HALO LED HOUSING and MODULE for NEW CONSTRUCTION

DESCRIPTION: H750ICAT Housing

The H750ICAT is a dedicated LED new construction housing to be used in conjunction with the HALO LED module. The H750ICAT is designed for insulated ceilings and can be in direct contact with ceiling insulation. This AIRTITE™ housing design prevents airflow between attic and living areas and saves on both heating and air conditioning costs. HALO LED luminaires are designed for longevity and energy efficiency. The H750ICAT connector system allows for Title 24 compliance when used with Cooper Lighting's HALO LED module.

Catalog #		Type
Project		
Comments		Date
Prepared by		

DESIGN FEATURES

Housing

Aluminum construction for greater heat dissipation. H750ICAT housing is gasketed to prevent airflow from heated or air conditioned spaces.

Plaster Frame

Housing adjusts in plaster frame to accommodate up to 1" ceiling thickness. Regressed locking screw for securing hanger bars. Cutouts included for easily crimping hanger bars in position.

Junction Box

- Positioned to accommodate straight conduit runs.
- Seven ½" trade size conduit knockouts with true pry-out slots.
- Slide-N-Side connectors allow non metallic sheathed cable to be installed without tools and without removing knockouts.
- Allows wiring connections to be made outside the box.
- Simply insert the cable directly into the trap after connections are made.
- Accommodates the following standard non-metallic sheathed cable type:
  - U.S. #14/2, #14/3, #12/2, #12/3
  - Canada: #14/2, #14/3, #12/2

GOT-NAIL!™ Pass-N-Thru™ Bar Hangers

Bar Hanger features include

- Pre-installed nail easily installs in regular lumber, engineered lumber and laminated beams.
- Safety and Guidance system prevents snagging, ensures smooth, straight nail penetration and allows bar hangers to be easily removed if necessary
- Automatic leveling flange aligns the housing and allows holding the housing in place with one hand while driving nails.
- Housing can be positioned at any point within 24" joist spans
- Score lines allow tool-free shortening for 12" joists and bar hangers do not need to be removed for shortening.
- Bar hangers may be repositioned 90° on plaster frame
- Integral T-bar clip snaps onto T-bars – no additional clips are required.

LED Module Connection

Halo LED module simply installs with a plug-in 120 volt wiring connector. This non-screw-base connection preserves the high efficacy rating and prevents use of low efficacy incandescent sources.

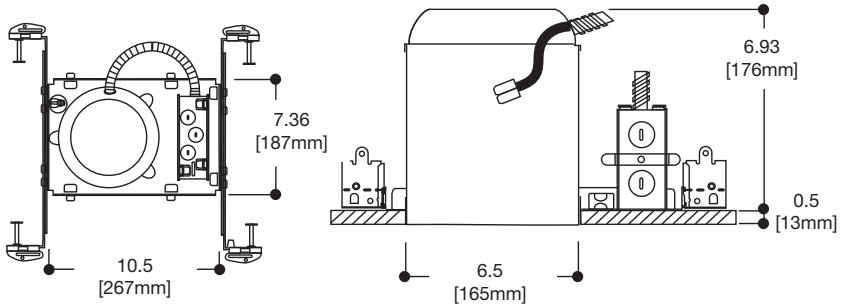
Labels

- UL/cUL Listed
- Listed for Feed Through
- Listed for direct contact with insulation and combustible material
- Listed for Damp Location
- Listed for Wet Location with select trims
- Rated for 15W maximum

Meets following requirements:

- State of California Title 24 High Efficacy Luminaire
- Washington State Energy Code
- International Energy Conservation Code (IECC)
- New York State Energy Conservation Construction Code
- Air-Tite™ Certified under ASTM-E283

H750ICAT Housing



H750ICAT 6" New Construction Housing with ML706830 LED Module and 49X Series Trims

6" New Construction Housing, Module and Trim

California Title 24 Compliant

air-tite™ with all trims listed

GOT-NAIL! Ready For Installation

ORDERING INFORMATION

SAMPLE NUMBER: H750ICAT ML706830 494P06

Order housing, LED Module and trim separately

Housing	Module	Trim
H750ICAT		
H750ICAT=6" Dedicated LED IC AIRTITE Housing	See LED Module Specification Sheet	See LED Module Specification Sheet

HALO LED Module for New Installations

HALO®

Catalog #		Type	
Project			
Comments		Date	
Prepared by			

DESCRIPTION: ML706830 LED Module

The Halo LED module is designed for retrofit applications with an Edison screw base adapter (included with module) for use in existing HALO or ALL-PRO housings OR may also be used in new construction with the LED dedicated H750ICAT housing. Delivers over 600 lumens with a superior optical design that yields productive beam lumens, good cutoff and low glare. The Halo LED recessed downlight exceeds high efficacy requirements for California's Title 24 with energy savings in excess of 75% when compared with incandescent lamps.

DESIGN FEATURES

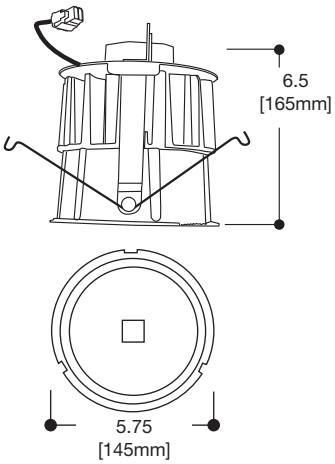
Comparable in light output and distribution to a 65W BR30 incandescent lamp or an 18W compact fluorescent luminaire, while consuming less then 15 watts.

Dimming

The HALO LED luminaire is dimmable to 15% (nominal) of the total light output with standard AC incandescent dimmers or to 5% (nominal) using standard incandescent dimmers with low end trim adjustment. Standard dimmers require a minimum of three LED modules (minimum 40 watts load) on the circuit for full range (15%) dimming performance. For dimming fewer than three LED modules (less than 40 watts), use electronic low voltage dimmers which require a a neutral connection in the wallbox (minimum circuit load of one LED module).

Quality of Light

Provides excellent color rendering (80 CRI typical), and a warm white color temperature (3045°K). LED's have virtually no ultraviolet or infrared wavelengths and they do not direct heat like conventional lamps.



Optical Design

Optical design yields over 600 productive beam lumens, 50° cutoff, and low glare.

Life

Rated for 50,000 hours at 70% lumen maintenance.

Compatibility

The Halo ML706830 LED module is designed for use in the dedicated H750 series housings or for retrofit applications in existing Halo or ALL-PRO™ H7 housings. The Halo LED module is designed for use in either IC (insulated ceiling) or non-IC construction. Compatible HALO and ALL-PRO housings include model numbers:

- Dedicated LED Housing: H750ICAT
- Halo Housings: H7ICT, H7ICAT, H7RICT, H7RICAT, H7ICTNB, H7ICATNB, H7T, H7RT, H7TNB,
- ALL-PRO Housings: EI700, EI700R, EI700AT, EI700RAT, EI700ATNB, EI700NB, ET700, ET700R

Screw Base Adapter

Edison screw-base adapter supplied with module allows simple wiring connection to existing housing.

Module Construction

Durable die-cast aluminum construction conducts heat away from the LED keeping the junction temperatures below specified maximums even when installed in insulated ceiling environments.

Air-Tite™ Rating

The Halo LED module has passed restricted air flow testing, and now qualifies any housing to meet airtight building codes. Certified under ASTM-E283 standards.

LED Driver

The LED module is controlled by a high efficiency driver with a power factor of >.90 at an input power of 120V, 50/60Hz. Driver has integral thermal protection and will shut off in the event of over temperature or internal failure.

Warranty

Cooper Lighting provides a three year limited warranty on the Halo LED Luminaire which includes the LED Module, LED Recessed Housing and LED trims.

LED Module in New or Existing Construction – Housings other than Halo or All-Pro

If used in recessed housings other than Halo or All-Pro the Cooper Lighting 3-year warranty applies to the LED Module and Trim only. As with any electrical installation, a qualified electrician must ensure compatibility of use with a particular housing; this includes all applicable national and local electrical and building codes. Installer is responsible to securely retain the LED Module and Trim in a housing at time of installation.

Labels

- UL/cUL Listed

Meets following requirements:

- State of California Title 24 High Efficacy Luminaire
- Washington State Energy Code
- International Energy Conservation Code (IECC)
- New York State Energy Conservation Construction Code

Accessories

- Oversize Trim Rings (Goof Rings) - OT400P and OT403P oversize trim rings are installed behind the Halo LED trim ring to aid in masking ceiling irregularities and cut-out errors.
- H277 –The H277 Step-down transformer is UL listed for use with Non-IC Housings
- H347 –The H347 Step-down transformer is UL listed for use with Non-IC Housings

ML706830 LED Module

49X_____Trim

6" LED Module and Trim For Retrofit Applications

Energy Data:	
Minimum Starting Temp: -30°C (-22°F)	
EMI/RFI: FCC Title 47 CFR, Part 18, Class B (Consumer)	
Sound Rating:	Class A standards
Input Voltage:	120V
Power Factor:	>0.90
Input Frequency:	50/60Hz
THD:	<20%
Rated Wattage:	14.8W
Input Power:	14.8W
Input Current:	123mA
Values with standard line voltage input (non-dim mode)	
Maximum IC (Insulated Ceiling) Ambient Operating Temperature: 25°C (77°F)	

Lighting Data

494SC06 Specular Trim

Lumens:	697
Lumens per watt:	46.8
Watts at 120VAC:	14.8
Color Correlated Color Temperature (CCT)	3045K
Color Rendering Index (CRI, $R_{a)}$	80

air-tite™

ORDERING INFORMATION

SAMPLE NUMBER: ML706830 494P06 Order LED Module and trim separately

LED Module			Trim Options	Accessories (see product details for application information)
ML706	8	30		

ML706=6" LED Module

8=80 CRI

30=3000°K

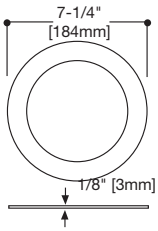
494P06=Matte White Reflector/ white die cast trim ring
494WB06=White Baffle/ white die cast trim ring
494H06=Haze Reflector/ white die cast trim ring
494SC06=Specular Reflector/ white die cast trim ring
492PS06=Lensed Trim w/regressed lens, white die-cast Baffle and trim ring

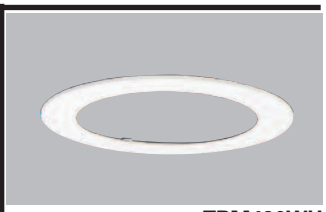
TRM490WH=Thin Profile matte white die-cast trim ring
OT400P=Oversize White Metal Trim Ring 6" ID x 9-1/4" OD
OT403P=Oversize White Plastic Trim Ring 6" ID x 8" OD
H277=Transformer - Steps 277 line voltage down to 120V
H347=Transformer - Steps 347 line voltage down to 120V

COOPER Lighting

TRM490WH Thin Profile Trim Ring (Optional Accessory)

- Die-cast trim ring
- Thin trim ring provides a more subtle ceiling appearance
- Purchase as accessory and discard ring supplied with trim
- Trim ring height of .120" at OD and .180" at ID



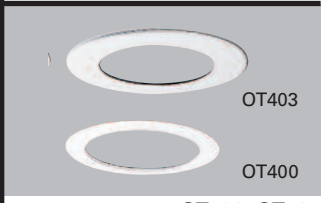


TRM490WH
Optional Accessory
Thin Profile Trim Ring

Oversize Trim Rings

For use when ceiling opening is irregular or cut too large. The oversized trim ring is installed behind the Halo LED trim ring to mask irregularities or cutout errors of the ceiling opening.

- OT400P - Oversize White Metal Trim Ring 6" ID x 9-1/4" OD
- OT403P=Oversize White Plastic Trim Ring 6" ID x 8" OD



OT400, OT403
Oversize Trim Rings

Step Down Transformer

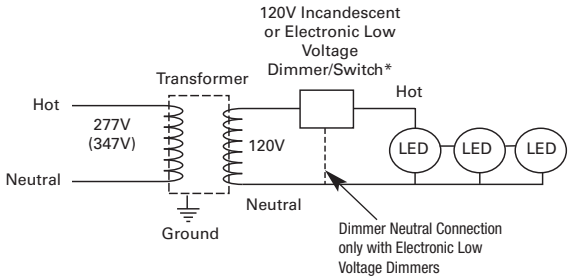
H277=Transformer - Steps 277 line voltage down to 120 volts. For use with non-IC housings only. Attaches to knockout on junction box. 300VA rated and UL listed for use in non-insulated ceilings with Non-IC Housings.

H347=Transformer - Steps 347 line voltage down to 120 volts. For use with non-IC housings only. Attaches to knockout on junction box. 150VA rated, and is UL listed for use in non-insulated ceilings with Non-IC Housings.
(Note: No 347V dimmers currently available)

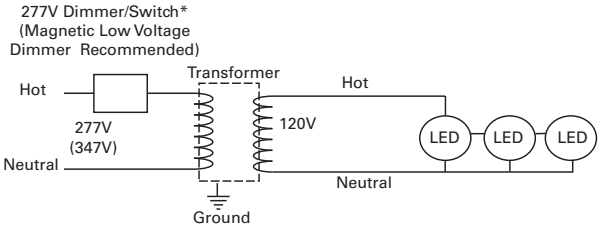
Transformer Load - Notes

1. Transformer at full loading (300W) dissipates a maximum of 16W of power
2. When dimmer or switch is on the secondary (120V) side of the transformer, power is dissipated by the transformer in standby "OFF" mode at 6.5W and in "ON" mode at 16W maximum with full 300W loading.
3. When a dimmer or switch is on the primary (277 or 347V) side of the transformer, power is dissipated only in "ON" mode to a maximum of 16W under full 300W loading.

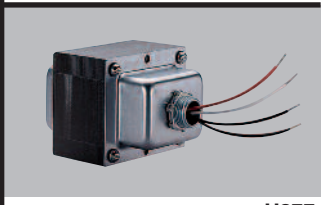
Transformer with Dimmer /Switch on Secondary



Transformer with Dimmer /Switch on Primary



* Dimmer/Switch may be on the Primary (277V) OR Secondary (120V) side of the transformer.



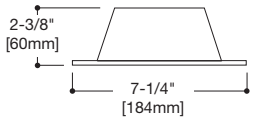
H277
277V Step Down Transformer
H347
347V Step Down Transformer

DESCRIPTION: LED Trims

HALO®

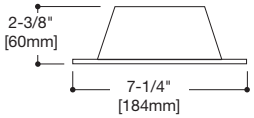
Multiple reflector and baffle options allow the Halo LED recessed luminaire to be used in many interior spaces. Choose the best reflector finish and trim for the interior space. Aesthetically pleasing regressed shower trim is available for applications requiring wet location listings.

494P06 White Reflector with White Trim Ring
- Halo matte white finish
- Die-cast trim ring and aluminum reflector
- Trim ring height of .160" at OD and .180" at ID
- Provides clearance for remodeler flange and gasket for AIR-TITE™ seal



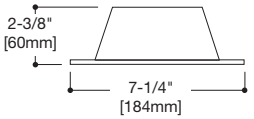
494P06
White Reflector with White Trim Ring

494SC06 Specular Reflector with White Trim Ring
- Halo matte white finish trim ring
- Die-cast trim ring and aluminum reflector
- Trim ring height of .160" at OD and .180" at ID
- Provides clearance for remodeler flange and gasket for AIR-TITE™ seal



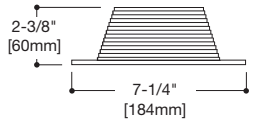
494SC06
Specular Reflector with White Trim Ring

494H06 Haze Reflector with White Trim Ring
- Halo matte white finish trim ring
- Die-cast trim ring and aluminum reflector
- Trim ring height of .160" at OD and .180" at ID
- Provides clearance for remodeler flange and gasket for AIR-TITE™ seal



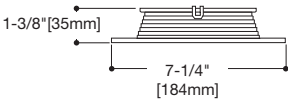
494H06
Haze Reflector with White Trim Ring

494WB06 White Baffle with White Trim Ring
- Halo matte white finish
- Die-cast trim ring and aluminum reflector
- Trim ring height of .160" at OD and .180" at ID
- Provides clearance for remodeler flange and gasket for AIR-TITE™ seal



494WB06
White Baffle with White Trim Ring

492PS06 Lensed Trim with White Baffle and Trim Ring
- White trim ring and baffle, regressed lens
- Wet location listed for use in showers and protected canopy applications
- Aluminum baffle and die-cast trim ring
- Frosted glass regressed lens
- Trim Height of .160" at OD & .180" at ID
- Provides clearance for remodeler flange and gasket for AIR-TITE™ seal



Shower Light

492PS06
Lensed White Baffle with White Trim Ring

Note: Specifications and Dimensions subject to change without notice.
Visit our web site at www.cooperlighting.com
Customer First Center 1121 Highway 74 South Peachtree City, GA 30269 770.486.4800 FAX 770 486.4801
Cooper Lighting 5925 McLaughlin Rd. Mississauga, Ontario, Canada L5R 1B8 905.507.4000 FAX 905.568.7049

LED photometric results may vary from testing data. To assist the lighting designer in using Halo LED in a lighting layout, the following photometric tables have both lab test data and normalized data to illustrate expected typical performance. The Halo LED design standard is to achieve 600 lumens at less than 15 watts. Typical photometric data is provided to illustrate expectation of typical performance.

Housing: H750ICAT, Module: ML706830, Trim: 494H06 Haze Reflector

Test	
Test No:	LTL13658
Spacing Criteria:	1.26
Unit LPW:	45.3

Typical	
Spacing Criteria:	1.22
Unit LPW:	42.5

CONE OF LIGHT (Test)

Distance to Illuminated Plane	Initial Nadir Foot Candles	Beam Diameter
5'5"	13	6'6"
7'0"	8	8'5"
8'0"	6	9'6"
9'0"	5	11'0"
10'0"	4	12'0"

CONE OF LIGHT (Typical)

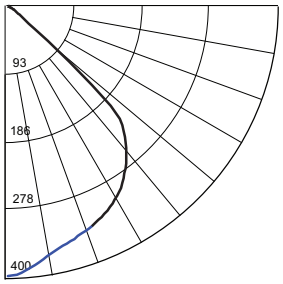
5'5"	12	6'6"
7'0"	8	8'5"
8'0"	6	9'6"
9'0"	5	11'0"
10'0"	4	12'0"

ZONAL LUMEN SUMMARY (Test)

Zone	Lumens	%Lamp	%Fixt
0-30	294	N.A.	44.3
0-40	481	N.A.	72.6
0-60	654	N.A.	98.7
0-90	663	N.A.	100.0

ZONAL LUMEN SUMMARY (Typical)

Zone	Lumens	%Lamp	%Fixt
0-30	275.92	N.A.	44.3
0-40	452.06	N.A.	72.6
0-60	614.73	N.A.	98.7
0-90	622.57	N.A.	100.0



Housing: H750ICAT, Module: ML706830, Trim: 494SC06 Specular Reflector

Test	
Test No:	LTL13659
Spacing Criteria:	1.47
Unit LPW:	46.8

Typical	
Spacing Criteria:	1.42
Unit LPW:	44.0

CONE OF LIGHT (Test)

Distance to Illuminated Plane	Initial Nadir Foot Candles	Beam Diameter
5'5"	13	7'6"
7'0"	8	9'6"
8'0"	6	11'0"
9'0"	5	12'6"
10'0"	4	14'0"

CONE OF LIGHT (Typical)

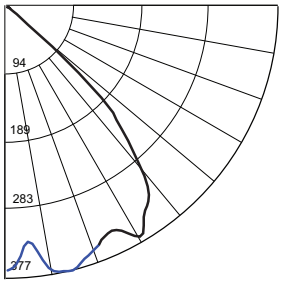
5'5"	12	7'6"
7'0"	7	9'6"
8'0"	6	11'0"
9'0"	4	12'6"
10'0"	4	14'0"

ZONAL LUMEN SUMMARY (Test)

Zone	Lumens	%Lamp	%Fixt
0-30	323	N.A.	46.34
0-40	548	N.A.	78.70
0-60	695	N.A.	99.78
0-90	697	N.A.	100.0

ZONAL LUMEN SUMMARY (Typical)

Zone	Lumens	%Lamp	%Fixt
0-30	303.08	N.A.	46.4
0-40	515.14	N.A.	78.7
0-60	653.44	N.A.	99.8
0-90	654.72	N.A.	100.0



Housing: H750ICAT, Module: ML706830, Trim: 494WB06 White Baffle

Test	
Test No:	LTL13657
Spacing Criteria:	1.40
Unit LPW:	43.3

Typical	
Spacing Criteria:	1.36
Unit LPW:	40.7

CONE OF LIGHT (Test)

Distance to Illuminated Plane	Initial Nadir Foot Candles	Beam Diameter
5'5"	10	7'6"
7'0"	6	9'6"
8'0"	5	10'6"
9'0"	4	12'0"
10'0"	3	13'6"

CONE OF LIGHT (Typical)

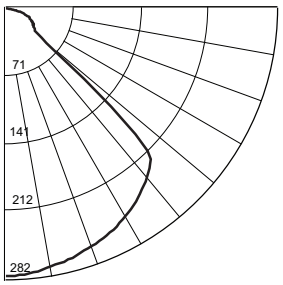
5'5"	9	7'6"
7'0"	6	9'6"
8'0"	4	10'6"
9'0"	3	12'0"
10'0"	3	13'6"

ZONAL LUMEN SUMMARY (Test)

Zone	Lumens	%Lamp	%Fixt
0-30	240	N.A.	37.10
0-40	405	N.A.	62.48
0-60	589	N.A.	90.98
0-90	648	N.A.	100.00

ZONAL LUMEN SUMMARY (Typical)

Zone	Lumens	%Lamp	%Fixt
0-30	226.06	N.A.	37.1
0-40	380.73	N.A.	62.5
0-60	553.85	N.A.	90.9
0-90	609.06	N.A.	100.0



Housing: H750ICAT, Module: ML706830, Trim: 494P06 White Reflector

Test	
Test No:	LTL13656
Spacing Criteria:	1.38
Unit LPW:	44.5

Typical	
Spacing Criteria:	1.34
Unit LPW:	41.8

CONE OF LIGHT (Test)

Distance to Illuminated Plane	Initial Nadir Foot Candles	Beam Diameter
5'5"	10	7'0"
7'0"	6	9'0"
8'0"	5	10'6"
9'0"	4	12'0"
10'0"	3	13'0"

CONE OF LIGHT (Typical)

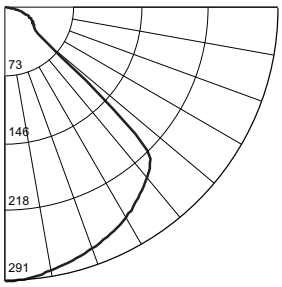
5'5"	10	7'0"
7'0"	6	9'0"
8'0"	5	10'6"
9'0"	4	12'0"
10'0"	3	13'0"

ZONAL LUMEN SUMMARY (Test)

Zone	Lumens	%Lamp	%Fixt
0-30	246	N.A.	37.11
0-40	412	N.A.	62.31
0-60	601	N.A.	90.81
0-90	662	N.A.	100.00

ZONAL LUMEN SUMMARY (Typical)

Zone	Lumens	%Lamp	%Fixt
0-30	230.76	N.A.	37.1
0-40	387.42	N.A.	62.3
0-60	564.64	N.A.	90.8
0-90	621.73	N.A.	100.0



Housing: H750ICAT, Module: ML706830, Trim: 492PS06 Lensed Shower Trim

Test	
Test No:	LTL14105
Spacing Criteria:	1.22
Unit LPW:	31.6

Typical	
Spacing Criteria:	1.26
Unit LPW:	29.7

CONE OF LIGHT (Test)

Distance to Illuminated Plane	Initial Nadir Foot Candles	Beam Diameter
5'5"	7	6'6"
7'0"	5	8'0"
8'0"	4	9'6"
9'0"	3	10'6"
10'0"	2	11'6"

CONE OF LIGHT (Typical)

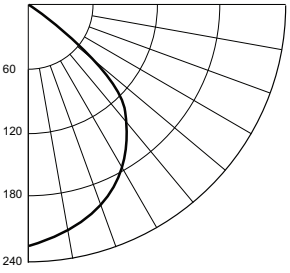
5'5"	7	6'6"
7'0"	4	8'0"
8'0"	3	9'6"
9'0"	3	10'6"
10'0"	2	11'6"

ZONAL LUMEN SUMMARY (Test)

Zone	Lumens	%Lamp	%Fixt
0-30	168	N.A.	38.88
0-40	268	N.A.	62.04
0-60	398	N.A.	92.24
0-90	432	N.A.	100.00

ZONAL LUMEN SUMMARY (Typical)

Zone	Lumens	%Lamp	%Fixt
0-30	157.76	N.A.	38.9
0-40	251.67	N.A.	62.0
0-60	374.29	N.A.	92.2
0-90	405.83	N.A.	100.0



Note: Specifications and Dimensions subject to change without notice.
Visit our web site at www.cooperlighting.com
Customer First Center 1121 Highway 74 South Peachtree City, GA 30269 770.486.4800 FAX 770 486.4801
Cooper Lighting 5925 McLaughlin Rd. Mississauga, Ontario, Canada L5R 1B8 905.507.4000 FAX 905.568.7049

Dimmer Matrix Halo LED Module ML706830

Incandescent Digital Dimmers (also called Smart or Multi-Location) require a 15W minimum incandescent load OR for circuit loads with LED modules only - use electronic low voltage dimmers, Dimming to 15%

Cooper Wiring Devices

Aspire RF	RF9534/RF9518	Touch	6460/6470
Smart	SM600	Aspire Smart	9534

Lutron

Abella	AB Series	Maestro	MA Series
Faedra	FA Series	Spacer	SPS Series
Glyder	GL Series	Vareo	V Series
		Vierti	VT Series

Leviton

Acenti	ACI. Series	TrueTouch	6606/TTI.Series
Mural	MDI/MSI.Series	Vizia +	VPI.Series
ToggleTouch	TGI.Series		

Incandescent Analog Standard Dimmers with Circuit Load of 3 LED Modules or More, Dimming to 15%

Cooper Wiring Devices

Aspire RF	RF9051	Rotary	6001/6000/6020/ 6003/6023/1000
Aspire	9530/9531		
Toggle	6441/6443	Slide	6422/6432/6420/ 6423/6430/6433

Lutron

Ariadni	AY/TG Series	Lyneo	LX Series
Ceana	CN Series	Maestro	MA Series
Centurion	C Series	Nova	N Series
Dalia	DL Series	Nova T	NT/NTB/NTA Series
Diva	DV Series	Qoto	Q Series
Glyder	GL Series	Rotary	D Series
Lumea	LG Series	Skylark	S Series

Leviton

Illumitech	IPI/RPI.Series	Trimatron	6681/6683/6602
Sureslide	663.Series		

1. Performance results may vary based upon dimmer model and manufacturer. 2. There are no warranties of compatibility implied. 3. Refer to dimmer manufacturer for further details.

Incandescent Dimmers with Minimum Brightness Adjustment (Low End Trim), Circuit Load of 3 LED Modules or More, Dimming to 5%

Leviton

Illumitech	IP10/IP40/IPM406/IPM10 Series dimmers
Acenti	ACI/ACE/ACX/ATI Series (Programmable trim)
Vizia +	VPI/VPE/VPX.Series (Programmable trim)

Electronic Low Voltage Digital and Analog Dimmers, Minimum Circuit Load of One LED Module, Dimming to 15%

Requires a neutral in the wall box

Lutron

Dalia	DLELV Series	Lyneo	LXELV Series	Nova T	NTELV Series
Diva	DLELV Series	Maestro	MAELV Series	Skylark	SELV Series
Faedra	FAELV Series	Nova	NELV Series	Spacer	SPSELV Series
				Vierti	VTELV Series

Leviton

Acenti	ACE. Series (Electronic low voltage dimmer with low end programmable trim from control panel for dimming to less than 5%)
Illumitech	IPE.Series (Electronic low voltage dimmer with low end manual trim behind face plate for dimming to less than 5%)
Vizia +	VPE.Series (Electronic low voltage dimmer with low end programmable trim from control panel for dimming to less than 5%)

Universal Wireless Dimmers (Incandescent, Magnetic Low Voltage, Electronic Low Voltage), Minimum Circuit Load of Two LED Modules, Dimming to 15%

Watt Stopper

Miro Universal	DRD4 Series Dimmers DCD267 Series Dimmers DCD68 (series multilocation - When used with DRD4 or DCD267 series master dimmers

Incandescent Wireless Dimmers, Minimum Circuit Load of Five LED Modules, Dimming to 15%

A 15W minimum incandescent load or a neutral in the wall box are recommended to reliably dim

Watt Stopper

Miro Incandescent	DRD2 Series Dimmers DCD26 Series Dimmers DCD68 (series multilocation - When used with DRD2 or DCD26 series master dimmers