

February 10, 2021

# TECHNICAL PROPOSAL:

## Bid Number – JTN-21-500

Street Light Maintenance & LED Conversion  
Jamestown, RI



Submitted to:  
Town of Jamestown,  
Rhode Island  
93 Narragansett Ave  
Jamestown, RI 02835

Submitted by:  
AM Electric, LLC

**AM**  
**ELECTRIC, LLC**  
WARWICK RI

# Cover Letter



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385 LINCOLN AVENUE  
WARWICK, RHODE ISLAND 02888  
PHONE: 401-641-5601 FAX 401-732-0006

February 9, 2021

Town of Jamestown, Rhode Island  
93 Narragansett Ave.  
Jamestown, RI 02835

Attn: Purchasing Division

Re: **JTN-21-500 Streetlight Maintenance & LED Conversion: Cover Letter**

To Whom It May Concern:


AM Electric is pleased to submit the attached proposal for the maintenance and conversion of the streetlights of Jamestown outlined in ITB JTN-21-500. Attached qualifications and information detail how AM Electric can effectively provide all the requested services.

As requested per the RFP, Anthony Macari Jr. is the authorized person to represent AM Electric LLC in all negotiations and to sign any contract that may result. Additionally, as the contact person he can be reached at:

Anthony Macari Jr.  
385 Lincoln Ave, Warwick, RI 02888  
401-641-5601 (Cell)  
401-732-0006 (Fax)  
amacarijr@amelectricllc.com

Please reach out with any and all questions. AM Electric looks forward to further discussing how this project could be successfully completed for the City of Warwick.

Very truly yours,  
AM Electric, LLC

  
By: Anthony Macari Jr.  
Operations Manager

# Table of Contents



# TABLE OF CONTENTS

3.03 Description of Firm and Experience.....	6
3.04 Project Approach & Understanding - Conversion.....	13
3.05 Project Approach & Understanding – Maintenance.....	15
3.06 Proposed LEDs & Controls.....	16
3.07 References.....	17

Resumes

Required Proposal Forms

# DESCRIPTION OF FIRM AND EXPERIENCE

## 1. Company Profile and Legal Structure

AM Electric, LLC is a Limited Liability Company (LLC) incorporated in Rhode Island on February 2, 2018.

Our office is located at 385 Lincoln Avenue, Warwick, RI 02888 along with a warehouse at 426 Smith Street, North Kingston, RI 02852.

Typically operating with 12 personnel, 5 in the office and 7 in the field, AM Electric easily crews up to accommodate larger projects. All personnel are assigned from the Warwick Office.

Point of Contact for this project will be Anthony Macari 401-641-5601

AM Electric is a full-service heavy construction electrical contracting firm, completing work throughout New England. With strong working relationships with many other contractors, they can expand as needed to tackle a variety of projects including such challenges as lighting conversion, road closures, or foundation impacts. Personnel are familiar with MUTCD traffic set ups and are certified in work zone safety, including supervisor classification.

As Qualified Electrical Workers, this key team, including owner Anthony Macari, has been working together for a significant amount of the past 30 years. With lead foreman, Travis Malone, a Master Electrician, working with Anthony through multiple projects, they are extremely successful at recognizing and building talent for productive journeyman linemen on the staff. AM Electric supports not only regular crews, but also several apprentices that facilitate growing a solid work force easily and as needed. This team works effectively to share maintenance and workloads and ensure job productivity.

Anthony brings a longstanding relationship with the union to this job to ensure that he can increase staff on an as-needed basis with high quality personnel at several levels. Travis brings strong leadership to the field, which gives the ability to coordinate additional crews of mixed journeymen and apprentices as needed to meet the demands of this project. There are several bucket trucks available and a rental relationship in place for additional bucket trucks as needed.

Please see resumes at the end of the package.

## 2. Areas of Expertise & Capabilities

With 25 years of experience as a team, the field staff has learned to prioritize safety, quality, and production. This is a team that ensures the work is done right and done safely. The office further supports the field quality control by regular checks, photo documentation, and ensuring that the required materials and equipment are ready when needed. Whenever possible, materials are purchased in bulk at a discount so crews can be set up with materials to efficiently meet maintenance needs. This minimizes delays to pick up materials when maintenance is needed. Detailed documentation is provided daily to ensure that it is correctly recorded and allocated. The field and office staff work together to maximize productivity and minimize recording time as well as to notify the office of all issues, and then move on so that time is not wasted while waiting for answers. This is done by using modern technology such as Google Forms reporting on a per pole basis, photo taking and sharing, and documenting daily reports. This documentation is described in detail in this report.

AM Electric's office and support staff bring varied experience to the project including full experienced scheduling capabilities, electrical engineering, and green building background. This core group can coordinate significant teams, assist with means to compile and present data, and stays up to date on the latest in technology which will assist with any design and communications challenges. Sonya Colletti also has training background and can assist with any roll out and training materials needed to facilitate easy use of the system.

While the field staff is the backbone of getting the project completed and keeping up with all maintenance, the office staff can provide all documentation and information needed on a timely basis. This group can grow as needed to complete a full city transformation to current lighting standards while minimizing impact and maintenance; and then continue the maintenance of this new system as needed.

## 3. Relevant Engagements

### **Conversion:**

#### **Browne Hall – 16001 – Rhode Island College**

Contact: Dave Benevides – [dbenevides@ric.edu](mailto:dbenevides@ric.edu) – 401-787-3089

Browne Hall conversion from existing incandescent lighting throughout the entire dormitory. Approximately 115 rooms, common areas, and other lighting with work performed both when school was off and during school while minimizing student impact.

### **DLT Lighting Conversion – 06013 – Department of Labor & Training Pastore Center**

Contact: Carlton Amaral – [carlton.amaral@doa.ri.gov](mailto:carlton.amaral@doa.ri.gov) – 401-462-8203

The 6 buildings that compose the department of labor and training at the Pastore Center were all upgraded to LED's and commissioned. Approximately 2500 lights with work performed while the building was open and active and minimizing disruptions to busy staff.

### **USPFO Lighting Conversion – 06022 – Army & National Guard Facilities East Greenwich, RI**

Contact: Marissa Pereira – [Marissa.a.pereira.nfg@mail.mil](mailto:Marissa.a.pereira.nfg@mail.mil) – 401-275-4064

AM Electric did an LED lighting retrofit on the army base in East Greenwich in the USPFO building. Work included both office space, common spaces, secure areas, and high bay fixtures in the warehouse. During the entire process, the building was active and additional coordination was provided during access to secure areas.

### **Bay Street – 16237 – Town of Westerly**

Contact: Mark Bednarski – [mbednarski@westerlyri.gov](mailto:mbednarski@westerlyri.gov) – 401-348-2599

Removal of existing high-pressure sodium street lighting converted to decorative LED lighting.

### **Neutaconcanut Park – 06004 – City of Providence**

Contact: Ed Sanchez – 401-680-7206

LED Flood Light conversion at a park.

## **Maintenance:**

### **Rhode Island Convention Center - RICC**

Contact: Michael D'Amico – 401-499-8592

Retro-fit conversion from HPS to LED for the roadway underpass tunnel lighting.

Improve roadway foot-candles & reduce power consumption.

### **City of Warwick**

Contact: Andrew Fitzsimmons – 401-578-6367

Traffic, Street & Pole Light Maintenance & Repair (City Wide) including emergency calls.

### **Brown University**

Contact: Victor Rebelo – 401-255-9909

Provide LED retrofit lighting conversions throughout 244 buildings.



## **Yale University**

Contact: Walter Scott – 860-510-3228

Provide LED retrofit lighting conversions throughout 300+ buildings.

## **4. Utility & Incentive Programs**

AM Electric has had significant communication and work with National Grid, Verizon, and Cox over the past 3 years on many projects throughout Rhode Island. This includes coordination, inspections, communication of issues, and completion of work in preparation and in conjunction with these utilities.

There have been several incentive projects completed in 2020. AM Electric has completed 2 interior lighting retrofit projects, including getting and tracking incentives, complete documentation and tracking, and working with National Grid and suppliers to maximize incentives and effectiveness.

One project included approximately 2500 lights spread through 6 buildings none of which had room numbers. AM Electric was not only able to successfully complete the installation, commission all relevant lights, and provide detailed documentation of lighting locations and status throughout the project, but was also able to increase the incentive by over 30%. This provided not only significant savings to the owner, but also long term increased energy savings for that building.

## **5. AME Personnel & Staffing**

Crews will always have a minimum of 2 people in the field. This will at a minimum have a foreman and an electrical apprentice, with additional support crews in coordination including a journeyman and apprentice as needed. Office support staff is also detailed below.

During the main LED conversion, AM Electric anticipates deploying generally 2 crews, but may increase to 3 as needed to ensure on time completion. There will also be a maintenance crew available if needed. Crews will still be made up of 2 people and an appropriate vehicle.

At this time, AM Electric does not anticipate utilizing any subcontractors, but has a vast network if needed. Names of the key team members are detailed as follows:

### **Anthony Macari Jr.**

**Responsibilities on the project:** Sign contracts, resolve major issues, hire and vet additional crews as needed.

**Current Assignments and location:** Similar assignments on other AM Electric projects, based out of the Warwick Office

**Experience on similar or related projects:** See resume

**Unique qualifications:** Owned own company and coordinated multiple similar jobs as well as field experience performing the work.

**Percentage of their time that will be devoted to the project:** 10%

### **Sonya Colletti**

**Responsibilities on the project:** Schedule, Database coordination, owner documentation, reporting and invoicing, design coordination, resolution of minor issues.

**Current Assignments and location:** Similar project management responsibilities on other AM Electric projects, based out of the Warwick Office

**Experience on similar or related projects:** See resume

**Unique qualifications:** Green building credentials, design assistance experience, computer engineering background for set up of documentation in an efficient manner.

**Percentage of their time that will be devoted to the project:** 50% during startup/design/set up and then 25% during just maintenance and production.

### **Anthony Tucciarone**

**Responsibilities on the project:** Crew deployment, equipment coordination, submittals, RFI's, permits, close out documents.

**Current Assignments and location:** Similar as above on other AM Electric projects, based out of the Warwick Office

**Experience on similar or related projects:** Since beginning work as an assistant project manager, Anthony has worked on two major lighting conversion projects including significant tracking and commissioning for interiors. Additionally, Anthony has worked both in the office and in the field on a major exterior lighting project of 65 new highway lights as well as several smaller decorative lighting projects.

**Unique qualifications:** Experience both in the office and in the field. Detailed as built documentation and tracking capabilities.

**Percentage of their time that will be devoted to the project:** 75%

### **Lisa Caliri**

**Responsibilities on the project:** Administration (payroll/production/purchase orders/etc.)

**Current Assignments and location:** Similar on other AM Electric jobs, based out of the Warwick Office

**Experience on similar or related projects:** Has been working with AM Electric for 3 years on all jobs, this includes ones noted previously.

**Unique qualifications:** Very efficient and detail oriented.

**Percentage of their time that will be devoted to the project:** 10%

### **Travis Malone**

**Responsibilities on the project:** Lead foreman for LED conversion portion of the project, one of the on-call coordinators.

**Current Assignments and location:** General foreman for AM Electric on multiple projects and based out of Rhode Island.

**Experience on similar or related projects:** See resume

**Unique qualifications:** Master electrician, experience coordinating multiple crews.

**Percentage of their time that will be devoted to the project:** 100% for LED conversion, otherwise back up leader for maintenance as needed.

### **Louis Piacitelli**

**Responsibilities on the project:** Leader for maintenance portion of the project, one of the on-call coordinators.

**Current Assignments and location:** AM Electric projects (various) and Rhode Island.

**Experience on similar or related projects:** See resume

**Unique qualifications:** Master electrician, significant maintenance background, on call specialist, and has experience as a sole electrician continuing work.

**Percentage of their time that will be devoted to the project:** 100% for maintenance, otherwise back up leader for LED conversion.

## 6. Vehicles & Equipment

Tag along Type D arrow board to be utilized.

### 3 Bucket Trucks

- 2017 Ford F550 Bucket Truck
- 2011 Ford F550 Bucket Truck
- 2011 Ford F550 Bucket Truck

### Digger Derrick

- 2014 Ford F750 with Crane and Augur Attachments
  - Pole trailer option as needed.

### Transit Vans, Stake Bodies, and Pick-Up Trucks

- 5 – 2017-2018 Ford 250 Transits
- 2 – 2014 Ford F150
- 1 – 2015 Ford F350 Stake Body
- Additional equipment available if needed.



# Project Approach & Understanding – LED Conversion

1. AM Electric will begin with the initial options provided to then review with the Town and to ensure that the options provided will resolve the towns needs. Having that as the initial starting point will assist AM Electric in reviewing the wattages, lumen output, color temperature, color rendering, and overall quality of light. After a detailed review of the priorities and options, AM Electric will be able to assist the owner in reviewing the options in order to ensure the owner has the best selections to maximize their incentives and goals, optimize their lighting, and set up the pilot program for review.
2. As with commissioning, having an effective and efficient controls system will maximize the incentives and limit the ongoing utility costs. Because the lights are not on when not needed, and potentially even dimmed to the optimal level for an area, this will limit the wattage used and keep power from being wasted. This will also ensure that the light levels are what is needed in different area. Many of the control systems include options for ease of monitoring and maintenance, however, every control system will assist with the incentives and utility costs.
3. As noted in the above description, AM Electric has a warehouse located in Quonset as well as sufficient vehicles to keep some equipment available for maintenance as well. During the main LED conversion, AME anticipates determining a local laydown area in Jamestown to keep materials. This includes locating one of AME's conex boxes into the area to keep materials secure.

As previously noted, AME is able to increase crews and has significant equipment already to effectively crew up. As noted, AME has MUTCD trained crew for traffic set ups. This will allow effective set ups on residential streets. On more major streets, AM Electric will maximize time of day when traffic is at a minimum and will utilize additional means such as police details in critically busy areas.

4. AM Electric crews have cell phones and tablets already that they regularly utilize to provide photos, documentation, and other information to the office. This can allow for immediate updates of a lighting database including photos and notes as well as tracking. As the Town has noted Trimble, AM Electric can also utilize this GPS data to work with the databasing and provide several different options of data for Jamestown. AM Electric utilizes the Google documents as well for effectively sharing data quickly between the office and field on a real time basis. This can include spreadsheets, as well as forms and maps to maximize the data available and options to the Town.

AM Electric office staff, has experience tracking with maps, schedules, Excel spreadsheets, as well as correlating photos and documentation to provide clear and complete records. As part of the design, AME will review the options with the Town to see which options and data will be the optimal for their uses, and then can work with that to ensure that the Town has what they need. Custom training including manuals and details can be provided once that is resolved. Providing monthly progress reports to National Grid is doable, as AM Electric is used to weekly production updates on large scale projects where requested.

5. AM Electric can typically install several LED's in a day. Once a pilot is accepted and materials in hand, AM Electric will go by neighborhood to minimize the time and presence in each area. Once this pilot is accepted, a CPM schedule can be provided with correlating maps allowing the Town to effectively communicate with their area.

Initial project schedule estimates would expect that once the pilot program is completed, materials will be ordered and received in approximately 2 months. AM Electric will then utilize the remainder of the time to crew up and install the lighting in a coordinated fashion. Because decorative lighting typically has a longer lead time, it is anticipated to be completed last.

6. AM Electric has a full safety plan and a specific safety plan for handling high pressure sodium and other hazardous lighting disposal. All crew are fully trained and provided with appropriate equipment to handle the lights. Safety is critical to successful jobs and a priority for AM Electric.
7. AM Electric will be performing the commissioning as the project proceeds. By providing correct hand held devices and confirming the lights work prior to leaving, it ensures less visits to each location. Again, utilizing Google forms, the field team is able to document in real time, into a spreadsheet the documentation and confirmation of commissioning.
8. Once the network control software is determined, AM Electric will coordinate with the software supplier to ensure proper training is performed. This will include recording training for future reference, providing detailed manuals, and maximizing the options for training all staff required.
9. AM Electric has handled large scale projects of lighting conversion including commissioning and challenging tracking. Also AM Electric has had significant experience with highway lighting and decorative lighting that will make them an ideal candidate to get Jamestown an effective LED system. Working effectively with an owner to resolve open design challenges and come up with an effective system.

# Project Approach & Understanding – Maintenance

## 1. AM Electric has the following definitions:

- **Warranty** – If it falls within the warranty period and is determined to be a faulty device, AM Electric will perform a swap of the damaged device replacing it in kind. No cost will be incurred by the owner and AM Electric will follow up with the manufacturer to get a new spare part for any additional replacements required.
- **Routine** – Fixtures are being proposed because they require little or no routine maintenance. If the fixture is out after the warranty period, it will be addressed, but annual or other duration maintenance is minimized.
- **Emergency** – This is defined as something with immediate impact to the public. This would include a knock down of a light, where AM Electric would come make safe the existing circuitry, remove pole and any debris or components from the public space, ensure other lighting on that circuit is energized, and then will notify the owner to await further instructions. The crew will be on site as required within the 2 hours post notification, as required, and the area made safe as quickly as possible. Any additional repairs will be as coordinated with the owner for resolution. If a condition is considered immediately unsafe, AM Electric will respond per the emergency protocol, though the most typical instance of this is a knock down of a pole. The other emergency typically encountered would be a major light outage in a dangerous area. This would also be addressed by deploying a crew who would attempt to resolve in the 2 hours and would coordinate with any utility workers also trying to resolve any utility outages associated.
- **Additional Maintenance** – For any non-urgent identified maintenance, such as individual light outages, damaged poles, or other standard issues, once notified, AM Electric will deploy a crew and resolve within 5 days. AM Electric anticipates facilitating that by having some stock in hand once the components are selected so that there will not be lead time in getting resolution on any outages.

A designated maintenance crew will be on call for the 2-hour turn around on emergency services. Otherwise, a morning review of all non-urgent maintenance from the previous day will be performed and a maintenance crew scheduled. If it is found that the volume of calls and reports is infrequent, then it will be reviewed on a less frequent basis, such as every other morning or on a designated morning weekly to allow the work to be performed within 5 days. By keeping some stock material, it is anticipated that response times can be well maintained.

2. AM Electric anticipates setting up an email and number to ensure prompt response to all calls. Should it be required, AM Electric has reviewed and discussed options with several call center companies, however, anticipates being able to handle the calls. Currently maintenance contracts have a 2 hour emergency response time and AM Electric has had no issues meeting this timeline, as well as coordinating warranty, routine, and regular maintenance requirements. Additional considerations discussed have including utilizing QR codes to Google forms for easy and readily available information into an accessible spreadsheet that can be monitored easily by various staff members to ensure clear and prompt response.



# Proposed LED's & Controls

Option 1:

# POST TOP RETROFITS 360° OMNI DIRECTIONAL DESIGN



120-277V  
VOLTAGE\*\*



E26/EX39  
MEDIUM +  
MOGUL BASES



ULTYPE B  
BALLAST  
BYPASS  
INSTALL METHOD



-40°F TO 122°F  
OPERATING TEMP



ACTIVE  
COOLING



6kA  
SURGE  
PROTECTION



80+  
CRI



L70  
50,000  
RATED LIFE



5  
YEAR  
WARRANTY

## versatility & quality




runs cooler so it lasts longer

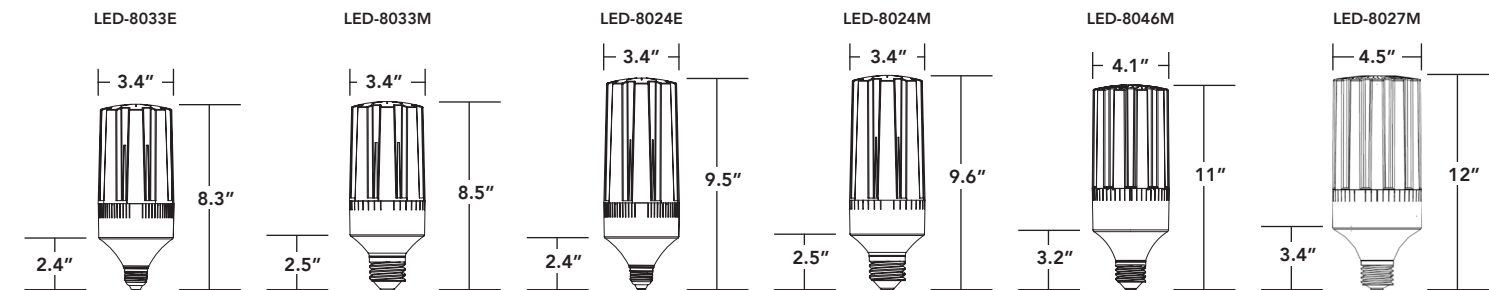
- Available in 35W, 45W, 65W & 100W models replacing up to 400W HID.
- Advanced active cooling. Energetic cooling fan & dynamic temp control supports a longer, brighter life.
- Multi-directional mounting capability & 360° design. Use base down, base up or base sideways without affecting performance.
- Pretested & potted drivers are burnt in 3x prior to shipping and protected against vibration & moisture.
- Expertly engineered to work efficiently in enclosed fixtures & damp environments, while also protected against insects & dust.
- Dual stage MOV protection with integrated 6kA surge.
- USA designed & specified LED driver.

PART #	UPC	REPLACES	WATTAGE	LUMENS	CCT (K)*	BASE
LED-8033E57-A	844006081119	175W	35W	5617	5700K	E26
LED-8033M57-A	844006083366	175W	35W	5237	5700K	EX39
LED-8024E57-A	844006080242	250W	45W	6619	5700K	E26
LED-8024M57-A	844006083366	250W	45W	6632	5700K	EX39
LED-8046M57-A	844006081775	320W	65W	9499	5700K	EX39
LED-8027M57-A	844006080273	400W	100W	14613	5700K	EX39

\* See page 2 for additional color temperatures.

\*\* See page 2 for 347 volt options for Canada. 

# POST TOP RETROFITS 360° OMNI DIRECTIONAL DESIGN



## ORDERING GUIDE

PART #	UPC	REPLACES	WATTAGE	LUMENS	CCT (K)	BASE
LED-8033E30-A	844006081102	175W HID	35W	4239	3000K	E26
LED-8033E40-A	844006080570	175W HID	35W	5468	4000K	E26
LED-8033E57-A	844006081119	175W HID	35W	5617	5700K	E26
LED-8033M30-A	844006083328	175W HID	35W	4550	3000K	EX39
LED-8033M40-A	844006083342	175W HID	35W	5237	4000K	EX39
LED-8033M57-A	844006083366	175W HID	35W	5237	5700K	EX39
LED-8024E30-A	844006080341	250W HID	45W	6062	3000K	E26
LED-8024E40-A	844006080679	250W HID	45W	6924	4000K	E26
LED-8024E57-A	844006080242	250W HID	45W	6619	5700K	E26
LED-8024M30-A	844006080549	250W HID	45W	5893	3000K	EX39
LED-8024M40-A	844006080167	250W HID	45W	6930	4000K	EX39
LED-8024M57-A	844006080532	250W HID	45W	6632	5700K	EX39
LED-8046M30-A	844006081751	320W HID	65W	8450	3000K	EX39
LED-8046M40-A	844006081768	320W HID	65W	9587	4000K	EX39
LED-8046M57-A	844006081775	320W HID	65W	9499	5700K	EX39
LED-8027M30-A	844006080372	400W HID	100W	12486	3000K	EX39
LED-8027M40-A	844006080174	400W HID	100W	14666	4000K	EX39
LED-8027M57-A	844006080273	400W HID	100W	14613	5700K	EX39

## 347 VOLT OPTIONS FOR CANADA

PART #	UPC	REPLACES	WATTAGE	LUMENS	CCT (K)	BASE
LED-8033E30C-A	80844006081017	175W HID	35W	4740	3000K	E26
LED-8033E40C-A	80844006081024	175W HID	35W	5671	4000K	E26
LED-8033E57C-A	80844006081031	175W HID	35W	5537	5700K	E26
LED-8033M30C-A	80844006083332	175W HID	35W	4550	3000K	EX39
LED-8033M40C-A	80844006083356	175W HID	35W	5237	4000K	EX39
LED-8033M57C-A	80844006083370	175W HID	35W	5237	5700K	EX39
LED-8024E30C-A	80844006080775	250W HID	45W	5879	3000K	E26
LED-8024E40C-A	80844006080782	250W HID	45W	6600	4000K	E26
LED-8024E57C-A	80844006080799	250W HID	45W	6646	5700K	E26
LED-8024M30C-A	80844006080805	250W HID	45W	5856	3000K	EX39
LED-8024M40C-A	80844006080812	250W HID	45W	6740	4000K	EX39
LED-8024M57C-A	80844006080829	250W HID	45W	6818	5700K	EX39
LED-8046M30C-A	80844006081727	320W HID	65W	8471	3000K	EX39
LED-8046M40C-A	80844006081802	320W HID	65W	9619	4000K	EX39
LED-8046M57C-A	80844006081819	320W HID	65W	9440	5700K	EX39
LED-8027M30C-A	80844006080898	400W HID	100W	13304	3000K	EX39
LED-8027M40C-A	80844006080904	400W HID	100W	14736	4000K	EX39
LED-8027M57C-A	80844006080911	400W HID	100W	14349	5700K	EX39



LIGHT EFFICIENT DESIGN HEADQUARTERS 188 S. Northwest Highway • Cary, IL 60013  
INNOVATION & MANUFACTURING CENTER 30 Log Bridge Road, Building 200 • Middleton, MA 01949  
847.380.3540 • led-llc.com

07.01.20 Information is subject to change without notice.

Project		Catalog #		Type	
Prepared by		Notes		Date	



# Streetworks

## Archeon Large

### Roadway Luminaire

#### Typical Applications

Outdoor • Roadways • Parking Lots • Building Areas

#### Interactive Menu

- Ordering Information page 2
- Product Specifications page 3
- Energy and Performance Data page 3
- Control Options page 4

#### Product Certifications



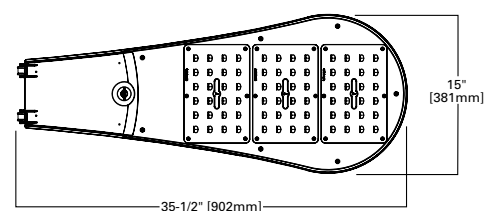
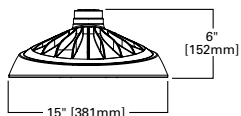
#### Product Features



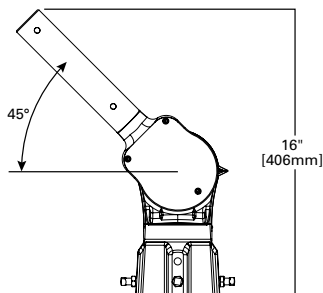
#### Quick Facts

- Die-cast aluminum construction; Single latch tool-less entry
- Replaces up to 1000W equivalent HID; -40°C to 40°C operating range
- Pole-mounted; Optional arm and offset adjustable arm mounting
- 120-277V 50/60Hz, 347V 60Hz or 480V 60Hz operation; IP66 rated

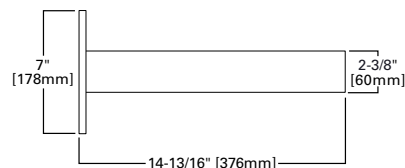
#### Dimensional Details



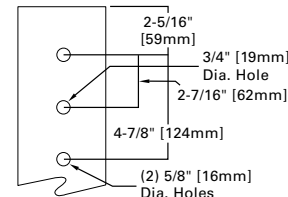
#### Adjustable Slipfitter Offset Arm



#### 15" Straight Arm



#### Type "M" - Drilling Pattern





## Ordering Information

SAMPLE ORDER NUMBER: ARCH-L-PA3-90-740-U-T2R-A15-AP-10K-PR

Product Family <sup>1, 2</sup>	Light Engine	Wattage Bucket	Color Temperature	Voltage	Distribution	Mounting	Finish
<b>ARCH-L</b> =Archeon Largew	<b>PA3</b> =(3) Direct Mount Rectangle (72 LED)	<b>90</b> <b>100</b> <b>110</b> <b>120</b> <b>130</b> <b>140</b> <b>150</b> <b>160</b> <b>170</b> <b>180</b> <b>190</b> <b>200</b> <b>210</b> <b>220</b> <b>230</b> <b>240</b> <b>250</b> <b>260</b> <b>270</b> <b>280</b>	<b>722</b> =70 CRI, 2200K <b>740</b> =70 CRI, 4000K <b>727</b> =70 CRI, 2700K <b>827</b> =80 CRI, 2700K <b>730</b> =70 CRI, 3000K <b>750</b> =70 CRI, 5000K <b>AMB</b> =Amber, 590nm <sup>22, 23</sup>	<b>U</b> =Universal (120-277V) <b>8</b> =480V <sup>4</sup> <b>9</b> =347V <sup>4</sup>	<b>T2R</b> =Type II Roadway <b>T2U</b> =Type II Urban <b>T3</b> =Type III <b>T4W</b> =Type IV Wide <b>5WQ</b> =Type V Square Wide	<b>[Blank]</b> =None <b>A15</b> =15" Straight Mast Arm <b>ASJS15</b> =Adjustable Slipfitter (Factory set at 15° degrees) <b>ASJS25</b> =Adjustable Slipfitter (Factory set at 25° degrees) <b>ASJS45</b> =Adjustable Slipfitter (Factory set at 45° degrees)	<b>AP</b> =Grey <b>BZ</b> =Bronze <b>BK</b> =Black <b>DP</b> =Dark Platinum <b>WH</b> =White
Options (Add as Suffix)				Controls			
<b>10K</b> =Series 10kV UL 1449 Surge Protective Device <b>20K</b> =Series 20kV UL 1449 Surge Protective Device <b>20KI</b> =Series 20kV UL 1449 Surge Protective Device with light indicator <b>10MSP</b> =Parallel 10kV MOV Surge Protective Device <b>20MSP</b> =Parallel 20kV MOV Surge Protective Device <b>K</b> =Level Indicator <b>HA</b> =50°C High Ambient Temperature <sup>10</sup> <b>HSS</b> =Factory Install House Side Shield <sup>11</sup> <b>PSC</b> =Photocontrol Shorting Cap <b>NPC</b> =NEMA Photocontrol - Multi-Tap <b>LLPC</b> =Longlife Photocontrol Included <b>IP66</b> =IP66 Rated Housing				<b>PR</b> =NEMA 3-PIN Twistlock Photocontrol Receptacle <sup>6</sup> <b>PR7</b> =NEMA 7-PIN Twistlock Photocontrol Receptacle <b>MS/DIM-L08</b> =Motion Sensor for Dimming Operation, Maximum 8' Mounting Height <sup>3, 7</sup> <b>MS/DIM-L20</b> =Motion Sensor for Dimming Operation, Maximum 9' - 20' Mounting Height <sup>3, 7</sup> <b>MS/DIM-L40</b> =Motion Sensor for Dimming Operation, Maximum 21' - 40' Mounting Height <sup>3, 7</sup> <b>LWR-LW</b> =Enlighted Wireless Sensor, Wide Lens for 8' - 16' Mounting Heights <sup>3, 8, 9</sup> <b>LWR-LN</b> =Enlighted Wireless Sensor, Narrow Lens for 16' - 40' Mounting Heights <sup>3, 8, 9</sup> <b>5LTD</b> =DALI <sup>3</sup> <b>ZD</b> =DALI-enabled 4-PIN Twistlock Receptacle <sup>16, 17</sup> <b>ZW</b> =WaveLinx-enabled 4-PIN Twistlock Receptacle <sup>16, 17</sup> <b>SWPD4XX</b> =WaveLinx Wireless Sensor, 7' - 15' Mounting Height <sup>19, 20, 21, 22</sup> <b>SWPD5XX</b> =WaveLinx Wireless Sensor, 15' - 40' Mounting Height <sup>19, 20, 21, 22</sup>			
Accessories (Order Separately) <sup>17</sup>							
<b>OA / RA1013</b> =Photocontrol Shorting Cap <b>OA/RA1014</b> =NEMA Photocontrol - 120V <b>OA/RA1016</b> =NEMA Photocontrol - Multi-Tap <b>OA/RA1027</b> =NEMA Photocontrol - 480V <b>OA/RA1201</b> =NEMA Photocontrol - 347V <b>OA1223</b> =10kV Surge Module Replacement <b>A15-XX</b> =Arm (15" Straight Arm) <sup>12, 14</sup> <b>FSIR-100</b> =Wireless Configuration Tool for Occupancy Sensor <sup>15</sup> <b>HS-ARCH-24</b> =Factory Install ARCH House Side Shield for AF24 <sup>11, 13</sup>				<b>VGS-ARCH</b> =Short Vertical Drop Shield <b>VGL-ARCH</b> =Long Vertical Drop Shield <b>ASJS15-XX</b> =Adjustable slipfitter (Factory set at 15 degrees) <sup>14</sup> <b>ASJS25-XX</b> =Adjustable slipfitter (Factory set at 25 degrees) <sup>14</sup> <b>ASJS45-XX</b> =Adjustable slipfitter (Factory set at 45 degrees) <sup>14</sup> <b>SWPD4-XX</b> =WaveLinx Wireless Sensor, 7' - 15' Mounting Height <sup>19, 20, 21, 22</sup> <b>SWPD5-XX</b> =WaveLinx Wireless Sensor, 15' - 40' Mounting Height <sup>19, 20, 21, 22</sup>			
<b>NOTES:</b> 1. Customer is responsible for engineering analysis to confirm pole and fixture compatibility for all applications. Refer to our white paper WP513001EN for additional support information. 2. Nominal wattage values will be labeled on fixture as per ANSI C136.15. For specific fixture wattage, refer to Power and Lumen tables. 3. Only available in universal voltage. 4. Only for use with 480V Wye systems. Per NEC, not for use with ungrounded systems, impedance grounded systems or corner grounded systems (commonly known as Three Phase Three Wire Delta, Three Phase High Leg Delta and Three Phase Corner Grounded Delta systems). 6. If "PR" selected, dimming functionality not available, dimming leads will be capped. 7. The FSIR-100 accessory is required to adjust parameters. 8. Enlighted wireless system is not available with photocontrol receptacle (not required). 9. Enlighted wireless sensors are factory installed and require network components LWP-EM-1, LWP-GW-1, and LWP-PoE8 in appropriate quantities. See website for Enlighted application information. 10. HA option not available with the following configurations, 250W+, 210W+ if paired with HSS, or 5LTD 150W+. 11. HSS not available with 5WQ distribution, 5LTD 270W+. 12. Round pole adapter and mounting hardware included. "M" drill pattern. 13. Requires three house side shields. 14. Replace XX with color designation. 15. This tool enables adjustment of parameters including high and low modes, sensitivity, time delay, cutoff and more. Consult your lighting representative at Cooper Lighting Solutions for more information. 16. Utilizes internal step-down transformer when 347V or 480V is selected. 17. Controls system is not available with photocontrol (BPC), photocontrol receptacle (PR or PR7), or other controls systems (MS, ZD, ZW, LWR, DALI, or DIM). 18. Requires 4-PIN twistlock receptacle (ZD or ZW) option. 19. Replace XX with sensor color (WH, BZ or BK). 20. Sensor passive infrared (PIR) may be overly sensitive with operating below -20°C (-4°F). 21. For this device to be field-configurable, requires WAC Gateway components WAC-PoE and WPOE-120 in appropriate quantities. Only compatible with WaveLinx system and software and requires system components to be installed for operation. See website for more WaveLinx application information. 22. Not available with HA option. 23. Amber 590nm +/-5nm for wildlife and observatory use. Supplied in PA3 90 wattage bucket only.							

## LumenSafe Integrated Network Security Camera Technology Options (Add as Suffix)

Product Family	Camera Type	Data Backhaul
<b>L</b> =LumenSafe Technology*	<b>D</b> =Dome Camera, Standard <b>H</b> =Dome Camera, Hi-Res <b>Z</b> =Dome Camera, Remote PTZ	<b>C</b> =Cellular, Customer Installed SIM Card <b>A</b> =Cellular, Factory Installed AT&T SIM Card <b>V</b> =Cellular, Factory Installed Verizon SIM Card <b>S</b> =Cellular, Factory Installed Sprint SIM Card  <b>W</b> =Wi-Fi Networking w/ Omni-Directional Antenna <b>E</b> =Ethernet Networking

\*Consult LumenSafe system pages for additional details and compatibility.

## Product Specifications

### Construction

- Heavy-duty die-cast aluminum housing and door
- Tool-less entry, hinged removable door for easy maintenance
- 3G vibration rated

### Optics

- Choice of four patented, high efficiency AccuLED Optics
- Available in Type IIR, IIU, III, IV wide and V square wide the optics are precisely designed to shape the distribution maximizing efficiency and application spacing
- Offered standard in 4000K (+/- 275K) CCT and minimum 70 CRI. Optional 2200K, 2700K, 3000K, and 5000K CCT
- For the ultimate level of spill light control, an optional house side shield accessory is available and can be field or factory installed
- Optics are IP66 enclosure rated

### Electrical

- 120-277V 50/60Hz, 347V 60Hz or 480V 60Hz

### operation

- Standard 0-10V dimming
- 10kV/10kA common- and differential- mode surge protection available
- Ambient operating temperature from -40°C to 40°C; 50°C HA, high ambient, capability available
- Standard with three position tunnel type compression terminal block
- Greater than 98% lumen maintenance expected at 60,000 hours
- Replaces 400W to 1000W HID

### Mounting

- Two-bolt/one-bracket slipfitter with cast-in pipe stop and 2.5° leveling steps
- Fixed-in-place bird guard seals around 1-1/4" to 2" (1-5/8" to 2-3/8" O.D.) mounting arms
- Optional 15" pole mount arm available with round pole adapter and mounting hardware included

### Finish

- Housing and cast parts finished in five-stage super

TGIC polyester powder coat paint, 2.5 mil nominal thickness for superior protection against fade and wear

- Consult your lighting representative at Cooper Lighting Solutions for a complete selection of standard colors

### Shipping Data

- Approximate Net Weight: 27 lbs. (12.2 kgs.)
- Effective Projected Area: 0.86 (Sq. Ft.)

### Warranty

- Standard five-year warranty.
- Optional ten-year warranty, please see your CLS Streetworks sales representative for more information

## Energy and Performance Data

### Power and Lumens (PA3 Light Engine)

Light Engine - PA3*		PA3-90	PA3-100	PA3-110	PA3-120	PA3-130	PA3-140	PA3-150	PA3-160	PA3-170	PA3-180
Power (Watts)		93	102	113	123	133	143	153	162	173	181
Wattage Label		90	100	110	120	130	140	150	160	170	180
Input Current @ 120V (A)		0.78	0.85	0.94	1.03	1.11	1.19	1.28	1.35	1.44	1.51
Input Current @ 277V (A)		0.34	0.39	0.42	0.45	0.49	0.53	0.56	0.59	0.62	0.68
Input Current @ 347V (A)		0.27	0.31	0.34	0.37	0.39	0.42	0.45	0.48	0.51	0.55
Input Current @ 480V (A)		0.24	0.24	0.26	0.28	0.30	0.32	0.34	0.36	0.38	0.43
Optics											
T2R	4000K/5000K	15,645	16,846	18,414	19,846	21,273	22,632	23,977	25,098	26,301	26,930
	BUG Rating	B2-U0-G2	B2-U0-G2	B2-U0-G2	B2-U0-G3	B2-U0-G3	B2-U0-G3	B3-U0-G3	B3-U0-G3	B3-U0-G3	B3-U0-G3
	3000K	14,248	15,341	16,769	18,074	19,372	20,611	21,836	22,855	23,952	24,525
	BUG Rating	B2-U0-G2	B2-U0-G2	B2-U0-G2	B2-U0-G2	B2-U0-G3	B2-U0-G3	B2-U0-G3	B3-U0-G3	B3-U0-G3	B3-U0-G3
T3	4000K/5000K	15,537	16,730	18,287	19,710	21,126	22,476	23,812	24,924	26,119	26,745
	BUG Rating	B2-U0-G2	B2-U0-G3	B2-U0-G3	B3-U0-G3	B3-U0-G3	B3-U0-G3	B3-U0-G4	B3-U0-G4	B3-U0-G4	B3-U0-G4
	3000K	14,149	15,236	16,654	17,950	19,239	20,469	21,686	22,698	23,788	24,356
	BUG Rating	B2-U0-G2	B2-U0-G3	B2-U0-G3	B2-U0-G3	B3-U0-G3	B3-U0-G3	B3-U0-G3	B3-U0-G3	B3-U0-G4	B3-U0-G4
T4W	4000K/5000K	15,473	16,661	18,212	19,629	21,038	22,383	23,713	24,820	26,011	26,633
	BUG Rating	B2-U0-G3	B3-U0-G3	B3-U0-G3	B3-U0-G3	B3-U0-G4	B3-U0-G4	B3-U0-G4	B3-U0-G4	B3-U0-G4	B3-U0-G4
	3000K	14,090	15,172	16,584	17,875	19,159	20,384	21,596	22,604	23,688	24,254
	BUG Rating	B2-U0-G3	B2-U0-G3	B3-U0-G3	B3-U0-G3	B3-U0-G3	B3-U0-G4	B3-U0-G4	B3-U0-G4	B3-U0-G4	B3-U0-G4
5WQ	4000K/5000K	16,019	17,249	18,854	20,322	21,781	23,174	24,551	25,697	26,930	27,574
	BUG Rating	B4-U0-G3	B4-U0-G3	B4-U0-G3	B5-U0-G3	B5-U0-G3	B5-U0-G3	B5-U0-G3	B5-U0-G3	B5-U0-G3	B5-U0-G3
	3000K	14,588	15,709	17,169	18,508	19,836	21,103	22,358	23,403	24,525	25,111
	BUG Rating	B4-U0-G2	B4-U0-G3	B4-U0-G3	B4-U0-G3	B5-U0-G3	B5-U0-G3	B5-U0-G3	B5-U0-G3	B5-U0-G3	B5-U0-G3
T2U	4000K/5000K	15,490	16,678	18,232	19,651	21,061	22,409	23,740	24,848	26,040	26,663
	3000K	14,106	15,189	16,603	17,894	19,181	20,407	21,620	22,629	23,714	24,281
	BUG Rating	B3-U0-G3	B3-U0-G3	B3-U0-G3	B3-U0-G3	B3-U0-G3	B3-U0-G3	B3-U0-G3	B3-U0-G3	B3-U0-G3	B3-U0-G3

## Energy and Performance Data

### Power and Lumens (PA3 Light Engine)

Light Engine - PA3*		PA3-190	PA3-200	PA3-210	PA3-220	PA3-230	PA3-240	PA3-250	PA3-260	PA3-270	PA3-280
Power (Watts)		189	201	211	222	229	242	251	261	273	279
Wattage Label		190	200	210	220	230	240	250	260	270	280
Input Current @ 120V (A)		1.58	1.68	1.76	1.85	1.91	2.01	2.10	2.18	2.27	2.33
Input Current @ 277V (A)		0.71	0.75	0.78	0.82	0.85	0.89	0.92	0.96	0.99	1.02
Input Current @ 347V (A)		0.58	0.61	0.64	0.67	0.70	0.73	0.76	0.78	0.81	0.84
Input Current @ 480V (A)		0.44	0.46	0.48	0.50	0.52	0.54	0.57	0.58	0.60	0.62
Optics											
T2R	4000K/5000K	27,868	29,218	30,114	31,168	31,950	33,030	33,790	34,591	35,538	36,067
	BUG Rating	B3-U0-G3	B3-U0-G3	B3-U0-G3	B3-U0-G3	B3-U0-G4	B3-U0-G4	B3-U0-G4	B3-U0-G4	B3-U0-G4	B3-U0-G4
	3000K	25,380	26,608	27,424	28,384	29,097	30,080	30,772	31,501	32,364	32,846
	BUG Rating	B3-U0-G3	B3-U0-G3	B3-U0-G3	B3-U0-G3	B3-U0-G3	B3-U0-G3	B3-U0-G4	B3-U0-G4	B3-U0-G4	B3-U0-G4
T3	4000K/5000K	27,678	29,017	29,906	30,954	31,731	32,804	33,557	34,351	35,294	35,818
	BUG Rating	B3-U0-G4	B3-U0-G4	B3-U0-G4	B3-U0-G4	B3-U0-G4	B3-U0-G4	B3-U0-G4	B3-U0-G4	B3-U0-G4	B3-U0-G4
	3000K	25,205	26,425	27,235	28,189	28,896	29,874	30,560	31,283	32,141	32,620
	BUG Rating	B3-U0-G4	B3-U0-G4	B3-U0-G4	B3-U0-G4	B3-U0-G4	B3-U0-G4	B3-U0-G4	B3-U0-G4	B3-U0-G4	B3-U0-G4
T4W	4000K/5000K	27,562	28,896	29,781	30,825	31,598	32,667	33,417	34,210	35,148	35,670
	BUG Rating	B3-U0-G4	B3-U0-G4	B3-U0-G4	B3-U0-G4	B3-U0-G4	B3-U0-G5	B3-U0-G5	B3-U0-G5	B3-U0-G5	B3-U0-G5
	3000K	25,100	26,316	27,122	28,072	28,777	29,749	30,433	31,154	32,008	32,484
	BUG Rating	B3-U0-G4	B3-U0-G4	B3-U0-G4	B3-U0-G4	B3-U0-G4	B3-U0-G4	B3-U0-G4	B3-U0-G5	B3-U0-G5	B3-U0-G5
5WQ	4000K/5000K	28,535	29,917	30,834	31,913	32,715	33,820	34,598	35,418	36,389	36,929
	BUG Rating	B5-U0-G3	B5-U0-G4	B5-U0-G4	B5-U0-G4	B5-U0-G4	B5-U0-G4	B5-U0-G4	B5-U0-G4	B5-U0-G4	B5-U0-G4
	3000K	25,986	27,246	28,080	29,063	29,791	30,801	31,507	32,254	33,138	33,630
	BUG Rating	B5-U0-G3	B5-U0-G3	B5-U0-G3	B5-U0-G4	B5-U0-G4	B5-U0-G4	B5-U0-G4	B5-U0-G4	B5-U0-G4	B5-U0-G4
T2U	4000K/5000K	27,592	28,929	29,815	30,858	31,633	32,703	33,454	34,247	35,186	35,709
	3000K	25,128	26,344	27,151	28,103	28,808	29,783	30,467	31,188	32,044	32,519
	BUG Rating	B3-U0-G3	B3-U0-G3	B4-U0-G4	B4-U0-G4	B4-U0-G4	B4-U0-G4	B4-U0-G4	B4-U0-G4	B4-U0-G4	B4-U0-G4

### Lumen Maintenance

Light Engine	Ambient Temperature	TM-21 Lumen Maintenance (60,000 Hours)	Theoretical L70 (Hours)
PA3	Up to 40°C	> 98%	> 800,000

### Lumen Multiplier

Ambient Temperature	Lumen Multiplier
0°C	1.02
10°C	1.01
25°C	1.00
40°C	0.99
50°C	0.97

## Control Options

### Photocontrol (PR and PR7)

Photocontrol receptacles (PR and PR7) provide a flexible solution to enable "dusk-to-dawn" lighting by sensing light levels. Advanced control systems compatible with ANSI C136.41 7-pin standards can be utilized with the PR7 receptacle.

### Dimming Occupancy Sensor (MS/DIM-LXX)

These sensors are factory installed in the luminaire housing. When the MS/DIM-LXX sensor option is selected, the occupancy sensor is connected to a dimming driver and the entire luminaire dims when there is no activity detected. When activity is detected, the luminaire returns to full light output. The MS/DIM sensor is factory preset to dim down to approximately 50 percent power with a time delay of five minutes. These occupancy sensors include an integral photocell that can be activated with the FSIR-100 accessory for "dusk-to-dawn" control or daylight harvesting - the factory preset is OFF. The FSIR-100 is a wireless tool utilized for changing the dimming level, time delay, sensitivity and other parameters. A variety of sensor lens are available to optimize the coverage pattern for mounting heights from 8' - 40'.

### Enlighted Wireless Control and Monitoring (LWR-LW and LWR-LN)

Enlighted is a connected lighting solution that combines a broad selection of energy-efficient LED luminaires with a powerful integrated wireless sensor system. The sensor controls the lighting system in compliance with the latest energy codes and collects valuable data about building performance and use. Software applications turn the granular data into information through energy dashboards and specialized apps that make it simple and help optimize the use of building resources, beyond lighting. For additional details, refer to the Enlighted product guides.

### LumenSafe Integrated Network Security Camera (LD)

Cooper Lighting Solutions brings ease of camera deployment to a whole new level. No additional wiring is needed beyond providing line power to the luminaire. A variety of networking options allows security integrators to design the optimal solution for active surveillance. As the ideal solution to meet the needs for active surveillance, the LumenSafe integrated network camera is a streamlined, outdoor-ready fixed dome that provides HDTV 1080p video. This IP camera is optimally designed for deployment in the video management system or security software platform of choice.

Project		Catalog #		Type	
Prepared by		Notes		Date	



# Streetworks

## Archeon Medium

### Roadway Luminaire

#### Typical Applications

Outdoor • Roadways • Parking Lots • Building Areas

#### Interactive Menu

- Ordering Information page 2
- Product Specifications page 2
- Energy and Performance Data page 3

#### Product Certifications



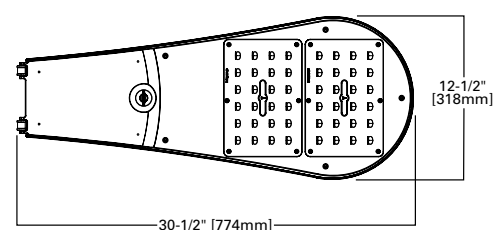
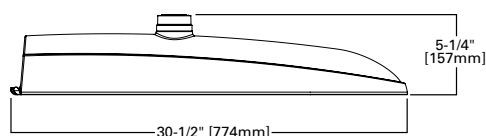
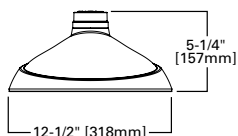
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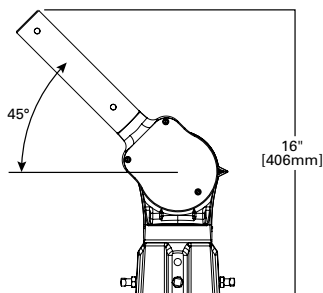
#### Quick Facts

- Die-cast aluminum construction; Single latch tool-less entry
- Replaces up to 400W equivalent HID; -40°C to 40°C operating range
- Pole-mounted; Optional arm and offset adjustable arm mounting
- 120-277V 50/60Hz, 347V 60Hz or 480V 60Hz operation; IP66 rated

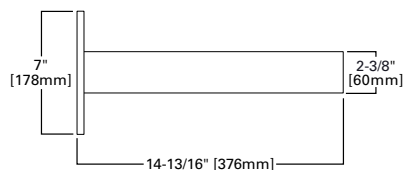
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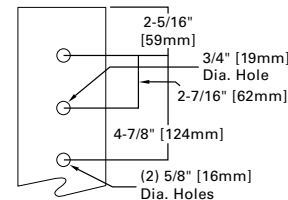
#### Adjustable Slipfitter Offset Arm



#### 15" Straight Arm



#### Type "M" - Drilling Pattern



## Ordering Information

SAMPLE ORDER NUMBER: ARCH-M-PA2-40-740-U-T2R-A15-AP-10K-PR

Product Family <sup>1, 2</sup>	Light Engine	Wattage Bucket	Color Temperature	Voltage	Distribution	Mounting	Finish
<b>ARCH-M</b> =Archeon Medium	<b>PA2</b> =(2) Direct Mount Rectangle (48 LED)	<b>40</b> <b>50</b> <b>60</b> <b>70</b> <b>80</b> <b>90</b> <b>100</b> <b>110</b> <b>120</b> <b>130</b> <b>140</b> <b>150</b> <b>160</b>	<b>722</b> =70CRI, 2200K <b>740</b> =70CRI, 4000K <b>727</b> =70CRI, 2700K <b>827</b> =80CRI, 2700K <sup>6</sup> <b>730</b> =70CRI, 3000K <b>750</b> =70CRI, 5000K <b>AMB</b> =Amber, 590nm <sup>18, 25</sup>	<b>U</b> =Universal (120-277V) <b>8</b> =480V <sup>4, 5</sup> <b>9</b> =347V <sup>4</sup>	<b>T2R</b> =Type II Roadway <b>T2U</b> =Type II Urban <b>T3</b> =Type III <b>T4W</b> =Type IV Wide <b>5WQ</b> =Type V Square Wide	<b>[Blank]</b> =None <b>A15</b> =15" Straight Mast Arm <sup>14</sup> <b>ASJS15</b> =Adjustable Slipfitter (Factory set at 15° degrees) <b>ASJS25</b> =Adjustable Slipfitter (Factory set at 25° degrees) <b>ASJS45</b> =Adjustable Slipfitter (Factory set at 45° degrees)	<b>AP</b> =Grey <b>BZ</b> =Bronze <b>BK</b> =Black <b>DP</b> =Dark Platinum <b>WH</b> =White
Options (Add as Suffix)				Controls			
<b>10K</b> =Series 10kV UL 1449 Surge Protective Device <b>20K</b> =Series 20kV UL 1449 Surge Protective Device <b>20KI</b> =Series 20kV UL 1449 Surge Protective Device with light indicator <b>10MSP</b> =Parallel 10kV MOV Surge Protective Device <b>20MSP</b> =Parallel 20kV MOV Surge Protective Device <b>K</b> =Level Indicator <b>HA</b> =50°C High Ambient Temperature <b>HSS</b> =Factory Install House Side Shield <sup>13</sup> <b>PSC</b> =Photocontrol Shorting Cap <b>NPC</b> =NEMA Photocontrol - Multi-Tap <b>LLPC</b> =Longlife Photocontrol Included <b>IP66</b> =IP66 Rated Housing				<b>PR</b> =NEMA 3-PIN Twistlock Photocontrol Receptacle <sup>7</sup> <b>PR7</b> =NEMA 7-PIN Twistlock Photocontrol Receptacle <b>MS/DIM-L08</b> =Motion Sensor for Dimming Operation, Maximum 8' Mounting Height <sup>8, 9</sup> <b>MS/DIM-L20</b> =Motion Sensor for Dimming Operation, Maximum 9' - 20' Mounting Height <sup>8, 9</sup> <b>MS/DIM-L40</b> =Motion Sensor for Dimming Operation, Maximum 21' - 40' Mounting Height <sup>8, 9</sup> <b>LWR-LW</b> =Enlighted Wireless Sensor, Wide Lens for 8' - 16' Mounting Heights <sup>8, 10, 11</sup> <b>LWR-LN</b> =Enlighted Wireless Sensor, Narrow Lens for 16' - 40' Mounting Heights <sup>8, 10, 11</sup> <b>5LTD</b> =DALI <sup>3</sup> <b>ZD</b> =DALI-enabled 4-PIN Twistlock Receptacle <sup>19, 20</sup> <b>ZW</b> =WaveLinx-enabled 4-PIN Twistlock Receptacle <sup>19, 20</sup> <b>SWPD4XX</b> =WaveLinx Wireless Sensor, 7' - 15' Mounting Height <sup>21, 22, 23, 24</sup> <b>SWPD5XX</b> =WaveLinx Wireless Sensor, 15' - 40' Mounting Height <sup>21, 22, 23, 24</sup>			
Accessories (Order Separately) <sup>17</sup>							
<b>OA / RA1013</b> =Photocontrol Shorting Cap OA1223=10kV Surge Module Replacement <b>OA/RA1014</b> =NEMA Photocontrol - 120V <b>OA/RA1016</b> =NEMA Photocontrol - Multi-Tap <b>OA/RA1027</b> =NEMA Photocontrol - 480V <b>OA/RA1201</b> =NEMA Photocontrol - 347V <b>OA1223</b> =10kV Surge Module Replacement <b>A15-XX</b> =Arm (15" Straight Arm) <sup>14, 16</sup> <b>ASJS15-XX</b> =Adjustable slipfitter (Factory set at 15 degrees) <sup>16</sup>				<b>ASJS25-XX</b> =Adjustable slipfitter (Factory set at 25 degrees) <sup>16</sup> <b>ASJS45-XX</b> =Adjustable slipfitter (Factory set at 45 degrees) <sup>16</sup> <b>FSIR-100</b> =Wireless Configuration Tool for Occupancy Sensor <sup>17</sup> <b>HS-ARCH-24</b> =Field Install ARCH House Side Shield <sup>13, 15</sup> <b>SWPD4XX</b> =WaveLinx Wireless Sensor, 7' - 15' Mounting Height <sup>21, 22, 23, 24</sup> <b>SWPD5XX</b> =WaveLinx Wireless Sensor, 15' - 40' Mounting Height <sup>21, 22, 23, 24</sup> <b>VGS-ARCH</b> =Short Vertical Drop Shield <b>VGL-ARCH</b> =Long Vertical Drop Shield			
<b>NOTES:</b> 1. Customer is responsible for engineering analysis to confirm pole and fixture compatibility for all applications. Refer to our white paper WP513001EN for additional support information. 2. Nominal wattage values will be labeled on fixture as per ANSI C136.15. For specific fixture wattage, refer to Power and Lumens table. 3. Only available in universal voltage. 4. Not available at 40W or 50W. 5. Only for use with 480V Wye systems. Per NEC, not for use with ungrounded systems, impedance grounded systems or corner grounded systems (commonly known as Three Phase Three Wire Delta, Three Phase High Leg Delta and Three Phase Corner Grounded Delta systems). 6. Extended lead times may apply. 7. If "PR" selected, dimming functionality not available. Dimming leads will be capped. 8. Only available in Universal voltage. 9. The FSIR-100 accessory is required to adjust parameters. 10. Enlighted wireless system is not available with photocontrol receptacle (not required) 11. Enlighted wireless sensors are factory installed and require network components LWP-EM-1, LWP-GW-1, and LWP-PoE8 in appropriate quantities. See website for Enlighted application information. 12. HA option not available with the following configurations, 347/480V 150W and 160W if paired with HS-ARCH or 5TLD 140 160W. 13. HSS not available with 5WQ distribution. 14. Round pole adapter and mounting hardware included. "M" drill pattern. 15. Archeon Medium requires two house side shields. 16. Replace XX with color designation. 17. This tool enables adjustment of parameters including high and low modes, sensitivity, time delay, cutoff and more. Consult your lighting representative at Cooper Lighting Solutions for more information. 18. Amber 590nm +/- 5nm for wildlife and observatory use. Supplied in PA2-60 wattage bucket only. 19. Utilizes internal step-down transformer when 347V or 480V is selected. 20. Controls system is not available with photocontrol (BPC), photocontrol receptacle (PR or PR7), or other controls systems (MS, ZD, ZW, LWR, DALI, or DIM). 21. Requires 4-PIN twistlock receptacle (ZD or ZW) option. 22. Replace XX with sensor color (WH, BZ or BK). 23. Sensor passive infrared (PIR) may be overly sensitive with operating below -20°C (-4°F). 24. For this device to be field-configurable, requires WAC Gateway components WAC-PoE and WPOE-120 in appropriate quantities. Only compatible with WaveLinx system and software and requires system components to be installed for operation. See website for more WaveLinx application information. 25. Not available with HA option.							

## Product Specifications

## Construction

- Heavy-duty die-cast aluminum housing and door
- Tool-less entry, hinged removable door for easy maintenance
- 3G vibration rated

## Optics

- Choice of four patented, high efficiency AccuLED Optics
- Available in Type IIR, IIU, III, IV wide and V square wide the optics are precisely designed to shape the distribution maximizing efficiency and application spacing
- Offered standard in 4000K (+/- 275K) CCT and minimum 70 CRI. Optional 2200K, 2700K, 3000K, and 5000K CCT
- For the ultimate level of spill light control, an optional house side shield accessory is available and can be field or factory installed
- Optics are IP66 enclosure rated

## Electrical

- 120-277V 50/60Hz, 347V 60Hz or 480V 60Hz operation

- Standard 0-10V dimming
- 10kV/10kA common- and differential- mode surge protection available
- Ambient operating temperature from -40°C to 40°C; 50°C HA, high ambient, capability available
- Standard with three position tunnel type compression terminal block
- Greater than 98% lumen maintenance expected at 60,000 hours
- Replaces 150W to 400W HID

## Mounting

- Two-bolt/one-bracket slipfitter with cast-in pipe stop and 2.5" leveling steps
- Fixed-in-place bird guard seals around 1-1/4" to 2" (1-5/8" to 2-3/8" O.D.) mounting arms
- Optional 15" pole mount arm available with round pole adapter and mounting hardware included

## Finish

- Housing and cast parts finished in five-stage super TGIC polyester powder coat paint, 2.5 mil nominal thickness for superior protection against fade and wear

- Consult your lighting representative at Cooper Lighting Solutions for a complete selection of standard colors

## Shipping Data

- Approximate Net Weight: 18 lbs. (8.16 kgs.)
- Effective Projected Area: 0.71 (Sq. Ft.)

## Warranty

- Standard five-year warranty.
- Optional ten-year warranty, please see your CLS Streetworks sales representative for more information

## Energy and Performance Data

### Power and Lumens (PA2 Light Engine)

Light Engine - PA2*		PA2-40	PA2-50	PA2-60	PA2-70	PA2-80	PA2-90	PA2-100	PA2-110	PA2-120	PA2-130	PA2-140	PA2-150	PA2-160	
Power (Watts)		38	48	63	73	83	92	101	111	122	131	141	151	161	
Wattage Label		40	50	60	70	80	90	100	110	120	130	140	150	160	
Input Current @ 120V (A)		0.318	0.399	0.527	0.609	0.693	0.768	0.846	0.925	1.020	1.100	1.180	1.260	1.340	
Input Current @ 277V (A)		0.145	0.178	0.243	0.275	0.309	0.342	0.374	0.407	0.453	0.486	0.518	0.553	0.586	
Input Current @ 347V (A)		--	--	0.188	0.216	0.245	0.271	0.298	0.325	0.371	0.400	0.428	0.458	0.487	
Input Current @ 480V (A)		--	--	0.146	0.165	0.185	0.203	0.222	0.240	0.286	0.304	0.323	0.344	0.363	
Optics															
T2R	4000K/5000K Lumens	6,489	8,063	10,434	11,891	13,299	14,714	15,925	17,033	18,278	19,311	20,317	21,323	22,189	
	Bug Rating	B1-U0- G1	B1-U0- G2	B1-U0- G2	B2-U0- G2	B2-U0- G2	B2-U0- G2	B2-U0- G2	B2-U0- G2	B2-U0- G2	B2-U0- G2	B2-U0- G3	B2-U0- G3	B2-U0- G3	
	3000K Lumens	5,911	7,342	9,502	10,829	12,111	13,400	14,501	15,512	16,646	17,586	18,502	19,418	20,206	
	Bug Rating	B1-U0- G1	B1-U0- G2	B1-U0- G2	B1-U0- G2	B2-U0- G2	B2-U0- G2	B2-U0- G2	B2-U0- G2	B2-U0- G2	B2-U0- G2	B2-U0- G2	B2-U0- G3	B2-U0- G3	B2-U0- G3
T3	4000K/5000K Lumens	6,649	8,013	10,367	11,816	13,216	14,621	15,825	16,926	18,164	19,190	20,190	21,189	22,050	
	Bug Rating	B1-U0- G2	B1-U0- G2	B2-U0- G2	B2-U0- G2	B2-U0- G2	B2-U0- G2	B2-U0- G3	B2-U0- G3	B2-U0- G3	B2-U0- G3	B3-U0- G3	B3-U0- G3	B3-U0- G3	
	3000K Lumens	5,873	7,297	9,441	10,761	12,036	13,317	14,410	15,415	16,542	17,476	18,388	19,297	20,081	
	Bug Rating	B1-U0- G2	B1-U0- G2	B2-U0- G2	B2-U0- G2	B2-U0- G2	B2-U0- G2	B2-U0- G2	B2-U0- G3	B2-U0- G3	B2-U0- G3	B2-U0- G3	B3-U0- G3	B3-U0- G3	
T4W	4000K/5000K Lumens	6,416	7,971	10,313	11,756	13,147	14,547	15,742	16,839	18,070	19,091	20,085	21,080	21,936	
	Bug Rating	B1-U0- G2	B1-U0- G2	B2-U0- G3	B2-U0- G3	B2-U0- G3	B2-U0- G3	B2-U0- G3	B3-U0- G3	B3-U0- G3	B3-U0- G3	B3-U0- G3	B3-U0- G3	B3-U0- G4	B3-U0- G4
	3000K Lumens	5,843	7,259	9,392	10,706	11,973	13,247	14,336	15,334	16,455	17,385	18,292	19,197	19,977	
	Bug Rating	B1-U0- G2	B1-U0- G2	B2-U0- G3	B2-U0- G3	B2-U0- G3	B2-U0- G3	B2-U0- G3	B2-U0- G3	B3-U0- G3	B3-U0- G3	B3-U0- G3	B3-U0- G3	B3-U0- G3	B3-U0- G3
5WQ	4000K/5000K Lumens	6,619	8,223	10,640	12,127	13,563	15,007	16,241	17,372	18,642	19,694	20,721	21,747	22,629	
	Bug Rating	B3-U0- G1	B3-U0- G2	B4-U0- G2	B4-U0- G2	B4-U0- G2	B4-U0- G2	B4-U0- G3	B4-U0- G3	B4-U0- G3	B4-U0- G3	B5-U0- G3	B5-U0- G3	B5-U0- G3	
	3000K Lumens	6,029	7,489	9,690	11,043	12,353	13,666	14,789	15,820	16,977	17,935	18,870	19,804	20,609	
	Bug Rating	B3-U0- G1	B3-U0- G2	B4-U0- G2	B4-U0- G2	B4-U0- G2	B4-U0- G2	B4-U0- G3	B4-U0- G3	B4-U0- G3	B4-U0- G3	B4-U0- G3	B5-U0- G3	B5-U0- G3	
T2U	4000K/5000K Lumens	6,411	7,965	10,306	11,747	13,138	14,535	15,731	16,826	18,056	19,076	20,070	21,064	21,918	
	Bug Rating	5,838	7,253	9,385	10,698	11,963	13,238	14,325	15,323	16,443	17,373	18,277	19,182	19,961	
	3000K Lumens	B2-U0- G2	B2-U0- G2	B2-U0- G2	B3-U0- G3	B3-U0- G3	B3-U0- G3	B3-U0- G3	B3-U0- G3	B3-U0- G3	B3-U0- G3	B3-U0- G3	B3-U0- G3	B3-U0- G3	B3-U0- G3
	Bug Rating	B2-U0- G1	B3-U0- G1	B3-U0- G1	B3-U0- G2	B3-U0- G2	B3-U0- G2	B4-U0- G2	B4-U0- G2	B4-U0- G2	B3-U0- G2	B4-U0- G2	B4-U0- G2	B4-U0- G2	B4-U0- G2

### Lumen Maintenance

Light Engine	Ambient Temperature	TM-21 Lumen Maintenance (60,000 Hours)	Theoretical L70 (Hours)
PA2	Up to 40°C	> 98%	> 800,000

### Lumen Multiplier

Ambient Temperature	Lumen Multiplier
0°C	1.02
10°C	1.01
25°C	1.00
40°C	0.99
50°C	0.97

Project		Catalog #		Type	
Prepared by		Notes		Date	



## Streetworks

### UTLD Traditionaire

#### Decorative Post Top Luminaire

#### Typical Applications

Outdoor • Parking Lots • Walkways • Roadways • Building Areas

#### Interactive Menu

- Ordering Information [page 2](#)
- Product Specifications [page 2](#)
- Energy and Performance Data [page 3](#)

#### Product Certifications



#### Product Features

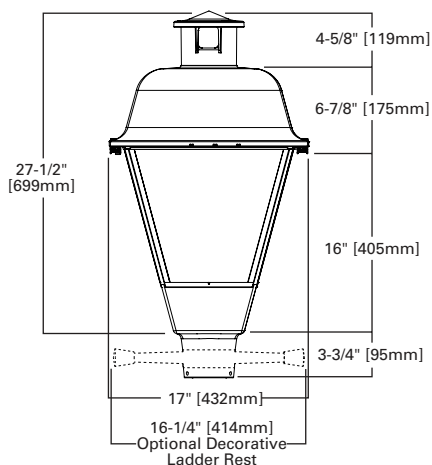


#### Quick Facts

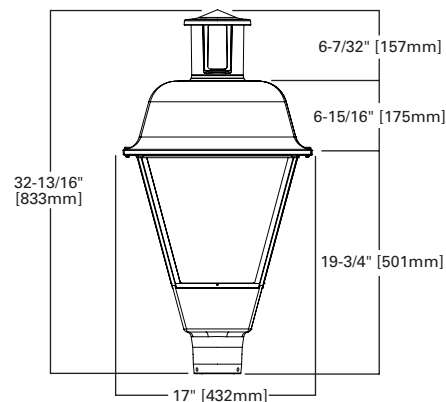
- Replaces up to 250W equivalent HID
- Asymmetric & Symmetric distributions
- 0-10V dimming driver standard
- UL 1449/MOV surge protection available
- 3G vibration rated

#### Dimensional Details

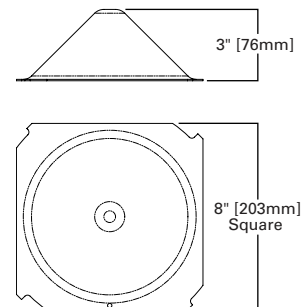
##### UTLD



##### UTLD - Tall Cupola



##### Optional Bird Cone





## Ordering Information

SAMPLE NUMBER: **UTLD-PA1-100-740-U-T2U-CL-BK**

Product Family <sup>1</sup>	Configuration	Wattage Bucket	Color Temperature	Voltage	Distribution	Lens	Finish
<b>UTLD</b> =Traditionaire™ LED Downlight	<b>PA1</b> =Direct Mount Rectangle (24 LED)	<b>20</b> =20W <sup>2</sup> <b>30</b> =30W <b>40</b> =40W <b>50</b> =50W <b>60</b> =60W <b>70</b> =70W <b>80</b> =80W <b>90</b> =90W <b>100</b> =100W	<b>740</b> =70CRI, 4000K <b>727</b> =70CRI, 2700K <sup>6</sup> <b>827</b> =80CRI, 2700K <sup>6</sup> <b>730</b> =70CRI, 3000K <sup>6</sup> <b>750</b> =70CRI, 5000K <sup>6</sup> <b>AMB</b> =Amber 590nm	<b>U</b> =Universal (120-277V) <b>2</b> =120V <sup>2</sup> <b>8</b> =480V <sup>4,5</sup> <b>9</b> =347V <sup>5</sup>	<b>T2U</b> =Type II Urban <b>T3</b> =Type III <b>T4W</b> =Type IV Wide <b>5WQ</b> =Type V Square Wide <b>SL3</b> =Type III w/ Spill Control	<b>[Blank]</b> =Open (No Lens) <b>A</b> =Refractive Lens Panels <sup>9</sup> <b>CL</b> =Clear Lens Panel <sup>9</sup> <b>FP</b> =Frosted Lens Panel <sup>9</sup> <b>TL</b> =Textured Lens Panel <sup>9</sup>	<b>BK</b> =Black <b>AP</b> =Grey <b>BZ</b> =Bronze <b>WH</b> =White
Options (Add as Suffix)			Controls		Accessories (Order Separately)		
<b>10K</b> =Series 10kV UL 1449 Surge Protective Device <b>20K</b> =Series 20kV UL 1449 Surge Protective Device <b>20KI</b> =Series 20kV UL 1449 Surge Protective Device with light indicator <b>20MSP</b> =Parallel 20kV MOV Surge Protective Device <b>10MSP</b> =10kV MOV Surge Protection Device <b>HA</b> =50°C High Ambient Temperature <sup>8</sup> <b>W</b> =20' #10 Input Leads <b>S</b> =Snap Latches for Tool-less Light Replacement <b>J</b> =Factory Installed Ladder Rest <b>BC</b> =Bird Cone <sup>9</sup> <b>HSS</b> =Factory Install UTLD House Side Shield <sup>10</sup> <b>TC</b> =Tall Cupola <sup>11</sup> <b>PSC</b> =Photocontrol Shorting Cap <b>NPC</b> =NEMA Photocontrol - Multi-Tap <b>LLPC</b> =Longlife Photocontrol Included			<b>5LTD</b> =DALI <sup>3</sup> <b>PR</b> =NEMA Photocontrol Receptacle <sup>7</sup> <b>PR7</b> =NEMA 7-PIN Twistlock Photocontrol Receptacle		<b>TA1BK</b> =Decorative Ladder Rest for Field Installation (Black) <b>OA/RA1013</b> =Photocontrol Shorting Cap <b>OA/RA1014</b> =NEMA Photocontrol - 120V <b>OA/RA1016</b> =NEMA Photocontrol - Multi-Tap <b>OA/RA1027</b> =NEMA Photocontrol - 480V <b>OA/RA1201</b> =NEMA Photocontrol - 347V <b>OA1223</b> =10kV Surge Module Replacement <b>HS-UTLD-24</b> =Field Installed UTLD House Side Shield for PA1 <sup>10</sup> <b>VGS-ARCH</b> =Short Vertical Drop Shield <b>VGL-ARCH</b> =Long Vertical Drop Shield		
<b>NOTES:</b> 1. Customer is responsible for engineering analysis to confirm pole and fixture compatibility for all applications. Refer to our white paper WP513001EN for additional support information. 2. PA1-20 only available in 120V. 3. Only available in universal voltage. Consult your lighting representative at Cooper Lighting Solutions if custom programming is required. Not available with PA1-90, PA1-100. Consult your lighting representative at Cooper Lighting Solutions if greater than PA1-80 (83W) is needed. 4. Only for use with 480V Wye systems. Per NEC, not for use with ungrounded systems, impedance grounded systems or corner grounded systems (commonly known as Three Phase Three Wire Delta, Three Phase High Leg Delta and Three Phase Corner Grounded Delta systems). 5. Not available with 5LTD driver. 6. Use dedicated IES files for when performing layouts. These files are published on the UTLD Traditionaire product page on the website. 7. If "PR" selected, dimming functionality not available, dimming leads will be capped. 8. Not available with HSS or 5LTD driver. 9. Lens panel and birdcone cannot be ordered together. 10. HSS not available with 5WQ distribution. 11. Use tall cupola to accommodate network control solutions requiring the 7-pin receptacle							

## Product Specifications

## Construction

- Hinged (stainless steel hinge pins) die-cast aluminum housing and cover with cupola.
- 3G vibration tested to ensure strength of construction and longevity in application.

## Optics

- Choice of five patented, high-efficiency AccuLED Optic™ technology manufactured from injection-molded acrylic.
- Optics are precisely designed to shape the light output, maximizing efficiency and application spacing.
- AccuLED Optic technology creates consistent distributions with the scalability to meet customized application requirements.
- Optional 2700K, 3000K, 4000K and 5000K CCT. For the ultimate level of spill light control, an optional house-side shield accessory can be field, or factory installed.
- Optics are IP66 enclosure rated.
- Offered open sided as a standard with four lens options.

## Electrical

- LED drivers mount to die-cast aluminum back housing for optimal heat sinking, operation efficacy, and prolonged life.
- Standard drivers feature electronic universal voltage (120-277V 50/60Hz), 347V 60Hz or 480V 60Hz operation, greater than 0.9 power factor, less than 20% harmonic distortion, and is suitable for operation in -40°C to 40°C ambient environments.
- Surge protection options: 10kV/10kA common - and differential - mode surge protection. Optional 20kV (light indicator optional), 10kV MOV, and 20kV MOV surge protection devices.

## Mounting

- Self-aligning pole-top fitter for 3" O.D. pole tops or vertical tenons.
- Square headed 1-1/4" polymer coated mounting bolts with a lock nut.

## Finish

- Cast components finished in a super TGIC polyester powder coat paint, 2.5 mil nominal thickness for superior protection against fade and wear.
- Optional colors include bronze, grey and white. RAL and custom color matches available.

## Shipping Data

- Approximate Net Weight: 37 lbs. (17 kgs.)
- Effective Projected Area: 2.3 (Sq. Ft.)

## Warranty

- Standard five-year warranty.
- Optional ten-year warranty, please see your Cooper Lighting Solutions Streetworks sales representative for more information.

## Energy and Performance Data

## Power and Lumens (Standard Configuration - No Bird Cone)

Light Engine *		PA1-20	PA1-30	PA1-40	PA1-50	PA1-60	PA1-70	PA1-80	PA1-90	PA1-100
Nominal Power (Watts)		21	31	40	54	64	74	83	94	96
Wattage Label		20	30	40	50	60	70	80	90	100
Current @ 120V (A)		0.18	0.26	0.34	0.45	0.53	0.62	0.70	0.78	0.80
Current @ 277V (A)		--	0.12	0.15	0.21	0.24	0.28	0.31	0.35	0.35
Current @ 347V (A)		--	0.10	0.13	0.16	0.19	0.22	0.24	0.28	0.28
Current @ 480V (A)		--	0.07	0.09	0.13	0.14	0.17	0.18	0.21	0.21
Optics										
T2U	4000K	2,875	4,024	5,231	6,705	7,794	8,723	9,544	10,321	10,343
	Lumens per Watt	137	130	131	124	122	118	115	110	108
	BUG Rating	B1-U0-G1	B1-U0-G1	B2-U0-G2	B2-U0-G2	B2-U0-G2	B2-U0-G2	B3-U0-G3	B3-U0-G3	B3-U0-G3
	3000K	2,618	3,665	4,764	6,107	7,098	7,944	8,692	9,400	9,419
	Lumens per Watt	125	118	119	113	111	107	105	100	98
	BUG Rating	B1-U0-G1	B1-U0-G1	B2-U0-G2	B2-U0-G2	B2-U0-G2	B2-U0-G2	B2-U0-G2	B3-U0-G3	B3-U0-G3
T2U-A	4000K	2,461	3,444	4,476	5,740	6,672	7,466	8,168	8,834	8,853
	Lumens per Watt	117	111	112	106	104	101	98	94	92
	BUG Rating	B1-U3-G1	B1-U3-G1	B1-U3-G2	B2-U3-G2	B2-U4-G2	B2-U4-G2	B2-U4-G2	B2-U4-G2	B2-U4-G2
	3000K	2,241	3,136	4,077	5,227	6,076	6,798	7,438	8,045	8,063
	Lumens per Watt	107	101	102	97	95	92	90	86	84
	BUG Rating	B1-U3-G1	B1-U3-G1	B1-U3-G2	B1-U3-G2	B2-U3-G2	B2-U4-G2	B2-U4-G2	B2-U4-G2	B2-U4-G2
T2U-CL	4000K	2,682	3,754	4,880	6,258	7,273	8,138	8,905	9,631	9,651
	Lumens per Watt	128	121	122	116	114	110	107	102	101
	BUG Rating	B1-U2-G1	B1-U3-G1	B2-U3-G2	B2-U3-G2	B2-U3-G2	B3-U3-G3	B3-U3-G3	B3-U3-G3	B3-U3-G3
	3000K	2,443	3,419	4,445	5,698	6,624	7,412	8,110	8,770	8,790
	Lumens per Watt	116	110	111	106	104	100	98	93	92
	BUG Rating	B1-U2-G1	B1-U2-G1	B2-U3-G2	B2-U3-G2	B2-U3-G2	B2-U3-G2	B3-U3-G3	B3-U3-G3	B3-U3-G3
T2U-TL	4000K	2,637	3,690	4,799	6,152	7,151	8,002	8,755	9,468	9,488
	Lumens per Watt	126	119	120	114	112	108	105	101	99
	BUG Rating	B1-U3-G1	B1-U3-G1	B2-U3-G2	B2-U3-G2	B2-U3-G2	B3-U3-G3	B3-U3-G3	B3-U3-G3	B3-U3-G3
	3000K	2,402	3,362	4,369	5,602	6,512	7,287	7,973	8,622	8,640
	Lumens per Watt	114	108	109	104	102	98	96	92	90
	BUG Rating	B1-U2-G1	B1-U3-G1	B2-U3-G2	B2-U3-G2	B2-U3-G2	B2-U3-G2	B3-U3-G3	B3-U3-G3	B3-U3-G3
T2U-FP	4000K	2,458	3,441	4,473	5,736	6,668	7,460	8,164	8,828	8,847
	Lumens per Watt	117	111	112	106	104	101	98	94	92
	BUG Rating	B1-U3-G2	B1-U3-G2	B1-U3-G3	B2-U4-G3	B2-U4-G3	B2-U4-G3	B2-U4-G4	B2-U4-G4	B2-U4-G4
	3000K	2,240	3,134	4,075	5,224	6,072	6,795	7,434	8,039	8,056
	Lumens per Watt	107	101	102	97	95	92	90	86	84
	BUG Rating	B1-U3-G2	B1-U3-G2	B1-U3-G3	B2-U4-G3	B2-U4-G3	B2-U4-G3	B2-U4-G3	B2-U4-G3	B2-U4-G3
T2U-HSS	4000K	1,949	2,728	3,547	4,546	5,285	5,914	6,471	6,998	7,013
	Lumens per Watt	93	88	89	84	83	80	78	74	73
	BUG Rating	B0-U0-G1	B0-U0-G1	B0-U0-G1	B0-U0-G1	B0-U0-G1	B0-U0-G1	B0-U0-G1	B1-U0-G2	B1-U0-G2
	3000K	1,775	2,485	3,230	4,141	4,813	5,386	5,893	6,374	6,387
	Lumens per Watt	85	80	81	77	75	73	71	68	67
	BUG Rating	B0-U0-G0	B1-U0-G1	B1-U0-G1	B1-U0-G1	B1-U0-G1	B1-U0-G1	B1-U0-G1	B1-U0-G1	B1-U0-G1

NOTE: \* Photometric data is reported for lower hemisphere only.

## Power and Lumens (Standard Configuration - No Lenses or Bird Cone)

Light Engine *		PA1-20	PA1-30	PA1-40	PA1-50	PA1-60	PA1-70	PA1-80	PA1-90	PA1-100
Nominal Power (Watts)		21	31	40	54	64	74	83	94	96
Wattage Label		20	30	40	50	60	70	80	90	100
Current @ 120V (A)		0.18	0.26	0.34	0.45	0.53	0.62	0.70	0.78	0.80
Current @ 277V (A)		--	0.12	0.15	0.21	0.24	0.28	0.31	0.35	0.35
Current @ 347V (A)		--	0.10	0.13	0.16	0.19	0.22	0.24	0.28	0.28
Current @ 480V (A)		--	0.07	0.09	0.13	0.14	0.17	0.18	0.21	0.21
Optics										
SL3	4000K	2,784	3,896	5,065	6,493	7,547	8,446	9,241	9,994	10,015
	Lumens per Watt	133	126	127	120	118	114	111	106	104
	BUG Rating	B1-U0-G1	B1-U0-G2	B1-U0-G2	B1-U0-G3	B1-U0-G3	B1-U0-G3	B2-U0-G3	B2-U0-G3	B2-U0-G3
	3000K	2,535	3,548	4,612	5,913	6,873	7,692	8,416	9,102	9,120
	Lumens per Watt	121	114	115	110	107	104	101	97	95
	BUG Rating	B1-U0-G1	B1-U0-G2	B1-U0-G2	B1-U0-G2	B1-U0-G3	B1-U0-G3	B1-U0-G3	B2-U0-G3	B2-U0-G3
SL3-A	4000K	2,320	3,247	4,219	5,410	6,288	7,037	7,699	8,326	8,344
	Lumens per Watt	110	105	105	100	98	95	93	89	87
	BUG Rating	B1-U3-G1	B1-U3-G2	B1-U3-G2	B1-U3-G2	B1-U3-G3	B1-U4-G3	B1-U4-G3	B1-U4-G3	B1-U4-G3
	3000K	2,112	2,956	3,842	4,926	5,726	6,408	7,011	7,583	7,599
	Lumens per Watt	101	95	96	91	89	87	84	81	79
	BUG Rating	B1-U3-G1	B1-U3-G2	B1-U3-G2	B1-U3-G2	B1-U3-G3	B1-U4-G3	B1-U4-G3	B1-U4-G3	B1-U4-G3
SL3-CL	4000K	2,608	3,651	4,746	6,085	7,073	7,915	8,660	9,365	9,385
	Lumens per Watt	124	118	119	113	111	107	104	100	98
	BUG Rating	B1-U2-G2	B1-U3-G2	B1-U3-G2	B1-U3-G3	B1-U3-G3	B2-U3-G3	B2-U3-G3	B2-U3-G3	B2-U3-G3
	3000K	2,375	3,325	4,322	5,542	6,441	7,208	7,886	8,529	8,546
	Lumens per Watt	113	107	108	103	101	97	95	91	89
	BUG Rating	B1-U2-G2	B1-U3-G2	B1-U3-G2	B1-U3-G3	B1-U3-G3	B1-U3-G3	B2-U3-G3	B2-U3-G3	B2-U3-G3
SL3-TL	4000K	2,527	3,535	4,597	5,893	6,849	7,665	8,387	9,070	9,090
	Lumens per Watt	120	114	115	109	107	104	101	96	95
	BUG Rating	B1-U3-G2	B1-U3-G2	B1-U3-G2	B1-U3-G3	B2-U3-G3	B2-U3-G3	B2-U3-G3	B2-U3-G3	B2-U3-G3
	3000K	2,300	3,220	4,186	5,366	6,239	6,981	7,639	8,261	8,278
	Lumens per Watt	110	104	105	99	97	94	92	88	86
	BUG Rating	B1-U3-G2	B1-U3-G2	B1-U3-G2	B1-U3-G3	B1-U3-G3	B2-U3-G3	B2-U3-G3	B2-U3-G3	B2-U3-G3
SL3-FP	4000K	2,344	3,282	4,265	5,470	6,359	7,114	7,784	8,419	8,437
	Lumens per Watt	112	106	107	101	99	96	94	90	88
	BUG Rating	B1-U3-G2	B1-U3-G3	B1-U3-G3	B1-U4-G3	B1-U4-G4	B2-U4-G4	B2-U4-G4	B2-U4-G4	B2-U4-G4
	3000K	2,136	2,989	3,885	4,980	5,790	6,479	7,089	7,667	7,683
	Lumens per Watt	102	96	97	92	90	88	85	82	80
	BUG Rating	B1-U3-G2	B1-U3-G3	B1-U3-G3	B1-U3-G3	B1-U4-G3	B2-U4-G4	B2-U4-G4	B2-U4-G4	B2-U4-G4
SL3-HSS	4000K	2,305	3,226	4,194	5,376	6,250	6,994	7,652	8,276	8,293
	Lumens per Watt	110	104	105	100	98	95	92	88	86
	BUG Rating	B0-U0-G1	B0-U0-G1	B1-U0-G2	B1-U0-G2	B1-U0-G2	B1-U0-G2	B1-U0-G2	B1-U0-G2	B1-U0-G2
	3000K	2,099	2,938	3,820	4,896	5,692	6,369	6,969	7,537	7,552
	Lumens per Watt	100	95	96	91	89	86	84	80	79
	BUG Rating	B0-U0-G1	B0-U0-G1	B0-U0-G1	B1-U0-G2	B1-U0-G2	B1-U0-G2	B1-U0-G2	B1-U0-G2	B1-U0-G2

NOTE: \* Photometric data is reported for lower hemisphere only.

## Power and Lumens (Standard Configuration - No Lenses or Bird Cone)

Light Engine *		PA1-20	PA1-30	PA1-40	PA1-50	PA1-60	PA1-70	PA1-80	PA1-90	PA1-100
Nominal Power (Watts)		21	31	40	54	64	74	83	94	96
Wattage Label		20	30	40	50	60	70	80	90	100
Current @ 120V (A)		0.18	0.26	0.34	0.45	0.53	0.62	0.70	0.78	0.80
Current @ 277V (A)		--	0.12	0.15	0.21	0.24	0.28	0.31	0.35	0.35
Current @ 347V (A)		--	0.10	0.13	0.16	0.19	0.22	0.24	0.28	0.28
Current @ 480V (A)		--	0.07	0.09	0.13	0.14	0.17	0.18	0.21	0.21
Optics										
T3	4000K	2,853	3,992	5,190	6,653	7,733	8,654	9,469	10,241	10,262
	Lumens per Watt	136	129	130	123	121	117	114	109	107
	BUG Rating	B1-U0-G1	B1-U0-G2	B1-U0-G2	B1-U0-G2	B2-U0-G2	B2-U0-G3	B2-U0-G3	B2-U0-G3	B2-U0-G3
	3000K	2,598	3,636	4,726	6,059	7,043	7,882	8,624	9,326	9,345
	Lumens per Watt	124	117	118	112	110	107	104	99	97
	BUG Rating	B1-U0-G1	B1-U0-G1	B1-U0-G2	B1-U0-G2	B1-U0-G2	B2-U0-G2	B2-U0-G3	B2-U0-G3	B2-U0-G3
T3-A	4000K	2,425	3,395	4,413	5,657	6,577	7,359	8,052	8,709	8,727
	Lumens per Watt	115	110	110	105	103	99	97	93	91
	BUG Rating	B1-U3-G1	B1-U3-G2	B1-U3-G2	B1-U3-G2	B1-U4-G3	B2-U4-G3	B2-U4-G3	B2-U4-G3	B2-U4-G3
	3000K	2,209	3,091	4,019	5,152	5,989	6,702	7,332	7,931	7,947
	Lumens per Watt	105	100	100	95	94	91	88	84	83
	BUG Rating	B1-U3-G1	B1-U3-G2	B1-U3-G2	B1-U3-G2	B2-U4-G3	B2-U4-G3	B2-U4-G3	B2-U4-G3	B2-U4-G3
T3-CL	4000K	2,695	3,773	4,905	6,288	7,309	8,179	8,949	9,679	9,698
	Lumens per Watt	128	122	123	116	114	111	108	103	101
	BUG Rating	B1-U2-G2	B1-U3-G2	B1-U3-G2	B2-U3-G3	B2-U3-G3	B2-U3-G3	B2-U3-G3	B2-U3-G3	B2-U3-G3
	3000K	2,455	3,435	4,467	5,726	6,656	7,448	8,150	8,815	8,832
	Lumens per Watt	117	111	112	106	104	101	98	94	92
	BUG Rating	B1-U2-G1	B1-U3-G2	B1-U3-G2	B1-U3-G2	B2-U3-G3	B2-U3-G3	B2-U3-G3	B2-U3-G3	B2-U3-G3
T3-TL	4000K	2,616	3,661	4,760	6,102	7,093	7,937	8,685	9,392	9,413
	Lumens per Watt	125	118	119	113	111	107	105	100	98
	BUG Rating	B1-U3-G2	B1-U3-G2	B1-U3-G2	B2-U3-G3	B2-U3-G3	B2-U3-G3	B2-U3-G3	B2-U3-G3	B2-U3-G3
	3000K	2,382	3,334	4,335	5,558	6,459	7,229	7,909	8,554	8,572
	Lumens per Watt	113	108	108	103	101	98	95	91	89
	BUG Rating	B1-U3-G1	B1-U3-G2	B1-U3-G2	B1-U3-G3	B2-U3-G3	B2-U3-G3	B2-U3-G3	B2-U3-G3	B2-U3-G3
T3-FP	4000K	2,430	3,401	4,420	5,668	6,588	7,372	8,066	8,723	8,742
	Lumens per Watt	116	110	111	105	103	100	97	93	91
	BUG Rating	B1-U3-G2	B1-U3-G3	B1-U3-G3	B1-U4-G3	B2-U4-G3	B2-U4-G4	B2-U4-G4	B2-U4-G4	B2-U4-G4
	3000K	2,213	3,097	4,026	5,161	5,999	6,714	7,345	7,945	7,961
	Lumens per Watt	105	100	101	96	94	91	88	85	83
	BUG Rating	B1-U3-G2	B1-U3-G3	B1-U3-G3	B1-U4-G3	B2-U4-G3	B2-U4-G4	B2-U4-G4	B2-U4-G4	B2-U4-G4
T3-HSS	4000K	2,126	2,976	3,869	4,959	5,765	6,451	7,059	7,634	7,650
	Lumens per Watt	101	96	97	92	90	87	85	81	80
	BUG Rating	B0-U0-G1	B0-U0-G1	B0-U0-G1	B1-U0-G2	B1-U0-G2	B1-U0-G2	B1-U0-G2	B1-U0-G2	B1-U0-G2
	3000K	1,973	2,710	3,523	4,517	5,250	5,875	6,428	6,952	6,967
	Lumens per Watt	94	87	88	84	82	79	77	74	73
	BUG Rating	B0-U0-G1	B0-U0-G1	B0-U0-G1	B1-U0-G2	B1-U0-G2	B1-U0-G2	B1-U0-G2	B1-U0-G2	B1-U0-G2

NOTE: \* Photometric data is reported for lower hemisphere only.

## Power and Lumens (Standard Configuration - No Lenses or Bird Cone)

Light Engine *		PA1-20	PA1-30	PA1-40	PA1-50	PA1-60	PA1-70	PA1-80	PA1-90	PA1-100
Nominal Power (Watts)		21	31	40	54	64	74	83	94	96
Wattage Label		20	30	40	50	60	70	80	90	100
Current @ 120V (A)		0.18	0.26	0.34	0.45	0.53	0.62	0.70	0.78	0.80
Current @ 277V (A)		--	0.12	0.15	0.21	0.24	0.28	0.31	0.35	0.35
Current @ 347V (A)		--	0.10	0.13	0.16	0.19	0.22	0.24	0.28	0.28
Current @ 480V (A)		--	0.07	0.09	0.13	0.14	0.17	0.18	0.21	0.21
Optics										
T4W	4000K	2,856	3,997	5,196	6,660	7,742	8,664	9,480	10,253	10,274
	Lumens per Watt	136	129	130	123	121	117	114	109	107
	BUG Rating	B1-U0-G1	B1-U0-G2	B1-U0-G2	B1-U0-G2	B2-U0-G3	B2-U0-G3	B2-U0-G3	B2-U0-G3	B2-U0-G3
	3000K	2,601	3,640	4,732	6,066	7,051	7,891	8,634	9,337	9,356
	Lumens per Watt	124	117	118	112	110	107	104	99	97
	BUG Rating	B1-U0-G1	B1-U0-G2	B1-U0-G2	B1-U0-G2	B2-U0-G2	B2-U0-G3	B2-U0-G3	B2-U0-G3	B2-U0-G3
T4W-A	4000K	2,388	3,343	4,346	5,572	6,476	7,247	7,929	8,576	8,594
	Lumens per Watt	114	108	109	103	101	98	96	91	90
	BUG Rating	B1-U3-G2	B1-U3-G2	B1-U3-G2	B1-U3-G3	B1-U4-G3	B2-U4-G3	B2-U4-G3	B2-U4-G3	B2-U4-G3
	3000K	2,175	3,044	3,958	5,073	5,899	6,600	7,221	7,809	7,827
	Lumens per Watt	104	98	99	94	92	89	87	83	82
	BUG Rating	B1-U3-G1	B1-U3-G2	B1-U3-G2	B1-U3-G2	B1-U3-G3	B1-U4-G3	B1-U4-G3	B1-U4-G3	B1-U4-G3
T4W-CL	4000K	2,684	3,758	4,885	6,262	7,280	8,145	7,913	9,639	9,660
	Lumens per Watt	128	121	122	116	114	110	95	103	101
	BUG Rating	B1-U3-G2	B1-U3-G2	B1-U3-G2	B2-U3-G3	B2-U3-G3	B2-U3-G3	B2-U3-G3	B2-U3-G3	B2-U3-G3
	3000K	2,445	3,422	4,449	5,703	6,629	7,418	8,118	8,779	8,797
	Lumens per Watt	116	110	111	106	104	100	98	93	92
	BUG Rating	B1-U2-G2	B1-U3-G2	B1-U3-G2	B1-U3-G3	B2-U3-G3	B2-U3-G3	B2-U3-G3	B2-U3-G3	B2-U3-G3
T4W-TL	4000K	2,595	3,631	4,721	6,053	7,036	7,873	8,615	9,316	9,336
	Lumens per Watt	124	117	118	112	110	106	104	99	97
	BUG Rating	B1-U3-G2	B1-U3-G2	B1-U3-G2	B2-U3-G3	B2-U3-G3	B2-U3-G3	B2-U3-G3	B2-U3-G3	B2-U3-G3
	3000K	2,363	3,306	4,300	5,513	6,407	7,170	7,845	8,485	8,502
	Lumens per Watt	113	107	108	102	100	97	95	90	89
	BUG Rating	B1-U3-G2	B1-U3-G2	B1-U3-G2	B1-U3-G3	B2-U3-G3	B2-U3-G3	B2-U3-G3	B2-U3-G3	B2-U3-G3
T4W-FP	4000K	2,414	3,377	4,391	5,629	6,542	7,322	8,012	8,663	8,683
	Lumens per Watt	115	109	110	104	102	99	97	92	90
	BUG Rating	B1-U3-G2	B1-U3-G3	B1-U3-G3	B1-U4-G3	B2-U4-G4	B2-U4-G4	B2-U4-G4	B2-U4-G4	B2-U4-G4
	3000K	2,197	3,076	3,999	5,126	5,958	6,667	7,296	7,890	7,907
	Lumens per Watt	105	99	100	95	93	90	88	84	82
	BUG Rating	B1-U3-G2	B1-U3-G3	B1-U3-G3	B1-U4-G3	B2-U4-G3	B2-U4-G4	B2-U4-G4	B2-U4-G4	B2-U4-G4
T4W-HSS	4000K	2,092	2,928	3,806	4,879	5,671	6,347	6,944	7,510	7,525
	Lumens per Watt	100	94	95	90	89	86	84	80	78
	BUG Rating	B0-U0-G1	B0-U0-G1	B0-U0-G2	B1-U0-G2	B1-U0-G2	B1-U0-G2	B1-U0-G2	B1-U0-G2	B1-U0-G2
	3000K	1,905	2,666	3,466	4,443	5,165	5,780	6,324	6,840	6,854
	Lumens per Watt	91	86	87	82	81	78	76	73	71
	BUG Rating	B0-U0-G1	B0-U0-G1	B0-U0-G1	B1-U0-G2	B1-U0-G2	B1-U0-G2	B1-U0-G2	B1-U0-G2	B1-U0-G2

NOTE: \* Photometric data is reported for lower hemisphere only.

## Power and Lumens (Standard Configuration - No Lenses or Bird Cone)

Light Engine *		PA1-20	PA1-30	PA1-40	PA1-50	PA1-60	PA1-70	PA1-80	PA1-90	PA1-100
Nominal Power (Watts)		21	31	40	54	64	74	83	94	96
Wattage Label		20	30	40	50	60	70	80	90	100
Current @ 120V (A)		0.18	0.26	0.34	0.45	0.53	0.62	0.70	0.78	0.80
Current @ 277V (A)		--	0.12	0.15	0.21	0.24	0.28	0.31	0.35	0.35
Current @ 347V (A)		--	0.10	0.13	0.16	0.19	0.22	0.24	0.28	0.28
Current @ 480V (A)		--	0.07	0.09	0.13	0.14	0.17	0.18	0.21	0.21
Optics										
5WQ	4000K	2,971	4,158	5,405	6,929	8,055	9,014	9,862	10,666	10,688
	Lumens per Watt	141	134	135	128	126	122	119	113	111
	BUG Rating	B2-U0-G1	B3-U0-G1	B3-U0-G2	B3-U0-G2	B3-U0-G2	B4-U0-G2	B4-U0-G2	B4-U0-G3	B4-U0-G3
	3000K	2,706	3,787	4,923	6,310	7,335	8,209	8,982	9,714	9,734
	Lumens per Watt	129	122	123	117	115	111	108	103	101
	BUG Rating	B2-U0-G1	B3-U0-G1	B3-U0-G2	B3-U0-G2	B3-U0-G2	B3-U0-G2	B4-U0-G2	B4-U0-G2	B4-U0-G2
5WQ-A	4000K	2,480	3,471	4,513	5,786	6,726	7,525	8,235	8,905	8,924
	Lumens per Watt	118	112	113	107	105	102	99	95	93
	BUG Rating	B1-U3-G1	B1-U3-G2	B2-U3-G2	B2-U3-G2	B2-U4-G2	B2-U4-G3	B2-U4-G3	B2-U4-G3	B2-U4-G3
	3000K	2,259	3,161	4,110	5,269	6,125	6,853	7,499	8,110	8,128
	Lumens per Watt	108	102	103	98	96	93	90	86	85
	BUG Rating	B1-U3-G1	B1-U3-G2	B2-U3-G2	B2-U3-G2	B2-U3-G2	B2-U4-G2	B2-U4-G3	B2-U4-G3	B2-U4-G3
5WQ-CL	4000K	2,854	3,995	5,192	6,658	7,739	8,660	9,475	10,248	10,269
	Lumens per Watt	136	129	130	123	121	117	114	109	107
	BUG Rating	B2-U3-G2	B3-U3-G2	B3-U3-G2	B3-U3-G3	B3-U3-G3	B3-U3-G3	B4-U3-G3	B4-U3-G3	B4-U3-G3
	3000K	2,599	3,639	4,730	6,063	7,048	7,886	8,630	9,333	9,352
	Lumens per Watt	124	117	118	112	110	107	104	99	97
	BUG Rating	B2-U3-G1	B3-U3-G2	B3-U3-G2	B3-U3-G2	B3-U3-G3	B3-U3-G3	B3-U3-G3	B3-U3-G3	B3-U3-G3
5WQ-TL	4000K	2,730	3,821	4,967	6,368	7,402	8,283	9,063	9,802	9,823
	Lumens per Watt	130	123	124	118	116	112	109	104	102
	BUG Rating	B2-U3-G2	B3-U3-G2	B3-U3-G2	B3-U3-G3	B3-U3-G3	B3-U3-G3	B3-U3-G3	B4-U3-G3	B4-U3-G3
	3000K	2,486	3,480	4,524	5,799	6,741	7,544	8,254	8,926	8,945
	Lumens per Watt	118	112	113	107	105	102	99	95	93
	BUG Rating	B2-U3-G2	B2-U3-G2	B3-U3-G2	B3-U3-G3	B3-U3-G3	B3-U3-G3	B3-U3-G3	B3-U3-G3	B3-U3-G3
5WQ-FP	4000K	2,545	3,563	4,630	5,938	6,901	7,722	8,450	9,140	9,158
	Lumens per Watt	121	115	116	110	108	104	102	97	95
	BUG Rating	B1-U3-G2	B2-U3-G2	B2-U3-G3	B2-U4-G3	B3-U4-G3	B3-U4-G3	B3-U4-G4	B3-U4-G4	B3-U4-G4
	3000K	2,318	3,245	4,217	5,408	6,285	7,033	7,696	8,322	8,340
	Lumens per Watt	110	105	105	100	98	95	93	89	87
	BUG Rating	B1-U3-G2	B2-U3-G2	B2-U3-G3	B2-U4-G3	B3-U4-G3	B3-U4-G3	B3-U4-G3	B3-U4-G4	B3-U4-G4

NOTE: \* Photometric data is reported for lower hemisphere only.

## Lumen Maintenance

Light Engine	Ambient Temperature	TM-21 Lumen Maintenance (60,000 Hours)	Theoretical L70 (Hours)
PA1	Up to 40°C	> 98%	> 800,000

## Lumen Multiplier

Ambient Temperature	Lumen Multiplier
0°C	1.02
10°C	1.01
25°C	1.00
40°C	0.99
50°C	0.97

Project		Catalog #		Type	
Prepared by		Notes		Date	



# Streetworks

## Archeon Nano

### Roadway Luminaire

#### Typical Applications

Outdoor • Roadways • Parking Lots • Building Areas

#### Interactive Menu

- Ordering Information page 2
- Product Specifications page 2
- Energy and Performance Data page 3

#### Product Certifications



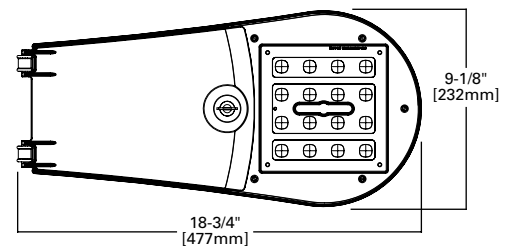
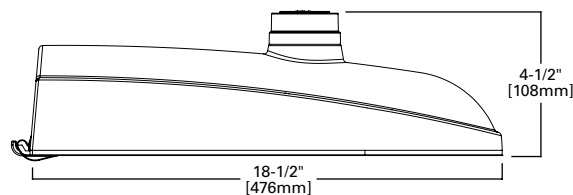
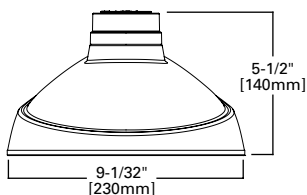
#### Product Features



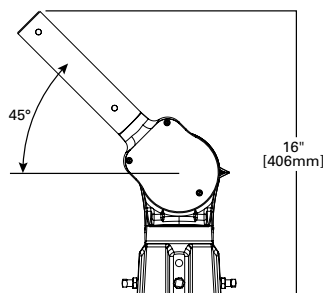
#### Quick Facts

- Up to 164 lumens per watt
- Five optical distributions (Type II, III, IV and V)
- Multiple lumen packages ranging from 2,000 – 7,800 delivered lumens
- 4000K CCT standard, optional 2700K CCT, 3000K CCT, 5000K CCT

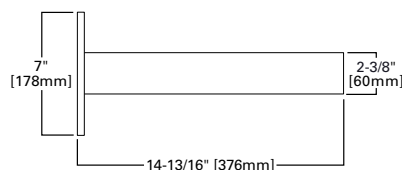
#### Dimensional Details



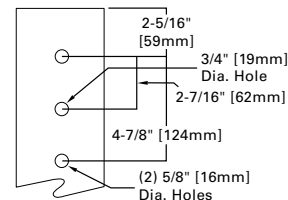
#### Adjustable Slipfitter Offset Arm



#### 15\" Straight Arm



#### Type \"M\" - Drilling Pattern



## Ordering Information

SAMPLE ORDER NUMBER: ARCH-N-PA1-20-D-U-T2R-A15-AP

Product Family <sup>1, 2</sup>	Configuration	Wattage Bucket	Color Temperature	Voltage	Distribution	Finish
ARCH-N=Archeon Nano	PA1=Direct Mount Rectangle (16 LED)	10 19 20 30 40 50 60	740=70CRI, 4000K 727=70CRI, 2700K 827=80CRI, 2700K <sup>4</sup> 730=70CRI, 3000K 750=70CRI, 5000K	U=Universal (120- 277V) 8=480V <sup>3</sup> 9=347V H=High Voltage Driver (347V-480V) <sup>9</sup>	T2R=Type II Roadway T2U=Type II Urban T3=Type III T4W=Type IV Wide 5WQ=Type V Square Wide	AP=Grey BZ=Bronze BK=Black DP=Dark Platinum GM=Graphite Metallic WH=White
Options (Add as Suffix)					Controls	
10K=10kV UL 1449 Surge Protective Device 20K=20kV UL 1449 Surge Protective Device <sup>17</sup> 10MSP=10kV MOV Surge Protective Device 20MSP=20kV MOV Surge Protective Device K=Level Indicator HA=50° C High Ambient Temperature HSS=House Side Shield <sup>10</sup> PSC=Photocontrol Shorting Cap <sup>11</sup> NPC=NEMA Photocontrol <sup>11, 12</sup> LLPC=Longlife Photocontrol Included <sup>11, 12</sup> IP66=IP66 Rated Housing ZD=DALI-enabled 4-PIN Twistlock Receptacle <sup>21, 22</sup> ZW=WaveLinX-enabled 4-PIN Twistlock Receptacle <sup>21, 22</sup> SWPD4XX=WaveLinX Wireless Sensor, 7' - 15' Mounting Height <sup>23, 24, 25, 26</sup> SWPD5XX=WaveLinX Wireless Sensor, 15' - 40' Mounting Height <sup>23, 24, 25, 26</sup>			A15=15" Straight Mast Arm ASJS15=Adjustable Slipfitter (Factory set at 15° degrees) ASJS25=Adjustable Slipfitter (Factory set at 25° degrees) ASJS45=Adjustable Slipfitter (Factory set at 45° degrees)		PR=NEMA 3-PIN Twistlock Photocontrol Receptacle <sup>6</sup> PR7=NEMA 7-PIN Twistlock Photocontrol Receptacle 5LTD=DALI <sup>12, 15, 18</sup> MS/DIM-L08=Motion Sensor for Dimming Operation, Maximum 8' Mounting Height <sup>12, 13</sup> MS/DIM-L20=Motion Sensor for Dimming Operation, 9'-20' Mounting Height <sup>12, 13</sup> MS/DIM-L40=Motion Sensor for Dimming Operation, 21'- 40' Mounting Height <sup>12, 13</sup>	
Accessories (Order Separately)						
OA / RA1013=Photocontrol Shorting Cap OA1223=10kV Surge Module Replacement OA/RA1014=NEMA Photocontrol - 120V <sup>11</sup> OA/RA1016=NEMA Photocontrol - Multi-Tap <sup>11</sup> OA/RA1027=NEMA Photocontrol - 480V <sup>11</sup> OA/RA1201=NEMA Photocontrol - 347V <sup>11, 20</sup> HS-ARCHN=Field Install ARCHN House Side Shield <sup>10</sup>			FSIR-100=Wireless Configuration Tool for Occupancy Sensor <sup>14</sup> A15-XX=Arm (15" Straight Arm) <sup>7, 8</sup> ASJS15-XX=Adjustable slipfitter (Factory set at 15 degrees) <sup>9</sup> ASJS25-XX=Adjustable slipfitter (Factory set at 25 degrees) <sup>9</sup> ASJS45-XX=Adjustable slipfitter (Factory set at 45 degrees) <sup>9</sup> SWPD4-XX=WaveLinX Wireless Sensor, 7' - 15' Mounting Height <sup>23, 24, 25, 26</sup> SWPD5-XX=WaveLinX Wireless Sensor, 15' - 40' Mounting Height <sup>23, 24, 25, 26</sup>			
<b>NOTES:</b> 1. Customer is responsible for engineering analysis to confirm pole and fixture compatibility for all applications. Refer to our white paper WP513001EN for additional support information. 2. DesignLights Consortium® Qualified. Refer to www.designlights.org Qualified Products List under Family Models for details. 3. Only for use with 480V Wye systems. Per NEC, not for use with ungrounded systems, impedance grounded systems or corner grounded systems (commonly known as Three Phase Three Wire Delta, Three Phase High Leg Delta and Three Phase Corner Grounded Delta systems). 4. Use dedicated IES files for 2700K, 3000K, and 5000K when performing layouts. These files are published on the ARCH Archeon luminaire product page on the website. 5. Extended lead times may apply. 6. If "PR" selected, dimming functionality not available, dimming leads will be capped. 7. Round pole adapter and mounting hardware included. "M" drill pattern. 8. Replace XX with color designation. 9. Only available with 50W and 60W skus. 10. Not available with 5WQ. 11. Requires ordering of a twistlock photocontrol (3-PIN or 7-PIN) receptacle ( PR or PR7). 12. Not available with "H" High Voltage Driver. 13. The FSIR-100 accessory is required to adjust parameters. 14. This tool enables adjustment of parameters including high and low modes, sensitivity, time delay, cutoff and more. Consult your lighting representative at Cooper Lighting Solutions for more information. 15. Not available for 10W or 60W. 16. Not available for 50 or 60 watts. 17. Only available with "U" universal voltage. 18. Not available with any sensor options. 19. Extended lead times may apply. 20. Not compatible with Surge options when used with "H" High Voltage Driver. 21. Utilizes internal step-down transformer when 347V or 480V is selected. 22. Controls system is not available with photocontrol (BPC), photocontrol receptacle (PR or PR7), or other controls systems (MS, ZD, ZW, LWR, DALI, or DIM). 23. Requires 4-PIN twistlock receptacle (ZD or ZW) option. 24. Replace XX with sensor color (WH, BZ or BK). 25. Sensor passive infrared (PIR) may be overly sensitive with operating below -20°C (-4°F). 26. For this device to be field-configurable, requires WAC Gateway components WAC-PoE and WPOE-120 in appropriate quantities. Only compatible with WaveLinX system and software and requires system components to be installed for operation. See website for more WaveLinX application information.						

## Product Specifications

## Construction

- Heavy-duty die-cast aluminum housing and door
- Tool-less entry, hinged removable door for easy maintenance
- 3G vibration rated
- Optics Choice of four patented, high efficiency AccuLED Optics; Available in Type IIR, III, IV wide and V square wide the optics are precisely designed to shape the distribution maximizing efficiency and application spacing; Offered standard in 4000K (+/- 275K) CCT and minimum 70 CRI. Optional 2700K, 3000K, or 5000K CCT
- For the ultimate level of spill light control, an optional house side shield accessory is available and can be field or factory installed; The house side shield is designed to seamlessly integrate with the T2R, T3, and T4W optics
- Optics are IP66 enclosure rated

## Electrical

- 120-277V 50/60Hz, 347V 60Hz or 480V 60Hz operation
- Standard 0-10V dimming

- 10kV/10kA common- and differential- mode surge protection available
- Thermal management transfers heat away from the LED source for optimal efficiency, light output and lumen maintenance
- Ambient operating temperature from -40°C to 40°C; 50°C HA, high ambient, capability available
- Standard with three-position tunnel type compression terminal block
- Greater than 90% lumen maintenance expected at 60,000 hours

## Mounting

- Two-bolt/one-bracket slipfitter with cast-in pipe stop and 2.5° leveling steps
- Fixed-in-place bird guard seals around 1-1/4" to 2" (1-5/8" to 2-3/8" O.D.) mounting arms
- Optional 15" pole mount arm available with round pole adapter and mounting hardware included

## Finish

- Housing and cast parts finished in five-stage super TGIC polyester powder coat paint, 2.5 mil

nominal thickness for superior protection against fade and wear

- Consult your lighting representative at Cooper Lighting Solutions for a complete selection of standard colors

## Shipping Data

- Approximate Net Weight: 12 lbs. (5.4 kgs.)
- Effective Projected Area: 0.35 (Sq. Ft.)

## Warranty

- Standard five-year warranty
- Optional ten-year warranty, please see your CLS Streetworks sales representative for more information



## Energy and Performance Data

### Power and Lumens

Light Engine - PA		10	19	20	30	40	50	60
Power (Watts)		14	19	24	31	41	52	62
Label		10	20	20	30	40	50	60
Input current @ 120V (A)		0.117	0.159	0.201	0.261	0.344	0.438	0.521
Input current @ 277V (A)		0.056	0.074	0.098	0.121	0.155	0.212	0.244
Input current @ 347V (A)		0.045	0.065	0.080	0.100	0.127	0.173	0.200
Input current @ 480V (A)		0.037	0.047	0.058	0.072	0.093	0.126	0.147
Optics								
T2R	4000K/5000K Lumens	2267	3041	3444	4429	5594	6850	7706
	Bug Rating	B0-U0-G1	B1-U0-G1	B1-U0-G1	B1-U0-G1	B1-U0-G1	B1-U0-G1	B1-U0-G2
	3000K Lumens	2065	2770	3137	4034	5095	6238	7018
	Bug Rating	B0-U0-G1	B0-U0-G1	B0-U0-G1	B0-U0-G1	B0-U0-G1	B0-U0-G1	B0-U0-G1
T2U	4000K/5000K Lumens	2,246	3,013	3,413	4,388	5,543	6,787	7,635
	Bug Rating	B1-U0-G1	B1-U0-G1	B1-U0-G1	B1-U0-G1	B2-U0-G2	B2-U0-G2	B2-U0-G2
	3000K Lumens	2,046	2,744	3,108	3,997	5,048	6,181	6,953
	Bug Rating	B1-U0-G1	B1-U0-G1	B1-U0-G1	B1-U0-G1	B1-U0-G1	B2-U0-G2	B2-U0-G2
T3	4000K/5000K Lumens	2246	3012	3411	4387	5541	6784	7632
	Bug Rating	B1-U0-G1	B1-U0-G1	B1-U0-G1	B1-U0-G1	B1-U0-G2	B1-U0-G2	B1-U0-G2
	3000K Lumens	2045	2743	3107	3995	5046	6179	6951
	Bug Rating	B1-U0-G1	B1-U0-G1	B1-U0-G1	B1-U0-G1	B1-U0-G1	B1-U0-G2	B1-U0-G2
T4W	4000K/5000K Lumens	2245	3012	3411	4386	5540	6783	7631
	Bug Rating	B1-U0-G1	B1-U0-G1	B1-U0-G1	B1-U0-G1	B1-U0-G2	B1-U0-G2	B2-U0-G2
	3000K Lumens	2045	2743	3106	3994	5045	6178	6950
	Bug Rating	B1-U0-G1	B1-U0-G1	B1-U0-G1	B1-U0-G1	B1-U0-G2	B1-U0-G2	B1-U0-G2
5WQ	4000K/5000K Lumens	2302	3088	3497	4497	5680	6955	7824
	Bug Rating	B2-U0-G1	B2-U0-G1	B2-U0-G1	B3-U0-G1	B3-U0-G1	B3-U0-G2	B3-U0-G2
	3000K Lumens	2096	2812	3185	4095	5173	6334	7125
	Bug Rating	B2-U0-G1	B2-U0-G1	B2-U0-G1	B3-U0-G1	B3-U0-G1	B3-U0-G1	B3-U0-G2

### Lumen Maintenance

Light Engine	Ambient Temperature	TM-21 Lumen Maintenance (60,000 Hours)	Theoretical L70 (Hours)
PA1	Up to 50°C	> 95%	416,000

### Lumen Multiplier

Ambient Temperature	Lumen Multiplier
0°C	1.02
10°C	1.01
25°C	1.00
40°C	0.99
50°C	0.97

## DESCRIPTION

The UFLD LED floodlight luminaire combines high-efficiency optics, superior thermal management and energy efficiency in a cost-effective solution. The compact, robust design incorporates a separate driver compartment for maximum heat dissipation to insure longevity of both the fixture and the optics. The UFLD luminaire uses precision engineered optics delivering superior uniformity and excellent illumination to the targeted application. Typical applications include area lighting for security, building facade lighting, accent and signage lighting in both commercial and industrial applications. The UFLD luminaire is UL/cUL listed for wet locations and is IP66 rated.

## SPECIFICATION FEATURES

### Construction

Heavy-duty, die cast aluminum housing, driver compartment and driver door. A separate driver compartment and external fins provide optimal thermal management that result in longer LED and driver life. The housing, optical chamber and driver compartment are IP66 rated. Access to the driver for maintenance is achieved with a removable driver door using pan head screws. A one-piece silicone gasket seals the door to the fixture housing. The fixture is 3G vibration rated (ANSI C136.31) to ensure durability in area and site lighting applications. Suitable for mounting within 4' (1.2m) of the ground.

### Optics

The LED chamber incorporates a vacuum metalized reflector that provides high-efficiency illumination. Optics are precisely designed to shape the NEMA type 6H x 6V wide distribution and 3H x 3V spot distribution, maximizing efficiency and application spacing. Clear glass tempered lens with full circumference form-in-place silicone gasket protects the optics from damage. Offered standard in 4000K (+/- 275K) CCT and minimum

70 CRI. Optional 5700K CCT, 5000K CCT and 3000K CCT and minimum 70 CRI are available.

### Electrical

LED driver is mounted to the removable die-cast aluminum door for optimal heat sinking and ease of maintenance. 120-277V 50/60Hz, 347V 60Hz or 480V 60Hz operation. Integral 6kV surge is standard. 10kV/10kA common- and differential- mode surge protection available as an option. 0-10V dimming driver is available to accommodate controls capability such as dimming and occupancy. Available with 3-PIN or 7-PIN NEMA photocontrol receptacles. Suitable for ambient temperatures from -40°C to 40°C. Optional 50°C HA (high ambient) available. 90% lumen maintenance greater than 50,000 hours per IESNA TM-21.

### Accessories

Heavy-duty steel top and side visors control glare and spill light. 1/8" thick UV stabilized vandal guard shields glass lens from impact when mounted at low levels. Easy to install wire guard features a heavy-gauge welded construction with corrosion resistant polyester powder coat

finish to protect glass from projected objects.

### Mounting

Mounting options include an integral die-cast aluminum slipfitter that is preset to a tilt of 45°. The knuckle base is supplied with a tooth lock adjustment that can be adjusted in 5° increments. Visual 15° adjustment indicators on the knuckle allow for 180° field rotation of the floodlight assembly. The slipfitter fits standard 2-3/8"-3" O.D. tenon. The trunnion mounting includes a 3/16" polyester powder coated galvanized steel trunnion with a 16/3 STW-A cord. The trunnion mount uses an interlocking slide adjustment that is locked in place with a set screw.

### Finish

Housing and cast parts finished in five-stage super TGIC polyester powder coat paint, 2.5 mil nominal thickness for superior protection against fade and wear.

### Warranty

Standard five-year warranty. Optional ten-year warranty, please see your Cooper Lighting Solutions Streetworks sales representative for more information.

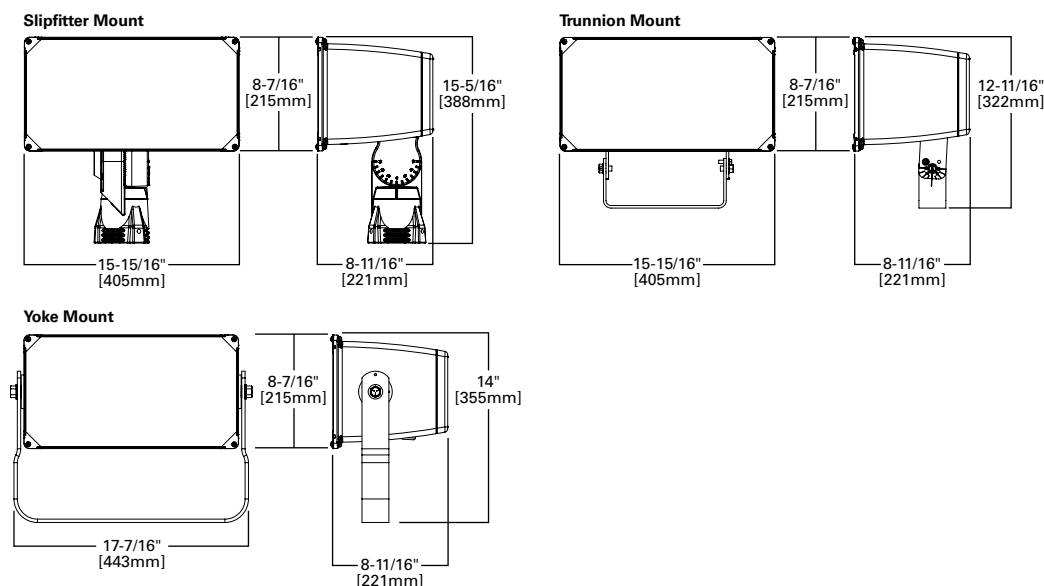


## UFLD UTILITY FLOOD

Solid State LED

FLOODLIGHT

## DIMENSIONS



### CERTIFICATION DATA

UL/cUL Wet Location Listed  
IP66 Fixture and Optical Chamber  
LM79/LM80 Compliant  
3G Vibration Rated  
RoHS Compliant  
DesignLights Consortium® Qualified\*

### ENERGY DATA

**Electronic LED Driver**  
> 0.9 Power Factor  
< 20% Total Harmonic Distortion  
120V 50/60Hz, 347V/60Hz and 480V/60Hz  
-40°C Minimum Ambient Temperature  
Rating  
+40°C Maximum Ambient Temperature  
Rating

### EPA

Effective Projected Area (Sq. Ft.): 1.25

### SHIPPING DATA

Approximate Net Weight:  
20 lbs. (9.09 kgs.)

## POWER AND LUMENS

	6x6				3x3			
C25 LED	UFLD-C25	UFLD-C25-7030	UFLD-C25-7050	UFLD-C25-7060	UFLD-C25	UFLD-C25-7030	UFLD-C25-7050	UFLD-C25-7060
Delivered Lumens	10,530	10,122	10,383	10,217	10,272	9,874	10,128	9,967
CCT (Kelvin)	4000K	3000K	5000K	5700K	4000K	3000K	5000K	5700K
CRI (Color Rendering Index)	70	70	70	70	70	70	70	70
Power Consumption (Watts)	85W	85W	85W	85W	93W	93W	93W	93W
C40 LED	UFLD-C40	UFLD-C40-7030	UFLD-C40-7050	UFLD-C40-7060	UFLD-C40	UFLD-C40-7030	UFLD-C40-7050	UFLD-C40-7060
Delivered Lumens	16,932	16,268	16,686	16,421	14,113	13,567	13,916	13,694
CCT (Kelvin)	4000K	3000K	5000K	5700K	4000K	3000K	5000K	5700K
CRI (Color Rendering Index)	70	70	70	70	70	70	70	70
Power Consumption (Watts)	128W	128W	128W	128W	143W	143W	143W	143W
C55 LED	UFLD-C55	UFLD-C55-7030	UFLD-C55-7050	UFLD-C55-7060				
Delivered Lumens	19,943	19,407	20,144	20,285				
CCT (Kelvin)	4000K	3000K	5000K	5700K				
CRI (Color Rendering Index)	70	70	70	70				
Power Consumption (Watts)	145W	145W	145W	145W				
C70 LED	UFLD-C70	UFLD-C70-7030	UFLD-C70-7050	UFLD-C70-7060				
Delivered Lumens	23,797	23,157	24,037	24,205				
CCT (Kelvin)	4000K	3000K	5000K	5700K				
CRI (Color Rendering Index)	70	70	70	70				
Power Consumption (Watts)	184W	184W	184W	184W				

## CURRENT DRAW

Voltage (V)	Model Series					
	6x6				3x3	
	UFLD-C25	UFLD-C40	UFLD-C55	UFLD-C70	UFLD-C25	UFLD-C40
	Current (A)	Current (A)	Current (A)	Current (A)	Current (A)	Current (A)
120V	0.708	1.070	1.2299	1.5695	0.778	1.190
277V	0.340	0.465	0.535	0.6726	0.340	0.531
347V	0.251	0.377	0.4213	0.5334	0.271	0.419
480V	0.195	0.273	0.3044	0.3831	0.207	0.320

## LUMEN MAINTENANCE

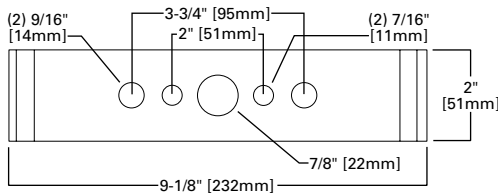
Ambient Temperature	TM-21 Lumen Maintenance (60,000 Hours)	Theoretical L70 (Hours)
6H x 6V (Wide)		
25°C	> 94.55%	> 388,000
40°C	> 93.58%	> 327,000
50°C	--	--
3H x 3V (Spot)		
25°C	>92.18%	>262,000
40°C	>91.81%	>249,000

## LUMEN MULTIPLIER

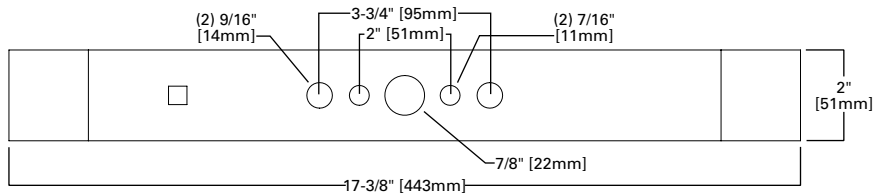
Ambient Temperature	Lumen Multiplier
10°C	1.03
15°C	1.02
25°C	1.00
40°C	0.97
50°C	0.96

## DRILLING PATTERNS

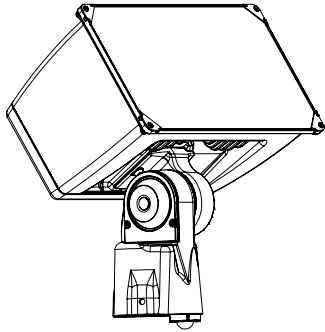
### Trunnion Mount



### Yoke Mount

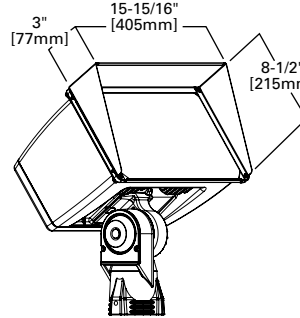


## OPTIONAL INTEGRATED SENSOR

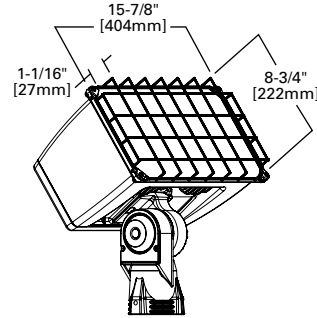


## ACCESSORIES

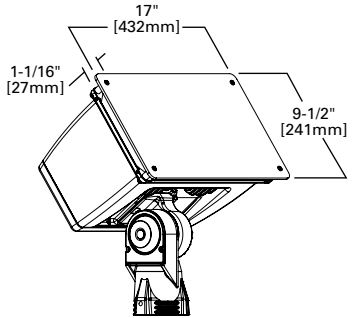
### Top and Side Visors



### Wire Guard



### Vandal Shield



## ORDERING INFORMATION

Sample Number: UFLD-C40-D-U-66-S-AP-4N7

Product Family	Light Engine <sup>1</sup>	Driver <sup>2</sup>	Voltage	Distribution	Mounting	Color
UFLD=Utility LED Floodlight	C25=10,400 Nominal Lumens C40=15,500 Nominal Lumens C55=20,000 Nominal Lumens C70=24,000 Nominal Lumens	E=Non-Dimming D=Dimming (0-10V) <sup>3</sup>	U=120-277V 8=480V <sup>4</sup> 9=347V <sup>4</sup>	66=NEMA 6Hx6V Wide 33=NEMA 3Hx3V Spot <sup>5</sup>	C=Slipfitter, 2-3/8"-3" O.D. (Cord through housing) S=Slipfitter, 2-3/8"-3" O.D. (Leads through slipfitter) T=Trunnion Y=Yoke	AP=Grey (Standard) BZ=Bronze BK=Black WH=White
Options (Add as Suffix)			Accessories (Order Separately) <sup>11</sup>			
<b>7030</b> =70 CRI / 3000K <sup>6</sup> <b>7050</b> =70 CRI / 5000K <sup>6</sup> <b>7060</b> =70 CRI / 5700K <sup>6</sup> <b>4</b> =NEMA 3-PIN Twistlock Photocontrol Receptacle <b>4N7</b> =NEMA 7-PIN Twistlock Photocontrol Receptacle <sup>7</sup> <b>10K</b> =10kV/10kA UL 1449 Surge Protective Device <b>HA</b> =50°C High Ambient Temperature <sup>8</sup> <b>D10</b> <10% Dimming <sup>7</sup> <b>MSP/DIM-L12</b> =Integrated Sensor for Dimming Operation, 8' - 12' Mounting Height <sup>9,10</sup> <b>MSP/DIM-L30</b> =Integrated Sensor for Dimming Operation, 12' - 30' Mounting Height <sup>9,10</sup> <b>MSP-L12</b> =Integrated Sensor for ON/OFF Operation, 8' - 12' Mounting Height <sup>9,10</sup> <b>MSP-L30</b> =Integrated Sensor for ON/OFF Operation, 12' - 30' Mounting Height <sup>9,10</sup> <b>CXXX</b> =Cord Type <sup>16</sup>			<b>FA63</b> =3" O.D. Surface Mount Bracket <sup>12</sup> <b>OA1223</b> =10kV/10kA UL 1449 Surge Protective Device Replacement <b>OA/RA1013</b> =Photocontrol Shorting Cap <b>OA/RA1014</b> =NEMA Photocontrol - 120V <b>OA/RA1016</b> =NEMA Photocontrol - Multi-Tap <b>OA/RA1027</b> =NEMA Photocontrol - 480V <b>OA/RA1201</b> =NEMA Photocontrol - 347V <b>RAB-XX</b> =Right Angle Pipe Bracket for Slipfitter <b>SAB-XX</b> =Steel Angle Bracket for Trunnion <b>TYS-XX</b> =Slipfitter Adapter for 2-3/8", 3" or 3-1/2" O.D. Tenon <sup>13</sup> <b>TS2/UFLD-XX</b> =Top and Side Visors <sup>14</sup> <b>VS/UFLD</b> =Vandal Shield <sup>14</sup> <b>WG/UFLD</b> =Wire Guard <sup>14</sup> <b>ISHH-01</b> =Integrated Sensor Programming Remote <b>LLPC</b> =Long-life Photocontrol <sup>15</sup> <b>LLPC-FO</b> =Long-life Photocontrol (Fail-Off)			

### NOTES:

- Standard 4000K CCT and minimum 70 CRI. Consult IES file for actual lumen output.
- Consult factory for driver surge protection values.
- Must specify 4N7 option.
- Only for use with 480V Wye systems. Per NEC, not for use with ungrounded systems, impedance grounded systems or corner grounded systems (commonly known as Three Phase Three Wire Delta, Three Phase High Leg Delta and Three Phase Corner Grounded Delta systems)
- Only available with C25 and C40 light engines.
- Extended lead times apply. Use dedicated IES files for 3000K, 5000K, and 5700K when performing layouts. These files are published on the UFLD luminaire product page on the website.
- Must order with dimming driver.
- Not available with 3H x 3V spot distribution.
- 0-10V dimming driver required. Integrated sensor option only available in slipfitter mounting.
- Not available with Photocontrol.
- Replace XX with color designation. Additional brackets and adaptors available on the poles product page on the website.
- Not available with tenon mount.
- Not available with slipfitter mount.
- Cannot combine TS2 (Top and Side Visor), VS (Vandal Shield), or WG (Wire Guard), limited to one external guard per fixture.
- Sold as accessory. Not covered under luminaire warranty.
- 3-conductor cord available in 12, 14, and 16 gauge with lengths of 5, 8, 10, 15, 20, and 25 feet. Specify cord gauge with the first 2 digits and cord length with the last 2 digits (ex: C1605 = 16-gauge, 5 feet length cord). Standard cord is 16-gauge with length of 3.5 ft if not specified.

## DESCRIPTION

The EPIC Collection delivers custom luminaire flexibility with high quality, yet availability expectations of standard specification grade product. The EPIC Collection can be dressed to suit any application. Recognizing evolving environmental and legislative trends, the EPIC Collection delivers world class LED optical and performance solutions to the decorative luminaire marketplace.

Catalog #		Type
Project		
Comments		Date
Prepared by		

## SPECIFICATION FEATURES

### Construction

**TOP:** Cast aluminum top housing attaches to cast aluminum mounting arm hub with four stainless steel fasteners. One-piece silicone gasket between mounting hub and top casting seals out moisture and contaminants. (See the mounting accessories section for a full selection of mounting arms. (Only these arms are compatible with the Epic luminaire). **MIDSECTION:** Continuous silicone gaskets seal lens to top casting and shade. The mid section features cast aluminum construction and stainless steel assembly. **SHADES:** Heavy gauge precision spun aluminum shades offer superior surface finish and consistency in form. **DOORFRAME:** Die-cast aluminum 1/8" thick door and doorframe seal to underside of shade with a thick wall continuous silicone gasket. Mounting hub ships attached to mounting arm.

### Optics

Choice of twelve patented, high-efficiency AccuLED Optic™ technology manufactured from

injection-molded acrylic. Optics are precisely designed to shape the optics, maximizing efficiency and application spacing. AccuLED Optic technology, creates consistent distributions with the scalability to meet customized application requirements. Offered Standard in 4000K (+/- 275K) CCT and nominal 70 CRI. Optional 3000K CCT and 5000K CC. For the ultimate level of spill light control, an optional house-side shield accessory can be field or factory installed. The house-side shield is designed to seamlessly integrate with the SL2, SL3 or SL4 optics.

### Electrical

LED drivers mount to die-cast aluminum back housing for optimal heat sinking, operation efficacy, and prolonged life. Standard drivers feature electronic universal voltage (120-277V 50/60Hz), 347V 60Hz or 480V 60Hz operation, greater than 0.9 power factor, less than 20% harmonic distortion, and is suitable for operation in -40°C to 40°C ambient environments. All fixtures are shipped standard

with 10kV/10kA common – and differential – mode surge protection. LightBARs feature and IP66 enclosure rating and maintain greater than 95% lumen maintenance at 60,000 hours per IESNA TM-21. Occupancy sensor and dimming options available.

### Finish

Housing is finished in five-stage super TGIC polyester powder coat paint, 2.5 mil nominal thickness for superior protection against fade and wear. LightBAR™ cover plates are standard white and may be specified to match finish of luminaire housing. Standard colors include black, bronze, grey, white, dark platinum and graphite metallic. RAL and custom color matches available. Consult Outdoor Architectural Colors brochure for a complete selection.

### Warranty

Five-year warranty.



## ECM/EMM EPIC MEDIUM LED

1 - 4 LightBARs  
Solid State LED

DECORATIVE AREA LUMINAIRE



### CERTIFICATION DATA

UL/cUL Listed  
DesignLights Consortium® Qualified\*  
IP66 LightBARs  
LM79 / LM80 Compliant  
2G Vibration Tested  
ISO 9001

### ENERGY DATA

**Electronic LED Driver**  
>0.9 Power Factor  
<20% Total Harmonic Distortion  
120-277V 50/60Hz, 347V/60Hz,  
480V/60Hz  
-40°C Minimum Temperature  
40°C Ambient Temperature Rating

### EPA

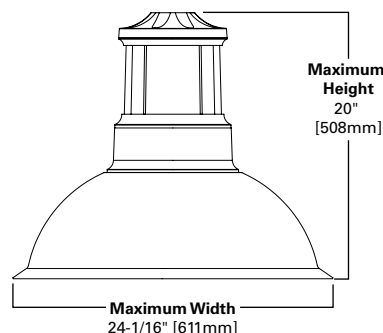
Effective Projected Area: (Sq. Ft.) 0.94

### SHIPPING DATA

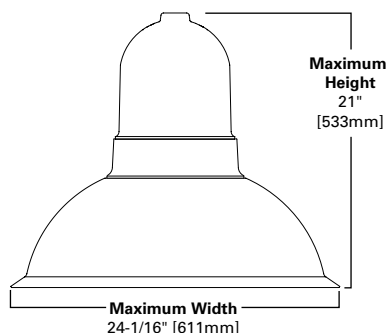
Approximate Net Weight:  
45 lbs. [20 kgs.]

## DIMENSIONS

### ECM Classical

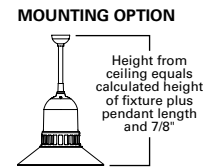
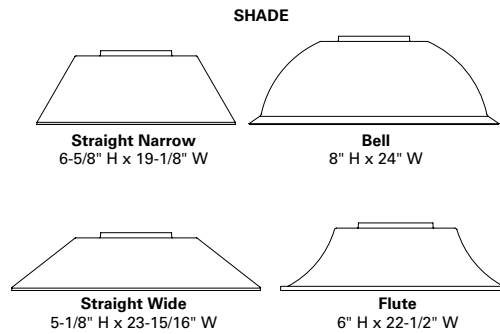
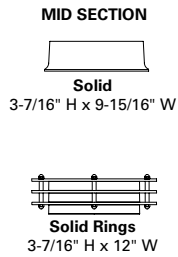
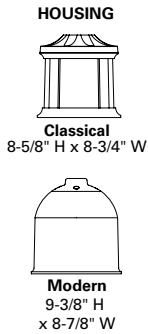


### EMM Modern



See configurations for more detailed information.

## CONFIGURATIONS



## POWER AND LUMENS BY BAR COUNT (21 LED LIGHTBARS)

Number of LightBARs		E01	E02	E03	E04
<b>Drive Current</b>		350mA Drive Current			
<b>Power (Watts)</b>		25W	52W	75W	97W
<b>Current @ 120V (A)</b>		0.22	0.44	0.63	0.82
<b>Current @ 277V (A)</b>		0.10	0.20	0.28	0.36
<b>Power (Watts)</b>		31W	58W	82W	99W
<b>Current @ 347V (A)</b>		0.11	0.19	0.28	0.29
<b>Current @ 480V (A)</b>		0.09	0.15	0.20	0.21
<b>T2</b>	Lumens	2,948	5,896	8,844	11,792
	BUG Rating	B1-U0-G1	B2-U0-G2	B3-U0-G3	B3-U0-G3
<b>T3</b>	Lumens	2,936	5,873	8,809	11,745
	BUG Rating	B1-U0-G1	B2-U0-G2	B3-U0-G3	B3-U0-G3
<b>T4</b>	Lumens	2,876	5,752	8,627	11,503
	BUG Rating	B1-U0-G1	B1-U0-G2	B1-U0-G2	B2-U0-G3
<b>5MQ</b>	Lumens	3,054	6,108	9,161	12,215
	BUG Rating	B2-U0-G1	B3-U0-G1	B3-U0-G2	B4-U0-G2
<b>5WQ</b>	Lumens	2,987	5,975	8,962	11,949
	BUG Rating	B2-U0-G1	B3-U0-G1	B3-U0-G2	B4-U0-G2
<b>5XQ</b>	Lumens	2,982	5,963	8,945	11,926
	BUG Rating	B2-U0-G1	B3-U0-G2	B3-U0-G3	B4-U0-G3
<b>SL2</b>	Lumens	2,878	5,756	8,634	11,512
	BUG Rating	B1-U0-G1	B1-U0-G2	B2-U0-G2	B2-U0-G2
<b>SL3</b>	Lumens	2,894	5,788	8,682	11,576
	BUG Rating	B1-U0-G1	B1-U0-G2	B2-U0-G2	B2-U0-G2
<b>SL4</b>	Lumens	2,823	5,647	8,470	11,294
	BUG Rating	B1-U0-G1	B1-U0-G2	B2-U0-G2	B2-U0-G2
<b>RW</b>	Lumens	2,957	5,915	8,872	11,829
	BUG Rating	B2-U0-G2	B3-U0-G3	B3-U0-G3	B3-U0-G3
<b>SLL/SLR</b>	Lumens	2,616	5,231	7,847	10,462
	BUG Rating	B1-U0-G2	B1-U0-G2	B1-U0-G3	B2-U0-G3

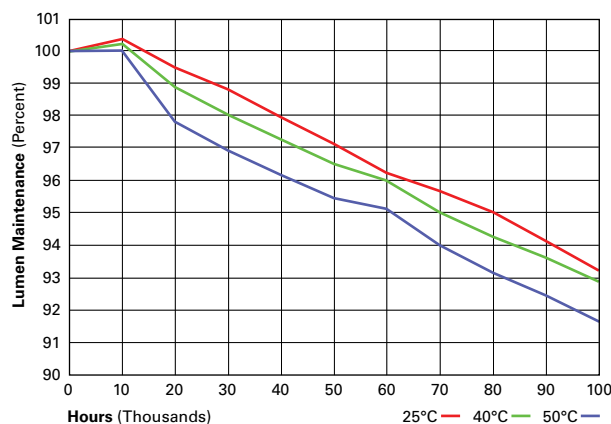
## POWER AND LUMENS BY BAR COUNT (7 LED LIGHTBARS)

Number of LightBARs		F01	F02	F03	F04
<b>Drive Current</b>		1A Drive Current			
<b>Power (Watts)</b>		26W	55W	78W	102W
<b>Current @ 120V (A)</b>		0.22	0.46	0.66	0.86
<b>Current @ 277V (A)</b>		0.10	0.21	0.29	0.37
<b>Power (Watts)</b>		32W	60W	85W	105W
<b>Current @ 347V (A)</b>		0.11	0.19	0.28	0.30
<b>Current @ 480V (A)</b>		0.09	0.15	0.21	0.22
<b>T2</b>	Lumens	2,434	4,867	7,301	9,735
	BUG Rating	B1-U0-G1	B2-U0-G2	B2-U0-G2	B3-U0-G3
<b>T3</b>	Lumens	2,424	4,848	7,272	9,696
	BUG Rating	B1-U0-G1	B2-U0-G2	B2-U0-G2	B3-U0-G3
<b>T4</b>	Lumens	2,374	4,748	7,122	9,496
	BUG Rating	B1-U0-G1	B1-U0-G2	B1-U0-G2	B2-U0-G2
<b>5MQ</b>	Lumens	2,521	5,042	7,563	10,084
	BUG Rating	B2-U0-G1	B3-U0-G1	B3-U0-G1	B3-U0-G2
<b>5WQ</b>	Lumens	2,466	4,932	7,398	9,864
	BUG Rating	B2-U0-G1	B3-U0-G1	B3-U0-G2	B4-U0-G2
<b>5XQ</b>	Lumens	2,461	4,923	7,384	9,845
	BUG Rating	B2-U0-G1	B3-U0-G2	B3-U0-G2	B4-U0-G3
<b>SL2</b>	Lumens	2,376	4,752	7,127	9,503
	BUG Rating	B1-U0-G1	B1-U0-G1	B2-U0-G2	B2-U0-G2
<b>SL3</b>	Lumens	2,389	4,778	7,167	9,556
	BUG Rating	B1-U0-G1	B1-U0-G1	B1-U0-G2	B2-U0-G2
<b>SL4</b>	Lumens	2,331	4,662	6,993	9,323
	BUG Rating	B1-U0-G1	B1-U0-G2	B1-U0-G2	B2-U0-G2
<b>RW</b>	Lumens	2,441	4,883	7,324	9,765
	BUG Rating	B1-U0-G1	B2-U0-G2	B3-U0-G3	B3-U0-G3
<b>SLL/SLR</b>	Lumens	2,159	4,318	6,478	8,637
	BUG Rating	B1-U0-G1	B1-U0-G2	B1-U0-G3	B1-U0-G3

## LUMEN MAINTENANCE

Ambient Temperature	25,000 Hours*	50,000 Hours*	60,000 Hours*	100,000 Hours	Theoretical L70 (Hours)
25°C	> 99%	> 97%	> 96%	> 93%	> 450,000
40°C	> 98%	> 97%	> 96%	> 92%	> 425,000
50°C	> 97%	> 96%	> 95%	> 91%	> 400,000

\* Per IESNA TM-21 data.



## LUMEN MULTIPLIER

Ambient Temperature	Lumen Multiplier
10°C	1.02
15°C	1.01
25°C	1.00
40°C	0.99
50°C	0.96

## CONTROL OPTIONS

### 0-10V (DIM)

The DIM option provides 0-10V dimming wire leads for use with a lighting control panel or other control method.

### Photocontrol (PC, PER and PER7)

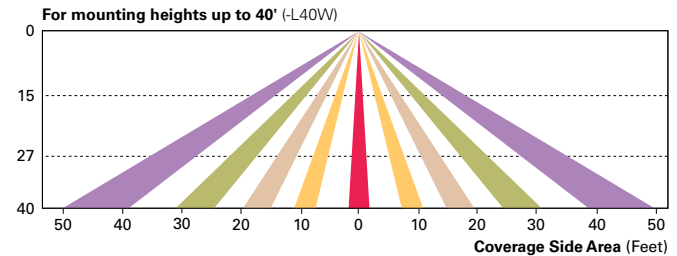
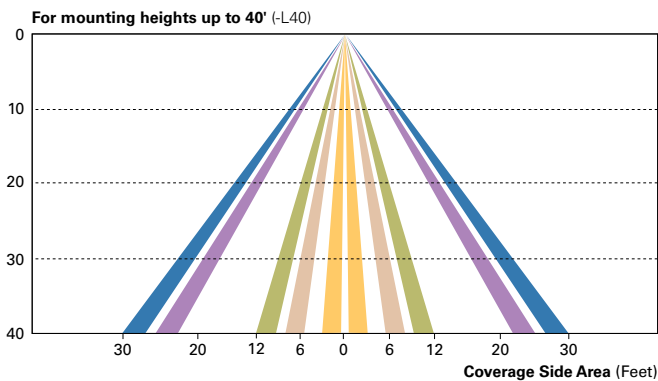
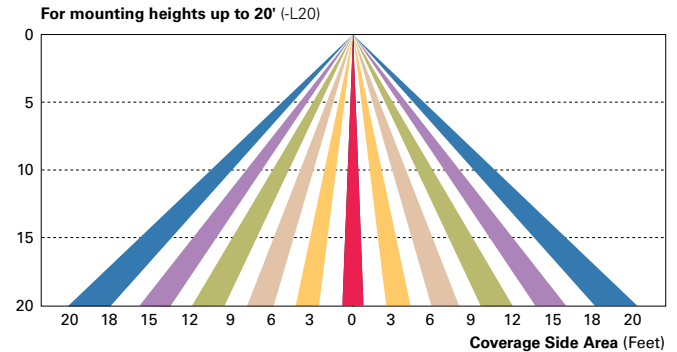
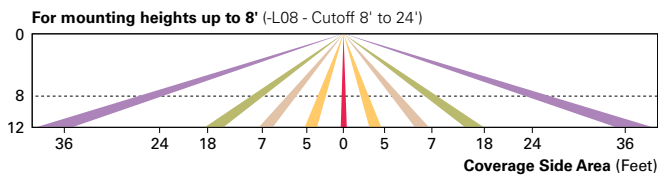
Optional button-type photocontrol (PC) and photocontrol receptacles (PER and PER7) provide a flexible solution to enable “dusk-to-dawn” lighting by sensing light levels. Advanced control systems compatible with NEMA 7-pin standards can be utilized with the PER7 receptacle.

### Dimming Occupancy Sensor (MS/DIM-LXX, MS/X-LXX and MS-LXX)

These sensors are factory installed in the luminaire housing. When the MS/DIM-LXX sensor option is selected, the occupancy sensor is connected to a dimming driver and the entire luminaire dims when there is no activity detected. When activity is detected, the luminaire returns to full light output. The MS/DIM sensor is factory preset to dim down to approximately 50 percent power with a time delay of five minutes. The MS-LXX sensor is factory preset to turn the luminaire off after five minutes of no activity. The MS/X-LXX is also preset for five minutes and only controls the specified number of light engines to maintain steady output from the remaining light engines.

These occupancy sensors includes an integral photocell that can be activated with the FSIR-100 accessory for “dusk-to-dawn” control or daylight harvesting - the factory preset is OFF. The FSIR-100 is a wireless tool utilized for changing the dimming level, time delay, sensitivity and other parameters.

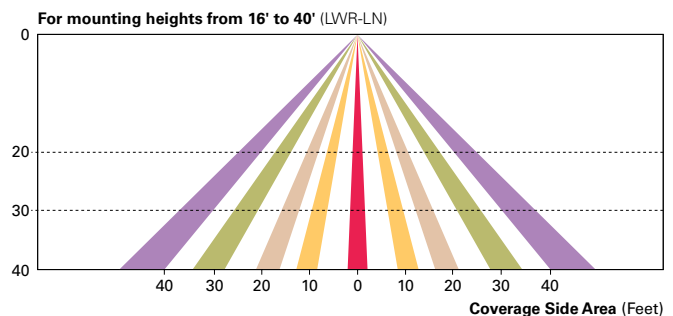
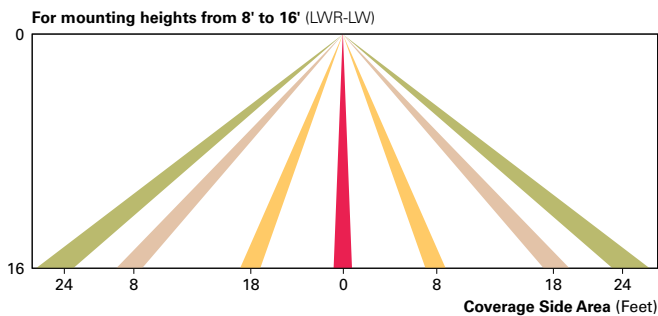
A variety of sensor lens are available to optimize the coverage pattern for mounting heights from 8'-40'.



### LumaWatt Pro Wireless Control and Monitoring System (LWR-LW and LWR-LN)

The LumaWatt Pro system is a peer-to-peer wireless network of luminaire-integral sensors for any sized project. Each sensor is capable of motion and photo sensing, metering power consumption and wireless communication. The end-user can securely create and manage sensor profiles with browser-based management software. The software will automatically broadcast to the sensors via wireless gateways for zone-based and individual luminaire control. The LumaWatt Pro software provides smart building solutions by utilizing the sensor to provide easy-to-use dashboard and analytic capabilities such as improved energy savings, traffic flow analysis, building management software integration and more.

For additional details, refer to the LumaWatt Pro product guides.





## ORDERING INFORMATION

Sample Number: ECM-E04-LED-E1-T2-FL-GM

Product Family <sup>1</sup>	Number of LightBARs <sup>2,3</sup>	Lamp Type	Voltage	Distribution	Mid Section Type	Shade Type	Color <sup>5</sup>
<b>ECM</b> =Epic Classical Medium <b>EMM</b> =Epic Modern Medium	<b>E01</b> =(1) 21 LED LightBAR <b>E02</b> =(2) 21 LED LightBARs <b>E03</b> =(3) 21 LED LightBARs <b>E04</b> =(4) 21 LED LightBARs <b>F01</b> =(1) 7 LED LightBAR <b>F02</b> =(2) 7 LED LightBARs <b>F03</b> =(3) 7 LED LightBARs <b>F04</b> =(4) 7 LED LightBARs	<b>LED</b> =Solid State Light Emitting Diodes	<b>E1</b> =Electronic (120-277V) <b>347</b> =347V <b>480</b> =480V <sup>4</sup>	<b>T2</b> =Type II <b>T3</b> =Type III <b>T4</b> =Type IV <b>SL2</b> =Type II w/Spill Control <b>SL3</b> =Type III w/Spill Control <b>SL4</b> =Type IV w/Spill Control <b>5MQ</b> =Type V Square Medium <b>5WQ</b> =Type V Square Wide <b>5XQ</b> =Type V Square Extra Wide <b>RW</b> =Rectangular Wide <b>SLL</b> =90° Spill Light Eliminator Left <b>SLR</b> =90° Spill Light Eliminator Right	<b>SO</b> =Solid <b>SR</b> =Solid Rings	<b>SN</b> =Straight Narrow <b>SW</b> =Straight Wide <b>BL</b> =Bell <b>FL</b> =Flute	<b>AP</b> =Grey <b>BZ</b> =Bronze <b>BK</b> =Black <b>DP</b> =Dark Platinum <b>GM</b> =Graphite Metallic <b>WH</b> =White
Options (Add as Suffix)		Accessories (Order Separately) <sup>13</sup>					
<b>2L</b> =Two Circuits <sup>6</sup> <b>7030</b> =70 CRI / 3000K CCT <sup>7</sup> <b>7050</b> =70 CRI / 5000K CCT <sup>7</sup> <b>8030</b> =80 CRI / 3000K CCT <sup>7</sup> <b>LCF</b> =LightBAR Cover Plate Matches Housing Finish <b>MS-LXX</b> =Motion Sensor for ON/OFF Operation <sup>8</sup> <b>MS/X-LXX</b> =Motion Sensor for Bi-Level Switching <sup>9</sup> <b>PMXX</b> =Pendant Mount (XX=Pendant Length in Inches, 9.5" min - 48.0" max) <sup>10</sup> <b>HSS</b> =Factory Installed House Side Shield <sup>11</sup> <b>DIM</b> =0-10V Dimming Driver <sup>12</sup>		<b>OA/RA1016</b> =NEMA Twistlock Photocontrol - Multi-Tap <b>OA/RA1027</b> =NEMA Twistlock Photocontrol - 480V <b>OA/RA1201</b> =NEMA Twistlock Photocontrol - 347V <b>OA/RA1013</b> =Photocontrol Shorting Cap <b>LB/HSS-21</b> =Field Installed House Side Shield for "E" LightBARs <sup>11, 15</sup> <b>LB/HSS-07</b> =Field Installed House Side Shield for "F" LightBARs <sup>11, 15</sup>  <b>Mounting Accessories (Order Separately)</b> <b>Classical</b> <b>VA6150-XX</b> =Bishop Wall Mount Arm <b>VA6151-XX</b> =Bishop Wall Mount Arm with Cross Rod <b>VA6152-XX</b> =Traditional Wall Mount Arm <b>VA6153-XX</b> =Traditional Wall Mount Arm with 45° Strap <b>VA6154-XX</b> =Bishop Single Pole Mount Arm <b>VA6155-XX</b> =Bishop Single Pole Mount Arm with Cross Rod <b>VA6156-XX</b> =Bishop Twin Pole Mount Arm <b>VA6157-XX</b> =Bishop Twin Pole Mount Arm with Cross Rods <b>VA6158-XX</b> =Traditional Single Pole Mount Arm <b>VA6159-XX</b> =Traditional Single Pole Mount Arm with Rounded Upper Bar <b>VA6160-XX</b> =Traditional Single Pole Mount Arm with Rounded Lower Bar <sup>14</sup> <b>VA6161-XX</b> =Traditional Single Pole Mount Arm with 45° Upper Bar <b>VA6162-XX</b> =Traditional Single Pole Mount Arm with 45° Lower Bar <sup>14</sup> <b>VA6163-XX</b> =Traditional Single Pole Mount Arm with 45° Upper Strap <b>VA6165-XX</b> =Traditional Twin Pole Mount Arm <b>VA6166-XX</b> =Traditional Twin Pole Mount Arm with Rounded Upper Bars <b>VA6167-XX</b> =Traditional Twin Pole Mount Arm with Rounded Lower Bars <sup>14</sup> <b>VA6168-XX</b> =Traditional Twin Pole Mount Arm with 45° Upper Bars <b>VA6169-XX</b> =Traditional Twin Pole Mount Arm with 45° Lower Bars <sup>14</sup> <b>VA6170-XX</b> =Traditional Twin Pole Mount Arm with 45° Upper Straps <b>VA6171-XX</b> =Mast Arm Adapter <b>Modern</b> <b>VA6101-XX</b> =Bishop Wall Mount Arm <b>VA6102-XX</b> =Bishop Wall Mount Arm with Cross Rod <b>VA6103-XX</b> =Traditional Wall Mount Arm <b>VA6104-XX</b> =Traditional Wall Mount Arm with 45° Strap <b>VA6105-XX</b> =Bishop Single Pole Mount Arm <b>VA6106-XX</b> =Bishop Single Pole Mount Arm with Cross Rod <b>VA6107-XX</b> =Bishop Twin Pole Mount Arm <b>VA6108-XX</b> =Bishop Twin Pole Mount Arm with Cross Rods <b>VA6109-XX</b> =Traditional Single Pole Mount Arm <b>VA6110-XX</b> =Traditional Single Pole Mount Arm with Rounded Upper Bar <b>VA6111-XX</b> =Traditional Single Pole Mount Arm with Rounded Lower Bar <sup>14</sup> <b>VA6112-XX</b> =Traditional Single Pole Mount Arm with 45° Upper Bar <b>VA6113-XX</b> =Traditional Single Pole Mount Arm with 45° Lower Bar <sup>14</sup> <b>VA6114-XX</b> =Traditional Single Pole Mount Arm with 45° Upper Strap <b>VA6116-XX</b> =Traditional Twin Pole Mount Arm <b>VA6117-XX</b> =Traditional Twin Pole Mount Arm with Rounded Upper Bars <b>VA6118-XX</b> =Traditional Twin Pole Mount Arm with Rounded Lower Bars <sup>14</sup> <b>VA6119-XX</b> =Traditional Twin Pole Mount Arm with 45° Upper Bars <b>VA6120-XX</b> =Traditional Twin Pole Mount Arm with 45° Lower Bars <sup>14</sup> <b>VA6121-XX</b> =Traditional Twin Pole Mount Arm with 45° Upper Straps <b>VA6122-XX</b> =Mast Arm Adapter				<b>Accessory Options</b> <sup>16</sup> <b>V</b> =Victorian Finial <sup>17</sup> <b>M</b> =Modern Finial <sup>17</sup> <b>A</b> =Architectural Finial <sup>17</sup> <b>N</b> =Nostalgic Finial <sup>17</sup> <b>R</b> =NEMA Twistlock Photocontrol Receptacle <sup>18</sup>	

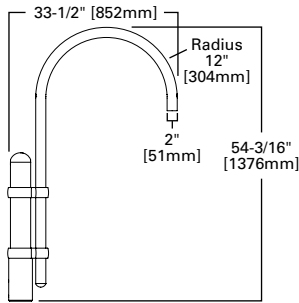
## NOTES:

- Arm not included. Order separately. See accessories.
- Standard 4000K CCT and greater than 70 RL.
- 21 LED LightBAR powered by 350mA and 7 LED LightBAR powered by 1A.
- Only for use with 480V Wye systems. Per NEC, not for use with ungrounded systems, impedance grounded systems or corner grounded systems (commonly known as Three Phase Three Wire Delta, Three Phase High Leg Delta and Three Phase Corner Grounded Delta systems).
- Custom and RAL color matching available upon request. Consult your lighting representative at Cooper Lighting Solutions for more information.
- Low-level output varies by bar count. Consult factory. Requires quantity of two or more LightBARs.
- Consult customer service for lead times and multiplier.
- Sensor mounted to the luminaire. Available in E01-E04 and F01-F04 configurations. Replace "XX" with mounting height in feet for proper lens selection, (e.g., MS-L25). Consult factory for additional information.
- Sensor mounted to the luminaire. Available in E02-E04 and F02-F04 configurations. Replace "X" with number of LightBARs operating in low output mode and replace XX with mounting height in feet for proper lens selection, (e.g., MS/3-L25). Maximum four bars in low output mode. Consult factory for additional information.
- Pendant mount option "PMXX" must be used with Invue Pendant mount kit only. Includes pendant pipe, swivel hangar and canopy cover. Other pendant lengths can be specified in inches (XX). Minimum pendant length is 9-1/2". For lengths above 48", consult your lighting representative at Cooper Lighting Solutions for more information.
- Only for use with SL2, SL3 and SL4 distributions.
- Dimming leads provide for external 0-10V control system (by others).
- Replace XX with color suffix.
- Only available with traditional arms.
- One required for each LightBAR.
- Add as suffix to mounting accessory. Example: VA6106-BK-R.
- Not available with finials, pendant mount "PM48" or bishop wall mounts.
- Requires use of 4" O.D. round straight pole.

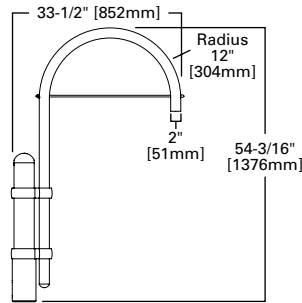


## MOUNTING ACCESSORIES

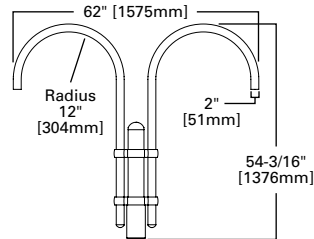
Pole mount arms are designed to fit both medium ECM/EMM housings. (Only these arms are compatible with the Epic luminaire). Arms feature a precision welded cast aluminum mounting hub for attachment of fixture head to arm with four stainless steel fasteners. Wall mount arms compliment pole mount luminaires and attractively transition fixture scale in lower mounting height pedestrian environments. Wall mount arms are designed to fit both medium ECM/EMM housings. Arms feature a precision welded cast aluminum mounting hub for attachment of fixture head to arm with four stainless steel fasteners.

**BISHOP SINGLE POLE MOUNT ARM**

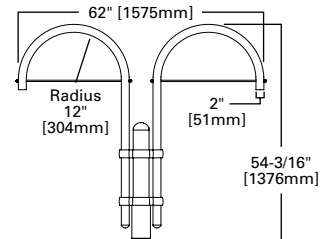
VA6105 (Modern), VA6154 (Classical)  
Slipfits over 4" round straight pole, or 4" O.D. by 6" tall round tenon.  
Weight: 24 lbs. E.P.A: 0.92

**BISHOP SINGLE POLE MOUNT ARM WITH CROSS ROD**

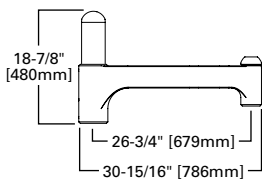
VA6106 (Modern), VA6155 (Classical)  
Slipfits over 4" round straight pole, or 4" O.D. by 6" tall round tenon.  
Weight: 25 lbs. E.P.A: 0.98

**BISHOP TWIN POLE MOUNT ARM**

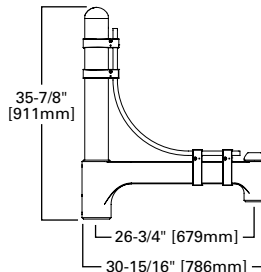
VA6107 (Modern), VA6156 (Classical)  
Slipfits over 4" round straight pole, or 4" O.D. by 6" tall round tenon.  
Weight: 37 lbs. E.P.A: 1.43

**BISHOP TWIN POLE MOUNT ARM WITH CROSS RODS**

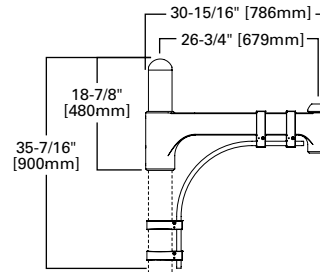
VA6108 (Modern), VA6157 (Classical)  
Slipfits over 4" round straight pole, or 4" O.D. by 6" tall round tenon.  
Weight: 39 lbs. E.P.A: 1.55

**TRADITIONAL SINGLE POLE MOUNT ARM**

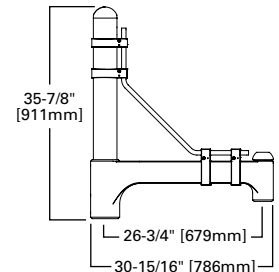
VA6109 (Modern), VA6158 (Classical)  
Slipfits over 4" round straight pole, or 4" O.D. by 6" tall round tenon.  
Weight: 20 lbs. E.P.A: 0.86

**TRADITIONAL SINGLE POLE MOUNT ARM WITH ROUNDED UPPER BAR**

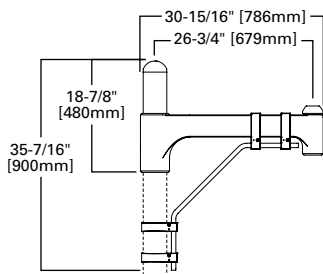
VA6110 (Modern), VA6159 (Classical)  
Slipfits over 4" round straight pole, or 4" O.D. by 6" tall round tenon.  
Weight: 28 lbs. E.P.A: 1.4

**TRADITIONAL SINGLE POLE MOUNT ARM WITH ROUNDED LOWER BAR**

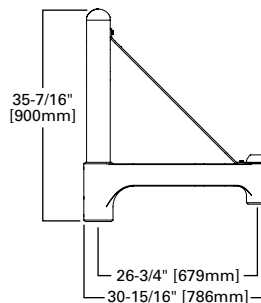
VA6111 (Modern), VA6160 (Classical)  
Slipfits over 4" round straight pole, or 4" O.D. by 6" tall round tenon.  
Weight: 25 lbs. E.P.A: 1.16

**TRADITIONAL SINGLE POLE MOUNT ARM WITH 45° UPPER BAR**

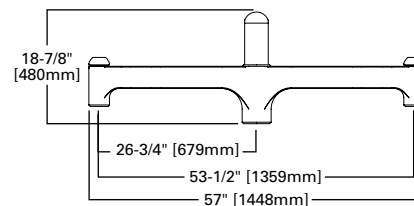
VA6112 (Modern), VA6161 (Classical)  
Slipfits over 4" round straight pole, or 4" O.D. by 6" tall round tenon.  
Weight: 28 lbs. E.P.A: 1.38

**TRADITIONAL SINGLE POLE MOUNT ARM WITH 45° LOWER BAR**

VA6113 (Modern), VA6162 (Classical)  
Slipfits over 4" round straight pole, or 4" O.D. by 6" tall round tenon.  
Weight: 24 lbs. E.P.A: 1.17

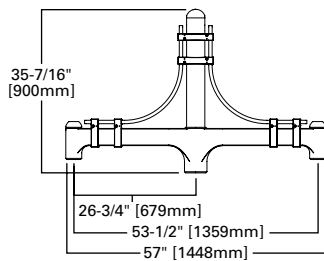
**TRADITIONAL SINGLE POLE MOUNT ARM WITH 45° UPPER STRAP**

VA6114 (Modern), VA6163 (Classical)  
Slipfits over 4" round straight pole, or 4" O.D. by 6" tall round tenon.  
Weight: 24 lbs. E.P.A: 1.17

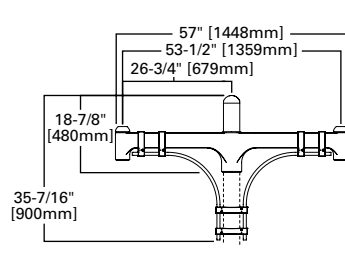
**TRADITIONAL TWIN POLE MOUNT ARM**

VA6116 (Modern), VA6165 (Classical)  
Slipfits over 4" round straight pole, or 4" O.D. by 6" tall round tenon.  
Weight: 30 lbs. E.P.A: 1.44

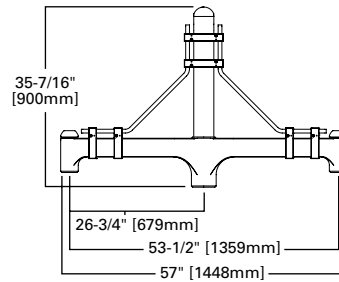
## MOUNTING ACCESSORIES


**TRADITIONAL TWIN POLE  
MOUNT ARM WITH ROUNDED  
UPPER BARS**

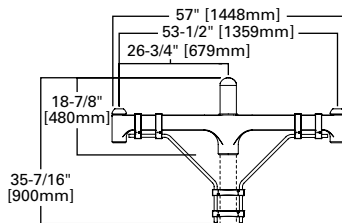
VA6117 (Modern), VA6166 (Classical)  
Slipfits over 4" round straight pole,  
or 4" O.D. by 6" tall round tenon.  
Weight: 43 lbs. E.P.A: 2.28


**TRADITIONAL TWIN POLE  
MOUNT ARM WITH ROUNDED  
LOWER BARS**

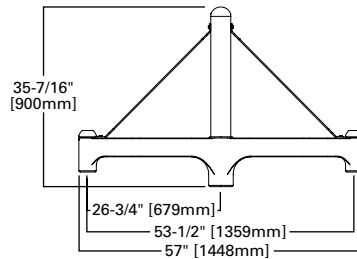
VA6118 (Modern), VA6167 (Classical)  
Slipfits over 4" round straight pole,  
or 4" O.D. by 6" tall round tenon.  
Weight: 40 lbs. E.P.A: 2.04


**TRADITIONAL TWIN POLE  
MOUNT ARM WITH 45° UPPER BARS**

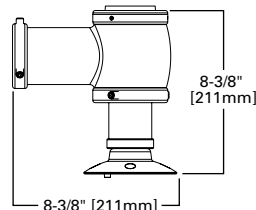
VA6119 (Modern), VA6168 (Classical)  
Slipfits over 4" round straight pole,  
or 4" O.D. by 6" tall round tenon.  
Weight: 43 lbs. E.P.A: 2.24


**TRADITIONAL TWIN POLE  
MOUNT ARM WITH 45° LOWER BARS**

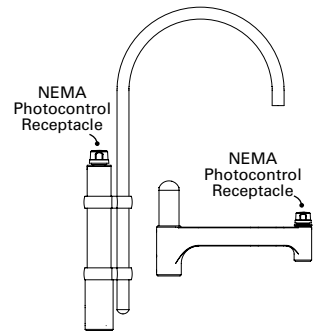
VA6120 (Modern), VA6169 (Classical)  
Slipfits over 4" round straight pole,  
or 4" O.D. by 6" tall round tenon.  
Weight: 40 lbs. E.P.A: 2.0


**TRADITIONAL TWIN POLE  
MOUNT ARM WITH 45° UPPER STRAPS**

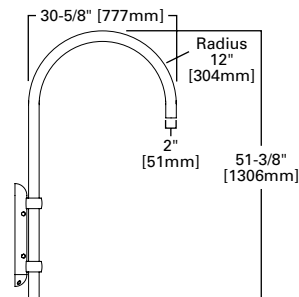
VA6121 (Modern), VA6170 (Classical)  
Slipfits over 4" round straight pole,  
or 4" O.D. by 6" tall round tenon.  
Weight: 37 lbs. E.P.A: 1.81


**MAST ARM ADAPTER**

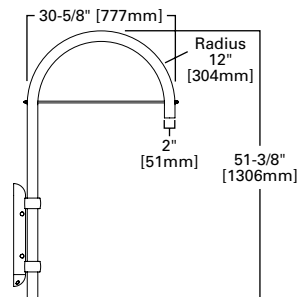
VA6122 (Modern), VA6171 (Classical)  
Secures fixture to nominal 2" pipe  
(2-3/8" horizontal O.D.)  
Weight: 4 lbs.


**NEMA TWISTLOCK PHOTOCONTROL (R)**  
Order separately (Not compatible with  
finials or wall mount bishop arms)

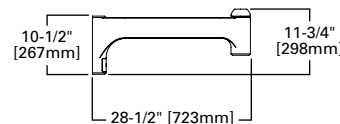
## Wall Mount Accessories


**BISHOP WALL MOUNT ARM**

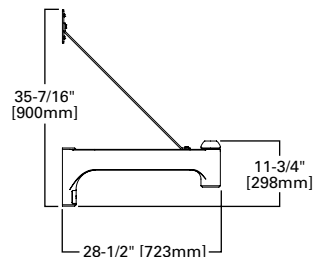
VA6101 (Modern), VA6150 (Classical)  
Mounts to wall with four stainless  
steel lag bolts (provided by other).  
Weight: 16 lbs.


**BISHOP WALL MOUNT ARM  
WITH CROSS ROD**

VA6102 (Modern), VA6151 (Classical)  
Mounts to wall with four stainless  
steel lag bolts (provided by other).  
Weight: 17 lbs.


**TRADITIONAL WALL MOUNT ARM**

VA6103 (Modern), VA6152 (Classical)  
Mounts to wall with four stainless  
steel lag bolts (provided by other).  
Weight: 17 lbs.


**TRADITIONAL WALL MOUNT ARM  
WITH 45° STRAP**

VA6104 (Modern), VA6153 (Classical)  
Mounts to wall with four stainless  
steel lag bolts (provided by other).  
Weight: 18 lbs.

# TORK<sup>®</sup> nsi INDUSTRIES

## SPECIFICATION SHEET

Project Info:	Type:
Job Ref:	Catalog Number:
Approvals:	Date:

### ZTL LONG LIFE SERIES

#### Advanced Electronic LED Photocontrol



#### OVERVIEW

The ZTL Series Photocontrol is designed with enhanced ZERO-CROSS Switching Technology allowing it to withstand the high inrush currents commonly found in LED Luminaires.

#### APPLICATIONS & FEATURES

- All LED, CFL, Induction, HPS and HID lighting fixtures requiring dusk to dawn control and enhanced protection against extreme inrush currents.
- Ideal for roadway, area, parking, flood and security type lighting fixtures.
- Enhanced 510 Joule MOV surge device providing superior surge protection against unpredictable line voltage spikes.
- Superior light sensing technology driven by a Non-Drifting Filtered Silicon Sensor designed for extreme accuracy and Human Eye Response.
- Circuit Board protection enhanced with conformal coating to protect against extreme weather elements and moisture.
- Photocontrol designed for 20 year long life requirement found on most LED fixtures.

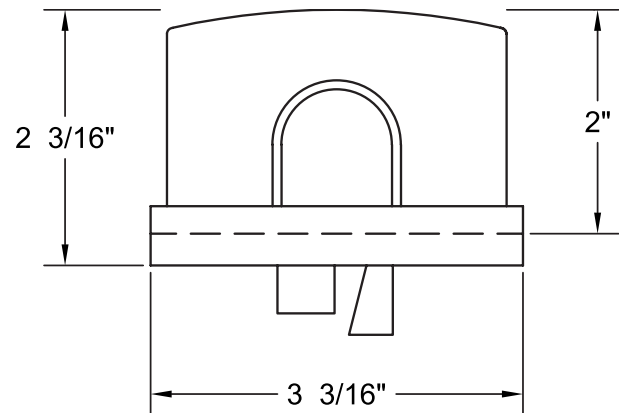
#### SPECIFICATIONS

- **Voltage:** 105-305VAC, 50/60Hz.
- **Tungsten:** 1000 Watts.
- **Ballast:** 1800VA (U.S.) or 1000VA (Canada).
- **LED Electronic Ballast:** 8A or Totaling 2220W@277VAC.
- **Dielectric Strength:** 2500VAC.
- **Turn ON Light Level:** 1.5 fc +/- 0.2 fc Instant ON.
- **Turn OFF Light Level:** 1.5:1 (2.25 fc) with 3 second delay.
- **Operating Temperature:** -40°F to 158°F (-40°C to 70°C).
- **Fail Mode:** ON.
- **Surge Protection:** 510 Joule MOV.
- **Power Consumption:** <.5 Watts.



**ZTL124-510J-LED**  
Zero-Cross Electronic LED Photocontrol Mounting Turn-Lock

#### DIMENSIONS



#### REGULATORY LISTINGS

- ANSI C136.10-2010
- UL773 & CSA TIL A15



#### LIMITED WARRANTY

- 15-year manufacture's warranty

### ORDERING INFO

ZTL124-510J-LED PHOTOCONTROL												
ZTL		124		510J				LED				
TECHNOLOGY TYPE		VOLTAGE		COVER COLOR		TURN-ON LEVEL (fc)		MOV RATING	PACKAGE QTY.		LAMP COMPATABILITY	
ZTL	ZERO-CROSS TURN-LOCK	*120	120VAC	BLANK	ANSI STD. COLOR	BLANK	1.5 ANSI STD.	510J	BLANK	4-COLOR SINGLE	LED	INCLUDES LED
		124	105-305VAC	*BR	BROWN	*10	1.0 fc ENERGY SAVER	*1020J	*12	12 UNITS 1 COLOR		
				*BK	BLACK	*26	2.6 fc IES RECOMMENDATION		*50	50 UNITS 1 COLOR		
				*OR	ORANGE	*35	35 fc FAA					
				*GR	GREEN	*80	8.0 fc METRO - HIGH AMBIENT					

#### NOTE:

1. ZTL Series Photocontrols work with all standard Ballast and Tungsten type fixtures.
2. \* Special order - Consult factory for availability and pricing.

# Proposed LED's & Controls

Option 2:

# OSQ Series

OSQ™ LED Utility Flood Luminaire

Rev. Date: V10 02/26/2020

## Product Description

The OSQ™ Utility Flood luminaire offers simple installation with a rugged die cast aluminum adjustable arm mount preset to 45° angle. Arm mounts to 2" (51mm) IP, 2.375" (60mm) O.D. tenon with choice of 8' 14/3 AWG cord exiting end of arm or side of arm. Direct arm mount versions are also available. The "Z" input power designator is a suitable upgrade for HID applications up to 175 Watts, the "B" input power designator is a suitable upgrade for HID applications up to 250 Watts, the "K" input power designator is a suitable upgrade for HID applications up to 400 Watts, the "T" input power designator is a suitable upgrade for HID applications up to 750 Watts, and the "U" input power designator is a suitable upgrade for HID applications up to 1000 Watts. OSQ Utility Flood Series is a perfect fit for a wide array of applications, helping improve the economic value for DoTs, municipalities, or Utilities.

**Applications:** Utility floodlighting, tunnels and underpasses

## Performance Summary

NanoOptic® Precision Delivery Grid™ optic

Assembled in the U.S.A. of U.S. and imported parts

**CRI:** Minimum 70 CRI

**CCT:** 3000K (+/- 300K), 4000K (+/- 300K)

**Limited Warranty\*:** 10 years on luminaire/10 years on Colorfast DeltaGuard® finish

\* See <http://creelighting.com/warranty> for warranty terms

## Utility Highlights

### Utility Label and NEMA® 7-Pin Photocell Receptacle

- External wattage label per ANSI C136.15
- 7-pin rotatable receptacle per ANSI C136.41
- Factory connected 0-10V dim leads
- Three conductor cord exits luminaire
- Requires photocell or shorting cap by others

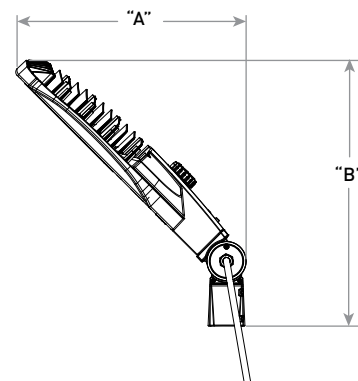
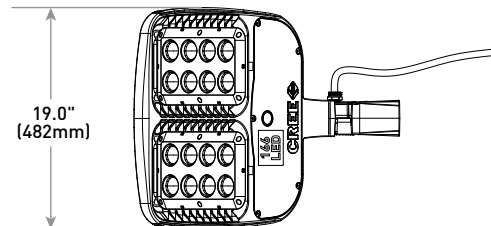
## Accessories

### Field-Installed

#### Shorting Cap

XA-XSLSHRT

## UA Mount



Input Power Designator	Weight	DIM "A"	DIM "B"
B/K/Z	29.5 lbs. (13.4kg)	18.0" (458mm)	21.2" (538mm)
T/U	33.1 lbs. (15.0kg)	19.6" (498mm)	22.8" (578mm)

## Ordering Information

Example: OSQ-A-UA-60D-B-40K-UL-SV-N

OSQ	A					UL		N
Product	Version	Mounting	Optic	Input Power Designator	CCT	Voltage	Color Options	Utility Label/Receptacle
OSQ	A	<b>UA</b> 45° Utility Arm w/8' 14/3 AWG Cord Side Exit <b>UB</b> 45° Utility Arm w/8' 14/3 AWG Cord End Exit <b>UC</b> Direct Arm Mount - Standard 2" (51mm) bolt spacing - Shipped separately - Field-installed <b>UD</b> Trunnion Mount - Adjustable from 0-45° in 15° increments	<b>Asymmetric</b> <b>3ME</b> Type III Medium <b>Symmetric</b> <b>60D</b> 60° Flood	<b>B</b> 86W <b>K</b> 130W <b>T</b> 166W <b>U</b> 215W <b>Z</b> 53W	<b>30K</b> 3000K <b>40K</b> 4000K	<b>UL</b> Universal 120-277V	<b>BZ</b> Bronze <b>SV</b> Silver	<b>N</b> <b>Utility Label and NEMA® 7-Pin Photocell Receptacle</b> - External wattage label per ANSI C136.15 - 7-pin receptacle per ANSI C136.41 - Intended for downlight applications with maximum 45° tilt - Factory connected 0-10V dim leads - Three conductor cord exits luminaire - Requires photocell or shorting cap by others



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## Product Specifications


### CONSTRUCTION & MATERIALS

- Slim, low profile design minimizes wind load requirements
- Luminaire housing is rugged die cast aluminum with an integral, weathertight LED driver compartment and high-performance heat sink
- Rugged die cast aluminum utility arm mounts (UA and UB) are preset to 45°, and mount to 2" (51mm) IP, 2.375" (60mm) O.D. tenon
- Utility arm mounts (UA and UB) can be field adjusted in 2.5° increments. Maximum tilt 45°
- Includes 8' (2.4m) 14/3 AWG SEOW black cord exiting the side of the mounting arm through watertight fitting (UA mount) or the end of the mounting arm (UB mount)
- UC direct arm mounts are rugged die cast aluminum and provide convenient interlocking mounting method
- UC direct arm mounts to 3" (76mm) or larger square or round pole and secures with two 5/16-18 UNC bolts spaced on 2" (51mm) center
- UC mount includes 12" (305mm) 18/5 or 16/5 leads exiting the luminaire
- UD trunnion mount is constructed of A500 and A1011 steel and is adjustable from 0-45° in 15° degree increments, factory preset to 45 degrees. Trunnion mount secures to surface with (1) 3/4" bolt or (2) 1/2" or 3/8" bolts
- UD mount includes 8' (2.4m) 14/3 cord exiting the luminaire
- Comes standard with Utility Label per ANSI C136.15 and 7-pin NEMA® Photocell Receptacle per ANSI C136.41
- Exclusive Colorfast DeltaGuard® finish features an E-Coat epoxy primer with an ultra-durable powder topcoat, providing excellent resistance to corrosion, ultraviolet degradation and abrasion. Bronze and silver are available
- **Weight:** See Weight Chart on pages 1 and 3

### ELECTRICAL SYSTEM

- **Input Voltage:** 120-277V, 50/60Hz, Class 1 drivers
- **Power Factor:** > 0.9 at full load
- **Total Harmonic Distortion:** < 20% at full load
- Integral 10kV surge suppression protection standard
- When code dictates fusing, a slow blow fuse or type C/D breaker should be used to address inrush current
- **Maximum 10V Source Current:** 1mA

### REGULATORY & VOLUNTARY QUALIFICATIONS

- cULus Listed
- Suitable for wet locations
- Certified to ANSI C136.31-2001, 3G bridge and overpass vibration standards
- ANSI C136.2 10kV surge protection, tested in accordance with IEEE/ANSI C62.41.2
- Meets FCC Part 15, Subpart B, Class A limits for conducted and radiated emissions
- Luminaire and finish endurance tested to withstand 5,000 hours of elevated ambient salt fog conditions as defined in ASTM Standard B 117
- Meets Buy American requirements within ARRA
- DLC and DLC Premium qualified versions available. Please refer to <https://www.designlights.org/search/> for most current information
- RoHS compliant. Consult factory for additional details
-  **CA RESIDENTS WARNING:** Cancer and Reproductive Harm – [www.p65warnings.ca.gov](http://www.p65warnings.ca.gov)

Electrical Data*					
Input Power Designator	System Watts 120-277V	Total Current (A)			
		120V	208V	240V	277V
B	86	0.73	0.43	0.37	0.32
K	130	1.09	0.65	0.56	0.49
T	166	1.41	0.83	0.72	0.62
U	215	1.83	1.08	0.93	0.81
Z	53	0.46	0.26	0.22	0.19

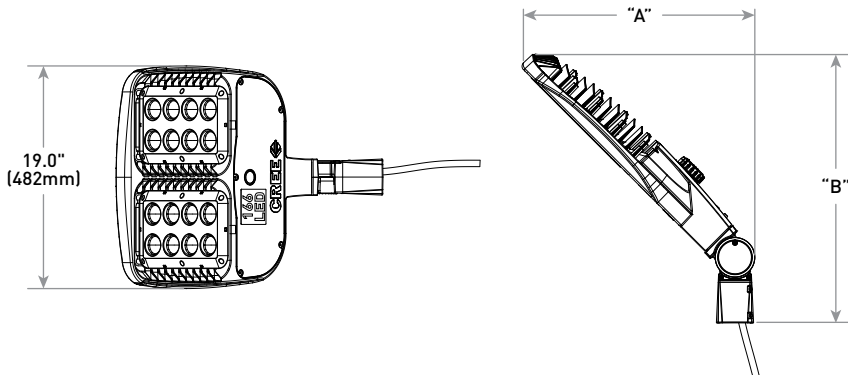
\* Electrical data at 25°C (77°F). Actual wattage may differ by +/- 10% when operating between 120-277V +/-10%

OSQ Series Ambient Adjusted Lumen Maintenance <sup>1</sup>						
Ambient	Optic	Initial LMF	25K hr Reported <sup>2</sup> LMF	50K hr Reported <sup>2</sup> LMF	75K hr Reported <sup>2</sup> LMF	100K hr Reported <sup>2</sup> LMF
5°C (41°F)	Asymmetric	1.04	1.03	1.01	0.99	0.97
	Symmetric	1.05	1.04	1.03	1.03	1.02
10°C (50°F)	Asymmetric	1.03	1.02	1.00	0.98	0.96
	Symmetric	1.04	1.03	1.02	1.01	1.00
15°C (59°F)	Asymmetric	1.02	1.01	0.99	0.97	0.95
	Symmetric	1.02	1.02	1.01	1.00	0.99
20°C (68°F)	Asymmetric	1.01	1.00	0.98	0.96	0.94
	Symmetric	1.01	1.01	1.00	0.99	0.98
25°C (77°F)	Asymmetric	1.00	0.99	0.97	0.95	0.93
	Symmetric	1.00	0.99	0.98	0.98	0.97

<sup>1</sup> Lumen maintenance values at 25°C (77°F) are calculated per IES TM-21 based on IES LM-80 report data for the LED package and in-situ luminaire testing. Luminaire ambient temperature factors (LATF) have been applied to all lumen maintenance factors. Please refer to the [Temperature Zone Reference Document](#) for outdoor average nighttime ambient conditions.

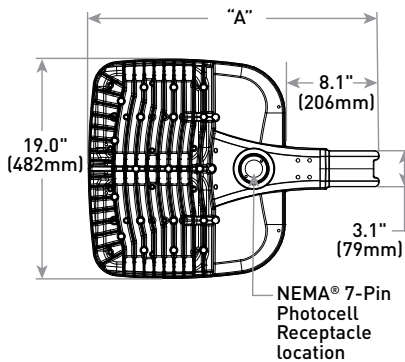
<sup>2</sup> In accordance with IES TM-21, Reported values represent interpolated values based on time durations that are up to 6x the tested duration in the IES LM-80 report for the LED.

UB Mount



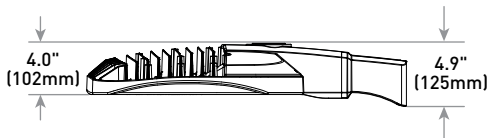
Input Power Designator	Weight	DIM "A"	DIM "B"
B/K/Z	29.5 lbs. [13.4kg]	18.0" [458mm]	21.2" [538mm]
T/U	33.1 lbs. [15.0kg]	19.6" [498mm]	22.8" [578mm]

UC Mounts

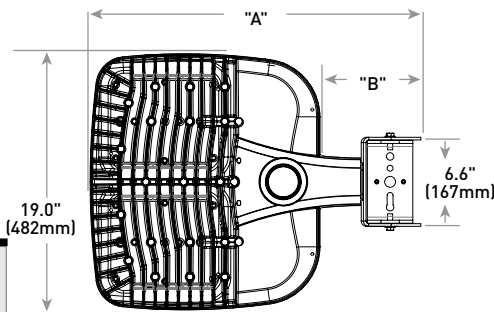


Input Power Designator	Weight	DIM "A"
B/K/Z	28.9 lbs. [13.1kg]	25.0" [635mm]
T/U	32.4 lbs. [14.7kg]	27.2" [691mm]

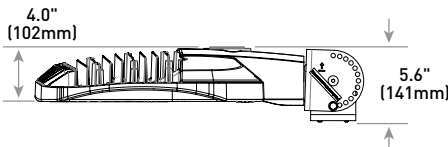
UC Mount



UD Mount



Input Power Designator	Weight	DIM "A"	DIM "B"
B/K/Z	32.6 lbs. [14.8kg]	24.4" [619mm]	5.6" [189.0mm]
T/U	36.1 lbs. [16.4kg]	26.6" [675mm]	7.4" [189mm]

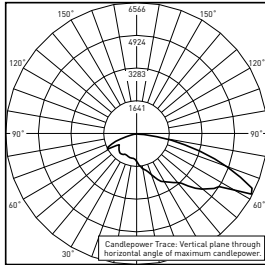


## OSQ™ LED Utility Flood Luminaire

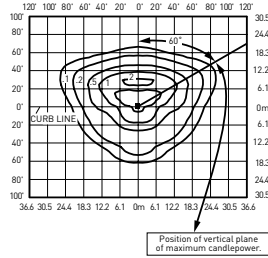
### Photometry

All published luminaire photometric testing performed to IES LM-79-08 standards. To obtain an IES file specific to your project consult:  
<http://creelighting.com/osq-series-utility>

#### 3ME



RESTL Test Report #: PL08876-001A  
 OSQ-A\*\*-3ME-B-30K-UL  
 Initial Delivered Lumens: 10,421



OSQ-A\*\*-3ME-B-40K-UL  
 Mounting Height: 25' (7.6m) A.F.G.  
 Initial Delivered Lumens: 11,424  
 Initial FC at grade

#### Type III Medium Distribution

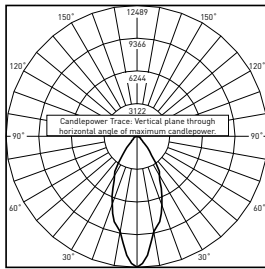
Input Power Designator	3000K	4000K
	Initial Delivered Lumens*	Initial Delivered Lumens*
B	10,738	11,424
K	16,022	16,959
T	20,688	21,902
U	25,246	26,583
Z	6,481	6,896

\* Initial delivered lumens at 25°C (77°F). Actual production yield may vary between -10 and +10% of initial delivered lumens

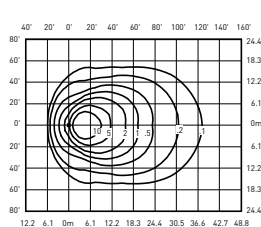
### Photometry

All published luminaire photometric testing performed to IES LM-79-08 standards. To obtain an IES file specific to your project consult:  
<http://creelighting.com/osq-series-utility>

#### 60D



CESTL Test Report #: PL08100-001B  
 OSQ-A\*\*-60D-B-30K-UL  
 Initial Delivered Lumens: 10,079



OSQ-A\*\*-60D-T-40K-UL  
 Mounting Height: 25' (7.6m) A.F.G., 60° Tilt  
 Initial Delivered Lumens: 22,675  
 Initial FC at grade

#### 60° Flood Distribution

Input Power Designator	3000K	4000K
	Initial Delivered Lumens*	Initial Delivered Lumens*
B	10,806	11,478
K	15,909	16,897
T	21,349	22,675
U	24,527	26,051
Z	5,552	6,428

\* Initial delivered lumens at 25°C (77°F). Actual production yield may vary between -10 and +10% of initial delivered lumens







### Luminaire EPA

Utility Arms (UA/UB) – B/K/Z Input Power Designator Weight: 29.5 lbs. (13.4kg); T/U Input Power Designator Weight: 33.1 lbs. (15.0kg)						
	Single	2 @ 180°	2 @ 90°	3 @ 90°	3 @ 120°	4 @ 90°
Input Power Designator						
45° Tilt						
B/K/Z	1.96	1.96	2.69	3.43	4.54	5.38
T/U	2.20	2.20	3.00	3.80	5.07	6.00

Note: For tilt angles other than 45°, refer to OSQ Series LED Area/Flood luminaire spec sheets



## OSQ™ LED Utility Flood Luminaire

Direct Arm Mounts (UC) – B/K/Z Input Power Designator Weight: 28.9 lbs. (13.1kg); T/U Input Power Designator Weight: 32.4 lbs. (14.7kg)						
	Single	2 @ 180°	2 @ 90°	3 @ 90°	3 @ 120°	4 @ 90°
Input Power Designator						
						
Direct Arm						
B/K/Z	0.74	1.48	1.19 <sup>1</sup>	1.93 <sup>1</sup>	1.63 <sup>1, 2</sup>	2.38 <sup>1</sup>
T/U	0.80	1.61	1.26 <sup>1</sup>	2.06 <sup>1</sup>	1.68 <sup>1, 2</sup>	2.52 <sup>1</sup>

**Note:**

<sup>1</sup> Not suitable for use with 3" square or round poles

<sup>2</sup> Not suitable for use with square poles

Medium Trunnion Mount – OSQ-TM Weight: 32.6 lbs. (14.8kg)	
Single	
0° Tilt	
0.75	
15° Tilt	
0.99	
30° Tilt	
1.57	
45° Tilt	
2.07	

Large Trunnion Mount – OSQ-TM Weight: 36.1 lbs. (16.4kg)	
Single	
0° Tilt	
0.81	
15° Tilt	
1.12	
30° Tilt	
1.74	
45° Tilt	
2.35	

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**CREE**  **LIGHTING**

A COMPANY OF IDEAL INDUSTRIES, INC.

# Traveyo® Series

Traveyo® LED Street/Area Luminaire - Medium

Rev. Date: V9 01/22/2021

## Product Description

The Cree Lighting Traveyo Series luminaire provides solid performance, future-ready engineering and a better than expected lighting experience. The TRVMD LED Street/Area luminaire offers a full range of optics and CCTs to meet the needs of the application while maintaining the familiarity of a traditional cobrahead design. Designed for easy installation, the Traveyo luminaire features tool-less entry, tool-less rotatable 7-pin photocell receptacle, T-level and +/- 5° fixture leveling. Typical replacement: 150-200W HPS.

**Applications:** Collector roadways, parking lots, and general area spaces

## Performance Summary

**Initial Delivered Lumens:** Up to 11,050

**Efficacy:** Up to 150 LPW

**CRI:** Minimum 70 CRI

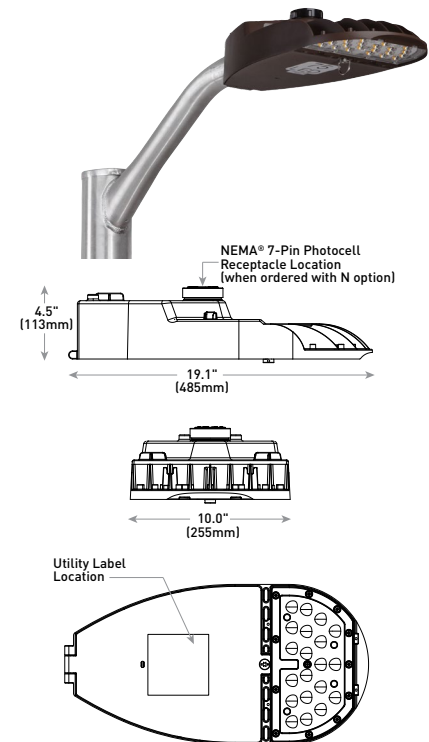
**CCT:** 2700K, 3000K, 4000K, 5700K, Amber

**Limited Warranty\*:** 5 years standard on luminaire and finish, 10 years optional on luminaire and finish

\*See <http://creelighting.com/warranty> for warranty terms

## Accessories

Field-Installed	
<b>Bird Spikes</b> TRV-BRDGRDM	<b>Cul-De-Sac Shield</b> TRV-CLSM - Provides backlight and sidelight control - Black painted aluminum construction - Lumen multiplier (2ME/3ME/4ME): 0.75
<b>Backlight Control Shield</b> TRV-BLSM - Provides 1 mounting height cutoff - Black painted aluminum construction - Refer to initial delivered lumen tables for lumen output	<b>Front Light Shield</b> TRV-FLSM - Provides front light control - Black painted aluminum construction - Lumen multiplier (2ME/3ME): 0.91 - Lumen multiplier (4ME): 0.84
<b>Shorting Cap</b> XA-XSLSHRT	



## Weight

8.6 lbs. [3.9kg]

## Ordering Information

Example: TRVMD-A-HT-2ME-8L-27K7-UL-BK-N

TRVMD	A	HT							
Product	Version	Mounting*	Optic	Lumen Package***	CCT/CRI	Voltage	Color Options	Utility Label/Receptacle	Options
TRVMD Medium	A	HT Horizontal Tenon	<b>Asymmetric</b> <b>2ME**</b> Type II Medium <b>3ME**</b> Type III Medium <b>4ME**</b> Type IV Medium <b>Symmetric</b> <b>5ME</b> Type V Medium	<b>8L</b> 8,000 Lumens <b>10L</b> 10,000 Lumens	<b>27K7</b> 2700K, 70 CRI <b>30K7</b> 3000K, 70 CRI <b>40K7</b> 4000K, 70 CRI <b>57K7</b> 5700K, 70 CRI	<b>UL</b> Universal 120-277V <b>UH</b> Universal 347-480V - Not available with TRL CCT	<b>BK</b> Black <b>BZ</b> Bronze <b>GY</b> Grey	<b>N</b> <b>Utility Label and NEMA® 7-Pin Photocell Receptacle</b> - External wattage label per ANSI C136.15 - 7-pin receptacle per ANSI C136.41 - Factory connected 0-10V dim leads - Requires photocell or shorting cap by others <b>U</b> <b>Utility Label</b> - External wattage label per ANSI C136.15 - Does not have NEMA 7-Pin receptacle - Dimming leads capped off in luminaire - Not available with MX or ZZ options	<b>20KV</b> <b>20kV/10kA Surge Suppression</b> <b>DLI</b> <b>DALI Compatible</b> - Available with UL voltage only - Not available with MX, Q, or ZZ options <b>EXPD</b> <b>Expedited Shipping</b> - Refer to Traveyo Logistics Options table on page 2 for details and availability - Assembled in the U.S.A. of U.S. and imported parts <b>MX</b> <b>Shipment to Mexico</b> - Refer to Traveyo Logistics Options table on page 2 for details and availability <b>Q9/Q8/Q7/Q6/Q5/Q4/Q3/Q2/Q1</b> <b>Field Adjustable Output (details pages 8-9)</b> - Must select Q9, Q8, Q7, Q6, Q5, Q4, Q3, Q2, or Q1 - Not available with TRL CCT - Offers full range lumen adjustability - Includes wattage label for setting selected - Refer to pages 8-9 for power and lumen values - Luminaire may also be dimmed through 7-Pin receptacle (if applicable) with use of dimming control by others <b>W10</b> <b>10-Year Limited Luminaire/Finish Warranty</b> <b>ZC</b> <b>Shipment to Canada</b> - Refer to Traveyo Logistics Options table on page 2 for details and availability <b>ZZ</b> <b>International Shipment</b> - Refer to Traveyo Logistics Options table on page 2 for details and availability
				<b>3L</b> 3,000 Lumens - Available only with TRL	<b>TRL</b> Turtle Friendly Amber LEDs, 625nm - Available only with 3L - Additional shielding (by others) may be required for Florida Fish and Wildlife Conservation Commission compliance				

\* Reference EPA and pole configuration suitability data on page 6-7

\*\* Available with Backlight Shield when ordered with field-installed accessory (see table above)

\*\*\* Lumen Package codes identify approximate light output only. Actual lumen output levels may vary depending on CCT and optic selection. Refer to Initial Delivered Lumen tables for specific lumen values



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## Product Specifications


### CONSTRUCTION & MATERIALS

- Die cast LM6 (A413) aluminum housing and door
- Stainless steel (304) hardware
- Tool-less entry
- Mounts on 1.25" [32mm] IP, 1.66" [42mm] O.D. or 2" [51mm] IP, 2.375" [60mm] O.D. horizontal tenon (minimum 5.9" [150mm] in length) and is adjustable +/- 5° to allow for fixture leveling (includes two axis T-level to aid in leveling)
- Luminaire secures with two 304 stainless steel mounting bolts
- N option includes Utility Label per ANSI C136.15 and 7-pin NEMA® Photocell Receptacle per ANSI C136.41
- Weight:** 8.6 lbs. [3.9kg]

### ELECTRICAL SYSTEM

- Input Voltage:** 120-277V or 347-480V, 50/60Hz
- Power Factor:** > 0.9 at full load
- Total Harmonic Distortion:** < 20% at full load
- Integral 10kV surge suppression protection standard; 20kV surge suppression protection optional
- When code dictates fusing, a slow blow fuse or type C/D breaker should be used to address inrush
- Straight-in wiring to 6-14 AWG terminal block
- Designed with 0-10V dimming capabilities. Controls by others
- luminaires with utility label (U option) in lieu of NEMA 7-Pin receptacle have dimming leads capped off in luminaire
- 10V Source Current:** 0.15mA
- Luminaires with DLI option are DALI compatible per IEC 62386
- Operating Temperature Range:** -40°C - +50°C [-40°F - +122°F]

### REGULATORY & VOLUNTARY QUALIFICATIONS

- cULus Listed
- Suitable for wet locations
- NOM Certified when ordered with MX option or ZZ option shipping to Mexico. Exceptions apply with DLI and U options
- Optic and LED area tested to IP66 per IEC 60598-1
- Certified to ANSI C136.31-2010, 3G bridge and overpass vibration standards
- Meets CALTrans 611 Vibration testing
- ANSI C136.2 10kV (standard) and 20kV (optional) surge suppression protection tested in accordance with IEEE/ANSI C62.41.2
- Meets FCC Part 15, Subpart B, Class A limits for conducted and radiated emissions
- Luminaire was subjected to the Mixed Flowing Gas for Electrical Contacts Test according to following specifications: ASTM B 845-97, ANSI NCSL Z540-1 3, ISO 17025:2005. No lumen maintenance or color maintenance degradation was noted during testing
- RoHS compliant. Consult factory for additional details
- Dark Sky Friendly, IDA Approved when ordered with TRL, 27K7 or 30K7 CCTs. Please refer to <https://www.darksky.org/our-work/lighting/lighting-for-industry/fsa/fsa-products/> for most current information
- DLC Premium qualified. Exceptions apply when TRL or Q options are ordered. Please refer to <https://www.designlights.org/search/> for most current information
- IK09 rated housing and IK10 rated lens per IEC 62262:2002
-  **CA RESIDENTS WARNING:** Cancer and Reproductive Harm – [www.p65warnings.ca.gov](http://www.p65warnings.ca.gov)

## Product Specifications

### SYNAPSE® SIMPLYSNAP INTELLIGENT CONTROL FOR NON-STREET LIGHTING APPLICATIONS ONLY

The Traveyo Series is compatible with the Synapse® SimplySNAP platform. A highly intuitive connected lighting solution for Site and Area applications only. The system features a reliable and robust self-healing mesh network with a browser-based interface that runs on smartphones, tablets, and PCs. Using a Twist-Lock Lighting Controller and Site Controller, SimplySnap provides: energy productivity, code compliance and a better light experience for non-street lighting installations. SimplySNAP is optimized to create and manage networks for campus wide Area and Site applications which differs from networking requirements for street lighting applications.

Synapse Wireless Control Accessories (for Non-Street Lighting Applications only)	
<b>Twist-Lock Lighting Controller</b> TL7-B2 - Suitable for 120-277V [UL] voltage only - Requires NEMA/ANSI C136.41 7-Pin Dimming Receptacle - Not for use with Q options - Provides On/Off switching, dimming, power metering, digital sensor input, and status monitoring of luminaires - Refer to <a href="#">TL7-B2</a> spec sheet for details <b>SimplySNAP Central Base Station</b> CBS5W-450-002 - Includes On-Site Controller (SS450-002) and 5-button switch - Indoor and Outdoor rated - Refer to <a href="#">CBS5W-450-002</a> spec sheet for details <b>Synapse Wireless Sensor</b> WSN-DPM - Motion and light sensor - Control multiple zones - Refer to <a href="#">WSN-DPM</a> spec sheet for details	<b>SimplySNAP On-Site Controller</b> SS450-002 - Verizon® LTE-enabled - Designed for indoor applications - Refer to <a href="#">SS450-002</a> spec sheet for details <b>Building Management System (BMS) Gateway</b> BMS-GW-002 - Required for BACnet integration - Refer to <a href="#">BMS-GW-002</a> spec sheet for details <b>Outdoor Antennas</b> <b>(Optional, for increased range, 8dB gain)</b> KIT-ANT420SM - Kit includes antenna, 20' cable and bracket KIT-ANT360 - Kit includes antenna, 30' cable and bracket KIT-ANT600 - Kit includes antenna, 50' cable and bracket - Refer to <a href="#">Outdoor antenna spec sheet</a> for details

Electrical Data*								
Lumen Package	CCT/CRI	System Watts 120-480V**	Utility Label Wattage	Total Current (A)				
				120V	208V	240V	277V	347V**
3L	TRL	44	40	0.37	0.22	0.19	0.17	N/A
8L	27K7, 30K7, 40K7, 57K7	57	60	0.48	0.28	0.24	0.21	0.16
10L	27K7, 30K7, 40K7, 57K7	77	80	0.65	0.37	0.32	0.29	0.22

\* Electrical data at 25°C (77°F). Actual wattage may differ by +/- 10% when operating between 120-277V or 347-480V +/- 10%.  
 \*\* 347-480V not available with TRL or DLI.

Traveyo® Series Ambient Adjusted Lumen Maintenance¹						
Ambient	CCT/CRI	Initial LMF	25K hr Reported² LMF	50K hr Reported² LMF	75K hr Reported²/ Estimated³ LMF	100K hr Reported²/ Estimated³ LMF
5°C (41°F)	TRL	1.14	1.06	1.01	0.96²	0.91²
	27K7, 30K7, 40K7, 57K7	1.01	0.93	0.86	0.80³	0.74³
10°C (50°F)	TRL	1.10	1.02	0.97	0.92²	0.88²
	27K7, 30K7, 40K7, 57K7	1.01	0.93	0.86	0.80³	0.74³
15°C (59°F)	TRL	1.07	0.99	0.94	0.90²	0.85²
	27K7, 30K7, 40K7, 57K7	1.01	0.93	0.86	0.80³	0.74³
20°C (68°F)	TRL	1.03	0.95	0.91	0.87²	0.82²
	27K7, 30K7, 40K7, 57K7	1.00	0.93	0.86	0.79³	0.73³
25°C (77°F)	TRL	1.00	0.93	0.88	0.84²	0.80²
	27K7, 30K7, 40K7, 57K7	1.00	0.93	0.86	0.79³	0.73³

¹ Lumen maintenance values at 25°C (77°F) are calculated per IES TM-21 based on IES LM-80 report data for the LED package and in-situ luminaire testing. Luminaire ambient temperature factors (LATF) have been applied to all lumen maintenance factors. Please refer to the [Temperature Zone Reference Document](#) for outdoor average nighttime ambient conditions.

² In accordance with IES TM-21, Reported values represent interpolated values based on time durations that are up to 6x the tested duration in the IES LM-80 report for the LED.

³ Estimated values are calculated and represent time durations that exceed the 6x test duration of the LED.

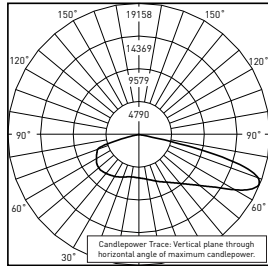
Traveyo® Logistics Options				
These options cannot be combined. Must order standard (no option selected), or only one of EXPD, MX, ZC or ZZ.				
Standard	EXPD	MX	ZC	ZZ
	Expedited shipping in USA	For shipments to Mexico	For shipments to Canada	For shipments outside of USA, U.S. territories, and Canada
cULus	cULus	cULus, NOM	cULus	cULus, NOM

## TRVMD LED Street/Area Luminaire - Medium

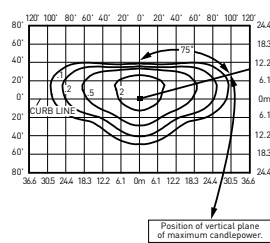
### Photometry

All published luminaire photometric testing performed to IES LM-79-08 standards. To obtain an IES file specific to your project consult:  
<https://creelighting.com/products/outdoor/street-and-roadway/traveyo-series-street>

#### 2ME



**CESTL Test Report #:** PL13776-001A  
**TRVXL-A-\*\*-2ME-30L-40K7-UL-\*\*-N**  
**Initial Delivered Lumens:** 31,775

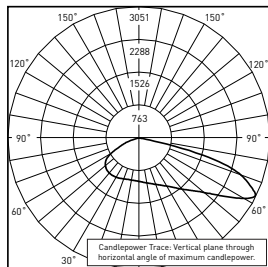


**TRVMD-A-\*\*-2ME-10L-40K7-UL-\*\*-N**  
**Mounting Height:** 25' (7.6m) A.F.G.  
**Initial Delivered Lumens:** 11,000  
**Initial FC at grade**

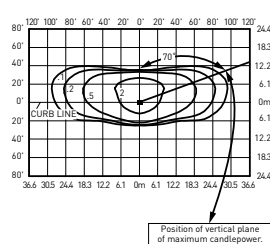
Type II Medium Distribution										
Lumen Package	2700K		3000K		4000K		5700K		TRL	
	Initial Delivered Lumens*	BUG Ratings** Per TM-15-11	Initial Delivered Lumens*	BUG Ratings** Per TM-15-11	Initial Delivered Lumens*	BUG Ratings** Per TM-15-11	Initial Delivered Lumens*	BUG Ratings** Per TM-15-11	Initial Delivered Lumens	BUG Ratings** Per TM-15-11
3L	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	3,430	B1 U0 G1
8L	7,950	B2 U0 G2	8,275	B2 U0 G2	8,475	B2 U0 G2	8,525	B2 U0 G2	N/A	N/A
10L	10,300	B2 U0 G2	10,725	B2 U0 G2	11,000	B2 U0 G2	11,050	B2 U0 G2	N/A	N/A

\* Initial delivered lumens at 25°C (77°F). Actual production yield may vary between -10 and +10% of initial delivered lumens

\*\* For more information on the IES BUG (Backlight-Uplight-Glare) Rating visit: <https://www.ies.org/wp-content/uploads/2017/03/TM-15-11BUGRatingsAddendum.pdf>



**CESTL Test Report #:** PL13936-001A  
**TRVSM-A-\*\*-2ME-5L-40K7-UL-\*\*-N**  
**w/TRV-BLSM**  
**Initial Delivered Lumens:** 4,753



**TRVMD-A-\*\*-2ME-10L-40K7-UL-\*\*-N**  
**w/TRV-BLSM**  
**Mounting Height:** 25' (7.6m) A.F.G.  
**Initial Delivered Lumens:** 9,900  
**Initial FC at grade**

Type II Medium Distribution w/ BLS Distribution										
Lumen Package	2700K		3000K		4000K		5700K		TRL	
	Initial Delivered Lumens*	BUG Ratings** Per TM-15-11	Initial Delivered Lumens*	BUG Ratings** Per TM-15-11	Initial Delivered Lumens*	BUG Ratings** Per TM-15-11	Initial Delivered Lumens*	BUG Ratings** Per TM-15-11	Initial Delivered Lumens	BUG Ratings** Per TM-15-11
3L	N/A	N/A		N/A	N/A	N/A	N/A	N/A	3,090	B1 U0 G1
8L	7,150	B2 U0 G1	7,450	B2 U0 G1	7,625	B2 U0 G1	7,675	B2 U0 G1	N/A	N/A
10L	9,275	B2 U0 G2	9,650	B2 U0 G2	9,900	B2 U0 G2	9,950	B2 U0 G2	N/A	N/A

\* Initial delivered lumens at 25°C (77°F). Actual production yield may vary between -10 and +10% of initial delivered lumens

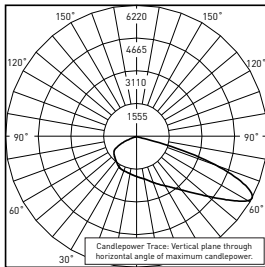
\*\* For more information on the IES BUG (Backlight-Uplight-Glare) Rating visit: <https://www.ies.org/wp-content/uploads/2017/03/TM-15-11BUGRatingsAddendum.pdf>

## Photometry

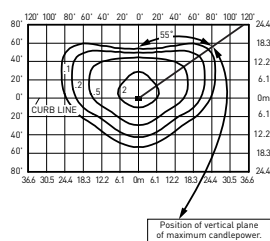
All published luminaire photometric testing performed to IES LM-79-08 standards. To obtain an IES file specific to your project consult:

<https://creelighting.com/products/outdoor/street-and-roadway/traveyo-series-street>

### 3ME



**CESTL Test Report #:** PL13957-001A  
**TRVMD-A-\*\*-3ME-10L-40K7-UL-\*\*-N**  
**Initial Delivered Lumens:** 10,739

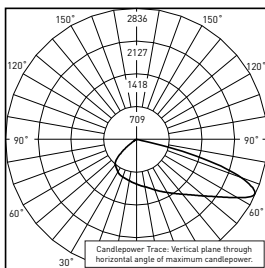


**TRVMD-A-\*\*-3ME-10L-40K7-UL-\*\*-N**  
**Mounting Height:** 25' (7.6m) A.F.G.  
**Initial Delivered Lumens:** 11,000  
**Initial FC at grade**

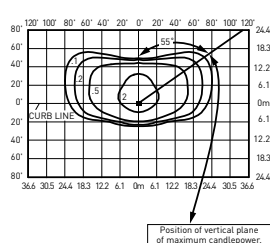
Type III Medium Distribution									
Lumen Package	2700K		3000K		4000K		5700K		TRL
	Initial Delivered Lumens*	BUG Ratings** Per TM-15-11	Initial Delivered Lumens*	BUG Ratings** Per TM-15-11	Initial Delivered Lumens*	BUG Ratings** Per TM-15-11	Initial Delivered Lumens*	BUG Ratings** Per TM-15-11	Initial Delivered Lumens
3L	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	3,430
8L	7,950	B2 U0 G1	8,275	B2 U0 G1	8,475	B2 U0 G1	8,525	B2 U0 G1	N/A
10L	10,300	B2 U0 G2	10,725	B2 U0 G2	11,000	B2 U0 G2	11,050	B2 U0 G2	N/A

\* Initial delivered lumens at 25°C (77°F). Actual production yield may vary between -10 and +10% of initial delivered lumens

\*\* For more information on the IES BUG (Backlight-Uplight-Glare) Rating visit: <https://www.ies.org/wp-content/uploads/2017/03/TM-15-11BUGRatingsAddendum.pdf>



**CESTL Test Report #:** PL13937-001A  
**TRVSM-A-\*\*-3ME-5L-40K7-UL-\*\*-N**  
**w/TRV-BLS**  
**Initial Delivered Lumens:** 4,834



**TRVMD-A-\*\*-3ME-10L-40K7-UL-\*\*-N**  
**w/TRV-BLSM**  
**Mounting Height:** 25' (7.6m) A.F.G.  
**Initial Delivered Lumens:** 9,900  
**Initial FC at grade**

Type III Medium Distribution w/ BLS Distribution									
Lumen Package	2700K		3000K		4000K		5700K		TRL
	Initial Delivered Lumens*	BUG Ratings** Per TM-15-11	Initial Delivered Lumens*	BUG Ratings** Per TM-15-11	Initial Delivered Lumens*	BUG Ratings** Per TM-15-11	Initial Delivered Lumens*	BUG Ratings** Per TM-15-11	Initial Delivered Lumens
3L	N/A	N/A		N/A	N/A	N/A	N/A	N/A	3,090
8L	7,150	B2 U0 G1	7,450	B2 U0 G1	7,625	B2 U0 G1	7,675	B2 U0 G1	N/A
10L	9,275	B2 U0 G2	9,650	B2 U0 G2	9,900	B2 U0 G2	9,950	B2 U0 G2	N/A

\* Initial delivered lumens at 25°C (77°F). Actual production yield may vary between -10 and +10% of initial delivered lumens

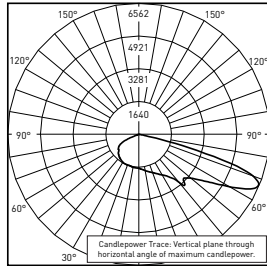
\*\* For more information on the IES BUG (Backlight-Uplight-Glare) Rating visit: <https://www.ies.org/wp-content/uploads/2017/03/TM-15-11BUGRatingsAddendum.pdf>

## TRVMD LED Street/Area Luminaire - Medium

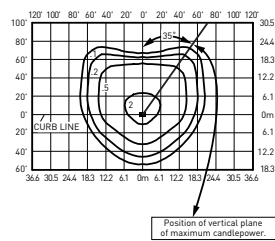
### Photometry

All published luminaire photometric testing performed to IES LM-79-08 standards. To obtain an IES file specific to your project consult:  
<https://creelighting.com/products/outdoor/street-and-roadway/traveyo-series-street>

#### 4ME



**CESTL Test Report #:** PL13627-001A  
**TRVMD-A-\*\*-4ME-10L-40K7-UL-\*\*-N**  
**Initial Delivered Lumens:** 10,791

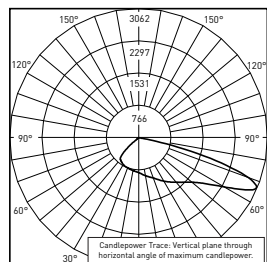


**TRVMD-A-\*\*-4ME-10L-40K7-UL-\*\*-N**  
**Mounting Height:** 25' (7.6m) A.F.G.  
**Initial Delivered Lumens:** 11,000  
**Initial FC at grade**

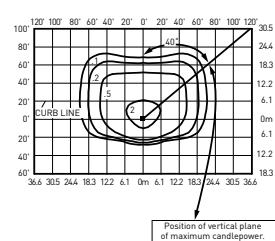
Type IV Medium Distribution										
Lumen Package	2700K		3000K		4000K		5700K		TRL	
	Initial Delivered Lumens*	BUG Ratings** Per TM-15-11	Initial Delivered Lumens*	BUG Ratings** Per TM-15-11	Initial Delivered Lumens*	BUG Ratings** Per TM-15-11	Initial Delivered Lumens*	BUG Ratings** Per TM-15-11	Initial Delivered Lumens	BUG Ratings** Per TM-15-11
3L	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	3,430	B1 U0 G1
8L	7,950	B2 U0 G2	8,275	B2 U0 G2	8,475	B2 U0 G2	8,525	B2 U0 G2	N/A	N/A
10L	10,300	B2 U0 G2	10,725	B2 U0 G2	11,000	B2 U0 G2	11,050	B2 U0 G2	N/A	N/A

\* Initial delivered lumens at 25°C (77°F). Actual production yield may vary between -10 and +10% of initial delivered lumens

\*\* For more information on the IES BUG (Backlight-Uplight-Glare) Rating visit: <https://www.ies.org/wp-content/uploads/2017/03/TM-15-11BUGRatingsAddendum.pdf>



**CESTL Test Report #:** PL14011-001A  
**TRVMD-A-\*\*-4ME-10L-40K7-UL-\*\*-N**  
**Initial Delivered Lumens:** 4,696



**TRVMD-A-\*\*-4ME-10L-40K7-UL-\*\*-N**  
**Mounting Height:** 25' (7.6m) A.F.G.  
**Initial Delivered Lumens:** 9,900  
**Initial FC at grade**

Type IV Medium Distribution w/ BLS Distribution										
Lumen Package	2700K		3000K		4000K		5700K		TRL	
	Initial Delivered Lumens*	BUG Ratings** Per TM-15-11	Initial Delivered Lumens*	BUG Ratings** Per TM-15-11	Initial Delivered Lumens*	BUG Ratings** Per TM-15-11	Initial Delivered Lumens*	BUG Ratings** Per TM-15-11	Initial Delivered Lumens	BUG Ratings** Per TM-15-11
3L	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	3,090	B1 U0 G1
8L	7,150	B2 U0 G2	7,450	B2 U0 G2	7,625	B2 U0 G2	7,675	B2 U0 G2	N/A	N/A
10L	9,275	B2 U0 G2	9,650	B2 U0 G2	9,900	B2 U0 G2	9,950	B2 U0 G2	N/A	N/A

\* Initial delivered lumens at 25°C (77°F). Actual production yield may vary between -10 and +10% of initial delivered lumens

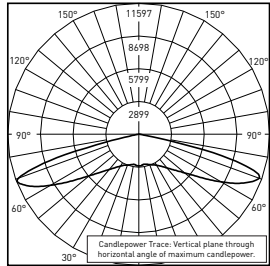
\*\* For more information on the IES BUG (Backlight-Uplight-Glare) Rating visit: <https://www.ies.org/wp-content/uploads/2017/03/TM-15-11BUGRatingsAddendum.pdf>

## TRVMD LED Street/Area Luminaire - Medium

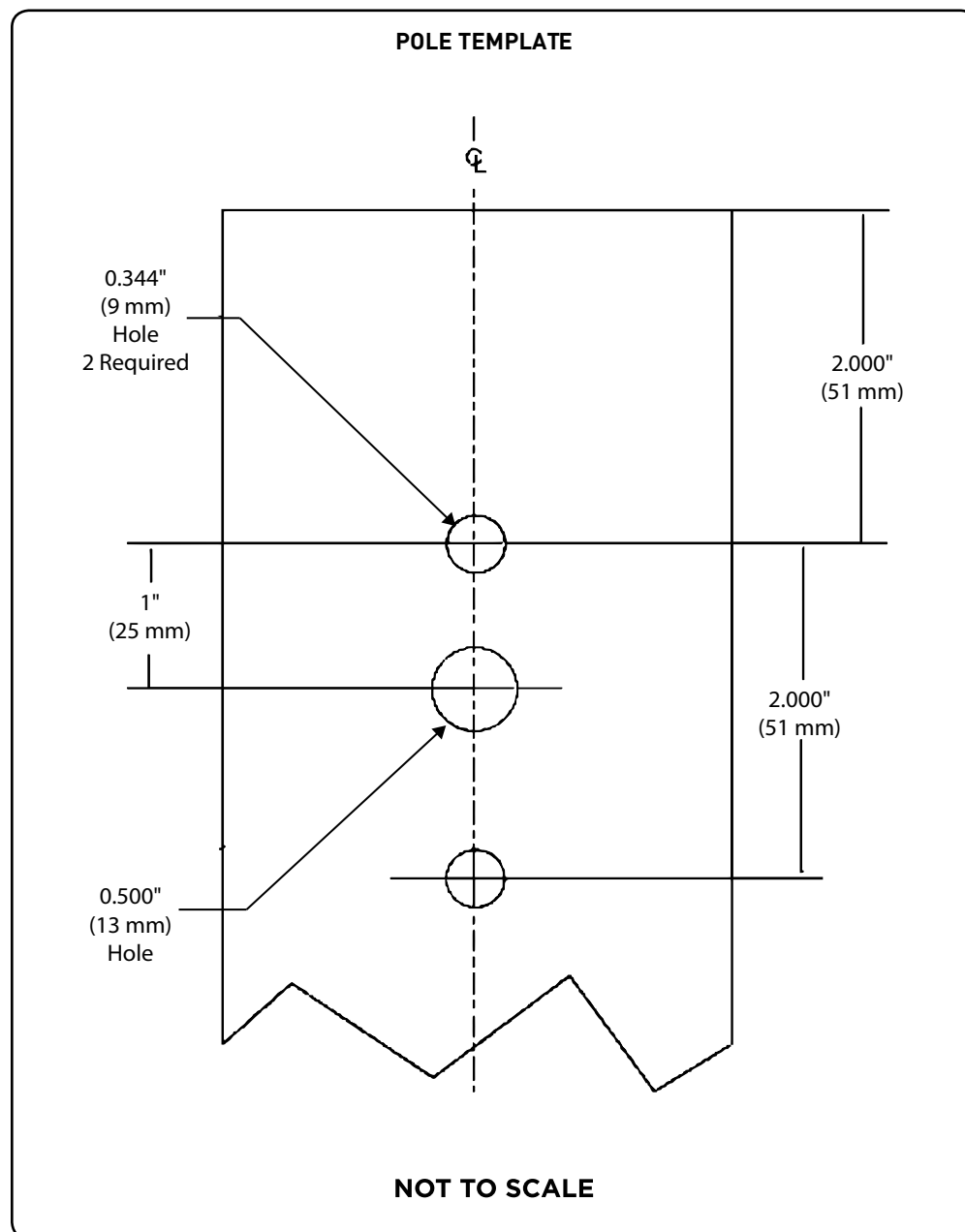
### Photometry

All published luminaire photometric testing performed to IES LM-79-08 standards. To obtain an IES file specific to your project consult:  
<https://creelighting.com/products/outdoor/street-and-roadway/traveyo-series-street>

#### 5ME



### Fixture Mounting Drill Pattern for XA-TMDA8





**Field Adjustable Output (Q9/Q8/Q7/Q6/Q5/Q4/Q3/Q2/Q1) Option Description:**

The Field Adjustable Output option enables the street and area luminaire within the Traveyo Series on this page to be tuned to the exact needs of a particular application through multiple levels of adjustment. When ordered with the Q option, the luminaire will be shipped from the factory at the selected lumen output, will be fully adjustable between the outputs, and will include a wattage label that indicates the wattage of the luminaire at the selected lumen output (Rounded to nearest 10 watts per ANSI C136.15-2015.). Additional dimming functionality is available when a dimming control (by others) is used in the 7-Pin receptacle (if applicable).

**Q Option Power & Lumen Data - 8L**

Q Option Setting	CCT/CRI	System Watts <sup>†</sup> 120-480V	Label Wattage	Lumen Values <sup>†</sup>		Optics Qualified on DLC QPL	
				2ME/3ME/4ME/5ME	2ME w/BLS, 3ME w/BLS, 4ME w/BLS	Standard	Premium
Q9	27K7	57	60	7,950	7,150		
	30K7			8,275	7,450		
	40K7			8,475	7,625		
	57K7			8,525	7,675		
Q8	27K7	53	50	7,275	6,550		
	30K7			7,575	6,825		
	40K7			7,775	6,975		
	57K7			7,800	7,025		
Q7	27K7	50	50	6,800	6,125		
	30K7			7,075	6,375		
	40K7			7,250	6,525		
	57K7			7,300	6,550		
Q6	27K7	46	50	6,350	5,725		
	30K7			6,625	5,950		
	40K7			6,775	6,100		
	57K7			6,825	6,150		
Q5	27K7	40	40	5,550	4,990		
	30K7			5,775	5,200		
	40K7			5,925	5,325		
	57K7			5,950	5,350		
Q4	27K7	38	40	5,225	4,690		
	30K7			5,425	4,890		
	40K7			5,550	5,000		
	57K7			5,600	5,025		
Q3	27K7	33	30	4,580	4,120		
	30K7			4,770	4,290		
	40K7			4,880	4,390		
	57K7			4,910	4,420		
Q2	27K7	30	30	4,130	3,720		
	30K7			4,300	3,870		
	40K7			4,410	3,970		
	57K7			4,430	3,990		
Q1	27K7	27	30	3,690	3,320		
	30K7			3,840	3,460		
	40K7			3,930	3,540		
	57K7			3,960	3,560		

<sup>†</sup> Electrical and lumen data at 25°C (77°F). Actual wattage and lumen output may differ by +/-10% when operating between 120-277V or 347-480V +/-10%. 347-480V not available with TRL or DLI.

**Field Adjustable Output (Q9/Q8/Q7/Q6/Q5/Q4/Q3/Q2/Q1) Option Description:**

The Field Adjustable Output option enables the street and area luminaire within the Traveyo Series on this page to be tuned to the exact needs of a particular application through multiple levels of adjustment. When ordered with the Q option, the luminaire will be shipped from the factory at the selected lumen output, will be fully adjustable between the outputs, and will include a wattage label that indicates the wattage of the luminaire at the selected lumen output (Rounded to nearest 10 watts per ANSI C136.15-2015.). Additional dimming functionality is available when a dimming control (by others) is used in the 7-Pin receptacle (if applicable).

**Q Option Power & Lumen Data - 10L**

Q Option Setting	CCT/CRI	System Watts <sup>†</sup> 120-480V	Label Wattage	Lumen Values <sup>†</sup>		Optics Qualified on DLC QPL	
				2ME/3ME/4ME/5ME	2ME w/BLS, 3ME w/BLS, 4ME w/BLS	Standard	Premium
Q9	27K7	77	80	10,300	9,275		
	30K7			10,725	9,650		
	40K7			11,000	9,900		
	57K7			11,050	9,950		
Q8	27K7	75	80	10,050	9,050		
	30K7			10,475	9,425		
	40K7			10,725	9,650		
	57K7			10,775	9,700		
Q7	27K7	69	70	9,300	8,375		
	30K7			9,700	8,725		
	40K7			9,950	8,950		
	57K7			10,000	9,000		
Q6	27K7	61	60	8,000	7,200		
	30K7			8,325	7,500		
	40K7			8,550	7,700		
	57K7			8,575	7,725		
Q5	27K7	53	50	7,100	6,400		
	30K7			7,400	6,650		
	40K7			7,575	6,825		
	57K7			7,625	6,850		
Q4	27K7	46	50	6,200	5,575		
	30K7			6,450	5,800		
	40K7			6,600	5,950		
	57K7			6,650	5,975		
Q3	27K7	43	40	5,725	5,175		
	30K7			5,975	5,375		
	40K7			6,125	5,525		
	57K7			6,150	5,550		
Q2	27K7	37	40	5,075	4,570		
	30K7			5,275	4,760		
	40K7			5,425	4,880		
	57K7			5,450	4,910		
Q1	27K7	33	30	4,470	4,030		
	30K7			4,650	4,190		
	40K7			4,770	4,300		
	57K7			4,800	4,320		

<sup>†</sup> Electrical and lumen data at 25°C (77°F). Actual wattage and lumen output may differ by +/-10% when operating between 120-277V or 347-480V +/-10%. 347-480V not available with TRL or DLI.

# Traveyo Series

Traveyo™ LED Street/Area Luminaire - Extra Large

## Product Description

The Cree® Traveyo Series changes expectations of the "entry-level" luminaire with solid performance, future-ready engineering and a better than expected lighting experience. The TRVXL LED Street/Area luminaire offers a full range of optics and CCTs to meet the needs of the application while maintaining the familiarity of a traditional cobrahead design. Designed for easy installation, the Traveyo luminaire features tool-less entry, tool-less rotatable PEC, T-level and +/- 5° fixture leveling. Typical replacement: 310-400W HPS.

**Applications:** Multi-lane freeways, express ways, major roads, parking lots, and general area spaces

## Performance Summary

**Initial Delivered Lumens:** Up to 32,600

**Efficacy:** Up to 155 LPW

**CRI:** Minimum 70 CRI

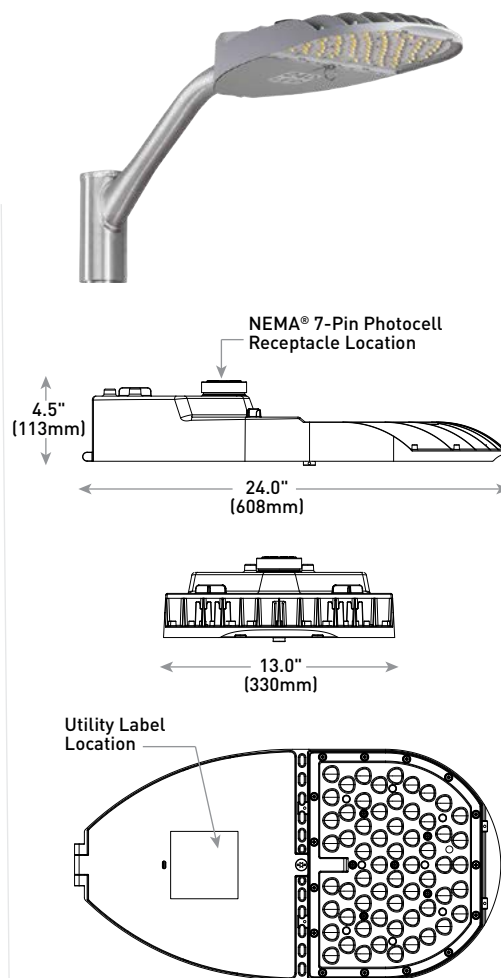
**CCT:** 2700K, 3000K, 4000K, 5700K

**Limited Warranty\*:** 5 years on luminaire/5 years on finish

\*See <http://lighting.cree.com/warranty> for warranty terms

## Accessories

Field-Installed
<b>Bird Spikes</b> TRV-BRDGRDX



## Weight

14.4 lbs. (6.5kg)

## Ordering Information

Example: TRVXL-A-HT-2ME-25L-27K7-UL-BK-N

TRVXL	A	HT						N	
Product	Version	Mounting	Optic	Lumen Package*	CCT/CRI	Voltage	Color Options	Utility Label/ Receptacle	Options
TRVXL Extra Large	A	HT Horizontal Tenon	<b>Asymmetric</b> <b>2ME</b> Type II Medium <b>3ME</b> Type III Medium <b>4ME</b> Type IV Medium <b>Symmetric</b> <b>5ME</b> Type V Medium	<b>22L</b> 22,000 Lumens <b>25L</b> 25,000 Lumens <b>27L</b> 27,000 Lumens <b>30L</b> 30,000 Lumens	<b>27K7</b> 2700K, 70 CRI <b>30K7</b> 3000K, 70 CRI <b>40K7</b> 4000K, 70 CRI <b>57K7</b> 5700K, 70 CRI	<b>UL</b> Universal 120-277V <b>UH</b> Universal 347-480V	<b>BK</b> Black <b>BZ</b> Bronze <b>GY</b> Grey	<b>N</b> <b>Utility Label and NEMA® 7-Pin Photocell Receptacle</b> - External wattage label per ANSI C136.15 - 7-pin receptacle per ANSI C136.41 - Factory connected 0-10V dim leads - Photocell or shorting cap by others	<b>20KV</b> 20kV/10kA Surge Suppression <b>4BLT</b> 4-Bolt Mounting - Mounts to 2" (51mm) IP, 2.375" (60mm) O.D. horizontal tenon <b>EXPD</b> Expedited Shipping

\* Lumen Package codes identify approximate light output only. Actual lumen output levels may vary depending on CCT and optic selection. Refer to Initial Delivered Lumen tables for specific lumen values



US: [lighting.cree.com](http://lighting.cree.com)



T (800) 236-6800 F (262) 504-5415



Rev. Date: V1 02/21/2019

Canada: [www.cree.com/canada](http://www.cree.com/canada)



T (800) 473-1234 F (800) 890-7507

## Product Specifications


### CONSTRUCTION & MATERIALS

- Die cast aluminum housing and door
- Tool-less entry
- Mounts on 1.25" [32mm] IP, 1.66" [42mm] O.D. or 2" [51mm] IP, 2.375" [60mm] O.D. horizontal tenon (minimum 8" [203mm] in length) and is adjustable +/- 5° to allow for fixture leveling (includes two axis T-level to aid in leveling)
- Luminaire secures with two mounting bolts; optional four bolt mounting available
- Comes standard with Utility Label per ANSI C136.15 and 7-pin NEMA® Photocell Receptacle per ANSI C136.41
- **Weight:** 14.4 lbs. (6.5kg)

### ELECTRICAL SYSTEM

- **Input Voltage:** 120-277V or 347-480V, 50/60Hz
- **Power Factor:** > 0.9 at full load
- **Total Harmonic Distortion:** < 20% at full load
- Integral 10kV surge suppression protection standard; 20kV surge suppression protection optional
- When code dictates fusing, a slow blow fuse or type C/D breaker should be used to address inrush
- Straight-in wiring to 6-14 AWG terminal block
- Designed with 0-10V dimming capabilities. Controls by others
- **10V Source Current:** 0.15mA
- **Operating Temperature Range:** -40°C - +40°C (-40°F - +104°F)

### REGULATORY & VOLUNTARY QUALIFICATIONS

- cULus Listed
- Suitable for wet locations
- Certified to ANSI C136.31-2010, 3G bridge and overpass vibration standards
- Meets CALTrans 611 Vibration testing
- Standard 10kV and optional 20kV surge suppression protection tested in accordance with IEEE/ANSI C62.41.2
- Meets FCC Part 15, Subpart B, Class A standards for conducted and radiated emissions
- Luminaire was subjected to the Mixed Flowing Gas for Electrical Contacts Test according to following specifications: ASTM B 845-97, ANSI NCSL Z540-1 3, ISO 17025:2005. No lumen maintenance or color maintenance degradation was noted during testing
- RoHS compliant. Consult factory for additional details
- Dark Sky Friendly, IDA Approved when ordered with 27K7 or 30K7 CCTs (Pending). Please refer to <http://darksky.org/fsa/fsa-products/> for most current information
-  **CA RESIDENTS WARNING:** Cancer and Reproductive Harm – [www.p65warnings.ca.gov](http://www.p65warnings.ca.gov)

### Electrical Data\*

Lumen Package	System Watts 120-480V	Utility Label Wattage	Total Current (A)					
			120V	208V	240V	277V	347V	480V
22L	148	150	1.25	0.72	0.62	0.54	0.43	0.31
25L	183	180	1.57	0.89	0.77	0.67	0.52	0.38
27L	182	180	1.54	0.87	0.76	0.66	0.53	0.38
30L	219	220	1.87	1.06	0.92	0.80	0.63	0.46

\* Electrical data at 25°C (77°F). Actual wattage may differ by +/- 10% when operating between 120-277V or 347-480V +/- 10%

### Traveyo Series Ambient Adjusted Lumen Maintenance<sup>1</sup>

Ambient	Initial LMF	25K hr Projected <sup>2</sup> LMF	50K hr Projected <sup>2</sup> LMF	75K hr Calculated <sup>3</sup> LMF	100K hr Calculated <sup>3</sup> LMF
5°C (41°F)	1.01	0.94	0.87	0.80	0.74
10°C (50°F)	1.01	0.94	0.87	0.80	0.74
15°C (59°F)	1.01	0.94	0.87	0.80	0.74
20°C (68°F)	1.00	0.93	0.86	0.80	0.74
25°C (77°F)	1.00	0.93	0.86	0.80	0.74

<sup>1</sup> Lumen maintenance values at 25°C (77°F) are calculated per TM-21 based on LM-80 data and in-situ luminaire testing. Luminaire ambient temperature factors (LATF) have been applied to all lumen maintenance factors. Please refer to the [Temperature Zone Reference Document](#) for outdoor average nighttime ambient conditions

<sup>2</sup> In accordance with IESNA TM-21-11, Projected Values represent interpolated value based on time durations that are within six times (6X) the IESNA LM-80-08 total test duration (in hours) for the device under testing (IDUT) i.e. the packaged LED chip

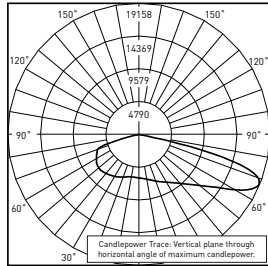
<sup>3</sup> In accordance with IESNA TM-21-11, Calculated Values represent time durations that exceed six times (6X) the IESNA LM-80-08 total test duration (in hours) for the device under testing (IDUT) i.e. the packaged LED chip

## TRVXL LED Street/Area Luminaire - Extra Large

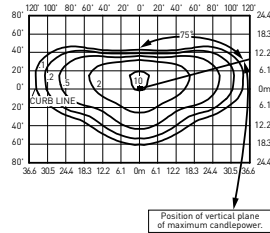
### Photometry

All published luminaire photometric testing performed to IESNA LM-79-08 standards by a NVLAP accredited laboratory (500077-0). To obtain an IES file specific to your project consult: <https://lighting.cree.com/products/outdoor/street-and-roadway/traveyo-series-street>

#### 2ME



**CESTL Test Report #:** PL13776-001A  
**TRVXL-A-\*\*-2ME-30L-40K7-UL-\*\*-N**  
**Initial Delivered Lumens:** 31,775



**TRVXL-A-\*\*-2ME-30L-40K7-UL-\*\*-N**  
**Mounting Height:** 25' (7.6m) A.F.G.  
**Initial Delivered Lumens:** 32,500  
**Initial FC at grade**

Type II Medium Distribution								
Lumen Package	2700K		3000K		4000K		5700K	
	Initial Delivered Lumens*	BUG Ratings** Per TM 15 11	Initial Delivered Lumens*	BUG Ratings** Per TM 15 11	Initial Delivered Lumens*	BUG Ratings** Per TM 15 11	Initial Delivered Lumens*	BUG Ratings** Per TM 15 11
22L	21,500	B3 U0 G3	22,400	B3 U0 G3	22,900	B3 U0 G3	23,000	B3 U0 G3
25L	26,000	B3 U0 G3	27,000	B3 U0 G3	27,700	B4 U0 G3	27,800	B4 U0 G3
27L	26,500	B3 U0 G3	27,600	B4 U0 G3	28,200	B4 U0 G3	28,300	B4 U0 G3
30L	30,400	B4 U0 G4	31,700	B4 U0 G4	32,500	B4 U0 G4	32,600	B4 U0 G4

\* Initial delivered lumens at 25°C (77°F). Actual production yield may vary between -10 and +10% of initial delivered lumens

\*\* For more information on the IES BUG (Backlight-Uplight-Glare) Rating visit: <https://www.ies.org/wp-content/uploads/2017/03/TM-15-11BUGRatingsAddendum.pdf>

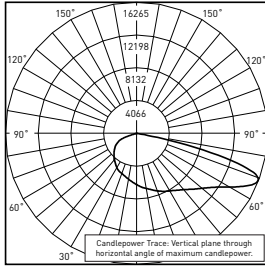


## TRVXL LED Street/Area Luminaire - Extra Large

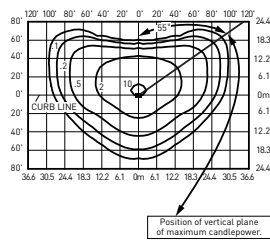
### Photometry

All published luminaire photometric testing performed to IESNA LM-79-08 standards by a NVLAP accredited laboratory (500077-0). To obtain an IES file specific to your project consult: <https://lighting.cree.com/products/outdoor/street-and-roadway/traveyo-series-street>

#### 3ME



**CESTL Test Report #:** PL13763-001A  
**TRVXL-A-\*\*-3ME-30L-40K7-UL-\*\*-N**  
**Initial Delivered Lumens:** 31,960



**TRVXL-A-\*\*-3ME-30L-40K7-UL-\*\*-N**  
**Mounting Height:** 25' (7.6m) A.F.G.  
**Initial Delivered Lumens:** 32,500  
**Initial FC at grade**

Type III Medium Distribution								
Lumen Package	2700K		3000K		4000K		5700K	
	Initial Delivered Lumens*	BUG Ratings** Per TM-15-11	Initial Delivered Lumens*	BUG Ratings** Per TM-15-11	Initial Delivered Lumens*	BUG Ratings** Per TM-15-11	Initial Delivered Lumens*	BUG Ratings** Per TM-15-11
22L	21,500	B3 U0 G3	22,400	B3 U0 G3	22,900	B3 U0 G3	23,000	B3 U0 G3
25L	26,000	B3 U0 G3	27,000	B3 U0 G3	27,700	B3 U0 G3	27,800	B3 U0 G3
27L	26,500	B3 U0 G3	27,600	B3 U0 G3	28,200	B3 U0 G3	28,300	B3 U0 G3
30L	30,400	B3 U0 G3	31,700	B3 U0 G3	32,500	B4 U0 G3	32,600	B4 U0 G3

\* Initial delivered lumens at 25°C (77°F). Actual production yield may vary between -10 and +10% of initial delivered lumens

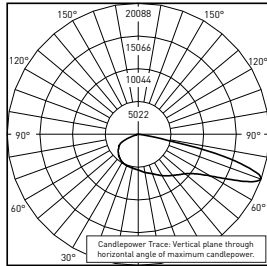
\*\* For more information on the IES BUG (Backlight-Uplight-Glare) Rating visit: <https://www.ies.org/wp-content/uploads/2017/03/TM-15-11BUGRatingsAddendum.pdf>

## TRVXL LED Street/Area Luminaire - Extra Large

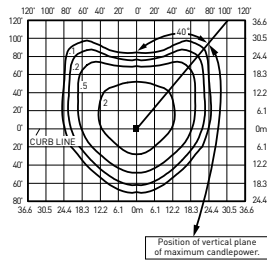
### Photometry

All published luminaire photometric testing performed to IESNA LM-79-08 standards by a NVLAP accredited laboratory (500077-0). To obtain an IES file specific to your project consult: <https://lighting.cree.com/products/outdoor/street-and-roadway/traveyo-series-street>

#### 4ME



**CESTL Test Report #:** PL13621-001A  
**TRVXL-A-\*\*-4ME-30L-40K7-UL-\*\*-N**  
**Initial Delivered Lumens:** 32,369



**TRVXL-A-\*\*-4ME-30L-40K7-UL-\*\*-N**  
**Mounting Height:** 25' (7.6m) A.F.G.  
**Initial Delivered Lumens:** 32,500  
**Initial FC at grade**

Type IV Medium Distribution								
Lumen Package	2700K		3000K		4000K		5700K	
	Initial Delivered Lumens*	BUG Ratings** Per TM-15-11	Initial Delivered Lumens*	BUG Ratings** Per TM-15-11	Initial Delivered Lumens*	BUG Ratings** Per TM-15-11	Initial Delivered Lumens*	BUG Ratings** Per TM-15-11
22L	21,500	B3 U0 G3	22,400	B3 U0 G3	22,900	B3 U0 G3	23,000	B3 U0 G3
25L	26,000	B3 U0 G4	27,000	B3 U0 G4	27,700	B3 U0 G4	27,800	B3 U0 G4
27L	26,500	B3 U0 G4	27,600	B3 U0 G4	28,200	B3 U0 G4	28,300	B3 U0 G4
30L	30,400	B4 U0 G4	31,700	B4 U0 G4	32,500	B4 U0 G4	32,600	B4 U0 G4

\* Initial delivered lumens at 25°C (77°F). Actual production yield may vary between -10 and +10% of initial delivered lumens

\*\* For more information on the IES BUG (Backlight-Uplight-Glare) Rating visit: <https://www.ies.org/wp-content/uploads/2017/03/TM-15-11BUGRatingsAddendum.pdf>

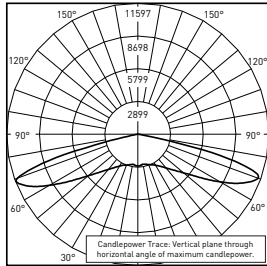


## TRVXL LED Street/Area Luminaire - Extra Large

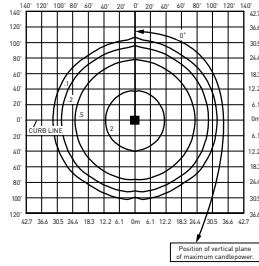
### Photometry

All published luminaire photometric testing performed to IESNA LM-79-08 standards by a NVLAP accredited laboratory (500077-0). To obtain an IES file specific to your project consult: <https://lighting.cree.com/products/outdoor/street-and-roadway/traveyo-series-street>

#### 5ME



**CESTL Test Report #: PL13780-001A**  
**TRVXL-A-\*\*-5ME-30L-40K7-UL-\*\*-N**  
**Initial Delivered Lumens: 31,860**



**TRVXL-A-\*\*-5ME-30L-40K7-UL-\*\*-N**  
**Mounting Height: 25' (7.6m) A.F.G.**  
**Initial Delivered Lumens: 32,500**  
**Initial FC at grade**

Type V Medium Distribution								
Lumen Package	2700K		3000K		4000K		5700K	
	Initial Delivered Lumens*	BUG Ratings** Per TM-15-11	Initial Delivered Lumens*	BUG Ratings** Per TM-15-11	Initial Delivered Lumens*	BUG Ratings** Per TM-15-11	Initial Delivered Lumens*	BUG Ratings** Per TM-15-11
22L	21,500	B5 U0 G3	22,400	B5 U0 G3	22,900	B5 U0 G3	23,000	B5 U0 G3
25L	26,000	B5 U0 G3	27,000	B5 U0 G3	27,700	B5 U0 G3	27,800	B5 U0 G3
27L	26,500	B5 U0 G3	27,600	B5 U0 G3	28,200	B5 U0 G4	28,300	B5 U0 G4
30L	30,400	B5 U0 G4	31,700	B5 U0 G4	32,500	B5 U0 G4	32,600	B5 U0 G4

\* Initial delivered lumens at 25°C (77°F). Actual production yield may vary between -10 and +10% of initial delivered lumens

\*\* For more information on the IES BUG (Backlight-Uplight-Glare) Rating visit: <https://www.ies.org/wp-content/uploads/2017/03/TM-15-11BUGRatingsAddendum.pdf>

### Luminaire EPA

Horizontal Tenon Mount – Weight: 14.4 lbs. (6.5kg)				
Single	2 @ 90°	2 @ 180°	3 @ 90°	4 @ 90°
Tenon Configuration If used with Cree tenons, please add tenon EPA with luminaire EPA				
PD-1H4; PT-1H	PD-2H4[90]; PT-2H[90]	PD-2H4[180]; PT-2H[180]	PD-3H4[90]; PT-3H[90]	PD-4H4[90]; PT-4H[90]
0.53	0.89	1.06	1.42	1.78

### Tenon EPA

Part Number	EPA
PD Series Tenons	0.09
PT Series Tenons	0.10
WM-2L	0.13
XA-TMDA8	0.19

Tenons and Brackets <sup>1</sup> (must specify color)	
<b>Square Internal Mount Horizontal Tenons (Aluminum)</b> - Mounts to 4" (102mm) square aluminum or steel poles PD-1H4 – Single PD-3H4[90] – 90° Triple PD-2H4[90] – 90° Twin PD-4H4[90] – 90° Quad PD-2H4[180] – 180° Twin	<b>Round External Mount Horizontal Tenons (Aluminum)</b> - Mounts to 2.375"-3" (60-76mm) O.D. round aluminum or steel poles or tenons - Mounts to 3" (76mm), 5" (127mm), or 6" (152mm) square pole with PB-1A* tenon PT-1H – Single PT-3H[90] – 90° Triple PT-2H[90] – 90° Twin PT-4H[90] – 90° Quad PT-2H[180] – 180° Twin
<b>Wall Mount Brackets</b> - Mounts to wall or roof WM-2L – Extended Horizontal	<b>Direct Arm Pole Adaptor Bracket</b> - Mounts to 3-6" (76-152mm) round or square aluminum or steel poles XA-TMDA8

<sup>1</sup> Refer to the [Bracket and Tenons spec sheet](#) for more details

\* Specify pole size: 3 [3"], 4 [4"], 5 [5"], or 6 [6"] for single, double or triple luminaire orientation or 4 [4"], 5 [5"] or 6 [6"] for quad luminaire orientation



# Traveyo Series

Traveyo™ LED Street/Area Luminaire - Large

## Product Description

The Cree® Traveyo Series changes expectations of the "entry-level" luminaire with solid performance, future-ready engineering and a better than expected lighting experience. The TRVLG LED Street/Area luminaire offers a full range of optics and CCTs to meet the needs of the application while maintaining the familiarity of a traditional cobrahead design. Designed for easy installation, the Traveyo luminaire features tool-less entry, tool-less rotatable PEC, T-level and +/- 5° fixture leveling. Typical replacement: 200-250W HPS.

**Applications:** Major roads, multi-lane highways, parking lots, and general area spaces

## Performance Summary

**Initial Delivered Lumens:** Up to 21,700

**Efficacy:** Up to 153 LPW

**CRI:** Minimum 70 CRI

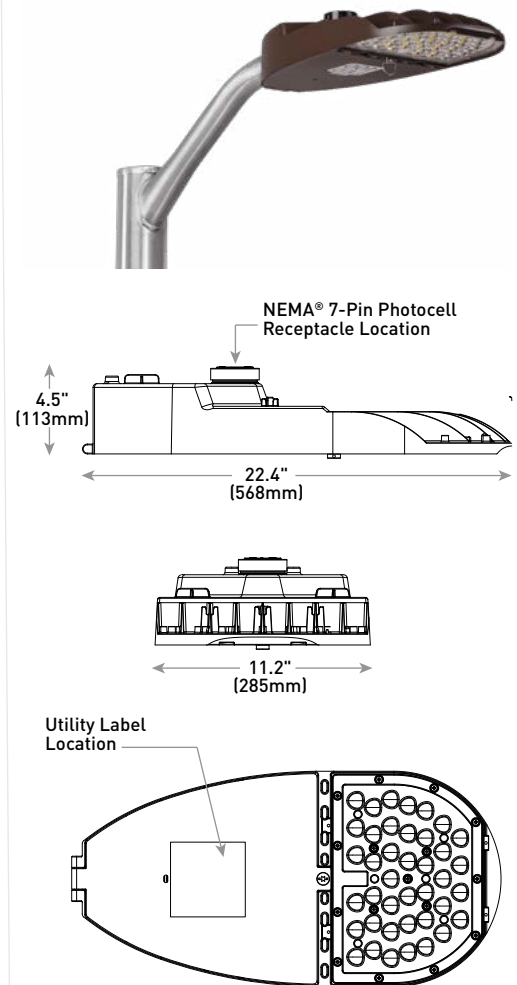
**CCT:** 2700K, 3000K, 4000K, 5700K

**Limited Warranty\*:** 5 years on luminaire/5 years on finish

\*See <http://lighting.cree.com/warranty> for warranty terms

## Accessories

Field-Installed
<b>Bird Spikes</b> TRV-BRDGRDL



## Weight

10.6 lbs. (4.8kg)

## Ordering Information

Example: TRVLG-A-HT-2ME-13L-27K7-UL-BK-N

TRVLG	A	HT						N	
Product	Version	Mounting	Optic	Lumen Package*	CCT/CRI	Voltage	Color Options	Utility Label/Receptacle	Options
TRVLG Large	A	HT Horizontal Tenon	<b>Asymmetric</b> <b>2ME</b> Type II Medium <b>3ME</b> Type III Medium <b>4ME</b> Type IV Medium <b>Symmetric</b> <b>5ME</b> Type V Medium	<b>13L</b> 13,000 Lumens <b>16L</b> 16,000 Lumens <b>20L</b> 20,000 Lumens	<b>27K7</b> 2700K, 70 CRI <b>30K7</b> 3000K, 70 CRI <b>40K7</b> 4000K, 70 CRI <b>57K7</b> 5700K, 70 CRI	<b>UL</b> Universal 120-277V <b>UH</b> Universal 347-480V	<b>BK</b> Black <b>BZ</b> Bronze <b>GY</b> Grey	<b>N</b> <b>Utility Label and NEMA® 7-Pin Photocell Receptacle</b> - External wattage label per ANSI C136.15 - 7-pin receptacle per ANSI C136.41 - Factory connected 0-10V dim leads - Photocell or shorting cap by others	<b>20KV</b> 20kV/10kA Surge Suppression <b>4BLT</b> 4-Bolt Mounting - Mounts to 2" (51mm) IP, 2.375" (60mm) O.D. horizontal tenon <b>EXPD</b> Expedited Shipping

\* Lumen Package codes identify approximate light output only. Actual lumen output levels may vary depending on CCT and optic selection. Refer to Initial Delivered Lumen tables for specific lumen values



US: [lighting.cree.com](http://lighting.cree.com)



T (800) 236-6800 F (262) 504-5415



Rev. Date: V1 02/21/2019

Canada: [www.cree.com/canada](http://www.cree.com/canada)



T (800) 473-1234 F (800) 890-7507

## Product Specifications


### CONSTRUCTION & MATERIALS

- Die cast aluminum housing and door
- Tool-less entry
- Mounts on 1.25" [32mm] IP, 1.66" [42mm] O.D. or 2" [51mm] IP, 2.375" [60mm] O.D. horizontal tenon (minimum 8" [203mm] in length) and is adjustable +/- 5° to allow for fixture leveling (includes two axis T-level to aid in leveling)
- Luminaire secures with two mounting bolts; optional four bolt mounting available
- Comes standard with Utility Label per ANSI C136.15 and 7-pin NEMA® Photocell Receptacle per ANSI C136.41
- **Weight:** 10.6 lbs. (4.8kg)

### ELECTRICAL SYSTEM

- **Input Voltage:** 120-277V or 347-480V, 50/60Hz
- **Power Factor:** > 0.9 at full load
- **Total Harmonic Distortion:** < 20% at full load
- Integral 10kV surge suppression protection standard; 20kV surge suppression protection optional
- When code dictates fusing, a slow blow fuse or type C/D breaker should be used to address inrush
- Straight-in wiring to 6-14 AWG terminal block
- Designed with 0-10V dimming capabilities. Controls by others
- **10V Source Current:** 0.15mA
- **Operating Temperature Range:** -40°C - +40°C (-40°F - +104°F)

### REGULATORY & VOLUNTARY QUALIFICATIONS

- cULus Listed
- Suitable for wet locations
- Certified to ANSI C136.31-2010, 3G bridge and overpass vibration standards
- Meets CALTrans 611 Vibration testing
- Standard 10kV and optional 20kV surge suppression protection tested in accordance with IEEE/ANSI C62.41.2
- Meets FCC Part 15, Subpart B, Class A standards for conducted and radiated emissions
- Luminaire was subjected to the Mixed Flowing Gas for Electrical Contacts Test according to following specifications: ASTM B 845-97, ANSI NCSL Z540-1 3, ISO 17025:2005. No lumen maintenance or color maintenance degradation was noted during testing
- RoHS compliant. Consult factory for additional details
- Dark Sky Friendly, IDA Approved when ordered with 27K7 or 30K7 CCTs (Pending). Please refer to <http://darksky.org/fsa/fsa-products/> for most current information
-  **CA RESIDENTS WARNING:** Cancer and Reproductive Harm – [www.p65warnings.ca.gov](http://www.p65warnings.ca.gov)

### Electrical Data\*

Lumen Package	System Watts 120-480V	Utility Label Wattage	Total Current (A)					
			120V	208V	240V	277V	347V	480V
13L	96	100	0.81	0.46	0.40	0.35	0.29	0.21
16L	110	110	0.92	0.53	0.46	0.40	0.33	0.24
20L	150	150	1.27	0.72	0.62	0.54	0.44	0.32

\* Electrical data at 25°C (77°F). Actual wattage may differ by +/- 10% when operating between 120-277V or 347-480V +/- 10%

### Traveyo Series Ambient Adjusted Lumen Maintenance<sup>1</sup>

Ambient	Initial LMF	25K hr Projected <sup>2</sup> LMF	50K hr Projected <sup>2</sup> LMF	75K hr Calculated <sup>3</sup> LMF	100K hr Calculated <sup>3</sup> LMF
5°C (41°F)	1.01	0.94	0.87	0.80	0.74
10°C (50°F)	1.01	0.94	0.87	0.80	0.74
15°C (59°F)	1.01	0.94	0.87	0.80	0.74
20°C (68°F)	1.00	0.93	0.86	0.80	0.74
25°C (77°F)	1.00	0.93	0.86	0.80	0.74

<sup>1</sup> Lumen maintenance values at 25°C (77°F) are calculated per TM-21 based on LM-80 data and in-situ luminaire testing. Luminaire ambient temperature factors (LATF) have been applied to all lumen maintenance factors. Please refer to the [Temperature Zone Reference Document](#) for outdoor average nighttime ambient conditions

<sup>2</sup> In accordance with IESNA TM-21-11, Projected Values represent interpolated value based on time durations that are within six times (6X) the IESNA LM-80-08 total test duration (in hours) for the device under testing (DUT) i.e. the packaged LED chip

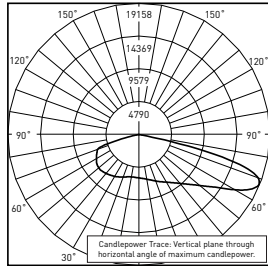
<sup>3</sup> In accordance with IESNA TM-21-11, Calculated Values represent time durations that exceed six times (6X) the IESNA LM-80-08 total test duration (in hours) for the device under testing (DUT) i.e. the packaged LED chip

## TRVLG LED Street/Area Luminaire - Large

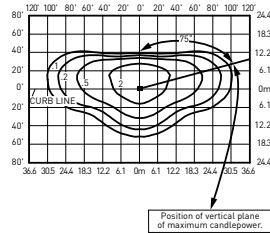
### Photometry

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#### 2ME



**CESTL Test Report #:** PL13776-001A  
**TRVXL-A-\*\*-2ME-30L-40K7-UL-\*\*-N**  
**Initial Delivered Lumens:** 31,775



**TRVLG-A-\*\*-2ME-13L-40K7-UL-\*\*-N**  
**Mounting Height:** 25' (7.6m) A.F.G.  
**Initial Delivered Lumens:** 13,875  
**Initial FC at grade**

Type II Medium Distribution								
Lumen Package	2700K		3000K		4000K		5700K	
	Initial Delivered Lumens*	BUG Ratings** Per TM-15-11	Initial Delivered Lumens*	BUG Ratings** Per TM-15-11	Initial Delivered Lumens*	BUG Ratings** Per TM-15-11	Initial Delivered Lumens*	BUG Ratings** Per TM-15-11
13L	13,000	B3 U0 G3	13,550	B3 U0 G3	13,875	B3 U0 G3	13,925	B3 U0 G3
16L	15,700	B3 U0 G3	16,300	B3 U0 G3	16,700	B3 U0 G3	16,800	B3 U0 G3
20L	20,300	B3 U0 G3	21,100	B3 U0 G3	21,600	B3 U0 G3	21,700	B3 U0 G3

\* Initial delivered lumens at 25°C (77°F). Actual production yield may vary between -10 and +10% of initial delivered lumens

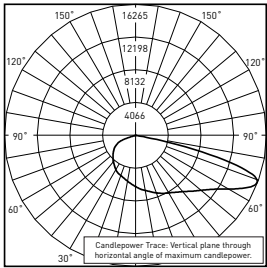
\*\* For more information on the IES BUG (Backlight-Uplight-Glare) Rating visit: <https://www.ies.org/wp-content/uploads/2017/03/TM-15-11BUGRatingsAddendum.pdf>

TRVLG LED Street/Area Luminaire - Large

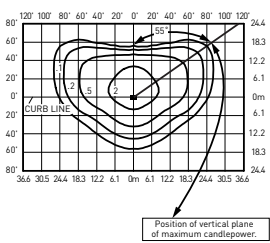
Photometry

All published luminaire photometric testing performed to IESNA LM-79-08 standards by a NVLAP accredited laboratory (500077-0). To obtain an IES file specific to your project consult: <https://lighting.cree.com/products/outdoor/street-and-roadway/traveyo-series-street>

3ME



**CESTL Test Report #:** PL13763-001A  
**TRVXL-A-\*\*-3ME-30L-40K7-UL-\*\*-N**  
**Initial Delivered Lumens:** 31,960



**TRVLG-A-\*\*-3ME-13L-40K7-UL-\*\*-N**  
**Mounting Height:** 25' (7.6m) A.F.G.  
**Initial Delivered Lumens:** 13,875  
**Initial FC** at grade

Type III Medium Distribution								
Lumen Package	2700K		3000K		4000K		5700K	
	Initial Delivered Lumens*	BUG Ratings** Per TM-15-11	Initial Delivered Lumens*	BUG Ratings** Per TM-15-11	Initial Delivered Lumens*	BUG Ratings** Per TM-15-11	Initial Delivered Lumens*	BUG Ratings** Per TM-15-11
13L	13,000	B2 U0 G2	13,550	B2 U0 G2	13,875	B2 U0 G2	13,925	B2 U0 G2
16L	15,700	B3 U0 G3	16,300	B3 U0 G3	16,700	B3 U0 G3	16,800	B3 U0 G3
20L	20,300	B3 U0 G3	21,100	B3 U0 G3	21,600	B3 U0 G3	21,700	B3 U0 G3

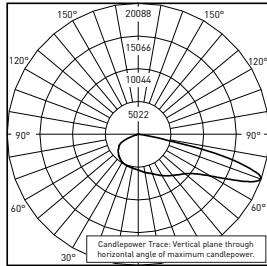
\* Initial delivered lumens at 25°C (77°F). Actual production yield may vary between -10 and +10% of initial delivered lumens  
\*\* For more information on the IES BUG (Backlight-Uplight-Glare) Rating visit: <https://www.ies.org/wp-content/uploads/2017/03/TM-15-11BUGRatingsAddendum.pdf>



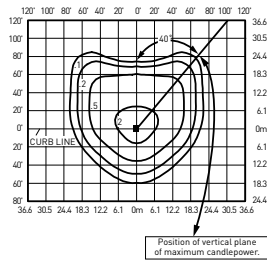
## Photometry

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### 4ME



**CESTL Test Report #:** PL13621-001A  
**TRVXL-A-\*\*-4ME-30L-40K7-UL-\*\*-N**  
**Initial Delivered Lumens:** 32,369



**TRVLG-A-\*\*-4ME-13L-40K7-UL-\*\*-N**  
**Mounting Height:** 25' (7.6m) A.F.G.  
**Initial Delivered Lumens:** 13,875  
 Initial FC at grade

Type IV Medium Distribution								
Lumen Package	2700K		3000K		4000K		5700K	
	Initial Delivered Lumens*	BUG Ratings** Per TM-15-11	Initial Delivered Lumens*	BUG Ratings** Per TM-15-11	Initial Delivered Lumens*	BUG Ratings** Per TM-15-11	Initial Delivered Lumens*	BUG Ratings** Per TM-15-11
13L	13,000	B2 U0 G2	13,550	B2 U0 G2	13,875	B2 U0 G2	13,925	B2 U0 G2
16L	15,700	B3 U0 G3	16,300	B3 U0 G3	16,700	B3 U0 G3	16,800	B3 U0 G3
20L	20,300	B3 U0 G3	21,100	B3 U0 G3	21,600	B3 U0 G3	21,700	B3 U0 G3

\* Initial delivered lumens at 25°C (77°F). Actual production yield may vary between -10 and +10% of initial delivered lumens

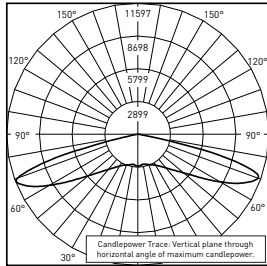
\*\* For more information on the IES BUG (Backlight-Uplight-Glare) Rating visit: <https://www.ies.org/wp-content/uploads/2017/03/TM-15-11BUGRatingsAddendum.pdf>

## TRVLG LED Street/Area Luminaire - Large

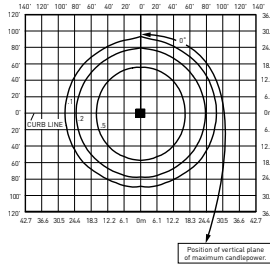
### Photometry

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#### 5ME



**CESTL Test Report #: PL13780-001A**  
**TRVXL-A\*\*-5ME-30L-40K7-UL\*\*-N**  
**Initial Delivered Lumens: 31,860**



**TRVLG-A\*\*-5ME-13L-40K7-UL\*\*-N**  
**Mounting Height: 25' (7.6m) A.F.G.**  
**Initial Delivered Lumens: 13,875**  
**Initial FC at grade**

Type V Medium Distribution								
Lumen Package	2700K		3000K		4000K		5700K	
	Initial Delivered Lumens*	BUG Ratings** Per TM-15-11	Initial Delivered Lumens*	BUG Ratings** Per TM-15-11	Initial Delivered Lumens*	BUG Ratings** Per TM-15-11	Initial Delivered Lumens*	BUG Ratings** Per TM-15-11
13L	13,000	B4 U0 G2	13,550	B4 U0 G2	13,875	B4 U0 G2	13,925	B4 U0 G2
16L	15,700	B4 U0 G2	16,300	B4 U0 G2	16,700	B4 U0 G2	16,800	B4 U0 G2
20L	20,300	B5 U0 G3	21,100	B5 U0 G3	21,600	B5 U0 G3	21,700	B5 U0 G3

\* Initial delivered lumens at 25°C (77°F). Actual production yield may vary between -10 and +10% of initial delivered lumens

\*\* For more information on the IES BUG (Backlight-Uplight-Glare) Rating visit: <https://www.ies.org/wp-content/uploads/2017/03/TM-15-11BUGRatingsAddendum.pdf>

### Luminaire EPA

Horizontal Tenon Mount – Weight: 10.6 lbs. (4.8kg)				
Single	2 @ 90°	2 @ 180°	3 @ 90°	4 @ 90°
Tenon Configuration If used with Cree tenons, please add tenon EPA with luminaire EPA				
PD-1H4; PT-1H	PD-2H4[90]; PT-2H[90]	PD-2H4[180]; PT-2H[180]	PD-3H4[90]; PT-3H[90]	PD-4H4[90]; PT-4H[90]
0.50	0.82	1.01	1.32	1.64

### Tenon EPA

Part Number	EPA
PD Series Tenons	0.09
PT Series Tenons	0.10
WM-2L	0.13
XA-TMDA8	0.19

Tenons and Brackets* (must specify color)	
<b>Square Internal Mount Horizontal Tenons (Aluminum)</b> - Mounts to 4" (102mm) square aluminum or steel poles PD-1H4 – Single PD-3H4[90] – 90° Triple PD-2H4[90] – 90° Twin PD-4H4[90] – 90° Quad PD-2H4[180] – 180° Twin	<b>Round External Mount Horizontal Tenons (Aluminum)</b> - Mounts to 2.375"-3" (60-76mm) O.D. round aluminum or steel poles or tenons - Mounts to 3" (76mm), 5" (127mm), or 6" (152mm) square pole with PB-1A* tenon PT-1H – Single PT-3H[90] – 90° Triple PT-2H[90] – 90° Twin PT-4H[90] – 90° Quad PT-2H[180] – 180° Twin
<b>Wall Mount Brackets</b> - Mounts to wall or roof WM-2L – Extended Horizontal	<b>Direct Arm Pole Adaptor Bracket</b> - Mounts to 3-6" (76-152mm) round or square aluminum or steel poles XA-TMDA8

\* Refer to the [Bracket and Tenons spec sheet](#) for more details

\* Specify pole size: 3 (3"), 4 (4"), 5 (5"), or 6 (6") for single, double or triple luminaire orientation or 4 (4"), 5 (5") or 6 (6") for quad luminaire orientation

# Traveyo Series

Traveyo™ LED Street/Area Luminaire -Small

## Product Description

The Cree® Traveyo Series changes expectations of the "entry-level" luminaire with solid performance, future-ready engineering and a better than expected lighting experience. The TRVSM LED Street/Area luminaire offers a full range of optics and CCTs to meet the needs of the application while maintaining the familiarity of a traditional cobrahead design. Designed for easy installation, the Traveyo luminaire features tool-less entry, tool-less rotatable PEC, T-level and +/- 5° fixture leveling. Typical replacement: 50-100W HPS.

**Applications:** Residential roads, parking lots, and general area spaces

## Performance Summary

**Initial Delivered Lumens:** Up to 5,500

**Efficacy:** Up to 149 LPW

**CRI:** Minimum 70 CRI

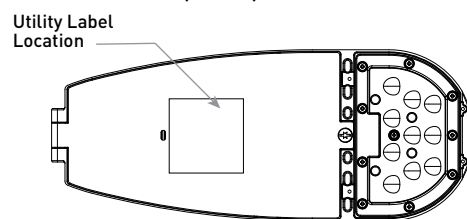
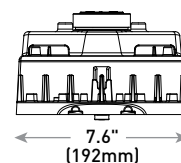
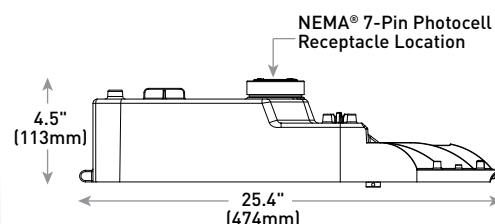
**CCT:** 2700K, 3000K, 4000K, 5700K

**Limited Warranty\*:** 5 years on luminaire/5 years on finish

\*See <http://lighting.cree.com/warranty> for warranty terms

## Accessories

Field-Installed
<b>Bird Spikes</b> TRV-BRDGRDS



Weight
6.2 lbs. (2.8kg)

## Ordering Information

Example: TRVSM-A-HT-2ME-2L-27K7-UL-BK-N

TRVSM	A	HT						N	
Product	Version	Mounting	Optic	Lumen Package*	CCT/CRI	Voltage	Color Options	Utility Label/Receptacle	Options
TRVSM Small	A	HT Horizontal Tenon	<b>Asymmetric</b> <b>2ME</b> Type II Medium <b>3ME</b> Type III Medium <b>4ME</b> Type IV Medium <b>Symmetric</b> <b>5ME</b> Type V Medium	<b>2L</b> 2,000 Lumens <b>4L</b> 4,000 Lumens <b>5L</b> 5,000 Lumens	<b>27K7</b> 2700K, 70 CRI <b>30K7</b> 3000K, 70 CRI <b>40K7</b> 4000K, 70 CRI <b>57K7</b> 5700K, 70 CRI	<b>UL</b> Universal 120-277V <b>UH</b> Universal 347-480V	<b>BK</b> Black <b>BZ</b> Bronze <b>GY</b> Grey	<b>N</b> <b>Utility Label and NEMA® 7-Pin Photocell Receptacle</b> - External wattage label per ANSI C136.15 - 7-pin receptacle per ANSI C136.41 - Factory connected 0-10V dim leads - Photocell or shorting cap by others	<b>20KV</b> 20kV/10kA Surge Suppression <b>EXPD</b> Expedited Shipping

\* Lumen Package codes identify approximate light output only. Actual lumen output levels may vary depending on CCT and optic selection. Refer to Initial Delivered Lumen tables for specific lumen values



Rev. Date: V1 02/21/2019



US: [lighting.cree.com](http://lighting.cree.com)

T (800) 236-6800 F (262) 504-5415

Canada: [www.cree.com/canada](http://www.cree.com/canada)

T (800) 473-1234 F (800) 890-7507

## Product Specifications


### CONSTRUCTION & MATERIALS

- Die cast aluminum housing and door
- Tool-less entry
- Mounts on 1.25" (32mm) IP, 1.66" (42mm) O.D. or 2" (51mm) IP, 2.375" (60mm) O.D. horizontal tenon (minimum 8" [203mm] in length) and is adjustable +/- 5° to allow for fixture leveling (includes two axis T-level to aid in leveling)
- Luminaire secures with two mounting bolts
- Comes standard with Utility Label per ANSI C136.15 and 7-pin NEMA® Photocell Receptacle per ANSI C136.41
- **Weight:** 6.2 lbs. (2.8kg)

### ELECTRICAL SYSTEM

- **Input Voltage:** 120-277V or 347-480V, 50/60Hz
- **Power Factor:** > 0.9 at full load
- **Total Harmonic Distortion:** < 20% at full load
- Integral 10kV surge suppression protection standard; 20kV surge suppression protection optional
- When code dictates fusing, a slow blow fuse or type C/D breaker should be used to address inrush
- Straight-in wiring to 6-14 AWG terminal block
- Designed with 0-10V dimming capabilities. Controls by others
- **10V Source Current:** 0.15mA
- **Operating Temperature Range:** -40°C - +40°C (-40°F - +104°F)

### REGULATORY & VOLUNTARY QUALIFICATIONS

- cULus Listed
- Suitable for wet locations
- Certified to ANSI C136.31-2010, 3G bridge and overpass vibration standards
- Meets CALTrans 611 Vibration testing
- Standard 10kV and optional 20kV surge suppression protection tested in accordance with IEEE/ANSI C62.41.2
- Meets FCC Part 15, Subpart B, Class A standards for conducted and radiated emissions
- Luminaire was subjected to the Mixed Flowing Gas for Electrical Contacts Test according to following specifications: ASTM B 845-97, ANSI NCSL Z540-1 3, ISO 17025:2005. No lumen maintenance or color maintenance degradation was noted during testing
- RoHS compliant. Consult factory for additional details
- Dark Sky Friendly, IDA Approved when ordered with 27K7 or 30K7 CCTs (Pending). Please refer to <http://darksky.org/fsa/fsa-products/> for most current information
-  **CA RESIDENTS WARNING:** Cancer and Reproductive Harm - [www.p65warnings.ca.gov](http://www.p65warnings.ca.gov)

### Electrical Data\*

Lumen Package	System Watts 120-277V	System Watts 347-480V	Utility Label Wattage	Total Current (A)					
				120V	208V	240V	277V	347V	480V
2L	17	20	20	0.15	0.09	0.08	0.07	0.06	0.04
4L	25	28	30	0.21	0.12	0.11	0.10	0.08	0.06
5L	39	42	40	0.33	0.19	0.16	0.14	0.12	0.09

\* Electrical data at 25°C (77°F). Actual wattage may differ by +/- 10% when operating between 120-277V or 347-480V +/- 10%

### Traveyo Series Ambient Adjusted Lumen Maintenance<sup>1</sup>

Ambient	Initial LMF	25K hr Projected <sup>2</sup> LMF	50K hr Projected <sup>2</sup> LMF	75K hr Calculated <sup>3</sup> LMF	100K hr Calculated <sup>3</sup> LMF
5°C (41°F)	1.01	0.94	0.87	0.80	0.74
10°C (50°F)	1.01	0.94	0.87	0.80	0.74
15°C (59°F)	1.01	0.94	0.87	0.80	0.74
20°C (68°F)	1.00	0.93	0.86	0.80	0.74
25°C (77°F)	1.00	0.93	0.86	0.80	0.74

<sup>1</sup> Lumen maintenance values at 25°C (77°F) are calculated per TM-21 based on LM-80 data and in-situ luminaire testing. Luminaire ambient temperature factors (LATF) have been applied to all lumen maintenance factors. Please refer to the [Temperature Zone Reference Document](#) for outdoor average nighttime ambient conditions

<sup>2</sup> In accordance with IESNA TM-21-11, Projected Values represent interpolated value based on time durations that are within six times (6X) the IESNA LM-80-08 total test duration (in hours) for the device under testing (DUT) i.e. the packaged LED chip

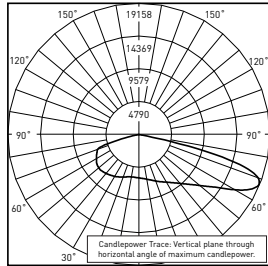
<sup>3</sup> In accordance with IESNA TM-21-11, Calculated Values represent time durations that exceed six times (6X) the IESNA LM-80-08 total test duration (in hours) for the device under testing (DUT) i.e. the packaged LED chip



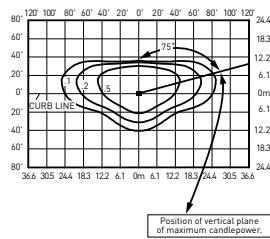
## Photometry

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### 2ME



**CESTL Test Report #:** PL13776-001A  
**TRVXL-A-\*\*-2ME-30L-40K7-UL-\*\*-N**  
**Initial Delivered Lumens:** 31,775



**TRVSM-A-\*\*-2ME-5L-40K7-UL-\*\*-N**  
**Mounting Height:** 25' (7.6m) A.F.G.  
**Initial Delivered Lumens:** 5,475  
**Initial FC at grade**

Type II Medium Distribution								
Lumen Package	2700K		3000K		4000K		5700K	
	Initial Delivered Lumens*	BUG Ratings** Per TM-15-11	Initial Delivered Lumens*	BUG Ratings** Per TM-15-11	Initial Delivered Lumens*	BUG Ratings** Per TM-15-11	Initial Delivered Lumens*	BUG Ratings** Per TM-15-11
2L	2,360	B1 U0 G1	2,460	B1 U0 G1	2,520	B1 U0 G1	2,530	B1 U0 G1
4L	3,460	B1 U0 G1	3,610	B1 U0 G1	3,700	B1 U0 G1	3,710	B1 U0 G1
5L	5,125	B1 U0 G1	5,350	B1 U0 G1	5,475	B1 U0 G1	5,500	B1 U0 G1

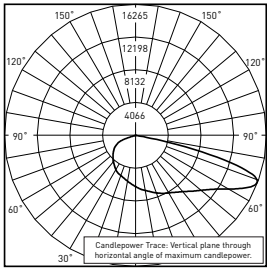
\* Initial delivered lumens at 25°C (77°F). Actual production yield may vary between -10 and +10% of initial delivered lumens

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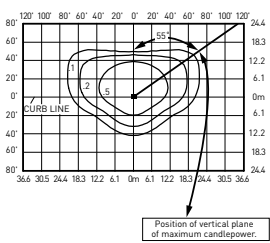
Photometry

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3ME



**CESTL Test Report #:** PL13763-001A  
**TRVXL-A-\*\*-3ME-30L-40K7-UL-\*\*-N**  
**Initial Delivered Lumens:** 31,960



**TRVSM-A-\*\*-3ME-5L-40K7-UL-\*\*-N**  
**Mounting Height:** 25' (7.6m) A.F.G.  
**Initial Delivered Lumens:** 5,475  
**Initial FC** at grade

Type III Medium Distribution								
Lumen Package	2700K		3000K		4000K		5700K	
	Initial Delivered Lumens*	BUG Ratings** Per TM-15-11	Initial Delivered Lumens*	BUG Ratings** Per TM-15-11	Initial Delivered Lumens*	BUG Ratings** Per TM-15-11	Initial Delivered Lumens*	BUG Ratings** Per TM-15-11
2L	2,360	B1 U0 G1	2,460	B1 U0 G1	2,520	B1 U0 G1	2,530	B1 U0 G1
4L	3,460	B1 U0 G1	3,610	B1 U0 G1	3,700	B1 U0 G1	3,710	B1 U0 G1
5L	5,125	B1 U0 G1	5,350	B1 U0 G1	5,475	B1 U0 G1	5,500	B1 U0 G1

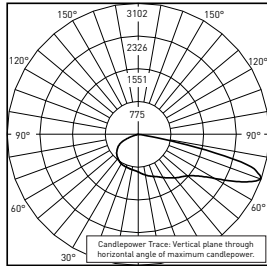
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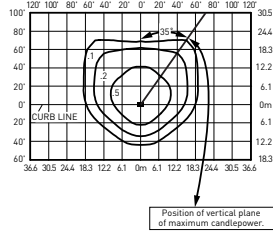
## Photometry

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### 4ME



**CESTL Test Report #:** PL13624-001A  
**TRVSM-A\*\*-4ME-5L-40K7-UL\*\*-N**  
**Initial Delivered Lumens:** 5,328



**TRVSM-A\*\*-4ME-5L-40K7-UL\*\*-N**  
**Mounting Height:** 25' (7.6m) A.F.G.  
**Initial Delivered Lumens:** 5,475  
 Initial FC at grade

Type IV Medium Distribution								
Lumen Package	2700K		3000K		4000K		5700K	
	Initial Delivered Lumens*	BUG Ratings** Per TM-15-11	Initial Delivered Lumens*	BUG Ratings** Per TM-15-11	Initial Delivered Lumens*	BUG Ratings** Per TM-15-11	Initial Delivered Lumens*	BUG Ratings** Per TM-15-11
2L	2,360	B1 U0 G1	2,460	B1 U0 G1	2,520	B1 U0 G1	2,530	B1 U0 G1
4L	3,460	B1 U0 G1	3,610	B1 U0 G1	3,700	B1 U0 G1	3,710	B1 U0 G1
5L	5,125	B1 U0 G1	5,350	B1 U0 G1	5,475	B1 U0 G1	5,500	B1 U0 G1

\* Initial delivered lumens at 25°C (77°F). Actual production yield may vary between -10 and +10% of initial delivered lumens

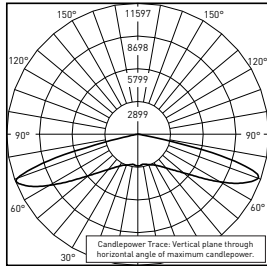
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## TRVSM LED Street/Area Luminaire - Small

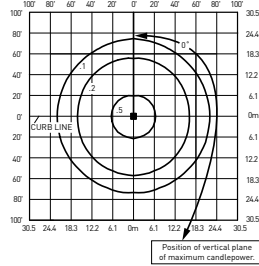
### Photometry

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#### 5ME



**CESTL Test Report #:** PL13780-001A  
**TRVXL-A-\*\*-5ME-30L-40K7-UL-\*\*-N**  
**Initial Delivered Lumens:** 31,860



**TRVSM-A-\*\*-5ME-5L-40K7-UL-\*\*-N**  
**Mounting Height:** 25' (7.6m) A.F.G.  
**Initial Delivered Lumens:** 5,475  
**Initial FC at grade**

Type V Medium Distribution								
Lumen Package	2700K		3000K		4000K		5700K	
	Initial Delivered Lumens*	BUG Ratings** Per TM-15-11	Initial Delivered Lumens*	BUG Ratings** Per TM-15-11	Initial Delivered Lumens*	BUG Ratings** Per TM-15-11	Initial Delivered Lumens*	BUG Ratings** Per TM-15-11
2L	2,360	B2 U0 G0	2,460	B2 U0 G0	2,520	B2 U0 G1	2,530	B2 U0 G1
4L	3,460	B2 U0 G1	3,610	B2 U0 G1	3,700	B2 U0 G1	3,710	B2 U0 G1
5L	5,125	B3 U0 G1	5,350	B3 U0 G1	5,475	B3 U0 G1	5,500	B3 U0 G1

\* Initial delivered lumens at 25°C (77°F). Actual production yield may vary between -10 and +10% of initial delivered lumens

\*\* For more information on the IES BUG (Backlight-Uplight-Glare) Rating visit: <https://www.ies.org/wp-content/uploads/2017/03/TM-15-11BUGRatingsAddendum.pdf>

### Luminaire EPA

Horizontal Tenon Mount – Weight: 6.2 lbs. [2.8kg]				
Single	2 @ 90°	2 @ 180°	3 @ 90°	4 @ 90°
Tenon Configuration If used with Cree tenons, please add tenon EPA with luminaire EPA				
PD-1H4; PT-1H	PD-2H4[90]; PT-2H[90]	PD-2H4[180]; PT-2H[180]	PD-3H4[90]; PT-3H[90]	PD-4H4[90]; PT-4H[90]
0.43	0.65	0.86	1.08	1.30

### Tenon EPA

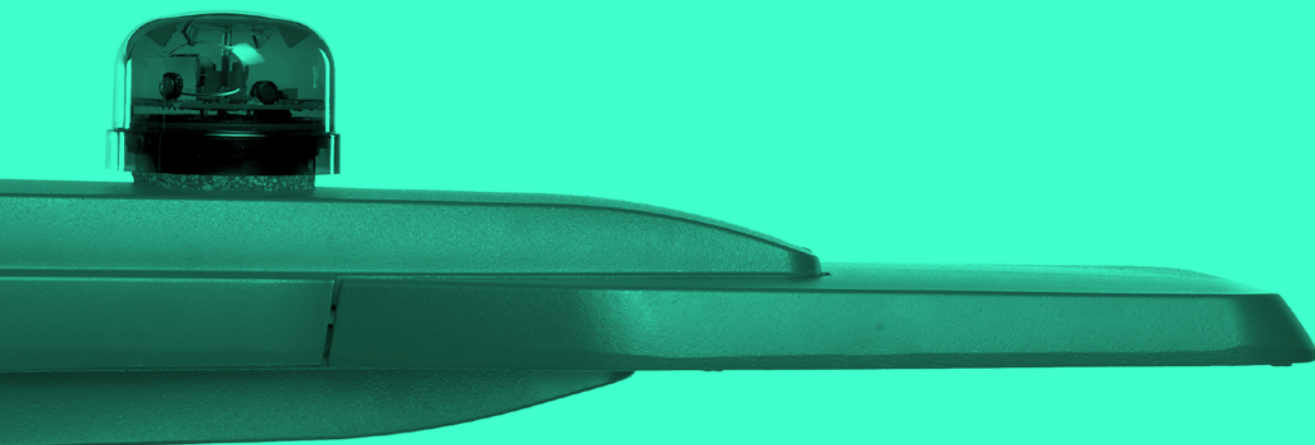
Part Number	EPA
PD Series Tenons	0.09
PT Series Tenons	0.10
WM-2L	0.13
XA-TMDA8	0.19

Tenons and Brackets* (must specify color)	
<b>Square Internal Mount Horizontal Tenons (Aluminum)</b> - Mounts to 4" (102mm) square aluminum or steel poles PD-1H4 – Single PD-3H4[90] – 90° Triple PD-2H4[90] – 90° Twin PD-4H4[90] – 90° Quad PD-2H4[180] – 180° Twin	<b>Round External Mount Horizontal Tenons (Aluminum)</b> - Mounts to 2.375"-3" (60-76mm) O.D. round aluminum or steel poles or tenons - Mounts to 3" (76mm), 5" (127mm), or 6" (152mm) square pole with PB-1A* tenon PT-1H – Single PT-3H[90] – 90° Triple PT-2H[90] – 90° Twin PT-4H[90] – 90° Quad PT-2H[180] – 180° Twin
<b>Wall Mount Brackets</b> - Mounts to wall or roof WM-2L – Extended Horizontal	<b>Direct Arm Pole Adaptor Bracket</b> - Mounts to 3-6" (76-152mm) round or square aluminum or steel poles XA-TMDA8

\* Refer to the [Bracket and Tenons spec sheet](#) for more details

\* Specify pole size: 3 (3"), 4 (4"), 5 (5"), or 6 (6") for single, double or triple luminaire orientation or 4 (4"), 5 (5") or 6 (6") for quad luminaire orientation

## Telecell: universal streetlight controller



# Telecell: universal streetlight controller

## Overview

Telensa's Telecell is the world's most deployed wireless streetlight controller, with a footprint of 2 million nodes and over 10 years of continuous service. No larger than a regular photocell, Telecell variants are available for every type of streetlight, including decorative fixtures.

<b>Long range system</b>	non-line-of-sight range up to 10 miles (16km)
<b>Very low power consumption</b>	up to 4x less than mesh networks
<b>GPS</b>	GPS plots lights in central management system and in asset management map system
<b>Revenue grade meter system</b>	for time-of-use energy consumption
<b>Full coverage</b>	relay function means all lights and street furniture covered
<b>Robust</b>	operates normally and logs activity even when disconnected from the network
<b>Resilient</b>	automatically connects to best available base station, always covered by multiple base stations
<b>NFC</b>	NFC chip and smart device app for no-touch provisioning





		NEMA	Conduit	2-Part	Post Top	480 V NEMA
<b>Regulatory</b>	Standards available	FCC/ETSI/UL/IC/EN/CE	FCC/ETSI/IC/EN/CE	FCC/ETSI/IC/EN/CE	FCC/ETSI/UL/IC/EN/CE	FCC/UL/IC
	Country approvals	Contact Telensa for detail	Contact Telensa for detail	Contact Telensa for detail	Contact Telensa for detail	US/Canada
	Manufacturing	ISO9001 and ISO14001	ISO9001 and ISO14001	ISO9001 and ISO14001	ISO9001 and ISO14001	ISO9001 and ISO14001
<b>UNB Radio</b>	Supported bands; International:	902–928MHz	902–928MHz	902–928MHz	902–928MHz	902–928MHz
	EU:	868.0 – 869.6MHz	868.0 – 869.6MHz	868.0 – 869.6MHz	868.0 – 869.6MHz	
	Receiver sensitivity (minimum)	–124dBm	–124dBm	–124dBm	–124dBm	–124dBm
	Transmit power (Maximum ERP)	25 – 100mW	25 – 100mW	25 – 100mW	25 – 100mW	25 – 100mW
<b>NFC Radio</b>	Supported	Supported	Supported	Supported	Supported	Supported
<b>Environmental</b>	IP rating	IP66	IP66	IP66	IP66	IP66
	IK rating	IK08	IK06	IK05	IK07	IK07
	Temperature (°C/ °F)	–40 to +70 / –40 to +158	–40 to +70 / –40 to +158	–40 to +70 / –40 to +158	–40 to +70 / –40 to +158	–40 to +70 / –40 to +158
	Relative Humidity Range	5% – 95%	5% – 95%	5% – 95%	5% – 95%	5% – 95%
	UV resistance	UL UV (f1) rated	UL UV (f1) rated	UL UV (f1) rated	UL UV (f1) rated	UL UV (f1) rated
<b>Power</b>	Voltage (nominal VAC)	100–240 or 100–277 for US	100–240 or 100–277 for US	100–240 or 100–277 for US	100–240 or 100–277 for US	347 – 480
	Consumption (typical)	0.7W	0.7W	0.7W	0.7W	2.2W
	Switching	10A	10A	10A	10A	5A
	Dimming (on-board)	0 – 10V or DALI	0 – 10V or DALI	0 – 10V or DALI	0 – 10V or DALI	0 – 10V or DALI
	Surge protection	10kV/5kA	10kV/5kA	10kV/5kA	10kV/5kA	6kV/3kA
		(tested to ANSI 136.10)	(tested to ANSI 136.10)	(tested to ANSI 136.10)	(tested to ANSI 136.10)	(tested to ANSI 136.10)
<b>Metering</b>	Accuracy	High-Accuracy Revenue Grade	High-Accuracy Revenue Grade	High-Accuracy Revenue Grade	High-Accuracy Revenue Grade	High-Accuracy Revenue Grade
<b>Physical</b>	Connections	5/7 PIN (ANSI C136.41)	5 wire (dimming)	5 wire (dimming)	5/7 PIN (ANSI C136.41)	5/7 PIN (ANSI C136.41)
		3 PIN (ANSI C136.10)	3 wire (on/off only)	3 wire (on/off only)	3 PIN (ANSI C136.10)	3 PIN (ANSI C136.10)
	Dimensions (H x D)	58.6x 86.6mm [2.31 x 3.41"]	58.6x 86.6mm [2.31 x 3.41"]	34 x 89mm [1.34 x 3.5"]	58.6x 86.6mm [2.31 x 3.41"]	113.5x 87.9mm [4.47 x 3.46"]
	Antenna	Internal	Internal	External* (purchased separately)	External* (purchased separately)	Internal
<b>Location</b>	Accuracy	2.5m CEP	2.5m CEP	2.5m CEP	2.5m CEP	2.5m CEP

\*External antenna options

Twig	Low profile	Easy-fit
H: 102mm [4.02"]	H: 104mm [4.09"]	H: 130mm [5.12"]

# Telensa

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## HQ and EMEA

Telensa Limited, Iconix 3,  
London Road, Pampisford,  
Cambridge, CB22 3EG, UK

**Sales & General** +44 (0)1799 588800

**Support** +44 (0)1799 399200  
support@telensa.com

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## Americas

**Sales** +1-919-410-2650

**Support** +1-858-922-3422  
support@telensa.com

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## Asia Pacific

**Sales** +61 419 475 878

**Support** support@telensa.com



# References

## **IBEW Local 99**

IBEW Local 99

Union Hall Lighting

Project Dates: November 2009

Joe Walsh: 401-954-9424

## **Dave Benevides**

Browne Hall – 16001 – Rhode Island College

Project Dates: May - September 2018

Contact: Dave Benevides – 401-787-3089

Contract Amount: \$220,000

## **Carlton Amaral**

LED Lighting Conversion – 06013 – DLT Pastore Center

Project Dates: January – December 2020

Contact: Carlton Amaral – 401-462-8203

Contract Amount: \$435,000

## **Marissa Pereira**

LED Lighting Conversion – 06022 – USPFO Army & National Guard Facilities

Project Dates: September 2020 – February 2021

Contact: Marissa Pereira – 401-275-4064

Contract Amount: \$205,000

# Resumes & Hazard Specific Safety Plan

**ANTHONY MACARI JR**  
*Chief Operations Officer*

Mr. Macari brings over 30 years of experience in the construction industry to his position as the Operations Manager for AM Electric. Mr. Macari is involved in all jobs including management, supervision, electronic scheduling, estimating, budgeting, contracting, purchasing, change orders and invoicing. Mr. Macari performs industrial road work including but not limited to safe operation of bucket trucks, derrick cranes, fork lifts, and traffic signal repair and installation.

**FIRM** AM Electric, LLC

**EDUCATION**

- High School Diploma
- IBEW Local 99  
Apprentice Training  
Academy

**REGISTRATIONS /  
CERTIFICATIONS**

- Master Electrician in RI,  
MA, VT, CT
- RI Hydraulic Cranes  
Hoisting Engineer
- OSHA 10
- CDL

**YEARS EXPERIENCE** 31

**YEARS WITH FIRM** 3

**SPECIAL EXPERTISE**

- Estimating, supervision  
of crews for Lighting,  
traffic signal systems, fire  
alarm systems and  
industrial/residential  
wiring including Heavy  
Construction

**RELEVANT PROJECT EXPERIENCE**

**Reconstruction of Lower College Road**

Contract Value \$ 1,141,495.00 Located in South Kingston, RI. Work under this contract consists of, but is not limited to, LED Roadway Lighting, foundation installation, LED Security Blue phones, and concrete repairs and modifications. The roadway construction includes bituminous pavement, drainage, lighting, communication underground raceways, excavation, hauling and grading.

**Apponaug Circular By-Pass**

Contract Value \$ 29,992,583.00. This project is located in Warwick RI. Remove & Dispose of existing HPS Highway Lighting, Furnish & Install new LED Highway Lighting & LED Decorative lighting. Additional 7pin controls are installed on the highway lighting fixtures per RIDOT Specifications.

**Highway Improvements to Rt 44**

Contract Value \$1,468,157 Located in Foster, RI. Rehabilitation of existing roadway construction. Furnish & Install LED Decorative roadway lighting. Also included was N. Grid Davit lighting conversions from HPS to LED.

**Brown & Yale University**

Located in Providence, RI & New Haven CT. Provide lighting conversions throughout the campus, including roadway LED lighting upgrades as well as Decorative LED Lighting projects. Upgrades to Security lighting from incandescent to LED (over 6000+) conversions.

**Safety Improvements to Rt 114**

Contract Value \$7,335,186 project located Cumberland, RI  
The project consists of all phases of heavy construction, Highway 30' & 40' Aluminum David pole lighting, Traffic Signalization, N. Grid relocation of existing davit fixtures on 6' steel arms as well. Additional 7pin controls are installed on all fixtures per RIDOT Specifications.

## LEE TRAVIS MALONE

### Electrical Foreman

Mr. Malone brings over 26 years of experience in the construction industry to his position as an Electrical Foreman for AM Electric. Mr. Malone is involved in jobs including direct installation of wire at construction sites. Mr. Malone performs industrial road work including but not limited to safe operation of bucket trucks, derrick cranes, fork lifts, and traffic signal repair and installation.

#### FIRM AM Electric, LLC

##### EDUCATION

- High School Diploma
- IBEW Local 99 Apprenticeship

##### REGISTRATIONS / CERTIFICATIONS

- Journeyman Electrician
- OSHA 30 Safety
- OSHA 40 HAZWOPER
- RI Hydraulic Cranes Hoisting Engineer
- CDL License
- Work Zone Traffic Control Safety Supervisor & Technician

#### YEARS EXPERIENCE 27

#### YEARS WITH FIRM 3

##### SPECIAL EXPERTISE

- Supervision of crews for traffic signal, fire alarm systems and industrial/residential wiring

#### RELEVANT PROJECT EXPERIENCE

##### Intersection Safety Improvements to Rte. 114 (RIDOT 2017-CT-086)

\$255,000 project in Cumberland, RI. In addition to some traffic signal upgrades, this project includes underground work and installation of new light poles along Route 114 as well as replacement of many existing high pressure sodium lights with LED lighting. The work includes a variety of phasing challenges due to needing to keep the area moving.

##### Neutaconkanut Park Lighting Improvement Project

\$36,500 project in Providence, RI. This project included replacing existing field flood lights with new LED flood lights, including adding an additional pole with lighting. This project had the utility incentive as well.

##### Louisquesset Pike Ramp Bridge (RIDOT 2018-CB-059)

\$19,000 project in Providence, RI. The work on this project including replacing the existing lights on the ramp and changing them to LED fixtures. This included all the underground electrical required.

##### I-195 Relocation

\$1.34 Million project in Providence, RI. This project in 2009 was working to install numerous high pressure sodium lights. This was done under Best Electric.

##### DOW Connector Road

\$100,000 project in Smithfield, RI. Installed all new streetlighting and pulled wire from start to finish.

##### Brown University Maintenance Electrician

Maintained all building, street lighting, and exterior lighting was maintained on campus for a 6 year. Also maintained fire alarms on this contract.

## **LOUIS PIACITELLI**

### ***Electrical Foreman***

Mr. Piacitelli brings over 34 years of experience in the construction industry to his position as an Electrical Foreman for AM Electric. Mr. Piacitelli is involved in jobs including direct installation of wire at construction sites. Mr. Piacitelli performs industrial road work including but not limited to safe operation of bucket trucks, derrick cranes, fork lifts, and traffic signal repair and installation.

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#### **FIRM** AM Electric, LLC

#### **EDUCATION**

- High School Diploma
- IBEW Local 99 Apprenticeship

#### **REGISTRATIONS / CERTIFICATIONS**

- Journeyman Electrician
- OSHA 10 Safety
- Work Zone Safety Traffic Certified
- Confined Space, Aerial Lift, Fork Lift Trained
- Hazardous Waste Trained

#### **YEARS EXPERIENCE** 35

#### **YEARS WITH FIRM** 3

#### **SPECIAL EXPERTISE**

- Supervision of crews for traffic signal, fire alarm systems and industrial/residential wiring

#### **RELEVANT PROJECT EXPERIENCE**

##### **Bay Street Streetscape Improvements (2018-048)**

\$300,000 project in Westerly, RI as Electrical Foreman. This project included installation of 24 decorative poles during the off beach season. The new poles were LED and all underground work and connections were also completed.

##### **Cardi Garage, Concrete Plant, & Warehouse LED Change Over**

\$100,000 project in Warwick & North Kingston, RI as Electrical Foreman. Lighting fixtures at the Cardi Corporation garage and warehouse were converted from fluorescent to LED for both interior and exterior. They were in active operation during this change over.

##### **Browne Hall at Rhode Island College**

\$215,000 project in Providence, RI as Electrical Foreman. The work included changing the lighting from fluorescent to LED over 6 floors and 12 suites. Work was substantially performed during the summer so as not to impact dorm life.

##### **Pawtucket Memorial Hospital**

\$500k project in Pawtucket, RI as the only Electrician on the project. Changed out 40W fluorescent to flat panel LED's throughout the hospital. This work was performed while the hospital was in full operation and was performed a floor at a time to minimize impact to the function of the hospital.

##### **Meehan Auditorium & Pizzitola Gym at Brown University**

\$25K project at Brown, RI as Lead Electrician. Converted all rink lighting from fluorescent to LEDs. Work was performed over the ice rink and wood gym floor while maintaining all surfaces for minimum impact.

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## **SONYA COLLETTI**

### ***Project Manager & Scheduler***

Ms. Colletti brings over 11 years of experience in the construction industry to her position as Project Manager and Scheduler for AM Electric. Ms. Colletti is involved in jobs from award through completion assisting with all aspects of management such as submittals, RFI's, billing, changes, and schedule. Ms. Colletti works closely with the electricians and owners to resolve any issues or challenges that may arise.

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#### **FIRM** AM Electric, LLC

#### **EDUCATION**

- BS Electrical Engineering/2007/ Illinois Institute of Technology

#### **REGISTRATIONS / CERTIFICATIONS**

- Professional Engineer in Training, State of Illinois
- OSHA 30 Hour
- LEED AP BD+C
- U.S. Army Corps of Engineers, Construction Quality Management (CQM)

#### **YEARS EXPERIENCE** 13

#### **YEARS WITH FIRM** 3

#### **SPECIAL EXPERTISE**

- Scheduling (P6)
- Project Administration
- Green Building

### **RELEVANT PROJECT EXPERIENCE**

#### **RIPTA Downtown Transit Connector**

\$10.2 Million project with electrical subcontracted package of \$1.5M in Providence, RI. The project includes lighting additions, new bus shelters, coordinated network systems, power, and traffic systems. This project included significant design challenges with regards to ensuring network functionality and stability in a downtown area that AM Electric was able to assist in resolving.

#### **Twin River Tiverton Hotel, Casino, & Parking Garage**

\$15 Million Earthwork & Utilities portion of the project as a subcontractor in Tiverton, RI. The new Twin River Tiverton Casino has significant earthwork, including blasting, as well as tie in and preparation for underground utilities required prior and during building of the vertical structures. Project included significant coordination and design challenges that were worked through even while progressing construction to meet extremely aggressive timelines.

#### **Cardi Scheduler**

As the Cardi scheduler, prepared schedules, tracked crews and resources, and mitigated delays on more than 20 different projects varying in size from \$100k to more than \$25M and in length from a few months to multiple years. This work included coordinating with Superintendents, providing complete updates, and full P6 schedules as well as assisting with delay mitigation.

#### **Chicago Park District, Stanton Park Field House Renovations**

\$1.2 Million project in Chicago, IL. Rehabilitation of existing building exterior including the roof, windows, skylights, and masonry. Also included some interior repairs of the pool and pool area.

#### **USACE Louisville District, Replace Public Safety Facility**

\$5.833 Million project in Whitehall, OH as LEED AP B+DC. The project designed for LEED certification consolidated offices at the Defense Supply Logistics Center. Included public safety specific areas and significant demolition of existing while meeting LEED requirements.

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**AM Electric, LLC**  
**385 Lincoln Ave.**  
**Warwick, RI 02888**  
**401-739-8300 #157**

### **Hazard Response Plan:**

**Broken lamps** – Broken lamps that do **not** contain mercury are still very hazardous and pre-cautions must be taken. Area's to be barricaded immediately to prevent injury to others. Personal protective equipment must be worn to perform the cleanup are listed below.

- a. Tyvex suit.
- b. Mask.
- c. Face shield.
- d. Hard Hat.
- e. Eye Protection.
- f. Cut resistant gloves.

Avoid using a Vacuum (non-mercury) to clean-up the broken lamp pieces. Disposal of the waste must always be in union with the EPA and the facility requirements where AM electric is performing work. Recycling of this type of waste is always encouraged. Notification to the facility owner as required.

### **Broken Lamp Containing Mercury:**

Mercury vapors and liquid can both be inside fluorescent bulbs and can be very harmful to humans. The nervous system and kidneys are sensitive to mercury exposure and also to the unborn baby. Area's to be barricaded or isolated immediately to prevent spread and exposure to others. Post signage – Danger Do Not enter. Notification to your on-site supervisor and the facility owner and they will determine if evacuation is necessary. Even though the amount of mercury in these lamps/bulbs is small, the exposure is greater on small poor ventilated rooms. Air Monitoring may be required to assure nobody is exposed.

Avoid using a Brooms to clean-up the broken lamp pieces as this could spread the mercury. Use a vacuum cleaner that is designed to pick-up and collect mercury. A regular vacuum will increase air levels of mercury and the vacuum will become contaminated. Proper personal protective equipment is as follows:

- 1.

- a. Tyvex suit.
- b. Nitrile gloves.
- c. Eye protection.
- d. Hard Hat.
- e. Face shield.
- f. Shoe covers.
- g. Respirator protection.

Other items will be needed to assist with the clean-up include – stiff paper or cardboard, duct tape, Damp paper towels, sealable plastic bag's for waste.

Clean-up steps:

1. Put on your Personal protective equipment.
2. Open doors and windows to ventilate area.
3. **DO NOT VACUUM** with an ordinal vacuum cleaner.
4. Carefully scoop up glass fragments & powder using stiff paper or cardboard. Placing debris including stiff paper/cardboard in sealable waste bag. Do not sweep dust.
5. Use duct tape to pick-up any small pieces and dispose all inside the waste bag.
6. Wipe the area clean with damp paper towel and put in the waste Bag.
7. Remove the gloves and shoe covers and put in the waste Bag.
8. Seal the Bag and put inside a second Bag & seal.
9. Wash your face and Hands with soap & water when complete.
10. Dispose inside hazardous waste container at the facility or at the Cardi Garage.

### **Injuries, Accidents, Property Damage, Near Misses.**

All injuries shall be reported to a supervisor. If an injury requires more than first aid, it is required that prompt, professional attention be secured for the injured worker, i.e., emergency room, 911 etc. See emergency contact list below.

### **FIRST AID**

A First Aid Kit and Eye Wash Station will be available and located inside the storage box located on the project. Please know and review the facility owners injury & accident procedure.



## **ACCIDENT NOTIFICATION**

Cardi/AM electric Safety Department shall be notified immediately, should any injury, accident, near miss or property damage occur.. Conditions and evidence on the accident site will be preserved until an investigation team arrives on site and investigation is conducted. The facility owner should also be contacted.

### **Medical Facilities –**

1. Atmed Occupational Medicine – 1524 Atwood Ave., Suite 122 North  
Johnston, RI 02919.  
401-273-9400 – Monday thru Friday 8am to 9pm, Saturday/Sunday 9am to 8pm.
2. Atmed Occupational Medicine –5750 Post road, East Greenwich, RI 02818.  
401-471-6740 – Monday thru Saturday 8am to 6pm.
3. RI Hospital - 593 Eddy St, Providence, RI 02903.  
(401) 444-4000 – Open 24 hours day, seven days a week.
4. Kent County Hospital - 455 Toll Gate Rd, Warwick, RI 02886  
(401) 737-7000 – Open 24 hours a day, seven days.

### **Emergency contacts:**

On-site Foreman – Lou Piacitelli – 401.374.9757.

Superintendent – Travis Malone – 401.450.5321.

Operations Manager – Anthony Macari – 401.641.5601.

Cardi/AM electric Safety – Barry Manfredi 401.739.8300 #134 Dianna Bernard  
401.739.8300 #167.

Ambulance, Police, Fire – 911.

OSHA – 401.528.4669.

DEM – 401.222.6800.

Cardi/AM Electric main office number – 401.739.8300.

**Training** – All employees must be trained in all aspects of Broken lamps, with Mercury and Ballasts with PCB's.

### **Ballast Containing PCB's.**

Polychlorinated biphenyls were widely used as an insulator in electrical equipment until 1979. The use and disposal of PCBS is federally regulated by the EPA. PCBs is considered a probable human carcinogen (cancer causing substance). The most likely way people become exposed to PCBs from light ballasts is through breathing contaminated air or touching PCB oil or PCB contaminated materials after ballast leaks or fire.

Should we find light Ballast containing PCBs the first step is to notify the AM electric superintendent, operations manager, Cardi Safety department and the facility owner. Notification of DEM (RI EPA) is required prior to start any physical work. DEM will required documentation to be filled out with all the details and a plan moving forward.

An abatement plan, including a clean-up plan, must be prepared prior to commencing any actions at the facility. The plan must include a description of the removal and abatement schedule, disposal technology & approach. All must be submitted and approved by EPA/DEM.

AM Electric will sub this work to a certified Electrical contractor and approved recycling company. AM electric would continue to manage the entire process and supply updates to the facility owner as requested.

# Required Proposal Forms

PLEASE COMPLETE THIS PAGE AND SUBMIT WITH YOUR PROPOSAL

**ACKNOWLEDGEMENT OF ADDENDUM**

(if applicable)

Addendum Number

Signature of Bidder

Addenda 2 - 12/30/2020

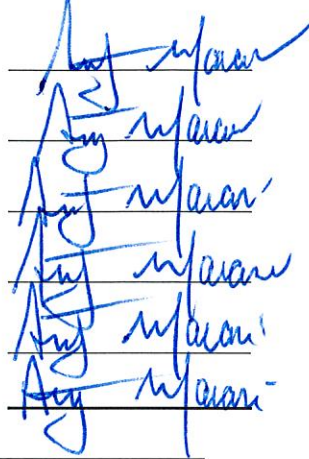
Addenda 3 - 1/20/2021

Addenda 4 - 1/20/2021

Addenda 5 - 1/25/2021

Addenda 6 - 1/27/2021

Addenda 7 - 1/27/2021



COMPANY NAME: AM Electric LLC

COMPANY ADDRESS: 385 Lincoln Ave, Warwick, RI 02888

COMPANY ADDRESS: \_\_\_\_\_

BIDDER'S SIGNATURE: 

BIDDER'S NAME (PRINT): Anthony Macari Jr.

TITLE: Chief Operating Officer TEL. NO.: 401-641-5601

EMAIL ADDRESS: AMacariJr@AMElectricLLC.com \*

\*Please include your email address. Future proposals will be emailed, unless otherwise noted.

BID FORM

Bid Number – ITB JTN-21-500  
Street Light Maintenance and LED Conversion

To:  
Town of Jamestown  
Address: 93 Narragansett Avenue  
Jamestown, RI 02835

From:  
AM Electric LLC  
Name of Proposer  
385 Lincoln Avenue  
Mailing Address  
Warwick  
Rhode Island 02888  
Town, State & Zip

\*\*\*\*\*  
THE PRICE OF EACH ITEM MUST BE WRITTEN IN WORDS AND FIGURES. IN CASE OF  
DISCREPANCY, THE AMOUNT SHOWN IN WORDS WILL GOVERN.  
\*\*\*\*\*  
All items shall be completely filled out in writing  
\*\*\*\*\*

Please provide the following cost items in writing:

Base Cost:


Total Cost of LED Conversion Option 1:	\$112,697.00 One Hundred Twelve Thousand Six Hundred Ninety Seven
Total Cost of LED Conversion Option 2:	\$118,777.00 One Hundred Eighteen Thousand Seven Hundred Seventy Seven
Total Cost of Controls Option 1:	\$4,788.00 Four Thousand Seven Hundred Eighty Eight
Total Cost of Controls Option 2:	\$34,200.00 Thirty Four Thousand Two Hundred
Total Cost of Controls Option 3:	\$68,400.00 Sixty Eight Thousand Four Hundred
Total Cost of Decorative Lights Option 1:	\$16,250.00 Sixteen Thousand Two Hundred Fifty
Total Cost of Decorative Lights Option 2:	\$5,458.00 Five Thousand Four Hundred Fifty Eight
Total Pre-Conversion Maintenance:	\$12,771.60 Twelve Thousand Seven Hundred Seventy One and Sixty Cents
Total Post-Conversion Maintenance:	\$12,771.60 Twelve Thousand Seven Hundred Seventy One and Sixty Cents
Total GIS Lighting Survey:	\$12,000.00 Twelve Thousand Dollars

AM Electric LLC  
Company Name of Proposer

385 Lincoln Avenue  
Mailing Address (PO Box or street)

Warwick, RI 02888  
Town, State, and Zip Code

Anthony Macari Jr.  
Name of Authorized Representative

 Chief Operating Officer  
Signature Title  
Limited Liability Company

Type of Business (Corp, Partnership, Sole Proprietorship)

401-641-5601 401-736-2977  
Telephone Number Facsimile

#### CONTRACTOR'S PROPOSAL

The undersigned Proposer agrees that he will contract with the Town to provide all necessary labor, supervision, tools, and other means to do all the work and furnish all the materials specified in the contract in the manner and time therein prescribed, and that he will take in full payment the amount set forth hereon.

The Town will have the sole authority to enter into an Agreement under this Invitation for Bid with the Bidder of its choice based on the evaluation criteria referenced herein. The Town has the sole right to select any Bid Item or combination of Bid Items when making an award.

**BIDDER STATEMENT REGARDING INSURANCE COVERAGE**

**Bid Number – ITB JTN-21-500**

**Street Light Maintenance and LED Conversion**

BIDDER HEREBY CERTIFIES that the Bidder has reviewed and understands the insurance coverage requirements specified in the Request for Proposal No2020-07. Should the Bidder be awarded the contract for the work, Bidder further certifies that the Bidder can meet the specified requirements for insurance and agrees to name the Town as Additional Insured for the work specified.

**Insurance Required:**

Workmen's Compensation and Employment Liability Insurance in compliance with statutory limits.  
Comprehensive General Liability Insurance including Products Completed, Contractual, Property, and Personal Injury coverage with combined single limits of \$1,000,000 per occurrence and in the aggregate.  
Professional Liability Insurance with a limit of \$1,000,000 per claim and in the aggregate. Automobile Liability Insurance including non-owned and hired automobiles with the limits listed below.

Bodily Injury	\$1,000,000 each person
	\$1,000,000 each occurrence
Property Damage	\$1,000,000 each occurrence

AM Electric LLC

\_\_\_\_\_  
Name of Bidder (Person, Firm, or Corporation)

  
\_\_\_\_\_  
Signature of Bidder's Authorized Representative

Anthony Macari Jr., Chief Operating Officer

\_\_\_\_\_  
Name & Title of Authorized Representative

01/28/2021

\_\_\_\_\_  
Date of Signing

### BIDDER STATEMENT OF RELEVANT EXPERIENCE

Bidders should provide a minimum of three (3) references from similar projects performed for any local government clients within the last five years. Information provided shall include:

Client/Business name;

Project description;

Project dates (starting and ending);

Client/Business project manager name and telephone number;

Contract amount.

I hereby certify that I have performed the work listed below.

  
Signature of Bidder

CLIENT/ BUSINESS NAME	PROJECT DESCRIPTION	PROJECT DATES	CLIENT/BUSINESS CONTACT	CONTRACT AMOUNT
RIDOT Main St, Scituate, RI Improvements	16 -Decorative LED Light Fixtures and Poles	01/08/2020 - 10/28/2020	Carm Piccione Superintendent 401-640-6477	\$245,611.00
RIDOT Apponaug Circle By- Pass, Warwick, RI	9 - Decorative LED Lights, 5 - 30' High- way LED Fixtures & Poles	03/21/2018 - 01/30/2019	William Laurie RIDOT Resident Engineer 401-559-9597	\$55,717.00
University of RI Lower College Rd South Kingstown, RI	23 - New Decorative Lighting	06/05/2018 - 11/23/2018	Alfred Nazareth Superintendent 401-954-5567	\$143,086.00



### PROPOSED SUBCONTRACTORS

THE BIDDER SHALL STATE THE NAMES OF ALL THE SUBCONTRACTORS  
THAT THEY PROPOSE TO USE

Note: If more than two (2) subcontractors are proposed, provide multiple copies of this form with the various entities' information filled in below.

If none, write "None" None

\*Description of Work

Proposed Subcontractor, Name: \_\_\_\_\_

Address: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Description of Work

Proposed Subcontractor, Name: \_\_\_\_\_

Address: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

\*Insert description of Work and subcontractors' names as may be required.

This is to certify that all names of the above-mentioned subcontractors are submitted with full knowledge and consent of the respective parties.

The Bidder warrants that none of the proposed subcontractors have any conflict of interest in respect to this Contract.

Bidder AM Electric LLC  
(Fill in Name)

By Anthony Macari Jr., Chief Operating Officer

(Signature and Title)



**BID BOND**

See Attached  
Bid Bond

KNOW ALL MEN BY THESE PRESENTS, that we, the undersigned AM Electric LLC, as Principal, and , as Surety, are hereby held and firmly bound unto the TOWN OF JAMESTOWN, RHODE ISLAND, as OWNER in the penal sum of (\$ 10% of Value ), for the payment of which, well and truly to be made, we hereby jointly and severally bind ourselves, successors and assigns.

Signed, this 28th day of January, 20 21.

The condition of the above obligation is such that whereas the Principal has submitted to the Town of Jamestown, Rhode Island, a certain BID, attached hereto and hereby made a part hereof to enter into a Contract in writing, for \_\_\_\_\_.

NOW, THEREFORE,

If said BID shall be rejected, or

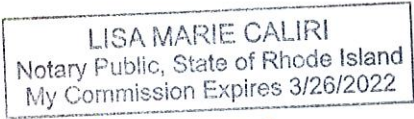
If said BID shall be accepted and the Principal shall execute and deliver a Contract in the Form Of Contract attached hereto (properly completed in accordance with said BID) and shall furnish a Performance Bond and a Labor and Material Payment Bond for his/her faithful performance of said Contract, and for the payment of all persons performing labor or furnishing materials in connection therewith, and shall in all other respects perform the Agreement created by the acceptance of said BID, then this obligation shall be void, otherwise the same shall remain in force and effect; it being expressly understood and agreed that the liability of the Surety for any and all claims hereunder shall, in no event, exceed the penal amount of this obligation as herein stated.

The Surety, for value received, hereby stipulates and agrees that the obligations of said Surety and its BOND shall be in no way impaired or affected by any extension of the time with which the OWNER may accept such BID; and said Surety does hereby waive notice of any such extension.

IN WITNESS WHEREOF, the Principal and the Surety have hereunto set their hands and seals, and such of them as are corporations have caused their corporate seals to be hereto affixed and these presents to be signed by their proper officers, the day and year first set forth above.

\_\_\_\_\_ and AM Electric LLC Principal Notary  
Seal

Notary  
By: *Lisa Marie Caliri* and  
Seal



Surety

*#762252*

IMPORTANT: Surety companies executing BONDS must appear on the Treasury Department's most current list (Circular 570 as amended) and be authorized to transact business in the State where the project is located.

To Be Completed, Notarized, and Submitted with Bid

**NON-COLLUSION AFFIDAVIT**

Bid Number – ITB **JTN-21-500**

Street Light Maintenance and LED Conversion

State of Rhode Island Counties of Newport and Providence“.  
AM Electric LLC, Bidder, being first duly sworn, deposes and says  
that he or she is Owner of the party making the foregoing bid that the bid is not made in the interest of, or  
on behalf of, any undisclosed person, partnership, company, association, organization, or corporation; that  
the bid is genuine and not collusive or sham; that the Bidder has not directly or indirectly induced or  
solicited any other Bidder to put in a false or sham bid, and has not directly or indirectly colluded,  
conspired, connived, or agreed with any Bidder or anyone else to put in a sham bid, or that anyone shall  
refrain from bidding; that the Bidder has not in any manner, directly or indirectly, sought by agreement,  
communication, or conference with anyone to fix the bid price of the Bidder or any other Bidder, or to fix  
any overhead, profit, or cost element of the bid price, or of that of any other Bidder, or to secure any  
advantage against the public body awarding the contract of anyone interested in the proposed contract;  
that all statements contained in the bid are true; and further, that the Bidder has not, directly or indirectly,  
submitted his or her bid price or any breakdown thereof, or the contents thereof, or divulged information  
or data relative thereto, or paid, and will not pay, any fee to any corporation, partnership, company  
association, organization, bid depository, or to any member or agent thereof to effectuate a collusive or  
sham bid."

2/9/2021

Date

AM Electric LLC

Bidder name

(Person, Firm, Corp.)

385 Lincoln Avenue

Address

Warwick, RI 02888

City, State, Zip

Warwick, Rhode Island

(Signed at)

Authorized Representative

Anthony Macari Jr.

Representative's Name

Chief Operating Officer

Representative's Title



# Document A310™ – 2010

Conforms with The American Institute of Architects AIA Document 310

## Bid Bond

### CONTRACTOR:

(Name, legal status and address)

AM Electric, LLC  
385 Lincoln Avenue  
Warwick, RI 02888

### SURETY:

(Name, legal status and principal place of business)

United States Fire Insurance Company  
305 Madison Avenue  
Morristown, NJ 07962  
Mailing Address for Notices

This document has important legal consequences. Consultation with an attorney is encouraged with respect to its completion or modification.

Any singular reference to Contractor, Surety, Owner or other party shall be considered plural where applicable.

### OWNER:

(Name, legal status and address)

Town of Jamestown  
93 Narragansett Avenue  
Jamestown, RI 02835

BOND AMOUNT: 10% Ten Percent of Amount Bid

### PROJECT:

(Name, location or address, and Project number, if any)

Street Light Maintenance & LED Conversion - Solicitation No. JTN.21.500

The Contractor and Surety are bound to the Owner in the amount set forth above, for the payment of which the Contractor and Surety bind themselves, their heirs, executors, administrators, successors and assigns, jointly and severally, as provided herein. The conditions of this Bond are such that if the Owner accepts the bid of the Contractor within the time specified in the bid documents, or within such time period as may be agreed to by the Owner and Contractor, and the Contractor either (1) enters into a contract with the Owner in accordance with the terms of such bid, and gives such bond or bonds as may be specified in the bidding or Contract Documents, with a surety admitted in the jurisdiction of the Project and otherwise acceptable to the Owner, for the faithful performance of such Contract and for the prompt payment of labor and material furnished in the prosecution thereof; or (2) pays to the Owner the difference, not to exceed the amount of this Bond, between the amount specified in said bid and such larger amount for which the Owner may in good faith contract with another party to perform the work covered by said bid, then this obligation shall be null and void, otherwise to remain in full force and effect. The Surety hereby waives any notice of an agreement between the Owner and Contractor to extend the time in which the Owner may accept the bid. Waiver of notice by the Surety shall not apply to any extension exceeding sixty (60) days in the aggregate beyond the time for acceptance of bids specified in the bid documents, and the Owner and Contractor shall obtain the Surety's consent for an extension beyond sixty (60) days.

If this Bond is issued in connection with a subcontractor's bid to a Contractor, the term Contractor in this Bond shall be deemed to be Subcontractor and the term Owner shall be deemed to be Contractor.

When this Bond has been furnished to comply with a statutory or other legal requirement in the location of the Project, any provision in this Bond conflicting with said statutory or legal requirement shall be deemed deleted herefrom and provisions conforming to such statutory or other legal requirement shall be deemed incorporated herein. When so furnished, the intent is that this Bond shall be construed as a statutory bond and not as a common law bond.

Signed and sealed this 22nd day of January, 2021.

AM Electric, LLC

(Principal)

(Seal)

(Witness)

By:

(Title)

United States Fire Insurance Company

(Surety)

(Seal)

By:

(Title)

Jessica K. Piccirillo  
Attorney-in-Fact

(Witness) Jody A. Piccirillo



**POWER OF ATTORNEY  
UNITED STATES FIRE INSURANCE COMPANY  
PRINCIPAL OFFICE - MORRISTOWN, NEW JERSEY**

**KNOW ALL MEN BY THESE PRESENTS:** That United States Fire Insurance Company, a corporation duly organized and existing under the laws of the state of Delaware, has made, constituted and appointed, and does hereby make, constitute and appoint:

Jessica Piccirillo

each, its true and lawful Attorney(s)-In-Fact, with full power and authority hereby conferred in its name, place and stead, to execute, acknowledge and deliver: Any and all bonds and undertakings of surety and other documents that the ordinary course of surety business may require, and to bind United States Fire Insurance Company thereby as fully and to the same extent as if such bonds or undertakings had been duly executed and acknowledged by the regularly elected officers of United States Fire Insurance Company at its principal office.

This Power of Attorney limits the act of those named therein to the bonds and undertakings specifically named therein, and they have no authority to bind United States Fire Insurance Company except in the manner and to the extent therein stated.

Surety Bond No.: Bid Bond  
Principal: AM Electric, LLC  
Obligee: Town of Jamestown

This Power of Attorney revokes all previous Powers of Attorney issued on behalf of the Attorneys-In-Fact named above and expires on March 25<sup>th</sup>, 2024.

This Power of Attorney is granted pursuant to Article IV of the By-Laws of United States Fire Insurance Company as now in full force and effect, and consistent with Article III thereof, which Articles provide, in pertinent part:

Article IV, Execution of Instruments - Except as the Board of Directors may authorize by resolution, the Chairman of the Board, President, any Vice-President, any Assistant Vice President, the Secretary, or any Assistant Secretary shall have power on behalf of the Corporation:

(a) to execute, affix the corporate seal manually or by facsimile to, acknowledge, verify and deliver any contracts, obligations, instruments and documents whatsoever in connection with its business including, without limiting the foregoing, any bonds, guarantees, undertakings, recognizances, powers of attorney or revocations of any powers of attorney, stipulations, policies of insurance, deeds, leases, mortgages, releases, satisfactions and agency agreements;

(b) to appoint, in writing, one or more persons for any or all of the purposes mentioned in the preceding paragraph (a), including affixing the seal of the Corporation.

Article III, Officers, Section 3.11, Facsimile Signatures. The signature of any officer authorized by the Corporation to sign any bonds, guarantees, undertakings, recognizances, stipulations, powers of attorney or revocations of any powers of attorney and policies of insurance issued by the Corporation may be printed, facsimile, lithographed or otherwise produced. In addition, if and as authorized by the Board of Directors, dividend warrants or checks, or other numerous instruments similar to one another in form, may be signed by the facsimile signature or signatures, lithographed or otherwise produced, of such officer or officers of the Corporation as from time to time may be authorized to sign such instruments on behalf of the Corporation. The Corporation may continue to use for the purposes herein stated the facsimile signature of any person or persons who shall have been such officer or officers of the Corporation, notwithstanding the fact that he may have ceased to be such at the time when such instruments shall be issued.

**IN WITNESS WHEREOF**, United States Fire Insurance Company has caused these presents to be signed and attested by its appropriate officer and its corporate seal hereunto affixed this 25<sup>th</sup> day of March, 2019.



**UNITED STATES FIRE INSURANCE COMPANY**

*A.R. Slimowicz*

Anthony R. Slimowicz, Executive Vice President

State of New Jersey }  
County of Morris }

On this 25<sup>th</sup> day of March 2019, before me, a Notary public of the State of New Jersey, came the above named officer of United States Fire Insurance Company, to me personally known to be the individual and officer described herein, and acknowledged that he executed the foregoing instrument and affixed the seal of United States Fire Insurance Company thereto by the authority of his office.

**SONIA SCALA  
NOTARY PUBLIC STATE OF NEW JERSEY  
NO. 2163686**

**MY COMMISSION EXPIRES 3/25/2024**

Sonia Scala

*Sonia Scala*

(Notary Public)

I, the undersigned officer of United States Fire Insurance Company, a Delaware corporation, do hereby certify that the original Power of Attorney of which the foregoing is a full, true and correct copy is still in force and effect and has not been revoked.

**IN WITNESS WHEREOF**, I have hereunto set my hand and affixed the corporate seal of United States Fire Insurance Company on the 22nd day of January, 2021.



**UNITED STATES FIRE INSURANCE COMPANY**

*Al Wright*

Al Wright, Senior Vice President



# CERTIFICATE OF LIABILITY INSURANCE

DATE (MM/DD/YYYY)

01/05/2021

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AFFIRMATIVELY OR NEGATIVELY AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW. THIS CERTIFICATE OF INSURANCE DOES NOT CONSTITUTE A CONTRACT BETWEEN THE ISSUING INSURER(S), AUTHORIZED REPRESENTATIVE OR PRODUCER, AND THE CERTIFICATE HOLDER.

**IMPORTANT:** If the certificate holder is an **ADDITIONAL INSURED**, the policy(ies) must have **ADDITIONAL INSURED** provisions or be endorsed. If **SUBROGATION IS WAIVED**, subject to the terms and conditions of the policy, certain policies may require an endorsement. A statement on this certificate does not confer rights to the certificate holder in lieu of such endorsement(s).

<b>PRODUCER</b> The Hilb Group of New England, LLC 16 Main St  East Greenwich RI 02818	<b>CONTACT NAME:</b> Lynn Dunham, AAI, AIS <b>PHONE (A/C, No, Ext):</b> (800) 232-0582 <b>FAX (A/C, No):</b> (401) 884-0290 <b>E-MAIL ADDRESS:</b> ldunham@hilbgroup.com
<b>INSURED</b> AM Electric LLC 385 Lincoln Ave  Warwick RI 02888-3409	<b>INSURER(S) AFFORDING COVERAGE</b> <b>INSURER A:</b> Zurich-American Insurance Co <b>INSURER B:</b> American Guarantee & Liability <b>INSURER C:</b> <b>INSURER D:</b> <b>INSURER E:</b> <b>INSURER F:</b>
	<b>NAIC #</b> 16535 26247

**COVERAGES****CERTIFICATE NUMBER:** CL2072747363**REVISION NUMBER:**

THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

INSR LTR	TYPE OF INSURANCE	ADDL INSD	SUBR WVD	POLICY NUMBER	POLICY EFF (MM/DD/YYYY)	POLICY EXP (MM/DD/YYYY)	LIMITS
A	<input checked="" type="checkbox"/> <b>COMMERCIAL GENERAL LIABILITY</b> <input type="checkbox"/> CLAIMS-MADE <input checked="" type="checkbox"/> OCCUR  GEN'L AGGREGATE LIMIT APPLIES PER: <input type="checkbox"/> POLICY <input checked="" type="checkbox"/> PRO-JECT <input type="checkbox"/> LOC OTHER:			GLO0222672	08/01/2020	08/01/2021	EACH OCCURRENCE \$ 2,000,000 DAMAGE TO RENTED PREMISES (Ea occurrence) \$ 300,000 MED EXP (Any one person) \$ 5,000 PERSONAL & ADV INJURY \$ 2,000,000 GENERAL AGGREGATE \$ 4,000,000 PRODUCTS - COMP/OP AGG \$ 4,000,000
A	<b>AUTOMOBILE LIABILITY</b> <input checked="" type="checkbox"/> ANY AUTO <input type="checkbox"/> OWNED AUTOS ONLY <input type="checkbox"/> SCHEDULED AUTOS <input checked="" type="checkbox"/> HIRED AUTOS ONLY <input checked="" type="checkbox"/> NON-OWNED AUTOS ONLY			BAP0222673	08/01/2020	08/01/2021	COMBINED SINGLE LIMIT (Ea accident) \$ 2,000,000 BODILY INJURY (Per person) \$ BODILY INJURY (Per accident) \$ PROPERTY DAMAGE (Per accident) \$
B	<input checked="" type="checkbox"/> <b>UMBRELLA LIAB</b> <input checked="" type="checkbox"/> OCCUR <input type="checkbox"/> EXCESS LIAB <input type="checkbox"/> CLAIMS-MADE DED <input checked="" type="checkbox"/> RETENTION \$ 0			AUC5932416	08/01/2020	08/01/2021	EACH OCCURRENCE \$ 10,000,000 AGGREGATE \$ 10,000,000
A	<b>WORKERS COMPENSATION AND EMPLOYERS' LIABILITY</b> ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? (Mandatory in NH) <input type="checkbox"/> Y/N If yes, describe under DESCRIPTION OF OPERATIONS below		N/A	WC0222674	08/01/2020	08/01/2021	<input checked="" type="checkbox"/> PER STATUTE <input type="checkbox"/> OTH-ER E.L. EACH ACCIDENT \$ 1,000,000 E.L. DISEASE - EA EMPLOYEE \$ 1,000,000 E.L. DISEASE - POLICY LIMIT \$ 1,000,000

**DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (ACORD 101, Additional Remarks Schedule, may be attached if more space is required)**

Bid Number - ITB JTN-21-500 Street Light Maintenance and LED Conversion

**CERTIFICATE HOLDER****CANCELLATION**Town of Jamestown  
93 NARRAGANSETT AVE

Jamestown

RI 02835

SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS.

AUTHORIZED REPRESENTATIVE

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