

## FEATURES

- TIR Optics
- Available in 580nm, 3000K, 4000K and 5000K standard CCT
- Type 1, 2, 3, 4W, 5Q, 5W distributions
- 0 - 10V dimming drivers standard



## SPECIFICATIONS

### CONSTRUCTION

- One piece die-cast housing, low copper (<0.6% Cu) Aluminum Alloy with integral cooling ribs over the optical chamber and electrical compartment
- Solid barrier wall separates optical and electrical compartments
- Double-thick wall with gussets on the support-arm mounting end
- Housing forms a half cylinder with 55° front face plane providing a recess to allow a flush single-latch detail
- All hardware is stainless steel or electro-zinc plated steel
- Finish: fade and abrasion resistant, electrostatically applied, thermally cured, triglycidal isocyanurate (TGIC) polyester powdercoat
- One-piece die-cast, low copper (<0.6% Cu) aluminum alloy lens frame with 1" minimum depth around the gasket flange
- Optional clear 1/8" thick tempered glass lens retained by eight steel clips with full silicone gasketing around the perimeter
- Optional, fixture supplied with a one-piece flat, clear, UV stabilized polycarbonate, fully gasketed. CAUTION: Use only when vandalism is anticipated to be high. Useful life is limited by UV discoloration from sunlight. A program of regular inspection and periodic replacement is highly recommended to maintain optimum fixture performance
- One-piece extruded aluminum arm with internal bolt guides and fully radiussed top and bottom
- Luminaire-to-pole attachment is by internal draw bolts, and includes a pole reinforcing plate with wire strain relief

### CONSTRUCTION (CONTINUED)

- Arm is circular cut for specified round pole
- Optional cast, low copper aluminum horizontal slip-fitter with adaptor plate to secure the luminaire to 2" IPS pipe size arms
- Optional cast aluminum wall mount plate assembly. Attaches to the wall over the junction box. Luminaire attaches to the wall plate

### OPTICS

- Optical cartridge system consisting of a die cast heat sink, LED engine, TIR optics, gasket and bezel plate
- Cartridge is easily disassembled to replace components. Optics are held in place without the use of adhesives
- Molded silicone gasket ensures a weather-proof seal around each individual LED
- Features revolutionary individual LED optical control based on high performance TIR optical designs
- Optional BackLight Control for complete control of unwanted backlight.
- Type 1, 2, 3, 4W, 5Q, and 5W standard distributions Custom available
- 3000K, 4000K, 5000K standard CCT. Amber and custom available
- Die-cast, low copper aluminum heat sink modules provide thermal transfer at PCB level
- Anodized aluminum heat sink modules

### INSTALLATION

- Fixtures must be grounded in accordance with national, state and/or local electrical codes. Failure to do so may result in serious personal injury

Era®



## RELATED PRODUCTS

Ouro

Pavilion

PGL8

### ELECTRICAL

- Dimming range from 10% to 100% through the use of standard 0-10V interface on the programmable driver
- Modular wiring harness in the service area provides user access to the dimming circuitry
- Optional factory programmed dimming profile
- Surge protection: 10kV surge suppression
- SF for 120, 277, 347 Line volts  
DF for 208, 240, 480 Line volts
- Wiring: 14GA wires rated 150°C

### CONTROLS

- Button Photocell

### CERTIFICATIONS AND LISTINGS

- Listed to UL1598 and CSA C22.2#250.0-24 for wet locations
- RoHS compliant
- IDA approved, 3000K and warmer CCTs only
- This product qualifies as a "designated country construction material" per FAR 52.225-11 Buy American-Construction Materials under Trade Agreements effective 6/06/2020. See Buy American Solutions

### WARRANTY

- 5 year warranty

| KEY DATA                   |                 |
|----------------------------|-----------------|
| Lumen Range                | 5,361–20,195    |
| Wattage Range              | 95–159.1        |
| Efficacy Range (LPW)       | 50.9–140.7      |
| Reported Life (Hours)      | L70/60,000      |
| Weight                     | 70 lbs 31.75 kg |
| EPS Front View / Side View | 1.5 / 1.5       |

DATE:

LOCATION:

TYPE:

PROJECT:

CATALOG #:

ORDERING GUIDE

Example: RA25A2-72L-615-3K7-3-UNV-BLT-CLR-PC- HA01L

CATALOG #

HOUSING

| Housing |          |               |          | Current              |                               | CCT/CRI                      |              | Distribution |          | Voltage |                          | Fixture Finish |                    | Lens |  |
|---------|----------|---------------|----------|----------------------|-------------------------------|------------------------------|--------------|--------------|----------|---------|--------------------------|----------------|--------------------|------|--|
| RA25A2  | RA25 2.0 | 72L - 415     | 9,000lm  | AM                   | Amber-595nm Peak <sup>1</sup> | 1                            | Type I       | UNV          | 120-277V | BLS     | Black Gloss Smooth       | Blank          | No Lens            |      |  |
|         |          | 72L - 615     | 12,800lm | 3K7                  | 3000K, 70 CRI                 | 2                            | Type II      | 347          | 347V     | BLT     | Black Matte Textured     | CLR            | Clear Lens         |      |  |
|         |          | 72L - 700     | 15,000lm | 4K7                  | 4000K, 70 CRI                 | 3                            | Type III     | 480          | 480V     | DBS     | Dark Bronze Gloss Smooth | PL             | Polycarbonate Lens |      |  |
|         | 5K7      | 5000K, 70 CRI | 4W       | Type IV Wide         | DBT                           | Dark Bronze Matte Textured   |              |              |          |         |                          |                |                    |      |  |
|         |          |               | 5Q       | Type V Square Medium | GTT                           | Graphite Matte Textured      |              |              |          |         |                          |                |                    |      |  |
|         |          |               | 5W       | Type V Wide (Round)  | LGS                           | Light Grey Gloss Smooth      |              |              |          |         |                          |                |                    |      |  |
|         |          |               |          |                      | LGT                           | Light Grey Matte Textured    |              |              |          |         |                          |                |                    |      |  |
|         |          |               |          |                      | PSS                           | Platinum Silver Gloss Smooth |              |              |          |         |                          |                |                    |      |  |
|         |          |               |          |                      | VGT                           | Verde Green Matte Textured   |              |              |          |         |                          |                |                    |      |  |
|         |          |               |          |                      | WHS                           | White Gloss Smooth           |              |              |          |         |                          |                |                    |      |  |
|         |          |               |          |                      | WHT                           | White Matte Textured         |              |              |          |         |                          |                |                    |      |  |
|         |          |               |          |                      | Color Option                  |                              |              |              |          |         |                          |                |                    |      |  |
|         |          |               |          |                      | CC <sup>2</sup>               |                              | Custom Color |              |          |         |                          |                |                    |      |  |

| Shielding |                                 | Fuse Option       |             | Photocell |                  | Pole Mounted Sensors |                                               | Arm Type           |                                            |                   |                                |
|-----------|---------------------------------|-------------------|-------------|-----------|------------------|----------------------|-----------------------------------------------|--------------------|--------------------------------------------|-------------------|--------------------------------|
| BC        | Back Light Control <sup>3</sup> | SF                | Single Fuse | PC        | Button Photocell | SCH-R                | Round Pole Mounted Occupancy Sensor up to 30' | <u>Pole Arm</u>    | <u>Pole Tenon Mount</u>                    | <u>Wall Mount</u> | <u>Style</u>                   |
|           |                                 | DF                | Double Fuse |           |                  |                      |                                               | HA03L <sup>4</sup> | HA03L-TM1, HA03L-TM2, HA03L-TM3, HA03L-TM4 | HA11L-W           | Side Pole Swept Cast Arm       |
|           |                                 |                   |             |           |                  |                      |                                               | HA11L              | HA11L-TM1, HA11L-TM2, HA11L-TM3, HA11L-TM4 | HA12L-W           | Side Pole S-Shaped Up Cast Arm |
|           |                                 |                   |             |           |                  |                      |                                               | HA12L              | HA12L-TM1, HA12L-TM2, HA12L-TM3, HA12L-TM4 | HA14L-W           | Side Pole Neo-Classical Arm    |
|           |                                 |                   |             |           |                  |                      |                                               | HA14L              | HA14L-TM1, HA14L-TM2, HA14L-TM3, HA14L-TM4 |                   |                                |
|           |                                 | <u>Arm Finial</u> |             |           |                  |                      |                                               |                    |                                            |                   |                                |
|           |                                 | HAF02             |             |           |                  |                      |                                               |                    |                                            |                   |                                |

Notes:

1 Turtle friendly

2 Consult factory for custom color, marine and corrosive finish options

3 Back Light Control not available for Type 5Q and Type 5W

4 HAS and HSAS Pole only

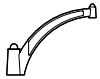
|            |           |
|------------|-----------|
| DATE:      | LOCATION: |
| TYPE:      | PROJECT:  |
| CATALOG #: |           |

PRODUCT EXCEPTIONS & DETAILS

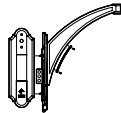
- Note: Refer to Kim Lighting's Arms and Poles Specification Guide for EPA information and additional information on arm, tenon and wall mounting.  
1W Wall Mount arm is not included and must be ordered separately.

ARM OPTIONS

POST TOP SWEPT CAST ARM¹

| ARM                                                                               | TENON MOUNT                                                                       | WALL MT  |
|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|----------|
|  |  |          |
| HA03L                                                                             | HA03L-TM1<br>HA03L-TM1<br>HA03L-TM1<br>HA03L-TM1                                  |          |
| MOUNTING:                                                                         | 1A                                                                                | 2B 3Y 4C |

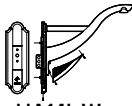
SIDE POLE SWEPT CAST ARM

| ARM                                                                               | TENON MOUNT                                                                        | WALL MT                                                                             |
|-----------------------------------------------------------------------------------|------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
|  |  |  |
| HA11L                                                                             | HA11L-TM1<br>HA11L-TM2<br>HA11L-TM3<br>HA11L-TM4                                   | HA11L-W                                                                             |
| MOUNTING:                                                                         | 1A                                                                                 | 2B 3Y 4C                                                                            |

SIDE POLE S-SHAPED UP CAST ARM

| ARM                                                                               | TENON MOUNT                                                                       | WALL MT                                                                           |
|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|
|  |  |  |
| HA12L                                                                             | HA12L-TM1<br>HA12L-TM2<br>HA12L-TM3<br>HA12L-TM4                                  | HA12L-W                                                                           |
| MOUNTING:                                                                         | 1A                                                                                | 2B 3Y 4C                                                                          |

SIDE POLE NEO-CLASSIC ARM¹

| ARM                                                                               | TENON MOUNT                                                                        | WALL MT                                                                             |
|-----------------------------------------------------------------------------------|------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
|  |  |  |
| HA14L                                                                             | HA14L-TM1<br>HA14L-TM2<br>HA14L-TM3<br>HA14L-TM4                                   | HA14L-W                                                                             |
| MOUNTING:                                                                         | 1A                                                                                 | 2B 3Y 4C                                                                            |

ARM FINIAL

|                                                                                     |                                                                                         |
|-------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|
| HAFO2                                                                               | TRADITIONAL STYLE FINIAL<br>AVAILABLE TO CLOSE OFF<br>MOUNTING HUB OPPOSITE<br>FIXTURE. |
|  | ¹Not available on arm where indicated.                                                  |

## PRODUCT EXCEPTIONS & DETAILS (CONTINUED)

### CONTROLS

#### BUTTON PHOTOCELL

- Factory installed photocell inside housing with a fully gasketed sensor on the side wall.

#### POLE MOUNTED

##### ROUND POLE-MOUNTED OCCUPANCY

##### SENSOR UP TO 30'

##### SCH-R

- Round Pole Mounted Occupancy Sensor up to 30' - Outdoor occupancy sensor with 0-10V interface dimming control mounts directly to the pole. Wide 360° pattern. Module colors available Black, Gray, and White. Module is cut for round pole mounting. Pole diameter needed. Pole to be drilled in the field with provided installation instructions.
- Ordering Example: SCH-R4/277<sup>2</sup>/BL<sup>3</sup>

##### SQUARE POLE-MOUNTED OCCUPANCY

##### SENSOR UP TO 30'

##### SCH-S

- Square Pole Mounted Occupancy Sensor up to 30' - Outdoor occupancy sensor with 0-10V interface dimming control mounts directly to the pole. Wide 360° pattern. Module colors available Black, Gray, and White. Module is cut for square pole mounting.
- Ordering Example: SCH-S/277<sup>2</sup>/BL<sup>3</sup>

#### DIMMING:

- Dimming range from 100% to 10% through the use of the standard 0-10V interface on the programmable driver.
- Modular wiring harness in the service area provides user access to the dimming circuitry.
- Dimming circuitry compatible with 0-10V, user-defined control devices.
- Optional factory programmed dimming profile.

#### ASTRODIM

- AstroDIM provides multi-stage night-time power reduction based on an internal timer referenced to the power on/off time. There is no need for an external control infrastructure. The unit automatically performs a dimming profile based on the predefined scheduled reference to the midpoint, which is calculated based on the power on/off times. Available upon request.

#### OPTIONAL FUSING:

- SF for 120, 277, and 347 Line volts
- DF for 208, 240, and 480 Line volts
- High temperature fuse holders factory installed inside the fixture housing.
- Fuse is included.

#### CAUTION:

- Fixtures must be grounded in accordance with national, state and/or local electrical codes. Failure to do so may result in serious personal injury.

DATE:

LOCATION:

TYPE:

PROJECT:

CATALOG #:

DELIVERED LUMENS

NO LENS

| LED # | Nominal Lumen Package | Drive Current | Distribution | 3000K 70CRI |            |   |   |       | 4000K 70CRI |            |   |   |       | 5000K 70CRI |            |   |   |       |
|-------|-----------------------|---------------|--------------|-------------|------------|---|---|-------|-------------|------------|---|---|-------|-------------|------------|---|---|-------|
|       |                       |               |              | Lumen       | BUG Rating |   |   | lm/w  | Lumen       | BUG Rating |   |   | lm/w  | Lumen       | BUG Rating |   |   | lm/w  |
|       |                       |               |              |             | B          | U | G |       |             | B          | U | G |       |             | B          | U | G |       |
| 72L   | 9,000                 | 415           | 1            | 13041       | 1          | 0 | 1 | 137.3 | 13155       | 1          | 0 | 1 | 138.5 | 13364       | 1          | 0 | 1 | 140.7 |
|       |                       |               | 1-BC         | 7140        | 0          | 0 | 0 | 75.2  | 7202        | 0          | 0 | 0 | 75.8  | 7317        | 0          | 0 | 0 | 77.0  |
|       |                       |               | 2            | 12491       | 2          | 0 | 2 | 131.5 | 12600       | 2          | 0 | 2 | 132.6 | 12800       | 2          | 0 | 2 | 134.7 |
|       |                       |               | 2-BC         | 5714        | 0          | 0 | 1 | 60.2  | 5764        | 0          | 0 | 1 | 60.7  | 5856        | 0          | 0 | 1 | 61.6  |
|       |                       |               | 3            | 12156       | 2          | 0 | 3 | 128.0 | 12262       | 2          | 0 | 3 | 129.1 | 12457       | 2          | 0 | 3 | 131.1 |
|       |                       |               | 3-BC         | 5468        | 0          | 0 | 1 | 57.6  | 5516        | 0          | 0 | 1 | 58.1  | 5604        | 0          | 0 | 1 | 59.0  |
|       |                       |               | 4W           | 12516       | 2          | 0 | 3 | 131.7 | 12625       | 2          | 0 | 3 | 132.9 | 12826       | 2          | 0 | 3 | 135.0 |
|       |                       |               | 4W-BC        | 5361        | 0          | 0 | 1 | 56.4  | 5408        | 0          | 0 | 1 | 56.9  | 5494        | 0          | 0 | 1 | 57.8  |
|       |                       |               | 5Q           | 12895       | 3          | 0 | 2 | 135.7 | 13007       | 3          | 0 | 2 | 136.9 | 13214       | 3          | 0 | 2 | 139.1 |
|       |                       |               | 5W           | 12324       | 4          | 0 | 2 | 129.7 | 12431       | 4          | 0 | 2 | 130.9 | 12629       | 4          | 0 | 2 | 132.9 |
|       | 12,800                | 615           | 1            | 18184       | 2          | 0 | 1 | 129.3 | 18342       | 2          | 0 | 1 | 130.4 | 18634       | 2          | 0 | 1 | 132.5 |
|       |                       |               | 1-BC         | 9956        | 0          | 0 | 1 | 70.8  | 10042       | 0          | 0 | 1 | 71.4  | 10202       | 0          | 0 | 1 | 72.6  |
|       |                       |               | 2            | 17416       | 2          | 0 | 2 | 123.9 | 17568       | 2          | 0 | 2 | 124.9 | 17848       | 2          | 0 | 2 | 126.9 |
|       |                       |               | 2-BC         | 7968        | 0          | 0 | 1 | 56.7  | 8037        | 0          | 0 | 1 | 57.2  | 8165        | 1          | 0 | 1 | 58.1  |
|       |                       |               | 3            | 16949       | 2          | 0 | 3 | 120.5 | 17097       | 2          | 0 | 3 | 121.6 | 17369       | 2          | 0 | 3 | 123.5 |
|       |                       |               | 3-BC         | 7625        | 0          | 0 | 2 | 54.2  | 7691        | 0          | 0 | 2 | 54.7  | 7813        | 0          | 0 | 2 | 55.6  |
|       |                       |               | 4W           | 17452       | 2          | 0 | 4 | 124.1 | 17604       | 2          | 0 | 4 | 125.2 | 17884       | 2          | 0 | 4 | 127.2 |
|       |                       |               | 4W-BC        | 7475        | 1          | 0 | 2 | 53.2  | 7540        | 1          | 0 | 2 | 53.6  | 7660        | 1          | 0 | 2 | 54.5  |
|       |                       |               | 5Q           | 17979       | 4          | 0 | 2 | 127.9 | 18136       | 4          | 0 | 2 | 129.0 | 18425       | 4          | 0 | 2 | 131.0 |
|       |                       |               | 5W           | 17183       | 4          | 0 | 2 | 122.2 | 17333       | 4          | 0 | 2 | 123.3 | 17609       | 4          | 0 | 2 | 125.2 |
|       | 15,000                | 700           | 1            | 19707       | 2          | 0 | 2 | 123.9 | 19879       | 2          | 0 | 2 | 124.9 | 20195       | 2          | 0 | 2 | 126.7 |
|       |                       |               | 1-BC         | 10790       | 0          | 0 | 1 | 67.8  | 10884       | 0          | 0 | 1 | 68.4  | 11057       | 0          | 0 | 1 | 69.8  |
|       |                       |               | 2            | 18875       | 3          | 0 | 3 | 118.6 | 19040       | 3          | 0 | 3 | 119.7 | 19343       | 3          | 0 | 3 | 121.0 |
|       |                       |               | 2-BC         | 8635        | 1          | 0 | 3 | 54.3  | 8710        | 1          | 0 | 1 | 54.7  | 8849        | 1          | 0 | 1 | 55.8  |
|       |                       |               | 3            | 18369       | 2          | 0 | 3 | 115.4 | 18529       | 2          | 0 | 3 | 117.1 | 18824       | 2          | 0 | 3 | 118.2 |
|       |                       |               | 3-BC         | 8263        | 1          | 0 | 2 | 51.9  | 8335        | 1          | 0 | 2 | 52.4  | 8468        | 1          | 0 | 2 | 53.1  |
|       |                       |               | 4W           | 18914       | 2          | 0 | 4 | 118.9 | 19078       | 2          | 0 | 4 | 119.9 | 19382       | 2          | 0 | 4 | 121.9 |
|       |                       |               | 4W-BC        | 8101        | 1          | 0 | 2 | 50.9  | 8172        | 1          | 0 | 2 | 51.4  | 8302        | 1          | 0 | 2 | 52.6  |
|       |                       |               | 5Q           | 19485       | 4          | 0 | 2 | 122.5 | 19655       | 4          | 0 | 2 | 123.5 | 19968       | 4          | 0 | 2 | 124.8 |
|       |                       |               | 5W           | 18623       | 4          | 0 | 2 | 117.0 | 18785       | 4          | 0 | 2 | 118.1 | 19084       | 4          | 0 | 2 | 119.3 |

| CRI Lumen Multiplier |        |        |
|----------------------|--------|--------|
| CCT                  | 80 CRI | 90 CRI |
| 3000K                | 0.9119 | 0.7033 |
| 4000K                | 0.8941 | N/A    |

| Amber |            |
|-------|------------|
| CCT   | Multiplier |
| 5000K | 1          |
| AM    | 0.1727     |

| 2700K Multiplier |            |
|------------------|------------|
| CCT              | Multiplier |
| 5000K            | 1          |
| 2700K            | 0.897      |

DATE:

LOCATION:

TYPE:

PROJECT:

CATALOG #:

DELIVERED LUMENS (CONTINUED)

CLR LENS

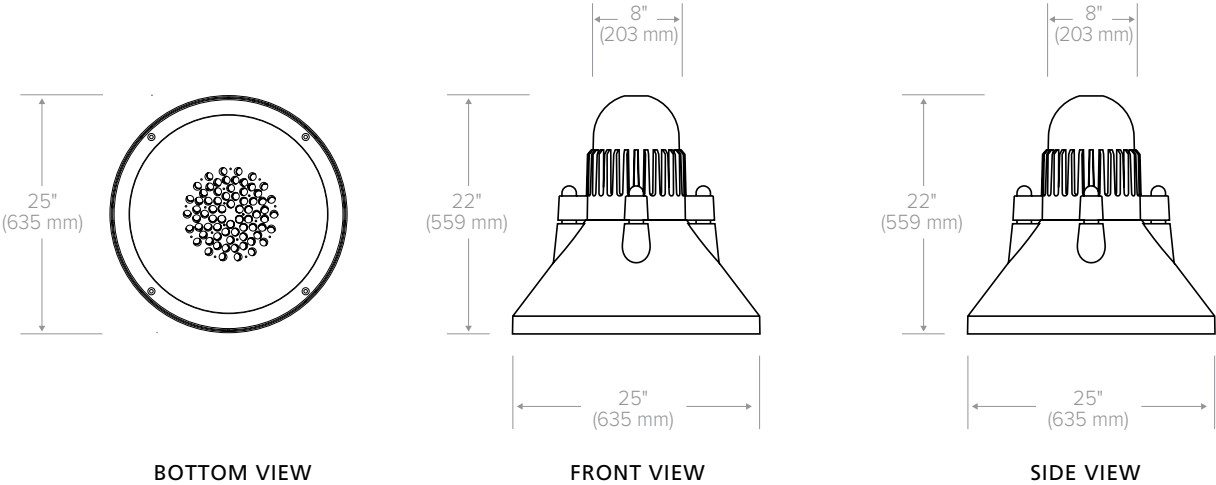
| LED # | Nominal Lumen Package | Drive Current | Distribution | 3000K 70CRI |            |   |   |       | 4000K 70CRI |            |   |   |       | 5000K 70CRI |            |   |   |       |
|-------|-----------------------|---------------|--------------|-------------|------------|---|---|-------|-------------|------------|---|---|-------|-------------|------------|---|---|-------|
|       |                       |               |              | Lumen       | BUG Rating |   |   | lm/w  | Lumen       | BUG Rating |   |   | lm/w  | Lumen       | BUG Rating |   |   | lm/w  |
|       |                       |               |              |             | B          | U | G |       |             | B          | U | G |       |             | B          | U | G |       |
| 72L   | 9,000                 | 415           | 1            | 11956       | 1          | 0 | 1 | 125.9 | 12060       | 1          | 0 | 1 | 127.0 | 12252       | 1          | 0 | 1 | 129.0 |
|       |                       |               | 1-BC         | 6546        | 0          | 0 | 0 | 68.9  | 6603        | 0          | 0 | 0 | 69.5  | 6708        | 0          | 0 | 0 | 70.6  |
|       |                       |               | 2            | 11452       | 2          | 0 | 2 | 120.5 | 11552       | 2          | 0 | 2 | 121.6 | 11736       | 2          | 0 | 2 | 123.5 |
|       |                       |               | 2-BC         | 5239        | 0          | 0 | 1 | 55.1  | 5285        | 0          | 0 | 1 | 55.6  | 5369        | 0          | 0 | 1 | 56.5  |
|       |                       |               | 3            | 11145       | 2          | 0 | 2 | 117.3 | 11242       | 2          | 0 | 2 | 118.3 | 11421       | 2          | 0 | 2 | 120.2 |
|       |                       |               | 3-BC         | 5013        | 0          | 0 | 1 | 52.8  | 5057        | 0          | 0 | 1 | 53.2  | 5138        | 0          | 0 | 1 | 54.1  |
|       |                       |               | 4W           | 11475       | 2          | 0 | 3 | 120.8 | 11575       | 2          | 0 | 3 | 121.8 | 11759       | 2          | 0 | 3 | 123.8 |
|       |                       |               | 4W-BC        | 4915        | 0          | 0 | 1 | 51.7  | 4958        | 0          | 0 | 1 | 52.2  | 5037        | 0          | 0 | 1 | 53.0  |
|       |                       |               | 5Q           | 11822       | 3          | 0 | 1 | 124.4 | 11925       | 3          | 0 | 1 | 125.5 | 12115       | 3          | 0 | 1 | 127.5 |
|       |                       |               | 5W           | 11299       | 4          | 0 | 2 | 118.9 | 11397       | 4          | 0 | 2 | 120.0 | 11578       | 4          | 0 | 2 | 121.9 |
|       | 12,800                | 615           | 1            | 16671       | 2          | 0 | 1 | 118.6 | 16816       | 2          | 0 | 1 | 119.6 | 17084       | 2          | 0 | 1 | 121.5 |
|       |                       |               | 1-BC         | 9128        | 0          | 0 | 0 | 64.9  | 9207        | 0          | 0 | 0 | 65.5  | 9354        | 0          | 0 | 0 | 66.5  |
|       |                       |               | 2            | 15968       | 2          | 0 | 2 | 113.6 | 16107       | 2          | 0 | 2 | 114.5 | 16363       | 2          | 0 | 2 | 116.4 |
|       |                       |               | 2-BC         | 7305        | 0          | 0 | 1 | 51.9  | 7368        | 0          | 0 | 1 | 52.4  | 7486        | 0          | 0 | 1 | 53.2  |
|       |                       |               | 3            | 15539       | 2          | 0 | 2 | 110.5 | 15674       | 2          | 0 | 2 | 111.5 | 15924       | 2          | 0 | 2 | 113.2 |
|       |                       |               | 3-BC         | 6990        | 0          | 0 | 2 | 49.7  | 7051        | 0          | 0 | 2 | 50.1  | 7163        | 0          | 0 | 2 | 50.9  |
|       |                       |               | 4W           | 16000       | 2          | 0 | 4 | 113.8 | 16139       | 2          | 0 | 4 | 114.8 | 16396       | 2          | 0 | 4 | 116.6 |
|       |                       |               | 4W-BC        | 6853        | 1          | 0 | 2 | 48.7  | 6913        | 1          | 0 | 2 | 49.2  | 7023        | 1          | 0 | 2 | 49.9  |
|       |                       |               | 5Q           | 16484       | 4          | 0 | 2 | 117.2 | 16627       | 4          | 0 | 2 | 118.2 | 16892       | 4          | 0 | 2 | 120.1 |
|       |                       |               | 5W           | 15754       | 4          | 0 | 2 | 112.0 | 15891       | 4          | 0 | 2 | 113.0 | 16144       | 4          | 0 | 2 | 114.8 |
|       | 15,000                | 700           | 1            | 18067       | 2          | 0 | 1 | 113.6 | 18225       | 2          | 0 | 1 | 114.5 | 18515       | 2          | 0 | 1 | 116.4 |
|       |                       |               | 1-BC         | 9892        | 0          | 0 | 1 | 62.2  | 9978        | 0          | 0 | 1 | 62.7  | 10137       | 0          | 0 | 1 | 63.7  |
|       |                       |               | 2            | 17305       | 2          | 0 | 2 | 108.8 | 17456       | 2          | 0 | 2 | 109.7 | 17734       | 2          | 0 | 2 | 111.5 |
|       |                       |               | 2-BC         | 7917        | 0          | 0 | 1 | 49.8  | 7986        | 0          | 0 | 1 | 50.2  | 8113        | 1          | 0 | 1 | 51.0  |
|       |                       |               | 3            | 16841       | 2          | 0 | 3 | 105.8 | 16988       | 2          | 0 | 3 | 106.8 | 17258       | 2          | 0 | 3 | 108.6 |
|       |                       |               | 3-BC         | 7576        | 0          | 0 | 2 | 47.6  | 7642        | 0          | 0 | 2 | 48.0  | 7764        | 0          | 0 | 2 | 48.8  |
|       |                       |               | 4W           | 17340       | 2          | 0 | 4 | 109.0 | 17491       | 2          | 0 | 4 | 109.9 | 17770       | 2          | 0 | 4 | 111.7 |
|       |                       |               | 4W-BC        | 7427        | 1          | 0 | 2 | 46.7  | 7492        | 1          | 0 | 2 | 47.1  | 7611        | 1          | 0 | 2 | 47.8  |
|       |                       |               | 5Q           | 17864       | 4          | 0 | 2 | 112.3 | 18020       | 4          | 0 | 2 | 113.3 | 18307       | 4          | 0 | 2 | 115.1 |
|       |                       |               | 5W           | 17073       | 4          | 0 | 2 | 107.3 | 17222       | 4          | 0 | 2 | 108.2 | 17496       | 4          | 0 | 2 | 110.0 |

DELIVERED LUMENS (CONTINUED)

PL LENS

| LED # | Nominal Lumen Package | Drive Current | Distribution | 3000K 70CRI |            |   |   |       | 4000K 70CRI |            |   |   |       | 5000K 70CRI |            |   |   |       |
|-------|-----------------------|---------------|--------------|-------------|------------|---|---|-------|-------------|------------|---|---|-------|-------------|------------|---|---|-------|
|       |                       |               |              | Lumen       | BUG Rating |   |   | lm/w  | Lumen       | BUG Rating |   |   | lm/w  | Lumen       | BUG Rating |   |   | lm/w  |
|       |                       |               |              |             | B          | U | G |       |             | B          | U | G |       |             | B          | U | G |       |
| 72L   | 9,000                 | 415           | 1            | 11712       | 1          | 0 | 1 | 123.3 | 11814       | 1          | 0 | 1 | 124.4 | 12003       | 1          | 0 | 1 | 126.3 |
|       |                       |               | 1-BC         | 6413        | 0          | 0 | 0 | 67.5  | 6469        | 0          | 0 | 0 | 68.1  | 6572        | 0          | 0 | 0 | 69.2  |
|       |                       |               | 2            | 11218       | 2          | 0 | 2 | 118.1 | 11316       | 2          | 0 | 2 | 119.1 | 11496       | 2          | 0 | 2 | 121.0 |
|       |                       |               | 2-BC         | 5132        | 0          | 0 | 1 | 54.0  | 5177        | 0          | 0 | 1 | 54.5  | 5259        | 0          | 0 | 1 | 55.4  |
|       |                       |               | 3            | 10917       | 2          | 0 | 2 | 114.9 | 11012       | 2          | 0 | 2 | 115.9 | 11188       | 2          | 0 | 2 | 117.8 |
|       |                       |               | 3-BC         | 4911        | 0          | 0 | 1 | 51.7  | 4954        | 0          | 0 | 1 | 52.1  | 5033        | 0          | 0 | 1 | 53.0  |
|       |                       |               | 4W           | 11241       | 2          | 0 | 3 | 118.3 | 11339       | 2          | 0 | 3 | 119.4 | 11519       | 2          | 0 | 3 | 121.3 |
|       |                       |               | 4W-BC        | 4815        | 0          | 0 | 1 | 50.7  | 4857        | 0          | 0 | 1 | 51.1  | 4934        | 0          | 0 | 1 | 51.9  |
|       |                       |               | 5Q           | 11581       | 3          | 0 | 1 | 121.9 | 11682       | 3          | 0 | 1 | 123.0 | 11868       | 3          | 0 | 1 | 124.9 |
|       |                       |               | 5W           | 11068       | 4          | 0 | 2 | 116.5 | 11165       | 4          | 0 | 2 | 117.5 | 11342       | 4          | 0 | 2 | 119.4 |
|       | 12,800                | 615           | 1            | 16331       | 2          | 0 | 1 | 116.1 | 16473       | 2          | 0 | 1 | 117.1 | 16735       | 2          | 0 | 1 | 119.0 |
|       |                       |               | 1-BC         | 8941        | 0          | 0 | 0 | 63.6  | 9019        | 0          | 0 | 0 | 64.1  | 9163        | 0          | 0 | 0 | 65.2  |
|       |                       |               | 2            | 15642       | 2          | 0 | 2 | 111.2 | 15778       | 2          | 0 | 2 | 112.2 | 16029       | 2          | 0 | 2 | 114.0 |
|       |                       |               | 2-BC         | 7156        | 0          | 0 | 1 | 50.9  | 7218        | 0          | 0 | 1 | 51.3  | 7333        | 0          | 0 | 1 | 52.1  |
|       |                       |               | 3            | 15222       | 2          | 0 | 2 | 108.3 | 15355       | 2          | 0 | 2 | 109.2 | 15599       | 2          | 0 | 2 | 110.9 |
|       |                       |               | 3-BC         | 6848        | 0          | 0 | 2 | 48.7  | 6907        | 0          | 0 | 2 | 49.1  | 7017        | 0          | 0 | 2 | 49.9  |
|       |                       |               | 4W           | 15673       | 2          | 0 | 4 | 111.5 | 15810       | 2          | 0 | 4 | 112.4 | 16062       | 2          | 0 | 4 | 114.2 |
|       |                       |               | 4W-BC        | 6713        | 1          | 0 | 2 | 47.7  | 6772        | 1          | 0 | 2 | 48.2  | 6880        | 1          | 0 | 2 | 48.9  |
|       |                       |               | 5Q           | 16147       | 4          | 0 | 2 | 114.8 | 16288       | 4          | 0 | 2 | 115.8 | 16547       | 4          | 0 | 2 | 117.7 |
|       |                       |               | 5W           | 15432       | 4          | 0 | 2 | 109.7 | 15567       | 4          | 0 | 2 | 110.7 | 15815       | 4          | 0 | 2 | 112.5 |
|       | 15,000                | 700           | 1            | 17699       | 2          | 0 | 1 | 111.2 | 17853       | 2          | 0 | 1 | 112.2 | 18137       | 2          | 0 | 1 | 114.0 |
|       |                       |               | 1-BC         | 9690        | 0          | 0 | 0 | 60.9  | 9775        | 0          | 0 | 0 | 61.4  | 9930        | 0          | 0 | 1 | 62.4  |
|       |                       |               | 2            | 16952       | 2          | 0 | 2 | 106.5 | 17100       | 2          | 0 | 2 | 107.5 | 17372       | 2          | 0 | 2 | 109.2 |
|       |                       |               | 2-BC         | 7755        | 0          | 0 | 1 | 48.7  | 7823        | 0          | 0 | 1 | 49.2  | 7947        | 0          | 0 | 1 | 49.9  |
|       |                       |               | 3            | 16497       | 2          | 0 | 2 | 103.7 | 16641       | 2          | 0 | 2 | 104.6 | 16906       | 2          | 0 | 2 | 106.4 |
|       |                       |               | 3-BC         | 7421        | 0          | 0 | 2 | 46.6  | 7486        | 0          | 0 | 2 | 47.0  | 7605        | 0          | 0 | 2 | 47.8  |
|       |                       |               | 4W           | 16986       | 2          | 0 | 4 | 106.8 | 17134       | 2          | 0 | 4 | 107.7 | 17407       | 2          | 0 | 4 | 109.4 |
|       |                       |               | 4W-BC        | 7276        | 1          | 0 | 2 | 45.7  | 7339        | 1          | 0 | 2 | 46.1  | 7456        | 1          | 0 | 2 | 46.9  |
|       |                       |               | 5Q           | 17500       | 4          | 0 | 2 | 110.0 | 17652       | 4          | 0 | 2 | 110.9 | 17933       | 4          | 0 | 2 | 112.7 |
|       |                       |               | 5W           | 16725       | 4          | 0 | 2 | 105.1 | 16871       | 4          | 0 | 2 | 106.0 | 17140       | 4          | 0 | 2 | 107.7 |

DIMENSIONS



# RA25A2

ARCHITECTURAL AREA/SITE

## PHOTOMETRY

RA252-72L-700-4K7-1

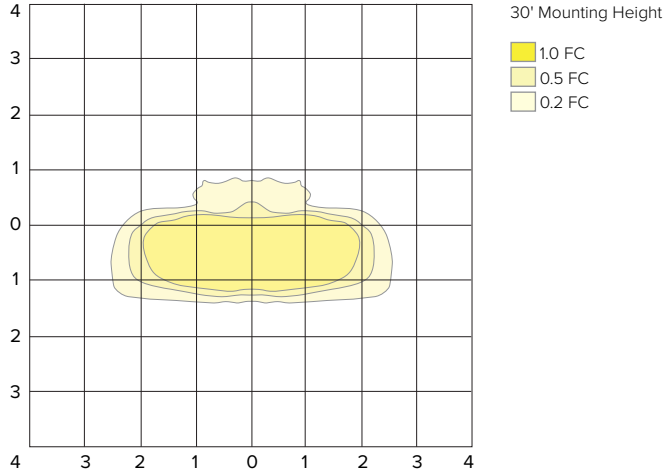
### LUMINAIRE DATA

|                  |              |
|------------------|--------------|
| Description      | 4000K, 70CRI |
| Delivered Lumens | 19879        |
| Watts            | 159.1        |
| Efficacy         | 124.9        |
| IES Type         | I            |
| BUG Rating       | B2-U0-G2     |
| Mounting Height  | 30 ft        |
| Grid Scale       | 30 ft        |

### ZONAL LUMEN SUMMARY

| Zone                 | Lumens | % Luminaire |
|----------------------|--------|-------------|
| Downward Street Side | 17577  | 88.4%       |
| Downward House Side  | 2302   | 11.6%       |
| Downward Total       | 19879  | 100%        |
| Upward Street Side   | 0      | 0%          |
| Upward House Side    | 0      | 0%          |
| Upward Total         | 0      | 0%          |
| Total Flux           | 19879  | 100%        |

### ISOFOOT CANDLE PLOT



RA252-72L-700-4K7-2

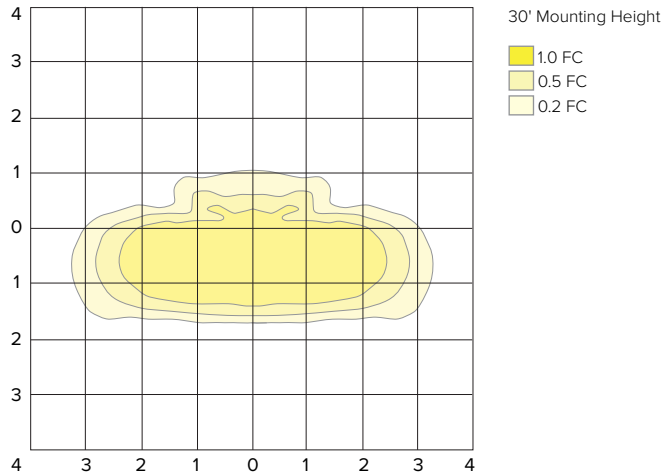
### LUMINAIRE DATA

|                  |              |
|------------------|--------------|
| Description      | 4000K, 70CRI |
| Delivered Lumens | 19040        |
| Watts            | 159.1        |
| Efficacy         | 119.7        |
| IES Type         | II           |
| BUG Rating       | B3-U0-G3     |
| Mounting Height  | 30 ft        |
| Grid Scale       | 30 ft        |

### ZONAL LUMEN SUMMARY

| Zone                 | Lumens | % Luminaire |
|----------------------|--------|-------------|
| Downward Street Side | 15646  | 82.2%       |
| Downward House Side  | 3394   | 17.8%       |
| Downward Total       | 19040  | 100%        |
| Upward Street Side   | 0      | 0%          |
| Upward House Side    | 0      | 0%          |
| Upward Total         | 0      | 0%          |
| Total Flux           | 19040  | 100%        |

### ISOFOOT CANDLE PLOT



RA252-72L-700-4K7-3

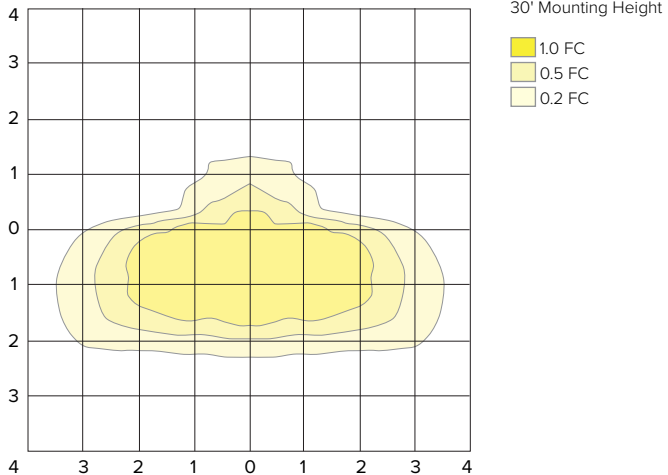
### LUMINAIRE DATA

|                  |              |
|------------------|--------------|
| Description      | 4000K, 70CRI |
| Delivered Lumens | 18530        |
| Watts            | 159.1        |
| Efficacy         | 116.5        |
| IES Type         | III          |
| BUG Rating       | B2-U0-G3     |
| Mounting Height  | 30 ft        |
| Grid Scale       | 30 ft        |

### ZONAL LUMEN SUMMARY

| Zone                 | Lumens | % Luminaire |
|----------------------|--------|-------------|
| Downward Street Side | 15560  | 84.0%       |
| Downward House Side  | 2970   | 16.0%       |
| Downward Total       | 18530  | 100%        |
| Upward Street Side   | 0      | 0%          |
| Upward House Side    | 0      | 0%          |
| Upward Total         | 0      | 0%          |
| Total Flux           | 18530  | 100%        |

### ISOFOOT CANDLE PLOT





# RA25A2

ARCHITECTURAL AREA/SITE

## PHOTOMETRY

RA252-72L-700-4K7-4W

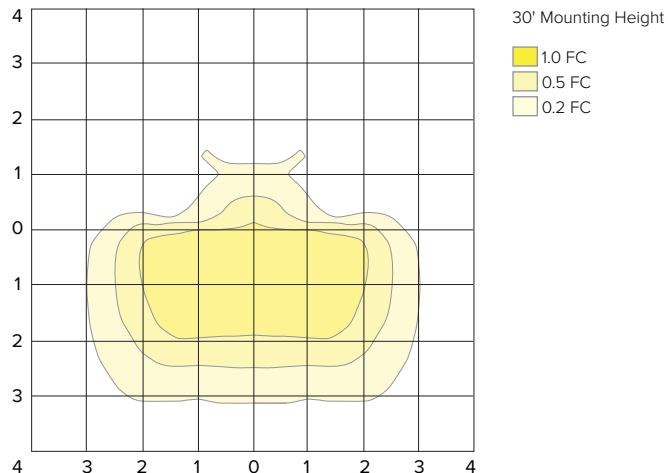
### LUMINAIRE DATA

|                  |              |
|------------------|--------------|
| Description      | 4000K, 70CRI |
| Delivered Lumens | 19079        |
| Watts            | 159.1        |
| Efficacy         | 119.9        |
| IES Type         | IV           |
| BUG Rating       | B2-U0-G4     |
| Mounting Height  | 30 ft        |
| Grid Scale       | 30 ft        |

### ZONAL LUMEN SUMMARY

| Zone                 | Lumens | % Luminaire |
|----------------------|--------|-------------|
| Downward Street Side | 16649  | 87.3%       |
| Downward House Side  | 2430   | 12.7%       |
| Downward Total       | 19079  | 100%        |
| Upward Street Side   | 0      | 0%          |
| Upward House Side    | 0      | 0%          |
| Upward Total         | 0      | 0%          |
| Total Flux           | 19079  | 100%        |

### ISOFOOT CANDLE PLOT



RA252-72L-700-4K7-5Q

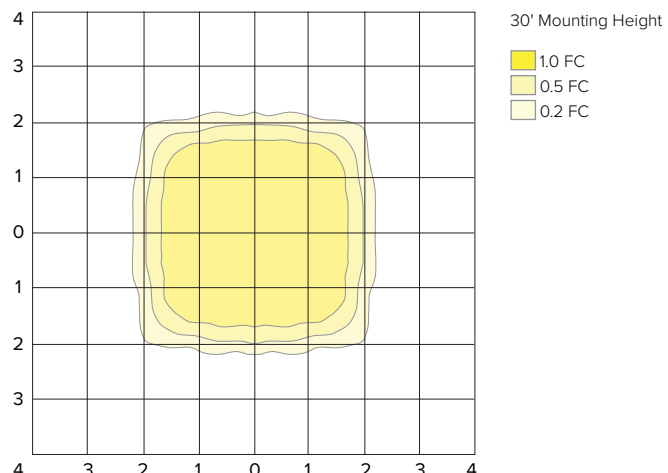
### LUMINAIRE DATA

|                  |              |
|------------------|--------------|
| Description      | 4000K, 70CRI |
| Delivered Lumens | 19655        |
| Watts            | 159.1        |
| Efficacy         | 123.5        |
| IES Type         | V            |
| BUG Rating       | B4-U0-G2     |
| Mounting Height  | 30 ft        |
| Grid Scale       | 30 ft        |

### ZONAL LUMEN SUMMARY

| Zone                 | Lumens | % Luminaire |
|----------------------|--------|-------------|
| Downward Street Side | 9828   | 50.0%       |
| Downward House Side  | 9828   | 50.0%       |
| Downward Total       | 19655  | 100%        |
| Upward Street Side   | 0      | 0%          |
| Upward House Side    | 0      | 0%          |
| Upward Total         | 0      | 0%          |
| Total Flux           | 19655  | 100%        |

### ISOFOOT CANDLE PLOT



RA252-72L-700-4K7-5W

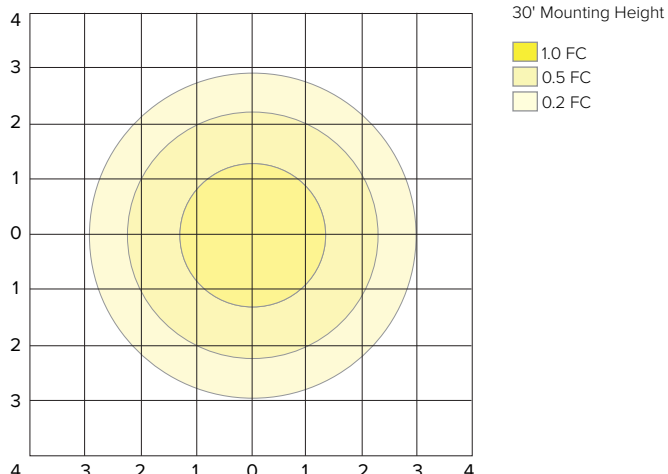
### LUMINAIRE DATA

|                  |              |
|------------------|--------------|
| Description      | 4000K, 70CRI |
| Delivered Lumens | 18785        |
| Watts            | 159.1        |
| Efficacy         | 118.1        |
| IES Type         | V            |
| BUG Rating       | B3-U0-G2     |
| Mounting Height  | 30 ft        |
| Grid Scale       | 30 ft        |

### ZONAL LUMEN SUMMARY

| Zone                 | Lumens | % Luminaire |
|----------------------|--------|-------------|
| Downward Street Side | 9393   | 50.0%       |
| Downward House Side  | 9393   | 50.0%       |
| Downward Total       | 18785  | 100%        |
| Upward Street Side   | 0      | 0%          |
| Upward House Side    | 0      | 0%          |
| Upward Total         | 0      | 0%          |
| Total Flux           | 18785  | 100%        |

### ISOFOOT CANDLE PLOT

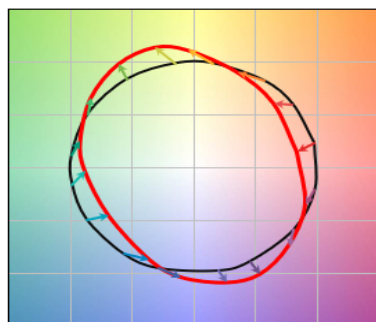


# RA25A2

ARCHITECTURAL AREA/SITE

## TM-30 DATA

### COLOR VECTOR GRAPHIC

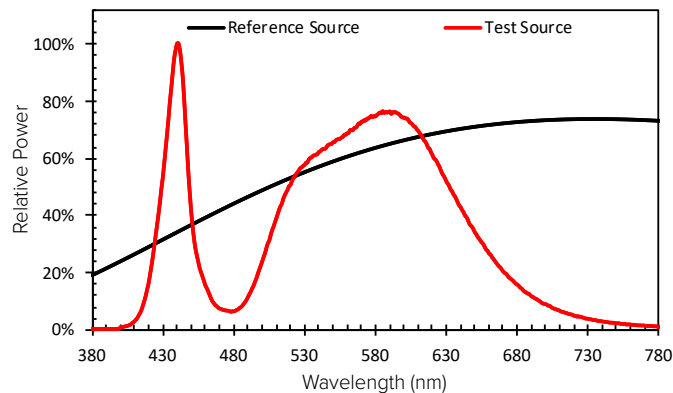


— Reference Illuminant — Test Source

### TEST SOURCE

|                    |        |
|--------------------|--------|
| R <sub>f</sub>     | 68     |
| R <sub>a</sub>     | 99     |
| CCT(K)             | 3947   |
| D <sub>uv</sub>    | 0.0004 |
| x                  | 0.3831 |
| y                  | 0.3793 |
| CIE R <sub>a</sub> | 72     |

### SPECTRAL POWER DISTRIBUTION COMPARISON



## ELECTRICAL DATA

| LED # | System Watts | Current | Line Voltage |       | Amps AC |      |      |      |      |      | Min Power Factor | Max. THD (%) | Dimming       |                    |     |                  |     |
|-------|--------------|---------|--------------|-------|---------|------|------|------|------|------|------------------|--------------|---------------|--------------------|-----|------------------|-----|
|       |              |         | VAC          | Hz    | 120     | 208  | 240  | 277  | 347  | 480  |                  |              | Dimming Range | Source Current Out |     | Absolute Voltage |     |
|       |              |         |              |       |         |      |      |      |      |      |                  |              |               | Min                | Max | Min              | Max |
| 72L   | 95.0         | 415 mA  | 120-480      | 50/60 | 0.79    | 0.46 | 0.40 | 0.34 | 0.27 | 0.20 | >0.9             | 20           | 10% to 100%   | 0mA                | 1mA | 0V               | 10V |
|       | 140.6        | 615 mA  |              |       | 1.17    | 0.68 | 0.59 | 0.51 | 0.41 | 0.29 |                  |              |               |                    |     |                  |     |
|       | 159.1        | 700 mA  |              |       | 1.33    | 0.76 | 0.66 | 0.57 | 0.46 | 0.33 |                  |              |               |                    |     |                  |     |

### TM-21 Lifetime Calculation - Projected Lumen Maintenance (25°C / 77°C)

| Hours                       | 0    | 25,000 | 36,000 | 50,000 | 100,000 | Reported L70 |
|-----------------------------|------|--------|--------|--------|---------|--------------|
| Projected Lumen Maintenance | 100% | 93.5%  | 91.7%  | 89.4%  | 81.9%   | > 60,000     |

| CRI Lumen Multiplier |        |        |
|----------------------|--------|--------|
| CCT                  | 80 CRI | 90 CRI |
| 3000K                | 0.9119 | 0.7033 |
| 4000K                | 0.8941 | N/A    |

| Amber |            |
|-------|------------|
| CCT   | Multiplier |
| 5000K | 1          |
| AM    | 0.1727     |

| 2700K Multiplier |            |
|------------------|------------|
| CCT              | Multiplier |
| 5000K            | 1          |
| 2700K            | 0.897      |