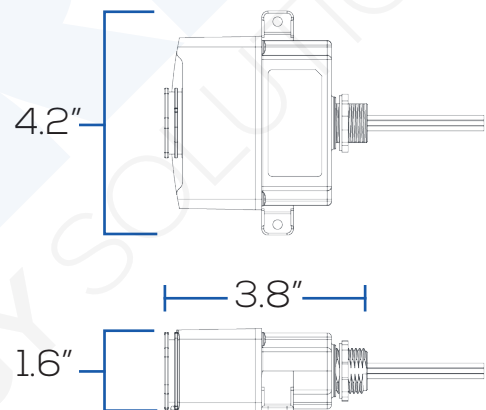
# ENTERPRISE PROGRAMMING OPTION

- Applied Internal Load Switch to control AC main On/Off
- Integrated AC-DC supply for stand-alone operation
- Supports 1-10V Dimming
- 2.4GHz ZigBee® Transceiver
- Embedded antenna for easy installation and low cost
- Flexible platform to accommodate diverse protocols
- Supports RCA SENSOR CONNECT, Daintree Networks® and ControlScope® systems

Smart Multi-Sensor

Wireless Comm. Module

IP65 Multi-Sensor

# WIRING DIAGRAM

Neutral

ZAT

Line

DIM+

DIM-

Load

Neutral

Line

Driver

VLED+

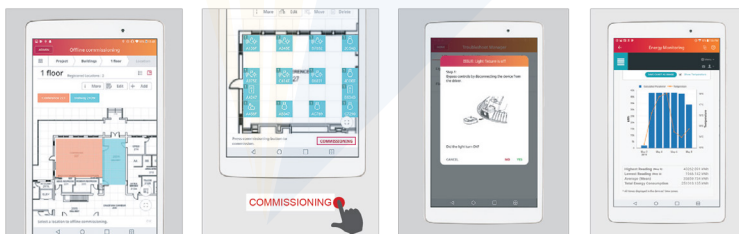VLED-

DIM-

DIM+

C UL US LISTED

# DIMENSIONS

4.2"

3.8"

1.6"

# RCA SENSOR CONNECT APP

The mobile app makes commissioning easy. Create lighting groups, optimize energy savings, monitor energy consumption, and control aesthetics with scenes to help building managers easily maintain lighting groups.

Graphical Map

1-Button Commissioning

COMMISSIONING

Troubleshooting Manager

Energy Monitoring

- Floor plan image registration
- Graphical map for lighting assignment
- Convenient methods for light registration
- More than 10,000 lighting control groups can be configured
- Occupancy sensor timeout and motion sensitivity adjustment
- Runs firmware updates
- Support for remote commissioning via screen sharing
- Energy monitoring, data analytics, reporting, and scenes

# FEATURES

1. Clinically proven to eliminate 99.9% of all viruses, bacteria, fungi, mold, yeast, algae, amoebas, and other germs and allergens within seconds of 253.7 nm UVC exposure.
2. Can easily be programmed and set with remote control.
3. A 360° motion sensor deactivates the lamp when it detects movement within 16 feet.
4. Contact-free disinfection reduces the chance of human error and cross-contamination.
5. Hypoallergenic sanitizing does not leave irritants or toxic chemicals behind.
6. Reduces the need to buy and handle corrosive cleaners. (Does not replace soap/water)

## SPECIFICATIONS (ETL, FCC Pending)

| | |
|---|---|
| Model: | UVC Sterilization Troffer |
| Size: | 23.7"(L) x 23.7"(W) x 2.6"(D) |
| Power: | 55W |
| Voltage: | AC90 - 100V |
| UV Strength: | ≥253.1 µW/cm$^2$ (at 3.5 ft) |
| Effective Range: | ~15 ft |
| IP Rating: | IP20 |
| UVC Wavelength: | 253.7 nm |
| UVC Lamp: | Mercury Fused Silica |
| Bonus Features: | Motion Detector, Control |
| Bulb Lifespan: | ≥8,000 hours |
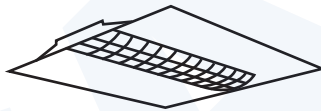
## TIPS & SAFETY

- To maximize effectiveness, ensure the room to be disinfected is clear of debris
- Take care to avoid direct or prolonged exposure of UVC to skin and eyes
- Extend disinfection time if your room temperature is above 104° F or below 68° F to ensure adequate exposure
- Clear area of people, plants and animals
- Can be used near food, tests have not shown any loss in quality or nutrition
- If the lamp breaks use a wet paper towel to clean up, and do not inhale
- As distance from a subject is increased, exposure time should be prolonged

# INSTRUCTIONS

This UVC Sterilization Troffer is designed as a permanent way to keep an area safe and germ free. Simply clear the room and set the timer with your remote, then allow it to run a 15-60 minute cycle depending on number of units and ceiling height. If anyone approaches within 16 feet of the fixture during disinfection it temporarily deactivates until motion is no longer detected, then it turns back on to finish the cycle. A button on the driver box toggles between remote and on/off light switch operation.

### Remote Operation:

1. Install in drop ceiling and connect power.
2. Press "Power" button on the remote.
3. Select your duration using a time button.
4. After a 10 second delay the light activates.

### Motion Sensor:

This activates 20 seconds after the lamp is switched on. When motion is detected within 16 feet the light will turn off, then turn back on after 20 seconds of no motion.

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