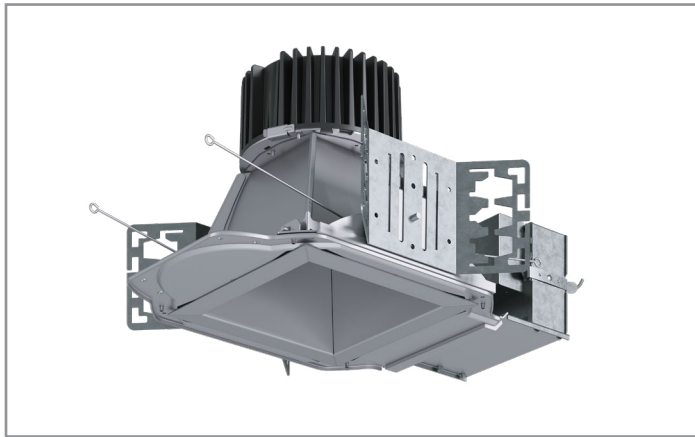


Project		Catalog #		Type	
Prepared by		Notes		Date	



## Portfolio

### LDSQ4D | EU4D | 4LBSQ VividTune and BioUp

4" Square, New Construction Downlight  
with High Center Beam Optics  
Tunable White BioUp and dim to warm  
800-3500 Lumens

**Typical Applications** Office • Education • Healthcare • Hospitality •  
Retail • Code-Compliance Areas • Sports Venues

#### Interactive Menu

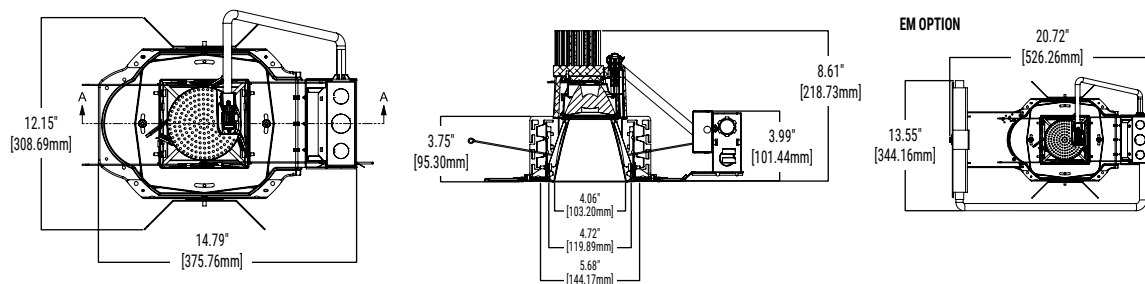
- Order Information [page 2](#)
- Product Specifications [page 4](#)
- Energy Data [page 6](#)
- Connected System [page 7](#)
- Product Warranty



### Top Product Features

- 800-3500 lumens; ENERGY STAR® qualified
- Precision interchangeable optics
- Optional snap in driver for ease of replacement; Die-cast or anodized aluminum reflectors
- Standard 0-10V driver dims to 1%; Easy disconnect for LED engine replacement and installation
- D2W™ option from 3000K to 1850K
- Tunable White CCT range: W2N = 2700K to 6500K or 2000K to 5000K / BioUp = 2700K to 5000K

### Dimensional and Mounting Details



[CLICK HERE](#)  
dimension information

## Single Line Order Information

SAMPLE ORDER NUMBER: **LDSQ4D10R25DE010W2N2765**

Invoice will indicate separate fixture components (housing, trim, module) which will ship complete from a single CLS facility in separate cartons.

To receive separate components (housing, trim, module) shipment, click on the "Multi-Line Ordering Information Option" button to the right.

Multi-line Ordering  
Information Option

Housing	Lumen <sup>(1)</sup>	Optic	Color Control	CCT <sup>(20)</sup>
<b>LDSQ4D</b> =LED Square Downlight 4" Nominal Aperture <b>LDSQ4DCP</b> =LED Square Downlight 4" Nominal Aperture, Chicago Plenum	<b>08</b> =800 lumens <sup>(27)</sup> <b>10</b> =1000 Lumens <sup>(28)</sup> <b>15</b> =1500 Lumens <b>20</b> =2000 Lumens <b>25</b> =2500 Lumens <b>30</b> =3000 Lumens <sup>(10)</sup> <b>35</b> =3500 lumens <sup>(10)</sup>	<b>R25</b> =25° <b>R30</b> =30° <b>R35</b> =35° <b>R40</b> =40° <b>R45</b> =45° <b>R50</b> =50° <b>R55</b> =55° <b>R60</b> =60° <b>R65</b> =65° <b>R70</b> =70°	<b>D2W</b> =Dim to warm for 800-2500 lumens; 90CRI, 1850K-3000K <b>W2N2765</b> =Tunable White for 1000-3500 lumens, 2700K-6500K (D5LT & DE010 drivers only), 90CRI <b>W2N2050</b> =Tunable White for 1000-3500 lumens, 2000K-5000K (D5LT & DE010 drivers only), 90CRI <b>B2750</b> =BioUp 2700K-5000K, 800-2500 lumens (D5LT & DE010 drivers only) <b>B</b> =BioUp static CCT, for use with 3500K, 4000K and 5000K, 800-2500 lumens (D5LT & DE010 drivers only)	<b>Static BioUp</b> <b>35</b> =3500K <b>40</b> =4000K <b>50</b> =5000K

Voltage	Driver	Driver Options	Hanger Bars
<b>Dim-to Warm</b> <b>Blank</b> =120-277V 800 lumens <b>1</b> =120V 1000-2500 lumens <b>2</b> =277V 1000 to 2500 lumens <b>3</b> =347V (D010 driver 800-2500 lumens) Limited to 800 lumens with remote driver	<b>Dim-to Warm</b> <b>D010</b> =0-10V 1% dimming <b>D010TR</b> =0-10V or (120V) phase cut 1% dimming <b>DE010</b> =0-10V linear 0.1% dimming <b>D5LT</b> =DALI T6 Logarithmic 0.1% Dimming <b>DMX</b> =DMX/RDM Logarithmic 0.1% Dimming <sup>(14)</sup> <b>DMXC5</b> =DMX/RDM Logarithmic 0.1 % Dimming with RJ45 connection <sup>(14)</sup> <b>DLE</b> =Lutron Ecosystem 1-100% dimming <b>DLVP</b> =Low voltage dimming 1-100% for use with DLVP system <sup>(3)</sup>	<b>Blank</b> =Integral driver <b>RD100</b> =Remote 100ft <sup>(3)</sup> <sup>(33)</sup> <b>RD75</b> =Remote 75ft <sup>(3)</sup> <sup>(33)</sup> <b>RD50</b> =Remote 50ft <sup>(3)</sup> <sup>(33)</sup> <b>RD25</b> =Remote 25ft <sup>(3)</sup> <b>RD15</b> =Remote 15ft <sup>(3)</sup> <b>RD5</b> =Remote 5ft <sup>(3)</sup> <b>RD2</b> =Remote 2ft <sup>(3)</sup> <b>PD</b> =Plug in Driver	<b>Blank</b> =Without hanger bars <b>B26</b> =C-channel Bar Hanger, 26" Long, Pair
<b>Tunable White</b> <b>Blank</b> =1000 lumens <b>1</b> =120V 1500-3500 lumens <b>2</b> =277V 1500-3500 lumens <b>3</b> =347V Step down transformer (Limited to 1000 lumens with remote driver)	<b>Tunable White</b> <b>DE010W2N2765</b> =0-10V 0.1% Dimming, 2700-6500K <b>DE010W2N2050</b> =0-10V 0.1% Dimming, 2000-5000K <b>D5LTW2N2765</b> =DALI T6 0.1% Dimming, 2700-6500K <b>D5LTW2N2050</b> =DALI T6 0.1% Dimming, 2000-5000K		
<b>BioUp Tunable White</b> <b>Blank</b> =800 lumens <b>1</b> =120V 1000-2500 lumens <b>2</b> =277V 1000-2500 lumens <b>3</b> =347V Step down transformer (Limited to 800 lumens with remote driver)	<b>BioUp Tunable White</b> <b>DE010B2750</b> =0-10V 0.1% dimming, tunable white 2700-6500K <b>DE010B35</b> = 0-10V 0.1% dimming, static white 3500K <b>DE010B40</b> = 0-10V 0.1% dimming, static white 4000K <b>DE010B50</b> = 0-10V 0.1% dimming, static white 5000K <b>D5LTB2750</b> =DALI T6 0.1% dimming, tunable white 2700-6500K <b>D5LTB35</b> = DALI T6 0.1% dimming, static white 3500K <b>D5LTB40</b> = DALI T6 0.1% dimming, static white 4000K <b>D5LTB50</b> = DALI T6 0.1% dimming, static white 5000K		

Trim Distribution <sup>(9)</sup>	Trim Flange	Trim Finish	Options <sup>(9)</sup> <sup>(16)</sup> <sup>(31)</sup>
<b>SQW</b> = Medium beam 45° cutoff Anodized Aluminum <b>CSSQ</b> =Cast Shallow Square, Die Cast Aluminum	<b>0</b> =White Polymer Trim Ring <b>1</b> =Self-flanged <sup>(13)</sup> <b>2</b> =White Painted Self-flanged <b>4</b> =Knife edge rimless use with die cast only <sup>(8)</sup> <sup>(23)</sup>	<b>LI</b> =Specular Clear <sup>(9)</sup> <b>H</b> =Semi-Specular Clear <sup>(9)</sup> <b>WMH</b> =Warm Haze <sup>(9)</sup> <b>WH</b> =Wheat <sup>(9)</sup> <b>GPH</b> =Graphite Haze <sup>(9)</sup> <b>B</b> =Specular Black <sup>(9)</sup> <b>MW</b> =Matte White (Antimicrobial) <b>MB</b> =Matte Black <sup>(9)</sup> <b>MMS</b> =Matte Metallic Silver <sup>(8)</sup>	<b>EMBOD</b> =Bodine® Emergency Module with Remote Test Switch <sup>(25)</sup> <b>EMBOD6ST</b> =Bodine® 6W Self Test Emergency Module with Remote Test Switch <b>EM7</b> =7W Emergency Module with Remote Test Switch <b>EM14</b> =14W Emergency Module with Remote Test Switch <b>EM14RSD</b> =14W Self Diagnostic Replaceable Emergency Battery Pack with Integral Test Switch <b>EMBOD7ST</b> =Bodine® Self Test Emergency Module <sup>(25)</sup> <b>IEMBOD</b> =Bodine® Emergency Module with Integral Test Switch <sup>(6)</sup> <sup>(25)</sup> <b>IEM7</b> =7W Emergency Module with Integral Test Switch <sup>(6)</sup> <b>IEM14</b> =14W Emergency Module with Integral Test Switch <sup>(6)</sup> <b>IEM14RSD</b> =14W Self Diagnostic Replaceable Emergency Battery Pack with Remote Test Switch <sup>(6)</sup> <b>IEMBOD6ST</b> =Bodine® 6W Self Test Emergency Module with Integral Test Switch <b>EMV7</b> =7W Low Voltage Emergency Module with Remote Test Switch <sup>(4)</sup> <b>EMV14</b> =14W Low Voltage Emergency Module with Remote Test Switch <sup>(4)</sup> <b>ETRD</b> =Emergency transfer device <sup>(92)</sup> <b>WPST</b> = Factory installed WaveLinx (includes control module, sensor, cable, tilemount and ceiling mount sensor) <sup>(15)</sup> <sup>(18)</sup> <b>WLST</b> = Factory installed WaveLinx LITE Sensor Kit <sup>(15)</sup> <sup>(17)</sup> <b>WLN</b> = WaveLinx LITE Wireless Node without sensor <sup>(25)</sup> <sup>(35)</sup> <b>WPN</b> = WaveLinx PRO Wireless Node without sensor

Accessories (Sold separately) <sup>(22)</sup>

<b>PRSQ4</b> =Rimless Plaster Ring <sup>(2)</sup> <b>RKPSQ4</b> =Knife Edge plaster Ring <sup>(24)</sup>  <b>RPMSQ4MW</b> =Rimless Millwork Ring, Matte White <sup>(2)</sup> <b>RPMSQ4MB</b> =Rimless Millwork Ring, Matte Black <sup>(2)</sup> <b>RKMSQ4MW</b> =Knife Edge Millwork Ring, Matte White <sup>(24)</sup> <b>RKMSQ4MB</b> =Knife Edge Millwork Ring, Matte Black <sup>(24)</sup>	<b>Connected Lighting Systems</b> <sup>(15)</sup> <sup>(16)</sup> <sup>(31)</sup> <b>WPST</b> =Field installed WaveLinx sensor Kit <sup>(18)</sup> <b>WLST</b> =Field installed WaveLinx LITE Sensor Kit <sup>(17)</sup>  <b>Bar Hangers</b> <b>HB50</b> =C-channel Bar Hanger, 50" Long, Pair <b>RMB22</b> =Wood Joist Bar Hanger, 22" Long, Pair	<b>Transformers</b> <b>H347</b> =H347 for all selections
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## Notes:

- Nominal Lumens will vary depending on selected color. Reference IES files.
- Order trim with polymer trim ring (Consult specification sheet for color ordering information and options).
- Not available with Chicago Plenum.
- ULus listed only
- Available with SQW 45 degree trims. Required for use with all IEMBOD, IEM7, IEM14, IEMV7 and IEMV14 housings. Not offered with remote driver.
- Only available with Matte White and Matte Black Finishes.
- Available only on CS distributions.
- Not available on CS or BA distributions.
- Product is marked spacing. [Reference table on page 4.](#)

- Flange is the same finish as the reflector
- DMX fixtures default to full on upon loss of DMX signal.
- Refer to system specifications for additional information, features, and benefits. Order either factory installed option or accessory. Use with 0-10V driver.
- Non-IC
- WLST=WaveLinx LITE tilemount sensor kit for daylight dimming, PIR motion sensing, use with D010 only (Refer to WaveLinx LITE system specifications)
- WPST=WaveLinx wireless sensor kit for daylight dimming, PIR motion sensing, and optional RLTS - Real Time Location Services, use with 0-10V only.
- Not required for W2N and D2W.

- 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.
- Accessories sold separately will be separately analyzed under domestic preference requirements. Consult factory for further information.
- Accessory (Requires knife edge accessory ring)
- Order die cast trim with flange type 4
- Not available for W2N
- IC rated
- Tunable white IC rated with 1000 lumens
- 120V-277V

- Used to bypass local control during outage. Must be used in conjunction with UL 1008 device (provided by others)
- Not available with Lutron drivers
- 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 0-10V driver only.

## Product Specifications

### Lower Shielding Reflector

- Painted die cast aluminum shallow reflector or anodized aluminum reflector with 45° cutoff.
- Anodized reflectors are offered in all Portfolio finishes.
- Reflector is retained with two torsion springs holding the flange tight to the finished ceiling surface.
- Plaster lathing ring, knife edge and millwork ring accessory for flush reflector transition

### Optic

- Interchangeable silicone optic in 5° increments from 10°-70° providing smooth beam without color separation
- Elliptical beams
- Available media holder fits onto optic holder and holds up to two lens media

### Trim Retention

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

### Plaster Frame/Collar

- Galvanized steel plaster frame with adjustable collar adjusts for up to 2" thick ceilings and rotates +/- 7.5°.

### Universal Mounting Bracket

- Accepts 1/2" Electric Metallic Tube (EMT), C-channel and bar hangers
- Adjusts 5" vertically from above and below the ceiling

### Junction box

- Four 1/2" and two 3/4" trade size pry outs positioned to allow straight conduit runs
- Lever connectors for simple push in wiring
- Listed for (4) #12 AWG (two in, two out) 90°C conductors and feed thru branch wiring for type IC and Plug in drivers for 120/277V only. For all other cases (8) #12 AWG (four in, four out) 90°C conductors and feed thru branch wiring for 120/277V only

### 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 convex transitional lens producing even distribution without pixilation
- Auto resetting, thermally protected, LED's are turned off when safe operating temperatures are exceeded
- Quick disconnect allows for tool-less replacement of LED engine from below ceiling

### Vividtune and BioUp (Available Option)

- W2N: L70 55,000 hours
- D2W™ – dim-to-warm shifts CCT from 3000K to 1850K as fixture dims mimicking halogen sources.
- W2N - Tunable white CCT range 2700K to 6500K or 2000K to 5000K, 90 CRI. Standard
- 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

- Standard 120-277V 0-10V dimming driver provides flicker free dimming from 100% to 1%
- Optional 120V leading edge/0-10V, <1% 0-10V, Fifth Light, DMX or Lutron® Ecosystem
- Driver can be serviced from above or through the aperture
- Distributed low voltage power system combines power, lighting, and controls with ease of installation.
- Optional magnetically guided snap in driver for ease of maintenance.

### Emergency Option

- Provides 90 minutes of standby lighting, meeting most life safety codes for egress lighting
- Available with integral or remote charge indicator and test switch
- Available Self-Test with remote charge indicator and test switch
- Emergency transfer device (ETRD) senses the loss of power regardless of local control settings allowing emergency power to the fixture.
- UL 924 listed

### 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.**

#### Code Compliance

- Thermally protected
- cULus Certified to UL 1598 / C22.2 No. 250.0 suitable for damp locations with covered ceiling
- Optional City of Chicago environmental air (CCEA) marking for plenum applications
- FCC CFR Title 47 Part 15 Class B at 120VAC and Class A at 277VAC
- Insulated ceiling (IC) rated up to 800 lumens (98 CRI & D2W); 1000 lumens (W2N). All others are non-IC rated (insulation must be kept 3" from top and sides of housing).
- Can be used for State of California Title 24 high efficacy LED compliance under JA8, reference Modernized Appliance Efficiency Database System (MAEDBS) for 2016 JA8 High Efficacy Lighting
- RoHS compliant
- Photometric testing completed in accordance with IES LM-79
- LED life testing completed in accordance with IES LM-80-08 and TM-21-11 standards
- See table on page 3 for marked spacing requirements

#### Warranty

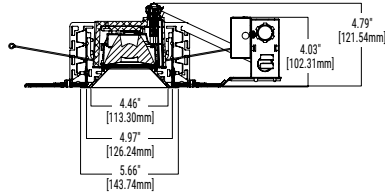
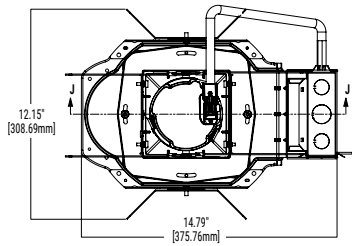
- Five year warranty [www.cooperlighting.com/legal](http://www.cooperlighting.com/legal)

## Marked Spacing

4-inch Marked spacing for W2N			
3000	36	36	0.5
3500	36	36	8

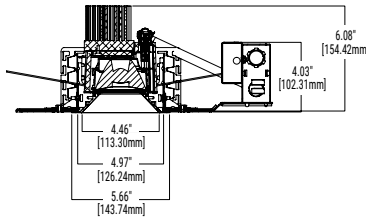
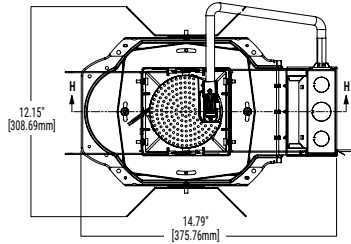
4-inch Marked spacing for BioUp			
2000	36	36	0.5
2500	36	36	8

## Dimensional and Mounting Details



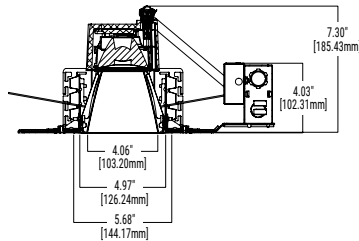
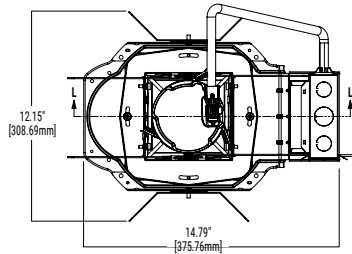
**LDSQ4D-4LBCSSQ**

	Min-Max Lumens	Beam Angles
<b>D2W</b>	800-2500	25°-70°
<b>W2N</b>	1000-3000	25°-70°
<b>BioUp</b>	800-2000	25°-70°



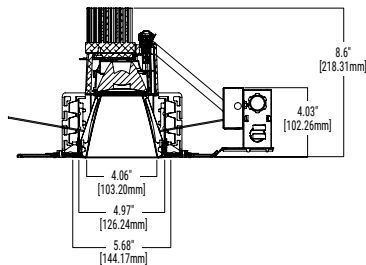
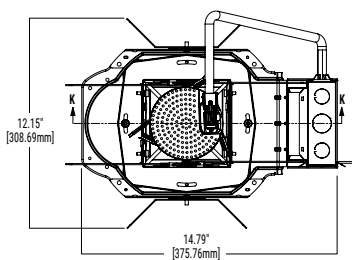
**LDSQ4D-4LBCSSQ**

	Min-Max Lumens	Beam Angles
<b>W2N</b>	3500	25°-70°
<b>BioUp</b>	2500	25°-70°



**LDSQ4D-4LBSQW**

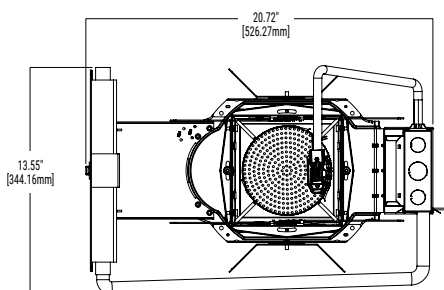
	Min-Max Lumens	Beam Angles
<b>D2W</b>	800-2500	25°-70°
<b>W2N</b>	1000-3000	25°-70°
<b>BioUp</b>	800-2000	25°-70°



**LDSQ4D-4LBSQW**

	Min-Max Lumens	Beam Angles
<b>W2N</b>	3500	25°-70°
<b>BioUp</b>	2500	25°-70°

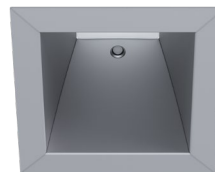
## Emergency Option



**Trim with E option**



**Trim with EM6 option**



## Energy and Performance Data

## D010 DRIVER ENERGY DATA

Series	250 Lumen		500 Lumen		750 Lumen		1000 Lumen		1500 Lumen		2000 Lumen	
Input Voltage 120-277 VAC	120	277	120	277	120	277	120	277	120	277	120	277
Input Current (A)	0.029	0.017	0.054	0.027	0.065	0.031	0.09	0.045	0.129	0.057	0.194	0.086
Input Power (W)	3.4	3.9	6.5	6.9	7.7	8.1	10.7	11.1	15.5	15.4	23.2	23.1
In-rush (A)	2.1	9.15	2.1	9	2.1	9	2.1	9.1	2.1	9.3		11.1
Inrush duration	250	127	254	128	249	142	255	153	255	236	246	115
THDi (%)	8.2	19.9	7.8	14	8.1	11.2	6.6	9.7	11.5	6.6	9.1	11.1
PF	0.99	0.83	0.99	0.91	0.99	0.93	1.0	0.97	0.99	0.98	0.97	0.97

Series	2500 Lumen		3000 Lumen		3500 Lumen	
Input Voltage 120-277 VAC	120	277	120	277	120	277
Input Current (A)	0.23	0.103	0.27	0.128	0.278	0.133
Input Power (W)	27.5	276	32.3	32.5	33.2	34.2
In-rush (A)	2.6	12.5	2.6	12.9	1.1	2.6
Inrush duration	231	197	212	124	59	38
THDi (%)	7.6	8.8	9.1	16.5	7.3	15.9
PF	1.0	0.97	1.0	0.97	1.0	0.93

Minimum starting temperature -30°C (-22°F)\*  
(Nominal input 120-277VAC & 100% of rated output power)

Sound Rating: Class A standards

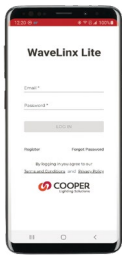
**Notes:**

Emergency Battery packs are rated for a minimum starting temperature of 0°C.

## BIOUP MULTIPLIERS FROM STANDARD 3500K 90CRI

CCT	BioUp Static	BioUp Tunable
2700K	-	0.825
3000K	-	0.813
3500K	0.834	0.834
4000K	0.827	0.827
5000K	0.883	0.883

## Connected Systems



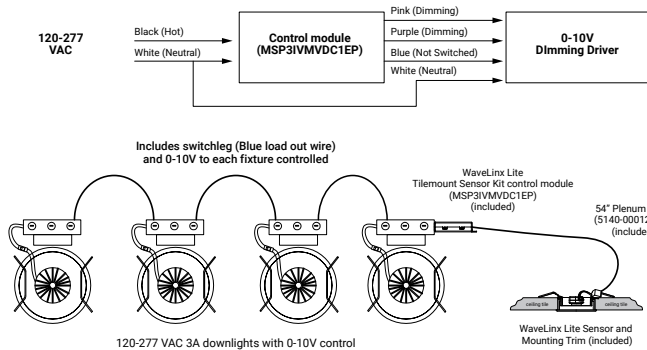
## WaveLinX LITE - WLST Tilemount Sensor

WaveLinX LITE devices only compatible with the WaveLinX LITE system.

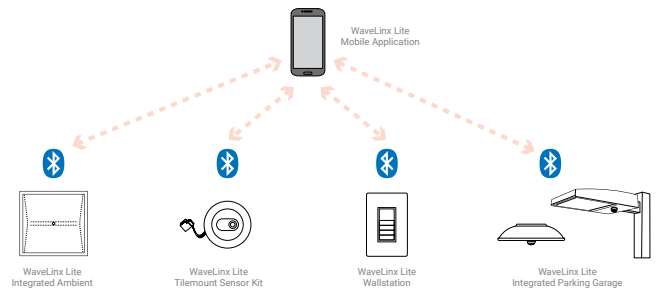
- Intuitive Android™ or Apple® iOS® app for basic system code compliant set up and configuration via Bluetooth
- Up to 28 unique areas per project site (WaveLinX LITE Bluetooth network)
- Up to 50 devices for an area, any one of 16 control zones, up to 6 occupancy sets, and custom lighting scenes
- Automatic 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



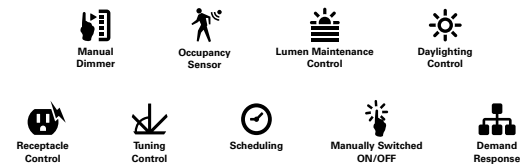
## WaveLinX PRO Wireless – WPST Tilemount Sensor

WaveLinX PRO devices only compatible with the WaveLinX PRO system.

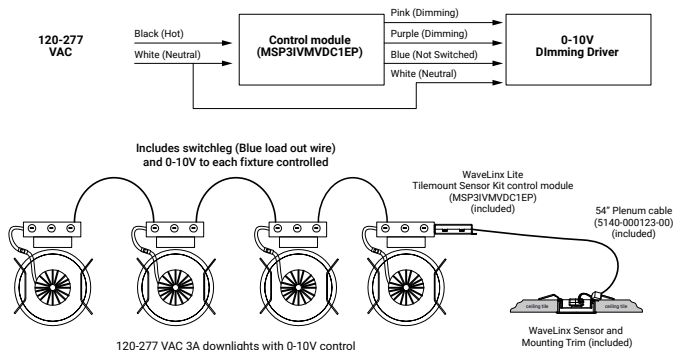
- WaveLinX PRO Wireless functionality configures zones and customizes settings from one secure mobile app
- Automatic code commissioning that meets the strictest codes
- Fixtures and sensors integrate with Wireless Area Controller, Wall Stations, and Control Devices
- Stand-Alone Offices or Entire Building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



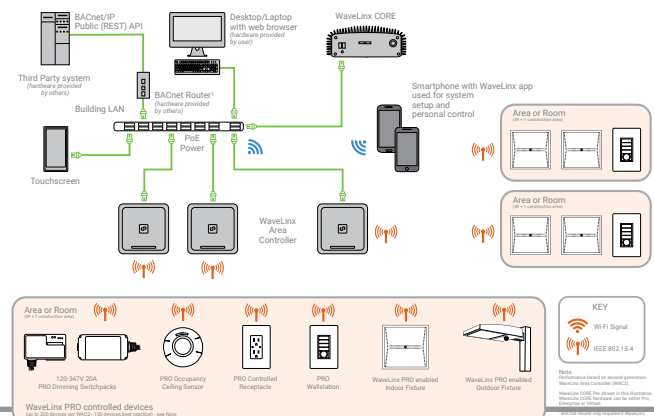
## WaveLinX mobile app settings



## WaveLinX PRO WPST Tilemount Wiring Diagram



## WaveLinX CORE Building Management Integration



## Connected Solutions



### WaveLinx LITE Wireless Node - WLN

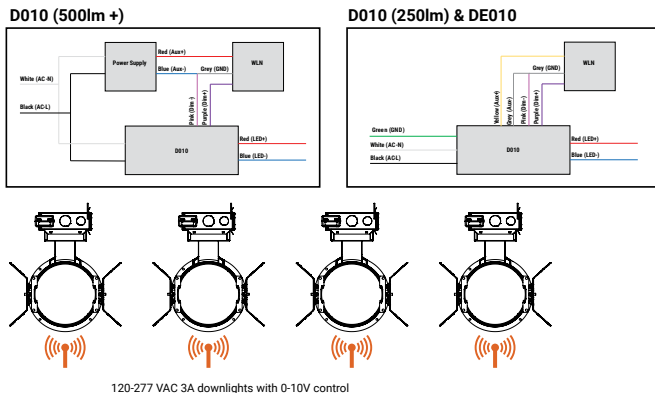
**WaveLinx LITE devices only compatible with the WaveLinx LITE system.**

- 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**

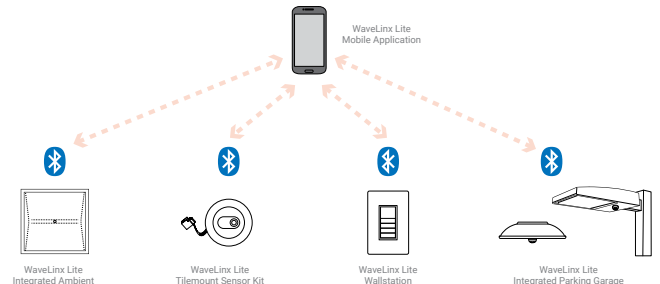
#### WaveLinx mobile app settings



#### WaveLinx LITE Wireless Node (WLN) Wiring Diagram



#### WaveLinx LITE Bluetooth Enabled System

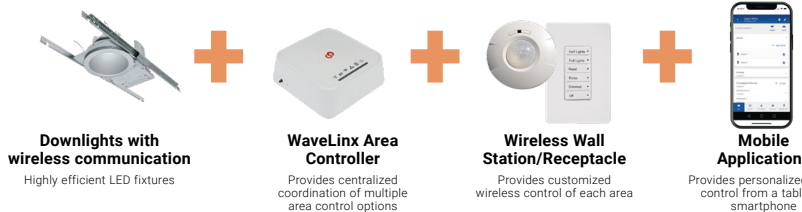
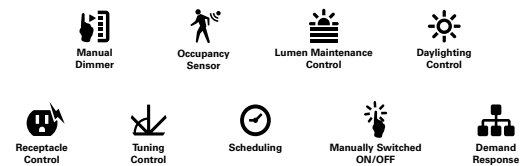


### WaveLinx PRO Wireless Node - WPN

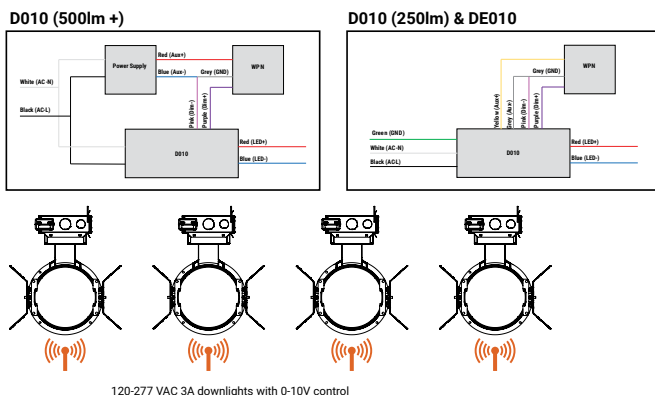
**WaveLinx PRO devices only compatible with the WaveLinx PRO system.**

- 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

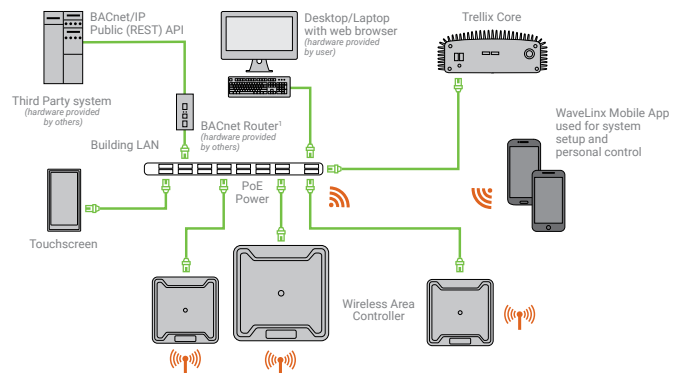
#### WaveLinx mobile app settings



#### WaveLinx PRO Wireless Node (WPN) Wiring Diagram



#### WaveLinx CORE Building Management Integration



# Proven Research. Industry Recognized.

## BioUp

Melanopic Lighting



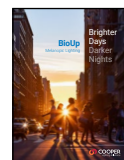
See better



Feel better



Function better



See [BioUp brochure](#) for more details



ANSI/IES RP-46-23

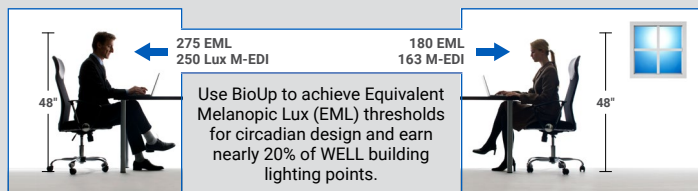
**RECOMMENDED PRACTICE:**  
SUPPORTING THE PHYSIOLOGICAL  
AND BEHAVIORAL EFFECTS  
OF LIGHTING IN INTERIOR  
DAYTIME ENVIRONMENTS  
AN AMERICAN NATIONAL STANDARD

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

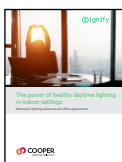
"...circadian clock synchronization is paramount to the body's efficient and appropriate functioning." – TM18



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.

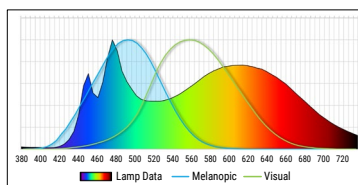
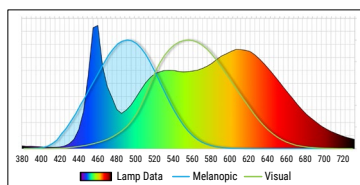


See [BioUp white paper](#) for more details

**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



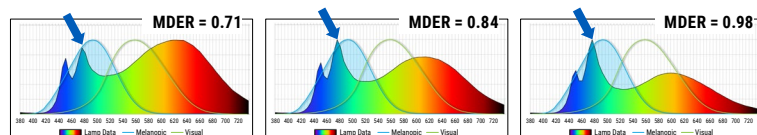
## 30% boost Biological impact compared to traditional LED sources

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

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.



3500K

or

4000K

or

5000K

Cyan light component always present

Dimming Control

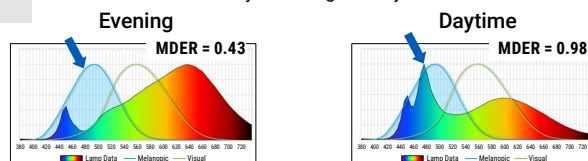


> no CCT control needed

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

### 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

CCT Control



Dimming Control



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

## Multi-line Order Information

SAMPLE ORDER NUMBER: **LDSQ4D08D2WD010**

Invoice will indicate separate fixture components (housing, trim, module) and may ship from multiple CLS facilities in separate cartons.

Single line Ordering  
Information Option

Domestic Preferences <sup>(1)</sup>	Housing	Lumens <sup>(2)</sup>			Color Control
<b>[Blank]</b> =Standard <b>BAA</b> =Buy American Act <b>TAA</b> =Trade Agreements Act	<b>LDSQ4D</b> =LED Square Downlight 4" Nominal Aperture <b>LDSQ4DCP</b> =LED Square Downlight 4" Nominal Aperture, Chicago Plenum	<b>08</b> =800 lumens <sup>(33)</sup> <b>10</b> =1000 lumens <sup>(34)</sup> <b>15</b> =1500 lumens	<b>20</b> =2000 lumens <b>25</b> =2500 lumens	<b>30</b> =3000 lumens <sup>(3)</sup> <b>35</b> =3500 lumens <sup>(3)</sup>	<b>Blank</b> =W2N (1000-3500 lumens) or BioUp (800-2500 lumens) <b>D2W</b> =Dim to warm (800-2500 lumens)

Voltage	Driver
<b>Dim-to Warm</b> <b>Blank</b> =120-277V 800 lumens <b>1</b> =120V 1000-2500 lumens <b>2</b> =277V 1000 to 2500 lumens <b>3</b> =347V (D010 driver 800-2500 lumens) Limited to 800 lumens with remote driver	<b>Dim-to Warm</b> <b>D010</b> =0-10V 1% dimming <b>D010TR</b> =0-10V or (120V) phase cut 1% dimming <b>DE010</b> =0-10V linear 0.1% dimming <b>D5LT</b> =DALI T6 Logarithmic 0.1% Dimming <b>DMX</b> =DMX/RDM Logarithmic 0.1% Dimming <sup>(5)</sup> <b>DMXC5</b> =DMX/RDM Logarithmic 0.1 % Dimming with RJ45 connection <sup>(5)</sup> <b>DLE</b> =Lutron Ecosystem 1-100% dimming <b>DLVP</b> =Low voltage dimming 1-100% for use with DLVP system <sup>(6)</sup>
<b>Tunable White</b> <b>Blank</b> =1000 lumens <b>1</b> =120V 1500-3500 lumens <b>2</b> =277V 1500-3500 lumens <b>3</b> =347V Step down transformer (Limited to 1000 lumens with remote driver)	<b>Tunable White</b> <b>DE010W2N2765</b> =0-10V 0.1% Dimming, 2700-6500K <b>DE010W2N2050</b> =0-10V 0.1% Dimming, 2000-5000K <b>D5LTW2N2765</b> =DALI T6 0.1% Dimming, 2700-6500K <b>D5LTW2N2050</b> =DALI T6 0.1% Dimming, 2000-5000K
<b>BioUp Tunable White</b> <b>Blank</b> =800 lumens <b>1</b> =120V 1000-2500 lumens <b>2</b> =277V 1000-2500 lumens <b>3</b> =347V Step down transformer (Limited to 800 lumens with remote driver)	<b>BioUp Tunable White</b> <b>DE010B2750</b> =0-10V 0.1% dimming, tunable white 2700-6500K <b>DE010B35</b> = 0-10V 0.1% dimming, static white 3500K <b>DE010B40</b> = 0-10V 0.1% dimming, static white 4000K <b>DE010B50</b> = 0-10V 0.1% dimming, static white 5000K <b>D5LTB2750</b> =DALI T6 0.1% dimming, tunable white 2700-6500K <b>D5LTB35</b> = DALI T6 0.1% dimming, static white 3500K <b>D5LTB40</b> = DALI T6 0.1% dimming, static white 4000K <b>D5LTB50</b> = DALI T6 0.1% dimming, static white 5000K

Driver Options	Options <sup>(6)</sup> <sup>(29)</sup> <sup>(30)</sup> <sup>(32)</sup>
<b>Blank</b> =Integral driver <b>R</b> =Remote driver (order remote driver separately) <sup>(6)</sup> <b>PD</b> =Plug in Driver	<b>EMB0D</b> =Bodine® Emergency Module with Remote Test Switch <sup>(10)</sup> <b>EMB0D6ST</b> =Bodine® 6W Self Test Emergency Module with Remote Test Switch <b>EM7</b> =7W Emergency Module with Remote Test Switch <b>EM14</b> =14W Emergency Module with Remote Test Switch <b>EM14RSD</b> =14W Self Diagnostic Replaceable Emergency Battery Pack with Integral Test Switch <b>EMB0D7ST</b> =Bodine® Self Test Emergency Module <sup>(10)</sup> <b>IEMB0D</b> =Bodine® Emergency Module with Integral Test Switch <sup>(10)</sup> <sup>(22)</sup> <b>IEM7</b> =7W Emergency Module with Integral Test Switch <sup>(22)</sup> <b>IEM14</b> =14W Emergency Module with Integral Test Switch <sup>(22)</sup> <b>IEM14RSD</b> =14W Self Diagnostic Replaceable Emergency Battery Pack with Remote Test Switch <sup>(22)</sup> <b>IEMB0D6ST</b> =Bodine® 6W Self Test Emergency Module with Integral Test Switch <b>EMV7</b> =7W Low Voltage Emergency Module with Remote Test Switch <sup>(7)</sup> <b>EMV14</b> =14W Low Voltage Emergency Module with Remote Test Switch <sup>(7)</sup> <b>ETRD</b> =Emergency transfer device <sup>(31)</sup> <b>WPST</b> =Factory installed Wavelinx (includes control module, sensor, cable, tilemount and ceiling mount sensor) <sup>(11)</sup> <sup>(13)</sup> <b>WLST</b> =Factory installed Wavelinx LITE Sensor Kit <sup>(11)</sup> <sup>(12)</sup>

SAMPLE ORDER NUMBER: **EU4DR3508259030D2W**

Domestic Preferences <sup>(1)</sup>	Power Module	Optics	Lumen Levels <sup>(2)</sup>	Color
<b>[Blank]</b> =Standard <b>BAA</b> =Buy American Act <b>TAA</b> =Trade Agreements Act	<b>EU4D</b> =4-inch Universal LED Module	<b>R25</b> =25° <b>R30</b> =30° <b>R35</b> =35° <b>R40</b> =40° <b>R45</b> =45° <b>R50</b> =50° <b>R55</b> =55° <b>R60</b> =60° <b>R65</b> =65° <b>R70</b> =70°	<b>BioUp</b> <b>08B</b> =800 lumens (IC) <sup>(32)</sup> <b>1020B</b> =1000, 1500, 2000 lumens <sup>(8)</sup> <b>2500B</b> =2500 lumens <sup>(3)</sup> <b>Dim 2 Warm</b> <b>08259030D2W</b> =800-2500 lumen, 90 CRI, Dim 2 Warm <sup>(33)</sup> <b>Tunable white</b> <b>1030W2N902765</b> =1000, 1500, 2000, 2500, 3000 lumens, 90 CRI, tunable white 2700K-6500K <sup>(34)</sup> <b>1030W2N902050</b> =1000, 1500, 2000, 2500, 3000 lumens, 90 CRI, tunable white 2000K-5000K <sup>(34)</sup> <b>35W2N902765</b> =3500 lumens, 90 CRI, tunable white 2700K-6500K <sup>(3)</sup> <b>35W2N902050</b> =3500 lumens, 90 CRI, tunable white 2000K-5000K <sup>(3)</sup>	<b>35</b> = Static 3500K <b>40</b> =Static 4000K <b>50</b> =Static 5000K <b>2750</b> =BioUp Tunable White 2700K-5000K

## Multi-line Order Information

SAMPLE ORDER NUMBER: 4LBSQW1LI

Trim	Reflector	Flange	Finish		Options
4LB=4" LED	SQW=Square 45° Cutoff Anodized Aluminum CSSQ=Cast Shallow Square, Die Cast Aluminum <sup>(17)</sup>	0=White polymer trim ring 1=Self flanged <sup>(18)</sup> 2=White painted self flanged 4=Knife edge rimless use with die cast only <sup>(19)</sup>	LI=Specular Clear <sup>(20)</sup> H=Semi-Specular Clear <sup>(20)</sup> WMH=Warm Haze <sup>(20)</sup> WH=Wheat <sup>(20)</sup> GPH=Graphite Haze <sup>(20)</sup>	B=Specular Black <sup>(20)</sup> MW=Matte White MB=Matte Black <sup>(21)</sup> MMS=Matte Metallic Silver <sup>(21)</sup>	E=Integral Emergency Test Switch Hole, for use with IEM7, IEM14, IEMBOD <sup>(22)</sup> EM6=Integral Emergency Test Switch Hole, for use with IEMBOD6ST <sup>(22)</sup>

REQUIRED if Remote Driver (R) is specified

SAMPLE ORDER NUMBER: RD10010D010TREM7

Remote Drivers <sup>(6)</sup>	Lumens <sup>(2)</sup>	Color Control
RD100=Remote 100ft <sup>(9)</sup> RD75=Remote 75ft <sup>(9)</sup> RD50=Remote 50ft <sup>(9)</sup> RD25=Remote 25ft RD15=Remote 15ft RD5=Remote 5ft RD2=Remote 2ft	08=800 lumens <sup>(33)</sup> 10=1000 lumens <sup>(34)</sup>	[Blank]=W2N or BioUp D2W=Dim to warm

Voltage	Driver
<b>Dim-to Warm</b> Blank=120-277V 800 lumens 3=347V (D010 driver 800 lumens)	<b>Dim-to Warm</b> D010=0-10V 1% dimming D010TR=0-10V or (120V) phase cut 1% dimming DE010=0-10V linear 0.1% dimming DSL T= DALI T6 Logarithmic 0.1% Dimming DMX=DMX/RDM Logarithmic 0.1% Dimming <sup>(5)</sup> DMXC5=DMX/RDM Logarithmic 0.1% Dimming with RJ45 connection <sup>(5)</sup> DLE=Lutron Ecosystem 1-100% dimming DLVP=Low voltage dimming 1-100% for use with DLVP system <sup>(6)</sup>
<b>Tunable White</b> Blank=1000 lumens 3=347V Step down transformer (1000 lumens)	<b>Tunable White</b> DE010W2N2765=0-10V 0.1% Dimming, 2700-6500K DE010W2N2050=0-10V 0.1% Dimming, 2000-5000K DSL TW2N2765= DALI T6 0.1% Dimming, 2700-6500K DSL TW2N2050= DALI T6 0.1% Dimming, 2000-5000K
<b>BioUp Tunable White</b> Blank=800 lumens 3=347V Step down transformer (800 lumens)	<b>BioUp Tunable White</b> DE010B2750=0-10V 0.1% dimming, tunable white 2700-6500K DE010B35= 0-10V 0.1% dimming, static white 3500K DE010B40= 0-10V 0.1% dimming, static white 4000K DE010B50= 0-10V 0.1% dimming, static white 5000K DSL TB2750= DALI T6 0.1% dimming, tunable white 2700-6500K DSL TB35= DALI T6 0.1% dimming, static white 3500K DSL TB40= DALI T6 0.1% dimming, static white 4000K DSL TB50= DALI T6 0.1% dimming, static white 5000K

Options <sup>(6)</sup> (29) (30) (32)	Controls <sup>(6)</sup> (29) (30) (32)
EMBOD=Bodine® 7W Emergency Module with Remote Test Switch <sup>(10)</sup> EMBOD6ST=Bodine® 6W Self Test Emergency Module with Remote Test Switch EM7=7W Emergency Module with Remote Test Switch EM14=14W Emergency Module with Remote Test Switch	WPST=Factory installed Wavelinx (includes control module, sensor, cable, tilemount and ceiling mount sensor) <sup>(11)</sup> (13) WLST=Factory installed WaveLinX LITE Sensor Kit <sup>(11)</sup> (12) WPN = WaveLinX PRO Wireless Node without sensor <sup>(10)</sup> (15) WLN = WaveLinX LITE Wireless Node without sensor <sup>(35)</sup>

Multi-line Order Information

Accessories (Order separately) <sup>(25)</sup>		
<b>PRSQ4</b> =Rimless Plaster Ring <sup>(26)</sup> <b>RKPSQ4</b> =Knife Edge plaster Ring <sup>(27)</sup>  <b>RPMSQ4MW</b> =Rimless Millwork Ring, Matte White <sup>(26)</sup> <b>RPMSQ4MB</b> =Rimless Millwork Ring, Matte Black <sup>(26)</sup> <b>RKMSQ4MW</b> =Knife Edge Millwork Ring, Matte White <sup>(27)</sup> <b>RKMSQ4MB</b> =Knife Edge Millwork Ring, Matte Black <sup>(27)</sup>	<b>Connected Lighting Systems</b> <sup>(6) (11) (29) (30) (32)</sup> <b>WPST</b> =Field installed WaveLinx sensor Kit <sup>(13)</sup> <b>WLST</b> =Field installed WaveLinx LITE Sensor Kit <sup>(12)</sup>  <b>Bar Hangers</b> <b>HB26</b> =C-channel Bar Hanger, 26" Long, Pair <b>HB50</b> =C-channel Bar Hanger, 50" Long, Pair <b>RMB22</b> =Wood Joist Bar Hanger, 22" Long, Pair  <b>Transformers</b> <b>H347</b> =H347 for ALL SELECTIONS	<b>Optics</b> <b>46R25</b> =25° <b>46R30</b> = 30° <b>46R35</b> = 35° <b>46R40</b> = 40° <b>46R45</b> = 45° <b>46R50</b> = 50° <b>46R55</b> = 55° <b>46R60</b> = 60° <b>46R65</b> = 65° <b>46R70</b> = 70°

- Notes:**

2. Nominal Lumens will vary depending on selected color, CRI, driver and reflector finish. Reference IES files.

3. Product is marked spacing. [Reference table on page 4 for the spacing details.](#)

5. DMX fixtures default to full on upon loss of DMX signal.

6. Not available with Chicago Plenum.

7. ULus listed only

8. Marked spacings for 2000 lumens

9. Not available with Lutron drivers

10. Not available for VV2N

11. Refer to system specifications for additional information, features, and benefits. Order either factory installed option or accessory. Use with 0-10V driver.

12. WLST=WaveLinx LITE tilemount sensor kit for daylight dimming, PIR motion sensing, use with D010 only (Refer to WaveLinx LITE system specifications)

13. WPST=WaveLinx wireless sensor kit for daylight dimming, PIR motion sensing, and optional RLTS - Real Time Location Services, use with 0-10V only.
15. 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.

18. Flange is the same finish as the reflector

19. Requires knife edge ring accessory.

20. Anodized or spun reflectors

21. Die cast only

22. Available with SQW 45 degree trims. Required for use with all IEMBOD, IEM7, IEM14, IEMV7 and IEMV14 housings. Not offered with remote driver.

25. Accessories sold separately will be separately analyzed under domestic preference requirements. Consult factory for further information.

26. Order trim with polymer trim ring (Consult specification sheet for color ordering information and options).

27. Order die cast trim with flange type 4

28. Order with self flanged trim.

29. If using remote driver order battery and controls with the remote driver.

30. 120V-277V

31. Used to bypass local control during outage. Must be used in conjunction with UL 1008 device (provided by others)
32. Non-IC

33. D2W and BioUp IC

34. Tuneable white IC rated for 1000 lumens

35. 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 0-10V driver only.