# LED ARCHITECTURAL LINEAR SUSPENDED-PARTIALLY PERFORATED
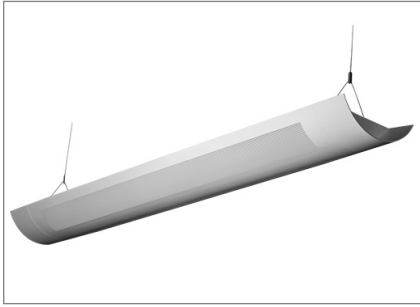
# SIOP LED

| Project Name: | |
|---|---|
| Type: | |

## APPLICATION

Architectural indoor, direct/indirect suspended light for LED system and fluorescent lamps. Reflected from the ceiling it creates soft and diffused lighting that ensures maximum visual comfort and balanced shadows. It can be installed individually or in a continuous line. Use for general office, banking, retail and educational environments.

## FEATURES:

- Die formed 20 gauge cold-rolled steel housing. Flat steel end plate standard. Powder coated for a long life finish. White finish is standard. Die cast aluminum spade end cap optional.
- 2', 3', 4' and 8' individual fixture sections for nominal suspension spacing of 2', 3', 4' and 8'. Using 2', 3', 4' and 8' sections can be joined to form longer length fixtures.
- Die-formed high-reflective white reflector is standard. Optional anodized specular aluminum reflector.
- Uplight and down light distribution.
- Textured matte white polyester powder paint.
- Overlay diffuser option as standard (99% diffusion factor & 73% total transmission).

## MOUNTING:

- Provided with a standard 48" length aircraft cable mount kit for suspended mounting.

## LED:

- High quality array LEDs.
- LM80
- Color Temperature: 2700/3000/3500/4000/5000 (K)
- Color Rendering Index: > 82.8
- Calculated L70: 122,000 hours
- Reported L70: +60,000 hours

## ELECTRICAL:

- High power factor electronic driver, operate from a 120 ~ 277 Vac input range, 50 / 60 Hz.
- Features included over voltage protection, surge, short circuit protection and over load protection.
- Power Factor: typical > 0.95, THD <20, meets Class1 or Class 2 circuit.
- 0-10V dimmable driver as standard, 1%~100%.
- Operating temperature: -4°F (-20°C) ~ 122°F (50°C).

- <ELCU-200>
- Guarantees emergency lighting remains ON or is turned on when power to the control device is lost.
- Interfaces with fire alarm panel or security system.
- "Watchdog" feature allows emergency loads to be controlled in tandem with normal power loads.
- UL listed for use in emergency circuits.

## LISTING:

- UL/CUL listed.
- Listed to UL 1598 and UL 8750.
- DLC listed. [8]
- TITLE 24 Compliant.
- Suitable for damp locations.
- CEC Compliant EM (please contact for more information)
- ARRA compliant (optional).
- BAA compliant (optional).
- 5 years limited warranty.
- 7 or 10 years limited warranty. (optional) [5]
- Bluetooth Mesh System available, please contact factory for more information.

## CONFIGURATIONS

| | Model # | Input Watts | Lumen Output (3000K) | Lumen Efficiency (3000K) |
|---|---|---|---|---|
| 2FT | 30L | 31W | 4144.5 lm | 132.8 lm/W |
| | 36L | 33.8W | 4333 lm | 128 lm/W |
| | 40L | 38.8W | 4884.5 lm | 126 lm/W |
| 3FT | 45L | 46.8W | 6215 lm | 132.8 lm/W |
| | 54L | 50.7W | 6489.6 lm | 128 lm/W |
| | 60L | 58.1W | 7320.6 lm | 126 lm/W |
| 4FT | 23L | 23W | 3054 lm | 132.8 lm/W |
| | 60L | 62.39W | 8289 lm | 132.8 lm/W |
| | 72L | 67.67W | 8666 lm | 128 lm/W |
| | 81L | 77.53W | 9769 lm | 126 lm/W |
| 8FT | 120L | 124.8W | 16573.4 lm | 132.8 lm/W |
| | 144L | 135.3W | 17318.4 lm | 128 lm/W |
| | 162L | 155W | 19530 lm | 126 lm/W |

| Multiplier | | |
|---|---|---|
| 3000K | 3500K | 5000K |
| 1.027627 | 1.055254 | 1.110508 |

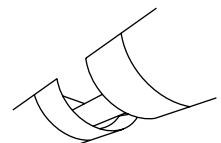| Zone | Lumens | % of Luminaire |
|---|---|---|
| 0-40 | 147 | 2.5% |
| 0-60 | 263 | 4.4% |
| 0-90 | 380 | 6.4% |
| 90-180 | 5589 | 93.6% |
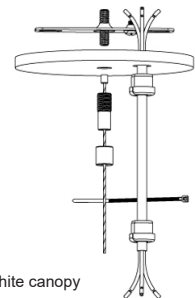
5" white canopy
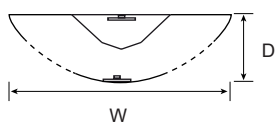
*Specifications: SIOP 2', 3', 4', 8'*

Length: 24, 36, 48, 96
(609 / 914 / 1220 / 2439)
Width: 9 (229)
Depth: 3 (76)
Weight:
SIOP-R4: 14.35 lbs (6.51 kg)
SIOP-R8: 25.57 lbs (11.6 kg)

All dimensions are in inches (millimeters).

[ Standard ]     [ SPE option ]     [ BSC option ]

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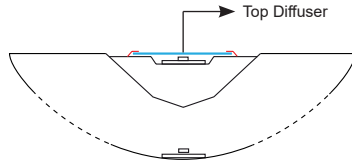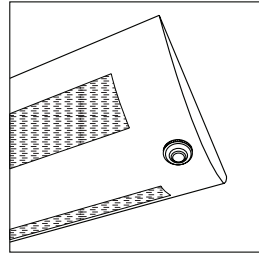
UTOPIA LIGHTING

# SIOP LED



**[ Top Diffuser Drawing ]**



MS - Integrated Occupancy Sensor
with Hold-Off Daylighting

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## ORDERING INFORMATION

*EXAMPLE:* SIOP-4-60L-40K-UNV-X1-AC48

| MODEL | ROW | | SECTION [1] | | LED | | COLOR TEMP. | | REFLECTOR | | TOP DIFFUSER | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SIOP | xx | Increments Total Row Lengths | R2 | 2' Length | 30L<br>36L<br>40L | 30W LED (2072 lm/ft)<br>36W LED (2166 lm/ft)<br>40W LED (2442 lm/ft) | -30K<br>-35K<br>-40K<br>-50K | 3000K<br>3500K<br>4000K<br>5000K | (Blank)<br>SR | White Reflector<br>Specular<br>Reflector | (Blank)<br>PA<br>CA | None<br>Prismatic Acrylic<br>Clear Acrylic |
| | | | R3 | 3' Length | 45L<br>54L<br>60L | 45W LED (2071 lm/ft)<br>54W LED (2163 lm/ft)<br>60W LED (2440 lm/ft) | | | | | | |
| | | | R4 | 4' Length | 23L<br>60L<br>72L<br>81L | 23W LED (763 lm/ft)<br>60W LED (2072 lm/ft)<br>72W LED (2166 lm/ft)<br>81W LED (2442 lm/ft) | | | | | | |
| | * Number of circuit(s) should be determined by the customer prior to ordering the continuous run considering the AC input voltage and total run wattage. | | R8 | 8' Length | 120L<br>144L<br>162L | 120W LED (2071 lm/ft)<br>144W LED (2164 lm/ft)<br>162W LED (2441 lm/ft) | * Contact factory for custom wattage or lumen requirement.<br>* Contact factory for custom up/down light distribution. | | | | | |

| VOLTAGE | | EM SECTION [2] | | FIXTURE FINISH | | CORD FINISH<br>(for pendant) | | CANOPY FINISH<br>(for pendant) | |
|---|---|---|---|---|---|---|---|---|---|
| UNV<br>120<br>277<br>347 | 120-277V (Std.)<br>120V<br>277V<br>347V [12] | (Blank)<br>1SE<br>2SE<br>xSE | None EM<br>1 Section<br>2 Section<br>x Section | (Blank)<br>*SV<br>*BK<br>**CC<br>*AMB | Matte White RAL #9003 (Std.)<br>Silver RAL #9022<br>Black RAL #9011<br>Custom Color<br>Anti-Microbial Coating (Matte Skye White) | (Blank)<br>*BKC | White (Std.)<br>Black | (Blank)<br>*BC<br>*SC<br>**CSS | White (Std.)<br>Black Canopy<br>Silver Canopy<br>Custom Canopy Color (White is Std.) |
| | | | | | * Non-standard finish with extra charge.<br>** Additional charge & set up fee. | | | | |

| LED DRIVER | | OPTIONS | |
|---|---|---|---|
| (Blank) | 0-10V dim to 1% (Std.) (dim both uplight and downlight simultaneously) | EMG8 | 1296 LUMEN EM Battery Backup (CEC Compliant EM) [2] |
| SD50 | Bi-Level Step dim 50/100 [3, 4] | EMG15 | 2430 LUMEN EM Battery Backup (CEC Compliant EM) [2] |
| TDM | Triac Dim. (120V only) | EMG20 | 3240 LUMEN EM Battery Backup (CEC Compliant EM) [2] |
| ES566 | eldoLED SOLOdrive Natural Dimming to dark, 0-10V, 100% ~ 0.1% dim | EMG25 | 4050 LUMEN EM Battery Backup (CEC Compliant EM) [2] |
| EC | eldoLED ECOdrive 0-10V natural dim to 1% (Hybrid HydraDrive) | ELCU-200 | Fail-to-on Emergency lighting, UL924 [7] |
| LDE1 | Hi-lume 1% EcoSystem LED driver with Soft-on, Fade-to-Black dimming technology, 100% ~ 1% dim | GTD | Bodine Generator Transfer Device |
| | | GTD10DIM | Bodine Generator Transfer Device (0-10VDC Dimmer Override) |
| ELV | ELV compatible (reverse-phase or trailing-edge), (120V only) | SPE | Spade End Cap |
| PHSR | Philips Xitanium Sensor-Ready, Dali 5%~100% dim. | BSC | Non-lit Continuous Coupler |
| PHDL | Philips Xitanium DALI driver, Dim to 5% | DC | Dust Cover |
| | * Contact factory for custom minumum dimming level set up.(Custom set up is not available with SD50) | ARRA | ARRA Compliant |
| TRIOT | Tridonic IoT ready, 1-100% dim via Smart Module Interface (SMI), automated dimming/lighting controls via Enlighted Sensor Interface | BAA | BAA(Buy American Act) and BABA(Build America Buy America) compliant |
| | | AMS | Bluetooth Mesh Wireless Sensor. Occupancy/Daylight/0-10V Dimming |
| LTEA2W | Hi-lume 1% 2-wire LED driver (120V forward phase only) | DPMS | Daylight Dimming Photo Sensor (0-10 VDC Control), (LSR-301-S required if FD-301 is installed) [14] |
| BLT | Bluetooth Mesh System (contact factory for more information) | SO | Dimming Wires connected to Sensor Only (available option on FS-205 non-Bluetooth AMS sensor only) [6] |
| | | LSR-301-S<br>LSR-301-P | Setup Remote Control for DPMS (Required for DPMS)Occupant Remote Control for DPMS |
| | | O7W | Optional 7 Years Limited Warranty [5] |
| | | O10W | Optional 10 Years Limited Warranty [5] |
| | | COC | Separated EM feed for City of Chicago code compliance |

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# SIOP LED

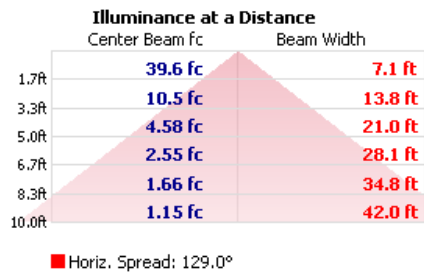| CEILING TYPE (for pendant) | | SUSPENSION LENGTH (for pendant) | | LIGHTING CONTROL SYSTEM | |
|---|---|---|---|---|---|
| **X1** | 15/16" grid T-bar ceiling | **AC48** | Adjustable Aircraft Cable Canopy 48"L | | <u>Lutron Vive System Enabled</u> |
| **X2** | Hard ceiling | **AC96** | Adjustable Aircraft Cable Canopy 96"L | **LUTRON VIVE** | vive *Click Here!* |
| **X3** | Sloped Hard ceiling | **AC120** | Adjustable Aircraft Cable Canopy 120"L | | |
| **X4** | 9/16" T-bar ceiling | **AC150** | Adjustable Aircraft Cable Canopy 150"L | | <u>Enlighted</u> |
| | | | | **SU-5E-IoT** | Enlighted IoT-Ready Indoor Micro sensor with occupancy/vacancy detection, daylight harvesting, thermal sensing, task tuning, and room and zone control, Bluetooth enabled [9, 13] |
| | | * Contact factory for custom length. 1 pair (2 aircraft cables) standard for up to 8' length. | | **SU-5E-CL** | Enlighted Indoor Micro sensor with occupancy/vacancy detection, daylight harvesting, thermal sensing, task tuning, and room and zone control, Bluetooth enabled (Connected lighting sensor only) |
| | | | | **RS-WS** | Enlighted Room controller providing basic control functions of a standard wall switch with preset dimming capability |
| | | | | **SNS200C** | <u>EasySense</u> EasySense Ceiling-mount occupancy sensing, daylight harvesting and task tuning in one device (Must be ordered with PHSR driver) [10, 11] |
| | | | | **RS-IR** | IR dongle for EasySense control |
| | | | | **IFS105SE** | <u>Bluetooth</u> Bluetooth Mesh Wireless Sensor. Occupancy/Daylight/0-10V Dimming |
| | | | | **PPA102S** | Bluetooth Powerpack (Consult factory for installation location) |

NOTES:
1. No need to select, if sames as row length and section length.
2. EM is installed in last 4' of luminaire sections. Separate section required 2SE or specified. Must specify voltage, not available with 347V. Contact factory for other emergency ballast options.
3. Contact factory for custom wattage or lumen requirement.
4. Lumens and watts per foot may differ for STEP drivers, consult factory.
5. This limited warranty covers electrical parts only and does not apply to labor, equipment lease, or defect from improper installation or operation.
6. Dimming wires provided and connected to sensor only, not for dimmer switch. (available with AMS and DPMS option)
7. Shipped separately.

8. DesignLights Consortium® (DLC) qualified product. Not all versions of this product may be DLC qualified. Please check the DLC Qualified Products List at www.designlights.org/QPL to confirm which versions are qualified.
9. "RS-WS" option can be added if wish to have a wall switch, please see Enlighted Room Controller in the separate attachment.
10. See NFC and IR manual in the separate attachment. If your phone is not compatible, please order "RS-IR" and follow the manual.
11. Refer to Advanced Grouping Datasheet for its default setting and compatible wireless switches.
12. 347V cannot work with Emergency Battery Backup.
13. Must be ordered either with 0-10V LED driver or TRIOT (IoT-Ready LED driver).
14. Automatic on/off is not available. For automatic on/off, additional occupancy sensor is required or a manual on/off switch can be done.
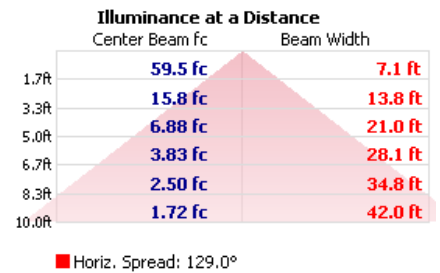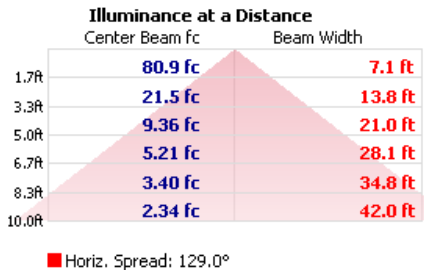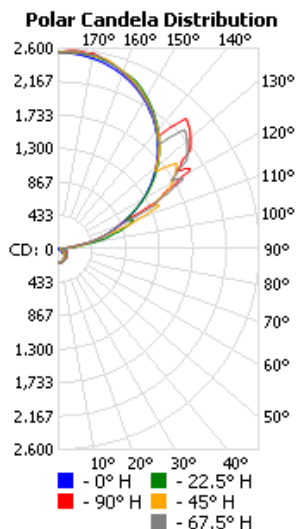
**SIOP-4-60L-UNV**

### Illuminance at a Distance

| | Center Beam fc | Beam Width |
|---|---|---|
| 1.7ft | 28.9 fc | 7.1 ft |
| 3.3ft | 7.67 fc | 13.8 ft |
| 5.0ft | 3.34 fc | 21.0 ft |
| 6.7ft | 1.86 fc | 28.1 ft |
| 8.3ft | 1.21 fc | 34.8 ft |
| 10.0ft | 0.83 fc | 42.0 ft |

■ Horiz. Spread: 129.0°

**SIOP-4-81L-UNV**

### Illuminance at a Distance

| | Center Beam fc | Beam Width |
|---|---|---|
| 1.7ft | 39.6 fc | 7.1 ft |
| 3.3ft | 10.5 fc | 13.8 ft |
| 5.0ft | 4.58 fc | 21.0 ft |
| 6.7ft | 2.55 fc | 28.1 ft |
| 8.3ft | 1.66 fc | 34.8 ft |
| 10.0ft | 1.15 fc | 42.0 ft |

■ Horiz. Spread: 129.0°

**SIOP-8-120L-UNV**

### Illuminance at a Distance

| | Center Beam fc | Beam Width |
|---|---|---|
| 1.7ft | 59.5 fc | 7.1 ft |
| 3.3ft | 15.8 fc | 13.8 ft |
| 5.0ft | 6.88 fc | 21.0 ft |
| 6.7ft | 3.83 fc | 28.1 ft |
| 8.3ft | 2.50 fc | 34.8 ft |
| 10.0ft | 1.72 fc | 42.0 ft |

■ Horiz. Spread: 129.0°

**SIOP-8-162L-UNV**

### Illuminance at a Distance

| | Center Beam fc | Beam Width |
|---|---|---|
| 1.7ft | 80.9 fc | 7.1 ft |
| 3.3ft | 21.5 fc | 13.8 ft |
| 5.0ft | 9.36 fc | 21.0 ft |
| 6.7ft | 5.21 fc | 28.1 ft |
| 8.3ft | 3.40 fc | 34.8 ft |
| 10.0ft | 2.34 fc | 42.0 ft |

■ Horiz. Spread: 129.0°

# SIOP LED

**Polar Candela Distribution**

| | |
|---|---|
| Street Side (Down) | 3.2% |
| House Side (Down) | 3.2% |
| **Total (Down)** | **6.4%** |
| Street Side (Up) | 46.8% |
| House Side (Up) | 46.8% |
| **Total (Up)** | **93.6%** |
| **Total** | **100%** |

- 0° H      - 22.5° H
- 90° H      - 45° H
- 67.5° H

**COMPATIBLE DIMMER SWITCH (TABLE 1)**

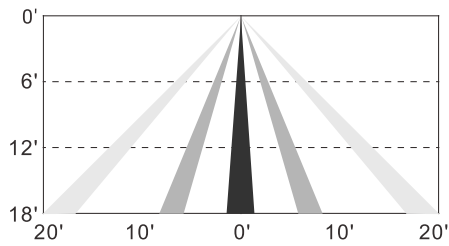| Model # | Brand | | Compatible Dimmer Switch |
|---|---|---|---|
| (Blank) | - | <Leviton> | IllumaTech IP7 series |
| | | <Lutron> | Visit www.lutron.com/advance for a list of dimmers (Mark VII) that will work with this driver. |
| | | <Philips> | Sunrise : SR1200ZTUNV |
| ES566 | eldoLED SOLOdrive | <Busch-Jaeger> | 2112U-101 |
| | | <Jung> | 240-10 |
| | | <Leviton> | IllumaTech - IP710-DLX |
| | | <Lightoller Controls> | ZP600FAM120 |
| | | <Merten> | 5729 |
| | | <Pass & Seymour> | CD4FB-W |
| | | <Wattstopper> | DCLV1 |
| | | <Sensor Switch> | nIO EZ |
| | | <Synergy> | ISD BC |
| | | <ABB> | SD/S 2.16.1 |
| | | <Lutron> | Nova T: NTFTV<br>Diva - DVTV-xx, NFTV<br>GRAFIK Eye: GRX-TVI w GRX3503<br>Energy Savr Node: QSN-4T16-S<br>TVM2 Module |
| | | <Crestron> | GLX-DIMFLV8, GLXP-DIMFLV8, GLPAC-DIMFLV4-*, GLPAC-DIMFLVV8-*, GLPP-DIMFLVEX-PM, GLPP-1DIMFLV2EX-PM, GLPP-1DIMFLV3EX-PM, DIN-AO8, DIN-4DIMFLV4, CLS-EXP-DIMFLV, CLCI-1DIMFLV2EX |
| LDE1 | Lutron Hi-lume 1% EcoSystem | <Lutron> | PowPak Dimming Modules: RMJ-ECO32-DV-B, FCJ/FCJS-ECO [1,2]<br>Energi Savr Node (120V only): QSN-1EC0-S, QSN-2ECO-S<br>GRAFIK Eye QS/Homeworks QS control unit (120V only): QSGRJ-_E(wireless) QSGR-_E<br>Quantum Hub (120V only): QP2-__2C/4C/6C/8C<br>Homeworks QS/myRoom Plus power module (120V only): LQSE-2ECO-D |
| PHSR [3] | Philips Xitanium Sensor-Ready | <Illumra> | Single Rocker Self-Powered Light Switch (on/off, dim-up/down)<br>Illumra# ZBT-S1AWH<br>Digi-Key# 1082-1033-ND<br>Dual Rocker Self-Powered Light Switch (on/off, dim-up/down,  scene1,2)<br>Illumra# ZBT-S2AWH<br>Digi-Key# 1082-1034-ND |
| TDM | KEYSTONE | <Lutron> | Diva DV-600P, SkyLark S-600P, Ariadni AY-600P, Ariadni TG-603P, Maestro MA-600 (Digital), Diva CFL/LED DVCL-153P, Satin Colors DVSC-600P-SW |
| | | <Leviton> | 6641, IllumaTech IPI06-1LX, ToggleTouch TGI06-1LW (Digital) |
| ELV | KEYSTONE | <Lutron> | MAELV-600BL (Digital), DVELV-300P, SkyLark SELV-300P |
| LTEA2W | Lutron Hi-lume 2-wire (120V forward voltage only) | <Lutron> | Visit http://www.lutron.com/TechnicalDocumentLibrary/369543_ENG.pdf<br>for a list of compatible dimmer switches. |

NOTES:
1. All devices connected to one FCJ/FCJS-ECO will be controlled together. Devices will dim to the same level as the result of a control command.
   For more detail on adjusting low-end light level refer to Application Note#556 at www.lutron.com.
2. For the Line/Hot (L/H) terminal on the driver, it is preferred not to use the switched hot (red) wire from the control but rather the hot wire directly from the power source.
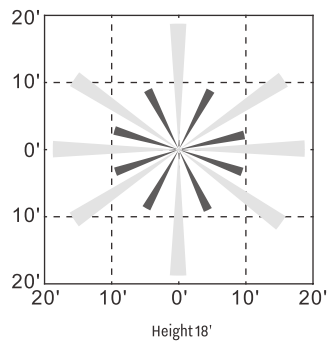3. Recommended for EasySense System.

# SIOP LED

All dimensions are in inches (millimeters).

9
(228)

4
(101)

SPE

48
(1219)

4
(101)

SPE

56
(1422)

12
(305)

SPE

SPE

BSC

SPE

SPE

64
(1625)

SPE

BSC

SPE

SPE

116
(2946)

SPE

SPE

BSC

SPE

SPE

**SIDE VIEW**

0'

6'

12'

18'

20'   10'   0'   10'   20'

**TOP VIEW**

20'

10'

0'

10'

20'

20'   10'   0'   10'   20'

Height 18'
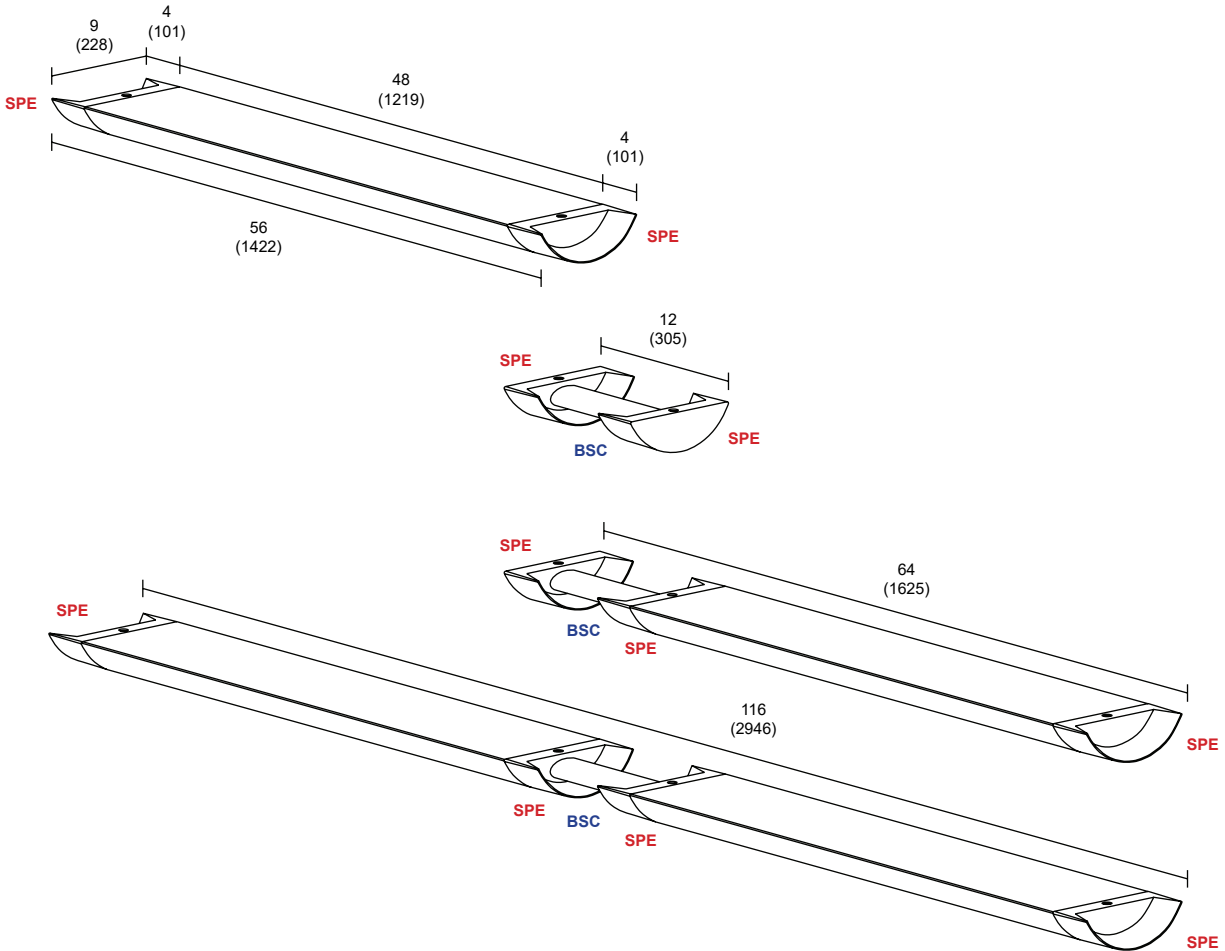
**AMS, IFS105SE coverage pattern**

UTOPIA LIGHTING