Spectrum Lighting

PROJECT:

QUANTITY: TYPE:

# CR2 LONG

## 2" CYLINDER

Spectrum's 2" cylinder available in 6 standard lengths (8", 12", 18", 35", 48"). Can be specified as Pendant, Surface or Wall Mount. Mix and match for unique specifications and creating chandelier effects. BLANK (no led) option.

| LUMENS AND WATTAGE CHART | | | | |
|---|---|---|---|---|
| PART NUMBER | LUMENS | DELIVERED LUMENS | SYSTEM WATTS | LPW |
| CR2 | 05 | 759 | 7 | 108 |
| CR2 | 10 | 1211 | 12.5 | 97 |
| CR2 | 15 | 1842 | 19.5 | 94 |
| CR2 | 20 | 2338 | 27 | 87 |

All Values Based on 3500K, 80CRI, FL Optic, BS Standard Bezel

## PRODUCT SELECTOR GUIDE

| SERIES | CRI / CCT | LUMENS[2] | VOLTAGE | DIMMING | MOUNTING | FINISH | EM OPTIONS | MTG OPTIONS | + | SERIES | OPTICS | + | SERIES | BEZEL TYPE | BEZEL FINISH | + | SERIES | OPTICAL EFFECT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| CR2 | | | | | | | | | + | RD2 | | + | RB2 | | | + | RA2 | |
| EXAMPLE | | | | | | | | | | | | | | | | | | |
| CR2 | 835 | 10 | X | D5 | CD36 | TB | | | + | RD2 | FL | + | RB2 | BK | TB | + | RA2 | LS |

| SERIES | CRI / CCT | LUMENS[2] | VOLTAGE / DIMMING | | MOUNTING | | BODY FINISH | EM OPTIONS | MOUNTING OPTIONS |
|---|---|---|---|---|---|---|---|---|---|
| **CR212**<br>**CR218**<br>**CR224**<br>**CR236**<br>**CR248** | 80 CRI<br>**822 -** 2200K<br>**827 -** 2700K<br>**830 -** 3000K<br>**835 -** 3500K<br>**840 -** 4000K<br>90 CRI<br>**927 -** 2700K<br>**930 -** 3000K<br>**935 -** 3500K<br>**940 -** 4000K<br>DIM TO WARM[1]<br>**9DW** - 30-16K Dim to Warm<br>**1** 1000 Lm Only For 9DW | **05 -** 750 Lm<br>**10 -** 1200 Lm<br>**15 -** 1830 Lm<br>**20[3] -** 2320 Lm<br>**2** Nominal Delivered Lumens<br>**3** 20 Requires RRM, SRM, Or CK Mounting Option | **X -** Universal<br>**3[4] -** 347V<br>**4** 347V Requires RRM, SRM, Or CK Mounting Option. 347V Not Available With 05. 347V Requires D5 Dimming | **D5 -** 1%, 0-10V, ELV, & TRIAC<br>**L2[5] -** .1% Lutron Hi-lume EcoSystem<br>**A2[5] -** .1%, eldoLED [Remote Mount]<br>**5** Lutron and Eldoled Require RRM, SRM or CK Mounting Option | | **CD_ -** Cord & Cable Mount | **36"**<br>**72"**<br>**144"** | **TW -** Textured White<br>**TB -** Textured Black<br>**MT -** Textured Silver<br>**BZ -** Textured Bronze<br>**CC -** Custom Color | **EM[7] -** Emergency Battery Pack<br>**7** EM Requires RRM or SRM Mounting Option. EM Not Available With Wall Mount. EM Not Available With 347V. EM Not Available With Conduit Feed Canopy | **RRM[8/9] -** Recessed Remote Driver Box<br>**SRM[9] -** Surface Remote Driver Box<br>**CK1[10] -** 1x Conduit Feed<br>**CK2[10] -** 2x Conduit Feed, Straight<br>**CK3[10] -** 2x Conduit Feed, 90° Corner<br>**CK4[10] -** 3x Conduit Feed, T Pattern<br>**CK5[10] -** 4x Conduit Feed, X Pattern<br>**8** RRM not available with WM<br>**9** RRM & SRM for Use With 2D, 3D5, XL2, XA2, and EM Options Only<br>**10** Conduit Feeds Not Available With Wall Mount Or EM |
| | | | | | **CM_ -** Cord Only | **60"**<br>**120"** | | | |
| | | | | | **HM_ -** Hang Straight Stem<br>**PM_ -** Rigid Stem | **24"**<br>**36"**<br>**72"** | | | |
| | BLANK BODY<br>**NA -** Not Applicable<br>Select Once for Blank Body Long CR2<br>For Blank Body Versions when SRM or CK_ are selected you will get the 3" deep version | | | | **SM -** Surface Mount<br>**WM[6] -** Wall Mount<br>**6** WM Not Available With EM. ADA Requires 15 Max. With D5 Dimming, Universal Voltage. All Other Options Will Be Supplied In Remote Wall Surface Canopy | | | | For Blank Body Versions when SRM or CK_ are selected you will get the 3" deep version |

**BS**
Standard Bezel

**NA w/ BS**
Standard Bezel

**BK**
Bezel with Knurl

**BB**
Bias

**BD**
Snoot / Deep Cutout

**BSA1**
Acrylic .5"

**BW**
Bias Wall Wash

| SERIES | OPTICS |
|---|---|
| **RD2** | STANDARD WHITE<br>**XS -** Extra Narrow Spot (12°)<br>**SP -** Spot (21°)<br>**FL -** Flood (34°)<br>**XF -** Extra Wide Flood (60°)<br>**WW[11] -** Wall Wash<br>DIM TO WARM<br>**XS -** Extra Narrow Spot (18°)<br>**SP -** Spot (29°)<br>**FL -** Flood (36°)<br>**XF -** Extra Wide Flood (61°)<br>**WW[11] -** Wall Wash<br>**11** WW Requires BW Bezel |

| SERIES | BEZEL STYLE | BEZEL FINISH |
|---|---|---|
| **RB2** | **BS -** Standard Bezel<br>**BK -** Bezel w/ Knurl<br>**BB -** Bias<br>**BD -** Snoot / Deep Cutoff<br>**BW[12/13] -** Bias Wall Wash<br>**BSA1[13] -** Acrylic .5"<br>**BSA2[13] -** Acrylic 2"<br>**BSA3[13] -** Acrylic 6"<br>**BSA4[13] -** Acrylic 12"<br>**BKA1[13] -** Acrylic .5" w/ Knurl<br>**BKA2[13] -** Acrylic 2" w/ Knurl<br>**BKA3[13] -** Acrylic 6" w/ Knurl<br>**BKA4[13] -** Acrylic 12" w/ Knurl<br>**12** BW Requires WW Optic Option<br>**13** BW, BSA and BKA Series Do Not Take Optical Effects | **ASG -** Soft Glow, Anodized<br>**ARG -** Rose Gold, Anodized<br>**ABK -** Black, Anodized<br>**AGD -** Gold, Anodized<br>**TW -** Textured White<br>**TB -** Textured Black<br>**MT -** Textured Silver<br>**BZ -** Textured Bronze<br>**CC -** Custom Color |

| SERIES | OPTICAL EFFECT[14] |
|---|---|
| **RA2** | **HL -** Hex Cell<br>**LS -** Diffusing Lens<br>**LL -** Linear Spread Lens<br>**LC -** Clear Lens<br>**14** Max 2 |

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## BODY FINISH

**TW** Textured White

**TB** Textured Black

**MT** Textured Silver

**BZ** Textured Bronze

**CC** Custom Color


## STANDARD CORD / STEM / CANOPY FINISHES

SM & WM canopies match fixture color.

| FIXTURE COLOR | CORD COLOR | CANOPY / STEM COLOR |
|---|---|---|
| Textured White | White | Matte White |
| Textured Black | Black | Matte Black |
| Textured Silver | Silver | Platinum |
| Textured Bronze | Black | Matte Black |
| Custom Color | Black* *Unless Otherwise Specified | Contact Factory |

## BEZEL FINISH

**TW** Textured White

**TB** Textured Black

**MT** Textured Silver

**BZ** Textured Bronze

**ASG** Soft Glow, Anodized

**ARG** Rose Gold, Anodized

**ABK** Black, Anodized

**AGD** Gold, Anodized

**CC** Custom Color


## PRODUCT FEATURES

- Extremely small diameter, allowing for usage over a wide variety of applications.
- High quality extruded aluminum housing with **Integral** driver in the housing (thru 1500 Lm). Remote driver and/or canopy mounted driver systems are also available as standard for 2000 Lm fixtures.
- 4 standard finish options: Textured White, Textured Black, Textured Silver and Textured Bronze. Custom colors are also available.
- Superior Smooth striation free Beam Patterns, Fixture cutoff at 40° (to 10% of output) or better dependent upon Bezel choice.
- Superior Efficacy up to 116 LPW.
- 4 Field interchangeable Optical Systems from Extra Narrow Spot [12°] to Extra Wide Flood [60°] + Wall Wash Optic.
- 5 CCT's, from 2200K thru 4000K, at 2 step MacAdam Ellipse, with CRI's up to 90, Delivered Lumen packages from 500 Lm to 2000 Lm.
- Multiple mounting options: Surface, Pendant [rigid or 40° Hang straight], Cord or Cord & Cable, and Wall Mounted version.
- Pendants and cords are ultra-slim, proportionately in concert with the smaller 2.5" housing diameter, giving a more pleasing aesthetic.
- Ultra-clean look at the ceiling line due to Hardware-free canopies used on All pendant and cord mounted luminaires [no visible screws, clips, etc.].
- Wall Mounted version, with integral driver meets ADA requirements.
- All Bezels, except acrylics, have low dazzle anti-glare matte black finish and can accept (up to 2) accessories such as Hex cell louver, linear spread lens, etc.
- All fixtures carry cETLus damp location listing, additionally all 90 CRI fixtures have been designed to meet CA Title 24 regulations.
- 90% recyclable materials.
- 5-year warranty is standard. L90 > 67,000 hours.

## DIMMING COMPATIBILITY

**120-277V 0-10V Dimming**

| MANUFACTURER | PART NUMBERS |
|---|---|
| Lutron | Nova Series (part number NFTV) |
| | Diva Series (part number DVTV) |
| Leviton | IllumaTech Series (part number IP710-DL) |

**120V ELV & Triac Dimming**

| MANUFACTURER | PART NUMBERS |
|---|---|
| Lutron | DVCL-153P |
| | DVELV-303P |
| | MAELV-600 |
| | SELV-300P |
| Leviton | IPE04 |
| | VPE06 |
| Cooper | DAL06P |

**L2 (.1% Lutron Hi-lume EcoSystem)**

| LUTRON CONTROLS | PART NUMBERS |
|---|---|
| PowPak Dimming Modules | RMJ-ECO32-DV-B |
| | FCJ/FCJS-ECO |
| Energi Savr Node | QSN-1ECO-S |
| | QSN-2ECO-S |
| GRAFIK Eye QS / HomeWorks QS control unit | QSGRJ-_E (wireless) QSGR-_E |
| Quantum Hub | QP2-_ _2C |
| | QP2-_ _4C |
| | QP2-_ _6C |
| | QP2-_ _8C |
| HomeWorks QS / myRoom Plus power module | LQSE-2ECO-D |

**A2 (.1% eldoLED 0-10V Dimming)**

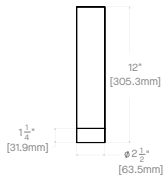
| MANUFACTURER | PART NUMBERS |
|---|---|
| Busch-Jaeger | 2112U-101 |
| Jung | 240-10 |
| Leviton | IP710-DLZ |
| Lightolier Controls | ZP600FAM120 |
| Lutron Electronics | Nova T - NTFTV |
| | Nova - NFTV |
| | Diva - DVTV |
| | GraphicEye - GRX-TVI w GRX3503 |
| | Energy Savr Node - QSN-4T16-S |
| | TVM2 Module |
| Merten | 5729 |
| Pass & Seymour | CD4FB-W |
| The Watt Stopper | DCLV1 |

# CR2 LONG 2" CYLINDER

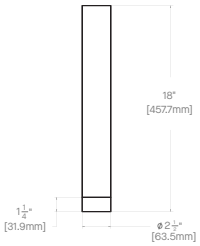
Spectrum Lighting

## FIXTURE SIZES

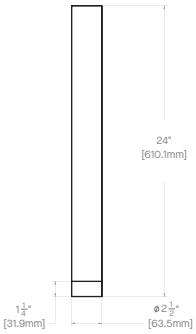
**CR212 -** 12" Cylinder



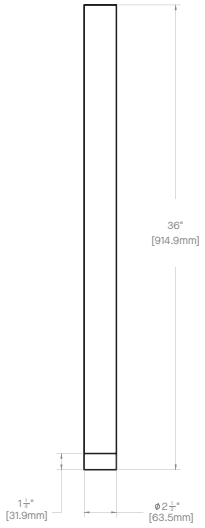

**CR218 -** 18" Cylinder



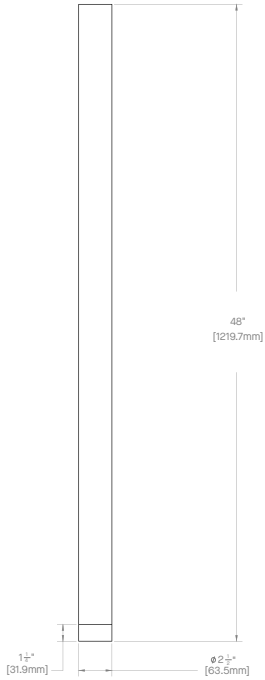

**CR224 -** 24" Cylinder




**CR236 -** 36" Cylinder

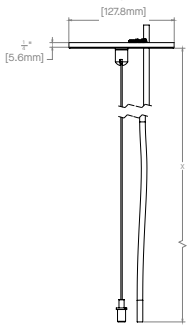



**CR248 -** 48" Cylinder

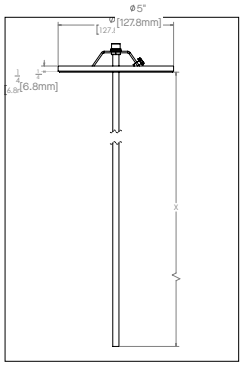



## CEILING MOUNT

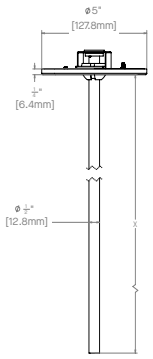
**CD -** Cord & Cable Mount



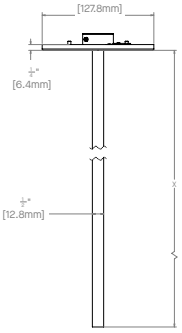

**CM -** Cord Only



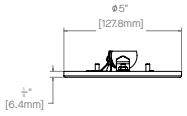

**HM -** Hang Straight Stem




**PM -** Rigid Stem



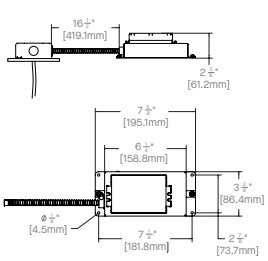

**SM -** Surface Mount



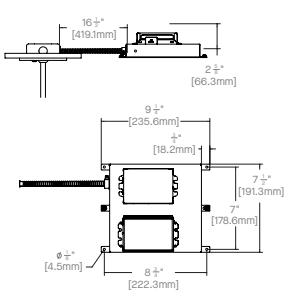

For ease of re-drilling locator pin hole on field cut stems, **1/4 Stem Drill Jig** is available

## RECESSED REMOTE

**RRM -** Recessed Remote Drive Box (NON-IC CEILING ONLY)

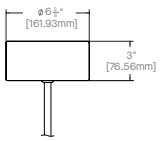



**RRM -** Recessed Remote Drive Box (For EMERGENCY BATTERY)

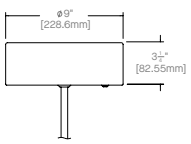



## SURFACE REMOTE

**SRM -** Surface Remote Drive Box

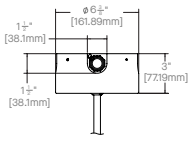



**SRM -** Surface Remote Drive Box (For EMERGENCY BATTERY)

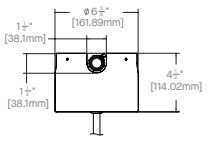



## CONDUIT MOUNT

**CK -** Conduit Canopy Integral




**CK -** Conduit Canopy Remote



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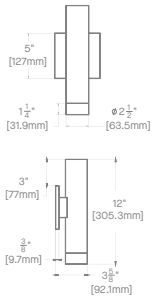
Spectrum Lighting

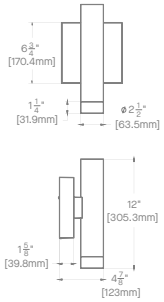
## WALL MOUNT

### CR212_WM

**Integral**
ADA COMPLIANT

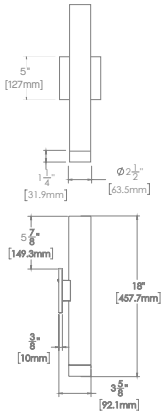



**Remote**

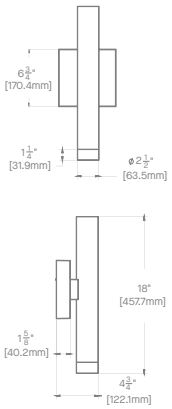



### CR218_WM

**Integral**
ADA COMPLIANT

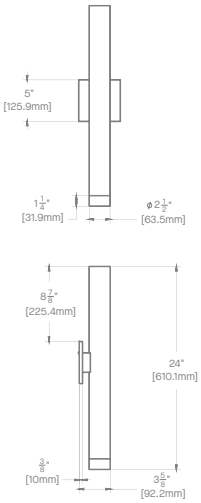



**Remote**

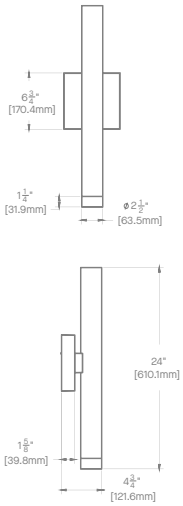



### CR224_WM

**Integral**
ADA COMPLIANT

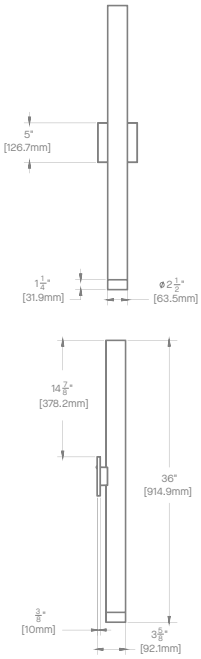



**Remote**

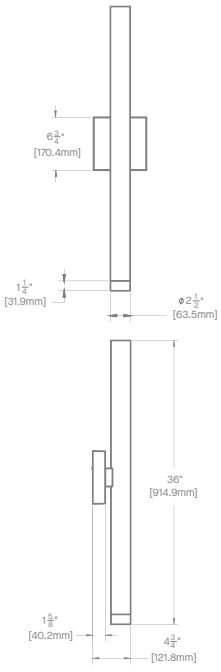



### CR236_WM

**Integral**
ADA COMPLIANT

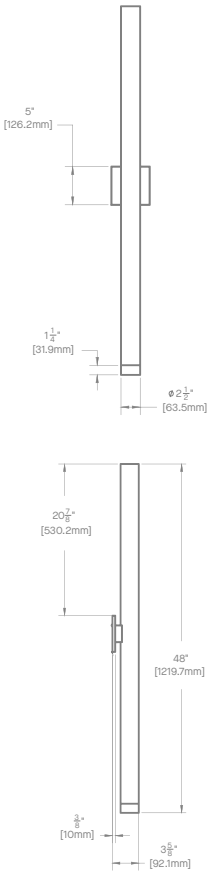



**Remote**

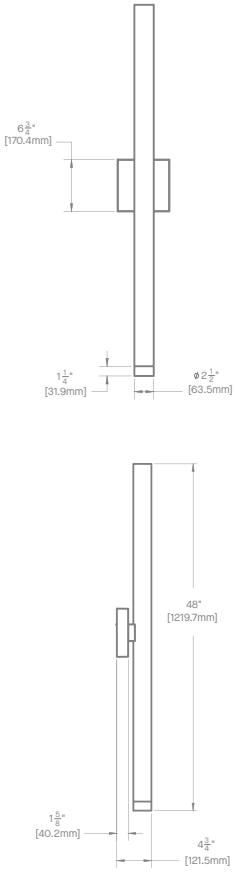



### CR248_WM

**Integral**
ADA COMPLIANT




**Remote**



# CR2 LONG 2" CYLINDER

Spectrum Lighting

## OPTICS

**XS -** Extra Narrow Spot (12°)



**SP -** Spot (21°)



**FL -** Flood (34°)



**XF -** Extra Wide Flood (60°)

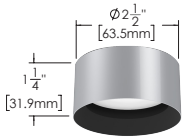


**WW -** Wall Wash

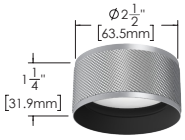


## BEZEL STYLE

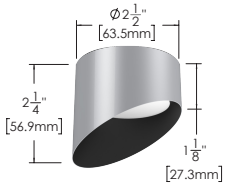
**BS -** Standard Bezel



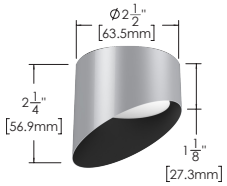

**BK -** Bezel with Knurl



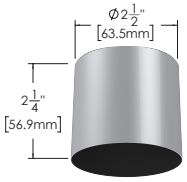

**BB -** Bias




**BW -** Bias Wall Wash

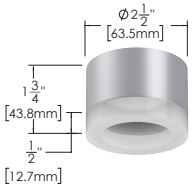



**BD -** Snoot / Deep Cutoff

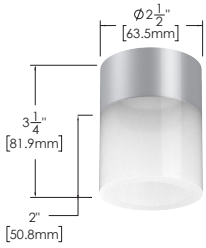



## ACRYLIC SIZES

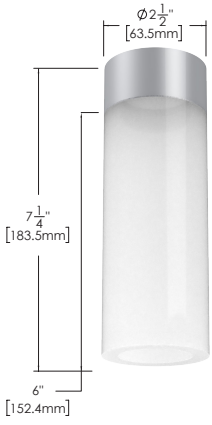
**BSA1 -** Acrylic .5"



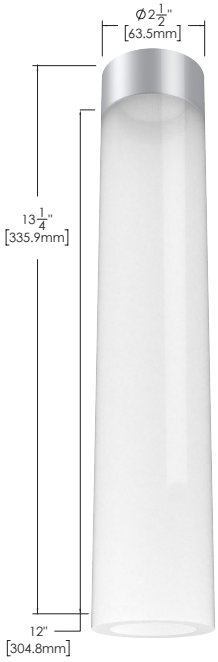

**BSA2 -** Acrylic 2"




**BSA3 -** Acrylic 6"




**BSA4 -** Acrylic 12"

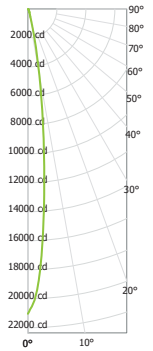


# CR2 LONG 2" CYLINDER

Spectrum Lighting

## CR2 835 15 xx xx RD2XS RB2BS xx xx

**CANDLEPOWER CURVE**
TEST SP-01276




**INTENSITY**
CANDELA
0° AZIMUTH

| | 0° |
|---|---|
| 0° | 21034 |
| 5° | 12918 |
| 15° | 1017 |
| 25° | 263 |
| 35° | 139 |
| 45° | 69 |
| 55° | 28 |
| 90° | 1 |

**ZONAL LUMENS**

| | | |
|---|---|---|
| 0° - 10° | 968 | 59% |
| 0° - 20° | 1342 | 81% |
| 0° - 30° | 1467 | 89% |
| 0° - 40° | 1552 | 94% |
| 0° - 60° | 1634 | 99% |
| 0° - 80° | 1641 | 99% |
| 0° - 90° | 1643 | 100% |
| Total | 1650 | 100% |

**SINGLE UNIT: PERFORMANCE**
DIRECT FOOTCANDLES
BASED ON DOWNLIGHT ONLY

| Mounting Height AFF | FC at Center on Floor | Beam Diameter | FC at Beam Edge |
|---|---|---|---|
| 10 ' | 210 fc | 2.1 ' | 103 fc |
| 12 ' | 146 fc | 2.6 ' | 72 fc |
| 14 ' | 107 fc | 3.0 ' | 53 fc |
| 16 ' | 82 fc | 3.4 ' | 40 fc |
| 20 ' | 53 fc | 4.3 ' | 26 fc |
| 24 ' | 37 fc | 5.1 ' | 18 fc |
| 28 ' | 27 fc | 6.0 ' | 13 fc |
| 32 ' | 21 fc | 6.8 ' | 10 fc |

**MULTIPLE UNITS: PERFORMANCE**
80/50/20% REFLECTANCES
INITIAL FOOTCANDLES AND WATTS PER SQUARE FOOT

| Ceiling Height | Fixture Spacing | RCR 6 | | RCR 8 | |
|---|---|---|---|---|---|
| | | FC + | W/Sq. Ft. | FC + | W/Sq. Ft. |
| 18' | 3'* | 151 | 1.90 | 187 | 2.47 |
| 22' | 4'** | 90 | 1.13 | 111 | 1.47 |
| 26' | 5'*** | 59 | 0.75 | 51 | 0.67 |
| Delivered Illuminance Rating: (DIR) | | 79 FC per W/Sq. Ft. | | 76 FC per W/Sq. Ft. | |

2' Suspension Length to luminous aperture
Square rooms used for multiple units:
RCR 6: Length & Width = Ceiling Ht. - 4.5' x 1.66
RCR 8: Length & Width = Ceiling Ht. - 4.5' x 1.25
+ Average Footcandles at 2.5' Above Floor
* Exceeds Spacing Ratio by 6%
** Exceeds Spacing Ratio by 9%
*** Exceeds Spacing Ratio by 11%

Delivered Lumens: 1650
Luminaire Watts: 19.5
LER: 84.62

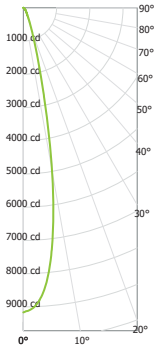
CP at 0° (Nadir): 21034
CRI: 80+

Beam Angle: 12°
Spacing Ratio: 0.21

Lumen Multiplier: 05 x 0.41, 10L x 0.66, 20L x 1.27
CCT Multiplier: 822 x 0.75, 827 x 0.93, 830 x 1.0, 840 x 1.0
927 x 0.81, 930 x 0.81, 935 x 0.81, 940 x 0.87

## CR2 835 15 xx xx RD2SP RB2BS xx xx

**CANDLEPOWER CURVE**
TEST SP-01274




**INTENSITY**
CANDELA
0° AZIMUTH

| | 0° |
|---|---|
| 0° | 9167 |
| 5° | 8224 |
| 15° | 1859 |
| 25° | 380 |
| 35° | 149 |
| 45° | 79 |
| 55° | 33 |
| 90° | 2 |

**ZONAL LUMENS**

| | | |
|---|---|---|
| 0° - 10° | 684 | 41% |
| 0° - 20° | 1251 | 75% |
| 0° - 30° | 1439 | 87% |
| 0° - 40° | 1543 | 93% |
| 0° - 60° | 1641 | 99% |
| 0° - 80° | 1651 | 99% |
| 0° - 90° | 1652 | 99% |
| Total | 1663 | 100% |

**SINGLE UNIT: PERFORMANCE**
DIRECT FOOTCANDLES
BASED ON DOWNLIGHT ONLY

| Mounting Height AFF | FC at Center on Floor | Beam Diameter | FC at Beam Edge |
|---|---|---|---|
| 8 ' | 143 fc | 3.0 ' | 68 fc |
| 10 ' | 92 fc | 3.7 ' | 44 fc |
| 12 ' | 64 fc | 4.4 ' | 30 fc |
| 14 ' | 47 fc | 5.2 ' | 22 fc |
| 16 ' | 36 fc | 5.9 ' | 17 fc |
| 20 ' | 23 fc | 7.4 ' | 11 fc |
| 24 ' | 16 fc | 8.9 ' | 8 fc |
| 28 ' | 12 fc | 10.3 ' | 6 fc |

**MULTIPLE UNITS: PERFORMANCE**
80/50/20% REFLECTANCES
INITIAL FOOTCANDLES AND WATTS PER SQUARE FOOT

| Ceiling Height | Fixture Spacing | RCR 4 | | RCR 6 | |
|---|---|---|---|---|---|
| | | FC + | W/Sq. Ft. | FC + | W/Sq. Ft. |
| 15' | 4'* | 114 | 1.39 | 78 | 1.03 |
| 18' | 5'** | 69 | 0.84 | 74 | 0.97 |
| 22' | 6' | 41 | 0.50 | 44 | 0.58 |
| Delivered Illuminance Rating: (DIR) | | 82 FC per W/Sq. Ft. | | 76 FC per W/Sq. Ft. | |

2' Suspension Length to luminous aperture
Square rooms used for multiple units:
RCR 4: Length & Width = Ceiling Ht. - 4.5' x 2.50
RCR 6: Length & Width = Ceiling Ht. - 4.5' x 1.66
+ Average Footcandles at 2.5' Above Floor
* Exceeds Spacing Ratio by 9%
** Exceeds Spacing Ratio by 6%

Delivered Lumens: 1663
Luminaire Watts: 19.5
LER: 85.28

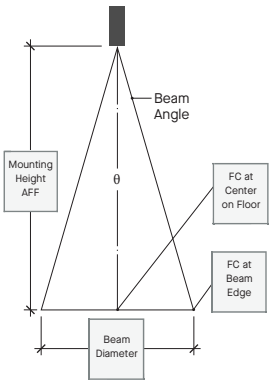
CRI: 80+

Beam Angle: 21°
Spacing Ratio: 0.35

Lumen Multiplier: 05 x 0.41, 10 x 0.66, 20 x 1.27
CCT Multiplier: 822 x 0.75, 827 x 0.93, 830 x 1.0, 840 x 1.0
927 x 0.81, 930 x 0.81, 935 x 0.81, 940 x 0.87

## HOW TO USE PERFORMANCE DATA

### SINGLE UNIT




Cone of Light of a single, symmetrical beam luminaire. Direct initial illumination (FC) and Beam Angle diameter directly beneath fixture; shown at different distances from aperture to horizontal plane. Calculated using Inverse Square Law.

$FC_H = CP \times (\text{Cos } \theta) \div D^2$

Beam Diam. = ½ Beam Angle (Tan) x 2D

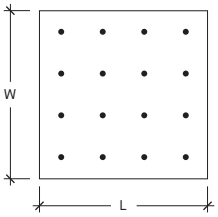
- CP — Candela at 0° (Nadir)
- Cos θ — Cosine of θ Angle
- D — Distance (Mounting Height AFF)
- $FC_H$ — Footcandles, Horizontal
- Beam Angle — Cone of light to 50% max. CP
- Beam Diam. — Pattern of light at Beam Angle

### MULTIPLE UNITS

Square grid layout of multiple luminaires in unfurnished, square rooms of different proportions (Room Cavity Ratios) with 80/50/20% room surface reflectances. 2' Suspension Length to aperture. Initial average illumination (FC) calculated at 2.5' above floor, using Zonal Cavity Method. W/Sq. Ft. of layout shown for each ceiling height and RCR.

Delivered Illuminance Rating (DIR®):
System performance indicator expressed as ratio of approximate initial FC per W/Sq. Ft. delivered to horizontal plane below, for the range of ceiling heights indicated.

- To estimate FC for Fixture Spacing that is different than shown (do not exceed Spacing Ratio):
  FC = Chart Spacing$^2$ ÷ Different Spacing$^2$ x Chart FC
- To estimate Sq. Ft. per fixture for a specific target FC:
  Sq. Ft. / Fixture = Chart FC x Chart Spacing$^2$ ÷ Target FC



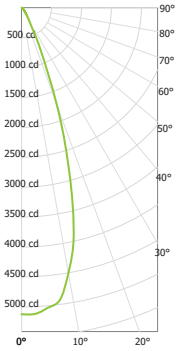

- To estimate Fixture Quantity in a room:
  Fixture Qty. = Sq. Ft. of Rm. ÷ Sq. Ft. per fixture
- To estimate Watts/Sq. Ft.:
  W/ Sq. Ft. = Luminaire Watts x Qty. ÷ Sq. Ft. of Rm.

# CR2 LONG 2" CYLINDER

Spectrum Lighting

## CR2 835 15 xx xx RD2FL RB2BS xx xx

**CANDLEPOWER CURVE**
TEST SP-01273




**INTENSITY**
CANDELA
0° AZIMUTH

| | 0° |
|---|---|
| 0° | 5123 |
| 5° | 5035 |
| 15° | 3253 |
| 25° | 677 |
| 35° | 143 |
| 45° | 54 |
| 55° | 23 |
| 90° | 1 |

**ZONAL LUMENS**

| | | |
|---|---|---|
| 0° - 10° | 473 | 26% |
| 0° - 20° | 1331 | 72% |
| 0° - 30° | 1664 | 90% |
| 0° - 40° | 1757 | 95% |
| 0° - 60° | 1821 | 99% |
| 0° - 80° | 1830 | 99% |
| 0° - 90° | 1831 | 99% |
| Total | 1842 | 100% |

**SINGLE UNIT: PERFORMANCE**
DIRECT FOOTCANDLES
BASED ON DOWNLIGHT ONLY

| Mounting Height AFF | FC at Center on Floor | Beam Diameter | FC at Beam Edge |
|---|---|---|---|
| 8 ' | 80 fc | 4.9 ' | 35 fc |
| 10 ' | 51 fc | 6.2 ' | 22 fc |
| 12 ' | 36 fc | 7.4 ' | 16 fc |
| 14 ' | 26 fc | 8.6 ' | 11 fc |
| 16 ' | 20 fc | 9.9 ' | 9 fc |
| 20 ' | 13 fc | 12.3 ' | 6 fc |
| 24 ' | 9 fc | 14.8 ' | 4 fc |
| 28 ' | 7 fc | 17.3 ' | 3 fc |

**MULTIPLE UNITS: PERFORMANCE**
80/50/20% REFLECTANCES
INITIAL FOOTCANDLES AND WATTS PER SQUARE FOOT

| Ceiling Height | Fixture Spacing | RCR 3 | | RCR 5 | |
|---|---|---|---|---|---|
| | | FC + | W/Sq. Ft. | FC + | W/Sq. Ft. |
| 15' | 5' | 73 | 0.78 | 61 | 0.71 |
| 18' | 6' | 44 | 0.47 | 37 | 0.43 |
| 22' | 8' | 26 | 0.28 | 22 | 0.25 |
| Delivered Illuminance Rating: (DIR) | | 94 FC per W/Sq. Ft. | | 86 FC per W/Sq. Ft. | |

2' Suspension Length to luminous aperture
Square rooms used for multiple units:
RCR 3: Length & Width = Ceiling Ht. - 4.5' x 3.33
RCR 5: Length & Width = Ceiling Ht. - 4.5' x 2.00
+ Average Footcandles at 2.5' Above Floor

Delivered Lumens: 1842
Luminaire Watts: 19.5
LER: 94.46

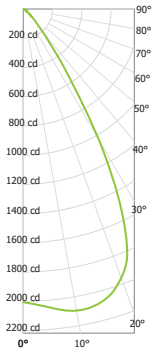
CP at 0° (Nadir): 5123
CRI: 80+

Beam Angle: 34°
Spacing Ratio: 0.57

Lumen Multiplier: 05 x 0.41, 10 x 0.66, 20 x 1.27
CCT Multiplier: 822 x 0.75, 827 x 0.93, 830 x 1.0, 840 x 1.0
927 x 0.81, 930 x 0.81, 935 x 0.81, 940 x 0.87

## CR2 835 15 xx xx RD2XF RB2BS xx xx

**CANDLEPOWER CURVE**
TEST SP-01275




**INTENSITY**
CANDELA
0° AZIMUTH

| | 0° |
|---|---|
| 0° | 2006 |
| 5° | 2049 |
| 15° | 2074 |
| 25° | 1641 |
| 35° | 482 |
| 45° | 108 |
| 55° | 28 |
| 90° | 2 |

**ZONAL LUMENS**

| | | |
|---|---|---|
| 0° - 10° | 200 | 10% |
| 0° - 20° | 784 | 40% |
| 0° - 30° | 1503 | 77% |
| 0° - 40° | 1823 | 93% |
| 0° - 60° | 1933 | 99% |
| 0° - 80° | 1941 | 99% |
| 0° - 90° | 1943 | 99% |
| Total | 1954 | 100% |

**SINGLE UNIT: PERFORMANCE**
DIRECT FOOTCANDLES
BASED ON DOWNLIGHT ONLY

| Mounting Height AFF | FC at Center on Floor | Beam Diameter | FC at Beam Edge |
|---|---|---|---|
| 6 ' | 56 fc | 6.9 ' | 18 fc |
| 8 ' | 31 fc | 9.1 ' | 10 fc |
| 10 ' | 20 fc | 11.4 ' | 7 fc |
| 12 ' | 14 fc | 13.7 ' | 5 fc |
| 14 ' | 10 fc | 16.0 ' | 3 fc |
| 16 ' | 8 fc | 18.3 ' | 3 fc |
| 20 ' | 5 fc | 22.9 ' | 2 fc |
| 24 ' | 3 fc | 27.4 ' | 1 fc |

**MULTIPLE UNITS: PERFORMANCE**
80/50/20% REFLECTANCES
INITIAL FOOTCANDLES AND WATTS PER SQUARE FOOT

| Ceiling Height | Fixture Spacing | RCR 2 | | RCR 4 | |
|---|---|---|---|---|---|
| | | FC + | W/Sq. Ft. | FC + | W/Sq. Ft. |
| 12' | 6' | 50 | 0.50 | 44 | 0.50 |
| 15' | 8' | 26 | 0.25 | 23 | 0.25 |
| 18' | 10' | 21 | 0.21 | 14 | 0.15 |
| Delivered Illuminance Rating: (DIR) | | 101 FC per W/Sq. Ft. | | 89 FC per W/Sq. Ft. | |

2' Suspension Length to luminous aperture
Square rooms used for multiple units:
RCR 2: Length & Width = Ceiling Ht. - 4.5' x 5.00
RCR 4: Length & Width = Ceiling Ht. - 4.5' x 2.50
+ Average Footcandles at 2.5' Above Floor

Delivered Lumens: 1954
Luminaire Watts: 19.5
LER: 100.21

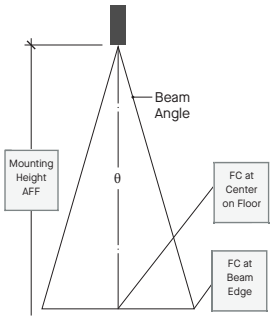
CP at 0° (Nadir): 2006
CRI: 80+

Beam Angle: 60°
Spacing Ratio: 1.01

Lumen Multiplier: 05 x 0.41, 10 x 0.66, 20 x 1.27
CCT Multiplier: 822 x 0.75, 827 x 0.93, 830 x 1.0, 840 x 1.0
927 x 0.81, 930 x 0.81, 935 x 0.81, 940 x 0.87

## HOW TO USE PERFORMANCE DATA

### SINGLE UNIT




Cone of Light of a single, symmetrical beam luminaire. Direct initial illumination (FC) and Beam Angle diameter directly beneath fixture; shown at different distances from aperture to horizontal plane. Calculated using Inverse Square Law.

$FC_H = CP \times (\cos \theta) \div D^2$

Beam Diam. = ½ Beam Angle (Tan) x 2D

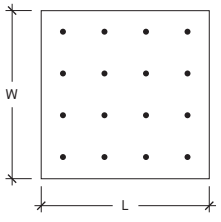
- CP — Candela at 0° (Nadir)
- Cos θ — Cosine of θ Angle
- D — Distance (Mounting Height AFF)
- $FC_H$ — Footcandles, Horizontal
- Beam Angle — Cone of light to 50% max. CP
- Beam Diam. — Pattern of light at Beam Angle

### MULTIPLE UNITS

Square grid layout of multiple luminaires in unfurnished, square rooms of different proportions (Room Cavity Ratios) with 80/50/20% room surface reflectances. 2' Suspension Length to aperture. Initial average illumination (FC) calculated at 2.5' above floor, using Zonal Cavity Method. W/Sq. Ft. of layout shown for each ceiling height and RCR.

Delivered Illuminance Rating (DIR+):
System performance indicator expressed as ratio of approximate initial FC per W/Sq. Ft. delivered to horizontal plane below, for the range of ceiling heights indicated.

- To estimate FC for Fixture Spacing that is different than shown (do not exceed Spacing Ratio):
FC = Chart Spacing$^2$ ÷ Different Spacing$^2$ x Chart FC



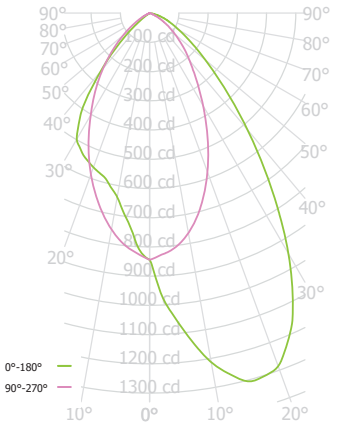

- To estimate Fixture Quantity in a room:
Fixture Qty. = Sq. Ft. of Rm. ÷ Sq. Ft. per fixture

# CR2 LONG 2" CYLINDER

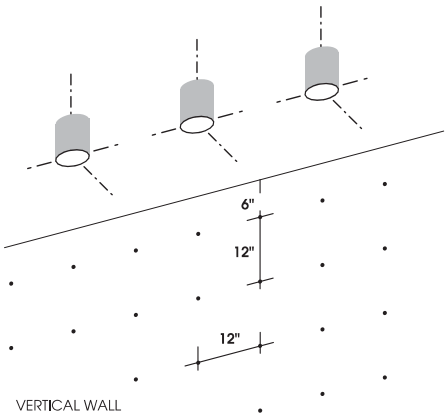
Spectrum Lighting

CR2 835 15 xx xx RD2WW RB2BW xx xx

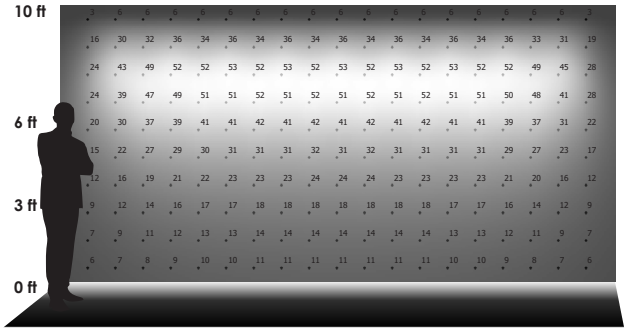
| CANDLEPOWER CURVE<br>TEST SP-01273_7 | PERFORMANCE SUMMARY | REFERENCE DIAGRAM |
|---|---|---|



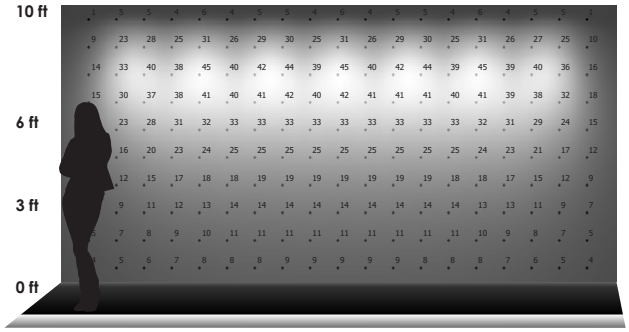

| | |
|---|---|
| Delivered Lumens: | 1167 |
| Luminaire Watts: | 19.5 |
| LER: | 59.85 |
| CP at Odeg (Nadir): | 844 |
| CRI: | 80+ |
| Lumen Multiplier: | 05 x 0.41, 10 x 0.66, 20 x 1.27 |
| CCT Multiplier: | 822 x 0.75, 827 x 0.93, 830 x 1.0, 840 x 1.0<br>927 x 0.81, 930 x 0.81, 935 x 0.81, 940 x 0.87 |



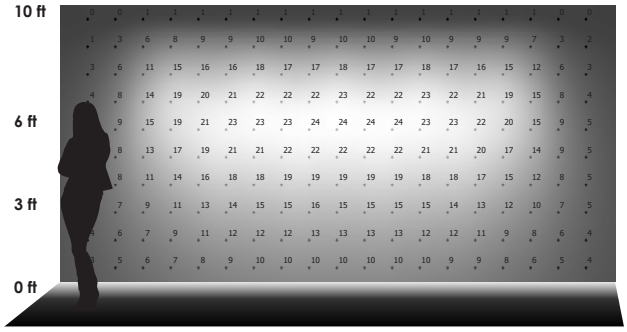

**PERFORMANACE DATA** - INITIAL ILLUMINATION (FOOTCANDLES) ON WALL - DIRECT LIGHT ONLY



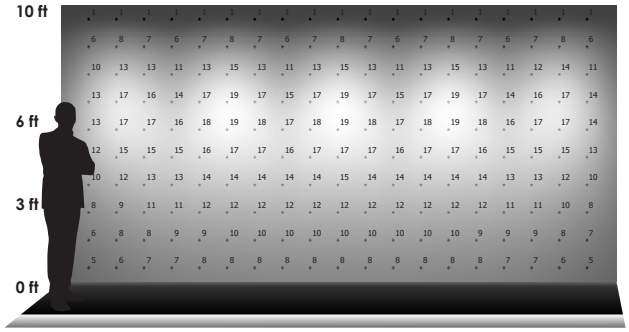

**9 LUMINAIRES**
2' - 0" away from wall
2' - 0" between luminaires




**7 LUMINAIRES**
2' - 6" away from wall
2' - 6" between luminaires




**5 LUMINAIRES**
3' - 0" away from wall
3' - 0" between luminaires



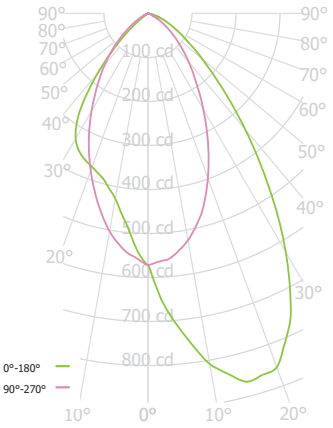

**5 LUMINAIRES**
3' - 0" away from wall
4' - 0" between luminaires

# CR2 LONG 2" CYLINDER

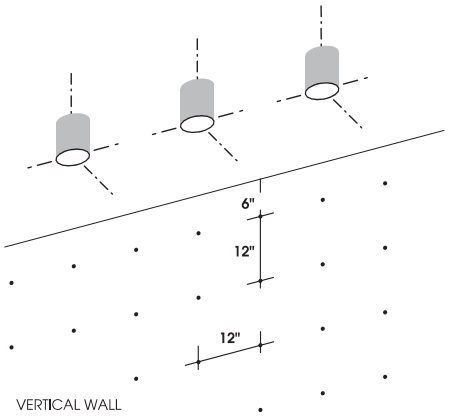
Spectrum Lighting

CR2 835 10 xx xx WW BW TB xx

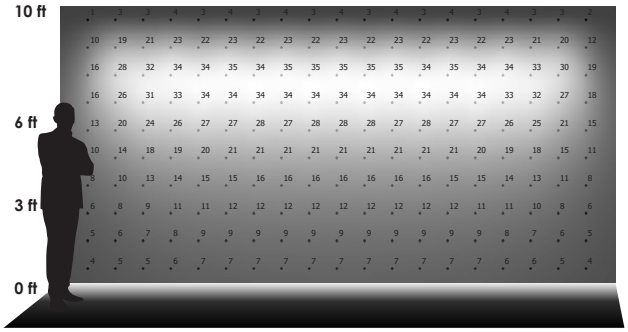
| CANDLEPOWER CURVE<br>TEST SP-01270_1 | PERFORMANCE SUMMARY | REFERENCE DIAGRAM |
|---|---|---|



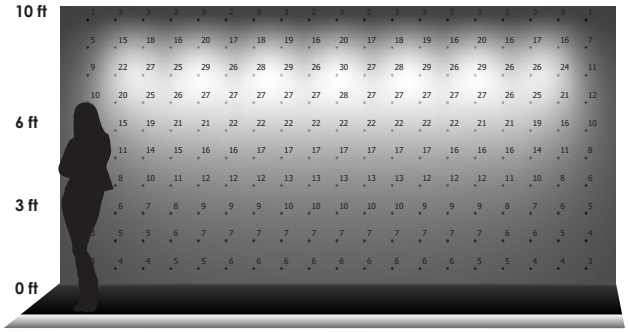

| | |
|---|---|
| Delivered Lumens: | 769 |
| Luminaire Watts: | 12.5 |
| LER: | 61.52 |
| CP at 0deg (Nadir): | 572 |
| CRI: | 80+ |
| Lumen Multiplier: | 05 x 0.62, 15 x 1.52, 20 x 1.92 |
| CCT Multiplier: | 822 x 0.75, 827 x 0.93, 830 x 1.0, 840 x 1.0<br>927 x 0.81, 930 x 0.81, 935 x 0.81, 940 x 0.87 |



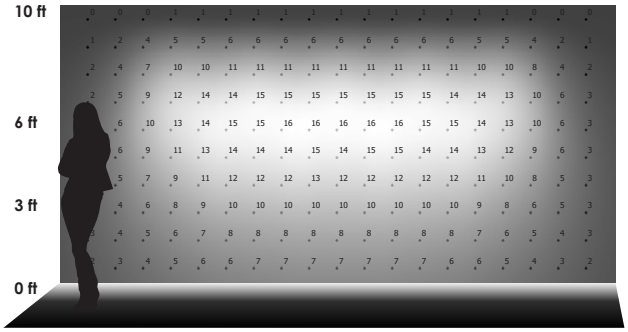

**PERFORMANACE DATA** - INITIAL ILLUMINATION (FOOTCANDLES) ON WALL - DIRECT LIGHT ONLY



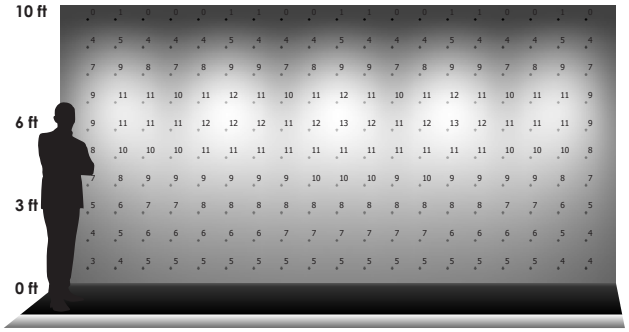

**9 LUMINAIRES**
2' - 0" away from wall
2' - 0" between luminaires




**7 LUMINAIRES**
2' - 6" away from wall
2' - 6" between luminaires




**5 LUMINAIRES**
3' - 0" away from wall
3' - 0" between luminaires



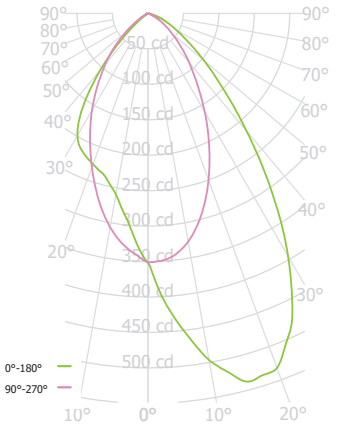

**5 LUMINAIRES**
3' - 0" away from wall
4' - 0" between luminaires

# CR2 LONG 2" CYLINDER

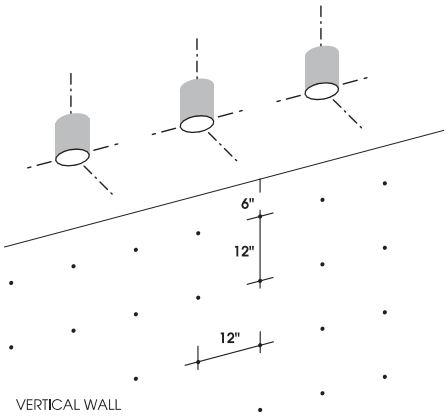
Spectrum Lighting

CR2 835 05 xx xx RD2WW RB2BW xx xx

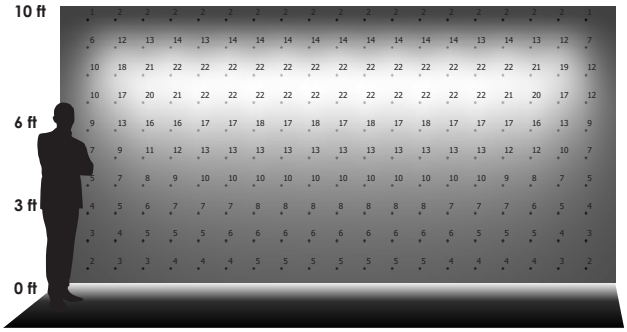
| CANDLEPOWER CURVE<br>TEST SP-01270 | PERFORMANCE SUMMARY | REFERENCE DIAGRAM |
|---|---|---|



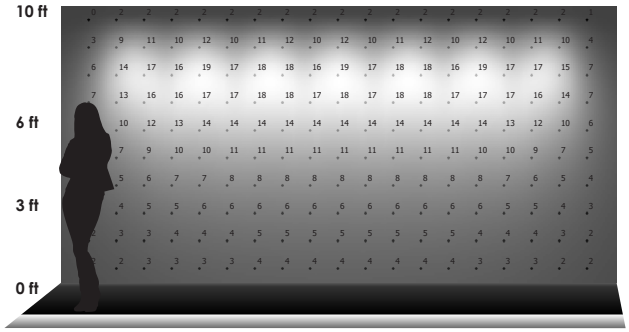

| | |
|---|---|
| Delivered Lumens: | 473 |
| Luminaire Watts: | 7 |
| LER: | 67.57 |
| CP at 0deg (Nadir): | 351 |
| CRI: | 80+ |
| Lumen Multiplier: | 10 x 1.61, 15 x 2.44, 20 x 3.10 |
| CCT Multiplier: | 822 x 0.75, 827 x 0.93, 830 x 1.0, 840 x 1.0<br>927 x 0.81, 930 x 0.81, 935 x 0.81, 940 x 0.87 |



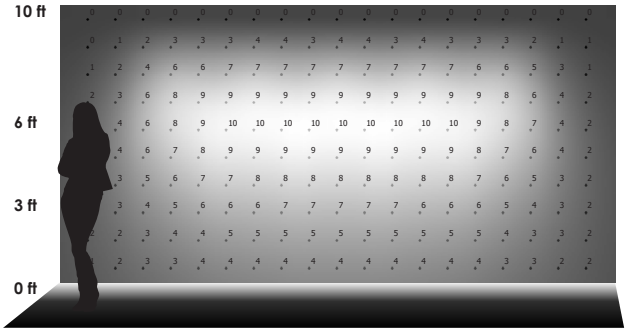

**PERFORMANACE DATA** - INITIAL ILLUMINATION (FOOTCANDLES) ON WALL - DIRECT LIGHT ONLY



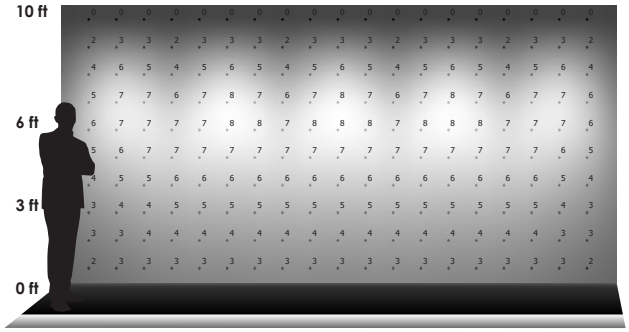

**9 LUMINAIRES**
2' - 0" away from wall
2' - 0" between luminaires




**7 LUMINAIRES**
2' - 6" away from wall
2' - 6" between luminaires




**5 LUMINAIRES**
3' - 0" away from wall
3' - 0" between luminaires



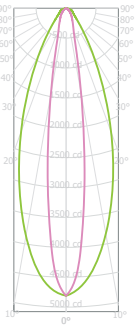

**5 LUMINAIRES**
3' - 0" away from wall
4' - 0" between luminaires

# CR2 LONG 2" CYLINDER

Spectrum Lighting

CR2 835 15 xx xx RD2XS RB2BS xx RA2LL

**CANDLEPOWER CURVE**
TEST SP-01276_2



**INTENSITY**
CANDELA
0° AZIMUTH

| | 0° | 90° | 180° | 270° |
|---|---|---|---|---|
| 0° | 4808 | 4808 | 4808 | 4808 |
| 5° | 4493 | 3378 | 4542 | 3354 |
| 15° | 3024 | 582 | 3023 | 589 |
| 25° | 1467 | 263 | 1478 | 257 |
| 35° | 557 | 155 | 566 | 149 |
| 45° | 235 | 87 | 233 | 81 |
| 55° | 146 | 34 | 134 | 29 |
| 90° | 2 | 2 | 2 | 1 |

**ZONAL LUMENS**

| | | |
|---|---|---|
| 0° - 10° | 328 | 24% |
| 0° - 20° | 740 | 55% |
| 0° - 30° | 1008 | 75% |
| 0° - 40° | 1162 | 86% |
| 0° - 60° | 1297 | 96% |
| 0° - 80° | 1333 | 99% |
| 0° - 90° | 1335 | 99% |
| Total | 1345 | 100% |

**SINGLE UNIT: PERFORMANCE**
DIRECT FOOTCANDLES
BASED ON DOWNLIGHT ONLY

| Mtg Height AFF | FC at Center | Beam Length | Beam Width | FC at Beam Edge |
|---|---|---|---|---|
| 10 ' | 48 fc | 6.8 ' | 2.6 ' | 20 fc |
| 12 ' | 33 fc | 8.1 ' | 3.1 ' | 14 fc |
| 14 ' | 25 fc | 9.5 ' | 3.6 ' | 10 fc |
| 16 ' | 19 fc | 10.9 ' | 4.1 ' | 8 fc |
| 20 ' | 12 fc | 13.6 ' | 5.1 ' | 5 fc |
| 24 ' | 8 fc | 16.3 ' | 6.1 ' | 4 fc |
| 28 ' | 6 fc | 19.0 ' | 7.2 ' | 3 fc |
| 32 ' | 5 fc | 21.7 ' | 8.2 ' | 2 fc |

Delivered Lumens: 1345
Luminaire Watts: 19.5
LER: 68.97

CP at 0° (Nadir): 4808
CRI: 80+

Beam Angle: 38° x 15°
Spacing Ratio: 0.59 x 0.25

Lumen Multiplier: 05 x 0.41, 10 x 0.66, 20 x 1.27
CCT Multiplier: 822 x 0.75, 827 x 0.93, 830 x 1.0, 840 x 1.0
927 x 0.81, 930 x 0.81, 935 x 0.81, 940 x 0.87

**Beam Angle:** The included angle between those points on opposite sides of the beam axis at which the luminous intensity (candela) emitted by the luminaire is 50% of the maximum candela.

**Spacing Ratio:** The on-center fixture spacing, divided by the vertical distance from the fixture aperture to the illuminated surface.

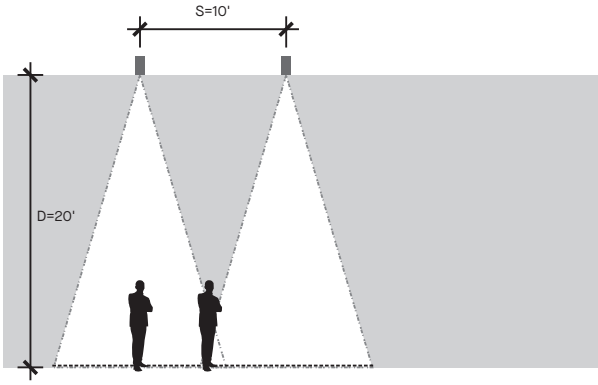
To estimate uniform illumination at a horizontal plane, use Spacing Ratio data to determine maximum fixture spacing.

The examples below illustrate concepts for an aisle/hallway, for uniform illumination (FC) at floor, or at 6' above finished floor (AFF). To estimate maximum fixture spacing for uniform illumination, multiply mounting Distance x Spacing Ratio.

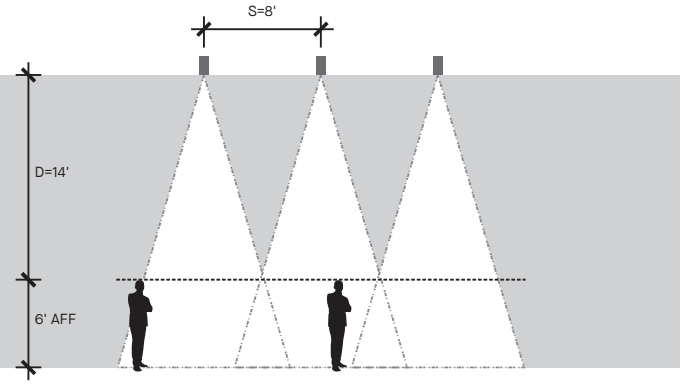
Example A: Uniform FC at Floor

Example B: Uniform FC at 6' AFF

38° x 15° Beam Angles oriented for linear, overlapping light pattern




Example A: Uniform FC at Floor




Example B: Uniform FC at 6' AFF

S = Spacing between fixtures
D = Distance from aperture to horizontal plane

Spacing Ratio for this optic: 0.59 x 0.25
With optic oriented as shown, Spacing Ratio should be ≤ 0.59

$$\frac{S}{D} = \frac{10'}{20'} = 0.50$$

Note: Illumination will also be uniform at < 6' AFF

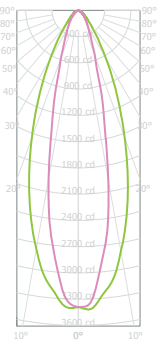
$$\frac{S}{D} = \frac{8'}{14'} = 0.57$$

# CR2 LONG 2" CYLINDER

Spectrum Lighting

CR2 835 15 xx xx RD2SP RB2BS xx RA2LL

**CANDLEPOWER CURVE**
TEST SP-01274_2



**INTENSITY**
CANDELA
0° AZIMUTH

| | 0° | 90° | 180° | 270° |
|---|---|---|---|---|
| 0° | 3391 | 3391 | 3391 | 3391 |
| 5° | 3253 | 2935 | 3223 | 2903 |
| 15° | 2179 | 1056 | 2166 | 1068 |
| 25° | 1028 | 336 | 1045 | 361 |
| 35° | 379 | 158 | 397 | 182 |
| 45° | 149 | 84 | 158 | 93 |
| 55° | 75 | 34 | 81 | 33 |
| 90° | 2 | 1 | 2 | 2 |

**ZONAL LUMENS**

| | | |
|---|---|---|
| 0° - 10° | 274 | 20% |
| 0° - 20° | 709 | 51% |
| 0° - 30° | 1009 | 73% |
| 0° - 40° | 1181 | 85% |
| 0° - 60° | 1328 | 96% |
| 0° - 80° | 1368 | 99% |
| 0° - 90° | 1370 | 99% |
| Total | 1381 | 100% |

**SINGLE UNIT: PERFORMANCE**
DIRECT FOOTCANDLES
BASED ON DOWNLIGHT ONLY

| Mtg Height AFF | FC at Center | Beam Length | Beam Width | FC at Beam Edge |
|---|---|---|---|---|
| 8 ' | 53 fc | 5.4 ' | 3.2 ' | 22 fc |
| 10 ' | 34 fc | 6.8 ' | 3.9 ' | 14 fc |
| 12 ' | 24 fc | 8.1 ' | 4.7 ' | 10 fc |
| 14 ' | 17 fc | 9.5 ' | 5.5 ' | 7 fc |
| 16 ' | 13 fc | 10.9 ' | 6.3 ' | 6 fc |
| 20 ' | 8 fc | 13.6 ' | 7.9 ' | 4 fc |
| 24 ' | 6 fc | 16.3 ' | 9.5 ' | 2 fc |
| 28 ' | 4 fc | 19.0 ' | 11.1 ' | 2 fc |

Delivered Lumens: 1381
Luminaire Watts: 19.5
LER: 70.82

CP at 0° (Nadir): 3391
CRI: 80+

Beam Angle: 38° x 22°
Spacing Ratio: 0.60 x 0.38

Lumen Multiplier: 05 x 0.41, 10 x 0.66, 20 x 1.27
CCT Multiplier: 822 x 0.75, 827 x 0.93, 830 x 1.0, 840 x 1.0
927 x 0.81, 930 x 0.81, 935 x 0.81, 940 x 0.87

**Beam Angle:** The included angle between those points on opposite sides of the beam axis at which the luminous intensity (candela) emitted by the luminaire is 50% of the maximum candela.

**Spacing Ratio:** The on-center fixture spacing, divided by the vertical distance from the fixture aperture to the illuminated surface.

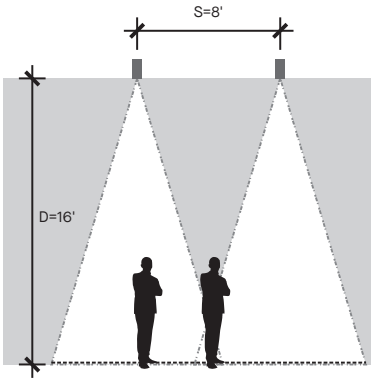
To estimate uniform illumination at a horizontal plane, use Spacing Ratio data to determine maximum fixture spacing.

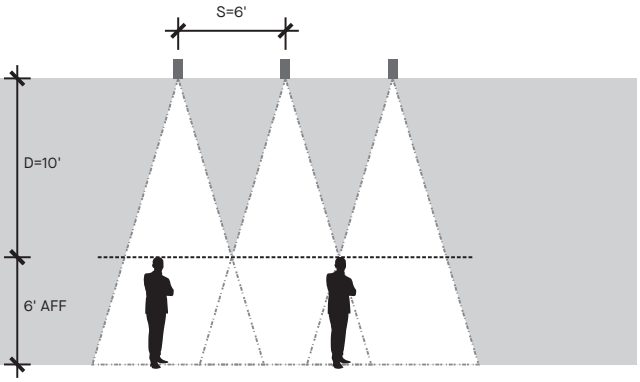
The examples below illustrate concepts for an aisle/hallway, for uniform illumination (FC) at floor, or at 6' above finished floor (AFF). To estimate maximum fixture spacing for uniform illumination, multiply mounting Distance x Spacing Ratio.

Example A: Uniform FC at Floor

Example B: Uniform FC at 6' AFF

38° x 22° Beam Angles oriented for linear, overlapping light pattern




Example A: Uniform FC at Floor

Example B: Uniform FC at 6' AFF

S = Spacing between fixtures
D = Distance from aperture to horizontal plane

Spacing Ratio for this optic: 0.60 x 0.38
With optic oriented as shown, Spacing Ratio should be ≤ 0.60

$$\frac{S}{D} = \frac{8'}{16'} = 0.50$$

Note: Illumination will also be uniform at < 6' AFF

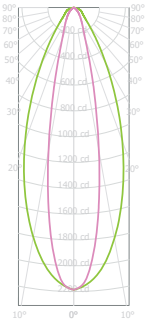
$$\frac{S}{D} = \frac{6'}{10'} = 0.60$$

# CR2 LONG 2" CYLINDER

Spectrum Lighting

CR2 9DW 10 xx xx RD2XS RB2BS xx RA2LL

**CANDLEPOWER CURVE**
TEST SP-01276_5



**INTENSITY**
CANDELA
0° AZIMUTH

| | 0° | 90° | 180° | 270° |
|---|---|---|---|---|
| 0° | 2186 | 2186 | 2186 | 2186 |
| 5° | 2081 | 1861 | 2068 | 1872 |
| 15° | 1469 | 547 | 1464 | 531 |
| 25° | 767 | 169 | 768 | 167 |
| 35° | 314 | 88 | 315 | 88 |
| 45° | 135 | 45 | 136 | 44 |
| 55° | 85 | 16 | 82 | 15 |
| 90° | 1 | 1 | 1 | 1 |

**ZONAL LUMENS**

| | | |
|---|---|---|
| 0° - 10° | 172 | 21% |
| 0° - 20° | 432 | 54% |
| 0° - 30° | 602 | 75% |
| 0° - 40° | 695 | 87% |
| 0° - 60° | 772 | 96% |
| 0° - 80° | 793 | 99% |
| 0° - 90° | 795 | 99% |
| Total | 803 | 100% |

**SINGLE UNIT: PERFORMANCE**
DIRECT FOOTCANDLES
BASED ON DOWNLIGHT ONLY

| Mtg Height AFF | FC at Center | Beam Length | Beam Width | FC at Beam Edge |
|---|---|---|---|---|
| 8 ' | 34 fc | 5.9 ' | 2.9 ' | 14 fc |
| 10 ' | 22 fc | 7.3 ' | 3.6 ' | 9 fc |
| 12 ' | 15 fc | 8.8 ' | 4.3 ' | 6 fc |
| 14 ' | 11 fc | 10.3 ' | 5.1 ' | 5 fc |
| 16 ' | 9 fc | 11.7 ' | 5.8 ' | 4 fc |
| 20 ' | 5 fc | 14.6 ' | 7.2 ' | 2 fc |
| 24 ' | 4 fc | 17.6 ' | 8.7 ' | 2 fc |
| 28 ' | 3 fc | 20.5 ' | 10.1 ' | 1 fc |

Delivered Lumens: 803
Luminaire Watts: 16.5
LER: 48.67

CP at 0° (Nadir): 2186
CRI: 90

Beam Angle: 40° x 20°
Spacing Ratio: 0.64 x 0.34

Lumen Multiplier: only 1000 lms available
CCT Multiplier: N/A, dim to warm

**Beam Angle:** The included angle between those points on opposite sides of the beam axis at which the luminous intensity (candela) emitted by the luminaire is 50% of the maximum candela.

**Spacing Ratio:** The on-center fixture spacing, divided by the vertical distance from the fixture aperture to the illuminated surface.

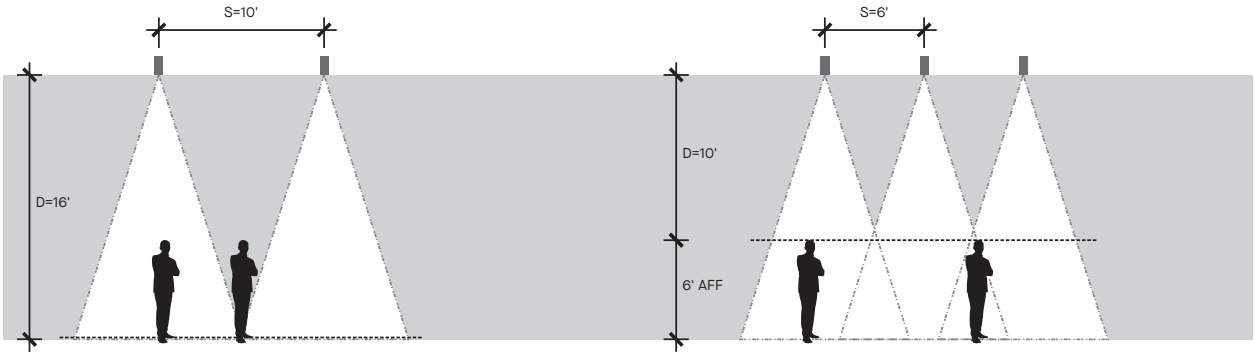
To estimate uniform illumination at a horizontal plane, use Spacing Ratio data to determine maximum fixture spacing.

The examples below illustrate concepts for an aisle/hallway, for uniform illumination (FC) at floor, or at 6' above finished floor (AFF). To estimate maximum fixture spacing for uniform illumination, multiply mounting Distance x Spacing Ratio.

Example A: Uniform FC at Floor

Example B: Uniform FC at 6' AFF

40° x 20° Beam Angles oriented for linear, overlapping light pattern




Example A: Uniform FC at Floor

Example B: Uniform FC at 6' AFF

S = Spacing between fixtures
D = Distance from aperture to horizontal plane

Spacing Ratio for this optic: 0.64 x 0.34
With optic oriented as shown, Spacing Ratio should be ≤ 0.64

$$\frac{S}{D} = \frac{10'}{16'} = 0.63$$

Note: Illumination will also be uniform at < 6' AFF

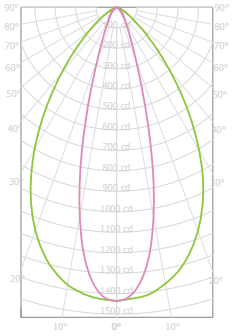
$$\frac{S}{D} = \frac{6'}{10'} = 0.60$$

# CR2 LONG 2" CYLINDER

Spectrum Lighting

CR2 9DW 10 xx xx RD2SP RB2BS xx RA2LL

**CANDLEPOWER CURVE**
TEST SP-01274_5



**INTENSITY**
CANDELA
0° AZIMUTH

| | 0° | 90° | 180° | 270° |
|---|---|---|---|---|
| 0° | 1435 | 1435 | 1435 | 1435 |
| 5° | 1421 | 1346 | 1421 | 1348 |
| 15° | 1288 | 593 | 1291 | 599 |
| 25° | 1002 | 151 | 995 | 144 |
| 35° | 599 | 64 | 601 | 63 |
| 45° | 255 | 31 | 269 | 30 |
| 55° | 89 | 11 | 96 | 9 |
| 90° | 1 | 1 | 1 | 1 |

**ZONAL LUMENS**

| | | |
|---|---|---|
| 0° - 10° | 128 | 14% |
| 0° - 20° | 386 | 43% |
| 0° - 30° | 609 | 68% |
| 0° - 40° | 759 | 84% |
| 0° - 60° | 875 | 97% |
| 0° - 80° | 888 | 99% |
| 0° - 90° | 890 | 99% |
| Total | 899 | 100% |

**SINGLE UNIT: PERFORMANCE**
DIRECT FOOTCANDLES
BASED ON DOWNLIGHT ONLY

| Mtg Height AFF | FC at Center | Beam Length | Beam Width | FC at Beam Edge |
|---|---|---|---|---|
| 8 ' | 22 fc | 10.0 ' | 3.9 ' | 7 fc |
| 10 ' | 14 fc | 12.5 ' | 4.9 ' | 4 fc |
| 12 ' | 10 fc | 15.1 ' | 5.8 ' | 3 fc |
| 14 ' | 7 fc | 17.6 ' | 6.8 ' | 2 fc |
| 16 ' | 6 fc | 20.1 ' | 7.8 ' | 2 fc |
| 20 ' | 4 fc | 25.1 ' | 9.7 ' | 1 fc |
| 24 ' | 2 fc | 30.1 ' | 11.6 ' | 1 fc |
| 28 ' | 2 fc | 35.1 ' | 13.6 ' | 1 fc |

Delivered Lumens: 899
Luminaire Watts: 16.5
LER: 54.48

CP at 0° (Nadir): 1435
CRI: 90

Beam Angle: 64° x 27°
Spacing Ratio: 0.95 x 0.45

Lumen Multiplier: only 1000 lms available
CCT Multiplier: N/A, dim to warm

**Beam Angle:** The included angle between those points on opposite sides of the beam axis at which the luminous intensity (candela) emitted by the luminaire is 50% of the maximum candela.

**Spacing Ratio:** The on-center fixture spacing, divided by the vertical distance from the fixture aperture to the illuminated surface.

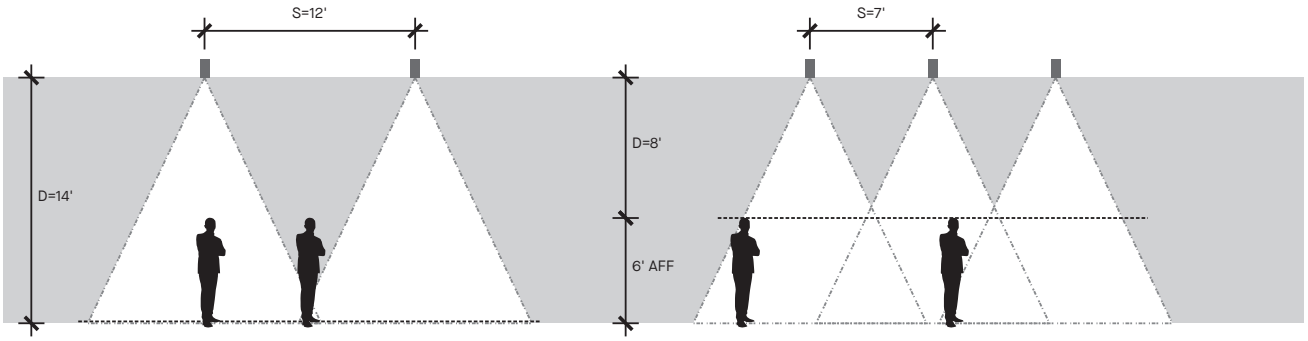
To estimate uniform illumination at a horizontal plane, use Spacing Ratio data to determine maximum fixture spacing.

The examples below illustrate concepts for an aisle/hallway, for uniform illumination (FC) at floor, or at 6' above finished floor (AFF). To estimate maximum fixture spacing for uniform illumination, multiply mounting Distance x Spacing Ratio.

Example A: Uniform FC at Floor

Example B: Uniform FC at 6' AFF

64° x 27° Beam Angles oriented for linear, overlapping light pattern




Example A: Uniform FC at Floor

Example B: Uniform FC at 6' AFF

S = Spacing between fixtures
D = Distance from aperture to horizontal plane

Spacing Ratio for this optic: 0.95 x 0.45
With optic oriented as shown, Spacing Ratio should be ≤ 0.95

$$\frac{S}{D} = \frac{12'}{14'} = 0.86$$

Note: Illumination will also be uniform at < 6' AFF

$$\frac{S}{D} = \frac{7'}{8'} = 0.88$$