Helo F1 & F2

UV DISINFECTION FROM ABOVE

User Manual

These compact units with Single or Dual UV Light Engines can be ordered for scheduled commissioning or integration into the facility Building Automation System (BAS). Scheduled commissioning can be done by a PURO Lighting representative using a Setup Wizard. Units integrated into BACnet are programmed through the BAS dashboard.

POWERED BY VIOLET DEFENSE® TECHNOLOGY

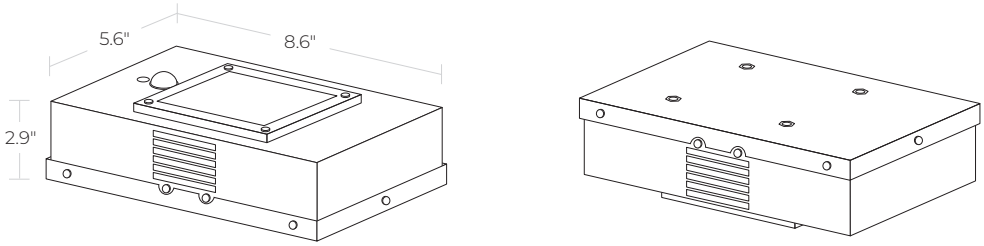
WHICH PRODUCTS ARE COVERED BY THIS USER MANUAL

Helo F1

Single UV Light Engine

The Helo F1 is a UV disinfection fixture with a single UV Light Engine. It can be installed in configurations for drop-in ceilings, recessed hard ceilings, or wall/surface mount and portable/tabletop use. All variants operate identically and have a 10' x 10' coverage area. This document will refer to this family as Helo F1.

This fixture can be integrated with a Building Automation System through BACnet or manually commissioned.



Other ordering configurations include:

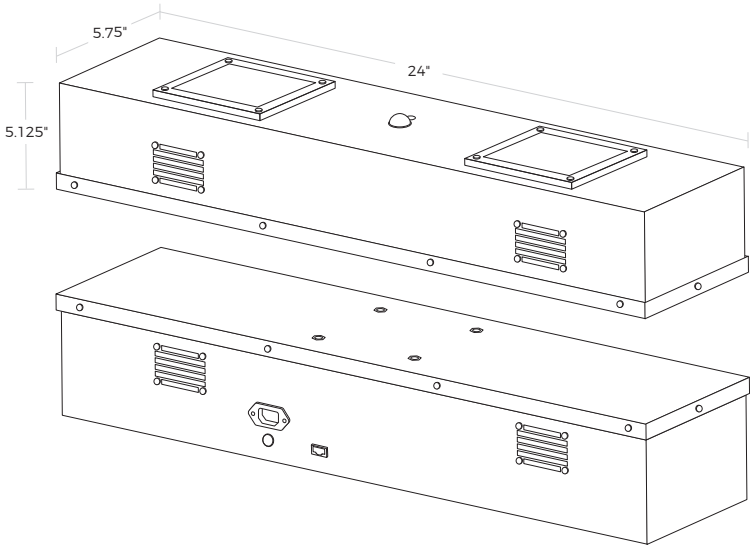
- Helo F1 for wall mount, surface mount or portable/table top use
- Helo F1 with a 12"x12" flange for recessed hard ceiling installations
- Helo F1 with a 24"x24" flange for drop-in grid ceilings

Helo F2 Fixture

Dual UV Light Engines

The Helo F2 is a UV disinfection fixture with dual UV Light Engines. It can be installed in ceilings, suspended as a pendant, or wall mounted and has a 12' x 12' coverage area.

Like the Helo F1, this fixture can be integrated with a Building Automation System through BACnet or manually commissioned.



SAFETY WARNINGS

WARNING: TO REDUCE THE RISK OF FIRE OR ELECTRIC SHOCK,
DO NOT EXPOSE THIS UNIT TO RAIN OR MOISTURE.

CAUTION: TO REDUCE THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE COVER. NO USER-SEVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.

The lightning flash with arrowhead symbol, within an equilateral triangle is intended to alert the user to the presence of uninsulated “dangerous voltage” within the product’s enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

NOTE: This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

IMPORTANT SAFETY NOTES

Read these instructions prior to operating the fixture. Keep and follow all instructions.

- Heed all warnings. Failure to use the equipment in the manner specified may impair the fixture from providing the desired protection.
- Plug unit into a grounded outlet. Ensure proper conditions for operation. The unit is designed to operate under normal conditions indoors (temperature 5-40 degrees Celsius, RH less than 80% (non-condensing), at an altitude <2000m and main supply fluctuations +/- 10% of nominal voltage, over voltage Category II.
- Allow unit to complete pre-programmed cycles prior to unplugging or shutting off power. This allows it to enter safe mode.
- Do not allow the unit to get wet or use in or near water.
- Do not block any ventilation openings. Use in accordance with these instructions.
- Do not attempt to open or tamper with the unit.
- Do not place or store the unit near any flammable materials or liquids.
- Do not defeat the safety purpose of the polarized or grounding-type plug. A polarized plug has two blades and a third grounding prong. The wide blade or the third prong are provided for your safety. If the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.
- Protect the power cord from being walked on or pinched particularly at plugs, convenience receptacles, and the point where they exit from the unit.
- Unplug this unit during lightning storms or when unused for long periods of time.
- Refer all servicing to the manufacturer if there is any damage to the unit or it is not operating correctly.
- The fixture is designed to operate only when the room is unoccupied. There are redundant safety systems to ensure the unit does not activate while the room is occupied as the UV light is not recommended for excessive exposure. If the sensor in the system fails, the system will shut down.
- Do not look directly at the unit due to the brightness of the light. UV light does not significantly penetrate standard glass, therefore, incidental exposure on the other side of a window or wall does not present any significant risk.
- KEEP AWAY FROM CHILDREN

UV SAFETY OVERVIEW

Given the correct combination of user protocols and the built-in safety features of the unit, there are minimal risks of any harmful effects from using the Helo fixtures.

Recommendations

If in the vicinity of the Helo fixtures during operation, do not look directly at the light. This is similar to how one would avoid harmful effects from the sun by not looking directly at it.

- Germicidal UV light does not significantly penetrate standard glass.
- Per the built-in safety features described below, the unit is designed to not operate while a room is occupied. However, operators are instructed in the user manual to have all persons vacate a space before operation. Further optional protocols, such as signage indicating the UV unit is in operation may be desired.

Safety Features

The Helo fixtures have four primary aspects to their built-in safety features to ensure the safety of anyone operating or in the vicinity of a unit.

Limited Exposure Risk

Due to the nature of the programming on the Helo fixtures, over a 30-minute cycle time for the fixture, the actual exposure to UV (if there were no other safety systems in place) would be no more than two seconds of exposure.

Redundant Safety Systems

Each Helo fixture has a built-in passive infrared (PIR) sensor used to detect motion in a space. The sensor is programmed to detect individuals walking into the deployment space. The unit will not resume operation of the cleaning cycle until it has successfully detected the space is free of motion.

Safe Stop

The third layer of protection built into the Helo fixtures is to ensure that if the motion sensor or other components experience technical issues, the unit will safe stop by cycling the unit off. The unit will flash red indicating that one should contact PURO Lighting for technical support. The unit will not resume operation until the issue detected has been resolved. If unit is non-responsive (i.e. non-operational or no indicator light), contact PURO Lighting for technical support.

Frequency of Flashes

The Helo fixtures will flash every 6 seconds during operation. Violet Defense, PURO Lighting's technology partner, collaborated with the Epilepsy Foundation when designing the product to ensure that the frequency of flashes will not cause any issues for someone with photosensitive epilepsy.

Disclaimer: The Helo fixtures are not intended for use as a medical device and people should not be directly exposed to the light generated by the unit. The actual disinfection rates on a specific space will vary.

GOVERNMENTAL GUIDELINES FOR UV LIGHT SAFETY

Occupational Safety and Health Administration (OSHA)

The Occupational Safety and Health Administration (OSHA) does not have any mandated exposure limits to ultraviolet light. OSHA only provides technical guidance regarding protecting employees from ultraviolet laser exposure. While general information about ultraviolet contained in that guidance is described below, it is important to note that PURO Lighting does not currently deploy ultraviolet lasers. For more information on OSHA's guidelines, visit: https://www.osha.gov/laws-regs/standardinterpretations/2003-02-26.

Ultraviolet radiation is divided into three regions: UV-A: 315-400 nanometers (nm), UV-B: 280-315 nm, and UV-C: 200-280 nm. UV can be associated with adverse health effects due to prolonged exposure and the wavelength of light.

According to OSHA's guidelines, "exposure in the shorter UV-C and longer UV-A ranges seems less harmful to human skin. The shorter wavelengths are absorbed in the outer dead layers of the epidermis and the longer wavelengths have an initial pigment-darkening effect followed by erythema if there is exposure to excessive levels."

"The hazards associated with skin exposure are of less importance than eye hazards." Exposure to light may cause photokeratitis or cataracts.

National Institute for Occupational Safety and Health (NIOSH)

The National Institute for Occupational Safety and Health (NIOSH) recommends limits to exposure determined by the wavelength of UV light and intensity. NIOSH recommends that the time of exposure to an intensity of 100 microwatts per square centimeter at wavelength 254 nm not exceed 1 minute. Per the programming, UV exposure from Helo fixtures for a 30-minute cycle is less than two seconds. For more information, view the recommended standards from NIOSH at: https://www.cdc.gov/niosh/docs/73-11009/pdf/73-11009A.pdf.

Environmental Protection Agency (EPA)

The Environmental Protection Agency (EPA) is the governmental agency responsible for regulating ultraviolet light products. It regulates chemical disinfectants along with devices, such as equipment that generates UV light, used to control pests like bacteria and making antimicrobial claims. For more information about EPA guidelines, visit:
https://www.epa.gov/safepestcontrol/pesticide-devices-guide-consumers.

Food and Drug Administration (FDA)

The Food and Drug Administration (FDA) only regulates devices that are classified as medical instruments, machines, and devices used to treat diagnosed medical conditions. Therefore, PURO Lighting does not fall under FDA guidelines.

COMMISSIONED HELO FIXTURES

Commissioning

Helo fixtures come pre-commissioned but if commissioning adjustments are needed in the future, please contact your PURO Lighting representative for assistance.

OPERATIONAL MODES FOR COMMISSIONED FIXTURES

Fixtures ordered for commissioning have three primary modes available to users. Fixtures must be programmed before initial use.

Autonomous Mode: In this mode, once plugged in, the fixtures will automatically activate once the space is unoccupied and continue disinfection on a regular schedule, adjusting frequency based on level of activity in the space based on the motion sensor. Users may select the timeout time, which determines how long the fixture will wait until resuming operation after motion is detected.

Scheduled Mode: In this mode, the fixture will activate at the selected time(s) of day during each 24-hour period. Users may schedule up to 8 start times each day to operate for a specified run time (i.e. 30, 60, 90, or 120 minutes). Users may select the motion timeout, which determines how long the fixture will wait until resuming operation after motion is detected. The fixture may also be configured to activate a disinfection cycle immediately when it is powered and then continue with the scheduled operational time(s).

Single Cycle Mode: In this method, users will manually activate the fixture to start a disinfection cycle. The fixture will then run its pre-programmed cycle (i.e. 10, 15, 20, 25 or 30 minutes) one time before entering safe mode until power is cycled on and off again. Users may select the timeout time, which determines how long the fixture will wait until resuming operation after motion is detected.

GENERAL OPERATION OF COMMISSIONED HELO FIXTURES

1. The PURO Lighting Helo F1 and F2 fixtures are designed to be installed approximately 2 meters (~6 1/2 feet) away from priority areas. See page 12 for additional information on installation methods. Helo fixtures have been tested to kill *E. coli*, *S. enterica*, and *S. aquereus* at distances of up to 4 meters (~13 feet) away, but the length of time necessary to run the fixture increases proportionately to the distance from targeted area. Reflective surfaces, including standard glass, will enhance the effectiveness of the fixture as the UV light will reflect off of these surfaces.

2. The fixtures operate at 120V AC at 60 Hz. Once powered on, the fixtures will draw up to peak current for 4 second intervals (3.5 amps for Helo F1 and 7 amps for Helo F2). Ensure the breaker has available amperage during operation.

3. The space should be unoccupied during cleaning cycles. Exit the space within 60 seconds for optimal functioning of the fixture.

4. The fixtures' redundant safety systems will stop the fixture from operating if motion is detected in the space. The fixtures will resume operation approximately 60 seconds (unless alternate motion timeout was selected) after room is unoccupied and no additional motion is detected.

5. The fixtures will run a safety test to ensure proper functioning and that there is no motion detected in the space. If successful, fixtures will run their pre-programmed operational cycle. See guidelines for more information on operational modes.

6. Allow the fixtures to complete its entire cycle before unplugging or turning off power to the fixture. This allows the fixtures to enter safe mode. If necessary to cease operation prior to completion of cleaning cycle, be sure to keep fixture away from water for optimal safety.

*It is recommended that after every 30-minute run that you allow the unit to cool down for a 15-minute period of time, in order to maximize the life expectancy of your PURO Lighting Helo Fixture.

BACNET INTEGRATED HELO FIXTURES

With the building automation system integration capabilities of the Helo fixtures, users have the ability to adjust the following:

- Operational Modes & Settings: Select operating modes, including type of disinfection cycle and related selections, such as start time, run time, and motion timeout length, which indicates how long the fixture will wait to attempt re-activation after motion has been detected
- System Monitoring: Monitor current status of fixtures remotely and troubleshoot operating
- Network Settings: Configure network settings and/or troubleshoot any networking issues
- Metrics: Access data on the fixtures, including number of successful cleaning cycles and runtime over specified period of time or lifetime of fixture

Helo fixtures integrated to BACnet for Building Automation Systems have 5 operating modes available to users that may be enabled and/or adjusted from your building automation control system (see pages 8-9 for additional information).

- AI Mode: The fixture will automatically activate once the space is unoccupied and continue disinfection on a regular schedule, adjusting frequency based on level of activity in the space based on the motion sensor.
- Manual Mode: User will manually activate the fixture to start a disinfection cycle. The fixture will then run its pre-programmed cycle length one time before entering safe mode until power is cycled on and off again.
- Overnight Mode: The fixture will activate a 30-minute disinfection cycle, turn off for 30 minutes, and then activate a second 30-minute disinfection cycle.
- Four Hour Mode: The fixture will run alternating 1-hour cycles of 2 minutes of cleaning, 8-minute breaks, followed by 30-minute break over the course of 4 hours. The cumulative cleaning time will be 36 minutes, but is intended to extend the life of the product.
- BMS Mode: The fixture will operate disinfection cycles similar to that of manual mode. However, the fixture will have to be activated from within your building automation system software.

NOTE: By default, this mode will have safety features deactivated, however the safety feature can be enabled in BACnet.

*Modes and settings are subject to change. Please contact the team at PURO Lighting if you have any questions.

OPERATIONAL MODES AND SETTINGS

BACnet Variable	Description	Options
Operating Mode CMD	Set operating mode for the fixture. See descriptions on page 6.	AI; Manual; Overnight; Four Hour; BMS
Cleaning Internal Runtime STPT	Set the amount of time (in minutes) the fixture cleans for in manual mode.	Range 10 minutes to 120 minutes
Motion Timeout STPT	Sets the number of seconds for which the fixture will pause when it detects motion.	Range 15 seconds to 1,800 seconds
Enable Cleaning CMD	Manually turn the fixture on/off.	0 = fixture is off 1 = fixture is on
Enable Safeties CMD	When safeties are enabled, fixture pauses cleaning when PIR detects motion.	0 = Safeties are disabled 1 = Safeties are enabled
Cleaning Schedule	Fixture will start cleaning on any schedules set here. Synchronization of BACnet time with on-board clock is recommended. The schedule will repeat each week on the specified day and time.	Each day supports a maximum of 8 scheduled times.
Reboot Device CNFG	Reboots device	
RTC Daylight Saving Rule CNFG	If this field is blank, automatic daylight saving time changes are disabled. To enable DST, you must set rules for the start and end dates using specific grammar.	See “Automatic Daylight Saving Grammar” section on page 10
RTC Time Zone	This user-defined string has no functional impact on the unit, but is intended to be used as a note describing which time zone the unit is in.	User-defined time zone string

SYSTEM MONITORING

BACnet Variable	Description	Options
Real-Time Clean STS	Indication of fixture’s cleaning cycle status	1= fixture finished a cleaning cycle 0 = fixture has not yet completed its current cleaning cycle
Motion Detected STS	Indication of status of PIR sensor	1 = fixture has detected motion 0 = No motion detected
UV Cleaning STS	Indication of fixture’s current operational status	1 = fixture is running/cleaning 0 = fixture is not cleaning

UV Cleaning STS	Remaining time (in seconds) until the fixture is finished its current cleaning cycle	
Self Test STS	Reports any issues with the fixture that can be detected by on-board diagnostics	
RTC Device Time STS	Displays the time currently stored on the device. Note: Read-only. Time must be synchronized using your BACnet client's time sync function.	(Year-Month-Day) (24-Hour:Minute:Second)

NETWORK SETTINGS

BACnet Variable	Description	Options
DHCP CNFG	When DHCP is enabled, ethernet settings are acquired automatically. If the fixture fails to acquire a DHCP IP address, it will default to 192.168.1.5. When disabled, enter your custom settings via the IP Address, Subnet Mask, and Gateway Objects. Then reboot the device to apply network changes.	Enabled/Disabled
MSTP Baud Rate CNFG	Sets all network settings back to their factory defaults. Sets the MSTP baud rate back to the default (38400) and the MSTP MAC address to the default (55).	Supported device baud rates: 9600; 19200; 38400; 57600; 76800; 115200
IP Address CNFG	If DHCP is disabled, a static IP address can be set here.	
Subnet Mask CNFG	If DHCP is disabled, a static subnet mask can be set here.	
Gateway CNFG	If DHCP is disabled, a static gateway can be set here.	
Device MAC Address CNFG	The ethernet's MAC address	
UDP Port CNFG	The UDP port that BACnet uses	Default value: 47808
MSTP MAC Address CNFG	Use this to set the MSTP MAC address. Each device on the network must have a unique MAC address.	Default value: 55

METRICS

BACnet Variable	Description
Successful Cleanings In Last 24 Hour	The number of cleaning cycles that were completed in the most recent 24-hour period
Runtime for Past 7 Days	Total run time (in hours) of the fixture over the past 7 days
Runtime for Past 30 Days	Total run time (in hours) of the fixture over the past 30 days
Total Runtime (Lifetime Hours)	Total run time (in hours) of the fixture over the product's life

AUTOMATIC DAYLIGHT SAVING GRAMMAR

To set the rules associated with daylight savings time, please follow the instructions below.

The rules are case sensitive. The time must be synchronized after changing the rule.

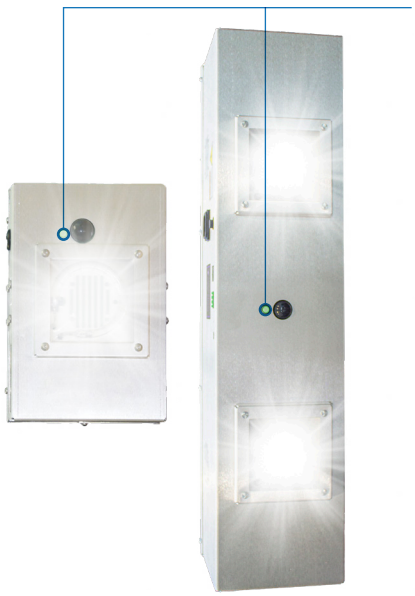
(First/Second/Third/Fourth/Last)(First 3 letters of weekday: Mon/Tue/Wed/Thu/Fri/Sat/Sun)(First 3 letters of month: Jan/Feb/Mar/Apr/May/Jun/Jul/Aug/Sep/Oct/Nov/Dec)(Hour when time changes in 24-hour format)

A dash (-) separator must be used between the start rule and end rule.

For example, in the United States, DST starts on the Second Sunday of March at 02:00AM and ends on the First Sunday of November at 02:00AM. The DST rule would therefore be: SecondSunMar02-FirstSunNov02

The DST rule for Germany would be: LastSunMar01-LastSunOct01

SENSOR INDICATORS



Each unit has an indicator light that helps you determine the status of the unit.

Color of Light	Meaning
Flashing Green	Unit is ready to begin cleaning when room becomes unoccupied.
Solid Green	Unit has successfully completed its cleaning cycle.
Solid Red	Unit was interrupted during the cleaning cycle. Cleaning will resume when room becomes unoccupied again during the programmed times for operation.
Flashing Red	One of the safety sensors has detected an issue. Please see troubleshooting section for further information.

TROUBLESHOOTING

1. If unit is flashing red, then an issue was detected by the safety sensors. Unplug the unit.

2. Plug the unit back into the wall. Exit the room within 60 seconds.

3. When you return to the room, identify the color of light on the sensor indicator. If unit is green or solid red, the unit is working properly. If unit is still flashing red, contact PURO Lighting technical support.

4. If unit is non-responsive (i.e. no indicator light showing), please contact PURO Lighting technical support.

GUIDELINES FOR CLEANING THE FIXTURE

- To clean the unit, wipe down the metal plates with stainless steel polish using a microfiber cloth.
- Do not use abrasive cleaners to clean the unit.

For most situations, the general operation instructions can be used to disinfect a room. However, there are special instructions recommended for blood spills, or when certain organisms, such as *C. diff* are known or suspected to be present.

GENERAL DISINFECTION GUIDELINES

1. Complete standard cleaning procedures to remove any visible dirt, grease, or other debris from space.

2. Activate unit per operational instructions on page 6.

3. Upon returning to space, look at indicator light. Solid green light indicates cleaning cycle completed. If motion was detected prior to observing the indicator light, the indicator light will turn red. If users want to determine if the unit completed the last cycle, prior to powering off, stand out of range of the motion sensor for 60 seconds. The light will resume solid green if cycle was completed. Otherwise, it will resume operation.

CLEANING WHEN BLOOD OR BODILY FLUIDS ARE PRESENT

UV light has the ability to penetrate liquid blood, which has not formed a dried crust, or bodily fluids up to a 1/16" thickness as long as there is no tissue or solid material present. Therefore, UV light may be used to help protect staff before and after traditional cleaning protocols for your facility.

1. Activate the fixture prior to commencing any cleaning procedures. If the blood has already dried, apply hydrogen peroxide solution prior to running the unit.

2. Utilize normal procedures, including appropriate safety protocols to clean the space, including removal of blood and bodily fluids.

3. Activate a second cycle of the fixture to target any remaining bacteria and viruses.

CLEANING WHEN *C. DIFF* IS OF CONCERN

Clostridium difficile (*C. diff*) is a bacteria that is extremely difficult to kill as it is able to survive in unfavorable conditions. Furthermore, it is an anaerobic, endosporic organism, which means it can survive without oxygen and form dormant spores to survive harsh conditions. With the risk of severe illness associated with *C. diff*, it is recommended that you use a combination of approaches to reduce the risk of contracting *C. diff* in your facility.

1. Utilize your facility's adopted environmental cleaning and disinfection strategy for dealing with *C. diff*.

2. Activate the fixture for two consecutive 30-minute cycles at a range of less than one meter for best results, or up to 2 hours for ceiling mounted units (must have a 30-minute break between two 60-minute cycles).

INSTALLATION INSTRUCTIONS

Drop Ceiling (Helo F1 with H1-GA-24 flange and Helo F2)

The Helo fixtures can be installed in 24"x24" or 24"x48" grid drop ceiling. The Helo F1 fixture is shipped with a 24"x24" flange kit when ordering the Helo F1 with a H1-GA-24 flange. The Helo F2 fixture is 24" x 6" making it easy to cut into a ceiling tile. Ensure there is sufficient plenum space for airflow and fixture clearance.

To install the Helo F1 with the H1-GA-24 flange:*

You'll need a ladder, a nut driver, and we recommend safety glasses and gloves.

1. Place the unit face down so the light engine and occupancy sensor fits within the flange cutout.

2. Unscrew the four nuts from the threaded studs.

3. Place the bracket over the end of the unit opposite the power port, and align the holes of the bracket to fit over the threaded studs.

4. Screw the four nuts back onto the threaded studs.

5. Next, place the fixture into the ceiling grid.

6. Make sure you have your tie wires and outlets ready to support your newly installed PURO fixture. And please make sure you follow your local electrical code when installing PURO units.

7. Now, attach the supporting tie wires to the flange.

8. Attach the power cable to the unit, and plug the other side into any standard 120V grounded outlet.

*If installing in a 24" x 24" Grid, no cuts are required. If installing in a 24" x 48" Grid, cut the ceiling tile to fit using a box cutter or appropriate tool.

To install the Helo F2:

You'll need a ladder, sharp blade, 2-foot t-grid, and we recommend safety glasses and gloves.

1. First, remove a ceiling tile, but be sure to keep the ceiling tile for later.

2. Place the 2-foot piece of t-grid securely into the grid.

3. Measure the size of the space from the vertical portion of the t-grid to the vertical portion of the opposite end.*

4. Cut the tile you've removed with a sharp blade to the dimensions you just measured.

5. Using the included hand screws, attach the L brackets to the holes on the back of unit making sure the brackets are located on opposite corners.

6. Now, place the Helo F2 unit into the cavity.

7. Thread tie wires through the L bracket and twist-tie the wires around itself a minimum of three times.

8. Attach the power cable to the unit, and plug the other side into any standard 120V grounded outlet.

9. Finally, place the cut tile back into the drop ceiling.

*Whether installing in a 24" x 24" or 24" x 48" grid, measure and mark a 5 3/4" section to fit on the ceiling tile. Use a box cutter or other appropriate tool to cut off the 5 3/4" section of the tile.

Please refer to our installation videos at www.purolighting.com/safety-and-product-videos/

INSTALLATION INSTRUCTIONS

Hard Ceiling (Helo F1 with H1-DA-12 flange and Helo F2)

Here are the tools you need for installation: A dry wall saw, nut driver, a Phillips head screwdriver (we recommend a drill with Phillips tip), and we recommend safety glasses and gloves.

1. Make sure your installation area is free of studs.

2. Use the metal adapter plate as a template to trace the cut-out area where you'll install your unit.

3. Use a dry wall saw to cut along the lines of the stencil you drew. Then, drill the anchor holes from the template.

4. Thread all four dry wall anchors through the adapter plate.

5. Now, put the adapter plate in the ceiling, making sure the anchors match up to the holes.

6. Tighten the toggle bolt anchors.

7. Place the unit face down making sure that the light engine and occupancy sensor fits within the flange cutout.

8. Unscrew the four nuts from the threaded studs.

9. And place the bracket over the end of the unit opposite the power port, aligning the holes of the bracket to fit over the threaded studs.

10. Screw the four nuts back onto the threaded studs.

11. Plug the cord into the power port and plug the other end into a standard 120V grounded outlet.

12. Finally, using the four screws included, attach the flange to the ceiling adapter plate by simply screwing them in.

Please refer to our installation videos at www.purolighting.com/safety-and-product-videos/

Wall Mount (Helo F1 and Helo F2)

These are the tools you'll need to use to install your Helo F1 or F2 units: A ladder, a level, a drill with the drill bit sized for anchor holes, Phillips head screwdriver, pencil, stud finder to make installation easier, and we recommend safety glasses and gloves.

The Helo F1 and Helo F2 fixtures are equipped with attach points for a standard 100mmx100mm VESA wall mount hardware.

1. First, unscrew the mount from the bracket.

2. If you can, mount with a stud finder. Otherwise, use the anchors that are included to attach to the drywall. Note that you can use a stud finder and use masonry or concrete anchors to mount the bracket, or you can use the toggle bolt anchors that are included to mount the bracket and fixture to any location along your wall, wherever there's a stud cavity.

3. Making sure the bracket is level, use the bracket as a template and mark the four holes on the wall.

4. Drill the holes at the marked positions.

5. Then, put the toggle bolt anchors through the holes of the wall plate.

6. Thread all toggle bolt anchors through the holes.

INSTALLATION INSTRUCTIONS

7. Align the wall plate with the toggle bolt anchors to the holes on the wall. Tighten each anchor a little bit at a time, screwing them in all the way around, making sure you're level as you go.

8. Now, attach the VESA plate to your PURO unit using the hand screws.

9. Attach the PURO unit to your mounted VESA wall plate, and tighten the set screw on top.

10. Finally, attach the power cable to the unit, and plug the other side into any standard 120V grounded outlet. (Both Helo F1 and Helo F2)

11. Make sure the wall outlet is on its own circuit so you can turn the power on or off.

Please refer to our installation videos at www.purolighting.com/safety-and-product-videos/

Suspended Pendant (Helo F2)

The Helo F2 fixture can be suspended from the ceiling to an appropriate height using standard lighting suspension wire. Ensure the ceiling or grid ceiling can support the weight of the Helo fixture.

1. Determine the placement in the room for optimal coverage to suspend the fixture at the desired height.

2. Ensure there is a power drop to connect the fixture. This may include:
   - A grounded non-GFI outlet/15 Amp
   - A switched outlet
   - An outlet with a WiFi or Bluetooth-enabled Smartplug (App required)
   - Approved wiring to the fixture from the power panel of the junction box (permit may be required)

3. Attach the Helo fixture to the suspension cables.

4. Turn on power to the device.

Portable/Tabletop Use (Helo F1)

The Helo F1 can also be used as a portable or tabletop disinfecting UV light unit.

1. Determine the placement in the room for optimal coverage and ensure the surface is dry and stable.

2. Plug in the unit into a non-GFI 110V outlet/15Amp.

3. Turn on power to the device.

TECHNICAL SUPPORT

Email us at support@purolighting.com or call (877) 452-8785.