Project	Catalog #	Туре	
Prepared by	Notes	Date	



Interactive Menu

- Order Information page 2
- · Product Specifications page 4
- Product Dimensions page 6
- Energy Data page 11
- Photometric Data page 13
- · Dimming Guide

HALO Commercial

HCD Professional Direct Mount Commercial Downlighting System

6" · Round · 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































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 round reflectors Medium / Wide / Narrow (match HC Series)
- · 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











HALO Commercial

HCD 6" Round Direct Mount Downlights & Wall Washers

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	HCD6TRWF	[No Frame]	
New Construction with Frame	HCDQCLS510CSD	HCD6TRWF	HCD6MFRQC	

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

Domestic Preferences (2)	Module Kit
[Blank]=Standard BAA=Buy American Act TAA=Trade Agreements Act	Junction Box Module Kit HCDJB = 6" Junction Box Module Kit: LED Engine & Driver on 20" flex conduit (Input wiring and connectors by installer).
The race rigidal and rec	Quick Connect Module Kit HCDQC = 6" 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.
	Emergency Module Kit HCDE = 6" 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 Note: IEM reflector must be ordered separately for integral emergency.
	WaveLinx Wireless Module Kit w/ Quick Connect HCDW = 6" 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: WPN (WaveLinx PRO) or WLN (WaveLinx LITE)
	Chicago Plenum Module Kit (5) HCDCP = 6" 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).
Notes	Notes
(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 <u>DOMESTIC_PREFERENCES</u> website for more information.	(5) 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. All - Module Kits Notes 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.

	Driver				
Lumen Selectable*	Factory Preset Lumens**	Color Selectable*	D = Dimmable, UNV 120-277V, 50/60Hz		
LS510 = 500/750/1000lm (Preset 1000lm)	L05 = 500 lumen - IC	CS = 90CRI, selectable 2700K-3000K-3500K-4000K-5000K	0-10V 1%-100% dimming at 120-277V on 0-10V controls.		
Type IC, air permeable insulation contact	L07 = 750 lumen – IC L10 = 1000 lumen - IC	(Preset at 3500K)	Compatible with WaveLinx Wireless dim-to-off functionality.		
LS1525 = 1500/2000/2500lm (Preset 2500lm) Type Non-IC, insulation 3" spacing	L15 = 1500 lumen - Non-IC L20 = 2000 lumen - Non-IC L25 = 2500 lumen - Non-IC	Factory Preset CCT** 927 = 90CRI, 2700K 930 = 90CRI, 3000K	Canada Option D347 = Dimmable 347VAC 50/60Hz 0-10V 1%-100% dimming. Available on HCDQC module kits only.		
LS3040 = 3000/3500/4000lm (Preset 4000lm) Type Non-IC, Marked Spacing, see note below***	L30 = 3000 lumen - Non-IC*** L35 = 3500 lumen - Non-IC*** L40 = 4000 lumen- Non-IC*** L41 = 4000 lumen- Non-IC***	935 = 90CRI, 3500K 940 = 90CRI, 4000K 950 = 90CRI, 5000K	Canada only. (1)		
LS4050 = 4000/4500/5000lm (Preset 5000lm)	L45 = 4500 lumen- Non-IC***				
Type Non-IC, Marked Spacing, see note below***	L50 = 5000 lumen- Non-IC***				
	Notes		Notes		
	(0) Selectable Lumen and Selectable CCT must be specified together - Selectable example: LS510, CS				
Factory Preset Lumen and CCT must be specified together - Fixed					
*Field-selected switch settings by installer accessed in hinged sr **Factory preset individual switch settings secured under fixed co					
***3000/3500/4000, 4000/4500/5000lm Non-IC, Marked Spacing					
Non-IC, Marked Spacing – Marked Spacing Center to Center of Adjacent Luminaires = 36"	/ - Center of Luminaire to Building Member = 18"	/ - Minimum overhead = 0.5"			

Factory Options
Emergency Options (Add emergency suffix code option to HCDE emergency module kits only) EM06 = 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. (1)(0)(4) EM14 = 14-wat 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. (1)(3)(4)
WaveLinx Options (Add WaveLinx suffix code option to HCDW WaveLinx module kits only) WPN = WaveLinx PRO Wireless Node & Power Pack. Add WPN code to HCDW module kits. Option only with HCDW module kits. (3) (4) WLN = WaveLinx LITE Wireless Node & Power Pack. Add WLN code to HCDW module kits. Option only with HCDW module kits. (3) (4)
Emergency Options with WaveLinx (Add emergency with WaveLinx suffix code option to HCDE emergency module kits only) (6) EMOGWPN = 6-watt emergency with WaveLinx Pro Wireless Node EMOGWLN = 6-watt emergency with WaveLinx LITE Wireless Node EM14WPN = 14-watt emergency with WaveLinx Pro Wireless Node EM14WPN = 14-watt emergency with WaveLinx LITE Wireless Node
Notes .

(1) Not available with Chicago Plenum models

(6) For Emergency Options with WaveLinx, order HCDE module kit

(3) Not available with D347 (347V models)

(4) Use with "D" driver

Flex conduit w/ 5-conductor quick connects on each end. Extend connection between module kit and new construction frame.

HCDX06 = 6 ft. Extension Cable

HCDX12 = 12 ft. Extension Cable

HCDX20 = 20 ft. Extension Cable

Use with HCD4MFQC, HCD6MFQC & HCD8MFQC Quick Connect Mounting

Use with HCD468QC*, HCD468W* Quick Connect Module Kits only

Notes

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 (2)	Reflectors	Туре	Finish	Emergency	Wall Wash Accessory Kits (Field Installed - Order Separately)
[Blank]=Standard BAA=Buy American Act TAA=Trade Agreements Act	Medium Reflector HCD6T = 6" Medium 70" Distribution Reflector Wide (Shallow) Reflector HCD61T = 6" Wide (Shallow) 85" Distribution Reflector* Narrow Reflector HCD62T = 6" Narrow 55" Distribution Reflector*	R = Round	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.	Medium Wall Wash Kit HCD6TRLWW = 6" Round Lensed Wall Wash Kit Wide (Shallow) Wall Wash Kit HCD61TRLWW = 6" Wide (Shallow) Round Lensed Wall Wash Kit Narrow Wall Wash Kit HCD62TRLWW = 6" Narrow Lensed Wall Wash Kit
(2) Only product configurations with these designated prefixes are built to be compilant with the Buy American Act of 1933 (BAA) or Trade Agreements Act of 1979 (TAA), respectively. Please refer to DOMESTIC PREFERENCES website for more information.	Reflector notes: Reflectors work with all module kits Compatible with HCD6MFR* round aperture mounting frames Reflectors attach to module kits and install from below the ceiling opening with integral mousetrap springs Maximum ceiling thickness 1.5* Wall wash kits are accessories for field installation Direct-mount requires a precise aperture cutout 6* Round = 6.375* Retrofit & New			IEM Notes: 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	Wall wash kits are not available for IEM reflectors. For BAA/TAA wall wash option, add "WW" to the reflector catalog (example: TAA-HCD6TRCWW).

Accessories Order Information

Oversize Medium "Goof" Ring	Туре	1	Finish
HCD6G = 6" Goof Ring for Medium Reflectors Round - 6.50" MIN ceiling opening 7.875" MAX ceiling opening, 8.875" OD	R = Round	C = Specular Clear H = Haze (Semi-specular)	MW = Matte White (paintable) MB = Matte Black

Mounting Frames Order Information

Domestic Preferences (2)		Accessories
[Blank]=Standard BAA=Buy American Act TAA=Trade Agreements Act	Basic New Construction Mounting Frames HCD6MFR = 6" Round mounting frame Ceiling cut-outs: Round 6.375"	<u>Description:</u> Basic mounting frame only, no additional junction box for through-wiring. (Thumb screws on frame for securing the Module Kit Driver-Box.) Install frame and LED Module kit together during rough-in phase. Installer supplies wire to Module Kit.
	Junction Box New Construction Mounting Frames HCD6MFRJB = 6" Round mounting frame Ceiling cut-outs: Round 6.375"	Description: Mounting frame with Trade-Size Junction Box for through-wiring. Thumb screws on frame for securing the Module Kit Driver-Box. Install frame and LED Module kit together during rough-in phase. Installer provides wire to junction box and between junction box and Module Kit.
	Quick Connect New Construction Mounting Frames HCD6MFRQC = 6" Round mounting frame Ceiling cut-outs: Round 6.375" Description: Mounting frame with Trade-Size Junction Box for through-wiring and Quick Connection from the Second Connectio	
	Chicago Plenum New Construction Mounting Frames HCD6MFRCP = 6" Round mounting frame Ceiling cut-outs: Round 6.375"	Description: Chicago Plenum mounting frame with CCEA compliant Trade-Size Juntion box for through-wiring. (Thumb screws on frame for securing the Module Kit Driver-Box.) Install frame and LED Module kit together during rough-in phase. Installer provides wire to junction box and between junction box and Module Kit.
Notes		Notes
(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 DOMESTIC PREFERENCES website for more information.	New Construction Mounting Frame Notes; - Type-IC with low-lumen module kits 500-750-1000lm - Type Non-IC with mid-lumen 1500-2000-2500lm - Type Non-IC, Marked Spacing with mid/high-lumen 3000-3500-4000lm and I - Chicago Plenum (CP) new construction mounting frames are CCEA complia	nigh-lumen 4000-4500-5000lm module kits (36" center-to-center, 18" center to building member, 0.5" minimum overhead spacing). Int with pre-installed J-box for mains input, and Type Non-IC rated per CCEA

HCD Module Kit & Mounting Frame Compatibility

Н	HCD Pro System downlights can be installed as retrofit, remodel, direct-mount new construction, or traditional frame new construction.		Frameless		Mounting Frames			
re			Retrofit,	Basic	Junction Box	Quick Connect	Chicago Plenum	
All HCD Module Kits fit all HCD trims.		remodel, and new construction direct-mount						
	Junction Box (Base)		√ 1	√ 1	√ 2			
Module Kits	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
- Round aperture diameter sized for industry standard hole saws HCD6 = 6.375"
- 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 in3 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-condutor 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 50000K 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 quickconnect 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 Round Reflectors

- 4", 6", 8" round reflectors designed to fit all module kits
- · Round spun 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
- Round 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)

Narrow Distribution Round Reflectors

- 4", 6", 8" round reflector designs fit all module kits
- Narrow distribution dimensions equivalent to HALO Commercial HC series 41x-61x-81x reflectors, allowing use of HCD and HC series on the same job for consistent appearance
- · Round spun aluminum
- Available in specular and haze (semi-specular), matte white and matte black painted finishes.
 Matte white is paintable (overpaint by others)
- Deep regressed LED source for low glare, UGR < 19
- Prismatic lensed wall-wash accessory kits for field installation
- Narrow reflector optical design delivers wide 0.7 spacing criteria and 50 degree cutoff (nominal, field results may vary by aperture and finish)

Wide (Shallow) Distribution Round Reflectors

- 4", 6", 8" round shallow reflector designs fit all module kits
- Ultra-shallow for installation in reduced plenum heights
- Wide distribution optical design delivers wide 1.28 spacing criteria and 65°+ cutoff (nominal, field results may vary by aperture and finish)
- · Round spun aluminum
- Available in specular and haze (semi-specular), matte white and matte black painted finishes.
 Matte white is paintable (overpaint by others)
- Shallow regression of LED source, UGR < 23
- Shallow prismatic lensed wall-wash accessory kits 6" and 8" for field installation (shallow wall wash not available in 4")

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 <u>DOMESTIC</u> <u>PREFERENCES</u> 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. <u>www.cooperlighting.com/legal</u>

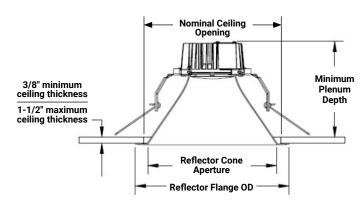


Technical Data

Ceiling Cutout Openings and Reflector Flange/Aperture

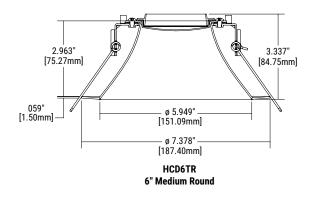
Ceiling Opening		Retrofit / Remodel & New Construction						
Туре	Reflectors	Distribution	Nominal Ceiling Opening	Nominal Ceiling Opening	Minimum Plenum Depth*	Reflector Flange OD	Reflector Cone Aperture	
			Remodel / Retrofit	New Construction	200		7.00.14.10	
	HCD6TR	Medium				5.50"	7.38"	5.95"
Round	HCD61TR	HCD61TR Wide 6.375" 6.375" 6.375" Standard Hole Saw Standard Hole Saw	4.00"	7.76"	6.08"			
	HCD62TR	Narrow			5.50"	7.76"	6.08"	

^{* 12.5&}quot; of plenum height required for Chicago Plenum module kits installation.

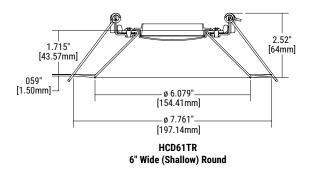


Dimensions - Reflectors

Medium Round Reflectors

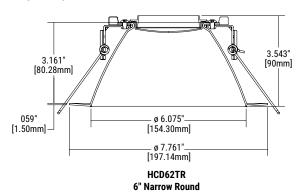


Wide (Shallow) Reflectors



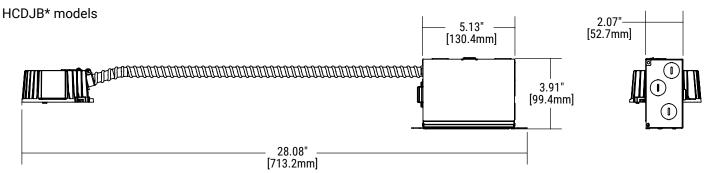
Narrow Reflectors

Flange & optic dimensions match HC Series Round Reflectors (61x)



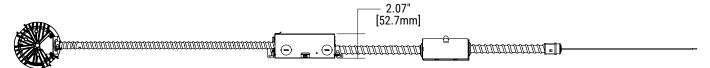
Dimensions - Module Kits

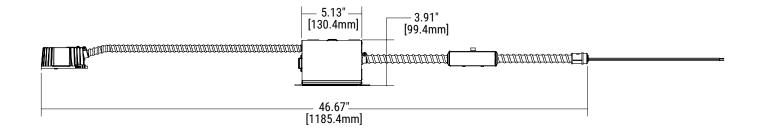
Junction Box Module Kit



Quick Connect Module Kit

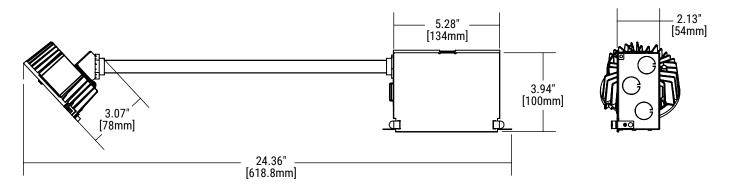
HCDQC* models HCDQC*347 models (Canada only)





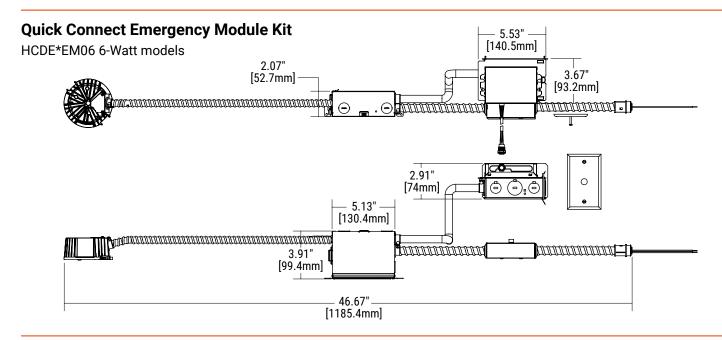
Chicago Plenum Module Kit

HCDCP* models

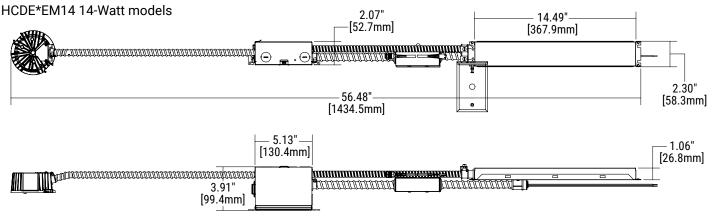




Dimensions - Module Kits

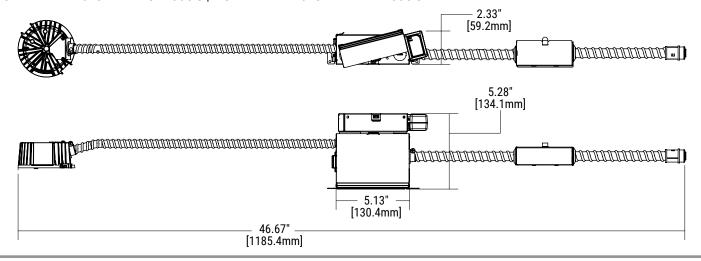


Quick Connect Emergency Module Kit



Quick Connect WaveLinx Wireless Module Kit

HCDW*WPN WaveLinx PRO models | HCDW*WLN WaveLinx LITE models

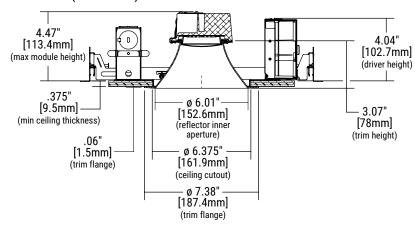




Dimensions - Mounting Frame + Module Kit + Reflector

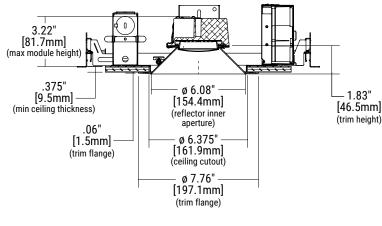
6" New Construction - Round

Medium (HCD6TR*)



12.16" [308.8mm] 15.33" [389.3mm]

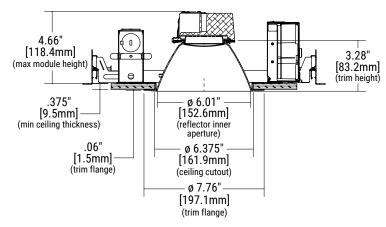
Wide (Shallow) (HCD61TR*)



Model	Distribution	Max. Module Height	Trim Height	Trim Flange
HCD62TR	Narrow	4.66"	3.28"	7.76"
HCD6TR	Medium	4.47"	3.07"	7.38"
HCD61TR	Wide	3.22"	1.83"	7.76"

^{*} Max. height with hanger bar bracket 4.0".

Narrow (HCD62TR*)



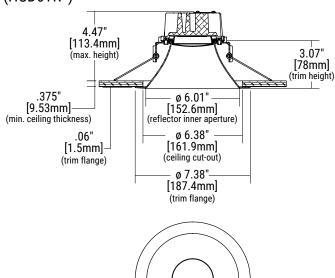
Dimensions - Module Kit + Reflector

6" Retrofit - Medium Round Reflector & Oversized Goof Ring

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

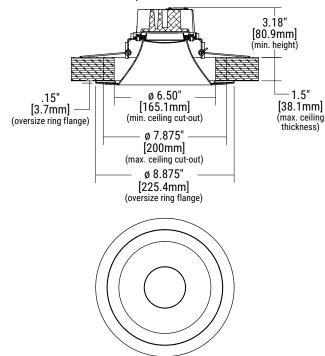
Medium

(HCD6TR*)



Medium + Goof Ring

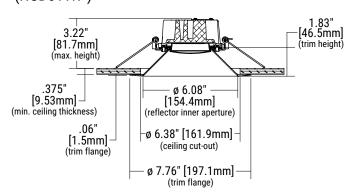
(HCD6TR* + HCD6GR*)

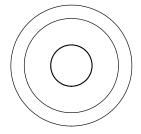


6" Retrofit - Wide (Shallow) Round Reflector & Narrow Round Reflector

Wide (Shallow)

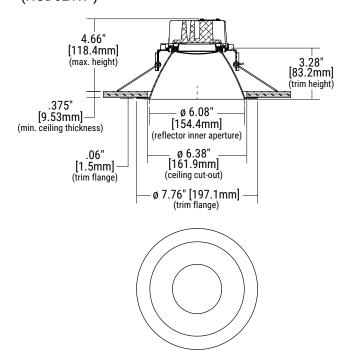
(HCD61TR*)





Narrow

(HCD62TR*)



Energy Data

500 LM	120V	277V	347V
Input Current (A)	0.053A	0.025A	0.018A
Input Power (W)	6.34W	6.47W	5.86W
Inrush (A)	3.7A	9.5A	1.05A
Inrush Duration (ms)	0.015ms	0.011ms	0.050ms

10W Energy Data			
750 LM	120V	277V	347V
Input Current (A)	0.080A	0.036A	0.026A
Input Power (W)	9.61W	9.76W	8.68W
Inrush (A)	3.7A	9.5A	1.05A
Inrush Duration (ms)	0.015ms	0.011ms	0.050ms

1000 LM	120V	277V	347V
Input Current (A)	0.104A	0.046A	0.033A
Input Power (W)	12.54W	12.61W	11.12W
Inrush (A)	3.7A	9.5A	1.05A
Inrush Duration (ms)	0.015ms	0.011ms	0.050ms

1500lm	120V	277V	347V
Input Current (A)	0.131A	0.060A	0.048A
Input Power (W)	15.68W	15.84W	15.71W
Inrush (A)	11.5A	22.8A	3.3A
Inrush Duration (ms)	0.004ms	0.003ms	0.034ms

2011 Elicity Data			
2000lm	120V	277V	347V
Input Current (A)	0.173A	0.077A	0.073A
Input Power (W)	20.77W	20.9W	20.76W
Inrush (A)	11.5A	22.8A	3.3A
Inrush Duration (ms)	0.004ms	0.003ms	0.034ms

2500lm	120V	277V	347V
Input Current (A)	0.216A	0.095A	0.077A
Input Power (W)	25.91W	25.88W	25.82W
Inrush (A)	11.5A	22.8A	3.3A
Inrush Duration (ms)	0.004ms	0.003ms	0.034ms

3000lm	120V	277 V	347V
Input Current (A)	0.255A	0.116A	0.093A
Input Power (W)	30.5W	30.6W	29.93W
Inrush (A)	12.5A	30A	3.9A
Inrush Duration (ms)	0.005ms	0.004ms	0.065ms

40W Energy Data			
3500lm	120V	277 V	347V
Input Current (A)	0.3A	0.135A	0.108A
Input Power (W)	35.9W	36.18W	34.85W
Inrush (A)	12.5A	30A	3.9A
Inrush Duration (ms)	0.005ms	0.004ms	0.065ms

4000lm	120V	277V	347V
Input Current (A)	0.338A	0.151A	0.121A
Input Power (W)	40.45W	40.45W	39.65W
Inrush (A)	12.5A	30A	3.9A
Inrush Duration (ms)	0.005ms	0.004ms	0.065ms

120V	277V	347V
0.336A	0.151A	0.127A
40.21W	40.25W	39.83W
15.9A	38A	3.7A
0.005ms	0.004ms	0.075ms
	0.336A 40.21W 15.9A	0.336A 0.151A 40.21W 40.25W 15.9A 38A

50W Energy Data			
4500lm	120V	277V	347V
Input Current (A)	0.382A	0.17A	0.192A
Input Power (W)	45.63W	45.74W	44.93W
Inrush (A)	15.9A	38A	3.7A
Inrush Duration (ms)	0.005ms	0.004ms	0.075ms

5000lm	120V	277V	347V
Input Current (A)	0.431A	0.189A	0.154A
Input Power (W)	50.75W	50.77W	49.64W
Inrush (A)	15.9A	38A	3.7A
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	

^{**} Sound rating: Max at 1 ft at any dimming level.



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

Lumen Data - 6-inch HCD6

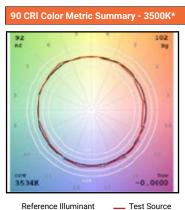
Values based on medium distribution haze (semi-specular) finish reflector; field results and alternate finishes may vary. (Refer also to finish multipliers in photometry.) Photometric lab testing per IES LM-79-08; field results may vary.

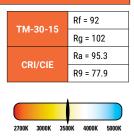
HCD6			270	00K	300	00K	350	00K	400	OOK	500	00K
Module Kit Lumen Range	Lumen Selected	Wattage	Delivered Lumens	LPW								
LS510	500	5.0	597	119	609	122	618	124	627	125	636	127
LS510	750	7.5	884	118	901	120	915	122	928	124	942	126
LS510	1000	10.0	1148	115	1171	117	1188	119	1205	121	1223	122
LS1525	1500	15.0	1746	116	1781	119	1808	121	1833	122	1860	124
LS1525	2000	20.0	2283	114	2328	116	2363	118	2396	120	2432	122
LS1525	2500	25.0	2779	111	2834	113	2877	115	2917	117	2960	118
LS3040	3000	28.5	3405	119	3472	122	3525	124	3574	125	3627	127
LS3040	3500	33.5	3917	117	3995	119	4056	121	4112	123	4173	125
LS3040	4000	38.5	4404	114	4491	117	4559	118	4623	120	4692	122
LS4550	4000	38.0	4334	114	4419	116	4487	118	4549	120	4617	121
LS4550	4500	44.0	4793	109	4887	111	4962	113	5031	114	5106	116
LS4550	5000	48.0	5227	109	5330	111	5411	113	5487	114	5569	116

HCD6 WallWash			270)0K	300)0K	350	00K	400)0K	500)0K
Module Kit Lumen Range	Lumen Selected	Wattage	Delivered Lumens	LPW								
LS510	500	5.0	535	107	545	109	554	111	561	112	570	114
LS510	750	7.5	792	106	807	108	819	109	831	111	843	112
LS510	1000	10.0	1028	103	1048	105	1064	106	1079	108	1095	110
LS1525	1500	15.0	1564	104	1595	106	1619	108	1642	109	1666	111
LS1525	2000	20.0	2044	102	2085	104	2116	106	2146	107	2178	109
LS1525	2500	25.0	2489	100	2538	102	2576	103	2612	104	2651	106
LS3040	3000	28.5	3049	107	3109	109	3156	111	3200	112	3248	114
LS3040	3500	33.5	3508	105	3577	107	3632	108	3682	110	3737	112
LS3040	4000	38.5	3944	102	4021	104	4083	106	4140	108	4201	109
LS4550	4000	38.0	3881	102	3957	104	4018	106	4074	107	4134	109
LS4550	4500	44.0	4292	98	4377	99	4443	101	4506	102	4572	104
LS4550	5000	48.0	4681	98	4773	99	4846	101	4914	102	4986	104

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 & CRI/CIE (3500K)









^{*} Color values are based on HCD42TRMW reflector, other finishes and field results may vary.

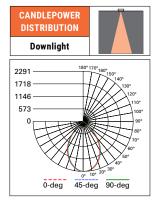
Photometric Data



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

6" ROUND - MEDIUM DISTRIBUTION - HAZE FINISH, 2500 LUMEN MODEL, 90 CRI, 3500K

6" ROUND					
Test Number	P776082				
Module Kit	HCDJBLS1525CSD				
Reflector	HCD6TRH				
Lumens	2877 Lm				
Efficacy	115.1 Lm/W				
SC	1.02				
UGR	16				



CONE OF LIGHT							
000							
МН	FC	L	W				
5.5'	75.7	5.5	5.5				
7'	46.8	7.1	7.1				
8'	35.8	8.1	8				
9'	28.3	9.1	9.1				
10'	22.9	10.1	10.1				
12'	15.9	12.2	12.2				

CANDELA TABLE					
Degrees Vertical	Candela				
0	2288				
5	2269				
15	2084				
25	1738				
35	1247				
45	575				
55	98				
65	1				
75	0				
85	0				
90	0				

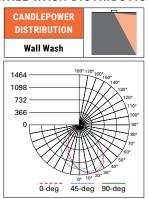
ZONAL LUMEN SUMMARY							
Zone	Lumens	% Fixture					
0-30	1576	54.8					
0-40	2328	80.9					
0-60	2873	99.9					
0-90	2877	100					
90-180	0	0					
0-180	2877	100					

LUMINANCE					
Average Candela Degrees	Average 0° Luminance				
45	44609				
55	9395				
65	169				
75	64				
85	0				
85	0				

Values are nominal for haze (semi-specular) reflectors, other may vary. SC = Spacing Criteria UGR = Unified Glare Rating

6" ROUND - MEDIUM WALL WASH DISTRIBUTION - HAZE FINISH, 2500 LUMEN MODEL, 90 CRI, 3500K

6" ROUND WALL WASH				
Test Number	P776087			
Module Kit	HCDJBLS1525CSD			
Reflector	HCD6TRH - HCD6TRLWW			
Lumens	2576 Lm			
Efficacy	1034 Lm/W			
sc	1.17			



CANDELA TABLE					
Degrees Vertical	Candela				
0	1310				
5	1386				
15	1461				
25	1428				
35	1258				
45	855				
55	459				
65	202				
75	65				
85	4				
90	0				

ZONAL LU	ZONAL LUMEN SUMMARY						
Zone	Lumens	% Fixture					
0-30	979	38					
0-40	1550	60.2					
0-60	2358	91.5					
0-90	2576	100					
90-180	0	0					
0-180	2576	100					

LUMIN	NANCE
Average Candela Degrees	Average 0° Luminance
45	66317
55	43841
65	26190
75	13704
85	2830

Values are nominal for haze (semi-specular) reflectors, other may vary. SC = Spacing Criteria UGR = Unified Glare Rating

SINGLE UNIT FOOTCANDLES									
2.5' from wall (distance from fixture along wall) ————									
1	18.8	13	5.4	1.9	0.7	0.3	0.1		
2	44.8	32	15.2	6.2	2.5	1.1	0.5		
3	45.9	36.2	20.4	9.7	4.5	2.1	1		
4	31.7	27.7	19.2	10.9	5.7	3	1.6		
5	20.2	18.5	14.5	9.9	6	3.5	2		
6	13.2	12.3	10.3	7.9	5.5	3.5	2.2		
7	8.9	8.4	7.4	6	4.6	3.3	2.2		
8	6.2	6	5.4	4.5	3.7	2.8	2.1		
9	4.5	4.3	4	3.5	2.9	2.4	1.8		
10	3.3	3.2	3	2.7	2.3	1.9	1.6		

	MULTIPLE UNIT I					
	2.5' from wall (Distance from fixture along wall)					
1	21.3	18.6	20.7			
2	52.3	48.7	51			
3	57.6	59.1	55.7			
4	44.3	48.5	42.6			
5	31	33.7	30.2			
6	21.5	23.1	21			
7	15.1	16.1	14.9			
8	10.9	11.5	10.7			
9	8.1	8.4	8			
10	6.1	6.3	6			

2.5' from wall (Distance from fixture along wall					
19.8	11.9	19.5			
47.9	32.9	47.3			
51.4	43.9	50.4			
38.6	39.9	37.4			
27.1	29.6	26.2			
19.1	20.9	18.7			
13.7	14.9	13.4			
10	10.8	9.9			
7.5	8	7.4			
5.7	6.1	5.6			

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	С	Н	W/WB	ВВ
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







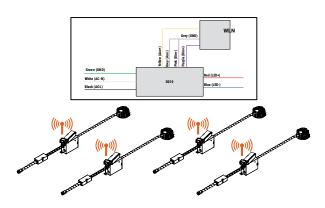








WaveLinx LITE Wireless Node (WLN) Wiring Diagram





WaveLinx 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









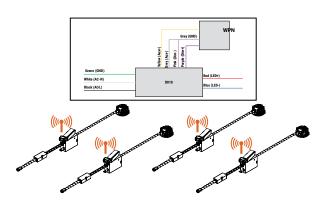








WaveLinx PRO Wireless Node (WPN) Wiring Diagram



WaveLinx CORE Building Management Integration

