

HALO LED Module 900 Series For New and Existing Installations

The Halo LED ML7098xxICAT120D modules are designed for retrofit applications with an Edison screw base adapter (included with the module) for use in existing housings OR may also be used in new construction with the LED dedicated housing Series H750x. Halo LED 900 Series offers a selection of four color temperatures: 2700K, 3000K, 3500K and 4000K. Halo LED offers a superior optical design that yields productive beam lumens, good cutoff and low glare.

Catalog #		Type
Project		
Comments		Date
Prepared by		

SPECIFICATION FEATURES

Exceeds the light output and distribution of a 75W PAR30, 75W PAR38, or 85W BR40 lamp, or a 26W compact fluorescent luminaire (lamp and reflector trim), while consuming less than 15 watts.

Dimming

The ML7068xx series is designed for dimming capability to 15% in normal operation with standard 120V LED-Rated, electronic low voltage, and many incandescent dimmers. The LED module may also dim to 5% using dimmers with low end trim adjustment. (Consult dimmer manufacturer for application/compatibility. Note, some dimmers require a neutral in the wallbox).

Quality of Light

Halo 900 Series provides excellent color rendering (80 CRI), and a selection of four color temperatures (2700K, 3000K, 3500K and 4000K). CRI and color temperature performance conform to parameters established by ENERGY STAR® SSL standards (refer to ANSI-C78.377 - 2008 for CCT specifications). LED's have virtually no ultraviolet and minimal infrared wavelengths, and they do not emit heat like conventional lamps.

Optical Design

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

Life

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

Compatibility

The Halo ML7098xxICAT120D LED module is designed for use in the dedicated H750x series housings OR for retrofit applications in existing Halo or ALL-PRO™ H7/ET7/EI7 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: H750x Series
- Halo Housings: H7x Series
- ALL-PRO Housings: ET7x and EI7x Series

Screw Base Adapter

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

Module Construction

Durable die-cast and extruded 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 air-tight 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 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.

Compliance Labels

- UL/cUL Listed
- UL/cUL Damp Location Listed
- UL/cUL Wet Location, Protected Ceiling Listed and IP66 rated with designated trims
- RoHS Compliant
- May be used in IC housings in direct contact with insulation and combustible material* (May also be used in Non-IC housings.)

Qualification

- Can be used to meet High Efficacy luminaire requirements (when used with designated trims):
 - ENERGY STAR® SSL
 - State of California Title 24 High Efficacy LED
 - International Energy Conservation Code (IECC) High Efficacy

Air-Tite™ compliant

- Washington State Energy Code
- New York State Energy Conservation Construction Code
- Certified Under ASTM-E283



ML709840ICAT120D 900 Series LED Dimmable Module

4000°K Correlated
Color Temperature

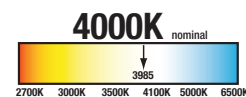
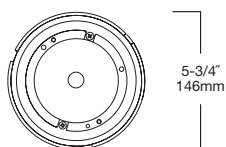
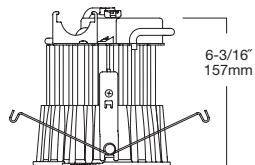
493WBS06
494WB06

6" LED Module and Trim
For New Construction OR
Retrofit Applications

900 Series Energy Data:

(Values at non-dimming line voltage)	
Minimum Starting Temp:	-30°C (-22°F)
EMV/RF:	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%
Input Power:	14.3W
Input Current:	130mA
Maximum IC (Insulated Ceiling) Ambient Continuous Operating Temperature:	25°C (77°F)
Maximum Non-IC Ambient Continuous Operating Temperature:	40°C (104°F)

*IC housings not in spray foam insulation.



ML709840ICAT120D
900 Series Module,
80CRI / 4000K



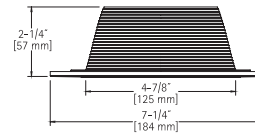
Qualified and Compliant as designated.
Refer to trim selection for compliant models.





494WB06 White Baffle with White Trim Ring

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



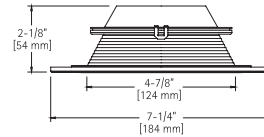
**494WB06
White Baffle
with White Trim Ring**



Accessory:
494OPTIC - over optic lens

493WBS06 Solite® Regressed Lens with White Baffle and White Trim Ring

- Halo matte white trim ring and baffle
- Upper specular aluminum reflector for optical control and enhanced lumen delivery
- Wet location listed for use in showers and protected canopy applications; and IP66 Ingress Protection rated
- Die-cast aluminum baffle and trim ring
- Trim height of .160" at OD & .180" at ID
- Provides clearance for remodeler flange and gasket for AIR-TITE™ seal



**493WBS06
Regressed Solite® Lensed
White Baffle with
White Trim Ring**

494OPTIC Lens Over-Optic for Open LED Trims

Optional accessory - diffusing lens drops into top of open 494 Series LED trims. Precision formed lens media provides diffusion of LED source brightness.

Compatible with: 494WB06



**494OPTIC Lens Over-Optic for
Open LED Trims**

ML7RAB Retrofit Adapter Band for Housings without Torsion Spring Receivers

In many retrofit installations the existing (6" nominal aperture) housings have Torsion Spring Receivers that are used to install trims. Many of these housings will allow direct installation of the LED Module. In some existing installations housings do not have torsion spring receivers. The ML7RAB was designed for installation into those housings. The ML7RAB kit can retrofit four non-torsion spring housings; the kit includes:

- 4 – Retrofit Adapter Bands (1 per retrofit housing)
- 16 – Metal-piercing screws (4 per adapter)
- 8 – Retrofit Locking Wire Nuts (2 per adapter)



**ML7RAB Retrofit Adapter Band
(Four Adapters per Box)**

Oversize Rings

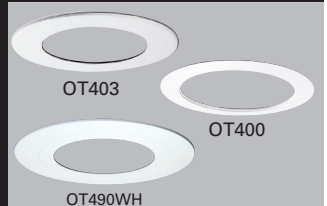
For use when ceiling opening is irregular or cut too large. The oversized ring is installed behind the Halo LED trim ring to mask irregularities or cutout errors of the ceiling opening.

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

Oversize LED Trim Ring

For use when ceiling opening is irregular or cut too large.

- OT490WH = LED Oversize White Die-Cast Aluminum Trim Ring 5-1/8" ID x 9-1/4" OD - attaches to LED module, substitute for standard LED trim ring.



**OT400, OT403, OT490WH
Oversize Trim Rings**

Application Note - H277 and H347 step-down transformers are qualified to drive multiple Halo LED modules on a single circuit in Non-IC construction. Installation of these transformers on individual fixtures on circuits with multiple LED loads is not recommended. H277 is 300VA and qualified to drive up to 15 Halo LED ML706x modules. H347 is 75VA and qualified to drive up to 3 Halo LED ML706x modules. Installation of individual H277 or H347 transformers on each LED downlight fixture in a multiple LED loaded circuit is not recommended due to resulting multiple inductive currents pulled by each transformer; in this situation the majority of the power would then be reactive (VARS) and not real (WATTS). If H277 or H347 transformers should be used individually on each LED fixture in a single circuit, then that circuit should be sized for lowered power factor as well as increased apparent power on the circuit. H277 and H347 are UL/cUL listed for use with Halo housings: H750T, H750TCP, H7T, H7TNB, H7RT, H750TD010, H750RTD010, H750TCPD010 housings.

Step Down Transformers

H277= Steps 277 line voltage down to 120 volts. Attaches to knockout on first fixture's junction box in a circuit and is 300VA rated (15 modules max.). H277 is a UL ecognized Component listed under the luminaire UL/cUL listing for Non-IC housings and LED Module.

H347= Steps 347 line voltage down to 120 volts. Attaches to knockout on first fixture's junction box in a circuit and is 75VA rated (3 modules max.).

H347 is a CSA/UL Listed Component for use under the luminaire UL/cUL listing with Non-IC housings and a LED Module.

Transformer Load - H277 (300VA)

1. H277Transformer at full loading consumes a maximum of 16W of power
2. When dimmer or switch is on the secondary (120V) side of the transformer, power is consumed by the transformer when the dimmer or switch is in "OFF" mode at 6.5W and in "ON" mode at 16W maximum with full loading.
3. When a dimmer or switch is on the primary (277V) side of the transformer, power is consumed only in "ON" mode to a maximum of 16W under full loading.

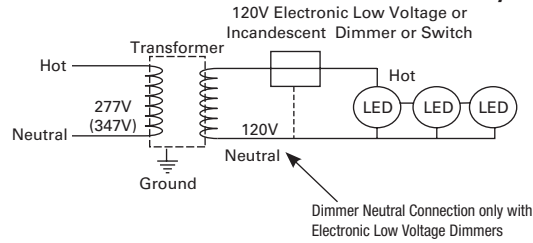
Transformer Load - H347 (75VA)

1. H347Transformer at full loading consumes a maximum of 15W of power
2. When dimmer or switch is on the secondary (120V) side of the transformer, power is consumed by the transformer when the dimmer or switch is in "OFF" mode at 2.5W and in "ON" mode at 15W maximum with full loading.
3. When a dimmer or switch is on the primary (347V) side of the transformer, power is consumed only in "ON" mode to a maximum of 15W under full loading.

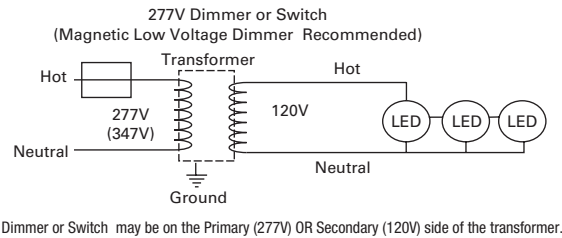
Protected / Non-insulated Soffits, Porches, and Canopies

Halo LED modules when used with Non-IC recessed housings in Non-Insulated protected soffits, porches or canopies offers a solution for outdoor accent lighting. Halo LED is rated for operation from -30°C to 40°C when used with H7T, H7TNB, H7RT, ET700, ET700R, H750T, H750TCP, H750TD010, H750RTD010, H750TCPD010 Series non-IC housings.

Transformer with Dimmer /Switch on Secondary



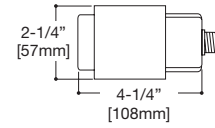
Transformer with Dimmer /Switch on Primary



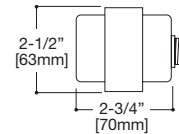
H277
277V Step Down Transformer, 300VA



H347
347V Step Down Transformer, 75VA



H277



H347

ORDERING INFORMATION

SAMPLE NUMBER: ML709840ICAT120D 494WB06

Order LED Module and trim separately

900 Series LED Module			Trim Options		Accessories <i>(see product details for application information)</i>
ML709	8	40	ICAT120D		
ML709 = 6" LED Module 900 Series LED	8 =80 CRI	27 =2725°K 30 =3045°K 35 =3465°K 40 =3985°K	ICAT120D = ICAT rated, 120V Module with standard 120V dimming	494WB06 =White Baffle/ white die cast trim ring. 493WBS06 =Solite® Regressed Lens, upper reflector, White die-cast baffle and White die-cast trim ring with, Shower Rated.	494OPTIC =6" Over-Optic Diffuse Lens for use with Open LED Trims (494 family), Shower rated. Enlarge Trim Ring OT490WH =6" Oversize white die-cast trim ring 9-1/4" O.D. Attaches to LED module, substitute for standard trim ring shipped with trims. OT400P =Oversize White Metal Trim Ring 6" ID x 9-1/4" OD OT403P =Oversize White Plastic Trim Ring 6" ID x 8" OD Transformer H277 =300VA Transformer - Steps 277 line voltage down to 120V (see App. Note) H347 =75VA Transformer - Steps 347 line voltage down to 120V (see App. Note) Retrofit ML7RAB =Retrofit Adapter Band for Housings without Torsion Spring Receivers. The ML7RAB kit supplies parts to retrofit four housings; the kit includes: 4 – Retrofit Adapter Bands with screws and locking wire nuts.

Solite® is a registered trademark of AGC Flat Glass North America

HALO LED NON-IC REMODEL HOUSING WITH 0-10V DC DIMMING CONTROL WIRING

DESCRIPTION: H750RTD010 Housing

The H750RTD010 is a dedicated LED Remodel housing to be used with Halo LED ML712x 1200 Series of LED modules with 0-10V DC dimming capability. The H750RTD010 is designed for remodel applications in non-insulated ceilings and 0-10V DC dimming (2 - low voltage control wires included). If insulation is present it must be kept three inches from all sides and top of housing. The H750RTD010 LED connector system provides High Efficacy code compliance as a non-screwbase, for connection with LED modules and designated trims. Halo LED luminaire systems (Housings, LED Modules and Trims) carry a three year limited warranty.

Catalog #		Type
Project		
Comments		Date
Prepared by		

SPECIFICATION FEATURES

Housing

Single wall aluminum housing. Can be used in 2" x 8" joist construction (with 1/2" or 5/8" ceiling material).

Junction Box

- Separate compartment for 0-10V DC low voltage dimming connections.
- Seven 1/2" trade size conduit knockouts with true pry-out slots.
- Slide-N-Side™ wire traps allow non-metallic sheathed cable to be installed without tools and without removing knockouts.
- Accepts a wider range of non-metallic sheathed cable - the standard cable types used in lighting for both US and Canada.
 - 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 types.

(US) #14/2, #14/3, #12/2, #12/3
(Canada) #14/2, #14/3, #12/2

Remodel Springs

Four remodel clips secure housing and accommodate 1/2" and 5/8" ceiling material.

LED Module Connections

Power: Halo LED module simply installs with a plug-in line voltage wiring connector (UL and CSA Listed Luminaire Disconnect). This non-screw-base connection preserves the high efficacy rating and prevents use of low efficacy incandescent sources.

Dimming: The housing is pre-wired with two low voltage DC control wires - color coded violet and gray - for connection to 0-10V DC low voltage dimming controls. The Halo LED module's 0-10V DC dimming connector simply plugs into the pre-wired connector provided in the housing.

Labels

- UL/cUL 1598 Listed Luminaire
 - UL/cUL Listed for direct contact with insulation and combustible material
 - UL/cUL Listed for Damp Location
 - UL/cUL Listed for Wet Location with select trims
 - Rated for 25W maximum
- Can be used to meet High Efficacy luminaire requirements (when used with compliant Halo LED modules and designated trims):
- State of California Title 24-2008
 - International Energy Conservation Code (IECC) - 2009



H750RTD010 6" Non-IC Remodel Recessed Housing with 0-10V DC Dimming Control Wiring For HALO 1200 Series LED Modules ML712x Series and 49x Halo LED Series Trims

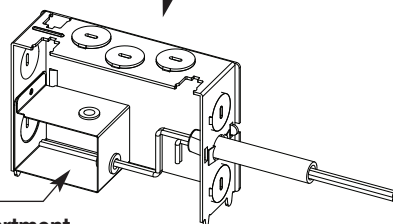
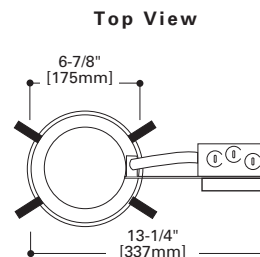
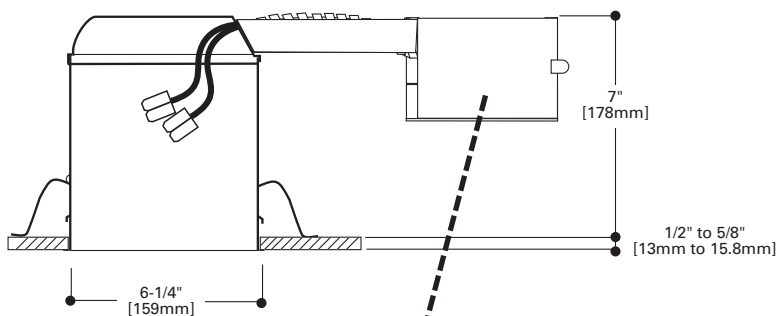
6" Remodel
Non-IC Housing

High Efficacy LED Housing

FOR USE IN
NON-INSULATED
CEILING

CAN BE USED IN
INSULATED CEILING
BUT INSULATION
MUST BE KEPT 3"
FROM ALL SIDES OF
THE HOUSING

TO BE INSTALLED
FROM BELOW THE
CEILING



0-10V DC Low Voltage
Dimming Wiring Compartment



TRIMS

ORDERING INFORMATION

SAMPLE NUMBER: H750RTD010 ML712835TUNVD010 494P06

Order housing, module, trim and accessories separately.

Housing	LED Module*				Trim Options*	Accessories*
H750RTD010	ML712	8	30	TUNVD010		
H750RTD010 = 6" Dedicated LED Non-Insulated Ceiling, Remodel Housing with 0-10V DC dimming wiring	ML712 = 6" LED Module, 1200 Series	8 = 80 CRI	27 = 2725°K 30 = 3045°K 35 = 3465°K 40 = 3985°K	TUNVD010 = Non-IC, 120V-277V Universal Voltage Driver with 0-10V DC Dimming	<p>494P06=Matte White Reflector/ white die cast trim ring.</p> <p>494WB06=White Baffle/ white die cast trim ring.</p> <p>494H06=Haze Reflector/ white die cast trim ring.</p> <p>494SC06=Specular Reflector/ white die cast trim ring.</p> <p>492PS06=Frost Regressed Lens, white baffle and die-cast trim ring. Shower rated.</p> <p>493WBS06=Solite® Regressed Lens, upper reflector, and white baffle and die-cast trim ring with anti-microbial paint (standard). Shower Rated.</p> <p>493SCS06=Solite® Regressed Lens, upper reflector, Specular Clear reflector and die-cast white trim ring. Shower Rated.</p> <p>493HS06=Solite® Regressed Lens, upper reflector, Haze reflector, and white die-cast trim ring. Shower Rated.</p> <p>493SNS06=Solite® regressed Lens, upper reflector, Satin Nickel reflector and Satin Nickel die-cast trim ring. Shower Rated.</p> <p>493TBZS06=Solite® Regressed Lens, upper reflector, Tuscan Bronze reflector and Tuscan Bronze die-cast trim ring. Shower Rated.</p> <p>493BBS06=Solite® Regressed Lens, Black baffle with die-cast white trim ring. Shower Rated.</p>	<p>OT400P=Oversize White Metal Trim Ring 6" ID x 9-1/4" OD</p> <p>OT403P=Oversize White Plastic Trim Ring 6" ID x 8" OD</p> <p>Thin Profile Designer Trim Rings: TRM490WH=White die-cast trim ring TRM490SN=Satin Nickel die-cast trim ring TRM490TBZ=Tuscan Bronze die-cast trim ring TRM490BK=Black die-cast trim ring TRM490PC=Polished Chrome die-cast trim ring</p>

* Refer to Halo LED Module Specification Sheet for additional information.
Solite® is a registered trademark of AGC Flat Glass North America