

| | | | | | |
|-------------|--|-----------|--|------|--|
| Project | | Catalog # | | Type | |
| Prepared by | | Notes | | Date | |



PORTFOLIO

LDRT8B / LDRT810B / LDRT812B-ER8B-8LB

8" - 12" LED Narrow, Medium or Wide Beam
Retrofit/Remodel Downlight
1,000-20,000 Lumen

Typical Applications

Office • Education • Healthcare • Hospitality



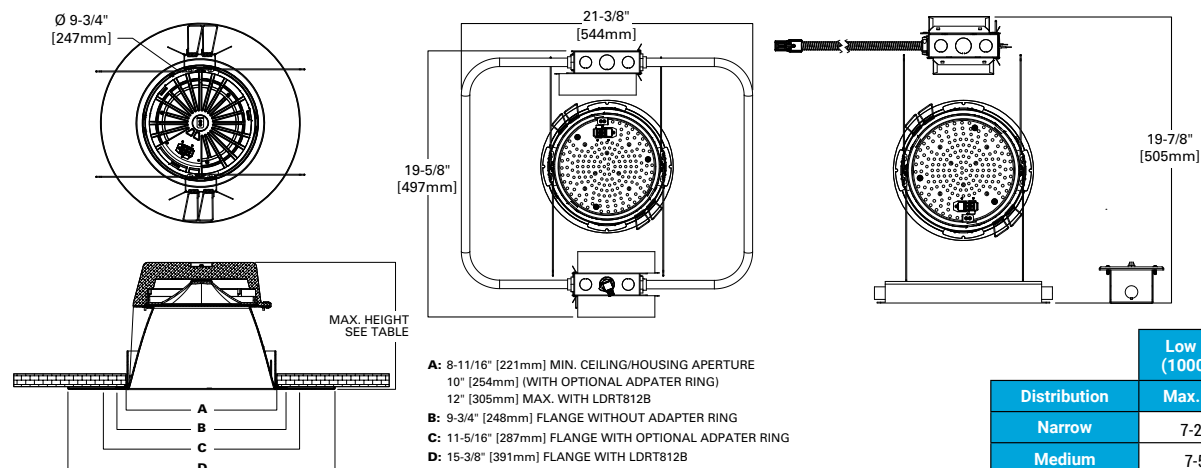
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Top Product Features

- Retrofits in ceiling openings from 8.7-inch to 12-inch; Flexible disconnect for easy LED engine replacement and installation
- 1,000 to 20,000 lumens; Offered in 80, 90 and 97 CRI; narrow beam, medium beam and wide beam distributions
- Coverts existing 8", 9", 10" and 12" incandescent, HID and compact fluorescent housings to LED
- 2700K, 3000K, 3500K, 4000K, 5000K; D2W™ option from 3000K to 1850K
- W2N tunable white CCT range 2700K to 6500K or 2000K to 5000K / BioUp = 2700K to 5000K

Dimensional and Mounting Details



| | Low Lumen (1000-7000) | High Lumen (8000-20000) |
|---------------------|-----------------------|-------------------------|
| Distribution | Max. Height | Max Height |
| Narrow | 7-25/32" | 9-3/4" |
| Medium | 7-5/16" | 9-9/32" |
| Wide | 6-11/16" | 8-11/16" |
| Shallow | 4-26/32" | 6-26/32" |

Order Information

SAMPLE ORDER NUMBER: **LDRT8B50D010IEMBOD**

| Housing | Lumens ⁽¹⁾ | Voltage ⁽¹⁰⁾ | Driver Options | |
|---|---|---|--|--|
| <p>LDRT8B=LED downlight retrofit 8" nominal Aperture</p> <p>LDRT8BCP=LED downlight Retrofit 8" Nominal Aperture, Chicago Plenum</p> <p>LDRT810B=LED downlight retrofit 10" nominal Aperture, 11.3 OD</p> <p>LDRT810BCP=LED downlight retrofit 10" nominal Aperture, 11.3 OD, Chicago Plenum</p> <p>LDRT812B=LED Downlight Retrofit 12" Nominal Aperture</p> <p>LDRT812BCP=LED Downlight Retrofit 12" Nominal Aperture, Chicago Plenum</p> | <p>10=1000 lumens 15=1500 lumens 20=2000 lumens 30=3000 lumens 40=4000 lumens 50=5000 lumens 60=6000 lumens⁽⁷⁾ 70=7000 lumens⁽⁷⁾ 80=8000 lumens⁽⁷⁾ 90=9000 lumens⁽⁷⁾ 100=10000 lumens⁽⁷⁾ 120=12000 lumens⁽⁷⁾ 150=15000 lumens⁽⁷⁾ 175=17500 lumens⁽⁷⁾ 200=20000 lumens⁽⁷⁾</p> | <p>Blank=120-277V, for use with 1 driver 1=120V, for use with 2 and 3 drivers 2=277V, for use with 2 and 3 drivers 3=347V step down transformer⁽¹¹⁾</p> | <p>80/90/97 CRI D010=0-10V Dimming, 1% to 100%, 120V-277V 1 Driver: 1000-7000 Lumens 2 Drivers: 8000-12,000 Lumens 3 Drivers: 15,000-20,000 Lumens D010TR=0-10V 120-277V or 120V Phase Cut Dimming, 1% to 100% 1 Driver: 1000-5000 Lumens 2 Drivers: 6000-10,000 Lumens 3 Drivers: 12,000-15,000 Lumens DE010=0-10V Linear Dimming, 0.1% to 100%, 120V-277V 1 Driver: 1000-5000 Lumens 2 Drivers: 6000-9000 Lumens 3 Drivers: 12,000 Lumens D5LT=Fifth Light® DALI DT6 Logarithmic Dimming, 0.1% to 100%, 120V-277V 1 Driver: 1000-5000 Lumens 2 Drivers: 6000-9000 Lumens 3 Drivers: 12,000 Lumens DMX=DMX/RDM Logarithmic Dimming, 0.1% to 100%, 120V-277V⁽³⁾ 1 Driver: 1000-5000 Lumens 2 Drivers: 6000-9000 Lumens 3 Drivers: 12,000 Lumens DMXC5=DMX/RDM Logarithmic Dimming, 0.1% to 100%, 120V-277V, with RJ45 connection⁽³⁾ 1 Driver: 1000-5000 Lumens 2 Drivers: 6000-9000 Lumens 3 Drivers: 12,000 Lumens DLE=Lutron Ecosystem dimming 1% to 100% 1 Driver: 1000-5000 Lumens 2 Drivers: 6000-9000 Lumens 3 Drivers: 12,000 Lumens DLV=Low Voltage System 1 Driver: 1000-3000 Lumens</p> | <p>Tunable white 1 Driver: 1000-2000 Lumens 2 Drivers: 3000-4000 Lumens DE010W2N2765 = 0-10V dimming, 0.1% to 100%, 120-277V, 2700K-6500K DE010W2N2050 = 0-10V dimming, 0.1% to 100%, 120-277V, 2000K-5000K D5LTW2N2765 = Fifth Light DALI DT6 Logarithmic Dimming, 0.1% to 100%, 120V-277V, 2700K-6500K D5LTW2N2050 = Fifth Light DALI DT6 Logarithmic Dimming, 0.1% to 100%, 120V-277V, 2000K-5000K BioUp Tunable white 1 Driver: 1000 Lumens 2 Drivers: 2000-3000 Lumens DE010B2750 = 0-10V dimming, 0.1% to 100%, 120-277V, 2700K-5000K DE010B35 = 0-10V dimming, 0.1% to 100%, 120-277V, 3500K DE010B40 = 0-10V dimming, 0.1% to 100%, 120-277V, 4000K DE010B50 = 0-10V dimming, 0.1% to 100%, 120-277V, 5000K D5LTB2750 = Fifth Light DALI DT6 Logarithmic Dimming, 0.1% to 100%, 120V-277V, 2700K-5000K Dim-to-Warm 1 Driver: 1000-3000 Lumens 2 Drivers: 4000 and 6000 Lumens 3 Drivers: 9000 Lumens D010=0-10V Dimming, 1% to 100%, 120V-277V, D010TR=0-10V 120-277V or 120V Phase Cut Dimming, 1% to 100% DE010=0-10V Linear Dimming, 0.1% to 100%, 120V-277V D5LT=Fifth Light® DALI DT6 Logarithmic Dimming, 0.1% to 100%, 120V-277V DMX=DMX/RDM Logarithmic Dimming, 0.1% to 100%, 120V-277V⁽³⁾ DMXC5=DMX/RDM Logarithmic Dimming, 0.1% to 100%, 120V-277V, with RJ45 connection⁽³⁾ DLE=Lutron Ecosystem dimming 1% to 100% DLV=Low Voltage System⁽⁶⁾</p> |

| Dim to Warm | Options |
|---|---|
| <p>Blank=No color control or D2W for 2000 lumens and below D2W=For 4000, 6000 and 9000 dim 2 warm</p> | <p>WPST=Factory installed WaveLinX PRO Sensor Kit⁽²⁾⁽⁹⁾⁽¹⁶⁾ WLST=Factory installed WaveLinX LITE Sensor Kit⁽²⁾⁽⁹⁾⁽¹⁷⁾ WPN = WaveLinX PRO Wireless Node without sensor⁽²⁾⁽¹⁸⁾ WLN = WaveLinX LITE Wireless Node without sensor⁽²⁾⁽¹⁹⁾</p> <p>EMBOD=Bodine® 7W Emergency Module with Remote Test Switch⁽⁵⁾ EMBOD7ST =Bodine® 7W Emergency Module with Self Test Remote Test Switch⁽⁵⁾ EM7=7W Emergency Module with Remote Test Switch⁽³⁾ EM14=14W Emergency Module with Remote Test Switch⁽³⁾ EMV7=7W Low Voltage Emergency Module with Remote Test Switch⁽³⁾⁽⁴⁾ EMV14=14W Low Voltage Emergency Module with Remote Test Switch⁽³⁾⁽⁴⁾</p> |

SAMPLE ORDER NUMBER: **ER8B30408035**

| Power Module | Lumen Levels ⁽¹⁾ | Color |
|----------------------------|--|---|
| ER8B =8" LED Module | <p>1 Driver 1020=1000, 1500, or 2000 Lumens 3040=3000 or 4000 Lumens 5070=5000, 6000, or 7000 lumens</p> <p>2 Drivers 60=6000 lumens, 2 LEDs 80120=8000, 9000, 10000, or 12000 lumens</p> <p>3 Drivers 120=12000 lumens, 3 LEDs 150200=15000, 17500 or 20000 lumens</p> | <p>80 CRI 8027= 80CRI, 2700K 8030= 80CRI, 3000K 8035= 80CRI, 3500K 8040= 80CRI, 4000K 8050= 80CRI, 5000K</p> <p>90 CRI 9027= 90CRI, 2700K 9030= 90CRI, 3000K 9035= 90CRI, 3500K 9040= 90CRI, 4000K 9050= 90CRI, 5000K</p> <p>97 CRI 9727= 97CRI, 2700K 9730= 97CRI, 3000K</p> |
| | | <p>Dim 2 Warm 1 Driver 109030D2W=1000 Lumen, 90 CRI, Dim 2 Warm, IC Rated 159030D2W=1500 Lumen, 90 CRI, Dim 2 Warm, IC Rated 209030D2W=2000 Lumen, 90 CRI, Dim 2 Warm, IC Rated 309030D2W=3000 Lumen, 90 CRI, Dim 2 Warm</p> <p>Dim 2 Warm 2 Drivers 409030D2W=4000 Lumen, 90 CRI, Dim 2 Warm 609030D2W=6000 Lumen, 90 CRI, Dim 2 Warm</p> <p>Dim 2 Warm 3 Drivers 909030D2W=9000 Lumen, 90 CRI, Dim 2 Warm</p> |
| | | <p>W2N Tunable White 1 Driver⁽¹⁵⁾ 10W2N902050=1000 lumens, 90 CRI, Tunable white 2000K - 5000K 10W2N902765=1000 lumens, 90 CRI, Tunable white 2700K - 6500K 15W2N902050=1500 lumens, 90 CRI, Tunable white 2000K - 5000K 15W2N902765=1500 lumens, 90 CRI, Tunable white 2700K - 6500K 20W2N902050=2000 lumens, 90 CRI, Tunable white 2000K - 5000K 20W2N902765=2000 lumens, 90 CRI, Tunable white 2700K - 6500K</p> <p>W2N Tunable White 2 Drivers 30W2N902050=3000 lumens, 90 CRI, Tunable white 2000K - 5000K 30W2N902765=3000 lumens, 90 CRI, Tunable white 2700K - 6500K 40W2N902050=4000 lumens, 90 CRI, Tunable white 2000K - 5000K 40W2N902765=4000 lumens, 90 CRI, Tunable white 2700K - 6500K</p> |
| | | <p>BioUp Tunable White 1 Driver 10B=1000 lumens</p> <p>BioUp Tunable White 2 Drivers 20B=2000 lumens 30B=3000 lumens</p> <p>35= Static 3500K 40= Static 4000K 50= Static 5000K 2750= BioUp Tunable White 2700K-5000K</p> |

Order Information

SAMPLE ORDER NUMBER: 8LBM1LI

| Trim | Distribution ⁽⁵⁾ | Flange | Finish | Options |
|------------------|---|--|--|--|
| 8LB=8" Reflector | N=Narrow Spun Aluminum M=Medium Spun Aluminum W=Wide Spun Aluminum S=Shallow Spun Aluminum | 0=White Polymer Trim Ring 1=Self-flanged ⁽⁶⁾ 2=White Painted Self-flanged | LI=Specular Clear H=Semi-Specular Clear WMH=Warm Haze WH=Wheat GPH=Graphite Haze B=Specular Black MW=Matte White | E=Integral Emergency Test Switch Hole ⁽⁶⁾ |

Accessories

Transformers

H347=347 to 120V Step Down Transformer, 75VA

Connected Lighting Systems ⁽²⁾

WTA = Field installed WaveLinX PRO Sensor Kit ⁽¹⁶⁾

WTK = Field installed WaveLinX Lite Sensor Kit ⁽¹⁷⁾

Notes

- Nominal Lumens will vary depending on selected color, driver and reflector finish.
- Refer to system specifications for additional information, features and benefits. Order either factory installed option or accessory, use with 0-10V driver.
- Not available with Chicago Plenum or IC rating.
- ULus listed only.
- Beam angles are nominal with LI finish trims. See chart.
- DMX fixtures default to full on upon loss of DMX signal.
- Product is marked spacing and must be installed with the following minimum spacing
 - Center to center of adjacent luminaires: 36"
 - Center of luminaire to side of building member: 18"
 - Minimum overhead: 1/2"
 - 7000 & 20,000 Lumens minimum overhead: 6"
- Flange is the same finish as the reflector.
- Field required for D2W 4000, 6000 and 9000 lumens only.
- For single driver.

- 347V step down transformer only available up to 7000 Lumen
- DMX fixtures default to full on upon loss of DMX signal.
- For D2W up to 3000 lumens.
- Not for use with D2W.
- Non-IC.
- WPST = WaveLinX PRO wireless sensor kit for daylight dimming, PIR motion sensing, and optional RLTS - Real Time Location Services, use with 0-10V only.
- WLST = WaveLinX LITE tile mount sensor kit for daylight dimming, PIR motion sensing, use with D010 only (Refer to WaveLinX LITE system specifications)
- WPN = WaveLinX PRO wireless node provides luminaire-level control with scene and zone configuration without an integrated sensor; Connects wirelessly with daylight dimming sensor and PIR motion sensor if desired. Use with 0-10V driver only.
- WLN = WaveLinX LITE wireless node provides luminaire level control with scene and zone configuration without an integrated sensor; Connects wirelessly with daylight dimming sensor and PIR motion sensor if desired. Use with D010 or DE010 drivers only.

Product Specifications

Lower Shielding Reflector

- Self-flanged, spun .060" thick aluminum lower reflector
- Lensed upper optical chamber
- Provides superior lumen output with minimal source brightness
- Available in all Portfolio Alzak® finishes

Trim Retention

- Two torsion springs hold lower reflector flange tightly to the finished ceiling surface

Retrofit Ring

- Galvanized steel ring installs with four mouse trap springs for secure installation
- Accommodates up to 2" ceiling thickness
- Installs in ceiling openings from 8.7" to 10" with optional adapter ring
- Pre-wired flexible conduit with snap in connector installs into 1/2" knockout on the existing junction box

Thermal

- Aluminum heat sink conducts heat away from the LED module for improved performance and longer life

LED System

- Contains a plurality of high brightness white LED's combined with a high reflectance upper reflector and transitional lens producing even distribution with no pixilation
- Lumen output shall not decrease by more than 10% over the minimum life of 55,000 hours (L90 > 55,000 hours)
- Color variation within 2-step MacAdam ellipses
- Flexible disconnect allows for tool-less replacement of LED engine from below ceiling
- 2700K, 3000K, 3500K, 4000K and 5000K correlated color temperature (CCT)
- Available in 80, 90 or 97 color rendering index (CRI)

VividTune™ Color Tuning Solutions

- **D2W™** – Dim-to-Warm shifts CCT from 3000K to 1850K as fixture dims, mimicking halogen sources
- **W2N** – Tunable white CCT range from 2700K to 6500K or 2000K to 5000K; 90 CRI
- **BioUp** - Tunable white CCT range 2700K to 5000K Provides the biological effectiveness of natural sunlight, with color temperatures that are more comfortable for indoor environments

Driver

- Combination 0-10V/Phase Cut driver provides flicker free dimming from 100% to 1%
- Optional 1% 0-10V, Fifth Light, DMX or Lutron® Ecosystem
- Driver can be serviced from above or through the aperture
- 1,000-7,000 lumens utilize one driver; 8,000-12,000 lumens utilize two drivers; 15,000-20,000 lumens utilize three drivers (with D010); reference ordering information for other variations
- Distributed low voltage power system combines power, lighting, and controls with ease of installation.

Connected Lighting System

Two WaveLinX connected solutions to choose from. Refer to WaveLinX system specifications and application guides for details.

WaveLinX PRO Tilemount Sensor Kit

- WaveLinX PRO WPST tilemount sensor kit offers daylight dimming, PIR motion sensing, scene and zone configuration, automatic commissioning; and optional RLTS - Real Time Location Services available.

WaveLinX PRO Wireless Node

- WaveLinX PRO WPN wireless node provides luminaire-level control with scene and zone configuration without an integrated sensor; Connects wirelessly with daylight dimming sensor and PIR motion sensor if desired. Use with 0-10V driver only. **Note:** Not compatible with 347V or Chicago plenum.

WaveLinX LITE Tilemount Sensor Kit

- WaveLinX LITE WLST tilemount sensor kit offers daylight dimming and PIR motion sensing, scene and grouping configuration.

WaveLinX LITE Wireless Node

- WaveLinX LITE WLN wireless node provides luminaire level control with scene and zone configuration without an integrated sensor; Connects wirelessly with daylight dimming sensor and PIR motion sensor if desired. Use with 0-10V driver only. **Note:** Not compatible with 347V or Chicago plenum.

WaveLinX Tilemount Sensor Kits Application

- The WPST and WLST tilemount sensor kits include a control module mounted on the luminaire junction box via 1/2" knock-out, and a tilemount sensor on 54-inch whip; for ceiling installation by direct-mount spring clips or via mounting bracket in octagon ceiling boxes.
- The WPST and WLST tilemount sensor kits may be ordered as factory installed on the luminaire, or ordered separately as a field installed accessory kit.
- **Note: WaveLinX PRO devices are only compatible with the WaveLinX PRO system.**
- **Note: WaveLinX LITE devices are only compatible with the WaveLinX LITE system.**

Compliance

- Thermally protected
- cULus Certified to UL 1598 / C22.2 No. 250.0 suitable for wet locations with downlight with covered ceiling
- cULus listed for 25°C ambient environments
- Optional City of Chicago environmental air (CCEA) marking for plenum applications
- EMI/RFI emissions per FCC 47CFR Part 18 Class B consumer limits
- Insulated ceiling (IC) rated up to 2000 lumens; 3000 lumens and above, Tunable White, BioUp 2000 lumens and above are non-IC rated (insulation must be kept 3" from top and sides of housing)
- RoHS compliant
- T24 compliant
- IP20 above ceiling
- IP65 below ceiling
- Photometric testing completed in accordance with IES LM-79 standards
- Lumen maintenance projections in accordance with IES LM-80-08 and TM-21-11
- 6,000 lumens and above are marked spacing and must follow spacing requirements

Warranty

- Five year warranty www.cooperlighting.com/legal

Housing Compatibility

| Manufr. | Series | Nom. Size | Housing Aperture | Housing Catalog # | Ceiling Aperture | Retrofit Kit |
|----------|---------------------------------|-----------|------------------|---------------------|------------------------|--------------|
| Cooper | Portfolio | 8 | 8.730 | C8 | 8.73" MIN 9" MAX | LDRT8B |
| Philips | Lightolier Calculite | 8 | 8.750 | S8 | | |
| Philips | Capri | 8 | 8.875 | CM8 | | |
| Cooper | PDS | 8 | 8.875 | PD8 | | |
| Juno | | 9 | 8.938 | C9H | | |
| Juno | Indy Performance Series (Elate) | 9 | 9.000 | C9 and M9 | 8.73" MIN 10.3" MAX | LDRT810B |
| Philips | Capri | 10 | 9.625 | CM10 | | |
| Philips | Omega | 10 | 9.813 | OM10 and S10 | | |
| Juno | Indy Performance Series (Elate) | 10 | 9.875 | M10 | | |
| Cooper | Portfolio | 9 | 10.000 | C9 | | |
| Lithonia | Gotham | 10 | 10.125 | GRSF | | |
| Lithonia | Gotham | 10 | 10.125 | AF, LGF, LGH, AH, A | | |
| Lithonia | Gotham | 10 | 10.250 | GRSH | | |

Color Metric Summary

| 8027 | | 8030 | | 8035 | | 8040 | | 8050 | | 9027 | |
|----------------|------|----------------|------|----------------|------|----------------|------|----------------|------|----------------|------|
| R _f | 93.2 | R _f | 83.4 | R _f | 83.7 | R _f | 83.3 | R _f | 82.5 | R _f | 92 |
| R _g | 94.1 | R _g | 94.4 | R _g | 94.8 | R _g | 94 | R _g | 94.3 | R _g | 98.4 |
| CRI | 81.3 | CRI | 82.4 | CRI | 83.1 | CRI | 83.7 | CRI | 94.2 | CRI | 93.4 |
| R ₉ | 0.7 | R ₉ | 4.5 | R ₉ | 9.1 | R ₉ | 9.9 | R ₉ | 11.9 | R ₉ | 59.3 |

| 9030 | | 9035 | | 9040 | | 9050 | | 9727 | | 9730 | |
|----------------|------|----------------|------|----------------|------|----------------|------|----------------|-------|----------------|------|
| R _f | 91.6 | R _f | 90.9 | R _f | 89.4 | R _f | 88.4 | R _f | 95 | R _f | 94.2 |
| R _g | 98.6 | R _g | 98.3 | R _g | 96.6 | R _g | 96.8 | R _g | 100.1 | R _g | 99.6 |
| CRI | 93.2 | CRI | 93.3 | CRI | 91.8 | CRI | 91 | CRI | 98 | CRI | 98.5 |
| R ₉ | 60.2 | R ₉ | 63.1 | R ₉ | 58 | R ₉ | 55.2 | R ₉ | 93.9 | R ₉ | 94.7 |

Energy

| ENERGY DATA |
|--|
| Sound Rating: Class A standards |
| (Values at non-dimming line voltage) |
| Minimum Starting Temperature: -20°C (-4°F) |
| EMI/RFI: FCC Title 47 CFR, Part 15, Class B (Consumer) |
| Power Factor: >0.90 |
| Input Frequency: 50-60Hz |

| | NOMINAL BEAM ANGLES WITH LI FINISH | | | |
|-------------|------------------------------------|--------|------|---------|
| | Narrow | Medium | Wide | Shallow |
| 1000-7000 | 15 | 40 | 73 | 86 |
| 8000-12000 | 30 | 44 | 73 | 86 |
| 15000-20000 | 34 | 46 | 73 | 86 |

| 1000 Lumen D010 | |
|----------------------|---------------------------|
| Input Power: 11W | THD <14% |
| Input Current: 0.09A | 277V Input Current: 0.04A |

| 1500 Lumen D010 | |
|----------------------|---------------------------|
| Input Power: 15.5W | THD <13% |
| Input Current: 0.13A | 277V Input Current: 0.06A |

| 2000 Lumen D010 | |
|----------------------|---------------------------|
| Input Power: 21.2 W | THD <9% |
| Input Current: 0.18A | 277V Input Current: 0.08A |

| 3000 Lumen D010 | |
|----------------------|---------------------------|
| Input Power: 27.6 W | THD <10% |
| Input Current: 0.23A | 277V Input Current: 0.10A |

| 4000 Lumen D010 | |
|----------------------|---------------------------|
| Input Power: 41.6 W | THD <13% |
| Input Current: 0.35A | 277V Input Current: 0.15A |

| 5000 Lumen D010TE | |
|----------------------|---------------------------|
| Input Power: 52.5 W | THD <12% |
| Input Current: 0.44A | 277V Input Current: 0.19A |

| 6000 Lumen D010TE | |
|----------------------|---------------------------|
| Input Power: 59.7W | THD: <14% |
| Input Current: 0.50A | 277V Input Current: 0.22A |

| 7000 Lumen D010TE | |
|----------------------|---------------------------|
| Input Power: 75.8 W | THD <13% |
| Input Current: 0.64A | 277V Input Current: 0.29A |

| 8000 Lumen D010 | |
|----------------------|---------------------------|
| Input Power: 73.8 W | THD <13% |
| Input Current: 0.62A | 277V Input Current: 0.26A |

| 9000 Lumen D010 | |
|----------------------|---------------------------|
| Input Power: 86.9 W | THD <13% |
| Input Current: 0.72A | 277V Input Current: 0.32A |

| 10000 Lumen D010TE | |
|----------------------|---------------------------|
| Input Power: 115.4 W | THD <13% |
| Input Current: 0.96A | 277V Input Current: 0.42A |

| 12000 Lumen D010TE | |
|----------------------|---------------------------|
| Input Power: 119.4 W | THD <13% |
| Input Current: 1.0A | 277V Input Current: 0.43A |

| 15000 Lumen D010TE | |
|----------------------|---------------------------|
| Input Power: 173.7 W | THD <13% |
| Input Current: 1.45A | 277V Input Current: 0.63A |

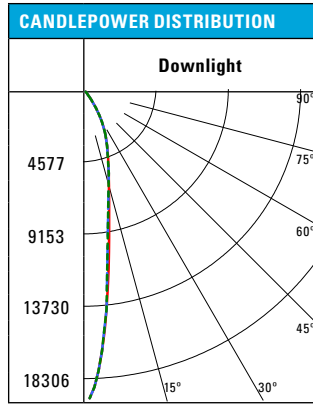
| 17500 Lumen D010TE | |
|----------------------|---------------------------|
| Input Power: 179.1 W | THD <13% |
| Input Current: 1.49A | 277V Input Current: 0.65A |

| 20000 Lumen D010TE | |
|----------------------|---------------------------|
| Input Power: 227.4 W | THD <13% |
| Input Current: 1.9A | 277V Input Current: 0.82A |

Photometric Data

[View IES files](#)

| NARROW (15° BEAM) | |
|-------------------|------------|
| Test Number | |
| Housing | LD8B50D010 |
| Module | ER8B50835 |
| Trim | 8LBN0H |
| Lumens | 4986 |
| Efficacy | 94.1 Lm/W |
| SC | 0.32 |
| | |



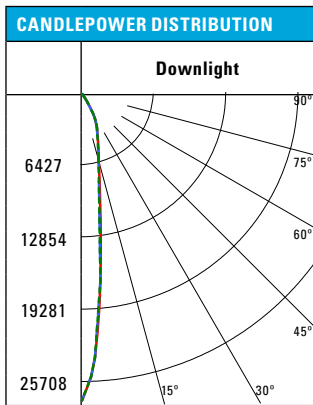
| CONE OF LIGHT | | | | |
|---------------|--------|-----|-----|--|
| | | | | |
| MH | FC | L | W | |
| 4' | 1144.4 | 1.2 | 1.2 | |
| 7' | 373.7 | 2.2 | 2.2 | |
| 9' | 226.1 | 2.8 | 2.8 | |
| 13' | 108.3 | 4 | 4 | |
| 16' | 71.5 | 5 | 5 | |

| CANDELA TABLE | |
|------------------|---------|
| Degrees Vertical | Candela |
| 0 | 18310 |
| 5 | 14091 |
| 15 | 5762 |
| 25 | 3117 |
| 35 | 1021 |
| 45 | 99 |
| 55 | 5 |
| 65 | 1 |
| 75 | 1 |
| 85 | 0 |
| 90 | 0 |

| ZONAL LUMEN SUMMARY | | |
|---------------------|--------|-----------|
| Zone | Lumens | % Fixture |
| 0-30 | 4214 | 84.5 |
| 0-40 | 4883 | 97.9 |
| 0-60 | 4983 | 99.9 |
| 0-90 | 4986 | 100 |
| 90-180 | 0 | 0 |
| 0-180 | 4986 | 100 |

| LUMINANCE | |
|-------------------------|----------------------|
| Average Candela Degrees | Average 0° Luminance |
| 45 | 4330 |
| 55 | 253 |
| 65 | 88 |
| 75 | 143 |
| 85 | 0 |

| NARROW (15° BEAM) | |
|-------------------|------------|
| Test Number | |
| Housing | LD8B50D010 |
| Module | ER8B50835 |
| Trim | 8LBN0LI |
| Lumens | 5248 |
| Efficacy | 99 Lm/W |
| SC | 0.25 |
| | |



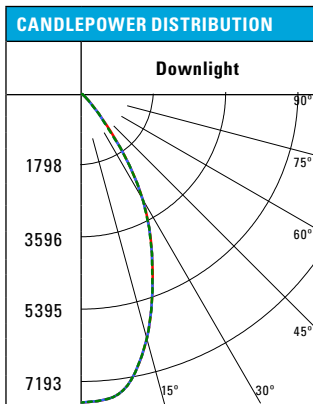
| CONE OF LIGHT | | | | |
|---------------|-------|-----|-----|--|
| | | | | |
| MH | FC | L | W | |
| 4' | 1607 | 1 | 1 | |
| 7' | 524.7 | 1.6 | 1.6 | |
| 9' | 317.4 | 2.2 | 2.2 | |
| 13' | 152.1 | 3.2 | 3.2 | |
| 16' | 100.4 | 4 | 4 | |

| CANDELA TABLE | |
|------------------|---------|
| Degrees Vertical | Candela |
| 0 | 25712 |
| 5 | 17790 |
| 15 | 5743 |
| 25 | 3148 |
| 35 | 879 |
| 45 | 101 |
| 55 | 7 |
| 65 | 7 |
| 75 | 4 |
| 85 | 0 |
| 90 | 0 |

| ZONAL LUMEN SUMMARY | | |
|---------------------|--------|-----------|
| Zone | Lumens | % Fixture |
| 0-30 | 4514 | 86 |
| 0-40 | 5134 | 97.8 |
| 0-60 | 5238 | 99.8 |
| 0-90 | 5248 | 100 |
| 90-180 | 0 | 0 |
| 0-180 | 5248 | 100 |

| LUMINANCE | |
|-------------------------|----------------------|
| Average Candela Degrees | Average 0° Luminance |
| 45 | 4422 |
| 55 | 382 |
| 65 | 518 |
| 75 | 429 |
| 85 | 0 |

| MEDIUM (40° BEAM) | |
|-------------------|------------|
| Test Number | |
| Housing | LD8B50D010 |
| Module | ER8B50835 |
| Trim | 8LBM0H |
| Lumens | 5426 |
| Efficacy | 102.4 Lm/W |
| SC | 0.8 |
| | |



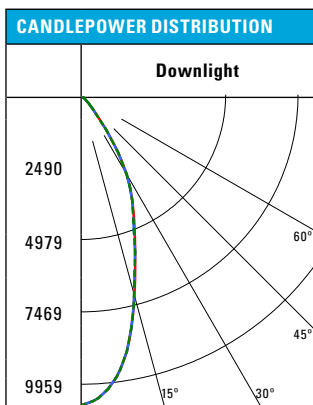
| CONE OF LIGHT | | | | |
|---------------|-------|------|------|--|
| | | | | |
| MH | FC | L | W | |
| 4' | 449.8 | 3.2 | 3.2 | |
| 7' | 146.9 | 5.6 | 5.6 | |
| 9' | 88.8 | 7.2 | 7.2 | |
| 13' | 42.6 | 10.4 | 10.4 | |
| 16' | 28.1 | 12.8 | 12.8 | |

| CANDELA TABLE | |
|------------------|---------|
| Degrees Vertical | Candela |
| 0 | 7197 |
| 5 | 7141 |
| 15 | 5914 |
| 25 | 3883 |
| 35 | 1774 |
| 45 | 244 |
| 55 | 16 |
| 65 | 2 |
| 75 | 1 |
| 85 | 0 |
| 90 | 0 |

| ZONAL LUMEN SUMMARY | | |
|---------------------|--------|-----------|
| Zone | Lumens | % Fixture |
| 0-30 | 4078 | 75.2 |
| 0-40 | 5174 | 95.4 |
| 0-60 | 5422 | 99.9 |
| 0-90 | 5426 | 100 |
| 90-180 | 0 | 0 |
| 0-180 | 5426 | 100 |

| LUMINANCE | |
|-------------------------|----------------------|
| Average Candela Degrees | Average 0° Luminance |
| 45 | 10619 |
| 55 | 887 |
| 65 | 175 |
| 75 | 143 |
| 85 | 0 |

| MEDIUM (40° BEAM) | |
|-------------------|------------|
| Test Number | |
| Housing | LD8B50D010 |
| Module | ER8B50835 |
| Trim | 8LBM0LI |
| Lumens | 5711 |
| Efficacy | 107.8 Lm/W |
| SC | 0.63 |
| | |



| CONE OF LIGHT | | | | |
|---------------|-------|-----|-----|--|
| | | | | |
| MH | FC | L | W | |
| 4' | 622.7 | 2.4 | 2.4 | |
| 7' | 203.3 | 4.4 | 4.4 | |
| 9' | 123 | 5.6 | 5.6 | |
| 13' | 59 | 8 | 8 | |
| 16' | 38.9 | 10 | 10 | |

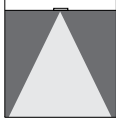
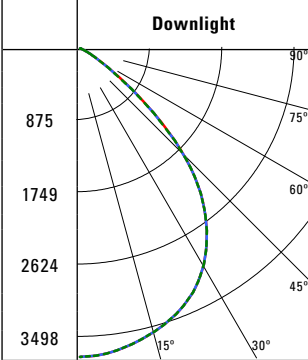
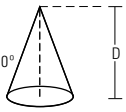
| CANDELA TABLE | |
|------------------|---------|
| Degrees Vertical | Candela |
| 0 | 9963 |
| 5 | 9498 |
| 15 | 6587 |
| 25 | 3908 |
| 35 | 1559 |
| 45 | 219 |
| 55 | 27 |
| 65 | 7 |
| 75 | 2 |
| 85 | 0 |
| 90 | 0 |


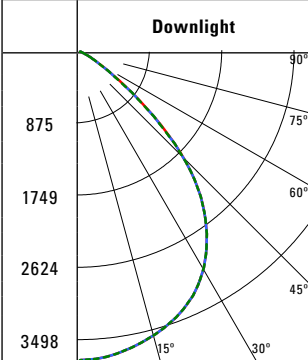
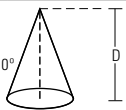
| ZONAL LUMEN SUMMARY | | |
|---------------------|--------|-----------|
| Zone | Lumens | % Fixture |
| 0-30 | 4491 | 78.6 |
| 0-40 | 5481 | 96 |
| 0-60 | 5702 | 99.8 |
| 0-90 | 5711 | 100 |
| 90-180 | 0 | 0 |
| 0-180 | 5711 | 100 |

| LUMINANCE | |
|-------------------------|----------------------|
| Average Candela Degrees | Average 0° Luminance |
| 45 | 9546 |
| 55 | 1435 |
| 65 | 518 |
| 75 | 214 |
| 85 | 0 |

Photometric Data

[View IES files](#)

| SHALLOW (86° BEAM) | CANDLEPOWER DISTRIBUTION | CONE OF LIGHT | CANDELA TABLE | ZONAL LUMEN SUMMARY | LUMINANCE | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|--|---|--|---------------|---------------------|-----------|---|----|-------|-----|-----|----|------|-----|-----|----|------|------|------|-----|------|------|------|-----|------|----|----|--|------------------|---------|---|------|---|------|----|------|----|------|----|------|----|------|----|-----|----|----|----|----|----|---|----|---|--|------|--------|-----------|------|------|------|------|------|------|------|------|------|------|------|-----|--------|---|---|-------|------|-----|---|-------------------------|----------------------|----|-------|----|-------|----|------|----|------|----|------|
| Test Number Housing LD8B50D010 Module ER8B50835 Trim 8LBS0H Lumens 6035 Efficacy 113.9 Lm/W SC 1.2  | Downlight  |  <table border="1"> <thead> <tr> <th>MH</th> <th>FC</th> <th>L</th> <th>W</th> </tr> </thead> <tbody> <tr><td>4'</td><td>218.9</td><td>4.6</td><td>4.6</td></tr> <tr><td>7'</td><td>71.5</td><td>8.2</td><td>8.2</td></tr> <tr><td>9'</td><td>43.2</td><td>10.6</td><td>10.6</td></tr> <tr><td>13'</td><td>20.7</td><td>15.4</td><td>15.4</td></tr> <tr><td>16'</td><td>13.7</td><td>19</td><td>19</td></tr> </tbody> </table> | MH | FC | L | W | 4' | 218.9 | 4.6 | 4.6 | 7' | 71.5 | 8.2 | 8.2 | 9' | 43.2 | 10.6 | 10.6 | 13' | 20.7 | 15.4 | 15.4 | 16' | 13.7 | 19 | 19 | <table border="1"> <thead> <tr> <th>Degrees Vertical</th> <th>Candela</th> </tr> </thead> <tbody> <tr><td>0</td><td>3502</td></tr> <tr><td>5</td><td>3477</td></tr> <tr><td>15</td><td>3322</td></tr> <tr><td>25</td><td>3056</td></tr> <tr><td>35</td><td>2525</td></tr> <tr><td>45</td><td>1630</td></tr> <tr><td>55</td><td>459</td></tr> <tr><td>65</td><td>84</td></tr> <tr><td>75</td><td>18</td></tr> <tr><td>85</td><td>4</td></tr> <tr><td>90</td><td>0</td></tr> </tbody> </table> | Degrees Vertical | Candela | 0 | 3502 | 5 | 3477 | 15 | 3322 | 25 | 3056 | 35 | 2525 | 45 | 1630 | 55 | 459 | 65 | 84 | 75 | 18 | 85 | 4 | 90 | 0 | <table border="1"> <thead> <tr> <th>Zone</th> <th>Lumens</th> <th>% Fixture</th> </tr> </thead> <tbody> <tr><td>0-30</td><td>2670</td><td>44.2</td></tr> <tr><td>0-40</td><td>4240</td><td>70.2</td></tr> <tr><td>0-60</td><td>5920</td><td>98.1</td></tr> <tr><td>0-90</td><td>6035</td><td>100</td></tr> <tr><td>90-180</td><td>0</td><td>0</td></tr> <tr><td>0-180</td><td>6035</td><td>100</td></tr> </tbody> </table> | Zone | Lumens | % Fixture | 0-30 | 2670 | 44.2 | 0-40 | 4240 | 70.2 | 0-60 | 5920 | 98.1 | 0-90 | 6035 | 100 | 90-180 | 0 | 0 | 0-180 | 6035 | 100 | <table border="1"> <thead> <tr> <th>Average Candela Degrees</th> <th>Average 0° Luminance</th> </tr> </thead> <tbody> <tr><td>45</td><td>71087</td></tr> <tr><td>55</td><td>24682</td></tr> <tr><td>65</td><td>6100</td></tr> <tr><td>75</td><td>2121</td></tr> <tr><td>85</td><td>1274</td></tr> </tbody> </table> | Average Candela Degrees | Average 0° Luminance | 45 | 71087 | 55 | 24682 | 65 | 6100 | 75 | 2121 | 85 | 1274 |
| MH | FC | L | W | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 4' | 218.9 | 4.6 | 4.6 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 7' | 71.5 | 8.2 | 8.2 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 9' | 43.2 | 10.6 | 10.6 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 13' | 20.7 | 15.4 | 15.4 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 16' | 13.7 | 19 | 19 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Degrees Vertical | Candela | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 0 | 3502 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 5 | 3477 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 15 | 3322 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 25 | 3056 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 35 | 2525 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 45 | 1630 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 55 | 459 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 65 | 84 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 75 | 18 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 85 | 4 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 90 | 0 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Zone | Lumens | % Fixture | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 0-30 | 2670 | 44.2 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 0-40 | 4240 | 70.2 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 0-60 | 5920 | 98.1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 0-90 | 6035 | 100 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 90-180 | 0 | 0 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 0-180 | 6035 | 100 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Average Candela Degrees | Average 0° Luminance | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 45 | 71087 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 55 | 24682 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 65 | 6100 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 75 | 2121 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 85 | 1274 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

| SHALLOW (86° BEAM) | CANDLEPOWER DISTRIBUTION | CONE OF LIGHT | CANDELA TABLE | ZONAL LUMEN SUMMARY | LUMINANCE | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|--|--|---------------|---------------------|-----------|---|----|-------|---|---|----|------|-----|-----|----|------|------|------|-----|------|------|------|-----|------|------|------|---|------------------|---------|---|------|---|------|----|------|----|------|----|------|----|------|----|-----|----|----|----|---|----|---|----|---|--|------|--------|-----------|------|------|------|------|------|------|------|------|------|------|------|-----|--------|---|---|-------|------|-----|---|-------------------------|----------------------|----|-------|----|-------|----|------|----|-----|----|-----|
| Test Number Housing LD8B50D010 Module ER8B50835 Trim 8LBS0LI Lumens 6206 Efficacy 117.1 Lm/W SC 1.28  | Downlight  |  <table border="1"> <thead> <tr> <th>MH</th> <th>FC</th> <th>L</th> <th>W</th> </tr> </thead> <tbody> <tr><td>4'</td><td>216.3</td><td>5</td><td>5</td></tr> <tr><td>7'</td><td>70.6</td><td>8.8</td><td>8.8</td></tr> <tr><td>9'</td><td>42.7</td><td>11.4</td><td>11.4</td></tr> <tr><td>13'</td><td>20.5</td><td>16.6</td><td>16.6</td></tr> <tr><td>16'</td><td>13.5</td><td>20.4</td><td>20.4</td></tr> </tbody> </table> | MH | FC | L | W | 4' | 216.3 | 5 | 5 | 7' | 70.6 | 8.8 | 8.8 | 9' | 42.7 | 11.4 | 11.4 | 13' | 20.5 | 16.6 | 16.6 | 16' | 13.5 | 20.4 | 20.4 | <table border="1"> <thead> <tr> <th>Degrees Vertical</th> <th>Candela</th> </tr> </thead> <tbody> <tr><td>0</td><td>3460</td></tr> <tr><td>5</td><td>3462</td></tr> <tr><td>15</td><td>3498</td></tr> <tr><td>25</td><td>3343</td></tr> <tr><td>35</td><td>2681</td></tr> <tr><td>45</td><td>1591</td></tr> <tr><td>55</td><td>418</td></tr> <tr><td>65</td><td>57</td></tr> <tr><td>75</td><td>5</td></tr> <tr><td>85</td><td>2</td></tr> <tr><td>90</td><td>0</td></tr> </tbody> </table> | Degrees Vertical | Candela | 0 | 3460 | 5 | 3462 | 15 | 3498 | 25 | 3343 | 35 | 2681 | 45 | 1591 | 55 | 418 | 65 | 57 | 75 | 5 | 85 | 2 | 90 | 0 | <table border="1"> <thead> <tr> <th>Zone</th> <th>Lumens</th> <th>% Fixture</th> </tr> </thead> <tbody> <tr><td>0-30</td><td>2850</td><td>45.9</td></tr> <tr><td>0-40</td><td>4513</td><td>72.7</td></tr> <tr><td>0-60</td><td>6132</td><td>98.8</td></tr> <tr><td>0-90</td><td>6206</td><td>100</td></tr> <tr><td>90-180</td><td>0</td><td>0</td></tr> <tr><td>0-180</td><td>6206</td><td>100</td></tr> </tbody> </table> | Zone | Lumens | % Fixture | 0-30 | 2850 | 45.9 | 0-40 | 4513 | 72.7 | 0-60 | 6132 | 98.8 | 0-90 | 6206 | 100 | 90-180 | 0 | 0 | 0-180 | 6206 | 100 | <table border="1"> <thead> <tr> <th>Average Candela Degrees</th> <th>Average 0° Luminance</th> </tr> </thead> <tbody> <tr><td>45</td><td>69395</td></tr> <tr><td>55</td><td>22488</td></tr> <tr><td>65</td><td>4159</td></tr> <tr><td>75</td><td>631</td></tr> <tr><td>85</td><td>637</td></tr> </tbody> </table> | Average Candela Degrees | Average 0° Luminance | 45 | 69395 | 55 | 22488 | 65 | 4159 | 75 | 631 | 85 | 637 |
| MH | FC | L | W | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 4' | 216.3 | 5 | 5 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 7' | 70.6 | 8.8 | 8.8 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 9' | 42.7 | 11.4 | 11.4 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 13' | 20.5 | 16.6 | 16.6 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 16' | 13.5 | 20.4 | 20.4 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Degrees Vertical | Candela | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 0 | 3460 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 5 | 3462 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 15 | 3498 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 25 | 3343 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 35 | 2681 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 45 | 1591 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 55 | 418 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 65 | 57 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 75 | 5 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 85 | 2 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 90 | 0 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Zone | Lumens | % Fixture | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 0-30 | 2850 | 45.9 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 0-40 | 4513 | 72.7 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 0-60 | 6132 | 98.8 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 0-90 | 6206 | 100 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 90-180 | 0 | 0 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 0-180 | 6206 | 100 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Average Candela Degrees | Average 0° Luminance | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 45 | 69395 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 55 | 22488 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 65 | 4159 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 75 | 631 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 85 | 637 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

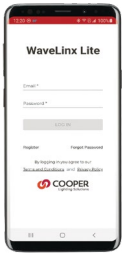
| Nominal Scaling From 80 CRI 3500K | | |
|-----------------------------------|------|------------|
| CRI | CCT | Lumen Mult |
| 80 | 2700 | 0.938 |
| 80 | 3000 | 0.962 |
| 80 | 3500 | 1.000 |
| 80 | 4000 | 0.993 |
| 80 | 5000 | 1.013 |
| 90 | 2700 | 0.784 |
| 90 | 3000 | 0.826 |
| 90 | 3500 | 0.853 |
| 90 | 4000 | 0.891 |
| 90 | 5000 | 0.922 |
| 97 | 2700 | 0.696 |
| 97 | 3000 | 0.737 |

| Nominal Scaling From 5000 lumen package | |
|---|------------|
| LUMEN PACKAGE | LUMEN MULT |
| 1000 LUMEN | 0.207 |
| 1500 LUMEN | 0.280 |
| 2000 LUMEN | 0.398 |
| 3000 LUMEN | 0.562 |
| 4000 LUMEN | 0.799 |
| 5000 LUMEN | 1.000 |
| 6000 LUMEN | 1.133 |
| 7000 LUMEN | 1.368 |
| 8000 LUMEN | 1.535 |
| 9000 LUMEN | 1.729 |
| 10,000 LUMEN | 1.994 |
| 12,000 LUMEN | 2.261 |
| 15,000 LUMEN | 2.949 |
| 17,500 LUMEN | 3.329 |
| 20,000 LUMEN | 3.924 |

Connected Systems

WaveLinx LITE - WLST Tilemount Sensor

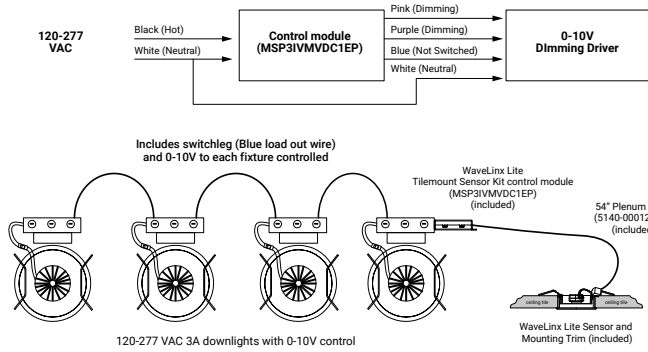
WaveLinx LITE devices only compatible with the WaveLinx LITE system.



- Intuitive Android™ or Apple® iOS® app for basic system code compliant set up and configuration via Bluetooth
- Up to 28 unique areas per project site (WaveLinx LITE Bluetooth network)
- Up to 50 devices for an area, any one of 16 control zones, up to 6 occupancy sets, and custom lighting scenes
- Automatic occupancy or vacancy, sensor sensitivity, daylight dimming, etc. configurable through the app
- Refer to the WaveLinx system specifications for details



WaveLinx LITE WLST Tilemount Wiring Diagram



WaveLinx LITE Bluetooth Enabled System



WaveLinx PRO Wireless – WPST Tilemount Sensor

WaveLinx PRO devices only compatible with the WaveLinx PRO system.



- WaveLinx PRO Wireless functionality configures zones and customizes settings from one secure mobile app
- Automatic code commissioning that meets the strictest codes
- Fixtures and sensors integrate with Wireless Area Controller, Wall Stations, and Control Devices
- Stand-Alone Offices or Entire Building Network Installations

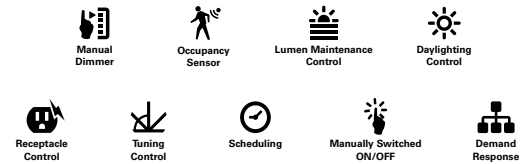
Downlights with tilemount sensor wireless communication
Highly efficient LED fixtures

WaveLinx Area Controller
Provides centralized coordination of multiple area control options

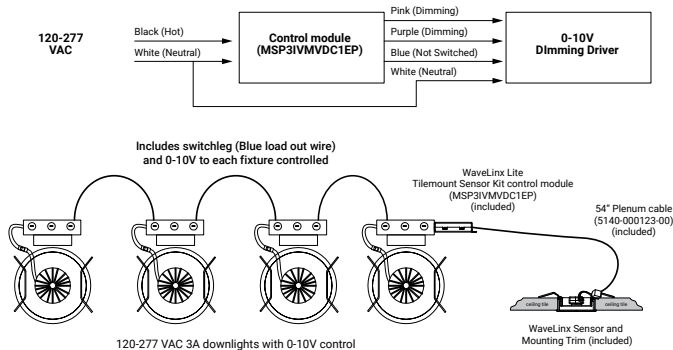
Wireless Wall Station/Receptacle
Provides customized wireless control of each area

Mobile Applications
Provides personalized, local control from a tablet or smartphone

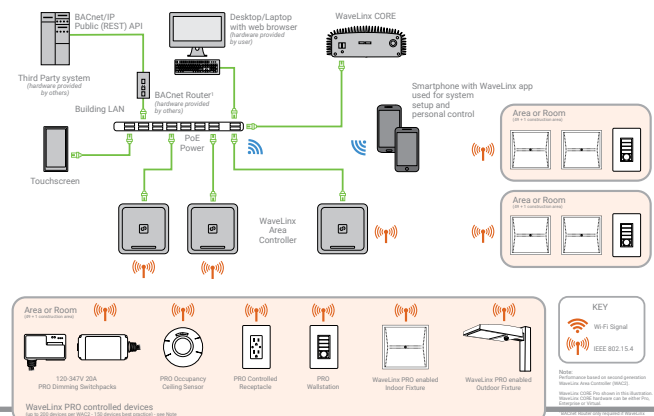
WaveLinx mobile app settings



WaveLinx PRO WPST Tilemount Wiring Diagram



WaveLinx CORE Building Management Integration



Connected Solutions



WaveLinX LITE Wireless Node - WLN

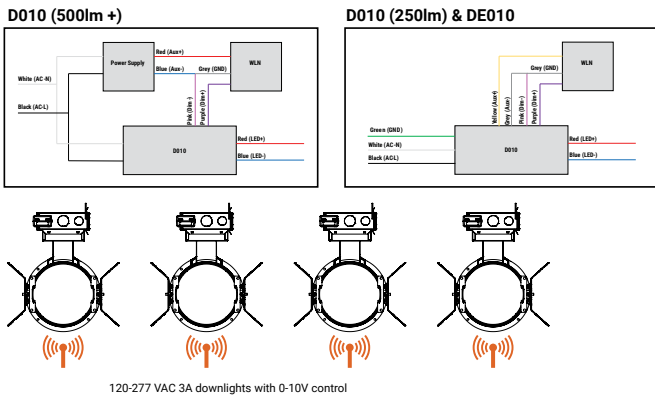
WaveLinX LITE devices only compatible with the WaveLinX LITE system.

- Intuitive Android™ or Apple® iOS® app for basic system code compliant set up and configuration via Bluetooth
- Up to 28 unique areas per project site (WaveLinX LITE Bluetooth network)
- Up to 50 devices for an area, any one of 16 control zones, up to 6 occupancy sets, and custom lighting scenes
- Refer to the WaveLinX system specifications for details
- Not available with BioUp or Tunable White

WaveLinX mobile app settings



WaveLinX LITE Wireless Node (WLN) Wiring Diagram



WaveLinX LITE Bluetooth Enabled System

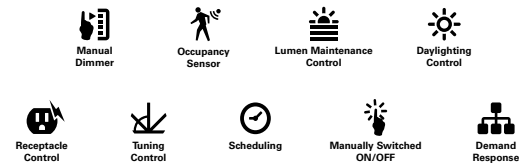


WaveLinX PRO Wireless Node - WPN

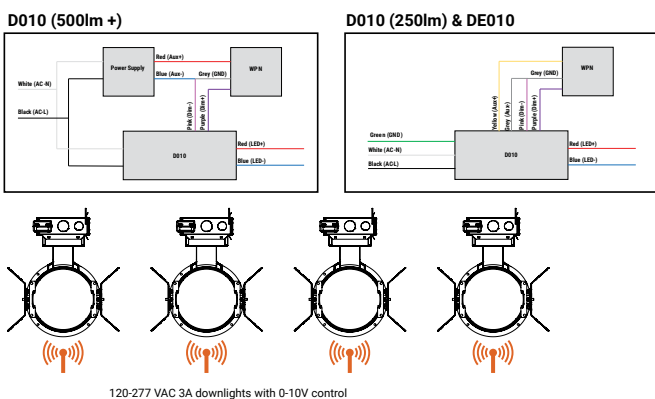
WaveLinX PRO devices only compatible with the WaveLinX PRO system.

- WaveLinX Wireless functionality configures zones and customizes settings from one secure mobile app
- Automatic code commissioning that meets the strictest codes
- Fixtures and sensors integrate with WaveLinX Area Controller, Wall Stations, and Control Devices
- Stand-Alone Offices or Entire Building Network Installations

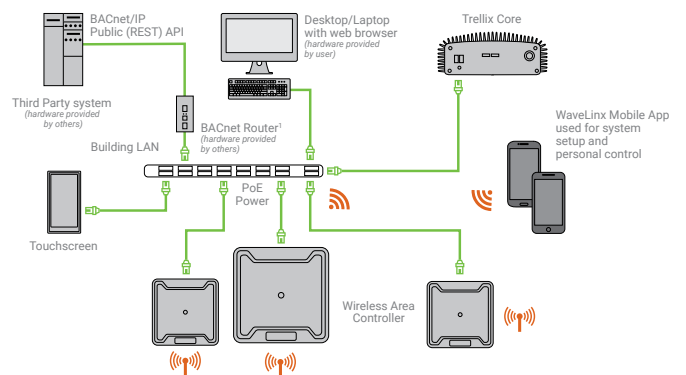
WaveLinX mobile app settings



WaveLinX PRO Wireless Node (WPN) Wiring Diagram



WaveLinX CORE Building Management Integration



Proven Research. Industry Recognized.

BioUp Melanopic Lighting



See better



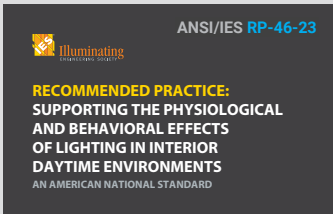
Feel better



Function better



See [BioUp brochure](#) for more details

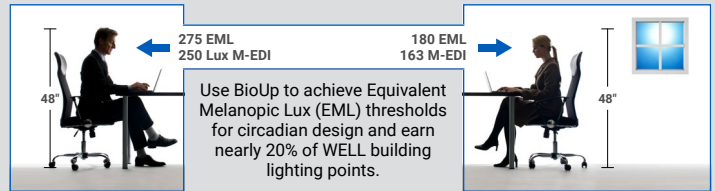


ANSI/IES RP-46-23 / TM18 published March 2024 based on over 40 years of research.

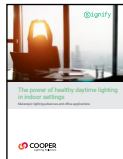
"...circadian clock synchronization is paramount to the body's efficient and appropriate functioning." – TM18



BioUp solutions maximize WELL points for Circadian Lighting Design (L03):



MDER, M-EDI and **EML** are key metrics used to quantify non-visual performance of indoor lighting systems.



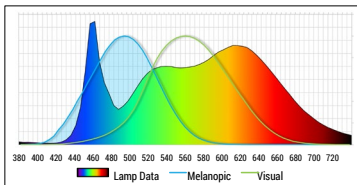
See [BioUp white paper](#) for more details

30% boost Biological impact compared to traditional LED sources

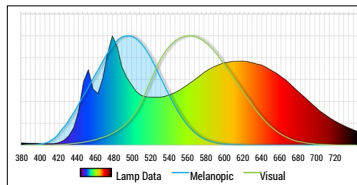
| CCT | LED @ ~83 CRI | BioUp Static | | BioUp Dynamic | |
|-------|---------------|--------------|-----|---------------|-----|
| | | MDER | CRI | MDER | CRI |
| 2700K | 0.45 | - | - | 0.43 | 95 |
| 3000K | 0.50 | - | - | 0.57 | 94 |
| 3500K | 0.57 | 0.71 | 90 | 0.71 | 90 |
| 4000K | 0.65 | 0.84 | 87 | 0.84 | 87 |
| 5000K | 0.79 | 1.00 | 84 | 1.00 | 84 |

MDER - Melanopic Daylight Efficacy Ratio (MDER) measures the amount of light stimulating to the melanopsin receptors.

Standard 4000K LED
MDER = .62



BioUp 4000K LED
MDER = .82

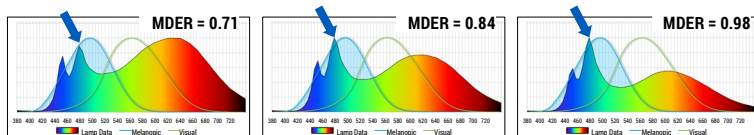


BioUp enhances the LED spectrum with cyan light at 475nm increasing the biological impact of the light to enhance our circadian rhythm which regulates our sleep/wake cycle, daytime engagement, and mood – *all without distorting visual color impression.*

Static (non-tunable)

Static BioUp is used when simple Melanopic Lighting is desired at all times.

Arrow in graph shows BioUp spectrum boost is at 475nm where non-visual biological response is enhanced.



3500K or **4000K** or **5000K**

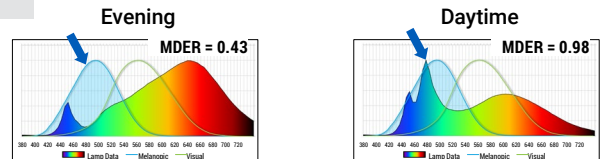
Cyan light component always present



> no CCT control needed

Dynamic - (Tunable)

Dynamic BioUp is used when Melanopic Lighting is desired to adjust during the day.



Warmer CCT Without Cyan content ← → Cooler Light With Cyan content

2700K – 5000K



> Control with Wavelinx, 2ch 0-10V, or DALI