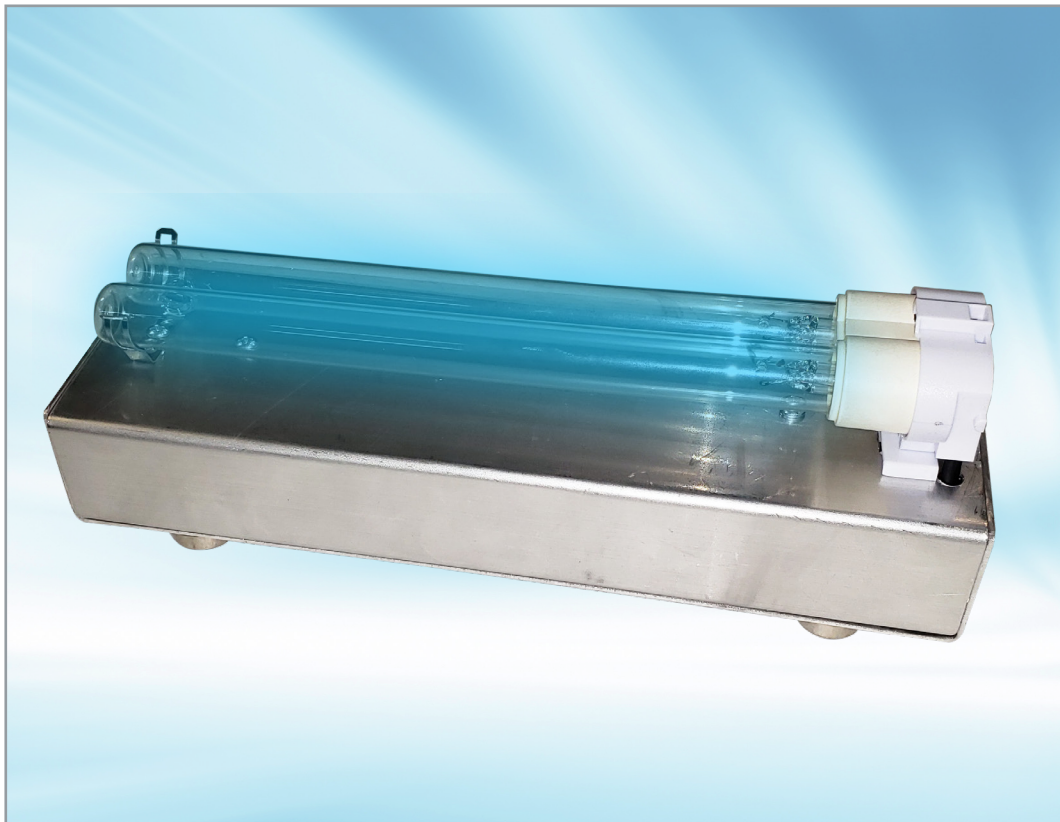


Maintenance • Service • Safety

Recommendations For Lumalier Air & Surface Disinfectant
VFCU Series



www.lumalier.com

1931 Thomas Road | Memphis TN 38134 | 901-800-1709
EPA ESTABLISHMENT NO. 91347-TN-001

Safety First

READ AND FOLLOW ALL SAFETY INSTRUCTIONS

Personal Protective Equipment

Employees must wear personal protective equipment whenever UV radiation measurements are being made close to the lamp source to document lamp output, or when maintenance procedures must be performed in areas where UVGI systems are activated. Overexposure may lead to a temporary, minor eye irritation or skin reddening. It does not cause serious or long-term health effects.

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

Safe Installation

All installation is to be performed by qualified personnel and according to the NEC (National Electrical Code) and local code.

This equipment is designed for use with germicidal UV radiation sources and must be installed in compliance with competent technical directions to prevent risk of personal injury from UV radiation. UV radiation can pose a risk of personal injury. Overexposure can result in temporary damage to eyes and bare skin. To reduce the risk of overexposure, this equipment must be installed in accordance with the manufacturer's site planning recommendations.

UV and optical radiation can be reflected by surrounding surfaces such as ceilings and walls. Since the reflective properties of surfaces can vary widely, it should be considered as part of site planning.

IT IS THE RESPONSIBILITY OF THE INSTALLER TO ENSURE THAT PERSONS WILL NOT BE EXPOSED TO EXCESSIVE UV OR OPTICAL RADIATION DURING EQUIPMENT OPERATION. THIS WILL REQUIRE THE INSTALLER TO CONDUCT AN ASSESSMENT OF IRRADIANCE OR ILLUMINANCE LEVELS IN THE SURROUNDING OCCUPIED SPACES PRIOR TO OCCUPANCY.

Equipment should be mounted in locations and at heights where it will not readily be subjected to tampering by unauthorized personnel. THESE DEVICES ARE NOT INTENDED FOR GENERAL ILLUMINATION.

Product should not be installed within a direct line of sight to any plastics or polymers not previously evaluated suitable for UV exposure.

Product should not be installed with a direct line of sight to any opening that may expose the user or service personnel to UV exposure.

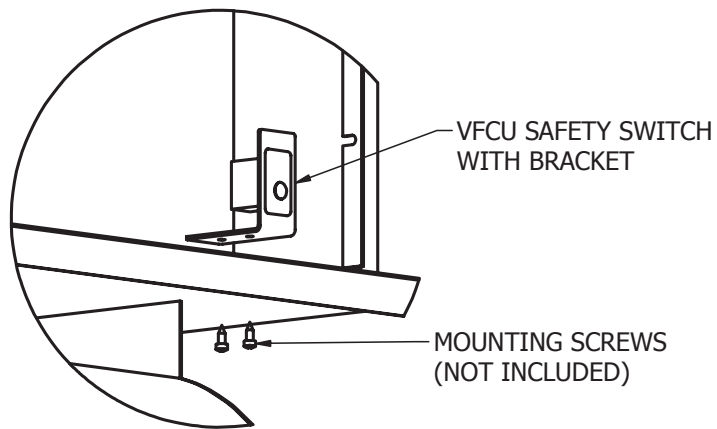
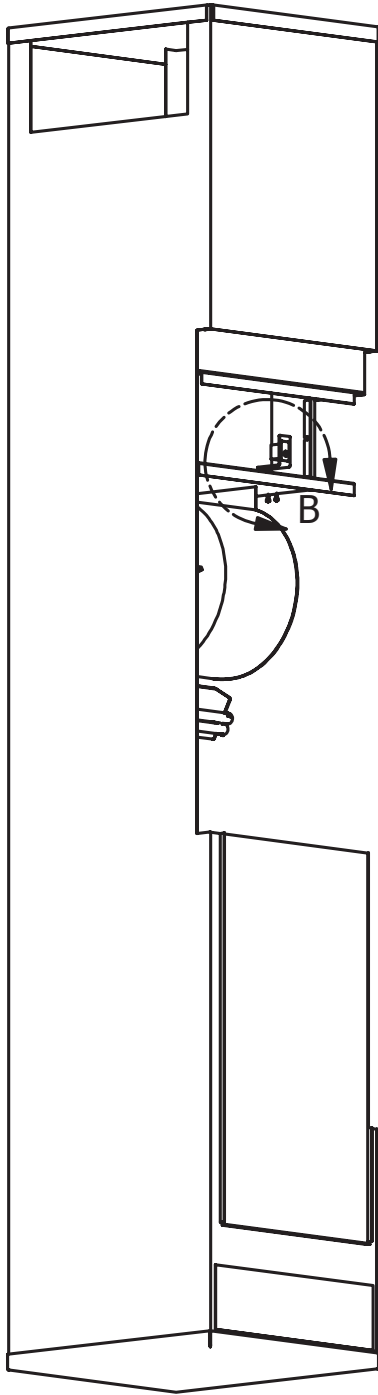
Any service panel or opening in the air handling circuit that would expose the user to direct UV contact should utilize an interlock.

The warning decal provided must be applied to the exterior of the access door/panel and/or adjacent to the exterior on/off main power.

Field wiring must be rated at least 90 degrees C.

Installation Guide

VFCU Safety Switch Generic Mounting Options

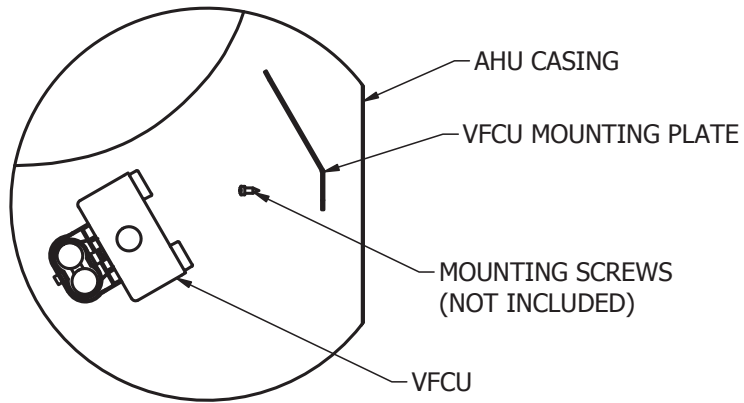
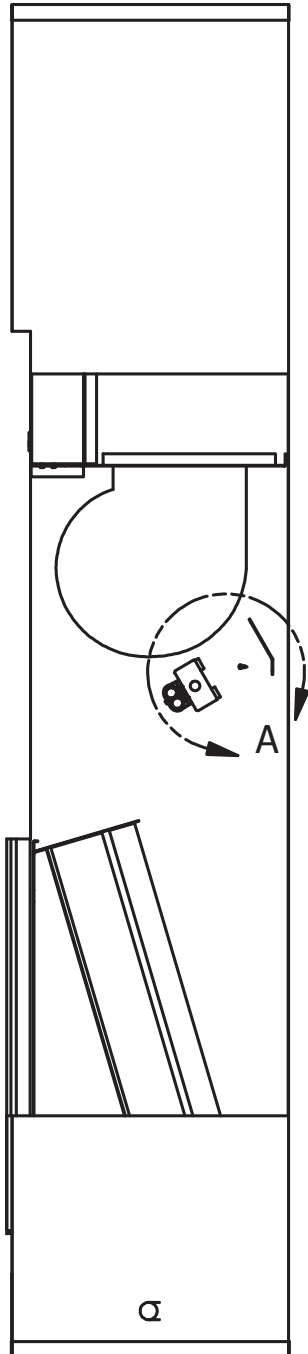


VFCU Safety Switch Installation Steps

1. Locate and install safety switch in electrical compartment using appropriate mounting fasteners.
2. Ensure that the safety switch will be depressed by front panel when installed. VFCU should not power on unless front panel is appropriately installed.
3. Ensure that wiring follows VFCU wiring diagram.

Installation Guide

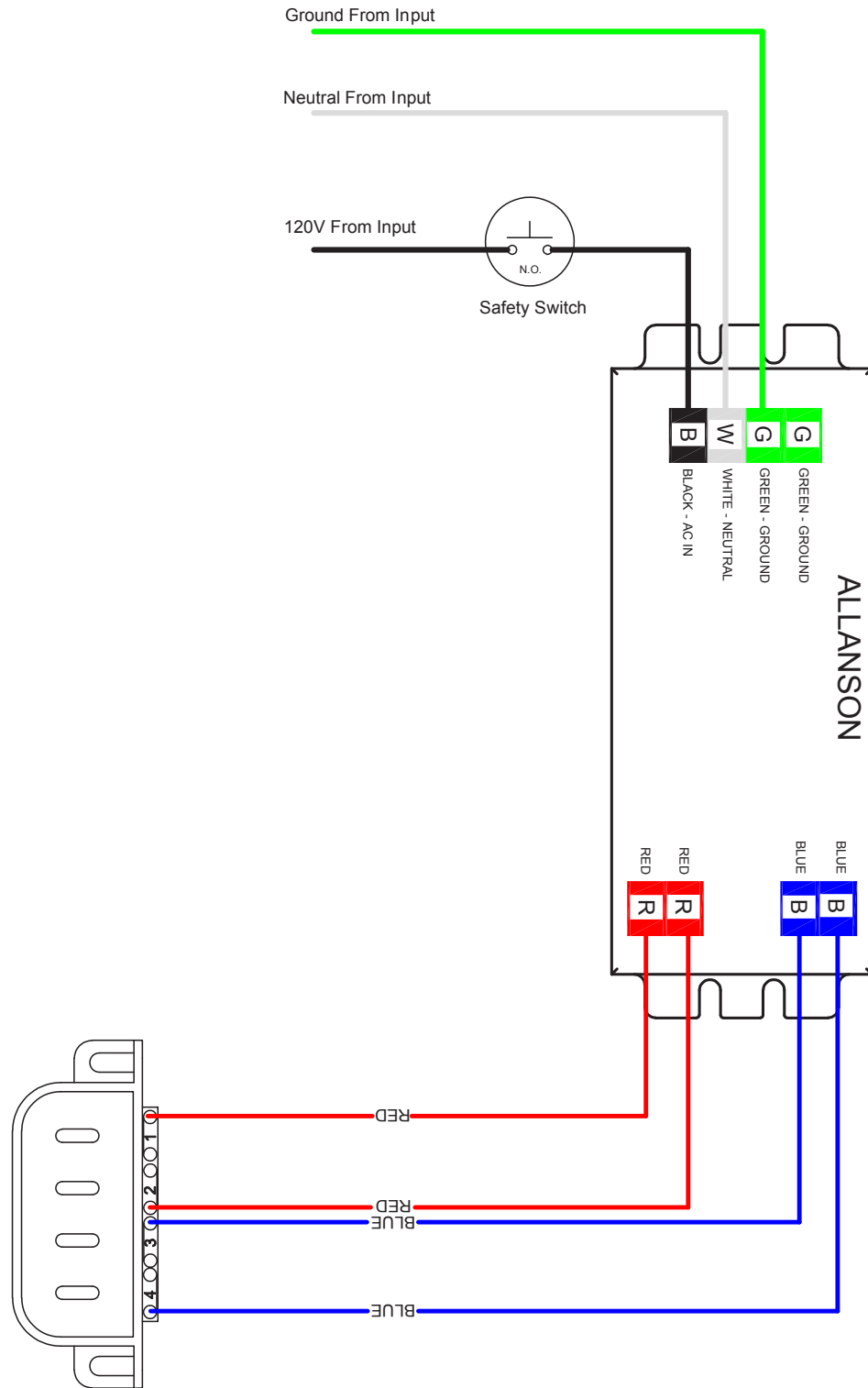
Main Fixture Generic Mounting Option



VFCU Installation Steps

1. Attach VFCU mounting plate to AHU casing using local code & AHU manufacturer approved mounting fasteners. Attach mounting plate as high up in the area while still allowing maximum coverage.
2. Place VFCU onto mounting plate using attached magnets.
3. Route wiring in accordance with local electrical codes and AHU manufacturers recommendations. Ensure that wiring follows VFCU wiring diagram. VFCU should not power on unless front panel appropriately installed.

Wiring Diagram



Material Safety Data Sheets (MSDS)

For MSDS sheets on our lamps, please contact your local Lumalier representative.

Maintenance

Scheduled Maintenance Procedures

Quarterly - Safely & visually inspect lamps to ensure all lamps are operational. Follow safety instructions on previous page.

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

Annually (9000 hours) - Replace lamps.

To clean lamps:

- De-energize the VFCU UV unit using the ON/OFF switch or if plug-ins are provided, unplug power.
- 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. Use only with lamps specified, non-ozone.
- Read & follow warnings. Turn on the ON/OFF switch.
- Inspect the lamps from a safe location to ensure all lamps are energized.

To replace lamps:

- De-energize the VFCU UV unit using the ON/OFF switch or if plug-ins are provided, unplug power also.
- Using soft cotton gloves, 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. Use only with lamps specified, non-ozone lamps.
- Read & follow warnings. Turn on the ON/OFF switch.
- Inspect the lamps from a safe location to ensure all lamps are energized.

All maintenance and service to be performed by qualified personnel while following safety instructions.

Service

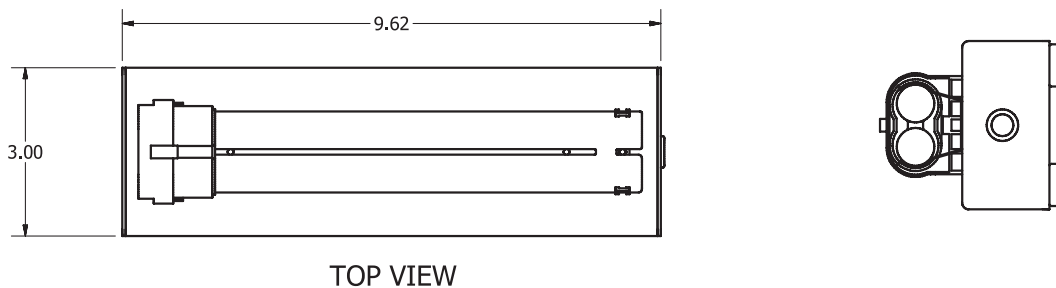
Access the immediate area near the cooling coil.

Locate an area for the VFCU where the cooling coil will be exposed to the UV light. Place the VFCU on a steel surface, ensuring the magnets hold securely.

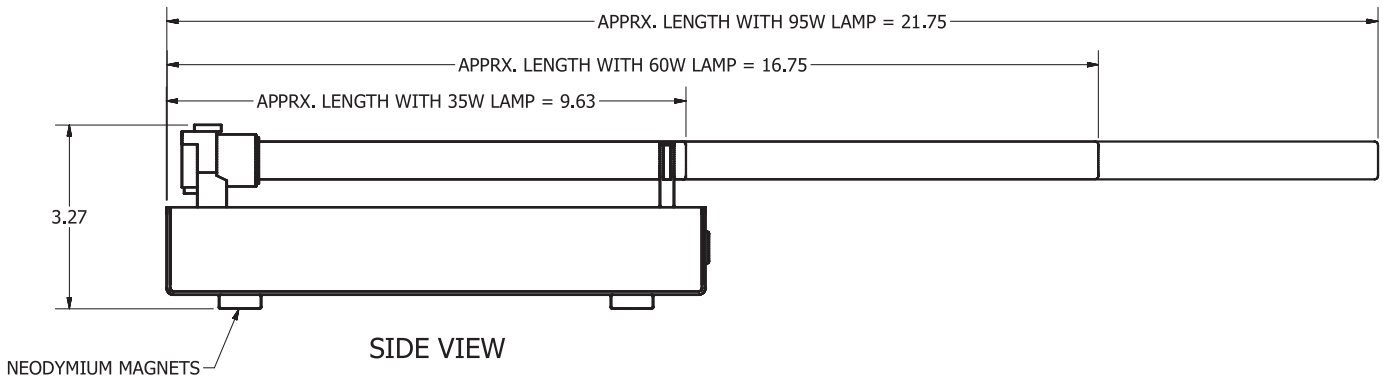
Route house power (120V) wiring (by others) to the 0.875" hole in the VFCU housing end. Connect the ballast wires to the house power. Black Wire = HOT, White Wire = NEUTRAL, and Green Wire = GROUND.

Install lamp as specified. Align the four pins of lamp base with four holes in lamp socket and push lamp base straight into lamp socket until the lamp's snaps into socket. Be sure to put the free end of lamp into the lamp clip.

Use caution when re-applying power to the VFCU and check to see if the lamp is energized.



This drawing shows the side view with the different bulb lengths noted.
Note: The 60W and 95W bulbs extend past the aluminum housing.



Troubleshooting Guide

Issue	Probable Cause and Solution
Lamp(s) flickers	Lamp is not securely seated in socket. Re-seat lamp. Connection to lamp may be loose. Check all electrical connections. Ballast malfunctions. Change ballast.
Single lamp is out	Lamp is not securely seated in socket. Re-seat lamp. Lamp is defective. Replace lamp. Lamp socket is broken. Replace socket. Ballast malfunctions. Change ballast.
Notes	<p>To prevent damage to lamps or sockets, follow lamp replacement instructions carefully. Insert the 4-pin base of the lamp into the lamp socket at an angle then while holding the lamp base in socket, rotate free end of lamp up into the metal lamp clip while at the same time making sure that the free side of the lamp base snaps into the locking tab on the socket. A 'click' will be heard or felt when the lamp is properly seated. Removal is performed by reversing this action.</p> <p>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 <5mg of Mercury.</p> <p>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.</p>

Warranty

THERE IS A 2-YEAR MANUFACTURER'S WARRANTY ON THE UV LAMP(S) AND A 5-YEAR MANUFACTURER'S WARRANTY ON WORKMANSHIP. ANY ATTEMPT TO REPAIR BY ANYONE OTHER THAN MANUFACTURER WILL VOID WARRANTY. (SEE THE WARRANTY PAGE)

Replacement Part Numbers

Philips TUV PLL 35W/4P
Philips TUV PLL 60W/4P
Philips TUV PLL 95W/4P

Product Limited Warranty

SCOPE OF WARRANTY:

Lumalier manufactures all Lumalier UVC Air and Surface Disinfection Products in our Memphis, Tennessee, USA, factory. Lumalier warrants that all Lumalier 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, Lumalier 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, Lumalier 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 Lumalier 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 and good trade practices;
- (e) To damages, malfunctions or failures caused by the use of any attachment, accessory or component 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, lightening, 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 Lumalier, 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 Lumalier 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 LUMALIER 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 Lumalier. No one is authorized to make any warranties on behalf of Lumalier. ANY IMPLIED WARRANTIES, INCLUDING MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, SHALL NOT EXTEND BEYOND THE APPLICABLE WARRANTY PERIODS SPECIFIED ABOVE. LUMALIER'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.

Lumalier
1931 Thomas Road
Memphis, TN 38134

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