

Project		Catalog #		Type	
Prepared by		Notes		Date	



## HALO Commercial

### HCD Professional Direct Mount Commercial Downlighting System

#### 4" • Square • Downlight/Wall Wash

The HCD System offers total flexibility as a modular downlighting system built on a series of Factory preset or Selectable (Lumen/ CCT) LED Module Kits that easily interchange with a complete fleet of reflectors. Available in both rounds and squares, in multiple sizes and beam distributions. HCD installs-from-below and mounts securely to any retrofit/remodel/new construction ceiling.

**Typical Applications** Healthcare • Hospitality • Education • Mixed Use • Services • Retail

#### Interactive Menu

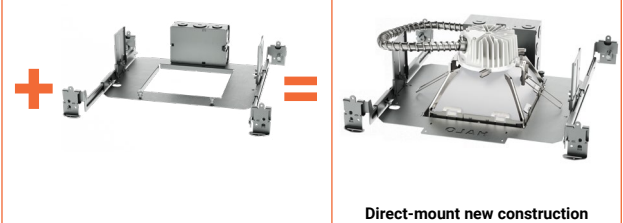
- Order Information page 2
- Product Specifications page 4
- Product Dimensions page 6
- Energy Data page 10
- Photometric Data page 12
- Dimming Guide



### Top Product Features

- 8" install-from-below retrofit/remodel or add mounting frames for new construction
- All HCD Module Kits fit all HCD trims - all sizes and shapes
- **Factory preset or Field-Selectable Lumens:** Options from 500 to 5000 lms (nominal)
- **Factory preset or 5-color Field-Selectable CCT:** 2700K, 3000K, 3500K, 4000K, 5000K
- **90 CRI Standard**
- **Distributions:** Precision-formed square reflectors - Medium
- Field-installed wall wash distribution lens kit available
- **Finishes:** Specular, Haze (Semi-Specular), Matte White (paintable), and Matte Black reflectors
- **Dimming:** 0-10V down to 1% (dim-to-off with WaveLinx) in UNV 120-277V; 347V (Canada)
- Emergency battery backup, WaveLinx Wireless PRO/LITE, and Chicago Plenum options available
- L80 at 60,000 hours (80% lumen maintenance at 60,000 hours)
- 5-year warranty

#### View Sales Guide



## Fixture Order Information

A Complete Luminaire consists of 2 or 3\* parts

Sample Order Numbers:			
	1) Module Kit	2) Reflector	3*) Mounting Frame
Direct-Mount (New Construction, Retrofit, or Remodel)	HCDQCLS510CSD	HCD4TSQWF	[No Frame]
New Construction with Frame	HCDQCLS510CSD	HCD4TSQWF	HCD4MFSQC

## LED Module Order Information (All Module Kits fit any HCD Reflector – 4", 6", or 8"; Round or Square)

Domestic Preferences <sup>(2)</sup>	Module Kit
[Blank]=Standard BAA=Buy American Act TAA=Trade Agreements Act	<b>Junction Box Module Kit</b> HCDJB = 4" Junction Box Module Kit: LED Engine & Driver on 20" flex conduit (Input wiring and connectors by installer).
	<b>Quick Connect Module Kit</b> HCDQC = 4" Quick Connect Module Kit: LED Engine & Driver on 20" flex conduit w/ 5-conductor quick connect on flex conduit & 1/2" snap-fitting for input knock out.
	<b>Emergency Module Kit</b> HCDE = 4" Emergency Module Kit: LED Engine & Driver with Battery Pack on 20" flex conduit w/ 6-conductor quick connect on flex conduit & 1/2" snap-fitting for input knock out. Emergency battery with test switch is attached to module kit driver box. Add emergency option code to model number: EM06 or EM14 <b>Note:</b> IEM reflector must be ordered separately for integral emergency.
	<b>WaveLinX Wireless Module Kit w/ Quick Connect</b> HCDW = 4" WaveLinX Wireless Module Kit w/ Quick Connect: LED Engine & Driver on 20" flex conduit w/ 5-conductor quick connect on flex conduit & 1/2" snap-fitting for input knock out. Add WaveLinX Wireless option code to model number: <b>WPN</b> (WaveLinX PRO) or <b>WLN</b> (WaveLinX LITE)
	<b>Chicago Plenum Module Kit <sup>(3)</sup></b> HCDCP = 4" Chicago Plenum Module Kit: LED Engine & Driver on 18" CCEA compliant FMT and junction box with wiring for power and 0-10V dimming between LED Engine and driver box (Input FMT wiring and connectors to driver box, by others).
<b>Notes</b> <sup>(2)</sup> Only product configurations with these designated prefixes are built to be compliant with the Buy American Act of 1933 (BAA) or Trade Agreements Act of 1979 (TAA), respectively. Please refer to <a href="#">DOMESTIC PREFERENCES</a> website for more information.	<b>Notes</b> <sup>(5)</sup> Chicago Plenum (CP) module kits FMT conduit have larger bend radius, requiring deeper plenum height. Minimum plenum height 7.25" (2x8) with 24" grid/framing width for all Chicago Plenum module kits. <b>All - Module Kits Notes</b> 1. Module Kits are universal for all reflectors: 2. For installation from below a finished ceiling, direct-mount through the ceiling opening. The installer must cutout a precise aperture opening for the appropriate reflector size.

Selectable Options <sup>(0)</sup>			Driver
<b>Lumen Selectable*</b> <b>LS510</b> = 500/750/1000lm (Preset 1000lm) Type IC, air permeable insulation contact  <b>LS1525</b> = 1500/2000/2500lm (Preset 2500lm) Type Non-IC, insulation 3" spacing  <b>LS3040</b> = 3000/3500/4000lm (Preset 4000lm) Type Non-IC, Marked Spacing, see note below***  <b>LS4050</b> = 4000/4500/5000lm (Preset 5000lm) Type Non-IC, Marked Spacing, see note below***	<b>Factory Preset Lumens**</b> <b>L05</b> = 500 lumen - IC <b>L07</b> = 750 lumen - IC <b>L10</b> = 1000 lumen - IC <b>L15</b> = 1500 lumen - Non-IC <b>L20</b> = 2000 lumen - Non-IC <b>L25</b> = 2500 lumen - Non-IC <b>L30</b> = 3000 lumen - Non-IC*** <b>L35</b> = 3500 lumen - Non-IC*** <b>L40</b> = 4000 lumen - Non-IC*** <b>L41</b> = 4000 lumen - Non-IC*** <b>L45</b> = 4500 lumen - Non-IC*** <b>L50</b> = 5000 lumen - Non-IC***	<b>Color Selectable*</b> <b>CS</b> = 90CRI, selectable 2700K-3000K-3500K-4000K-5000K (Preset at 3500K)  <b>Factory Preset CCT**</b> <b>927</b> = 90CRI, 2700K <b>930</b> = 90CRI, 3000K <b>935</b> = 90CRI, 3500K <b>940</b> = 90CRI, 4000K <b>950</b> = 90CRI, 5000K	<b>D</b> = Dimmable, UNV 120-277V, 50/60Hz 0-10V 1%-100% dimming at 120-277V on 0-10V controls. Compatible with WaveLinX Wireless dim-to-off functionality.  <b>Canada Option</b> <b>D347</b> = Dimmable 347VAC 50/60Hz 0-10V 1%-100% dimming. Available on HCDQC module kits only. Canada only. <sup>(1)</sup>
<b>Notes</b> <sup>(0)</sup> Selectable Lumen and Selectable CCT must be specified together - Selectable example: LS510, CS Factory Preset Lumen and CCT must be specified together - Fixed Preset example: L05, 935 *Field-selected switch settings by installer accessed in hinged snap-latch cover over selectable switches, protects lumen and CCT settings yet allows for quick changes. <b>OR</b> **Factory preset individual switch settings secured under fixed cover. Torx screw on cover secures presets yet allows for re-set access if needed. Factory label notes preset lumen and CCT. ***3000/3500/4000, 4000/4500/5000lm Non-IC, Marked Spacing - Marked Spacing Center to Center of Adjacent Luminaires = 36" / - Center of Luminaire to Building Member = 18" / - Minimum overhead = 0.5"			<b>Notes</b> <sup>(1)</sup> Not available with CP models

Factory Options
<b>Emergency Options</b> (Add emergency suffix code option to HCDE emergency module kits only) <b>EM06</b> = 6-watt self-test emergency battery with test switch for remote or integral test. Remote switchplate included, back box by others. Integral reflector order separately. Use with "D" driver only. Option only with HCDE module kits. <sup>(1) (3) (4)</sup> <b>EM14</b> = 14-watt self-test emergency battery with test switch for remote or integral test. Remote switchplate included, back box by others. Integral reflector order separately. Use with "D" driver only. Option only with HCDE module kits. <sup>(1) (3) (4)</sup> <b>WaveLinX Options</b> (Add WaveLinX suffix code option to HCDW WaveLinX module kits only) <b>WPN</b> = WaveLinX PRO Wireless Node & Power Pack. Add WPN code to HCDW module kits. Option only with HCDW module kits. <sup>(3) (4)</sup> <b>WLN</b> = WaveLinX LITE Wireless Node & Power Pack. Add WLN code to HCDW module kits. Option only with HCDW module kits. <sup>(3) (4)</sup> <b>Emergency Options with WaveLinX</b> (Add emergency with WaveLinX suffix code option to HCDE emergency module kits only) <sup>(6)</sup> <b>EM06WPN</b> = 6-watt emergency with WaveLinX Pro Wireless Node <b>EM06WLN</b> = 6-watt emergency with WaveLinX LITE Wireless Node <b>EM14WPN</b> = 14-watt emergency with WaveLinX Pro Wireless Node <b>EM14WLN</b> = 14-watt emergency with WaveLinX LITE Wireless Node
<b>Notes</b> <sup>(1)</sup> Not available with Chicago Plenum models <sup>(3)</sup> Not available with D347 (347V models) <sup>(4)</sup> Use with "D" driver <sup>(6)</sup> For Emergency Options with WaveLinX, order HCDE module kit

Accessories (Sold Separately)
<b>Extension Cables</b> Flex conduit w/ 5-conductor quick connects on each end. Extend connection between module kit and new construction frame. <b>HCDX06</b> = 6 ft. Extension Cable <b>HCDX12</b> = 12 ft. Extension Cable <b>HCDX20</b> = 20 ft. Extension Cable  Use with HCD4MFFQC, HCD6MFFQC & HCD8MFFQC Quick Connect Mounting Frames only. Use with HCD468QC*, HCD468W* Quick Connect Module Kits only
<b>Notes</b> *Extension cables not compatible with HCD468E* emergency or HCD468CP* Chicago Plenum module kits If using the WaveLinX models, the dimming wires in the quick connect and the building junction box should not be connected.

## Trim Order Information

Domestic Preferences <sup>(2)</sup>	Medium Reflectors	Type	Finish	Emergency	Wall Wash Accessory Kits (Field Installed - Order Separately)
[Blank]=Standard TAA=Trade Agreements Act	HCD4T = 4" medium distribution reflector	SQ = Square	C = Specular Clear CWF = Specular Clear / White Flange CBF = Specular Clear/Black Flange H = Haze (Semi-specular) HWF = Haze (Semi-specular) / White Flange HBF = Haze (Semi-Specular)/Black Flange MW = Matte White (paintable) MWBF = Matte White/Black Flange MB = Matte Black	IEM = Reflector for use with integral emergency module kits only. Provides access hole for emergency test switch, if integral switch is desired. Use with HCDE emergency module kits.	HCD4TSQLWW = 4" Square Lensed Wall Wash Kit
<b>Notes</b> (2) Only product configurations with these designated prefixes are built to be compliant with the Buy American Act of 1933 (BAA) or Trade Agreements Act of 1979 (TAA), respectively. Please refer to <a href="#">DOMESTIC PREFERENCES</a> website for more information.	<b>Notes</b> <b>Reflector notes:</b> <ul style="list-style-type: none"><li>• 4" square work with all module kits</li><li>• Medium reflectors compatible with HCD6MFS* mounting frames</li><li>• Reflectors attach to module kits install from below the ceiling opening with integral mousetrap springs</li><li>• Maximum ceiling thickness 1.5"</li><li>• Wall wash kits are accessories for field installation</li><li>• Direct-mount requires a precise aperture cutout</li><li>• 4" Round = 4.75" Retrofit / 5.00" New</li></ul>	<b>Notes</b>	<b>Notes</b>	<b>Notes</b> <b>IEM Notes:</b> Emergency battery with test switch is attached to module kit. Add emergency suffix code to HCDE model number: EM06 or EM14 *IEM reflector ordered separately	<b>Notes</b> Wall wash kits are not available for IEM reflectors.  For BAA/TAA wall wash option, add "WW" to the reflector catalog (example: TAA-HCD4TSQLCWW).

## Accessories Order Information

Oversize Medium "Goof" Ring	Type	Finish
HCD4G = 4" Goof Ring for Medium Reflectors <i>Square - 5.125" MIN square ceiling opening 6.25" MAX opening, 7.375" x 7.375" OD</i>	SQ = Square	C = Specular Clear H = Haze (Semi-specular) MW = Matte White (paintable) MB = Matte Black




## Mounting Frames Order Information

Domestic Preferences <sup>(2)</sup>	Accessories	
[Blank]=Standard BAA=Buy American Act TAA=Trade Agreements Act	<b>Basic New Construction Mounting Frames</b> HCD4MFS = 4" Square mounting frame Ceiling cut-outs: Square 5.125"	<b>Description:</b> Basic mounting frame only, no additional junction box for through-wiring. (Thumb screws on frame for securing the Module Kit Driver-Box.) <b>Install frame and LED Module kit together during rough-in phase. Installer supplies wire to Module Kit.</b>
	<b>Junction Box New Construction Mounting Frames</b> HCD4MFSJB = 4" Square mounting frame Ceiling cut-outs: Square 5.125"	<b>Description:</b> Mounting frame with Trade-Size Junction Box for through-wiring. Thumb screws on frame for securing the Module Kit Driver-Box. <b>Install frame and LED Module kit together during rough-in phase. Installer provides wire to junction box and between junction box and Module Kit.</b>
	<b>Quick Connect New Construction Mounting Frames</b> HCD4MFSQC = 4" Square mounting frame Ceiling cut-outs: Square 5.125"	<b>Description:</b> Mounting frame with Trade-Size Junction Box for through-wiring and Quick Connect flex. Quick Connect has 5-conductor plug-ins for power and 0-10V dimming. (Thumb screws on frame for securing the Module Kit Driver-Box.) <b>Only frame is required at rough-in. Module Kit and Reflector installed via Quick Link during trim-out phase. Installer provides wire to mounting frame junction box only.</b>
	<b>Chicago Plenum New Construction Mounting Frames</b> HCD4MFSCP = 4" Square mounting frame Ceiling cut-outs: Square 5.125"	<b>Description:</b> Chicago Plenum mounting frame with CCEA compliant Trade-Size Junction box for through-wiring. (Thumb screws on frame for securing the Module Kit Driver-Box.) <b>Install frame and LED Module kit together during rough-in phase. Installer provides wire to junction box and between junction box and Module Kit.</b>
<b>Notes</b> (2) Only product configurations with these designated prefixes are built to be compliant with the Buy American Act of 1933 (BAA) or Trade Agreements Act of 1979 (TAA), respectively. Please refer to <a href="#">DOMESTIC PREFERENCES</a> website for more information.	<b>Notes</b> <b>New Construction Mounting Frame Notes:</b> <ul style="list-style-type: none"><li>• Type-IC with low-lumen module kits 500-750-1000lm</li><li>• Type Non-IC with mid-lumen 1500-2000-2500lm</li><li>• Type Non-IC, Marked Spacing with mid/high-lumen 3000-3500-4000lm and high-lumen 4000-4500-5000lm module kits (36" center-to-center, 18" center to building member, 0.5" minimum overhead spacing).</li><li>• Chicago Plenum (CP) new construction mounting frames are CCEA compliant with pre-installed J-box for mains input, and Type Non-IC rated per CCEA</li></ul>	

## HCD Module Kit &amp; Mounting Frame Compatibility

HCD Pro System downlights can be installed as retrofit, remodel, direct-mount new construction, or traditional frame new construction.

All HCD Module Kits fit all HCD trims.

			Frameless	Mounting Frames			
			Retrofit, remodel, and new construction direct-mount	Basic	Junction Box	Quick Connect	Chicago Plenum
Module Kits	Junction Box (Base)		✓ 1	✓ 1	✓ 2		
	Quick Connect (includes EM & WLX options)		✓	✓ 3	✓ 4	✓ 5	
	Chicago Plenum						✓ 2

1. Installer provide mains wiring & connection to Module Kit driver box
2. Installer provide mains wiring & connection to Frame junction box and/or Module Kit driver box
3. Frame and mains-half of provided quick connect installed before finished ceiling; module kit and trim installed after finished ceiling
4. Mains-half of quick connect can be field-installed in frame junction box, or connected directly to mains
5. Note: Mains-half of quick connect included with module kit will be recycled in this configuration

## Product Specifications

### Module Kit & LED Engine

- For use in retrofit, remodel, and new construction mounting types.
- HCD Module Kits fit all 4", 6", and 8" round or square reflectors (order module kits and reflectors separately)
- Module kit LED engines attach to reflectors with three toolless lever clamps.
- Mousetrap springs on reflectors for direct-mount from below a finished ceiling, in retrofit, remodeling or in new construction mounting frames.
- LED engine aluminum heat sinks feature passive conduction of heat away from the LED array for optimal performance and long life
- Module kits include LED engine, driver junction box, and durable metal flex conduit; with quick-connect box on applicable models

### Module Kits

- **HCDJB** Basic Junction Box Module Kit with LED Engine & driver box on 20" metal flex. Input wiring and connections to the driver box by installer.
- **HCDQC** Quick Connect Module Kit with LED Engine & driver box on 20" metal flex with 5-conductor quick-connect on a metal flex whip and 1/2" KO snap-fitting for mains terminations by others.
- **HCDE** Emergency Module Kit with LED Engine & driver box and battery pack & test switch on 20" metal flex with 6-conductor quick-connect on a metal flex whip and 1/2" KO snap-fitting for mains terminations by others.
  - Emergency battery pack and remote test switch are attached to module kit.
  - Add emergency suffix code option to catalog number: EM06 or EM14 (see Emergency Backup Options for details)
  - For emergency with WaveLinx Wireless add suffix code option to catalog number of HCDE module kits only: EM06WPN, EM06WLN, EM14WPN, EM14WLN
- **HCDCP** Chicago Plenum Module Kit with LED Engine & driver box on 18" CCEA compliant metal flex. CCEA compliant mains and dimmer wiring to HCDCP module kit driver box by installer.
- **HCDW** WaveLinx Module Kit with LED Engine & driver box on a 20" metal flex with 3-conductor quick-connect on a metal flex whip and 1/2" KO snap-fitting for mains terminations by others.
  - Add WaveLinx Wireless Node suffix code to catalog number: WPN - WaveLinx or WLN - WaveLinx Lite (see [WaveLinx Connected Lighting website](#) for details)

### Module Kit Driver Box

- Galvanized steel electrical box
- Integral driver
- 18 cubic inch internal volume
- Listed for six #12 AWG 90° C splice conductors, two in, two out plus ground
- (4) 1/2" trade size pry outs
- (3) 4-port push wire nuts for mains voltage with 1-port for fixture connection

### New Construction Mounting Frames

- Galvanized steel plaster frame with integral bar hangers
- Available in 4", 6", 8" Round and Square
- Integral 3/8" drywall/plaster collar for ease in position locating and ceiling cut-out
- Bar hanger vertical brackets adjust 2" vertically from above & below ceiling
- Bar hangers horizontal adjusting from 10-1/2" to 24-1/2" wide
- Setscrews provide positive horizontal and vertical locking
- Captive nail for use in standard dimensional and engineered framing lumber
- Through-hole in bar bracket ends for additional nail or screw attachment (nail or screw by others)
- Flange lip on bar bracket ends level platform in framing construction
- Integral grid clip attaches directly to T-grid
- All mounting frames have knurled thumb screws for securing module kit driver box, when needed

### Mounting Frame Junction Box

- Trade-size galvanized steel junction box
- 25 in<sup>3</sup> internal total volume
- Voltage barrier for 0-10V dimming wires (occupies one 1/2" pry-out space)
- Listed for eight #12 AWG (four in, four out) 90° C conductors and feed-thru branch wiring
- Three 1/2" and two 3/4" trade size pry-outs

### Quick Connect Box

#### (available on HCDQC, HCDW, HCDE Module Kits)

- Galvanized steel enclosure on metal flex conduit whip end terminating with 1/2" KO snap-fitting for mains connections by others
- Tool-less access snap cover
- HCDQC (Quick Connect module kits) and HCDW (WaveLinx module kits): Quick connect 5-conductor mains & dimming in/out wiring on 3-conductor line voltage mains & 2-conductor 0-10V connectors
  - HCDW WaveLinx use only the 3-conductor line quick connections
- HCDE (Emergency module kits): Quick connect 6-conductor mains & dimming in/out wiring on 4-conductor line voltage + battery mains & 2-conductor 0-10V connectors

### Emergency Battery Backup Options

- Available on HCDE Emergency Module Kits
- Provide 90 minutes of standby egress lighting; consult national Life Safety Code and local code authority for specific requirements
- EM06 – 6-Watt self-test emergency battery with test switch
- EM14 – 14-W self-test emergency battery with test switch
- Self-Test (self-diagnostic) standard on models
- Emergency test switch may be installed with included remote switchplate or integral in reflector
  - Electrical box, as required, for remote switchplate by installer
  - IEM reflector ordered separately
- IEM not available on HCD41T 4", Shallow-Wide round reflectors.

### LED

- Proximity phosphors over chip on board LEDs provide a uniform source with high efficiency and no pixilation
- LED is 90 CRI minimum, R9 greater than 50
- LED color uniformity & accuracy within 3-step SDCM at 2700K and 5000K and 4-step SDCM at 3000K, 3500K, & 4000K
- Lumen maintenance 80% at 60,000 hours (L80 / 60,000 hours)

### Lumen and CCT Color Selection

- Lumen and CCT selection switches are on the module kit driver box.
- Field-select switch settings by installer accessed under galvanized steel hinged snap-latch cover that protects lumen and CCT settings yet allows for quick changes

#### OR

- Factory ordered preset individual switch settings secure under galvanized steel fixed cover. Torx screw on cover secures presets yet allows for re-set access if needed. Factory label notes preset lumen and CCT. (See ordering information section for factory preset ordering codes.)
- 500/750/1000, 1500/2000/2500, 3000/3500/4000, 4000/4500/5000 field selectable lumens or factory preset lumen options
- 2700-3000-3500-4000-5000K field selectable CCT or factory preset CCT options
- Selectable lumen and CCT must be specified together, example: "LS510" lumen, "CS" CCT
- Factory preset lumen and CCT must be specified together, example: "L05" lumen, "935" CCT

### Electronic Driver

- Integrated in module kit driver box
- 120-277V 50/60 Hz constant current driver
- Continuous dimming from 100% to 1% with 0-10V analog dimming controls
- Dims to off after 1% level is reached
- Compatible with WaveLinx and WaveLinx Lite Wireless dim-to-off functionality

### Canada Electronic Driver Option (Available on HCDQC module kits only)

- 347VAC 50/60Hz constant current driver
- Continuous dimming from 100% to 1%, with 0-10V analog dimming controls
- Dims to off after 1% level is reached
- 347VAC driver option available on HCDQC quick-connect module kits only
- 347V driver is not currently available with WaveLinx or WaveLinx Lite Wireless.

### Reflectors

- Direct-mount feature of HCD4-6-8 series requires a precise ceiling cut-out for secure round & square reflectors for module kit retention. See technical data for ceiling cut-out sizes.
- Three lever clamps and a key-slot for accurate positioning and securing reflector to the LED engine
- Integral mousetrap springs on reflector secure assembly for direct-mount from below the finished ceiling

continued on next page

## Product Specifications

### Medium Distribution Square Reflectors

- 4", 6", 8" square reflectors designed to fit all module kits
- Square formed aluminum
- Available in specular and haze (semi-specular), matte white and matte black painted finishes. Matte white is paintable (overpaint by others)
- Prismatic lensed wall-wash accessory kits for field installation, in round and square reflectors.
- Reflector optical design delivers medium 1.0 spacing criteria and 55 degree cutoff (nominal, field results may vary by aperture and finish)
- Deep regressed LED source for low glare, UGR < 19
- Square accessory goof rings cover ceiling irregularities
- Goof rings for medium reflectors available in specular and haze (semi-specular), matte white and matte black painted finishes. Matte white is paintable (overpaint by others)

### Compliance

- cULus damp and wet location listed, covered ceilings only and IP65 rated below the ceiling (IP64 with lensed wall wash accessory)
- Airtight per ASTM-E283
- IC listed LS510: 500, 750, 1000 lumen module kit - suitable for direct contact with air permeable insulation. IC models are also suitable for Non-IC installations. (Emergency battery module kits are not IC, Non-IC only)
- Non-IC listed LS1525: 1500-2000-2500 lumen, LS3040: 3000-3500-4000 lumen and LS4050: 4000-4500-5000 module kits. Insulation must be kept 3" from top and sides of luminaire.
- Marked spacing: 3000-3500-4000 lumen and 4000-4500-5000 lumen are Non-IC AND require marked spacing.
  - Center to Center Adjacent Luminaires = 36"
  - Center of Luminaire to Building = 18"
  - Minimum overhead = 0.5"
- Not for use in direct contact with spray foam insulation, consult NEMA LSD57-2013
- Suitable for use in clothes closets when installed in accordance with the NEC 410.16 spacing requirements
- EMI/RFI emissions per FCC CFR Title 47 Part 15 Class A at 277V and Class B at 120V CAN ICES-005(B)/NMB-005(B) at 120VAC and CAN ICES-005(A)/NMB-005(A) at 277VAC
- Contains no mercury or lead and RoHS compliant
- Photometric testing per IES LM-79-08
- Photometric file format per IES LM-63-19
- Lumen maintenance projections per IES LM-80-08 and TM-21-11
- ENERGY STAR® reference Certified Light Fixtures database (not applicable: matte black reflectors, WaveLinX, and 347V module kits)
- 500-750-1000 lumen, ICAT models certified to State of California Title 24, JA8. Refer to MAEDBS Database JA8 High Efficacy LED Lighting
- All models may be used to comply with State of California Title 24 non-residential code as a dimmable LED luminaire
- BAA and TAA - product configurations with these designated prefixes are built to be compliant with the Buy American Act of 1933 (BAA) or Trade Agreements Act of 1979 (TAA), respectively. Please refer to Cooper Lighting Solutions [DOMESTIC PREFERENCES](#) website for more information.

### WaveLinX Wireless Connected Lighting

- WaveLinX PRO WPN wireless – when used with wireless sensors can provide daylight dimming, PIR motion sensing, scene and zone configuration, automatic commissioning; and optional RLTS - Real Time Location Services.
- WaveLinX LITE WLN wireless - when used with wireless sensors may provide daylight dimming and PIR motion sensing, scene and grouping configuration.
- WPN and WLN wireless include wireless node for communication with WaveLinX wireless sensors and control devices (ordered separately from WaveLinX Controls group). Wireless node with integral power supply is factory installed on the module kit driver box, using one 1/2" KO.
- Refer to WaveLinX PRO and WaveLinX LITE specifications and guides for details.

### Warranty

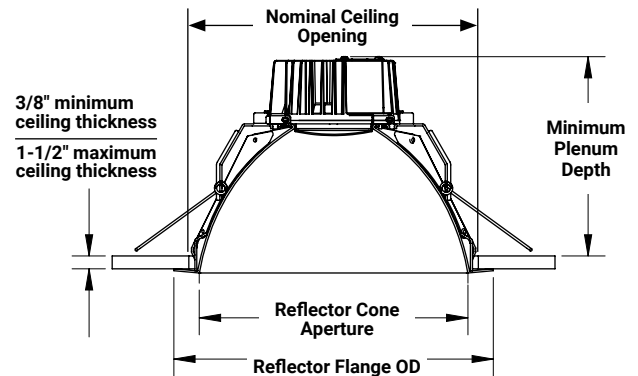
- Five year limited warranty, consult website for details. [www.cooperlighting.com/legal](http://www.cooperlighting.com/legal)

## Technical Data

### Ceiling Cutout Openings and Reflector Flange/Aperture

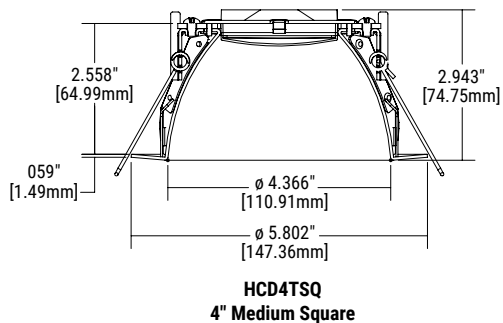
Ceiling Opening		Retrofit / Remodel & New Construction					
Type	Reflectors	Distribution	Nominal Ceiling Opening Remodel / Retrofit	Nominal Ceiling Opening New Construction	Minimum Plenum Depth*	Reflector Flange OD	Reflector Cone Aperture
Square	HCD4TSQ	Medium	5.000" Square	5.125" Frame lip outside	5.50"	5.80"	4.37"

\* 12.5" of plenum height required for Chicago Plenum module kits installation.



## Dimensions - Reflectors

### Medium Round Reflectors

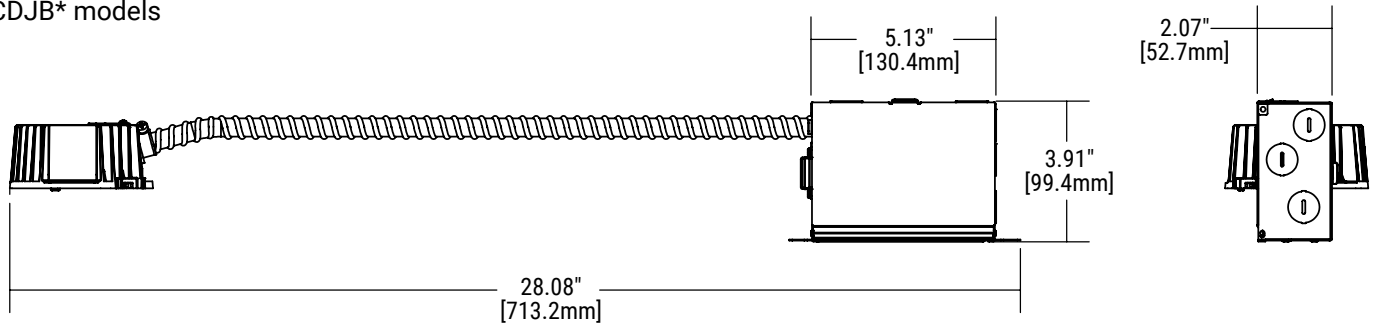




## Dimensions - Module Kits

### Junction Box Module Kit

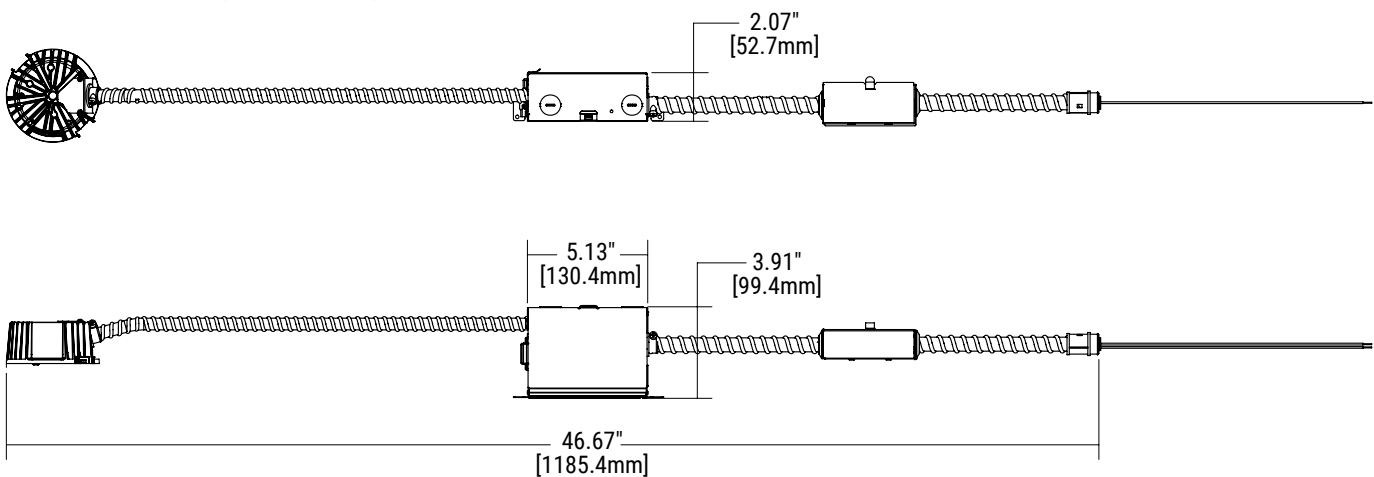
HCDJB\* models



### Quick Connect Module Kit

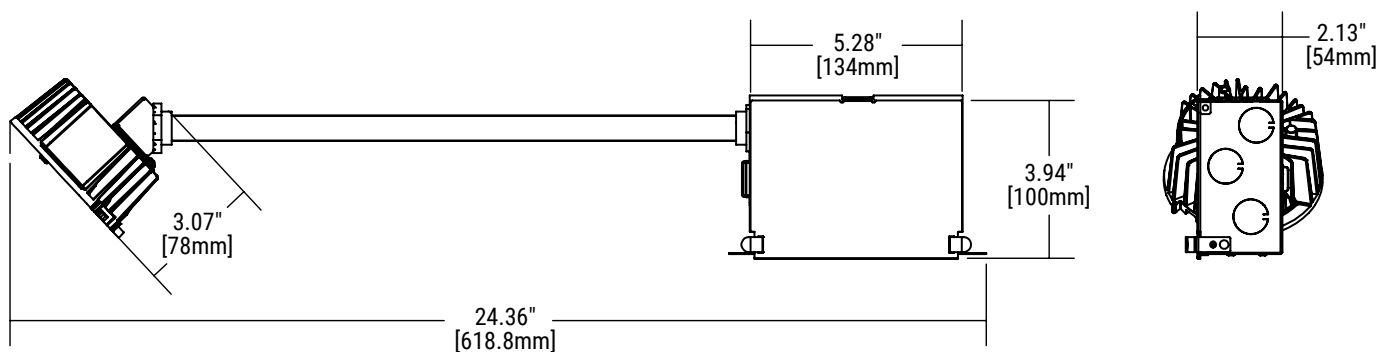
HCDQC\* models

HCDQC\*347 models (Canada only)



### Chicago Plenum Module Kit

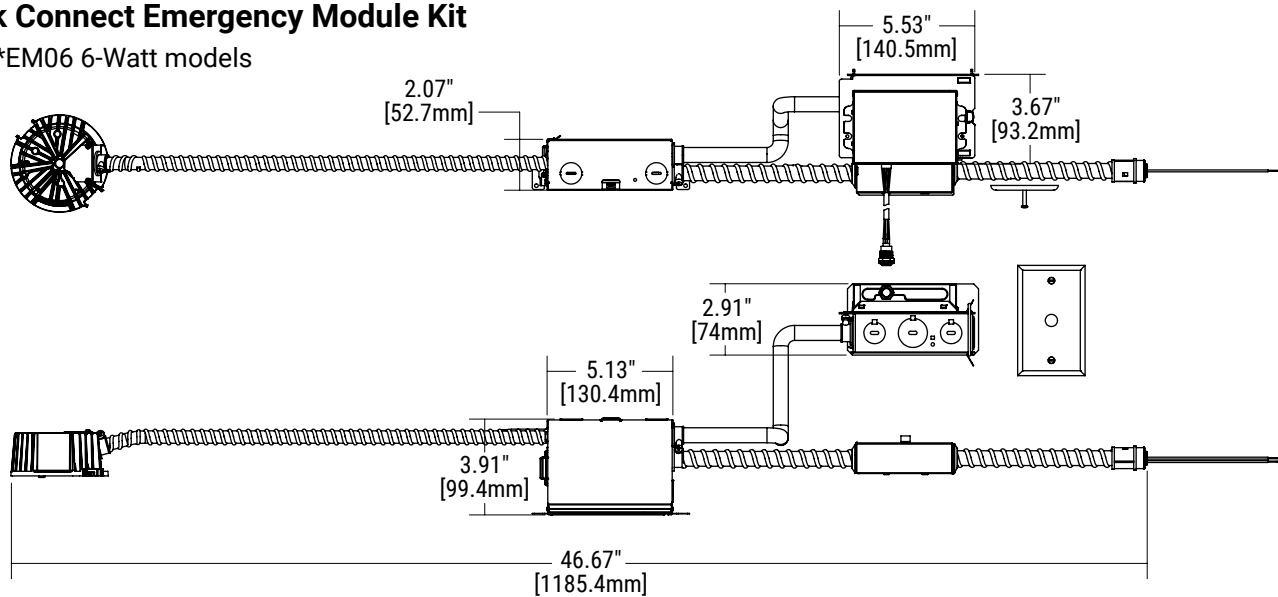
HCDCP\* models



## Dimensions - Module Kits

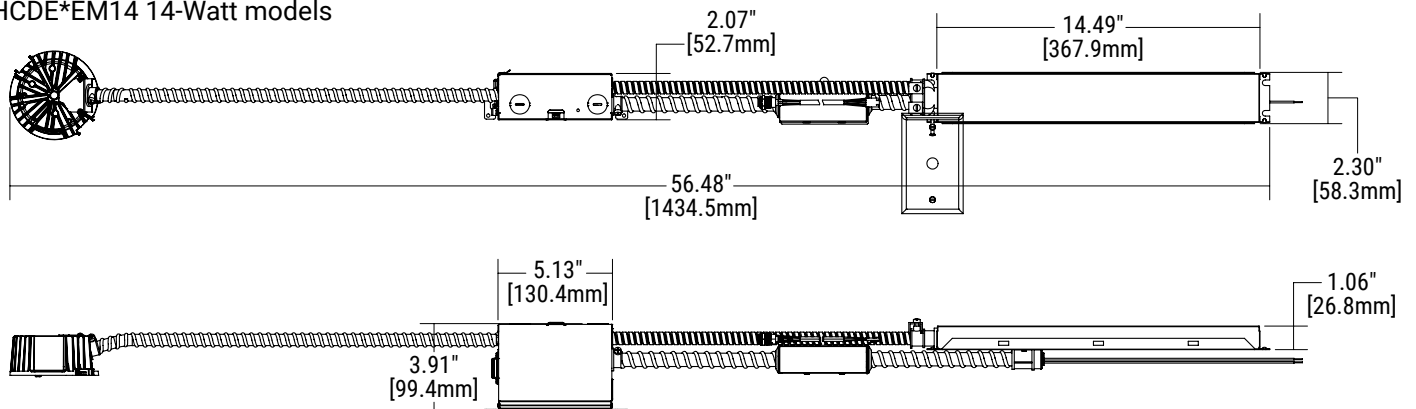
### Quick Connect Emergency Module Kit

HCDE\*EM06 6-Watt models



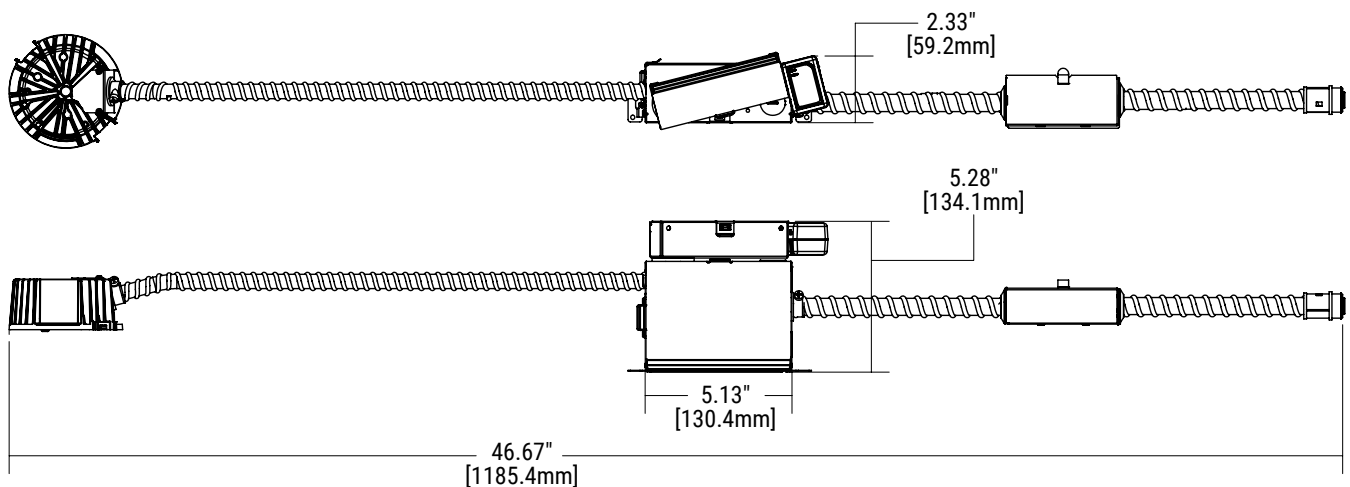
### Quick Connect Emergency Module Kit

HCDE\*EM14 14-Watt models



### Quick Connect WaveLinX Wireless Module Kit

HCDW\*WPN WaveLinX PRO models | HCDW\*WLN WaveLinX LITE models

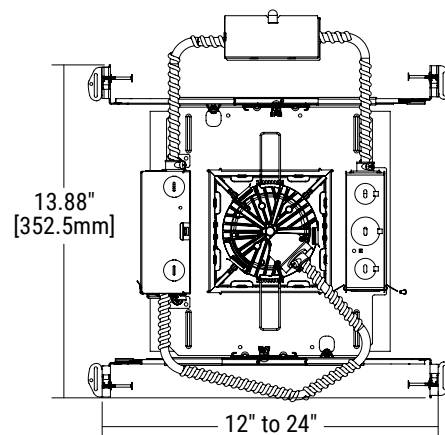
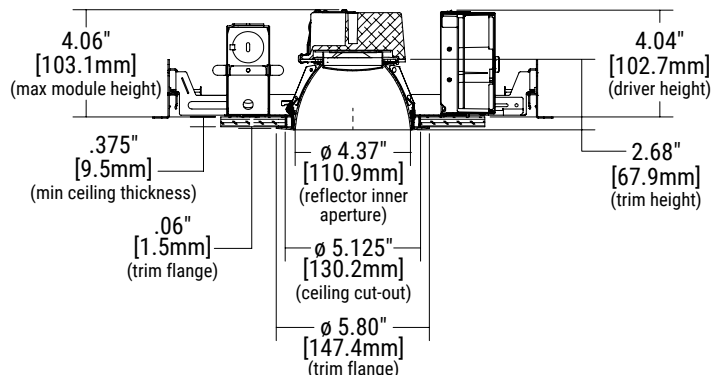




## Dimensions - Mounting Frame + Module Kit + Reflector

### 4" New Construction - Square

#### HCD4TSQ\*



Size	Max. Module Height	Trim Height	Trim Flange
4"	4.06"	2.68"	5.80"

\* Max. height with hanger bar bracket 4.0".

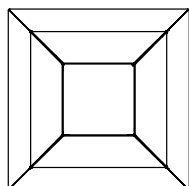
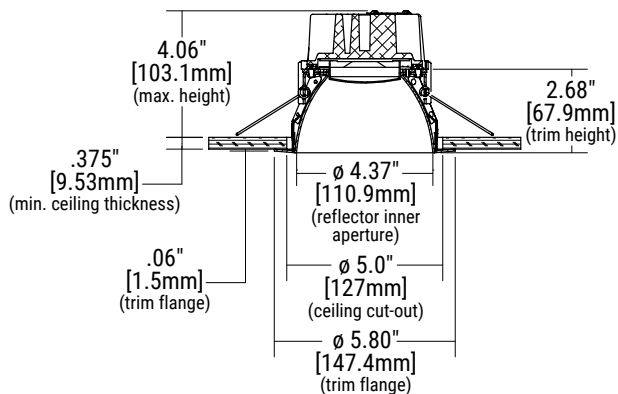
## Dimensions - Module Kit + Reflector

### 4" Retrofit - Medium Square Reflector & Oversized Goof Ring

(Rings designed for optimum fit with medium distribution series reflectors, but may be used with others as noted below)

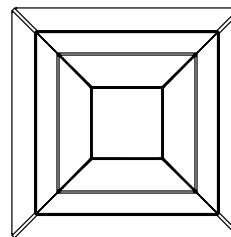
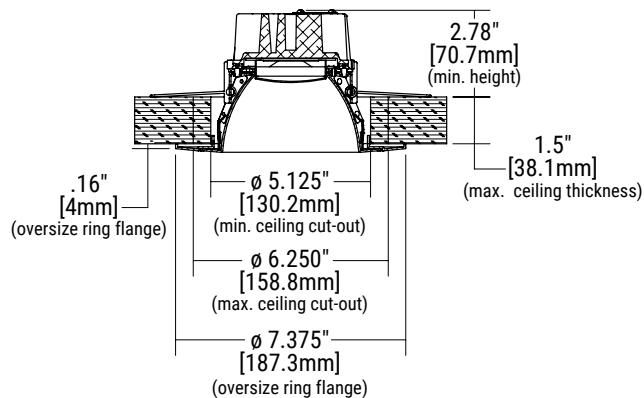
#### Medium

#### (HCD4TSQ\*)



#### Medium + Goof Ring

#### (HCD4TSQ\* + HCD4SGR\*)



## Energy Data

## 10W Energy Data

500 LM	120V	277V	347V	750 LM	120V	277V	347V	1000 LM	120V	277V	347V
Input Current (A)	0.053A	0.025A	0.018A	Input Current (A)	0.080A	0.036A	0.026A	Input Current (A)	0.104A	0.046A	0.033A
Input Power (W)	6.34W	6.47W	5.86W	Input Power (W)	9.61W	9.76W	8.68W	Input Power (W)	12.54W	12.61W	11.12W
Inrush (A)	3.7A	9.5A	1.05A	Inrush (A)	3.7A	9.5A	1.05A	Inrush (A)	3.7A	9.5A	1.05A
Inrush Duration (ms)	0.015ms	0.011ms	0.050ms	Inrush Duration (ms)	0.015ms	0.011ms	0.050ms	Inrush Duration (ms)	0.015ms	0.011ms	0.050ms

## 25W Energy Data

1500lm	120V	277V	347V	2000lm	120V	277V	347V	2500lm	120V	277V	347V
Input Current (A)	0.131A	0.060A	0.048A	Input Current (A)	0.173A	0.077A	0.073A	Input Current (A)	0.216A	0.095A	0.077A
Input Power (W)	15.68W	15.84W	15.71W	Input Power (W)	20.77W	20.9W	20.76W	Input Power (W)	25.91W	25.88W	25.82W
Inrush (A)	11.5A	22.8A	3.3A	Inrush (A)	11.5A	22.8A	3.3A	Inrush (A)	11.5A	22.8A	3.3A
Inrush Duration (ms)	0.004ms	0.003ms	0.034ms	Inrush Duration (ms)	0.004ms	0.003ms	0.034ms	Inrush Duration (ms)	0.004ms	0.003ms	0.034ms

## 40W Energy Data

3000lm	120V	277V	347V	3500lm	120V	277V	347V	4000lm	120V	277V	347V
Input Current (A)	0.255A	0.116A	0.093A	Input Current (A)	0.3A	0.135A	0.108A	Input Current (A)	0.338A	0.151A	0.121A
Input Power (W)	30.5W	30.6W	29.93W	Input Power (W)	35.9W	36.18W	34.85W	Input Power (W)	40.45W	40.45W	39.65W
Inrush (A)	12.5A	30A	3.9A	Inrush (A)	12.5A	30A	3.9A	Inrush (A)	12.5A	30A	3.9A
Inrush Duration (ms)	0.005ms	0.004ms	0.065ms	Inrush Duration (ms)	0.005ms	0.004ms	0.065ms	Inrush Duration (ms)	0.005ms	0.004ms	0.065ms

## 50W Energy Data

4000lm	120V	277V	347V	4500lm	120V	277V	347V	5000lm	120V	277V	347V
Input Current (A)	0.336A	0.151A	0.127A	Input Current (A)	0.382A	0.17A	0.192A	Input Current (A)	0.431A	0.189A	0.154A
Input Power (W)	40.21W	40.25W	39.83W	Input Power (W)	45.63W	45.74W	44.93W	Input Power (W)	50.75W	50.77W	49.64W
Inrush (A)	15.9A	38A	3.7A	Inrush (A)	15.9A	38A	3.7A	Inrush (A)	15.9A	38A	3.7A
Inrush Duration (ms)	0.005ms	0.004ms	0.075ms	Inrush Duration (ms)	0.005ms	0.004ms	0.075ms	Inrush Duration (ms)	0.005ms	0.004ms	0.075ms

## Energy Data - All Drivers

Frequency (Hz)	50/60Hz
THD %	≤20%
PF	≥0.90
Min start temp	-40°
T Ambient	35°
Sound Rating**	≤22dba

\* Emergency Battery packs are rated for Non-Insulated ceiling installation, and have a minimum starting temperature of 0°C.

\*\* Sound rating: Max at 1 ft at any dimming level.

## Lumen Data - 4-inch HCD4

Values based on medium distribution haze (semi-specular) finish reflector; field results and alternate finishes may vary. (Refer also to finish multipliers in photometry.)

Photometric lab testing per IES LM-79-08; field results may vary.

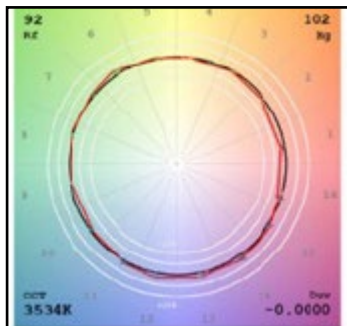
HCD4			2700K		3000K		3500K		4000K		5000K	
Module Kit Lumen Range	Lumen Selected	Wattage	Delivered Lumens	LPW	Delivered Lumens	LPW	Delivered Lumens	LPW	Delivered Lumens	LPW	Delivered Lumens	LPW
LS510	500	5.0	561	112	572	114	581	116	589	118	597	119
LS510	750	7.5	830	111	846	113	859	115	871	116	884	118
LS510	1000	10.0	1078	108	1099	110	1116	112	1132	113	1148	115
LS1525	1500	15.0	1640	109	1672	111	1698	113	1721	115	1747	116
LS1525	2000	20.0	2144	107	2186	109	2219	111	2250	113	2284	114
LS1525	2500	25.0	2610	104	2661	106	2701	108	2739	110	2780	111
LS3040	3000	28.5	3197	112	3260	114	3310	116	3356	118	3406	120
LS3040	3500	33.5	3679	110	3751	112	3808	114	3862	115	3919	117
LS3040	4000	38.5	4135	107	4217	110	4281	111	4341	113	4405	114
LS4550	4000	38.0	4070	107	4150	109	4213	111	4272	112	4335	114
LS4550	4500	44.0	4501	102	4589	104	4659	106	4725	107	4795	109
LS4550	5000	48.0	4909	102	5005	104	5081	106	5153	107	5229	109

HCD4 WallWash			2700K		3000K		3500K		4000K		5000K	
Module Kit Lumen Range	Lumen Selected	Wattage	Delivered Lumens	LPW	Delivered Lumens	LPW	Delivered Lumens	LPW	Delivered Lumens	LPW	Delivered Lumens	LPW
LS510	500	5.0	530	106	540	108	548	110	556	111	564	113
LS510	750	7.5	784	105	799	107	811	108	823	110	835	111
LS510	1000	10.0	1018	102	1038	104	1054	105	1069	107	1084	108
LS1525	1500	15.0	1549	103	1579	105	1603	107	1626	108	1650	110
LS1525	2000	20.0	2024	101	2064	103	2096	105	2125	106	2157	108
LS1525	2500	25.0	2464	99	2513	101	2551	102	2587	103	2625	105
LS3040	3000	28.5	3019	106	3079	108	3126	110	3169	111	3216	113
LS3040	3500	33.5	3474	104	3542	106	3596	107	3647	109	3701	110
LS3040	4000	38.5	3905	101	3982	103	4043	105	4100	106	4160	108
LS4550	4000	38.0	3843	101	3919	103	3978	105	4034	106	4094	108
LS4550	4500	44.0	4250	97	4334	98	4400	100	4462	101	4528	103
LS4550	5000	48.0	4635	97	4727	98	4799	100	4866	101	4938	103

To estimate lumen output in emergency mode, multiply nominal battery wattage by LPW. Example: 6W x 115 LPW = 690 lumens.

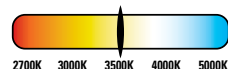
## COLOR METRICS - TM-30-15 &amp; CRI/CIE (3500K)

## 90 CRI Color Metric Summary - 3500K\*

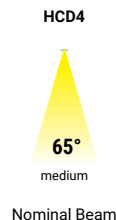


Reference Illuminant — Test Source

TM-30-15	Rf = 92
	Rg = 102
CRI/CIE	Ra = 95.3
	R9 = 77.9



## BEAM ANGLES

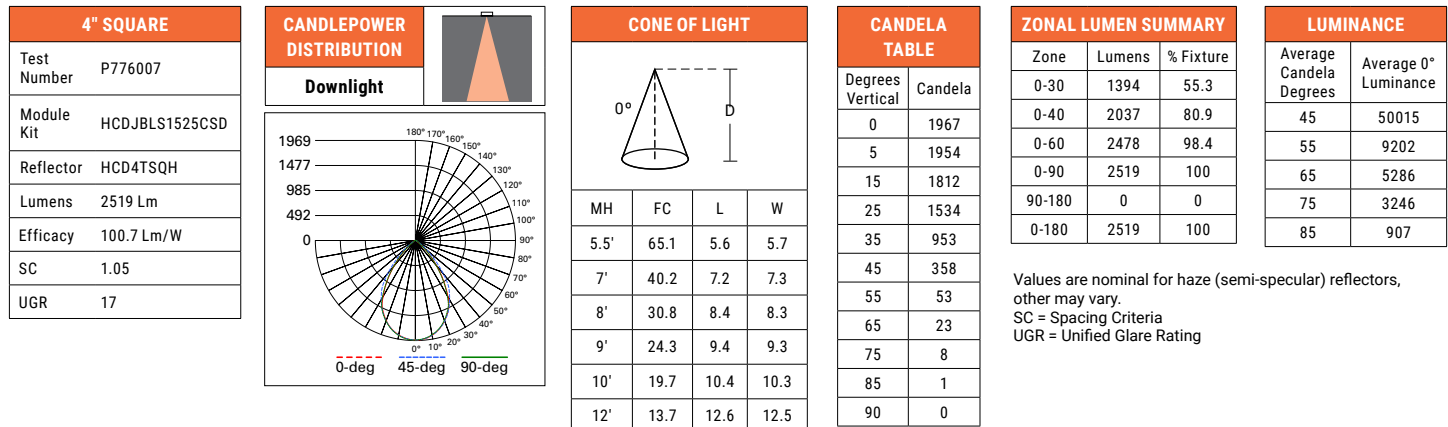


### Photometric Data

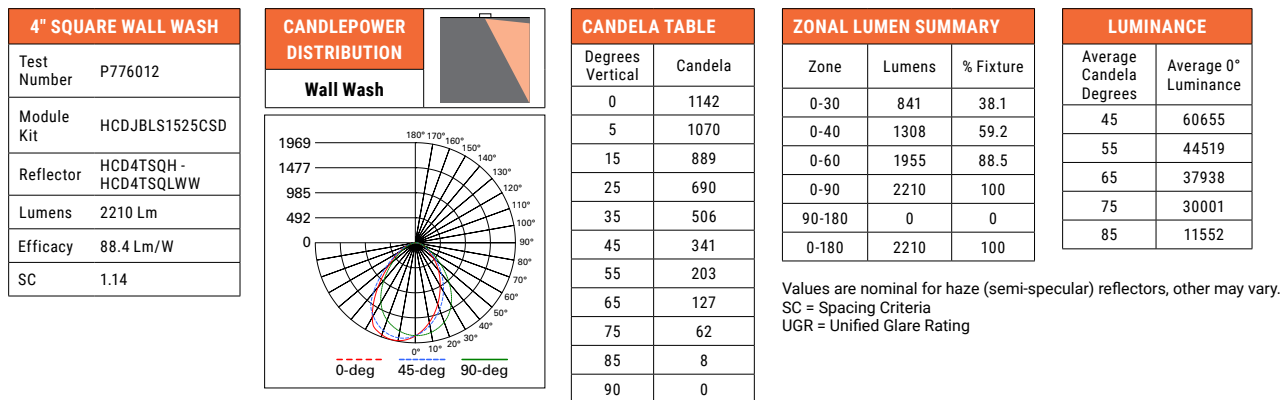


**Note:** Refer to IES files for specific tested values & data.

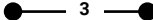
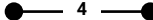
#### 4" SQUARE - MEDIUM DISTRIBUTION - HAZE FINISH, 2500 LUMEN MODEL, 90 CRI, 3500K



#### 4" SQUARE - MEDIUM WALL WASH DISTRIBUTION - HAZE FINISH, 2500 LUMEN MODEL, 90 CRI, 3500K



SINGLE UNIT FOOTCANDLES							
2.5' from wall (distance from fixture along wall)							
1	13.3	10.6	5.5	2.5	1.2	0.6	0.3
2	18.5	15.4	9.1	4.4	2.3	1.2	0.7
3	17.8	15.7	10.6	6	3.1	1.7	1
4	13.3	12.2	9.3	6.1	3.6	2.1	1.2
5	9.4	8.8	7.3	5.3	3.6	2.2	1.4
6	6.7	6.4	5.6	4.4	3.2	2.2	1.5
7	4.9	4.7	4.2	3.5	2.7	2	1.4
8	3.6	3.5	3.2	2.7	2.3	1.8	1.3
9	2.7	2.6	2.5	2.2	1.8	1.5	1.2
10	2.1	2	1.9	1.7	1.5	1.3	1

MULTIPLE UNIT FOOTCANDLES						
2.5' from wall (Distance from fixture along wall)				2.5' from wall (Distance from fixture along wall)		
						
1	15.6	15.3	15.8	14.4	10.6	14.5
2	22.7	23.8	22.9	20.6	17.8	20.8
3	23.6	26.4	23.8	20.8	21	21
4	19.2	21.7	19.4	16.8	18.5	16.9
5	14.7	16.4	14.8	12.9	14.6	13
6	11	12.1	11.1	9.9	11.1	9.9
7	8.3	8.9	8.3	7.5	8.4	7.6
8	6.3	6.7	6.3	5.8	6.4	5.8
9	4.9	5.1	4.9	4.5	4.9	4.5
10	3.8	4	3.8	3.6	3.8	3.6

#### Photometric Multipliers (Nominal Lumen Values)

500 Lumen	750 Lumen	1000 Lumen	1500 Lumen	2000 Lumen	2500 Lumen	3000 Lumen	3500 Lumen	4000 Lumen	4000 Lumen	4500 Lumen	5000 Lumen
0.21	0.32	0.41	0.63	0.82	1.00	1.23	1.41	1.58	1.56	1.72	1.88

Multipliers for relative lumen values with other series models.

#### Color Finish Multipliers

Finish code	C	H	W/WB	BB
Finish	Specular Clear	Haze (Semi-Specular)	Matte White	Matte Black
Multiplier	1.08	1.00	0.94	0.59

Multipliers for relative lumen values with other color finishes.

#### CCT Multipliers - 90CRI

2700K	3000K	3500K	4000K	5000K
0.97	0.98	1.00	1.01	1.03

Multipliers for relative lumen values with other series color temperatures.

**Note:** To estimate lumen output in emergency mode, multiply the nominal battery wattage by the LPW of the fixture.

## Connected Solutions



### WaveLinX LITE Wireless Node - WLN

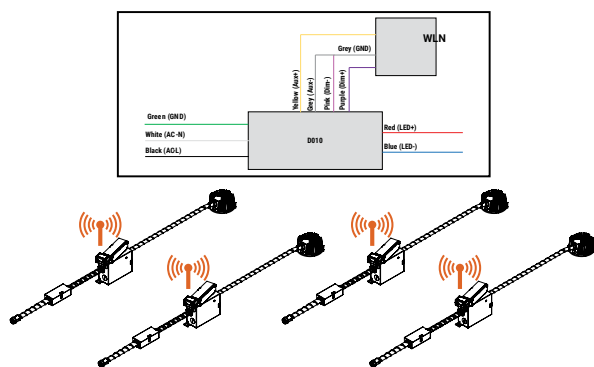
WaveLinX LITE devices only compatible with the WaveLinX LITE system.

- 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

#### 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



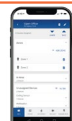
**Downlights with wireless communication**  
Highly efficient LED fixtures



**WaveLinX Area Controller**  
Provides centralized coordination of multiple area control options

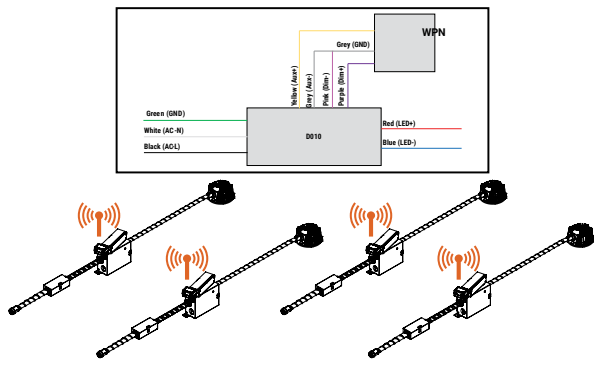


**Wireless Wall Station/Receptacle**  
Provides customized wireless control of each area



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

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



#### WaveLinX CORE Building Management Integration

