



**Maintenance • Service • Safety • Installation •
Recommendations For EvergreenUV Air &
Surface Disinfector
GL Series**



**1931 Thomas Rd. Memphis, TN 38134
901-800-1709 • Fax 888-577-1709**

email@evergreenuv.com

EPA Establishment No. 91347-TN-001

Maintenance

Scheduled Maintenance Procedures

Quarterly – **After reading the warnings**, visually inspect lamps to insure all lamps are operational. **Wear eye and skin protection.**

Semi-Annually – If the lamps show visual dust accumulation, they should be cleaned.

To clean lamps:

1. De-energize (turn off power) by switching the toggle switch to the “off” position.
2. Using soft cotton gloves, remove the lamps from the UV unit.
3. Using a soft cotton cloth, with isopropyl alcohol, wipe the lamps and allow to dry. Replace the lamps.
4. Read warnings. Turn on the exterior toggle switch.
5. Inspect the lamps from below to insure all lamps are energized.

Annually – Replace the lamps.

To replace lamps:

1. De-energize (turn off power) by switching the toggle switch to the “off” position.
2. Remove the used lamps from the UV unit.
3. Wearing soft cotton gloves and using a soft cotton cloth, with isopropyl alcohol, wipe the new lamps and allow to dry.
4. Install new lamps.
5. **Read warnings**, power up fixture. **Wear eye and skin protection.**
6. Inspect lamps to ensure that lamp(s) is/are on/energized.

,

Service

EvergreenUV replacement parts and lamps can be purchased from authorized distributors for information call 901-800-1709.

What is UVGI?

UV-C, also known as “germicidal ultraviolet”, has a **specific wavelength of 253.7nanometers (253.7 billionths of a meter)** and is known to deactivate molds, spores and germs contained in tiny airborne droplet nuclei that transmit diseases such as measles, tuberculosis, and influenza from person to person. With significant penetrating ability, UV-C can penetrate the cell wall of a microorganism and destroy it but it cannot penetrate the outer layer of human skin or the cornea of the eye. Although overexposure may lead to a temporary, minor eye irritation or skin reddening it does not cause serious or long-term health effects.

Safety

Personal Protective Equipment

Employees **must** wear personal protective equipment whenever UV radiation measurements are being made close to the lamp source in order to document lamp output, or when maintenance procedures must be performed in areas where UVGI systems are activated. Personal Protection Equipment includes:

- Safety glasses with side shields
- Head, neck and face covering opaque to UV radiation
- Soft cotton gloves
- Long-sleeved, tightly woven fabrics with SPF 15 or greater

Reporting UV Exposure

Should any temporary eye or skin irritation that develops after acute exposure to UV radiation one should contact their supervisor or physician.



Philips Lighting Company

MATERIAL SAFETY DATA SHEET S06-03001

Revised: 12/2012

PRODUCT: TUV Germicidal Lamps

SECTION 1: MANUFACTURER

Manufacturer's Name and Address: Philips Lighting Company
A Division of Philips Electronics
North America Corporation
200 Franklin Square Drive
Somerset, NJ 08873-4186

Emergency Telephone No: (800) 424-9300 CHEMTREC
(800) 555-0050 Philips Lighting Technical Information

SECTION 2: HAZARDOUS INGREDIENTS

OSHA (PEL)	ACGIH (TLV)	% by Wt.	
	mg/m ³		mg/m ³ TWA
Inert Ingredients (Glass, Metal, etc.)			~ 99
Mercury (7439-97-6)	.1	.025	~0.1

Mercury is inside the lamp, breakage may result in exposure.

SECTION 3: PHYSICAL CHEMICAL CHARACTERISTICS

This item is a glass light bulb. The mercury is inside the bulb, chemical characteristics of the bulb are not applicable. This bulb can crack if hit with a heavy object.

SECTION 4: FIRE AND EXPLOSION DATA

Glass is not a combustible, melting point is over 900°F. Fire and explosion data are not applicable. Under extreme heat, the bulb might crack or melt.

SECTION 5: REACTIVITY DATA

Stability: Lamp is stable.

Incompatibility: Glass can be attacked by hydrofluoric acid.

Polymerization: Not Applicable.

SECTION 6: HEALTH EFFECTS

DANGER: These lamps emit ULTRAVIOLET RADIATION (UVC). Avoid exposure. Ultraviolet radiation is harmful to the skin and the eyes and can cause serious skin burns and eye injury either from direct or reflected radiation. To reduce the risk of personal injury, install only in fixtures which provide adequate protection to area occupants. Should not be used for illumination purposes.

SECTION 7: PRECAUTIONS FOR SAFE HANDLING AND USE

Consult the fixture manufacturer regarding the suitability of the fixture for this lamp. Operate with proper auxiliary equipment. Turn off lamps before installing, replacing, cleaning or performing any maintenance work near fixtures.

Handle lamps carefully to avoid breakage. Broken glass can cause cuts.

Waste Disposal Method: At the end of rated life, when this lamp is removed from service, it will be subjected to the current Toxic Characteristic Leaching Procedure (TCLP) prescribed by the Environmental Protection Agency. This test is used to determine whether an item is a hazardous waste or a non-hazardous waste under current EPA definitions. These lamps would fail the TCLP test and would be considered hazardous under the Universal Waste Rules. Generators should evaluate all of the disposal options, which may be available in the particular state in which the generator's facility is located. The generator should check with federal, state and local officials for their guidance. Philips encourages recycling of its products by qualified recyclers.

SECTION 8: CONTROL MEASURES

Do not operate under these lamps without personal protective equipment. (Goggles, glove, skin protection)

Respiratory protection: If large numbers of these lamps are being broken an appropriate respirator should be considered. Note: Crushing of lamps on site may require a permit from state or federal authorities. We recommend recycling as the preferred disposal option.

Ventilation: Avoid inhalation of airborne dust

Hand and eye protection should be worn when handling broken glass.

SECTION 9: REGULATORY INFORMATION

As a product these mercury-containing lamps, when shipped in the manufacturer's original packaging, are not regulated for ground or ocean shipment.

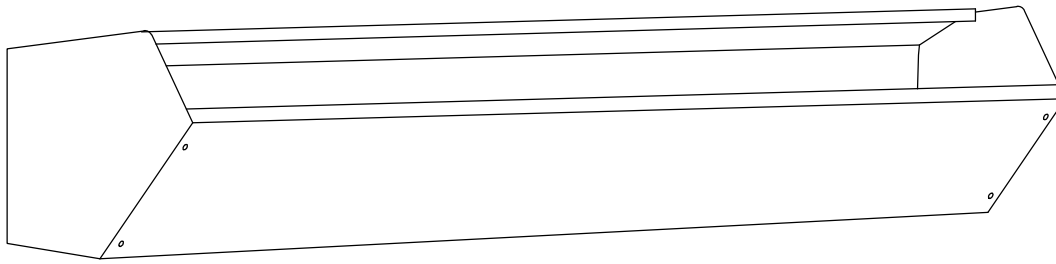
This material safety data sheet does not constitute "knowledge of the waste" in certain jurisdictions.



A division of
Philips Electronics North America Corporation

200 Franklin Square Drive
P.O. Box 6800
Somerset, NJ 08875-6800
Tel: 732.563.3000

08/2005 S06-03001
Revised: 12/2012



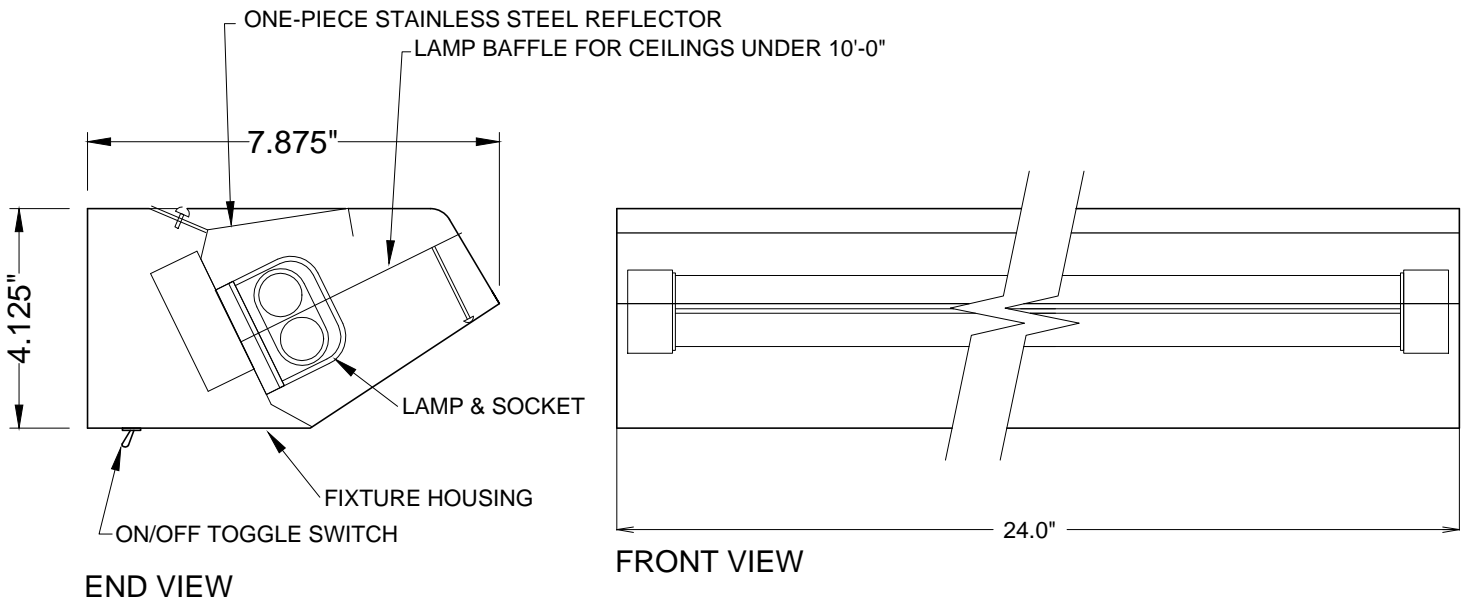
DIMENSIONS: 24" L. x 7 7/8" EXT. x 4 1/8" H.
 FINISHES: ALUMINUM HOUSING & REFLECTOR

ELECTRICAL REQUIREMENTS: 120V THRU 240V/ 50-60Hz / 0.5A
 LAMP: (2) 18W TWIN TUBE UV
 UV WATTS: 11 UV WATTS / NOMINAL WATTS: 36 WATTS; 120V/0.29A (MINIMUM) THROUGH
 240V/0.13A (MAXIMUM)

MINIMUM CEILING HEIGHT: 9'-0"; CEILINGS LESS THAN 10'-0" REQUIRE LAMP BAFFLE. **SPECIFY ON PURCHASE ORDER**
 MOUNT NO LOWER THAN 7' 0" ABOVE FINISHED FLOOR.

WALL MOUNTED

STANDARD IS HARDWIRED. IF A 9'-0" CORD IS DESIRED, **SPECIFY ON PURCHASE ORDER**

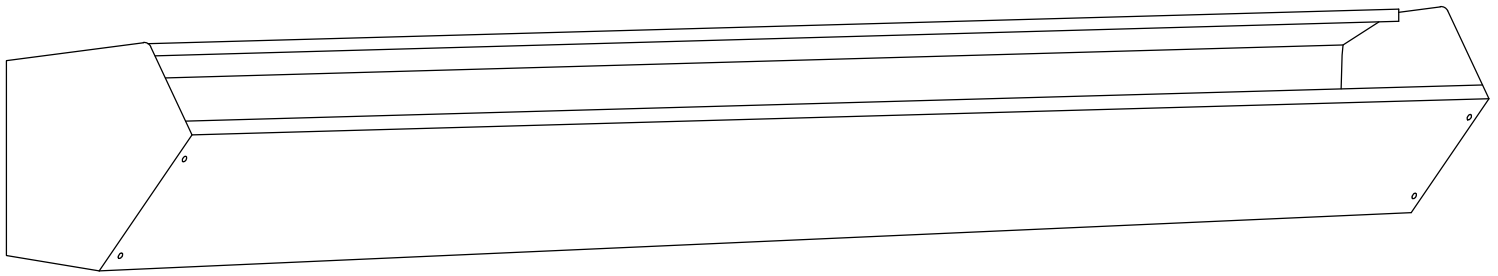


SUBMITTAL DRAWING
GL-218



1931 Thomas Rd.
 901-800-1709

Memphis, TN 38134
 email@evergreenUV.com



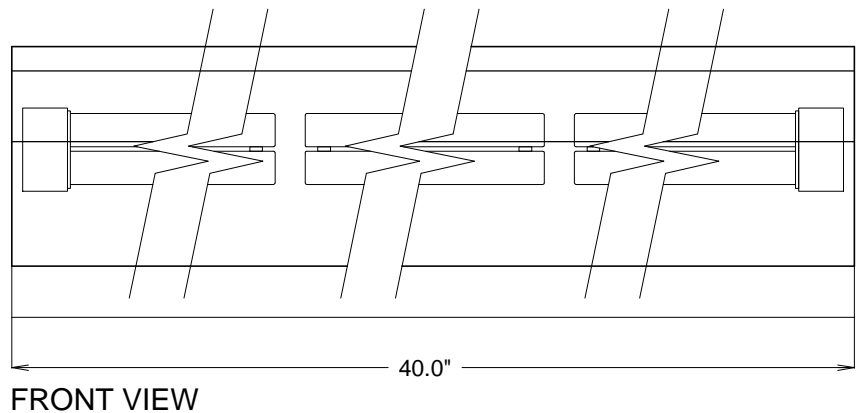
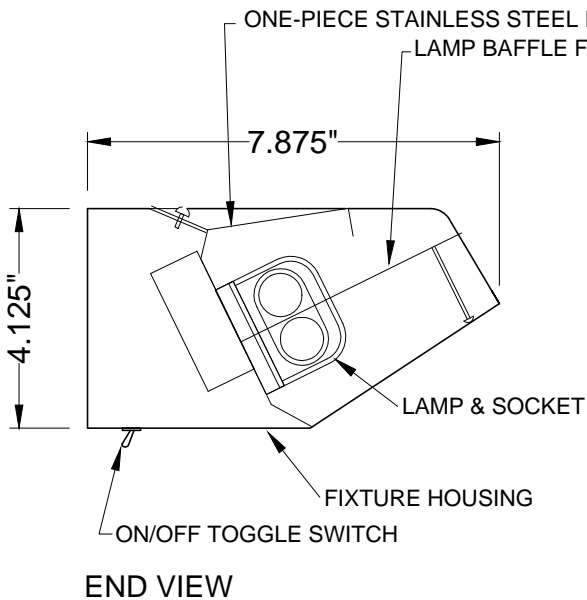
DIMENSIONS: 40" L. x 7 7/8" EXT. x 4 1/8" H.
 FINISHES: ALUMINUM HOUSING & REFLECTOR

ELECTRICAL REQUIREMENTS: 120V THRU 240V/ 50-60Hz / 0.5A
 LAMP: (4) 18W TWIN TUBE UV
 UV WATTS: 22 UV WATTS / NOMINAL WATTS: 72 WATTS; 120V/0.29A (MINIMUM) THROUGH
 240V/0.13A (MAXIMUM)

MINIMUM CEILING HEIGHT: 9'-0"; CEILINGS LESS THAN 10'-0" REQUIRE LAMP BAFFLE. **SPECIFY ON PURCHASE ORDER**
 MOUNT NO LOWER THAN 7' 0" ABOVE FINISHED FLOOR.

WALL MOUNTED

STANDARD IS HARDWIRED. IF A 9'-0" CORD IS DESIRED, **SPECIFY ON PURCHASE ORDER**



SUBMITTAL DRAWING
GL-418

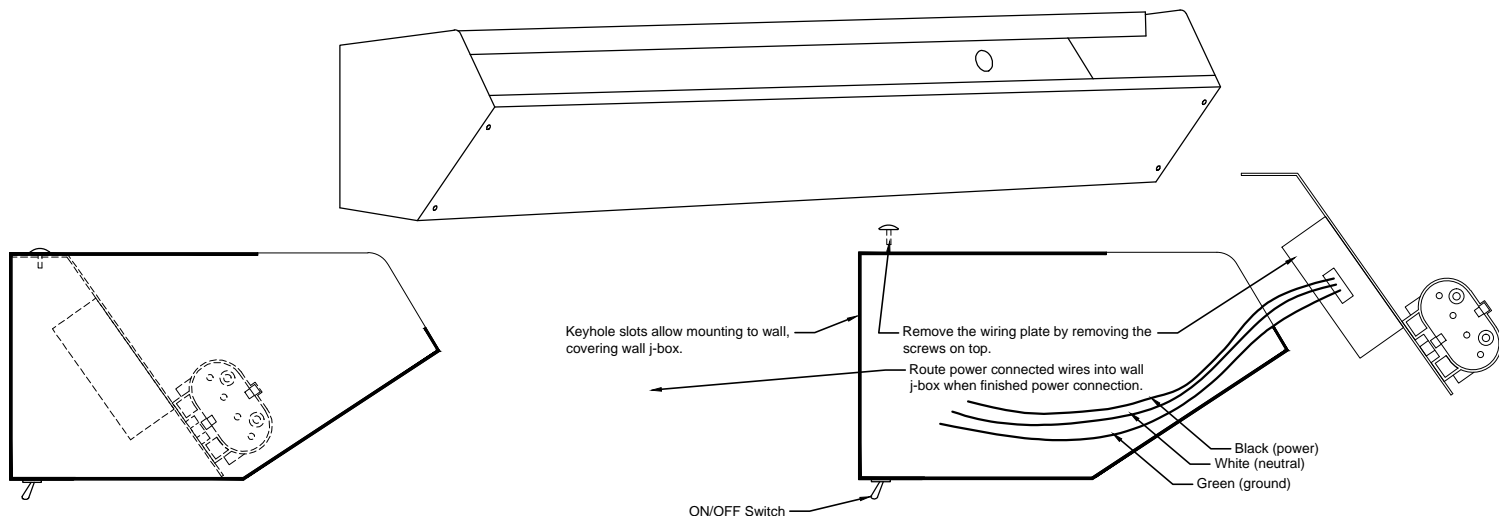


1931 Thomas Rd.
 901-800-1709

Memphis, TN 38134
 email@evergreenUV.com

!! CAUTION !!

THIS UNIT IS DESIGNED FOR USE WITH ULTRAVIOLET LAMPS AND MUST BE INSTALLED IN COMPLIANCE WITH COMPETENT TECHNICAL DIRECTIONS SO THAT USERS' EYES AND BARE SKIN WILL NOT BE SUBJECTED TO INJURIOUS RAYS. DO NOT LET EYES OR BARE SKIN BECOME EXPOSED TO ULTRAVIOLET RAYS EMITTED BY THE UV LAMPS USED IN THIS FIXTURE. DO NOT MOUNT WITH BOTTOM OF FIXTURE BELOW 7'-0" ABOVE FINISHED FLOOR.



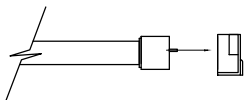
HARDWIRED INSTALLATIONS

1. Disconnect power to fixture location.
2. Be sure that the mounting structure will safely support the entire weight of the fixture so that no immediate or future damage will occur to persons or property. Use keyhole slots in the fixture back to attach fixture to wall using appropriate anchors by others.
3. Remove the wiring tray by unscrewing the 2 screws in top of fixture.
4. Connect house power to fixture following National Electrical Code, local code, & facility code. A licensed electrician is to perform any electrical work. Fixture wiring color code is: black=power(hot), white=neutral, green=ground. Route all 3 wires back into wall j-box.
5. Reinstall reflector, be sure that **ON/OFF** toggle switch is in "**OFF**" position, lamp fixture with 2 each 18W twin-tube UV lamps (included). Use cotton gloves provided to handle lamps. Touching lamps with bare hands does not effect lamp life. Residue left on lamps can reduce UV output. Clean dirty lamps with isopropyl alcohol & soft cloth. **Following UV protective measures**, test fixture.

PLUG-IN INSTALLATIONS

1. Disconnect power to fixture location.
2. Be sure that the mounting structure will safely support the entire weight of the fixture so that no immediate or future damage will occur to persons or property. Use keyhole slots in the fixture back to attach fixture to wall using appropriate anchors by others. No need to remove wiring tray. Use the access hole in the wiring tray to access the keyholes. Cord is 9'-0" long.
3. Ensuring that **ON/OFF** toggle switch is in "**OFF**" position, lamp fixture with 18W twin-tube UV lamps (included). Use cotton gloves provided to handle lamps. Touching lamps with bare hands does not effect lamp life. Residue left on lamps can reduce UV output. Clean dirty lamps with isopropyl alcohol & soft cloth.
4. Plug cord into house power following National Electrical Code, local code, & facility code. A licensed electrician is to perform any electrical work. **Following UV protective measures**, test fixture.

LAMP INSTALLATION



1. Insert four pins of lamp into four socket slots.
2. Push lamp into socket & lamp clip until it gently snaps in to socket.

GL INSTALLATION



1931 Thomas Rd.
901-800-1709

Memphis, TN 38134
email@evergreenUV.com

EPA ESTABLISHMENT NO. 91347-TN-001

Troubleshooting Guide, Lumalier Model GL

Issue

Probable Cause and Solution

Single lamp flickers

Lamp is not securely seated in the socket.

- Remove and securely reseal lamp

Lamp is defective or at the end of its life cycle

- Replace with new lamp

Two lamps are out

Ballast is possibly defective

NOTE: On most GL units, one ballast is used to power two lamps; if the ballast is defective, two lamps will fail to illuminate. If one lamp is out, the other lamp will not energize.

- Check to insure both lamps are securely seated in their lamp sockets.
- Replace one of the lamps, but do not dispose of the removed lamp. If both lamps fail to energize, replace the second lamp with the lamp removed from the first socket. If both lamps again fail to energize, replace both lamps. If both new lamps fail to energize, send to EvergreenUV for repair.

Troubleshooting Guide, Lumalier model GL Continued

NOTE:

To prevent damage to lamps or sockets, follow lamp replacement instructions carefully. Insert the 4 pin base of the lamp into the lamp socket parallel to the reflector and push straight down into socket, push the exposed end of the lamp towards the lamp-holder bracket to secure and seat the lamp into the socket. A 'click' will be heard or felt when the lamp is properly seated. Removal is performed by reversing this action, lifting the free end of lamp out and doing the same to the socket end of lamp. Pull the lamp straight out and away from the socket.

Always use gloves to avoid surface contamination of the lamp. Always dispose of lamps in accordance with local waste disposal laws. For reference, Philips lamps contain $\leq 5\text{mg}$ of Mercury.

Ballast replacement requires proper training, tools and skills. DO NOT attempt to secure wiring or replace ballasts without proper knowledge and training to do so.



Making sure that the lamp base is between the metal clips in socket, push the lamp base into the lamp socket.

Repeat procedure with each lamp.



1931 Thomas Road ~ Memphis, TN 38134 ~ 901-800-1709 ~ www.EvergreenUV.com

Product Limited Warranty

SCOPE of WARRANTY:

Evergreen UV LLC manufactures all Evergreen UVC Air and Surface Disinfection Products in our Memphis, Tennessee, USA, factory. Evergreen UV LLC warrants that all Evergreen products (the "Product") will be free from defects in materials and workmanship during the **Applicable Warranty Periods of five years from the Date of Professional Installation**. If the Product fails in normal use and service within the Stated Warranty Period due to a defective part, Evergreen UV will, at its option, repair or replace the defective part. The replacement part will be warranted for only the unexpired portion of the original Applicable Warranty Period. If a part of the Product fails and an exact replacement is not available, Evergreen UV reserves the right to provide a substitute of equal or greater value, or provide a credit in the amount of the original cost of the defective part towards the purchase of a new Evergreen product similar in function and features to your Product. **Replacement parts are NOT pro-rated**, meaning that any part or component that fails during the warranty period will **be replaced or credited** (if replacement is no longer available) **at original purchase cost**.

EFFECTIVE DATE of LIMITED WARRANTY COVERAGE:

The Effective Warranty Date is the date of the Product's first installation, if properly documented; otherwise it is the date of purchase plus one (1) month.

APPLICABLE WARRANTY PERIODS for VARIOUS PARTS:

- UV Fixture: Product parts and components are warranted for an Applicable Warranty Period of Five (5) years after the Effective Date.
- UV Lamps: UV lamps are warranted for an Applicable Warranty Period of two (2) years after the Effective Date.
- Fans: Fans used in certain UV fixtures are warranted for an Applicable Warranty Period of one (1) year after the Effective Date.

STANDARD PROVISIONS and CONDITIONS:

EXCLUSIONS – THIS LIMITED WARRANTY WILL NOT APPLY:

- (a) To damages, malfunctions or failures resulting from failure to properly install, operate or maintain the Product in accordance with the manufacturer's instructions;
- (b) To damages, malfunctions or failures resulting from abuse, accident, fire, flood and the like;
- (c) To parts used in connection with normal maintenance, such as cleaning or replacing air filters;
- (d) To Products that are not installed in accordance with applicable local codes, ordinances, facility requirements, and good trade practices;

- (e) To damages, malfunctions or failures caused by the use of any attachment, accessory or component, or to any modifications not authorized by the manufacturer;
- (f) To damages, malfunctions, or failures caused by misuse, accident, contaminated or corrosive atmosphere, vandalism, freight damages, fire, flood, freeze, lightning, acts of war, acts of God and the like.

SHIPPING COSTS:

This Limited Warranty does NOT cover shipping costs. You, or your installing contractor, will be responsible for the cost of shipping warranty replacement parts from our factory to the location of your product. You also are responsible for any shipping cost of returning the failed part to Evergreen UV, and for incidental costs incurred locally, including handling charges.

LABOR COSTS:

This Limited Warranty does NOT cover any labor expenses for service, or for removing or reinstalling Products. All such expenses are your responsibility, unless a labor service agreement exists between you and your installing contractor.

HOW TO OBTAIN WARRANTY CLAIMS ASSISTANCE:

You must promptly report any failure covered by this Limited Warranty to the installing contractor. Normally, the installing contractor from whom the unit was purchased will be able to take the necessary corrective action by obtaining any replacement parts. If the contractor is not available, please contact any other local contractor handling Evergreen products. If necessary, the following office can advise you of the nearest distributor:

1931 Thomas Road, Memphis, TN 38134, 901-800-1709

REPLACEMENTS ARE MADE SUBJECT TO VALIDATION BY EVERGREEN UV OF WARRANTY COVERAGE. Any part to be replaced must be made available in exchange for the replacement.

EXCLUSIVE WARRANTY – LIMITATION OF LIABILITY:

This Limited Warranty is the ONLY warranty for the Product given by Evergreen UV LLC. No one is authorized to make any warranties on behalf of Evergreen UV LLC. ANY IMPLIED WARRANTIES, INCLUDING MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, SHALL NOT EXTEND BEYOND THE APPLICABLE WARRANTY PERIODS SPECIFIED ABOVE. EVERGREEN UV LLC'S SOLE LIABILITY WITH RESPECT TO DEFECTIVE PARTS OR FAILURES SHALL BE AS SET FORTH IN THIS LIMITED WARRANTY, AND ANY CLAIMS FOR INCIDENTAL OR CONSEQUENTIAL DAMAGES ARE EXPRESSLY EXCLUDED. Some states do not allow limitations on how long an implied warranty lasts, or for the exclusion of incidental or consequential damages, so the above limitation or exclusion may not apply to you. This Limited Warranty gives you specific legal rights, and you may also have other rights which vary from state to state.

**Evergreen UV LLC
1931 Thomas Road
Memphis, TN 38134**

In the spirit of continuous improvement, we reserve the right to make changes without notice.