

**HALO LED Module for Existing Installations**

**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 (may also be used in new construction with the H750ICAT housing). Delivers 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 than 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 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 no damaging ultraviolet or infrared wavelengths and does 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 (or approximately 20 years based on 6 hours of use per day).

**Compatibility**

The Halo ML706830 LED module is designed for use in the dedicated H750ICAT housing in new construction applications 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: H750ICAT, H7ICAT, EI700AT, H7ICATNB, EI700ATNB, H7ICT, EI700, H7ICTNB, EI700NB, H7RICT, EI700RAT, H7RICT, EI700R, H7RT, E700R, ET700.

**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.

**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.

**LED Driver**

The LED module is controlled with 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.

**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



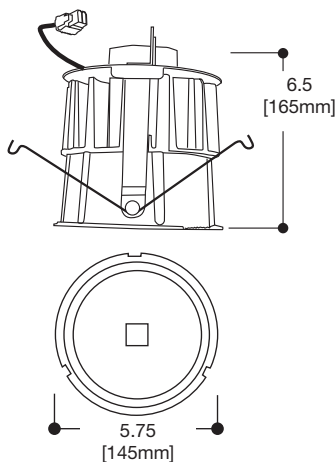
**ML706830 LED Module**

**494 Trim**

**6" LED Module and Trim For Retrofit Applications**

**Energy Data:**

Minimum Starting Temp:	-10°C (14°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)	



**ORDERING INFORMATION**

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

LED Module			Trim Options	Accessory
ML706	8	30		TRM490WH
ML706=6" LED Module	8=80 CRI	30=3000°K	494P06=Matte White Reflector w/die-cast white trim ring 494WB06=White Baffle w/die-cast white trim ring 494H06=Haze Reflector w/die-cast white trim ring 494SC06=Specular Reflector w/die-cast white trim ring 492PS06=Wet location listed Shower Trim w/regressed lens and white die-cast trim ring	TRM490WH=Thin Profile matte white die-cast trim ring

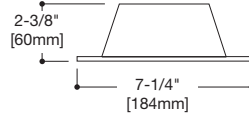
## DESCRIPTION: LED Trims

**HALO®**

Multiple reflector and baffle options allow the Halo LED recessed luminaire to be used anywhere in the home. 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

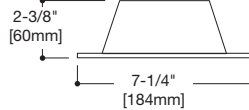
- Halo matte white finish
- Die-cast trim ring and aluminum reflector
- Trim ring height of .160" at OD and .180" at ID
- Provides clearance for remodeler flange and gasket for AIR-TITE™ seal



**494P06**  
White Reflector  
with White Trim Ring

### 494SC06 Specular Reflector with White Trim Ring

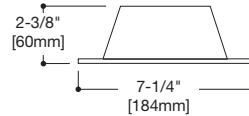
- Halo matte white finish trim ring
- Die-cast trim ring and aluminum reflector
- Trim ring height of .160" at OD and .180" at ID
- Provides clearance for remodeler flange and gasket for AIR-TITE™ seal



**494SC06**  
Specular Reflector  
with White Trim Ring

### 494H06 Haze Reflector with White Trim Ring

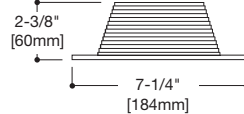
- Halo matte white finish trim ring
- Die-cast trim ring and aluminum reflector
- Trim ring height of .160" at OD and .180" at ID
- Provides clearance for remodeler flange and gasket for AIR-TITE™ seal



**494H06**  
Haze Reflector  
with White Trim Ring

### 494WB06 White Baffle with White Trim Ring

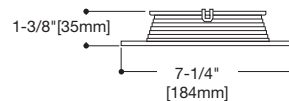
- Halo matte white finish
- Die-cast trim ring and aluminum reflector
- Trim ring height of .160" at OD and .180" at ID
- Provides clearance for remodeler flange and gasket for AIR-TITE™ seal



**494WB06**  
White Baffle  
with White Trim Ring

### 492PS06 White Lensed Shower Trim with White Trim Ring

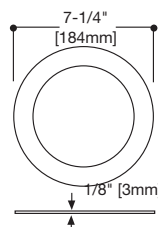
- White trim ring and baffle, regressed lens
- Wet location listed for use in showers and protected canopy applications
- Suggested for use:
  - over tubs and showers
  - eaves and soffits
- Aluminum baffle and die-cast trim ring
- Frosted glass regressed lens
- Trim Height of .160" at OD & .180" at ID
- Provides clearance for remodeler flange and gasket for AIR-TITE™ seal



**492PS06**  
Lensed White Shower Trim  
White Trim Ring

### 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

**Photometrics**

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.

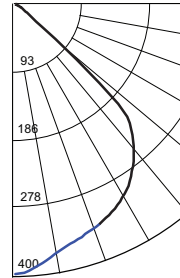
**Housing: H750ICAT, Module: ML706830, Trim: 494H06 Haze Reflector**

<b>Test</b>	
Test No:	LTL13658
Spacing Criteria:	1.26
Unit LPW:	45.3
<b>Typical</b>	
Spacing Criteria:	1.22
Unit LPW:	42.5

<b>CONE OF LIGHT (Test)</b>		
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"
<b>CONE OF LIGHT (Typical)</b>		
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"

<b>ZONAL LUMEN SUMMARY (Test)</b>			
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

<b>ZONAL LUMEN SUMMARY (Typical)</b>			
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



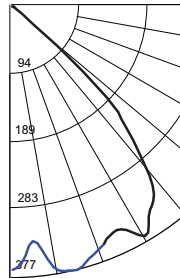
**Housing: H750ICAT, Module: ML706830, Trim: 494SC06 Specular Reflector**

<b>Test</b>	
Test No:	LTL13659
Spacing Criteria:	1.47
Unit LPW:	46.8
<b>Typical</b>	
Spacing Criteria:	1.42
Unit LPW:	44.0

<b>CONE OF LIGHT (Test)</b>		
Distance to Illuminated Plane	Initial Nadir Foot Candles	Beam Diameter
5'5"	13	7'6"
7'0"	8	10'0"
8'0"	6	11'6"
9'0"	5	12'6"
10'0"	4	14'0"
<b>CONE OF LIGHT (Typical)</b>		
5'5"	12	7'6"
7'0"	7	10'0"
8'0"	6	11'0"
9'0"	5	12'6"
10'0"	4	14'0"

<b>ZONAL LUMEN SUMMARY (Test)</b>			
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

<b>ZONAL LUMEN SUMMARY (Typical)</b>			
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



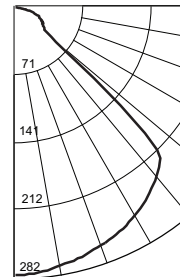
**Housing: H750ICAT, Module: ML706830, Trim: 494WB06 White Baffle**

<b>Test</b>	
Test No:	LTL13657
Spacing Criteria:	1.40
Unit LPW:	43.3
<b>Typical</b>	
Spacing Criteria:	1.36
Unit LPW:	40.7

<b>CONE OF LIGHT (Test)</b>		
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"
<b>CONE OF LIGHT (Typical)</b>		
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"

<b>ZONAL LUMEN SUMMARY (Test)</b>			
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

<b>ZONAL LUMEN SUMMARY (Typical)</b>			
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



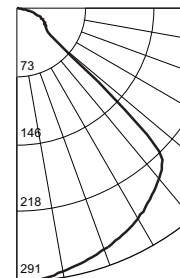
**Housing: H750ICAT, Module: ML706830, Trim: 494P06 White Reflector**

<b>Test</b>	
Test No:	LTL13656
Spacing Criteria:	1.38
Unit LPW:	44.5
<b>Typical</b>	
Spacing Criteria:	1.34
Unit LPW:	41.8

<b>CONE OF LIGHT (Test)</b>		
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"
<b>CONE OF LIGHT (Typical)</b>		
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"

<b>ZONAL LUMEN SUMMARY (Test)</b>			
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

<b>ZONAL LUMEN SUMMARY (Typical)</b>			
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



Note: Specifications and Dimensions subject to change without notice.

**Dimmer Matrix Halo LED Module ML706830**

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

**Cooper Wiring Devices**

Aspire All incandescent dimmers

**Lutron**

Abella . . . . .AB Series	Glyder . . . . .GL Series	Qoto . . . . .Q Series
Ariadni . . . . .AY/TG Series	Lumea . . . . .LG Series	Rotary . . . . .D Series
Ceana . . . . .CN Series	Lyneo . . . . .LX Series	Skylark . . . . .S Series
Centurion . . . . .C Series	Maestro . . . . .MA Series	Spacer . . . . .SPS Series
Dalia . . . . .DL Series	Nova . . . . .N Series	Vareo . . . . .V Series
Diva . . . . .DV Series	Nova T NT/NTB/NTA	Vierti . . . . .VT Series
Faetra . . . . .FA Series	. . . . . Series	

**Leviton**

Acenti	ACI. Series	ToggleTouch	TGI.Series
Illumitech	IPI/RPI.Series	Trimatron	6681/6683/6602
Mural	MDI/MSI.Series	TrueTouch	6606/TTI.Series
Sureslide	663.Series	Vizia +	VPI.Series

**Universal Dimmers (Inc, MLV, ELV loads) with Circuit Load of 2 LED Modules or More, Dimming to 15%**

**Watt Stopper**

Miro Universal	DRD-4 Series Dimmers
	DCD267 Series Dimmers
	DCD68-[series multilocation] - When used w/ DRD4 or DCD267 series master dimmers

**Incandescent Dimmers with Circuit Load of 5 LED Modules or More, Dimming to 15%**

**Watt Stopper**

Miro Incandescent	DRD2-Series Dimmers
	DCD26-Series Dimmers
	DCD68-[series multilocation] - When used w/ DRD2 or DCD26 series master dimmers

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

**Leviton**

Acenti	ACI/ACE/ACX/ATI Series (Programmable low end adjustment from control panel)
Illumitech	IPI/PE Series (Manual low end adjustment from behind face plate)
Vizia +	VPI/VPE/VPX.Series (Programmable low end adjustment from control panel)

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

**Lutron**

Dalia	DLELV Series	Lyneo	LXELV Series	Nova T	NTELV Series
Diva	DLELV Series	Maestro	MAELV Series	Skylark	SELV Series
Faetra	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%)

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.

Note: Specifications and Dimensions subject to change without notice.

Visit our web site at [www.cooperlighting.com](http://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