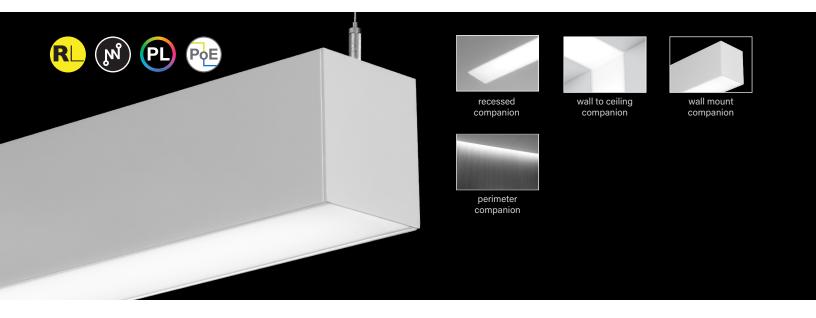
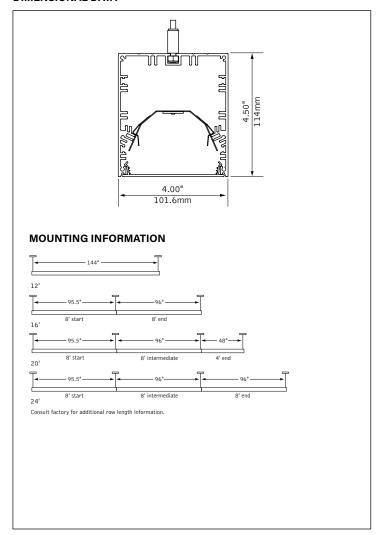
# Seem® 4





# **DIMENSIONAL DATA**



## **FEATURES**

Narrow extruded aluminum 4" linear direct LED.

Individual units and continuous runs in 1' increments.

Frosted acrylic lens provides uninterrupted illumination, without pixels or shadows.

LED position and lens material optimized to provide the perfect blend of high performance and visual comfort.

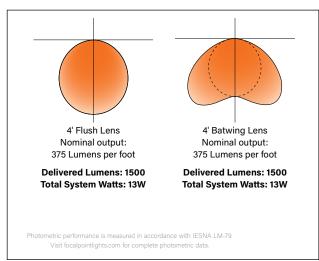
Choice of output levels to meet a wide variety of application needs.

Connected Solutions: Integrates with wired and wireless building lighting control systems.

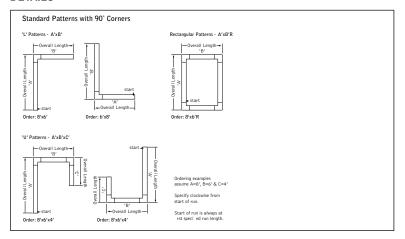
Preferred Light: Lighting for better color rendition and human preference.

PoE compatible: Integrates with Power over Ethernet lighting systems via standard, low-voltage wires.

## **PERFORMANCE**



#### **DETAILS**



## **SPECIFICATIONS**

## LED System

Proprietary linear LED module incorporates premium LEDs on a robust platform to achieve excellent thermal management. LEDs are placed to promote a uniform appearance. Available in 2700K, 3000K, 3500K or 4000K with CRI>80 or CRI>90, 3 SDCM. 3500K and 4000K with CRI>90 have a cyanosis observation index (COI) of 3.3 or less. LED modules and drivers are replaceable from below.

## Construction

9-12' luminaires ship on 13' (157") pallets, forklift extensions of 72" are required to avoid damage. One piece extruded aluminum housing. Die cast aluminum end caps. 2' unit weight: 10 lbs., 3' unit weight: 14 lbs., 4' unit weight: 18 lbs., 5' unit weight: 22 lbs., 12' unit weight: 48 lbs.

#### Optic

Reflectors fabricated of 22 Ga. steel finished in High Reflectance White powder coat. Extruded acrylic lens .085" thick with satin finish, up to 12' continuous.

Luminaires are pre-wired with factory installed branch circuit wiring and over-molded quick connects. Standard 120-277V constant current driver includes 0-10V analog dimming. Dimming range 100% to 10%. Power factor > .9. PoE compatible: Integrates with Power over Ethernet lighting systems via standard, low-voltage wires. PoE runs require an independent PoE node and power feed for each luminaire section.

#### Emergency

Emergency Battery output - 10 watts for 90 minutes. Maximum mounting height: 20.18ft. Emergency Circuit with Connected Solutions (DLM1, LMFS1, LMFSD, NLT1, ENL1, CLM1, NXE1, WLXP) shipped standard with leads to connect UL924 compliant device, by others.

#### Labels

UL and cUL listed. Suitable for Dry or Damp Locations, indoor use only.

Polyester powder coat applied over a multi-stage pre-treatment. Canopy and cord white as standard.

# Lumen Maintenance

Reported: L70 > 61,000 hours Calculated: L70 at > 480,000 hours L90 > 61,000 hours L90 at > 128,000 hours (Derived from EPA TM-21 calculator. Based on typical conditions, consult factory for additional data.)

At Focal Point, our products are designed to stand the test of time. Each luminaire is engineered using superior components, manufactured with the utmost care and rigorously tested. Contact us for reliability data.

#### Warranty

LED system rated for operation in ambient environments up to 25°C. 5-year limited warranty.

# 4' PERFORMANCE CHART

|                  |                     |                        | LP  | W   |
|------------------|---------------------|------------------------|-----|-----|
| Lumens<br>Output | Delivered<br>Lumens | Tested<br>System Watts | BW  | FL  |
| 275              | 1100                | 10                     | 104 | 100 |
| 375              | 1500                | 13                     | 113 | 108 |
| 625              | 2500                | 22                     | 112 | 107 |
| 875              | 3500                | 32                     | 109 | 105 |
| 1000             | 4000                | 37                     | 109 | 104 |
| 1125             | 4500                | 44                     | 108 | 104 |
| 1250             | 5000                | 49                     | 107 | 102 |

Based on 3500K, 80 CRI, 4' lengths. Lumen multipliers: Preferred Light = 0.65, 90+ CRI = 0.87. Lumen output may vary +/- 5%. Actual wattage may vary +/- 5%.

| ORDERING  |                            |        |
|---|----------------------------|--------|
| Luminaire Series  |                            | FSM4LS |
| Seem 4 LED  | FSM4LS                     |        |
| Shielding   | BW                         |        |
| Batwing Lens<br>Flush Satin Lens  | FL                         |        |
| Lumen Output  | 0751.5                     |        |
| 275 Lumens per foot (Not available with Lutron Drivers.)  | 275LF                      |        |
| 375 Lumens per foot<br>(Not available with LH1 Drivers)   | 375LF                      |        |
| 625 Lumens per foot   | 625LF                      |        |
| (3' minimum with LH1 Drivers)<br>875 Lumens per foot  | 875LF                      |        |
| 1000 Lumens per foot  | 1000LF                     |        |
| 1125 Lumens per foot  | 1125LF                     |        |
| 1250 Lumens per foot  | 1250LF                     |        |
| Color Temperature   |                            |        |
| 2700K, 80+ CRI <b>or</b> 90+ CRI  | 27K or 927K                |        |
| 3000K, 80+ CRI <b>or</b> 90+ CRI<br>3500K, 80+ CRI <b>or</b> 90+ CRI  | 30K or 930K<br>35K or 935K |        |
| 4000K, 80+ CRI <b>or</b> 90+ CRI  | 40K or 940K                |        |
| 3500K, Preferred Light  | P35K                       |        |
| (Patterns not available.)  Circuits & Zones   |                            |        |
| 1 Circuit, non-emergency  | 1C                         |        |
| Consult Ordering Guide on page 4 for  |                            |        |
| multiple circuiting and zoning options  | _C_Z_DL                    |        |
| Voltage<br>120/277 UNV Volt   | UNV                        |        |
| Low Voltage   | LV                         |        |
| Control System & Dimming Level  |                            |        |
| 0-10V - 10% Dimming   | LD1                        |        |
| 0-10V - 1% Dimming  | L11<br>LVN                 |        |
| Low Voltage, PoE compatible (No driver. Not available with EM or EC. LV Voltage only.)  |                            |        |
| Lutron Hi-Lume EcoSystem (LDE1) -<br>1% Dimming   | LH1                        |        |
| DALI 1% Dimming   | D11                        |        |
| (1000LF max.) Wattstopper DLM - 1% Dimming**  | DLM1                       |        |
| Wattstopper Fixture Sensor**  | LMFS1                      |        |
| Low Density – 1% Dimming<br>See sensor layout guide   |                            |        |
| Wattstopper Fixture Sensor**  | LMFSD                      |        |
| High Density – 1% Dimming See sensor layout guide   |                            |        |
| Acuity nLight - 1% Dimming**<br>Enlighted Smart Sensor - 1% Dimming**   |                            |        |
| . See sensor layout quide   | LINEI                      |        |
| Encelium CLM Connected Lighting** Module - 1% Dimming   | CLM1                       |        |
| Module - 1% Dimming<br>Current NX Enabled - 1% Dimming**  | NXE1                       |        |
| WaveLinx Pro – 1% Dimming**   |                            |        |
| **(3' minimum length, with ECD/EM - 7' minimum.)  |                            |        |
| Mounting  |                            |        |
| 24" Cable Suspension  | C24                        |        |
| 48" Cable Suspension  | C48<br>C96                 |        |
| 96" Cable Suspension pecify canopy color White (WH), Black (BK) or Titanium Silver (TS), Example: C24WH, Specify one of the following in place of "C" J for 2" canopies at non-feed | C30                        |        |
| following in place of "C" J - for 2" canopies at non-feed locations. CS - for sloped ceiling applications.)   |                            |        |
| Surface Mount<br>(Not available with CLM1, DLM1, NLT1 or NXE1)  | SM                         |        |
| Factory Options   |                            |        |
| (See Ordering Guide on page 4 for ordering details for DC, EC, EM & ECD.)   |                            |        |
| Black Cord  | BKCD                       |        |
| Daylight Circuit  Emergency Circuit   | _DC<br>EC                  |        |
| Emergency Battery Pack <sup>†</sup>   | _EM                        |        |
| Emergency Control Device†   | _ECD                       |        |
| <sup>†</sup> (120/277 Volt only. EM or ECD not available at corners.)   |                            |        |
| Finish<br>Black   | BK                         |        |
| Titanium Silver   | TS                         |        |
| Matte White Housing Luminaire/Row Length  | WH                         |        |
| Specify in 1' increments  | X'                         |        |
| (Lengths are nominal, up to 12' individuals available.<br>See Run Chart (page 5) for ordering codes.  |                            |        |
| Smaller increments available, consult factory for details.<br>Leave blank for patterns.)  |                            |        |
| Pattern Options (3' minimum length)   |                            |        |
| Specify luminaire/row   | X'                         |        |
| length in 1' increments<br>'L' pattern<br>'U' pattern   | A' x B'                    |        |
| 'U' pattern   | A' x B' x C'<br>A' x B'R   |        |
| Rectangular pattern (Consult factory for other pattern options)   | L Y D U                    |        |
|   |                            |        |





Focal Point provides flexibility in meeting the needs of each project by integrating with several building lighting control systems. A variety of sensors, drivers and other components can be specified that allow the luminaires to communicate with wired and wireless networks. All zoning can be digitally reconfigured through the application software. Daylight harvesting, occupancy sensing, integration with HVAC systems, and individual controls enable the monitoring and modulating of light levels and temperature in order to save energy, reduce costs and maximize occupants' comfort. All Connected Solutions luminaires require a compatible building control system.<sup>†</sup>

| Connected Solution                             | Ordering<br>Code | Model #**              | Protocol             | Compatible<br>Networks*                          | Occupancy<br>& Daylight | Temperature<br>Reporting | Communication to Luminaire                             | Drivers                                      |
|--|------------------|------------------------|----------------------|--|-------------------------|--------------------------|--|--|
| Conections located under access panel          | DLM1             | LMFC-011               | DLM                  | DLM  | Enabled                 | No                       | Wired  | Advance by Signify,<br>Optotronic by eldoLED |
| WATTSTOPPER*                                   | LMFS1            | LMFS-601<br>& LMFI-111 | DLM                  | DLM  | Enabled                 |                          |  | Advance by Signify                           |
|  | LMFSD            | LMFS-601               | Wireless             | DLIVI  | Enabled                 | No                       | Wireless   | Optotronic by eldoLED (Dexal)                |
| COOPER Lighting Solutions                      | WLXP             | OEM-WAA                | WaveLinx<br>Wireless | WaveLinx Pro<br>Trellix                          | Enabled                 | No                       | Wireless<br>(WaveLinx Pro Wireless<br>Area Controller) | Advance by Signify                           |
| © CRESTRON                                     | D11              | Specified              | DALI                 | Crestron Zūm<br>- Wireless & Ena<br>SpaceBuilder | Enabled N               | No                       | Wired  | eldoLED ECOdrive                             |
| **CHESTHON:                                    | L11              | Driver                 | 0-10V                |  |                         | NO                       |  | Advance by Signify                           |
| ENCELIUM                                       | CLM1             | ZBHA-CLM-<br>DIM-ENC   | ZigBee               | Encelium X Light<br>Management<br>System         | Enabled                 | No                       | Wireless   | Optotronic by eldoLED<br>Advance by Signify  |
| € Enlighted                                    | ENL1             | SU-5E-IOT              | Enlighted<br>RF      | Enlighted  | Integrated              | Yes                      | Wireless   | Advance by Signify                           |
| ©LUTRON  | LH1              | LDE1                   | EcoSystem            | Quantum, Energi<br>Savr Node,<br>Energi TriPak   | Enabled                 | No                       | Wired  | Lutron Hi-Lume                               |
| nLiGHT Connections located under access parel. | NLT1             | nEPS-60-IO             | nLight               | nLight   | Enabled                 | No                       | Wired  | eldoLED ECOdrive,<br>eldoLED SOLOdrive       |
| LIGHTING CONTROLS                              | NXE1             | NXFM-LV                | NX                   | NX Distributed<br>Intelligence                   | Enabled                 | No                       | Wired  | Optotronic by eldoLED                        |

<sup>\*</sup>Not all compatible networks may be listed. \*\*For performance data and additional control system details please visit the connected solutions manufacturer websites. Primary drivers are listed in **bold.** To specify a particular driver please consult factory. †Controls systems supplied by others.

# Ordering Guide

# **Linear Circuitry, Zones & Factory Options**

# **HOW TO USE THIS GUIDE**

Fill out the worksheet on the following page to specify your requirements for circuitry, zones, and factory options.

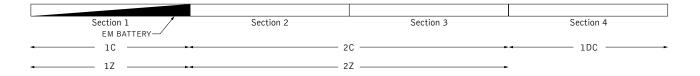
Refer to the run chart for standard run configurations, consult factory for custom configurations.

Complete the Totals / Ordering Codes at the bottom of the worksheet and add to your ordering logic on the cut sheet.

Submit the worksheet along with your order.

|        | TOTAL RUN LENGTH: |             | 32ft JOB NAME:          |                 |                  | FIXTURE TYPE:             |                      |     |     |
|--------|-------------------|-------------|-------------------------|-----------------|------------------|---------------------------|----------------------|-----|-----|
|        |                   |             | SHARED ELECTRICAL FEED, |                 |                  | FACTORY OPTIONS           |                      |     |     |
|        | HOUSING           | SECTION     |                         | NORMAL POWER    |                  | SEPARATE ELECTRICAL FEEDS |                      |     |     |
| ш      | SECTION           | LENGTH      | SWITCHING<br>CIRCUIT    | DIMMING<br>ZONE | DAYLIGHT<br>ZONE | DAYLIGHT<br>CIRCUIT       | EMERGENCY<br>CIRCUIT | ECD | ЕМ  |
| EXAMPI | 1                 | 8           | 1C                      | 1Z              |                  |                           |                      |     | 1EM |
| Ĕ      | 2                 | 8           | 2C                      | 2Z              |                  |                           |                      |     |     |
|        | 3                 | 8           | 2C                      | 2Z              |                  |                           |                      |     |     |
|        | 4                 | 8           |                         |                 |                  | 1DC                       |                      |     |     |
|        | Totals / Ord      | ering Codes | 2C                      | 2Z              |                  | 1DC                       |                      |     | 1EM |

ORDERING: FSM4LS-FL-625LF-35K- 2C2Z -UNV-LD1-C24WH- 1DC-1EM -WH-32ft



| KEY  |  |
|--|--|
| C = Switching Circuit<br>Switched Hot / Shared Neutral | DC = Daylight Circuit Switched Hot / Separate Neutral  |
| Z = Dimming Zone Dimming Control Wires                 | EC = Emergency Circuit Switched Hot / Separate Neutral   |
| DL = Daylight Zone Daylight Dimming Control Wires      | EM = Emergency Battery Unswitched Hot / Shared Neutral  ECD = Emergency Control Device Unswitched Hot / Separate Neutral |

## **DEFAULTS**

- Zones and Factory Options illuminate entire sections from 4' to 8' in length.
- One shared or isolated circuit and zone required per housing section.
- Limit of one EM or ECD per housing section.
- Additional electrical feed required for applications greater than three shared circuits and zones.
- Each DC, EC and ECD require an additional electrical feed.
- ECD not available in the same housing section as EC.
- Longer lead times and additional pricing may apply for custom run configurations.

# **CUSTOM LENGTHS**

- If partial illumination of emergency or daylight section is required, indicate in ordering guide and add "partial illumination" in Order Notes. Drawing required.
- Engineering validation required, longer lead times may apply.

# Ordering Guide Worksheet

**Linear Circuitry, Zones & Factory Options** 

|           | TOTAL RUN    | LENGTH:     |                         | JOB NAME:       |                           |                     | FIXTURE TYPE:        |     |    |
|-----------|--------------|-------------|-------------------------|-----------------|---------------------------|---------------------|----------------------|-----|----|
|           |              |             | SHARED ELECTRICAL FEED, |                 |                           | FACTORY OPTIONS     |                      |     |    |
|           | HOUSING      | SECTION     | NORMAL POWER            |                 | SEPARATE ELECTRICAL FEEDS |                     |                      |     |    |
|           | SECTION      | LENGTH      | SWITCHING<br>CIRCUIT    | DIMMING<br>ZONE | DAYLIGHT<br>ZONE          | DAYLIGHT<br>CIRCUIT | EMERGENCY<br>CIRCUIT | ECD | EM |
|           | 1            |             |                         |                 |                           |                     |                      |     |    |
|           | 2            |             |                         |                 |                           |                     |                      |     |    |
|           | 3            |             |                         |                 |                           |                     |                      |     |    |
|           | 4            |             |                         |                 |                           |                     |                      |     |    |
|           | 5            |             |                         |                 |                           |                     |                      |     |    |
|           | 6            |             |                         |                 |                           |                     |                      |     |    |
|           | 7            |             |                         |                 |                           |                     |                      |     |    |
| WO        | 8            |             |                         |                 |                           |                     |                      |     |    |
| WORKSHEET | 9            |             |                         |                 |                           |                     |                      |     |    |
| EET       | 10           |             |                         |                 |                           |                     |                      |     |    |
|           | 11           |             |                         |                 |                           |                     |                      |     |    |
|           | 12           |             |                         |                 |                           |                     |                      |     |    |
|           | 13           |             |                         |                 |                           |                     |                      |     |    |
|           | 14           |             |                         |                 |                           |                     |                      |     |    |
|           | 15           |             |                         |                 |                           |                     |                      |     |    |
|           | 16           |             |                         |                 |                           |                     |                      |     |    |
|           | 17           |             |                         |                 |                           |                     |                      |     |    |
|           | 18           |             |                         |                 |                           |                     |                      |     |    |
|           | 19           |             |                         |                 |                           |                     |                      |     |    |
|           | 20           |             |                         |                 |                           |                     |                      |     |    |
|           | Totals / Ord | ering Codes |                         |                 |                           |                     |                      |     |    |
|           |              |             |                         |                 |                           |                     |                      | 1   |    |

Combine to create Circuits & Zones ordering code

Enter as individual Factory Options

# **RUN CHART**

| Run<br>Length (ft) | Housing Configuration<br>Section Lengths | Ordering<br>Code | Run<br>Length (ft) | Housing Configuration<br>Section Lengths | Orderin<br>Code |
|--------------------|--|------------------|--------------------|--|-----------------|
| 9                  | 5 + 4                                    | 9                | 19                 | 8 + 7 + 4                                | 19              |
| 9                  | 9  | 9(IND)           | 20                 | 8 + 8 + 4                                | 20              |
|                    | 6 + 4                                    | 10               | 21                 | 8 + 8 + 5                                | 21              |
| 10                 | 5 + 5                                    | 10(5+5)          | 22                 | 8 + 8 + 6                                | 22              |
|                    | 10                                       | 10(IND)          | 23                 | 8 + 8 + 7                                | 23              |
| 11                 | 7 + 4                                    | 11               | 24                 | 8 + 8 + 8                                | 24              |
| 11                 | 11                                       | 11(IND)          | 25                 | 8 + 8 + 5 + 4                            | 25              |
|                    | 8 + 4                                    | 12               | 26                 | 8 + 8 + 6 + 4                            | 26              |
| 12                 | 6 + 6                                    | 12(6+6)          | 27                 | 8 + 8 + 7 + 4                            | 27              |
|                    | 12                                       | 12(IND)          | 28                 | 8 + 8 + 8 + 4                            | 28              |
| 13                 | 8 + 5                                    | 13               | 29                 | 8 + 8 + 8 + 5                            | 29              |
| 14                 | 8 + 6                                    | 14               | 30                 | 8 + 8 + 8 + 6                            | 30              |
| 15                 | 8 + 7                                    | 15               | 31                 | 8 + 8 + 8 + 7                            | 31              |
| 16                 | 8 + 8                                    | 16               | 32                 | 8 + 8 + 8 + 8                            | 32              |
| 17                 | 8 + 5 + 4                                | 17               | 33                 | 8 + 8 + 8 + 5 + 4                        | 33              |
| 18                 | 8 + 6 + 4                                | 18               | 34                 | 8 + 8 + 8 + 6 + 4                        | 34              |

| Run<br>Length (ft)   | Housing Configuration<br>Section Lengths | Ordering<br>Code |  |  |  |  |
|--|--|------------------|--|--|--|--|
| 35   | 8 + 8 + 8 + 7 + 4                        | 35               |  |  |  |  |
| 36   | 8 + 8 + 8 + 8 + 4                        | 36               |  |  |  |  |
| 37   | 8 + 8 + 8 + 8 + 5                        | 37               |  |  |  |  |
| 38   | 8 + 8 + 8 + 8 + 6                        | 38               |  |  |  |  |
| 39   | 8 + 8 + 8 + 8 + 7                        | 39               |  |  |  |  |
| 40   | 8 + 8 + 8 + 8 + 8                        | 40               |  |  |  |  |
| 41   | 8 + 8 + 8 + 8 + 5 + 4                    | 41               |  |  |  |  |
| 42   | 8 + 8 + 8 + 8 + 6 + 4                    | 42               |  |  |  |  |
| 43   | 8 + 8 + 8 + 8 + 7 + 4                    | 43               |  |  |  |  |
| 44   | 8 + 8 + 8 + 8 + 8 + 4                    | 44               |  |  |  |  |
| 45   | 8 + 8 + 8 + 8 + 8 + 5                    | 45               |  |  |  |  |
| 46   | 8 + 8 + 8 + 8 + 8 + 6                    | 46               |  |  |  |  |
| 47   | 8 + 8 + 8 + 8 + 8 + 7                    | 47               |  |  |  |  |
| 48   | 8 + 8 + 8 + 8 + 8 + 8                    | 48               |  |  |  |  |
| tandard run configurations, consult factory for custom configurations. |  |                  |  |  |  |  |