

OPTOLUM

OptoLum Round Linear Light Strips

BrightLine Round
EcoLine HO, LO, SLO Round

CaseLine Round
FineLine HO, LO, SLO Round

Important Safety Instructions

- a) Read all instructions.
- b) Do not conceal or extend exposed conductors through a building wall.
- c) Do not install this system in wet locations.
- d) To reduce the risk of fire and burns, do not install this lighting system where the exposed bare conductors can be shorted or contact any conductive material.
- e) To reduce the risk of fire and overheating, make sure all connections are tight.
- f) Do not install any luminaire closer than 6 inches (15.25cm) from any curtain, or similar combustible materials.
- g) **Turn off electrical power before modifying the lighting system in any way.**

SAVE THESE INSTRUCTIONS

GETTING STARTED

OptoLum Round offers indoor cove lighting, display case lighting, and wall washing in a compact linear form. This guide contains important information on planning, installing, and operating your new Round Luminaire. For your protection, read it carefully and save it for future reference.

INCLUDED IN THIS BOX

- 1 Round Luminaire with mounting clips. The clips have a predrilled hole to accommodate #6 screws for mounting and with mating power connector to attach to power supply.
- Part No. MTJ-LP1090-24-GG-290; a Class 2 - 24VDC, 4.0A, 96W power supply with junction box and mating secondary power connector that matches to Round power connector and wire leads for connection to primary 120VAC.
- Installation Guide

ADDITIONAL ITEMS NEEDED

- Mounting screws, screwdriver, drill



SCOPE OF THIS USER GUIDE

The goal of this user guide is to explain in an easily understandable language the necessary steps to install Round Luminaires and assure peak performance. Its intended use is for reference only, by persons who are fully qualified. This document should never be considered a substitute for any provision of a regulation or state and/or local code.

IDENTIFICATION AND WARNINGS OF SAFETY HAZARDS

In accordance with ANSI Z535.4-2002 the following system of identifying the severity of the hazards associated with the products is used:

“DANGER”: Imminently hazardous situation which, if not avoided, will result in death or serious injury.

“WARNING”: Potentially hazardous situation that, if not avoided, could result in death or serious injury.

“CAUTION”: Potentially hazardous situation that, if not avoided, may result in minor or moderate injury or property damage.

DANGER: Ensure that main power supply is off before installing or wiring Round Luminaires. Failure to adhere to these instructions will result in death or serious injury. –

DANGER: Round Luminaires must be installed by a qualified electrician in accordance with NEC and relevant local codes. Failure to comply will result in death, serious injury, or property damage. –

WARNING: Do not install or use Round Luminaires until you read and understand the installation instructions and safety labels. Failure to do so could result in serious injury or property damage.

WARNING: Do not use Round Luminaires if the power cables are damaged. Doing so can result in death, serious injury, and property damage.

CAUTION: Use appropriate materials and mounting methods to support the fixture adequately. Failure to do so can result in property damage and void the warranty

CAUTION: Round Luminaires has no user serviceable parts. Do not attempt to service the fixture. Doing so will result in property damage and void the warranty.

CAUTION: Do not use any other power supply other than the one specified and provided by OptoLum. Doing so will result in property damage and void the warranty.

CAUTION: Do not exceed recommend length of Round Luminaires type per 96W power supply. Doing so will result in current overload. See table XX

CAUTION: Do not use sharp tools near or on the fixtures electrical components. Doing so will result in property damage and void the warranty.

CAUTION: Do not hot swap. Ensure that power to the fixture is off before connecting or disconnecting fixtures. Hot swapping will result in property damage and void the warranty.

CAUTION: Round Luminaires are a Class 2 LED product with LED radiation. Do not stare into beam or view directly with optical instruments.

CAUTION: For cabinet use only. To prevent the risk of fire, do not install a 12” section closer than 0.5” to a cabinet wall or in a compartment smaller than 13” by 13” by 13”.

NOTE: The instructions and precautions set forth in this user guide are not necessarily all-inclusive, all conceivable, or relevant to all applications as OptoLum cannot anticipate all conceivable or unique situations.

OPERATING TEMPERATURE

The Round Luminaire is designed with the latest LED technology to provide the maximum possible light output in a slim linear fixture. Although Round Luminaires operates at much cooler temperatures than traditional high illumination light fixtures, the housing can reach temperatures of 167° F (75C). For this reason, handle with care to prevent injuries and provide adequate ventilation to the fixture. During normal operation, the Round housing becomes very hot and remains hot for an extended time after operation is suspended. Exercise caution when handling the fixture after extended operation to prevent burns. It is necessary to provide adequate ventilation around the fixture. Adequate ventilation refers to the airflow over the surface of the fixture and air flow within the room, not the room temperature. A Round luminaire in a hot (40C) room with a fan or ventilation system that keeps air moving can actually run cooler on its surface than in a cool (20C) room with stagnant air.

OWNER/USER RESPONSIBILITIES

It is the responsibility of the contractor, installer, purchaser, owner, and user to install, maintain, and operate Round Luminaires in such a manner as to comply with all state and local laws, ordinances, regulations, and the American National Standard Institute Safety Code.

PLAN THE INSTALLATION

The nature and complexity of Round Luminaires installation requires in-depth planning to ensure timely, successful installation with minimal complications and down time.

PLANNING SUGGESTIONS

When planning Round Luminaire installation, OptoLum suggests doing the following:

- Consult an Electrical Inspector to approve all wiring plans.
- Refer to local and state codes for installation compliance.
- Employ OptoLum Technical Support Services.

INSTALLATION CONSIDERATIONS

When creating your installation plan, consider the following:

- **Zones:** You create a zone by creating a layout of where the fixtures will be installed that will be designated to a power supply. All fixtures attached to that power supply reside within the designated zone. This will provide the check to make sure the length of luminaires does not exceed the recommended load on the supply. **See TABLE A.** For installations where groups of luminaires are controlled individually, set unique zones each with their own power supply.
 - **Location of power supply in relationship to luminaires:** Each power supply is provided with an 11 foot lead, the lead supports up to a specific length **See TABLE A** for the maximum length of your type of Round luminaire to 96 Watt power supply. If the distance to Power supply is longer than 11 feet **See TABLE B** for lengths in excess of 11 feet for the appropriate wire gauge to support the distance to avoid voltage drop. Voltage drop will cause damage to the luminaire.
 - **Location of the fixture and method of attaching:** Fixture locations need to be determined to mark locations of the mounting spring clip locations. When the location has been determined the whole location in the base of the clip should be marked to indicate predrilling locations for screw installation. Round luminaires are supplied with spring clips that are to be attached by inserting a screw (not included) through the hole in the base of the mounting clip and securing it to a mounting surfaces such as metal, wood, and plastic. The mounting clips provided are to be installed to the mounting surface every 12 (.30m) inches. In the case of a 12 (.30m) inch fixture the mounting clips should be installed to the mounting surface two inches (50mm) in from the start of the fixture and then 8 (200mm) inches to ensure a strong installation.
- Install and wire the power supply before installing Round luminaires. Do not apply power to system until all wiring is completed.

STEPS TO A SUCCESSFUL INSTALLATION

1. Install the power supply
2. Install the fixture
3. Connect power from the power supplies to the fixture

DANGER: Ensure that the power source is off before wiring the power supply or connecting fixtures. Failure to do so will result in serious injuries or death.

INSTALL THE JUNCTION BOX/POWER SUPPLY

Determine a location for the junction box/power supply. Verify the number of feet of Round luminaire that can be supported by the 96 watt power supply. Multiple power supplies are required for installations that exceed the allowable number of feet per power supply.

See TABLE A and TABLE B

Things to remember:

- Install the junction box/power supply according to state and local codes.
- Consult an Electrical Inspector to approve all wiring plans.

Ensure that power is off. Mount the junction box/power supply in a location that is serviceable for power supply replacement as needed. Remove lid of the junction box/power supply by unscrewing the four screws. Use screws appropriate to the mounting surface to attach the junction box/power supply to the chosen mounting location. Bring primary line voltage into junction box through the large hole in the end of the box using appropriate connection conduit. Connect the primary leads of the power supply to line voltage using UL approved wire connectors. Reattach lid to junction box with the four screws. Primary leads integrated within the power supply are 18AWG and that is the minimum wire gauge to be used to bring line voltage into the power supply. Ensure that the secondary power cable has remained free of strain and is ready to mate to the Round Luminaires power lead.

Table A
Length of luminaire to Power supply
Standard power supply 96 Watts

Luminaire	watt/foot	length / 96 watt supply
BriteLine	7.5	12.5
CaseLine	6.75	14
EcoLine HO	12	8
EcoLine LO	8	12
EcoLine SLO	4	24
FineLine HO	5	19
FineLine LO	2.5	38
FineLine SLO	1.25	76

Table B
Maximum cable length to power supply
Standard power supply lead length 11 feet

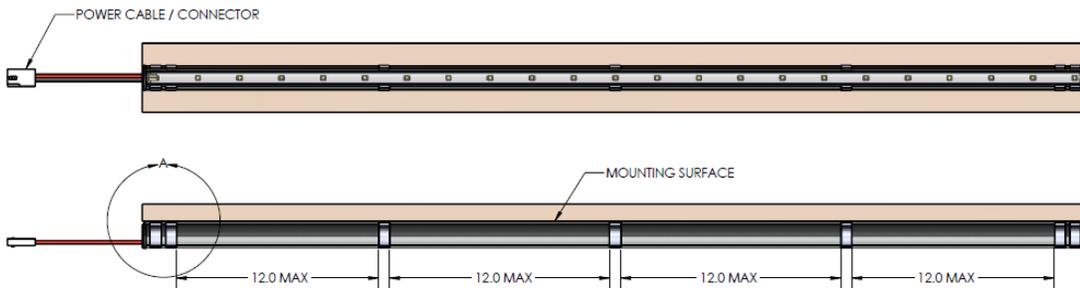
Luminaire	18 gauge cable	16 gauge cable	14 gauge cable
BriteLine	35 feet	60 feet	90 feet
CaseLine	40 feet	60 feet	95 feet
EcoLine HO	35 feet	60 feet	90 feet
EcoLine LO	40 feet	64 feet	95 feet
EcoLine SLO	55 feet	90 feet	145 feet
FineLine HO	35 feet	60 feet	90 feet
FineLine LO	40 feet	64 feet	95 feet
FineLine SLO	40 feet	64 feet	95 feet

Round Clip	
Fixture Length	Minimum Quantity Req'd.
up to 24"	5
24" - 42"	6
42" - 60"	7
60" - 90"	8
90" - 120"	9

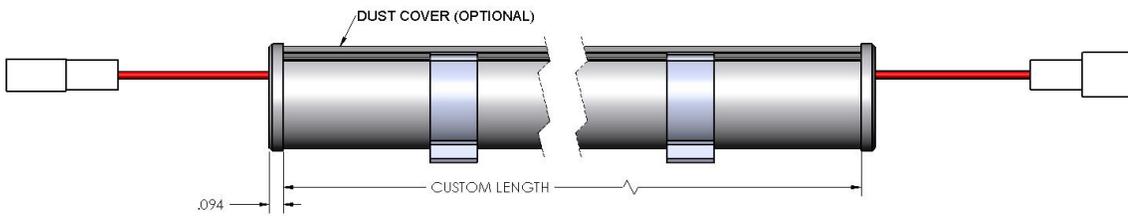
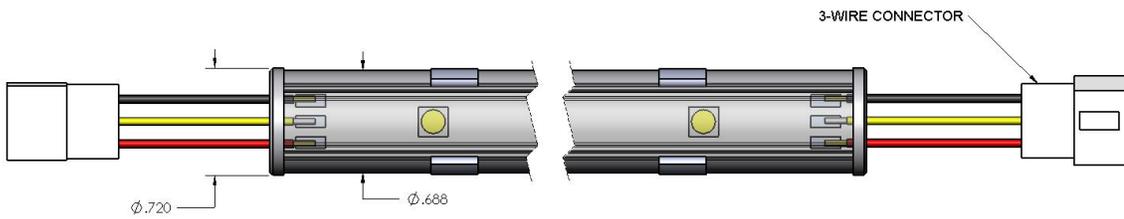
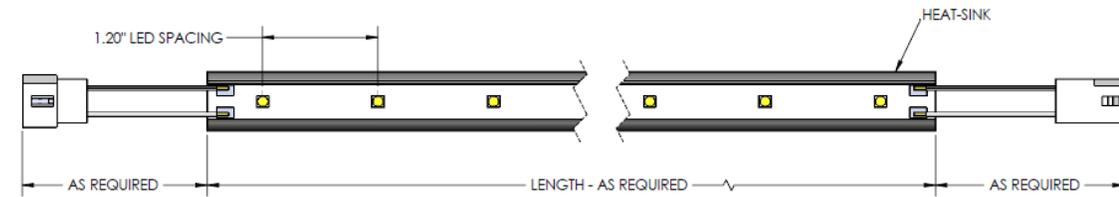
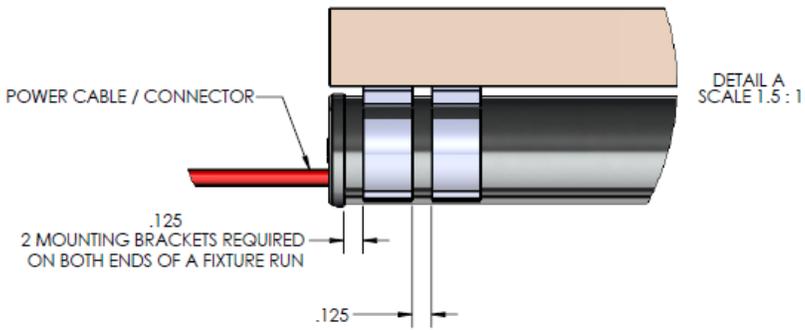
Round Flex Clip		
Fixture Length	First and last section plus section clip	Minimum Quantity Req'd
3-4"	2 begin / end	1 per section
6-8"	2 begin / end	2 per section

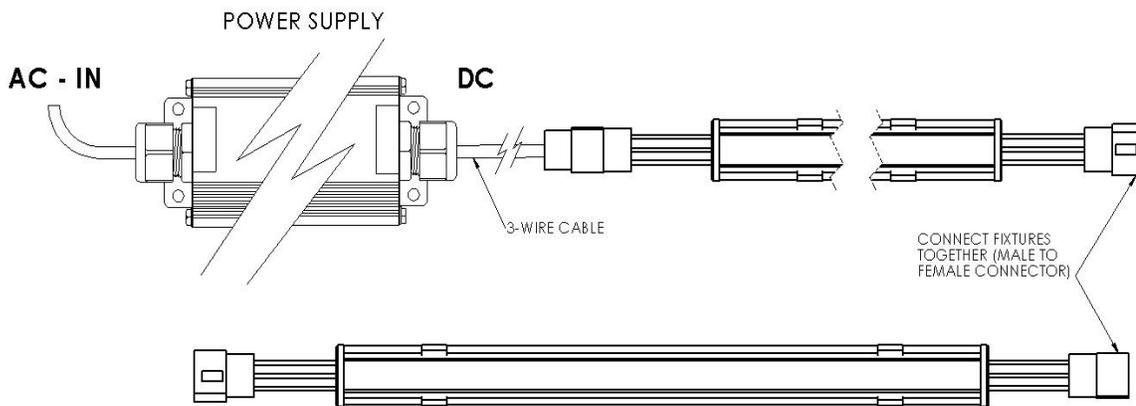
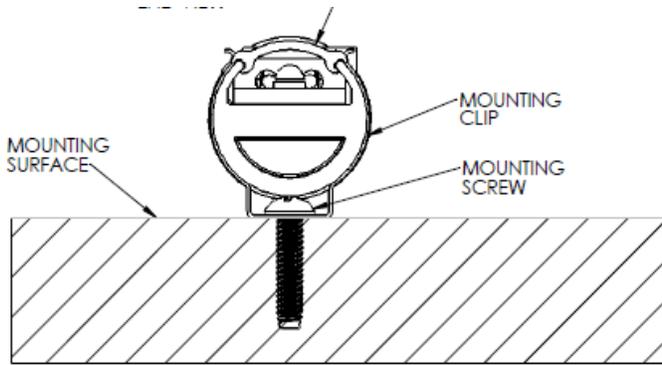
INSTALL THE FIXTURE

Each Luminaire zone should be wired to one power supply and each zone cannot exceed the allowable length by type of luminaire. First install the mounting clips in the marked locations with the appropriate length and type of screw for the surface that it is being mounted to (See drawings below). Round flex will need one mounting clip per fixture section, up to 6.0 inches sections. Mounting clips must be centered on each fixture section. Two mounting clips are required for fixture sections greater than 12.0 inches. When the clips are securely in place the fixtures can be mounted by simply pushing the fixture into the secured spring clips that are mounted to the surface. When all fixtures are installed in the clips connect the mating connector to the next fixture when that applies.

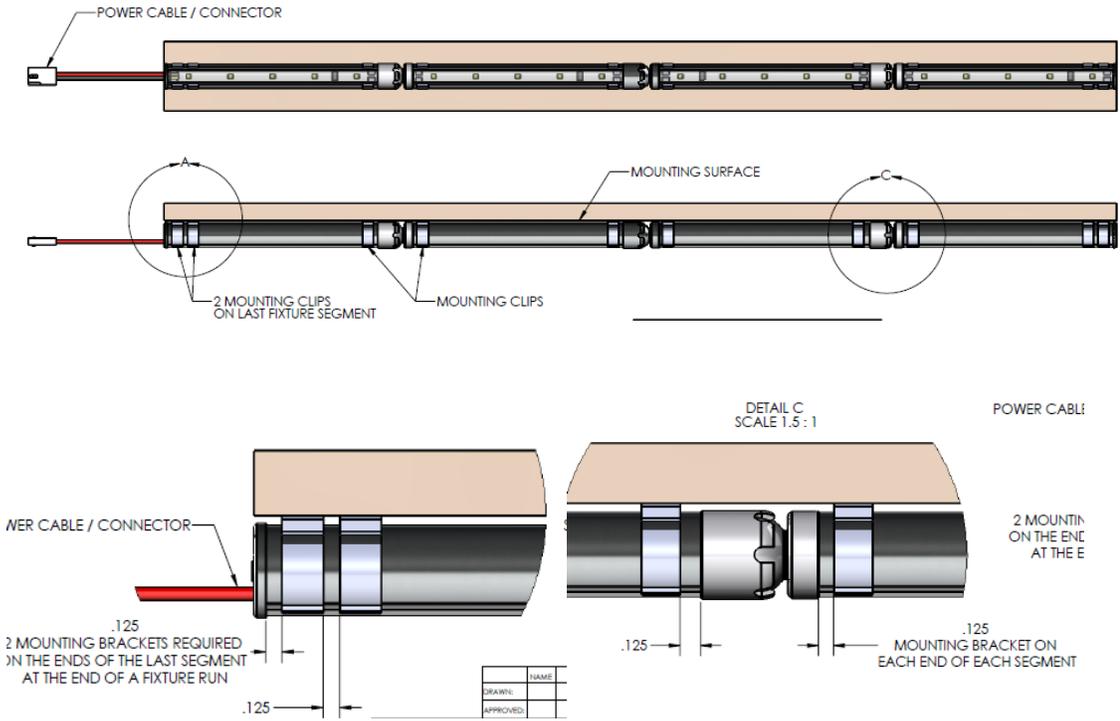


- NOTES:
1. MAXIMUM DISTANCE BETWEEN CLIPS: 12.0'
 2. EXCEPTION: BOTH ENDS OF A FIXTURE REQUIRE 2 MOUNTING CLIPS AS SHOWN BELOW.
 3. MOUNTING CLIPS AS SHOWN BELOW.





Round Flex



CONNECT THE POWER

Connect the secondary power cable from the junction box/power supply to the power lead on the first *Round Luminaire* in the series using the mating connectors at the ends of the wires to finalize the power connection.

ROUND SPECIFICATIONS

COLOR TEMPERATURE

Warm White

2700K 3000K

3500K 4000K

Cool White

4500K 5000K

Additional colors are available upon request

HOUSING Anodized Aluminum

Cable 2 wire and 3 wire 18AWG with Molex mating connectors

LISTINGS UL 2108

ELECTRICAL SPECIFICATIONS

INPUT 24VDC

JUNCTION BOX/POWER SUPPLY MJT-LP1090-24-GG-29 **ENVIRONMENTAL SPECIFICATIONS**

TEMPERATURE RANGE -4°F to 104°F (-20°C to 40°C)

SPACING REQUIREMENTS – minimum 4" one each side of supply and 2" above is power supply instruction in box.

U.S. AND FOREIGN PATENTS AND PATENTS PENDING

U.S. Patent #6,573,536, U.S. Patent #6,815,724, and U.S. Patent #6,831,303, U.S. Patent # 7,242,028, U.S. Patent #7,288,796, other patents pending. OptoLum Inc. grants the purchaser of its lighting products and controllers a personal and non-transferable license to use ThermoLum™, its patented technology for thermally optimized LED-based lighting fixtures for illumination, display and design. This license is granted only by OptoLum Inc., and may not be transferred except by the grantor. The design, duplication, manufacture, or sale of other products using thermally optimized LED-based lighting may be prohibited and is not licensed hereunder.

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Specifications subject to change without notice.

SOURCE LIFE

OptoLum illumination products utilize high brightness LEDs as the illumination source. LED manufacturers predict LED life of up to 50,000 hours at 70% of lamp lumen output, *however*, like all basic light sources, LEDs also experience lumen depreciation over time. So while LEDs can emit light for an extremely long period of time, MTBF is not the only consideration in determining useful life. LED lumen depreciation is affected by numerous environmental conditions such as ambient temperature, humidity and ventilation. Lumen depreciation is also affected by means of control, thermal management, current levels, and a host of other electrical design considerations. OptoLum systems are expertly engineered to optimize LED life when used under normal operating conditions [ambient temperature: -4° F to 104° F (-20° C to 40° C), humidity: 0-95% non-condensing humidity, adequate ventilation and air volume]. Long-term operation outside of these ranges or conditions, or at the upper limits of these ranges or conditions, may subject the product to further degradation of the LED source life, or in extreme cases, failure of internal components. Source life information is based on LED manufacturer's data, as well as other third party testing.

FIVE YEAR LIMITED WARRANTY

OptoLum, Inc. warrants its products, if properly used and installed, will be free from defects in materials and workmanship and will substantially conform to OptoLum's publicly available specifications for a period of five (5) year after the date the product was purchased. Lumen maintenance is 50,000 hours with of 70% of lumen output at 25C. If the product fails during the warranty period, purchaser's remedy under this limited warranty shall be at OptoLum's sole election:

- Repair the product by means of hardware and/or software or
- Replace the product with another product

This limited warranty does not cover damages due to external causes, including, but not limited to, accident, problems with electrical power, usage not in accordance with product instructions, misuse, neglect, modification, repair, improper installation, or improper testing. OptoLum is not responsible for indirect, incidental, or consequential damages resulting from any breach of warranty or under any other legal theory including, but not limited to, lost profits, downtime, goodwill, damage to or replacement of equipment and property. To obtain warranty service, you may contact your distributor in accordance with its instructions, or you may contact OptoLum. To request warranty service you should call OptoLum during the warranty period. Proof of purchase is required. When calling within warranty, please provide:

- 1) Your name, shipping address, and telephone number, purchased from
- 2) A description of the model, and serial number
- 3) An explanation of the problem

A Return Authorization (RA) number & ship-to address will be provided to send the product back. The RMA number must be clearly written on the exterior of the package when returning. The warranty and remedies set forth above are exclusive and in lieu of all others, whether oral or written, express or implied. OptoLum specifically disclaims any and all implied warranties, including, without limitation, warranties of merchantability and fitness for a particular purpose. No OptoLum distributor, dealer, agent or employee is authorized to make any modification, extension, or addition to this warranty. This warranty gives you specific legal rights, and you may also have other rights that vary from jurisdiction to jurisdiction.

Unless modified in writing signed by both OptoLum and Purchaser/User, this Limited Warranty is understood to be the complete and exclusive agreement between OptoLum and Purchaser, including without limitation any statements made by salespersons or other representatives of OptoLum. No employee or other representative of OptoLum or any other party is authorized to make any warranty in addition to the warranty contained in this document.

Items Explicitly NOT covered by this Warranty. OptoLum does not warrant: Defects caused by failure to provide a suitable installation environment (i.e., temperature above 104°F, humidity above 95%). Acts of God including but not limited to lightning surges, flooding, or earthquakes. Damage caused during shipment. Damage caused by any primary side (line voltage) power source problem including but not limited to unregulated power, short circuits, or lightning induced power surges. Damage caused by use of product for purposes other than those for which it was designed. Products incorporating white LED's (Light Emitting Diodes) are not covered for color temperature variations or changes, brightness reduction or diminished light output. Products installed by other than electricians, will not be covered. OPTOLUM DOES NOT COVER LABOR COST ASSOCIATED WITH REPLACEMENT OF PRODUCTS IN END APPLICATIONS. OPTOLUM CANNOT WARRANTY OR EXTEND ITS WARRANTY TO WORK PROVIDED BY OUTSIDE CONTRACTORS. OPTOLUM WILL HOWEVER WARRANTY LABOR IF THE INSTALLATION IS DONE BY OPTOLUM QUALIFIED PERSONNEL.