



LED Wattage Chart

| Drive Current  | 32L  | 48L  | 64L  |
|----------------|------|------|------|
| 700 milliamps  | 71W  | 104W | 136W |
| 1050 milliamps | 106W | 156W | 205W |

#### FORM AND FUNCTION

- Sleek, low profile housing
- Engineered for optimum thermal management
- Low depreciation rate
- Optical system designed for:
  - Parking Lots
  - Commercial Applications

#### CONSTRUCTION

- Die Formed heavy duty Aluminum
- Corrosion resistant external hardware
- One-piece silicone gasket ensures IP-65 seal for electronics compartment
- Two-piece silicone Micro Optic system ensures IP-67 level seal around each PCB

#### BUY AMERICAN

To ensure the latest BAA/TAA/BABA Standards are being met, please select BAA, TAA, or BABA in the options section. Please contact the factory before placing an order for any NLS products requesting BAA (Buy American Act), TAA (Trade American Act), or BABA (Build America, Buy America).



Project Name:

Type:

# VSS-1-SPMX ORDERING GUIDE

| Cat#                                | Light Dist.                                                               | # of LEDs                        | Drive Current           | Color Temp./CRI | Voltage                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|-------------------------------------|---------------------------------------------------------------------------|----------------------------------|-------------------------|-----------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Value Series<br>Square 1<br>(VSS-1) | Standard Silicone Micro Optics                                            |                                  | Standard Configurations |                 | Amber LED 595nm<br>Dominant Wavelength<br>Standard Turtle Friendly<br>(AMBER) <sup>1, 6, 7, 13</sup><br><br>Amber LED<br>Phosphor Converted<br>(AMBER/PC) <sup>1, 6, 7, 13</sup><br><br>2700K, 70 CRI<br>(27K7) <sup>2</sup><br><br>2700K, 80 CRI<br>(27K8) <sup>2</sup><br><br>3000K, 70 CRI<br>(30K7) <sup>2</sup><br><br>3000K, 80 CRI<br>(30K8) <sup>2</sup><br><br>3500K, 80 CRI<br>(35K8) <sup>2</sup><br><br>4000K, 70 CRI<br>(40K7) <sup>2</sup><br><br>4000K, 80 CRI<br>(40K8) <sup>2</sup><br><br>5000K, 70 CRI<br>(50K7) <sup>2</sup><br><br>5000K, 80 CRI<br>(50K8) <sup>2</sup> |
|                                     | Type 2<br>(T2)                                                            | 32 LED<br>(32L)                  | 700 mA<br>(7)           |                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|                                     | Type 3<br>(T3)                                                            | 48 LED<br>(48L)                  | 1050 mA<br>(1)          |                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|                                     | Type 4<br>(T4)                                                            | 64 LED<br>(64L)                  |                         |                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|                                     | Type 5<br>(T5)                                                            |                                  |                         |                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|                                     | Performance Silicone Micro Optics                                         |                                  | Standard Configurations |                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|                                     | Type 4 Forward Throw Wide<br>(For Perimeters)<br>(T4FTW)                  | 32 LED<br>(32L)                  | 700 mA<br>(7)           |                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|                                     | Type 5 Wide<br>(for Improved Uniformity<br>& Wider Pole Spacing)<br>(T5W) | 48 LED<br>(48L)                  | 1050 mA<br>(1)          |                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|                                     |                                                                           | 64 LED<br>(64L)                  |                         |                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|                                     |                                                                           | Performance Plus Configurations* |                         |                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|                                     | 64 LED<br>(64L)                                                           | 350 mA<br>(35) <sup>8</sup>      |                         |                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|                                     |                                                                           | 530 mA<br>(53) <sup>8</sup>      |                         |                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |

\* Performance Plus configurations with our New Performance Silicone Optics.

(For the ultimate performance of the New Performance Silicone Optics combine highest chip count with High Efficacy Drive Currents).

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| Mounting                                                          | Color                          | Controls Options                                                          | Options                                              |
|-------------------------------------------------------------------|--------------------------------|---------------------------------------------------------------------------|------------------------------------------------------|
| Spider Mount (4-Bar)<br>Slips Over 2-3/8" Tenon<br>D180<br>(SPM2) | Bronze Textured<br>(BRZ)       | Nema 7-Pin Receptacle<br>(PE7)                                            | Bird Spikes<br>(BS)                                  |
|                                                                   | White Textured<br>(WHT)        | Photocell + Receptacle<br>(PCR)                                           | Marine Grade Finish<br>(MGF)                         |
| Spider Mount (4-Bar)<br>Slips Over 3" Tenon<br>(SPM3)             | Smooth White Gloss<br>(SWT)    | Receptacle + Shorting Cap<br>(PER)                                        | Quick Mount Bracket<br>(QMB)                         |
|                                                                   | Silver Metallic<br>(SVR)       | <b>FSP-211 w/Motion Sensor/Photocell<br/>(120/277VAC, 230-240VAC)</b>     | Retrofit Mount Bracket<br>(RQMB)                     |
|                                                                   | Black Textured<br>(BLK)        | 8' Heights<br>(FSP211-8) <sup>4, 10</sup>                                 | Round Pole Adaptor<br>3"-4" Pole<br>(RPA4)           |
|                                                                   | Smooth Black Gloss<br>(SBK)    | 9'-20' Heights<br>(FSP211-20) <sup>4, 10</sup>                            | Round Pole Adaptor<br>5"-6" Pole<br>(RPA5)           |
|                                                                   | Graphite Textured<br>(GPH)     | 21'-40' Heights<br>(FSP211-40) <sup>4, 10</sup>                           | Rotated Optic Left<br>(ROL)                          |
|                                                                   | Grey Textured<br>(GRY)         | <b>FSP-221 w/Motion Sensor/Photocell<br/>(100/347VAC, 208/230/480VAC)</b> | Rotated Optic Right<br>(ROR)                         |
|                                                                   | Green Textured<br>(GRN)        | 8' Heights<br>(FSP-HV-8) <sup>11</sup>                                    | Single Fuse<br>(SF)                                  |
|                                                                   | Hunter Green Textured<br>(HGN) | 9'-20' Heights<br>(FSP-HV-20) <sup>11</sup>                               | Double Fuse<br>(DF)                                  |
|                                                                   | Custom<br>(CS)                 | 21'-40' Heights<br>(FSP-HV-40) <sup>11</sup>                              | Black Optical Frame<br>(BOF) <sup>1</sup>            |
|                                                                   |                                | Custom Controls Integration<br>(CCI) <sup>9</sup>                         | House Side Shield<br>(HSS)                           |
|                                                                   |                                | Button Type Photocell<br>(PC) <sup>4</sup>                                | Buy American Act<br>(BAA) <sup>3</sup>               |
|                                                                   |                                | FSP Remote<br>(FSR) <sup>12</sup>                                         | Trade Agreement Act<br>(TAA) <sup>3</sup>            |
|                                                                   |                                | DALI-2<br>(D2) <sup>9</sup>                                               | Build America<br>Buy American<br>(BABA) <sup>3</sup> |

## NOTES:

1. Consult Factory for Lead Time
2. Consult Factory for 90 CRI Requests
3. Consult factory for all BAA/TAA/BABA requests
4. Universal Voltage 120V-277V
5. 3000K or lower, w/fixed mounting options only. Must be selected to meet International Dark-Sky Association certification
6. Turtle Safe
7. Not available above 530mA
8. 32L & 64L Only with T4FTW & T5W Performance Silicone Micro Optics
9. Please contact Factory for Custom Control Integration requests (nLight, NX, WaveLinx, Crestron, DMX/RDM, Synapse, Casambi, Dali II, Avi-On, or other control systems)
10. FSP-211, 120V/277V, 230-240VAC (single phase), 50/60Hz
11. FSP-221, 100-347VAC (single phase) or 208/230/480VAC (phase-to-phase)
12. Projects with sensors require Qty. 1 FSIR per project.
13. See estimated scaling chart for multiplier values to estimate lumen output Please contact Factory to verify the estimated performance data



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## PRODUCT SPECIFICATIONS

### ELECTRICAL

- 120-277 Volts (UNV) or 347-480 Volts (HV)
- 0-10V dimming driver
- Driver power factor at maximum load is  $\geq .95$ , THD maximum load is 15%
- LED Drivers Ambient Temp. Min is -40°C and Ambient Temp. Max ranges from 50°C to 55°C and, in some cases, even higher. Consult the factory for revalidation by providing the fixture catalog string before quoting and specifying it.
- All internal wiring UL certified for 600 VAC and 105°C
- All drivers, controls, and sensors housed in enclosed IP-65 compartment
- CRI 70, 80 or 90
- Color temperatures: Amber, 2700K, 3000K, 3500K, 4000K, 5000K
- Surge Protection: 20KA supplies as standard.

### OPTIONS

- **BIRD SPIKES (BS)**—Offers effective and humane deterrent for larger bird species and provides cost-effective long-term solution to nuisance bird infestations and protect your property.
- **MARINE GRADE FINISH (MGF)**—A multi-step process creating protective finishing coat against harsh environments.
  - Chemically washed in a 5 stage cleaning system.
  - Pre-baked
  - Powder coated 3-5 mils of Zinc Rich Super Durable Polyester Primer.
  - 1-2 feet inside pole coverage top and bottom.
  - Oven Baked.
  - Finished Powder Coating of Super Durable Polyester Powder Coat 3-5 mil thickness.
- **HOUSE SIDE SHIELD**—House Side Shield (HSS) is designed for full property line cut-off.
- **ROUND POLE ADAPTER (RPA)**— When using round poles, specify Round Pole Adapter (RPA). Specify RPA4 when installing on 3"-4" round poles, and RPA5 when installing on 5"-6" round poles.
- **ROTATED OPTICS (ROL) (ROR)** - Rotated optics are designed for perimeter lighting for auto dealerships
- **BLACK OPTIC FRAME (BOF)** - Optional black optic frame. (includes black hardware) Standard is white

### CONTROLS

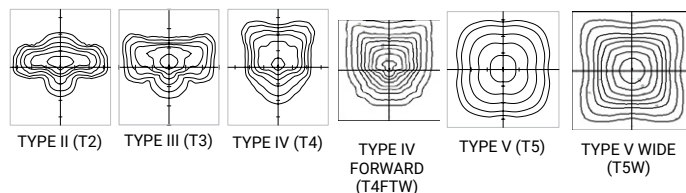
- **FSP-211 w/Motion Sensor/Photocell (120/277VAC, 230-240VAC)**  
(FSP-X) - Passive infrared (PIR) sensor providing multi-level control based on motion/daylight contribution.
- **FSP-221 w/Motion Sensor/Photocell (100-347VAC, 208/230/480VAC)**  
(FSP-HV-X) - Passive infrared (PIR) sensor providing multi-level control based on motion/daylight contribution.
  - All control parameters adjustable via wireless configuration remote storing and transmitting sensor profiles.
  - FSP-8 mounting heights 8 feet and below
  - FSP-20 mounting heights 9-20 feet.
  - FSP-40 mounting heights 21-40 feet.
  - Includes 5 dimming event cycles, 0-10V dimming with motion sensing, re-programmable in the field.
  - FSIR-100 commissioning remote is required to change sensor settings. Please contact factory for ordering.

- **NEMA 7-PIN RECEPTACLE (PE7)**—An ANSI C136.41-2013 receptacle provides electrical and mechanical interconnection between photo control cell and luminaire. Dimming receptacle available two or four dimming contacts supports 0-10 VDC dimming methods or Digital Addressable Lighting Interface (DALI), providing reliable power interconnect.
- **Controls Agnostic:** Please contact factory for your preferred controls option. (nLight, NX, WaveLinX, Crestron, DMX/RDM, Synapse, Casambi, DALI II, Avi-On, or other control systems).

### OPTICS

Silicone optics high photothermal stability and light output provides higher powered LEDs with minimized lumen depreciation LED life. UV and thermal stability with scratch resistance increases exterior application durability.

- IES Types



### FINISH

- 5 mils electrostatic powder coat.
- NLS' standard high-quality finishes prevent corrosion protects against extreme environmental conditions

### WARRANTY

Five-year limited warranty for drivers and LEDs.

### LISTINGS

- UL Listed in compliance with UL 1598, the Standard for Safety of Luminaires, including the applicable wet location requirements
- CSA C22.2 No. 250.0
- IP65/ IP67 Rated
- Dark Sky Approved
- IK10 Rated

### BUY AMERICAN OPTION

While all of the NLS Lighting products listed in this document qualify for the Buy America(n) Act of 1933, we reserve the right to change our listings without notice.

The information provided above is for general informational purposes only. We encourage you to consult legal professionals for advice particular to your projects concerning BAA, TAA, BABA or Buy America.

Additional NLS Products that meet BAA, TAA standards can be found at the following link:

<https://nlsighting.com/buy-american/>



The information and specifications on this document are subject to change without any notification. All values are design, nominal, typical or prorated values when measured under internal and external laboratory conditions.



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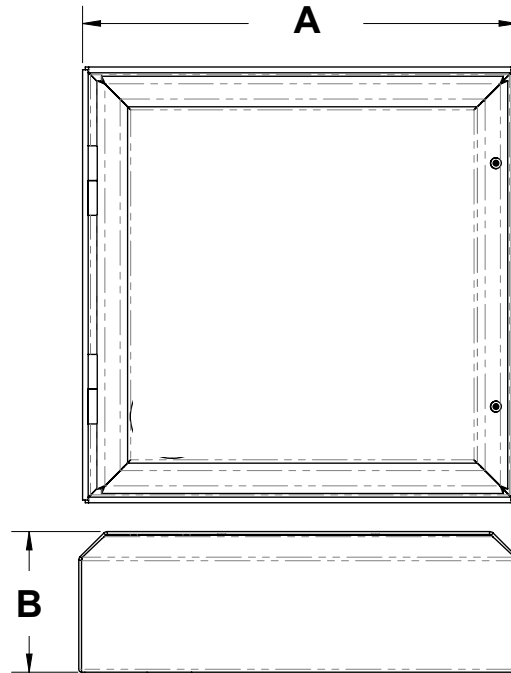
[nlsighting.com](https://nlsighting.com)

## PRODUCT SPECIFICATIONS

| DIMENSION     | VSS-1     |
|---------------|-----------|
| <b>A</b>      | 17 in. SQ |
| <b>B</b>      | 5 in.     |
| <b>Weight</b> | 20 lbs    |

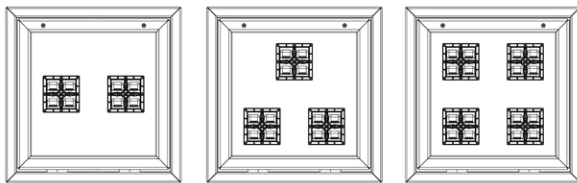
### EPA

| EPA   | SGL  | D90  | D180 | T90  | T120 | QD   |
|-------|------|------|------|------|------|------|
| VSS-1 | 0.68 | 1.36 | 1.36 | 2.04 | 1.36 | 2.72 |



### OPTICAL CONFIGURATIONS

Rotatable Optics (ROR) Rotated Right, (ROL) Rotated Left options available. Optics field and factory rotatable.



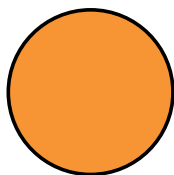
**VSS-1 / 32L**

**VSS-1 / 48L**

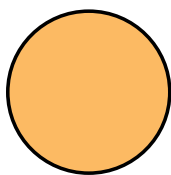
**VSS-1 / 64L**

## PRODUCT SPECIFICATIONS

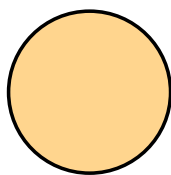
### LED KELVIN RANGE



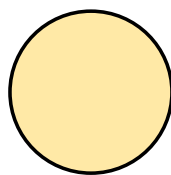
AMBER  
585-600 nm



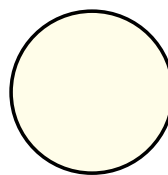
2700K 70 CRI



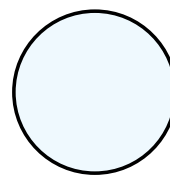
3000K 70 CRI



3500K 80 CRI



4000K 70 CRI



5000K 70 CRI

| Color | Dominant or Peak Wavelength Range (nm) |         |
|-------|----------------------------------------|---------|
|       | Minimum                                | Maximum |
| Amber | 585                                    | 600     |

| Lumen Maintenance Data                   |               |            |           |                                            |               |               |                |
|------------------------------------------|---------------|------------|-----------|--------------------------------------------|---------------|---------------|----------------|
| Ambient Temperature                      | Drive Current | L90 Hours* | L70 Hours | 30,000 Hours*                              | 50,000 Hours* | 60,000 Hours* | 100,000 Hours* |
| 25°C                                     | up to 700mA   | 58,000     | 173,000   | 95.7%                                      | 91.6%         | 89.6%         | 82.1%          |
|                                          | 1050mA        | 38,000     | 96,000    | 93.0%                                      | 85.4%         | 81.8%         | 68.8%          |
| *Reported extrapolations per IESNA TM-21 |               |            |           | **Projected extrapolations per IESNA TM-21 |               |               |                |

### LUMEN MULTIPLIERS

| Multipliers For 70/80/90 CRI (Scaling Factor from 5000K 70 CRI) |        |        |        |
|-----------------------------------------------------------------|--------|--------|--------|
| CCT                                                             | 70 CRI | 80 CRI | 90 CRI |
| 2700K                                                           | 0.840  | 0.737  | 0.609  |
| 3000K                                                           | 0.975  | 0.776  | 0.640  |
| 3500K                                                           | 0.890  | 0.800  | 0.659  |
| 4000K                                                           | 1.000  | 0.815  | 0.679  |
| 5000K                                                           | 1.000  | 0.830  | 0.710  |

| Multipliers For Amber & PC Amber (Scaling Factor from 5000K 70 CRI)    |                                                  |
|------------------------------------------------------------------------|--------------------------------------------------|
| CCT                                                                    | Multiplier                                       |
| AMBER - Amber LED 595nm Dominant Wavelength - Standard Turtle Friendly | Consult Factory for estimated lumens and wattage |
| AMBER/PC - Amber LED Phosphor Converted                                | Consult Factory for estimated lumens and wattage |

### LENS MULTIPLIERS

| Lens Type                                                         | Multiplier |
|-------------------------------------------------------------------|------------|
| CFL - Clear Tempered Glass Lens                                   | 0.8500     |
| DPCL - Diffused Polycarbonate Visual Comfort Lens                 | 0.6000     |
| HAL - Yellow Polycarbonate Lens - less than 2% Blue Light Content | 0.7000     |

# PRODUCT SPECIFICATIONS

## LUMEN CHARTS - STANDARD MICRO OPTICS

| STANDARD SILICONE MICRO OPTICS - NON-SHIELDED - 32 LED |       |     |       |     |       |     |       |     |         |
|--------------------------------------------------------|-------|-----|-------|-----|-------|-----|-------|-----|---------|
| Part Number                                            | T2    | LPW | T3    | LPW | T4    | LPW | T5    | LPW | Wattage |
| VSS-1-SPMX-32L-7-27K7                                  | 6829  | 96  | 6698  | 94  | 7092  | 100 | 7565  | 107 | 71      |
| VSS-1-SPMX-32L-7-27K8                                  | 6395  | 90  | 6272  | 88  | 6641  | 94  | 7084  | 100 | 71      |
| VSS-1-SPMX-32L-7-30K7                                  | 7384  | 104 | 7242  | 102 | 7668  | 108 | 8179  | 115 | 71      |
| VSS-1-SPMX-32L-7-30K8                                  | 6857  | 97  | 6725  | 95  | 7121  | 100 | 7596  | 107 | 71      |
| VSS-1-SPMX-32L-7-35K8                                  | 6857  | 97  | 6725  | 95  | 7121  | 100 | 7596  | 107 | 71      |
| VSS-1-SPMX-32L-7-40K7                                  | 8662  | 122 | 8520  | 120 | 8946  | 126 | 9585  | 135 | 71      |
| VSS-1-SPMX-32L-7-40K8                                  | 8018  | 113 | 7886  | 111 | 8281  | 117 | 8872  | 125 | 71      |
| VSS-1-SPMX-32L-7-50K7                                  | 8662  | 122 | 8520  | 120 | 8946  | 126 | 9585  | 135 | 71      |
| VSS-1-SPMX-32L-7-50K8                                  | 8018  | 113 | 7886  | 111 | 8281  | 117 | 8872  | 125 | 71      |
| VSS-1-SPMX-32L-1-27K7                                  | 9902  | 93  | 9804  | 92  | 10000 | 94  | 10289 | 97  | 106     |
| VSS-1-SPMX-32L-1-27K8                                  | 9273  | 87  | 9181  | 87  | 9364  | 88  | 9635  | 91  | 106     |
| VSS-1-SPMX-32L-1-30K7                                  | 10706 | 101 | 10600 | 100 | 10812 | 102 | 11125 | 105 | 106     |
| VSS-1-SPMX-32L-1-30K8                                  | 9942  | 94  | 9844  | 93  | 10041 | 95  | 10332 | 97  | 106     |
| VSS-1-SPMX-32L-1-35K8                                  | 9942  | 94  | 9844  | 93  | 10041 | 95  | 10332 | 97  | 106     |
| VSS-1-SPMX-32L-1-40K7                                  | 12508 | 118 | 12402 | 117 | 12508 | 118 | 13144 | 124 | 106     |
| VSS-1-SPMX-32L-1-40K8                                  | 11578 | 109 | 11479 | 108 | 11578 | 109 | 12166 | 115 | 106     |
| VSS-1-SPMX-32L-1-50K7                                  | 12508 | 118 | 12402 | 117 | 12508 | 118 | 13144 | 124 | 106     |
| VSS-1-SPMX-32L-1-50K8                                  | 11578 | 109 | 11479 | 108 | 11578 | 109 | 12166 | 115 | 106     |

| STANDARD SILICONE MICRO OPTICS - SHIELDED - 32 LED |        |     |        |     |         |
|----------------------------------------------------|--------|-----|--------|-----|---------|
| Part Number                                        | T3 HSS | LPW | T4 HSS | LPW | Wattage |
| VSS-1-SPMX-32L-7-27K7-HSS                          | 3809   | 54  | 3743   | 53  | 71      |
| VSS-1-SPMX-32L-7-27K8-HSS                          | 3567   | 50  | 3505   | 49  | 71      |
| VSS-1-SPMX-32L-7-30K7-HSS                          | 4118   | 58  | 4047   | 57  | 71      |
| VSS-1-SPMX-32L-7-30K8-HSS                          | 3824   | 54  | 3758   | 53  | 71      |
| VSS-1-SPMX-32L-7-35K8-HSS                          | 3824   | 54  | 3758   | 53  | 71      |
| VSS-1-SPMX-32L-7-40K7-HSS                          | 4686   | 66  | 4615   | 65  | 71      |
| VSS-1-SPMX-32L-7-40K8-HSS                          | 4337   | 61  | 4272   | 60  | 71      |
| VSS-1-SPMX-32L-7-50K7-HSS                          | 4686   | 66  | 4615   | 65  | 71      |
| VSS-1-SPMX-32L-7-50K8-HSS                          | 4337   | 61  | 4272   | 60  | 71      |
| VSS-1-SPMX-32L-1-27K7-HSS                          | 5687   | 54  | 5589   | 53  | 106     |
| VSS-1-SPMX-32L-1-27K8-HSS                          | 5325   | 50  | 5234   | 49  | 106     |
| VSS-1-SPMX-32L-1-30K7-HSS                          | 6148   | 58  | 6042   | 57  | 106     |
| VSS-1-SPMX-32L-1-30K8-HSS                          | 5710   | 54  | 5611   | 53  | 106     |
| VSS-1-SPMX-32L-1-35K8-HSS                          | 5710   | 54  | 5611   | 53  | 106     |
| VSS-1-SPMX-32L-1-40K7-HSS                          | 6996   | 66  | 6890   | 65  | 106     |
| VSS-1-SPMX-32L-1-40K8-HSS                          | 6476   | 61  | 6377   | 60  | 106     |
| VSS-1-SPMX-32L-1-50K7-HSS                          | 6996   | 66  | 6890   | 65  | 106     |
| VSS-1-SPMX-32L-1-50K8-HSS                          | 6476   | 61  | 6377   | 60  | 106     |

| STANDARD SILICONE MICRO OPTICS - NON-SHIELDED - 48 LED |       |     |       |     |       |     |       |     |         |
|--------------------------------------------------------|-------|-----|-------|-----|-------|-----|-------|-----|---------|
| Part Number                                            | T2    | LPW | T3    | LPW | T4    | LPW | T5    | LPW | Wattage |
| VSS-1-SPMX-48L-7-27K7                                  | 10004 | 96  | 9907  | 95  | 10388 | 100 | 11350 | 109 | 104     |
| VSS-1-SPMX-48L-7-27K8                                  | 9368  | 90  | 9278  | 89  | 9728  | 94  | 10629 | 102 | 104     |
| VSS-1-SPMX-48L-7-30K7                                  | 10816 | 104 | 10712 | 103 | 11232 | 108 | 12272 | 118 | 104     |
| VSS-1-SPMX-48L-7-30K8                                  | 10045 | 97  | 9948  | 96  | 10431 | 100 | 11397 | 110 | 104     |
| VSS-1-SPMX-48L-7-35K8                                  | 10045 | 97  | 9948  | 96  | 10431 | 100 | 11397 | 110 | 104     |
| VSS-1-SPMX-48L-7-40K7                                  | 12688 | 122 | 12480 | 120 | 13104 | 126 | 14248 | 137 | 104     |
| VSS-1-SPMX-48L-7-40K8                                  | 11744 | 113 | 11552 | 111 | 12129 | 117 | 13188 | 127 | 104     |
| VSS-1-SPMX-48L-7-50K7                                  | 12688 | 122 | 12480 | 120 | 13104 | 126 | 14248 | 137 | 104     |
| VSS-1-SPMX-48L-7-50K8                                  | 11744 | 113 | 11552 | 111 | 12129 | 117 | 13188 | 127 | 104     |
| VSS-1-SPMX-48L-1-27K7                                  | 15315 | 98  | 14572 | 93  | 14717 | 94  | 15294 | 98  | 156     |
| VSS-1-SPMX-48L-1-27K8                                  | 14342 | 92  | 13646 | 87  | 13781 | 88  | 14322 | 92  | 156     |
| VSS-1-SPMX-48L-1-30K7                                  | 16559 | 106 | 15756 | 101 | 15912 | 102 | 16536 | 106 | 156     |
| VSS-1-SPMX-48L-1-30K8                                  | 15378 | 99  | 14632 | 94  | 14777 | 95  | 15357 | 98  | 156     |
| VSS-1-SPMX-48L-1-35K8                                  | 15378 | 99  | 14632 | 94  | 14777 | 95  | 15357 | 98  | 156     |
| VSS-1-SPMX-48L-1-40K7                                  | 18408 | 118 | 18252 | 117 | 18408 | 118 | 19188 | 123 | 156     |
| VSS-1-SPMX-48L-1-40K8                                  | 17039 | 109 | 16894 | 108 | 17039 | 109 | 17761 | 114 | 156     |
| VSS-1-SPMX-48L-1-50K7                                  | 18408 | 118 | 18252 | 117 | 18408 | 118 | 19188 | 123 | 156     |
| VSS-1-SPMX-48L-1-50K8                                  | 17039 | 109 | 16894 | 108 | 17039 | 109 | 17761 | 114 | 156     |

| STANDARD SILICONE MICRO OPTICS - SHIELDED - 48 LED |        |     |        |     |         |
|----------------------------------------------------|--------|-----|--------|-----|---------|
| Part Number                                        | T3 HSS | LPW | T4 HSS | LPW | Wattage |
| VSS-1-SPMX-48L-7-27K7-HSS                          | 5579   | 54  | 5483   | 53  | 104     |
| VSS-1-SPMX-48L-7-27K8-HSS                          | 5225   | 50  | 5135   | 49  | 104     |
| VSS-1-SPMX-48L-7-30K7-HSS                          | 6032   | 58  | 5928   | 57  | 104     |
| VSS-1-SPMX-48L-7-30K8-HSS                          | 5602   | 54  | 5505   | 53  | 104     |
| VSS-1-SPMX-48L-7-35K8-HSS                          | 5602   | 54  | 5505   | 53  | 104     |
| VSS-1-SPMX-48L-7-40K7-HSS                          | 6864   | 66  | 6760   | 65  | 104     |
| VSS-1-SPMX-48L-7-40K8-HSS                          | 6353   | 61  | 6257   | 60  | 104     |
| VSS-1-SPMX-48L-7-50K7-HSS                          | 6864   | 66  | 6760   | 65  | 104     |
| VSS-1-SPMX-48L-7-50K8-HSS                          | 6353   | 61  | 6257   | 60  | 104     |
| VSS-1-SPMX-48L-1-27K7-HSS                          | 8369   | 54  | 8225   | 53  | 156     |
| VSS-1-SPMX-48L-1-27K8-HSS                          | 7837   | 50  | 7702   | 49  | 156     |
| VSS-1-SPMX-48L-1-30K7-HSS                          | 9048   | 58  | 8892   | 57  | 156     |
| VSS-1-SPMX-48L-1-30K8-HSS                          | 8403   | 54  | 8258   | 53  | 156     |
| VSS-1-SPMX-48L-1-35K8-HSS                          | 8403   | 54  | 8258   | 53  | 156     |
| VSS-1-SPMX-48L-1-40K7-HSS                          | 10296  | 66  | 10140  | 65  | 156     |
| VSS-1-SPMX-48L-1-40K8-HSS                          | 9530   | 61  | 9386   | 60  | 156     |
| VSS-1-SPMX-48L-1-50K7-HSS                          | 10296  | 66  | 10140  | 65  | 156     |
| VSS-1-SPMX-48L-1-50K8-HSS                          | 9530   | 61  | 9386   | 60  | 156     |

# PRODUCT SPECIFICATIONS

## LUMEN CHARTS - STANDARD MICRO OPTICS

| STANDARD SILICONE MICRO OPTICS - NON-SHIELDED - 64 LED |       |     |       |     |       |     |       |     |         |
|--------------------------------------------------------|-------|-----|-------|-----|-------|-----|-------|-----|---------|
| Part Number                                            | T2    | LPW | T3    | LPW | T4    | LPW | T5    | LPW | Wattage |
| VSS-1-SPMX-64L-7-27K7                                  | 13082 | 96  | 12704 | 93  | 13585 | 100 | 14843 | 109 | 136     |
| VSS-1-SPMX-64L-7-27K8                                  | 12250 | 90  | 11897 | 87  | 12721 | 94  | 13899 | 102 | 136     |
| VSS-1-SPMX-64L-7-30K7                                  | 14144 | 104 | 13736 | 101 | 14688 | 108 | 16048 | 118 | 136     |
| VSS-1-SPMX-64L-7-30K8                                  | 13135 | 97  | 12756 | 94  | 13640 | 100 | 14903 | 110 | 136     |
| VSS-1-SPMX-64L-7-35K8                                  | 13135 | 97  | 12756 | 94  | 13640 | 100 | 14903 | 110 | 136     |
| VSS-1-SPMX-64L-7-40K7                                  | 16592 | 122 | 16048 | 118 | 17136 | 126 | 18632 | 137 | 136     |
| VSS-1-SPMX-64L-7-40K8                                  | 15358 | 113 | 14854 | 109 | 15861 | 117 | 17246 | 127 | 136     |
| VSS-1-SPMX-64L-7-50K7                                  | 16592 | 122 | 16048 | 118 | 17136 | 126 | 18632 | 137 | 136     |
| VSS-1-SPMX-64L-7-50K8                                  | 15358 | 113 | 14854 | 109 | 15861 | 117 | 17246 | 127 | 136     |
| VSS-1-SPMX-64L-1-27K7                                  | 20098 | 98  | 19150 | 93  | 19339 | 94  | 20098 | 98  | 205     |
| VSS-1-SPMX-64L-1-27K8                                  | 18820 | 92  | 17933 | 87  | 18110 | 88  | 18820 | 92  | 205     |
| VSS-1-SPMX-64L-1-30K7                                  | 21730 | 106 | 20705 | 101 | 20910 | 102 | 21730 | 106 | 205     |
| VSS-1-SPMX-64L-1-30K8                                  | 20180 | 98  | 19228 | 94  | 19419 | 95  | 20180 | 98  | 205     |
| VSS-1-SPMX-64L-1-35K8                                  | 20180 | 98  | 19228 | 94  | 19419 | 95  | 20180 | 98  | 205     |
| VSS-1-SPMX-64L-1-40K7                                  | 24190 | 118 | 23780 | 116 | 24190 | 118 | 25215 | 123 | 205     |
| VSS-1-SPMX-64L-1-40K8                                  | 22391 | 109 | 22011 | 107 | 22391 | 109 | 23339 | 114 | 205     |
| VSS-1-SPMX-64L-1-50K7                                  | 24190 | 118 | 23780 | 116 | 24190 | 118 | 25215 | 123 | 205     |
| VSS-1-SPMX-64L-1-50K8                                  | 22391 | 109 | 22011 | 107 | 22391 | 109 | 23339 | 114 | 205     |

| STANDARD SILICONE MICRO OPTICS - SHIELDED - 64 LED |        |     |        |     |         |
|----------------------------------------------------|--------|-----|--------|-----|---------|
| Part Number                                        | T3 HSS | LPW | T4 HSS | LPW | Wattage |
| VSS-1-SPMX-64L-7-27K7-HSS                          | 7296   | 54  | 7170   | 53  | 136     |
| VSS-1-SPMX-64L-7-27K8-HSS                          | 6832   | 50  | 6715   | 49  | 136     |
| VSS-1-SPMX-64L-7-30K7-HSS                          | 7888   | 58  | 7752   | 57  | 136     |
| VSS-1-SPMX-64L-7-30K8-HSS                          | 7325   | 54  | 7199   | 53  | 136     |
| VSS-1-SPMX-64L-7-35K8-HSS                          | 7325   | 54  | 7199   | 53  | 136     |
| VSS-1-SPMX-64L-7-40K7-HSS                          | 8976   | 66  | 8840   | 65  | 136     |
| VSS-1-SPMX-64L-7-40K8-HSS                          | 8308   | 61  | 8182   | 60  | 136     |
| VSS-1-SPMX-64L-7-50K7-HSS                          | 8976   | 66  | 8840   | 65  | 136     |
| VSS-1-SPMX-64L-7-50K8-HSS                          | 8308   | 61  | 8182   | 60  | 136     |
| VSS-1-SPMX-64L-1-27K7-HSS                          | 10998  | 54  | 10808  | 53  | 205     |
| VSS-1-SPMX-64L-1-27K8-HSS                          | 10299  | 50  | 10121  | 49  | 205     |
| VSS-1-SPMX-64L-1-30K7-HSS                          | 11890  | 58  | 11685  | 57  | 205     |
| VSS-1-SPMX-64L-1-30K8-HSS                          | 11042  | 54  | 10852  | 53  | 205     |
| VSS-1-SPMX-64L-1-35K8-HSS                          | 11042  | 54  | 10852  | 53  | 205     |
| VSS-1-SPMX-64L-1-40K7-HSS                          | 13530  | 66  | 13325  | 65  | 205     |
| VSS-1-SPMX-64L-1-40K8-HSS                          | 12524  | 61  | 12334  | 60  | 205     |
| VSS-1-SPMX-64L-1-50K7-HSS                          | 13530  | 66  | 13325  | 65  | 205     |
| VSS-1-SPMX-64L-1-50K8-HSS                          | 12524  | 61  | 12334  | 60  | 205     |

## LUMEN CHARTS - PERFORMANCE MICRO OPTICS

| PERFORMANCE SILICONE MICRO OPTICS - NON-SHIELDED - 32 LED |       |     |       |     |         |
|-----------------------------------------------------------|-------|-----|-------|-----|---------|
| Part Number                                               | T4FTW | LPW | T5W   | LPW | Wattage |
| VSS-1-SPMX-32L-7-27K7                                     | 6391  | 90  | 7365  | 104 | 71      |
| VSS-1-SPMX-32L-7-27K8                                     | 5985  | 84  | 6897  | 97  | 71      |
| VSS-1-SPMX-32L-7-30K7                                     | 6910  | 97  | 7963  | 112 | 71      |
| VSS-1-SPMX-32L-7-30K8                                     | 6417  | 90  | 7395  | 104 | 71      |
| VSS-1-SPMX-32L-7-35K8                                     | 6417  | 90  | 7395  | 104 | 71      |
| VSS-1-SPMX-32L-7-40K7                                     | 7466  | 105 | 8604  | 121 | 71      |
| VSS-1-SPMX-32L-7-40K8                                     | 6911  | 97  | 7964  | 112 | 71      |
| VSS-1-SPMX-32L-7-50K7                                     | 7466  | 105 | 8604  | 121 | 71      |
| VSS-1-SPMX-32L-7-50K8                                     | 6911  | 97  | 7964  | 112 | 71      |
| VSS-1-SPMX-32L-1-27K7                                     | 9500  | 88  | 10645 | 99  | 108     |
| VSS-1-SPMX-32L-1-27K8                                     | 8897  | 82  | 9969  | 92  | 108     |
| VSS-1-SPMX-32L-1-30K7                                     | 10272 | 95  | 11510 | 107 | 108     |
| VSS-1-SPMX-32L-1-30K8                                     | 9539  | 88  | 10689 | 99  | 108     |
| VSS-1-SPMX-32L-1-35K8                                     | 9539  | 88  | 10689 | 99  | 108     |
| VSS-1-SPMX-32L-1-40K7                                     | 11099 | 103 | 12436 | 115 | 108     |
| VSS-1-SPMX-32L-1-40K8                                     | 10273 | 95  | 11511 | 107 | 108     |
| VSS-1-SPMX-32L-1-50K7                                     | 11099 | 103 | 12436 | 115 | 108     |
| VSS-1-SPMX-32L-1-50K8                                     | 10273 | 95  | 11511 | 107 | 108     |

| PERFORMANCE SILICONE MICRO OPTICS - NON-SHIELDED - 48 LED |       |     |       |     |         |
|-----------------------------------------------------------|-------|-----|-------|-----|---------|
| Part Number                                               | T4FTW | LPW | T5W   | LPW | Wattage |
| VSS-1-SPMX-48L-7-27K7                                     | 10149 | 98  | 11573 | 111 | 104     |
| VSS-1-SPMX-48L-7-27K8                                     | 9504  | 91  | 10838 | 104 | 104     |
| VSS-1-SPMX-48L-7-30K7                                     | 10973 | 106 | 12513 | 120 | 104     |
| VSS-1-SPMX-48L-7-30K8                                     | 10190 | 98  | 11621 | 112 | 104     |
| VSS-1-SPMX-48L-7-35K8                                     | 10190 | 98  | 11621 | 112 | 104     |
| VSS-1-SPMX-48L-7-40K7                                     | 11856 | 114 | 13520 | 130 | 104     |
| VSS-1-SPMX-48L-7-40K8                                     | 10974 | 106 | 12514 | 120 | 104     |
| VSS-1-SPMX-48L-7-50K7                                     | 11856 | 114 | 13520 | 130 | 104     |
| VSS-1-SPMX-48L-7-50K8                                     | 10974 | 106 | 12514 | 120 | 104     |
| VSS-1-SPMX-48L-1-27K7                                     | 14718 | 96  | 15159 | 98  | 154     |
| VSS-1-SPMX-48L-1-27K8                                     | 13783 | 89  | 14196 | 92  | 154     |
| VSS-1-SPMX-48L-1-30K7                                     | 15913 | 103 | 16391 | 106 | 154     |
| VSS-1-SPMX-48L-1-30K8                                     | 14778 | 96  | 15222 | 99  | 154     |
| VSS-1-SPMX-48L-1-35K8                                     | 14778 | 96  | 15222 | 99  | 154     |
| VSS-1-SPMX-48L-1-40K7                                     | 17194 | 112 | 17710 | 115 | 154     |
| VSS-1-SPMX-48L-1-40K8                                     | 15915 | 103 | 16393 | 106 | 154     |
| VSS-1-SPMX-48L-1-50K7                                     | 17194 | 112 | 17710 | 115 | 154     |
| VSS-1-SPMX-48L-1-50K8                                     | 15915 | 103 | 16393 | 106 | 154     |

# PRODUCT SPECIFICATIONS

## LUMEN CHARTS - PERFORMANCE MICRO OPTICS

| PERFORMANCE SILICONE MICRO OPTICS - NON-SHIELDED - 64 LED |       |     |       |     |         |
|-----------------------------------------------------------|-------|-----|-------|-----|---------|
| Part Number                                               | T4FTW | LPW | T5W   | LPW | Wattage |
| VSS-1-SPMX-64L-35-27K7                                    | 7567  | 111 | 8149  | 120 | 68      |
| VSS-1-SPMX-64L-35-27K8                                    | 7086  | 104 | 7631  | 112 | 68      |
| VSS-1-SPMX-64L-35-30K7                                    | 8181  | 120 | 8811  | 130 | 68      |
| VSS-1-SPMX-64L-35-30K8                                    | 7598  | 112 | 8182  | 120 | 68      |
| VSS-1-SPMX-64L-35-35K8                                    | 7598  | 112 | 8182  | 120 | 68      |
| VSS-1-SPMX-64L-35-40K7                                    | 8840  | 130 | 9520  | 140 | 68      |
| VSS-1-SPMX-64L-35-40K8                                    | 8182  | 120 | 8812  | 130 | 68      |
| VSS-1-SPMX-64L-35-50K7                                    | 8840  | 130 | 9520  | 140 | 68      |
| VSS-1-SPMX-64L-35-50K8                                    | 8182  | 120 | 8812  | 130 | 68      |
| VSS-1-SPMX-64L-53-27K7                                    | 10580 | 103 | 12255 | 119 | 103     |
| VSS-1-SPMX-64L-53-27K8                                    | 9908  | 96  | 11476 | 111 | 103     |
| VSS-1-SPMX-64L-53-30K7                                    | 11439 | 111 | 13250 | 129 | 103     |
| VSS-1-SPMX-64L-53-30K8                                    | 10623 | 103 | 12305 | 119 | 103     |
| VSS-1-SPMX-64L-53-35K8                                    | 10623 | 103 | 12305 | 119 | 103     |
| VSS-1-SPMX-64L-53-40K7                                    | 12360 | 120 | 14317 | 139 | 103     |
| VSS-1-SPMX-64L-53-40K8                                    | 11441 | 111 | 13252 | 129 | 103     |
| VSS-1-SPMX-64L-53-50K7                                    | 12360 | 120 | 14317 | 139 | 103     |
| VSS-1-SPMX-64L-53-50K8                                    | 11441 | 111 | 13252 | 129 | 103     |
| VSS-1-SPMX-64L-7-27K7                                     | 12353 | 89  | 15478 | 111 | 139     |
| VSS-1-SPMX-64L-7-27K8                                     | 11568 | 83  | 14494 | 104 | 139     |
| VSS-1-SPMX-64L-7-30K7                                     | 13358 | 96  | 16734 | 120 | 139     |
| VSS-1-SPMX-64L-7-30K8                                     | 12405 | 89  | 15541 | 112 | 139     |
| VSS-1-SPMX-64L-7-35K8                                     | 12405 | 89  | 15541 | 112 | 139     |
| VSS-1-SPMX-64L-7-40K7                                     | 14433 | 104 | 18081 | 130 | 139     |
| VSS-1-SPMX-64L-7-40K8                                     | 13359 | 96  | 16736 | 120 | 139     |
| VSS-1-SPMX-64L-7-50K7                                     | 14433 | 104 | 18081 | 130 | 139     |
| VSS-1-SPMX-64L-7-50K8                                     | 13359 | 96  | 16736 | 120 | 139     |
| VSS-1-SPMX-64L-1-27K7                                     | 17872 | 88  | 20138 | 99  | 204     |
| VSS-1-SPMX-64L-1-27K8                                     | 16736 | 82  | 18858 | 92  | 204     |
| VSS-1-SPMX-64L-1-30K7                                     | 19323 | 95  | 21773 | 107 | 204     |
| VSS-1-SPMX-64L-1-30K8                                     | 17945 | 88  | 20220 | 99  | 204     |
| VSS-1-SPMX-64L-1-35K8                                     | 17945 | 88  | 20220 | 99  | 204     |
| VSS-1-SPMX-64L-1-40K7                                     | 20878 | 102 | 23526 | 115 | 204     |
| VSS-1-SPMX-64L-1-40K8                                     | 19325 | 95  | 21776 | 107 | 204     |
| VSS-1-SPMX-64L-1-50K7                                     | 20878 | 102 | 23526 | 115 | 204     |
| VSS-1-SPMX-64L-1-50K8                                     | 19325 | 95  | 21776 | 107 | 204     |

# PRODUCT SPECIFICATIONS

## BUG RATING CHARTS - STANDARD MICRO OPTICS - NON-SHIELDED

| STANDARD SILICONE MICRO OPTICS - NON-SHIELDED - 32 LED |          |          |          |          |
|--------------------------------------------------------|----------|----------|----------|----------|
| Part Number                                            | T2       | T3       | T4       | T5       |
| VSS-1-SPMX-32L-7-27K7                                  | B1-U0-G1 | B2-U0-G2 | B2-U0-G2 | B3-U0-G2 |
| VSS-1-SPMX-32L-7-27K8                                  | B1-U0-G1 | B2-U0-G2 | B2-U0-G2 | B3-U0-G2 |
| VSS-1-SPMX-32L-7-30K7                                  | B1-U0-G1 | B2-U0-G2 | B2-U0-G2 | B3-U0-G2 |
| VSS-1-SPMX-32L-7-30K8                                  | B1-U0-G1 | B2-U0-G2 | B2-U0-G2 | B3-U0-G2 |
| VSS-1-SPMX-32L-7-35K8                                  | B1-U0-G1 | B2-U0-G2 | B2-U0-G2 | B3-U0-G2 |
| VSS-1-SPMX-32L-7-40K7                                  | B2-U0-G2 | B2-U0-G2 | B2-U0-G2 | B3-U0-G2 |
| VSS-1-SPMX-32L-7-40K8                                  | B2-U0-G2 | B2-U0-G2 | B2-U0-G2 | B3-U0-G2 |
| VSS-1-SPMX-32L-7-50K7                                  | B2-U0-G2 | B2-U0-G2 | B2-U0-G2 | B3-U0-G2 |
| VSS-1-SPMX-32L-7-50K8                                  | B2-U0-G2 | B2-U0-G2 | B2-U0-G2 | B3-U0-G2 |
| VSS-1-SPMX-32L-1-27K7                                  | B2-U0-G2 | B2-U0-G2 | B2-U0-G2 | B4-U0-G2 |
| VSS-1-SPMX-32L-1-27K8                                  | B2-U0-G2 | B2-U0-G2 | B2-U0-G2 | B4-U0-G2 |
| VSS-1-SPMX-32L-1-30K7                                  | B2-U0-G2 | B2-U0-G2 | B2-U0-G2 | B4-U0-G2 |
| VSS-1-SPMX-32L-1-30K8                                  | B2-U0-G2 | B2-U0-G2 | B2-U0-G2 | B4-U0-G2 |
| VSS-1-SPMX-32L-1-35K8                                  | B2-U0-G2 | B2-U0-G2 | B2-U0-G2 | B4-U0-G2 |
| VSS-1-SPMX-32L-1-40K7                                  | B2-U0-G2 | B2-U0-G2 | B2-U0-G2 | B4-U0-G2 |
| VSS-1-SPMX-32L-1-40K8                                  | B2-U0-G2 | B2-U0-G2 | B2-U0-G2 | B4-U0-G2 |
| VSS-1-SPMX-32L-1-50K7                                  | B2-U0-G2 | B2-U0-G2 | B2-U0-G2 | B4-U0-G2 |
| VSS-1-SPMX-32L-1-50K8                                  | B2-U0-G2 | B2-U0-G2 | B2-U0-G2 | B4-U0-G2 |

| STANDARD SILICONE MICRO OPTICS - NON-SHIELDED - 64 LED |          |          |          |          |
|--------------------------------------------------------|----------|----------|----------|----------|
| Part Number                                            | T2       | T3       | T4       | T5       |
| VSS-1-SPMX-64L-7-27K7                                  | B3-U0-G3 | B3-U0-G3 | B3-U0-G3 | B4-U0-G2 |
| VSS-1-SPMX-64L-7-27K8                                  | B3-U0-G3 | B3-U0-G3 | B3-U0-G3 | B4-U0-G2 |
| VSS-1-SPMX-64L-7-30K7                                  | B3-U0-G3 | B3-U0-G3 | B3-U0-G3 | B4-U0-G2 |
| VSS-1-SPMX-64L-7-30K8                                  | B3-U0-G3 | B3-U0-G3 | B3-U0-G3 | B4-U0-G2 |
| VSS-1-SPMX-64L-7-35K8                                  | B3-U0-G3 | B3-U0-G3 | B3-U0-G3 | B4-U0-G2 |
| VSS-1-SPMX-64L-7-40K7                                  | B3-U0-G3 | B3-U0-G3 | B3-U0-G3 | B4-U0-G2 |
| VSS-1-SPMX-64L-7-40K8                                  | B3-U0-G3 | B3-U0-G3 | B3-U0-G3 | B4-U0-G2 |
| VSS-1-SPMX-64L-7-50K7                                  | B3-U0-G3 | B3-U0-G3 | B3-U0-G3 | B4-U0-G2 |
| VSS-1-SPMX-64L-7-50K8                                  | B3-U0-G3 | B3-U0-G3 | B3-U0-G3 | B4-U0-G2 |
| VSS-1-SPMX-64L-1-27K7                                  | B3-U0-G3 | B3-U0-G3 | B3-U0-G3 | B5-U0-G3 |
| VSS-1-SPMX-64L-1-27K8                                  | B3-U0-G3 | B3-U0-G3 | B3-U0-G3 | B5-U0-G3 |
| VSS-1-SPMX-64L-1-30K7                                  | B3-U0-G3 | B3-U0-G3 | B3-U0-G3 | B5-U0-G3 |
| VSS-1-SPMX-64L-1-30K8                                  | B3-U0-G3 | B3-U0-G3 | B3-U0-G3 | B5-U0-G3 |
| VSS-1-SPMX-64L-1-35K8                                  | B3-U0-G3 | B3-U0-G3 | B3-U0-G3 | B5-U0-G3 |
| VSS-1-SPMX-64L-1-40K7                                  | B3-U0-G3 | B3-U0-G3 | B3-U0-G4 | B5-U0-G3 |
| VSS-1-SPMX-64L-1-40K8                                  | B3-U0-G3 | B3-U0-G3 | B3-U0-G4 | B5-U0-G3 |
| VSS-1-SPMX-64L-1-50K7                                  | B3-U0-G3 | B3-U0-G3 | B3-U0-G4 | B5-U0-G3 |
| VSS-1-SPMX-64L-1-50K8                                  | B3-U0-G3 | B3-U0-G3 | B3-U0-G4 | B5-U0-G3 |

| STANDARD SILICONE MICRO OPTICS - NON-SHIELDED - 48 LED |          |          |          |          |
|--------------------------------------------------------|----------|----------|----------|----------|
| Part Number                                            | T2       | T3       | T4       | T5       |
| VSS-1-SPMX-48L-7-27K7                                  | B2-U0-G2 | B2-U0-G2 | B2-U0-G2 | B4-U0-G2 |
| VSS-1-SPMX-48L-7-27K8                                  | B2-U0-G2 | B2-U0-G2 | B2-U0-G2 | B4-U0-G2 |
| VSS-1-SPMX-48L-7-30K7                                  | B2-U0-G2 | B2-U0-G2 | B2-U0-G2 | B4-U0-G2 |
| VSS-1-SPMX-48L-7-30K8                                  | B2-U0-G2 | B2-U0-G2 | B2-U0-G2 | B4-U0-G2 |
| VSS-1-SPMX-48L-7-35K8                                  | B2-U0-G2 | B2-U0-G2 | B2-U0-G2 | B4-U0-G2 |
| VSS-1-SPMX-48L-7-40K7                                  | B2-U0-G2 | B2-U0-G2 | B2-U0-G2 | B4-U0-G2 |
| VSS-1-SPMX-48L-7-40K8                                  | B2-U0-G2 | B2-U0-G2 | B2-U0-G2 | B4-U0-G2 |
| VSS-1-SPMX-48L-7-50K7                                  | B2-U0-G2 | B2-U0-G2 | B2-U0-G2 | B4-U0-G2 |
| VSS-1-SPMX-48L-7-50K8                                  | B2-U0-G2 | B2-U0-G2 | B2-U0-G2 | B4-U0-G2 |
| VSS-1-SPMX-48L-1-27K7                                  | B3-U0-G3 | B3-U0-G3 | B3-U0-G3 | B4-U0-G2 |
| VSS-1-SPMX-48L-1-27K8                                  | B3-U0-G3 | B3-U0-G3 | B3-U0-G3 | B4-U0-G2 |
| VSS-1-SPMX-48L-1-30K7                                  | B3-U0-G3 | B3-U0-G3 | B3-U0-G3 | B4-U0-G2 |
| VSS-1-SPMX-48L-1-30K8                                  | B3-U0-G3 | B3-U0-G3 | B3-U0-G3 | B4-U0-G2 |
| VSS-1-SPMX-48L-1-35K8                                  | B3-U0-G3 | B3-U0-G3 | B3-U0-G3 | B4-U0-G2 |
| VSS-1-SPMX-48L-1-40K7                                  | B3-U0-G3 | B3-U0-G3 | B3-U0-G3 | B4-U0-G2 |
| VSS-1-SPMX-48L-1-40K8                                  | B3-U0-G3 | B3-U0-G3 | B3-U0-G3 | B4-U0-G2 |
| VSS-1-SPMX-48L-1-50K7                                  | B3-U0-G3 | B3-U0-G3 | B3-U0-G3 | B4-U0-G2 |
| VSS-1-SPMX-48L-1-50K8                                  | B3-U0-G3 | B3-U0-G3 | B3-U0-G3 | B4-U0-G2 |

# PRODUCT SPECIFICATIONS

## BUG RATING CHARTS - STANDARD MICRO OPTICS - SHIELDED

| STANDARD SILICONE MICRO OPTICS - SHIELDED 32L |          |          |
|-----------------------------------------------|----------|----------|
| Part Number                                   | T3 HSS   | T4 HSS   |
| VSS-1-SPMX-32L-7-27K7-HSS                     | B0-U0-G1 | B0-U0-G1 |
| VSS-1-SPMX-32L-7-27K8-HSS                     | B0-U0-G1 | B0-U0-G1 |
| VSS-1-SPMX-32L-7-30K7-HSS                     | B0-U0-G1 | B0-U0-G1 |
| VSS-1-SPMX-32L-7-30K8-HSS                     | B0-U0-G1 | B0-U0-G1 |
| VSS-1-SPMX-32L-7-35K8-HSS                     | B0-U0-G1 | B0-U0-G1 |
| VSS-1-SPMX-32L-7-40K7-HSS                     | B0-U0-G1 | B0-U0-G2 |
| VSS-1-SPMX-32L-7-40K8-HSS                     | B0-U0-G1 | B0-U0-G2 |
| VSS-1-SPMX-32L-7-50K7-HSS                     | B0-U0-G1 | B0-U0-G2 |
| VSS-1-SPMX-32L-7-50K8-HSS                     | B0-U0-G1 | B0-U0-G2 |
| VSS-1-SPMX-32L-1-27K7-HSS                     | B0-U0-G2 | B0-U0-G2 |
| VSS-1-SPMX-32L-1-27K8-HSS                     | B0-U0-G2 | B0-U0-G2 |
| VSS-1-SPMX-32L-1-30K7-HSS                     | B0-U0-G2 | B0-U0-G2 |
| VSS-1-SPMX-32L-1-30K8-HSS                     | B0-U0-G2 | B0-U0-G2 |
| VSS-1-SPMX-32L-1-35K8-HSS                     | B0-U0-G2 | B0-U0-G2 |
| VSS-1-SPMX-32L-1-40K7-HSS                     | B0-U0-G2 | B0-U0-G2 |
| VSS-1-SPMX-32L-1-40K8-HSS                     | B0-U0-G2 | B0-U0-G2 |
| VSS-1-SPMX-32L-1-50K7-HSS                     | B0-U0-G2 | B0-U0-G2 |
| VSS-1-SPMX-32L-1-50K8-HSS                     | B0-U0-G2 | B0-U0-G2 |

| STANDARD SILICONE MICRO OPTICS - SHIELDED 48L |          |          |
|-----------------------------------------------|----------|----------|
| Part Number                                   | T3 HSS   | T4 HSS   |
| VSS-1-SPMX-48L-7-27K7-HSS                     | B0-U0-G2 | B0-U0-G2 |
| VSS-1-SPMX-48L-7-27K8-HSS                     | B0-U0-G2 | B0-U0-G2 |
| VSS-1-SPMX-48L-7-30K7-HSS                     | B0-U0-G2 | B0-U0-G2 |
| VSS-1-SPMX-48L-7-30K8-HSS                     | B0-U0-G2 | B0-U0-G2 |
| VSS-1-SPMX-48L-7-35K8-HSS                     | B0-U0-G2 | B0-U0-G2 |
| VSS-1-SPMX-48L-7-40K7-HSS                     | B0-U0-G2 | B0-U0-G2 |
| VSS-1-SPMX-48L-7-40K8-HSS                     | B0-U0-G2 | B0-U0-G2 |
| VSS-1-SPMX-48L-7-50K7-HSS                     | B0-U0-G2 | B0-U0-G2 |
| VSS-1-SPMX-48L-7-50K8-HSS                     | B0-U0-G2 | B0-U0-G2 |
| VSS-1-SPMX-48L-1-27K7-HSS                     | B0-U0-G2 | B0-U0-G2 |
| VSS-1-SPMX-48L-1-27K8-HSS                     | B0-U0-G2 | B0-U0-G2 |
| VSS-1-SPMX-48L-1-30K7-HSS                     | B0-U0-G2 | B0-U0-G2 |
| VSS-1-SPMX-48L-1-30K8-HSS                     | B0-U0-G2 | B0-U0-G2 |
| VSS-1-SPMX-48L-1-35K8-HSS                     | B0-U0-G2 | B0-U0-G2 |
| VSS-1-SPMX-48L-1-40K7-HSS                     | B1-U0-G2 | B0-U0-G2 |
| VSS-1-SPMX-48L-1-40K8-HSS                     | B1-U0-G2 | B0-U0-G2 |
| VSS-1-SPMX-48L-1-50K7-HSS                     | B1-U0-G2 | B0-U0-G2 |
| VSS-1-SPMX-48L-1-50K8-HSS                     | B1-U0-G2 | B0-U0-G2 |

| STANDARD SILICONE MICRO OPTICS - SHIELDED 64L |          |          |
|-----------------------------------------------|----------|----------|
| Part Number                                   | T3 HSS   | T4 HSS   |
| VSS-1-SPMX-64L-7-27K7-HSS                     | B0-U0-G2 | B0-U0-G2 |
| VSS-1-SPMX-64L-7-27K8-HSS                     | B0-U0-G2 | B0-U0-G2 |
| VSS-1-SPMX-64L-7-30K7-HSS                     | B0-U0-G2 | B0-U0-G2 |
| VSS-1-SPMX-64L-7-30K8-HSS                     | B0-U0-G2 | B0-U0-G2 |
| VSS-1-SPMX-64L-7-35K8-HSS                     | B0-U0-G2 | B0-U0-G2 |
| VSS-1-SPMX-64L-7-40K7-HSS                     | B0-U0-G2 | B1-U0-G2 |
| VSS-1-SPMX-64L-7-40K8-HSS                     | B0-U0-G2 | B1-U0-G2 |
| VSS-1-SPMX-64L-7-50K7-HSS                     | B0-U0-G2 | B1-U0-G2 |
| VSS-1-SPMX-64L-7-50K8-HSS                     | B0-U0-G2 | B1-U0-G2 |
| VSS-1-SPMX-64L-1-27K7-HSS                     | B1-U0-G2 | B1-U0-G2 |
| VSS-1-SPMX-64L-1-27K8-HSS                     | B1-U0-G2 | B1-U0-G2 |
| VSS-1-SPMX-64L-1-30K7-HSS                     | B1-U0-G2 | B1-U0-G2 |
| VSS-1-SPMX-64L-1-30K8-HSS                     | B1-U0-G2 | B1-U0-G2 |
| VSS-1-SPMX-64L-1-35K8-HSS                     | B1-U0-G2 | B1-U0-G2 |
| VSS-1-SPMX-64L-1-40K7-HSS                     | B1-U0-G2 | B1-U0-G3 |
| VSS-1-SPMX-64L-1-40K8-HSS                     | B1-U0-G2 | B1-U0-G3 |
| VSS-1-SPMX-64L-1-50K7-HSS                     | B1-U0-G2 | B1-U0-G3 |
| VSS-1-SPMX-64L-1-50K8-HSS                     | B1-U0-G2 | B1-U0-G3 |

## BUG RATING CHARTS - PERFORMANCE MICRO OPTICS - NON-SHIELDED

| PERFORMANCE SILICONE MICRO OPTICS - NON-SHIELDED - 32 LED |          |          |
|-----------------------------------------------------------|----------|----------|
| Part Number                                               | T4FTW    | T5W      |
| VSS-1-SPMX-32L-7-27K7                                     | B1-U0-G2 | B3-U0-G2 |
| VSS-1-SPMX-32L-7-27K8                                     | B1-U0-G2 | B3-U0-G2 |
| VSS-1-SPMX-32L-7-30K7                                     | B2-U0-G2 | B3-U0-G2 |
| VSS-1-SPMX-32L-7-30K8                                     | B2-U0-G2 | B3-U0-G2 |
| VSS-1-SPMX-32L-7-35K8                                     | B2-U0-G2 | B3-U0-G2 |
| VSS-1-SPMX-32L-7-40K7                                     | B2-U0-G3 | B4-U0-G2 |
| VSS-1-SPMX-32L-7-40K8                                     | B2-U0-G3 | B4-U0-G2 |
| VSS-1-SPMX-32L-7-50K7                                     | B2-U0-G3 | B4-U0-G2 |
| VSS-1-SPMX-32L-7-50K8                                     | B2-U0-G3 | B4-U0-G2 |
| VSS-1-SPMX-32L-1-27K7                                     | B2-U0-G3 | B4-U0-G3 |
| VSS-1-SPMX-32L-1-27K8                                     | B2-U0-G3 | B4-U0-G3 |
| VSS-1-SPMX-32L-1-30K7                                     | B2-U0-G3 | B4-U0-G3 |
| VSS-1-SPMX-32L-1-30K8                                     | B2-U0-G3 | B4-U0-G3 |
| VSS-1-SPMX-32L-1-35K8                                     | B2-U0-G3 | B4-U0-G3 |
| VSS-1-SPMX-32L-1-40K7                                     | B2-U0-G3 | B4-U0-G3 |
| VSS-1-SPMX-32L-1-40K8                                     | B2-U0-G3 | B4-U0-G3 |
| VSS-1-SPMX-32L-1-50K7                                     | B2-U0-G3 | B4-U0-G3 |
| VSS-1-SPMX-32L-1-50K8                                     | B2-U0-G3 | B4-U0-G3 |

| PERFORMANCE SILICONE MICRO OPTICS - NON-SHIELDED - 48 LED |          |          |
|-----------------------------------------------------------|----------|----------|
| Part Number                                               | T4FTW    | T5W      |
| VSS-1-SPMX-48L-7-27K7                                     | B2-U0-G3 | B4-U0-G3 |
| VSS-1-SPMX-48L-7-27K8                                     | B2-U0-G3 | B4-U0-G3 |
| VSS-1-SPMX-48L-7-30K7                                     | B2-U0-G3 | B4-U0-G3 |
| VSS-1-SPMX-48L-7-30K8                                     | B2-U0-G3 | B4-U0-G3 |
| VSS-1-SPMX-48L-7-35K8                                     | B2-U0-G3 | B4-U0-G3 |
| VSS-1-SPMX-48L-7-40K7                                     | B2-U0-G3 | B4-U0-G3 |
| VSS-1-SPMX-48L-7-40K8                                     | B2-U0-G3 | B4-U0-G3 |
| VSS-1-SPMX-48L-7-50K7                                     | B2-U0-G3 | B4-U0-G3 |
| VSS-1-SPMX-48L-7-50K8                                     | B2-U0-G3 | B4-U0-G3 |
| VSS-1-SPMX-48L-1-27K7                                     | B3-U0-G3 | B4-U0-G3 |
| VSS-1-SPMX-48L-1-27K8                                     | B3-U0-G3 | B4-U0-G3 |
| VSS-1-SPMX-48L-1-30K7                                     | B3-U0-G3 | B4-U0-G3 |
| VSS-1-SPMX-48L-1-30K8                                     | B3-U0-G3 | B4-U0-G3 |
| VSS-1-SPMX-48L-1-35K8                                     | B3-U0-G3 | B4-U0-G3 |
| VSS-1-SPMX-48L-1-40K7                                     | B3-U0-G4 | B4-U0-G3 |
| VSS-1-SPMX-48L-1-40K8                                     | B3-U0-G4 | B4-U0-G3 |
| VSS-1-SPMX-48L-1-50K7                                     | B3-U0-G4 | B4-U0-G3 |
| VSS-1-SPMX-48L-1-50K8                                     | B3-U0-G4 | B4-U0-G3 |

## PRODUCT SPECIFICATIONS

### BUG RATING CHARTS - PERFORMANCE MICRO OPTICS - NON-SHIELDED

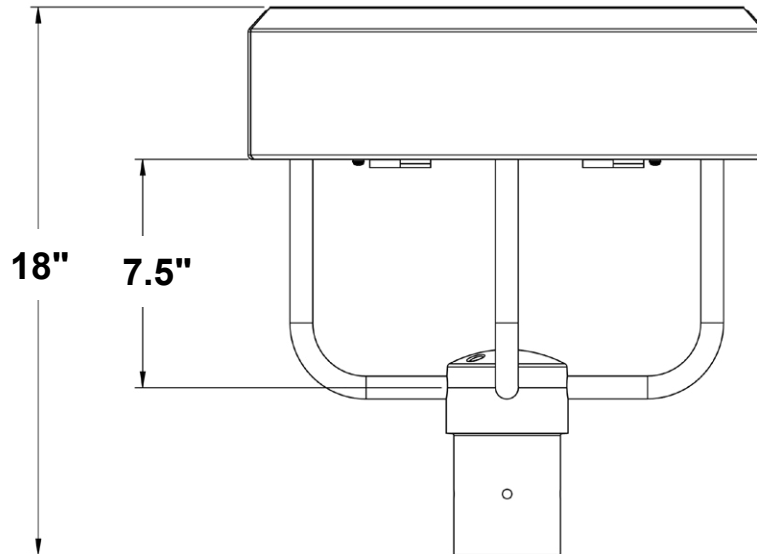
| PERFORMANCE SILICONE MICRO OPTICS - NON-SHIELDED - 64 LED |          |          |
|-----------------------------------------------------------|----------|----------|
| Part Number                                               | T4FTW    | T5W      |
| VSS-1-SPMX-64L-35-27K7                                    | B2-U0-G2 | B3-U0-G2 |
| VSS-1-SPMX-64L-35-27K8                                    | B2-U0-G2 | B3-U0-G2 |
| VSS-1-SPMX-64L-35-30K7                                    | B2-U0-G3 | B4-U0-G2 |
| VSS-1-SPMX-64L-35-30K8                                    | B2-U0-G2 | B3-U0-G2 |
| VSS-1-SPMX-64L-35-35K8                                    | B2-U0-G2 | B3-U0-G2 |
| VSS-1-SPMX-64L-35-40K7                                    | B2-U0-G3 | B4-U0-G2 |
| VSS-1-SPMX-64L-35-40K8                                    | B2-U0-G3 | B4-U0-G2 |
| VSS-1-SPMX-64L-35-50K7                                    | B2-U0-G3 | B4-U0-G2 |
| VSS-1-SPMX-64L-35-50K8                                    | B2-U0-G3 | B4-U0-G2 |
| VSS-1-SPMX-64L-53-27K7                                    | B2-U0-G3 | B4-U0-G3 |
| VSS-1-SPMX-64L-53-27K8                                    | B2-U0-G3 | B4-U0-G3 |
| VSS-1-SPMX-64L-53-30K7                                    | B2-U0-G3 | B5-U0-G3 |
| VSS-1-SPMX-64L-53-30K8                                    | B2-U0-G3 | B4-U0-G3 |
| VSS-1-SPMX-64L-53-35K8                                    | B2-U0-G3 | B4-U0-G3 |
| VSS-1-SPMX-64L-53-40K7                                    | B3-U0-G3 | B5-U0-G3 |
| VSS-1-SPMX-64L-53-40K8                                    | B2-U0-G3 | B5-U0-G3 |
| VSS-1-SPMX-64L-53-50K7                                    | B3-U0-G3 | B5-U0-G3 |
| VSS-1-SPMX-64L-53-50K8                                    | B2-U0-G3 | B5-U0-G3 |
| VSS-1-SPMX-64L-7-27K7                                     | B3-U0-G3 | B4-U0-G3 |
| VSS-1-SPMX-64L-7-27K8                                     | B3-U0-G3 | B4-U0-G3 |
| VSS-1-SPMX-64L-7-30K7                                     | B3-U0-G3 | B5-U0-G3 |
| VSS-1-SPMX-64L-7-30K8                                     | B3-U0-G3 | B4-U0-G3 |
| VSS-1-SPMX-64L-7-35K8                                     | B3-U0-G3 | B4-U0-G3 |
| VSS-1-SPMX-64L-7-40K7                                     | B3-U0-G3 | B5-U0-G3 |
| VSS-1-SPMX-64L-7-40K8                                     | B3-U0-G3 | B5-U0-G3 |
| VSS-1-SPMX-64L-7-50K7                                     | B3-U0-G3 | B5-U0-G3 |
| VSS-1-SPMX-64L-7-50K8                                     | B3-U0-G3 | B5-U0-G3 |
| VSS-1-SPMX-64L-1-27K7                                     | B3-U0-G4 | B5-U0-G3 |
| VSS-1-SPMX-64L-1-27K8                                     | B3-U0-G4 | B5-U0-G3 |
| VSS-1-SPMX-64L-1-30K7                                     | B3-U0-G4 | B5-U0-G4 |
| VSS-1-SPMX-64L-1-30K8                                     | B3-U0-G4 | B5-U0-G3 |
| VSS-1-SPMX-64L-1-35K8                                     | B3-U0-G4 | B5-U0-G3 |
| VSS-1-SPMX-64L-1-40K7                                     | B3-U0-G4 | B5-U0-G4 |
| VSS-1-SPMX-64L-1-40K8                                     | B3-U0-G4 | B5-U0-G4 |
| VSS-1-SPMX-64L-1-50K7                                     | B3-U0-G4 | B5-U0-G4 |
| VSS-1-SPMX-64L-1-50K8                                     | B3-U0-G4 | B5-U0-G4 |

## PRODUCT SPECIFICATIONS

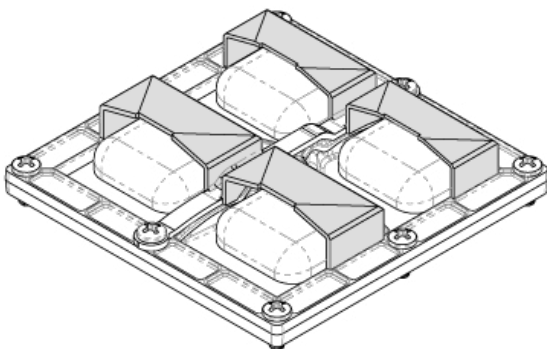
### SPIDER MOUNT (SPMX)

Aluminum, 4-bar spider arm mounts over round tenon at two outer dimensions.

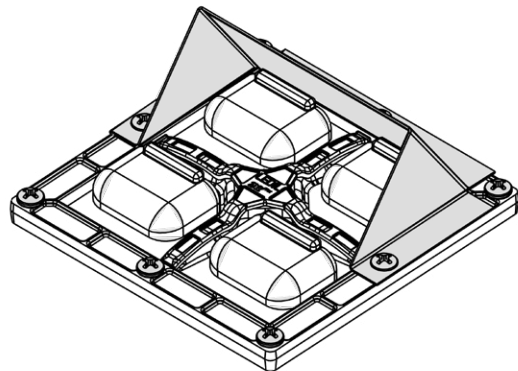
- Over 2-3/8" (SPM2)
- Over 3" (SPM3)



### HOUSE SIDE SHIELD



### AUTOMOTIVE HOUSE SIDE SHIELD



## PRODUCT SPECIFICATIONS

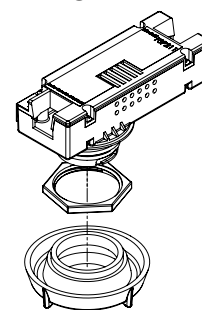
### CONTROL OPTIONS

- DIMMING CONTROL (FSP)—Passive infrared (PIR) sensor providing multi-level control based on motion/daylight contribution
- All control parameters adjustable via wireless configuration remote storing and transmitting sensor profiles.
- FSP-8 mounting heights 8 feet and below
- FSP-20 mounting heights 9-20 feet.
- FSP-40 mounting heights 21-40 feet.
- Includes 5 dimming event cycles, 0-10V dimming with motion sensing, re-programmable in the field.

### FSP-211 WITH MOTION SENSOR (FSP-XX)

- FSP-211(FSP-X)—Passive infrared (PIR) sensor providing multi-level control based on motion/daylight contribution.
- 120/277VAC, 230-240VAC
- All control parameters adjustable via wireless configuration remote storing and transmitting sensor profiles.
- FSP-8 mounting heights 8 feet and below
- FSP-20 mounting heights 9-20 feet.
- FSP-40 mounting heights 21-40 feet.
- Includes 5 dimming event cycles, 0-10V dimming with motion sensing, re-programmable in the field.

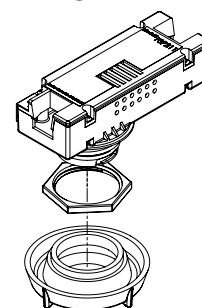
**FSP-211**



### FSP-221 WITH MOTION SENSOR (FSP-HV-XX)

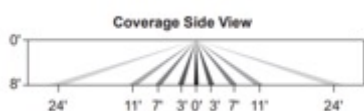
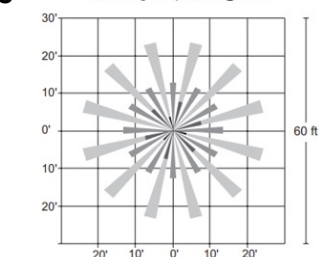
- FSP-221 (FSP-HV-X)—Passive infrared (PIR) sensor providing multi-level control based on motion/daylight contribution.
- 100-347VAC 208/230/480VAC
- All control parameters adjustable via wireless configuration remote storing and transmitting sensor profiles.
- FSP-8 mounting heights 8 feet and below
- FSP-20 mounting heights 9-20 feet.
- FSP-40 mounting heights 21-40 feet.
- Includes 5 dimming event cycles, 0-10V dimming with motion sensing, re-programmable in the field.

**FSP-221**



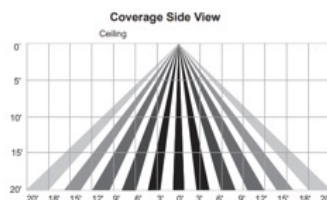
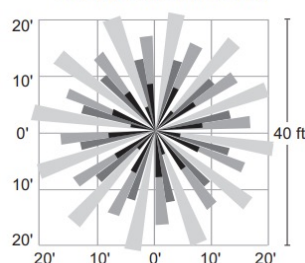
**FSP-8**

Coverage Top View @ 12ft.



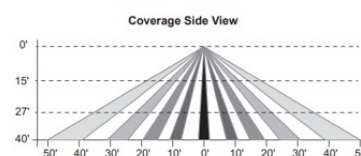
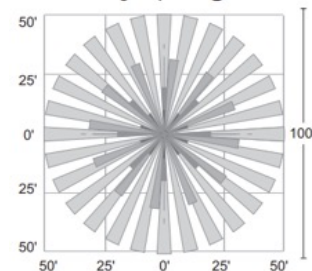
**FSP-20**

Coverage Top View @ 20 ft.



**FSP-40**

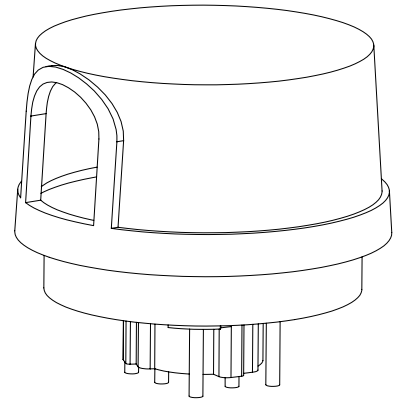
Coverage Top View @ 40ft



## PRODUCT SPECIFICATIONS

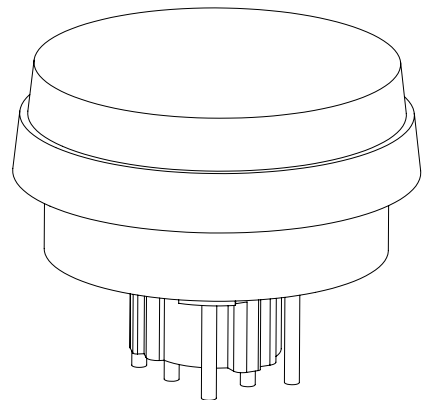
### PHOTOCELL + RECEPTACLE (PCR)

7-Pin Receptacle and Electronic Twist Lock Photocell for dusk to dawn operation.



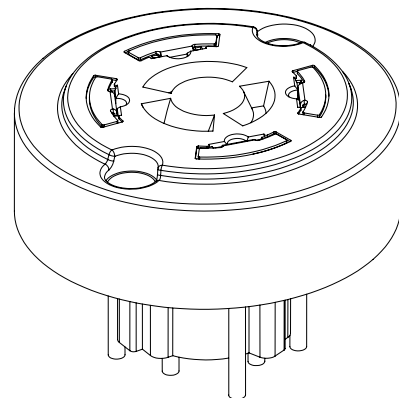
### RECEPTACLE + SHORTING CAP (PER)

7-Pin Receptacle and Shorting Cap.



### NEMA 7-PIN RECEPTACLE (PE7)

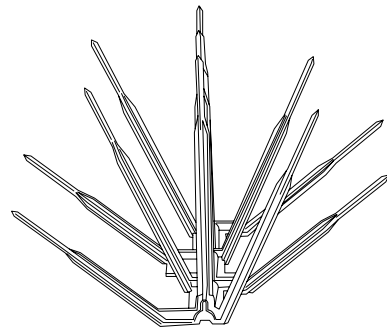
An ANSI C136.41-2013 receptacle provides electrical and mechanical interconnection between photo control cell and luminaire. Dimming receptacle available two or four dimming contacts supports 0-10 VDC dimming methods or Digital Addressable Lighting Interface (DALI), providing reliable power interconnect.



## PRODUCT SPECIFICATIONS

### BIRD SPIKES (BS)

Bird Spikes offers effective and humane deterrent for larger bird species and provides cost-effective long-term solution to nuisance bird infestations and protect your property.



### MARINE GRADE FINISH (MGF)

The **(MGF)** is a multi step process. Chemically washed in a 5 stage cleaning system. Pre-baked. Powder coated 3-5 mils of Zinc Rich Super Durable Polyester Primer. Oven Baked. Finished Powder Coating of Super Durable Polyester Powder Coat 3-5 mil thickness.



#### **Powder Coat Finish**

3-5 mil Powder Coat

#### **Primer Layer**

3-5 mil Zinc Rich Super Durable Polyester Primer

#### **Prepared Casting**

Chemically washed in multi Step 5 stage cleaning process

### BUTTON PHOTOCELL

Photo Cell for dusk to dawn operation.

