

HALO LED Module 600 Series For New and Existing Installations

The Halo LED ML7068xx 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 600 Series offers selection of four color temperatures: 2700K, 3000K, 3500K, 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 65W BR30 incandescent lamp or an 18W compact fluorescent luminaire (lamp and reflector trim), while consuming less than 14 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 600 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 ML7068xx LED modules are designed for use in the dedicated H750x series housings OR for retrofit applications in existing Halo or ALL-PRO™ H7/E77/E17 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: E77x and E17x 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 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

*IC housings not in spray foam insulation.



ML706835 600 Series LED Dimmable Module

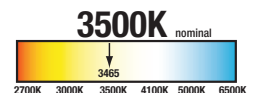
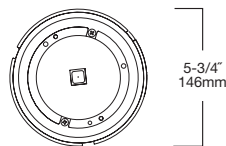
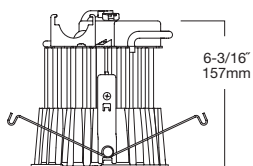
3500°K Correlated
Color Temperature

493WBS06
494WB06

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

600 Series Energy Data:

(Values at non-dimming line voltage)	
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:	>.90
Input Frequency:	50/60Hz
THD:	<20%
Input Power:	13.8W
Input Current:	126mA
Maximum IC (Insulated Ceiling)	
Ambient Continuous Operating Temperature: 25°C (77°F)	
Maximum Non-IC Ambient Continuous Operating Temperature 40°C (104°F)	

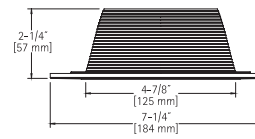


ML706835
600 Series Module,
80CRI / 3500K



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



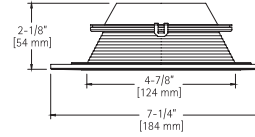
Accessory:
494OPTIC - over optic lens



494WB06
White Baffle
with White Trim Ring

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

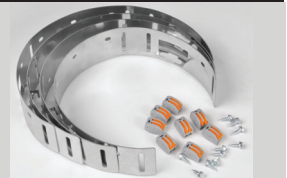


494OPTIC Lens Over-Optic for
Open LED Trims

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)

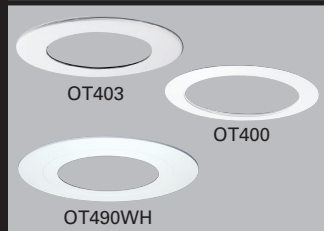


ML7RAB Retrofit Adapter Band
(Four Adapters per Box)

Oversize 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
- OT490WH = 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
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 recognized 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. H277 Transformer 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.

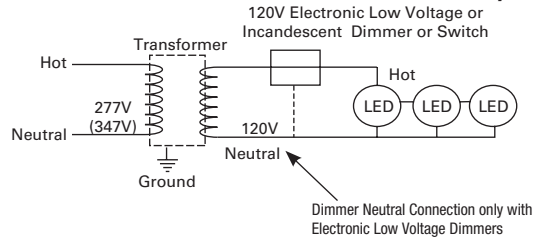
Transformer Load - H347 (75VA)

1. H347 Transformer 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.

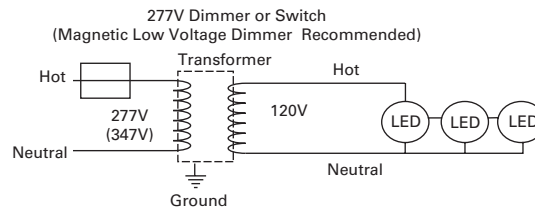
Protected / Non-insulated Soffits, Porches, and Canopies

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



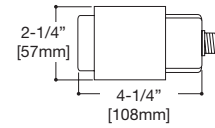
Dimmer or Switch may be on the Primary (277V) OR Secondary (120V) side of the transformer.



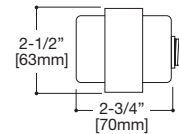
H277
277V Step Down Transformer, 300VA



H347
347V Step Down Transformer, 75VA



H277



H347

ORDERING INFORMATION**SAMPLE NUMBER: ML706835 494WB06**

Order LED Module and trim separately

600 Series LED Module			Trim Options	Accessories <i>(see product details for application information)</i>
ML706	8	35		
ML706 = 6" LED Module 600 Series LED	8 =80 CRI	27 =2725°K 30 =3045°K 35 =3465°K 40 =3985°K	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 anti-microbial paint (standard). Shower Rated.	494OPTIC =6" Over-Optic Diffuse Lens for use with Open LED Trims (494 family), Shower rated. Oversize 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.

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