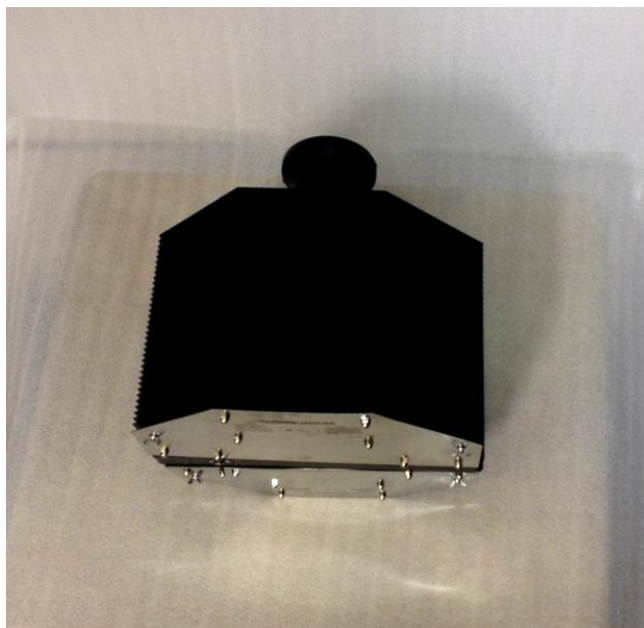

**Maintenance • Service • Safety & Operation
For Lumalier/Evergreen UVGI Air & Surface
Disinfector
PM-418**



Maintenance

Scheduled Maintenance Procedures

Quarterly – Read warnings. Wearing safety glasses, visually inspect lamps through the louver assemblies. Insure all lamps are operational.

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

To clean lamps:

- De-energize by switching the toggle switch to the “off” position.
- Remove the louver assemblies.
- Using soft cotton gloves, remove the lamps from the UV unit.
- Using a soft cotton cloth, with isopropyl alcohol, wipe the lamps and allow to dry.
- Replace the lamps.
- Reinstall the louver assemblies.
- Read warnings. Turn on the exterior toggle switch.

Annually – Replace the lamps.

To replace lamps:

- De-energize by switching the toggle switch to the “off” position.
- Remove the louver assemblies.
- Remove the used lamps from the UV unit.
- Wearing soft cotton gloves and using a soft cotton cloth, with isopropyl alcohol, wipe the new lamps and allow to dry.
- Install the new lamps.
- Reinstall the louver assemblies.
- Turn on the exterior toggle switch.

Service

Lumalier replacement parts and lamps can be purchased from authorized distributors for information call 800-774-5799.

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

1. Disconnect power to mounting location. Remove the louver assemblies by un-screwing the wing nuts ONLY on the stainless steel bottom cover. Then remove the top wing nut , lift up & remove louver assembly.



2. With assistance, raise the fixture frame up to ceiling j-box and install the yoke to it. Mounting screws by others. **INSURE THAT THE CEILING J-BOX WILL SUPPORT AT LEAST 35 POUNDS.** Insert the hanger ball on the fixture stem into the yoke & allow the fixture to hang free.



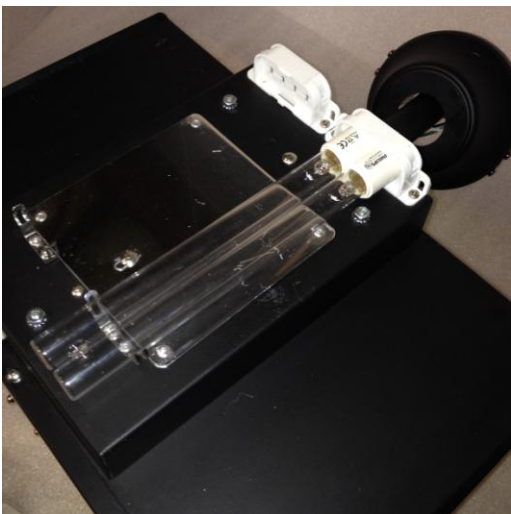
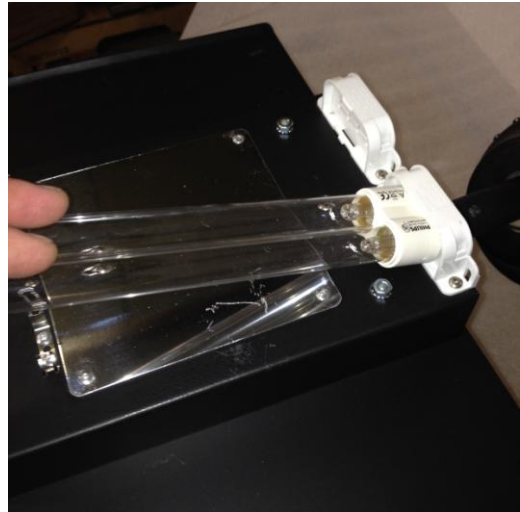
3. Make-up wiring connections. Note: A qualified, licensed electrician is to do all electrical connections. All connections are to be as per the NEC (National Electrical Code) and all local codes.
Fixture wire color code is:
Black = power (hot)
White = neutral
Green = ground
4. After wiring is complete, raise canopy up to yoke and secure it to yoke.



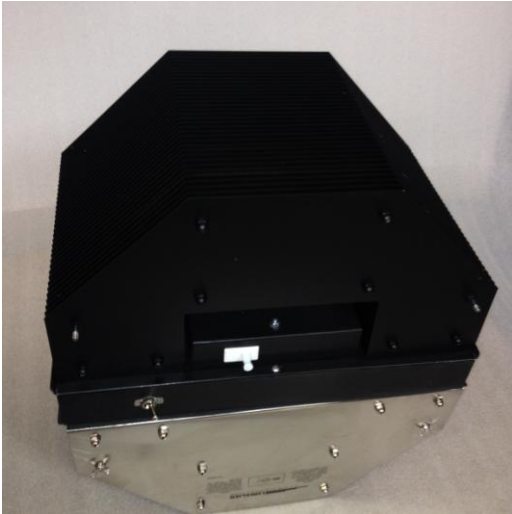
5. Lamp fixture with the PL-L18WTUV lamps provided.



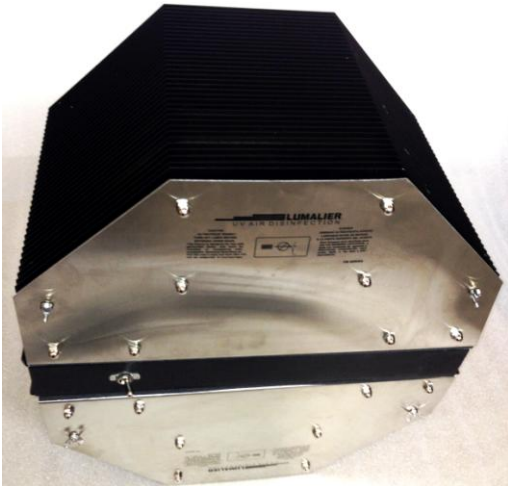
6. Insert lamps at an angle with the four pins on lamp base in the four slots in lamp socket. Firmly hold lamp in socket & swivel lamp down into the lamp clip. Lamp will snap into socket. Note of caution...DO NOT bypass white safety switch on fixture bottom nor push it without louver assemblies in place if power is turned on to fixture. See below.



7. Reinstall louver assemblies.



8. Reinstall stainless steel bottom cover.



9. Turn power on to fixture and test lamps. A constant blue glow should be seen on both sides of fixture.

DO NOT look directly at lamps because temporary reddening of skin and eye irritation will occur. UV protective measures should be taken if it is necessary to be directly exposed to UV radiation. Safety glasses should be worn and skin should be covered.



| VM-818 PARTS LIST | | | | |
|--------------------|--------------|----------------|---------------------------------------|---|
| | Manufacturer | Part No. | Description | |
| Ballast | Advance | IUV-2S18-HI-LD | Multi voltage 120 thru 277 | CE for 230V; CSA NRTC/C; UL listed 704G |
| Sockets | Edwin Gaynor | 2863-SC | 75W/600V | CSA / UL |
| Wire | TEWN | 18 ga. | Black, white,green, red,blue, yellow | CSA CL1251; AWM3173; |
| Toggle Switch | Leviton | 085-720-134 | 3A/250V; 6/125V | CSA; |
| Lamps | Philips | PL-L 18W TUV | | UL; CSA |
| Squeeze Connectors | 3M | L501 | Drop-down | CSA |
| Safety Switch | Micro Switch | 1DM18 | Plunger-type;10A 1/2HP;125,250,277VAC | CSA |

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) mg/m ³ | ACGIH (TLV) mg/m ³ TWA | % by Wt. |
|--|---------------------------------|--------------------------------------|----------|
| 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.

08/2005
Revised: 12/2012

S06-03001